Application of SOUTHERN CALIFORNIA GAS)
COMPANY for authority to update its gas revenue)
requirement and base rates)
effective January 1, 2024 (U 904-G))
Application No. 22-05	
Exhibit No : (SCG-09-CWP)	

CAPITAL WORKPAPERS TO PREPARED DIRECT TESTIMONY OF AMY KITSON / TRAVIS T. SERA ON BEHALF OF SOUTHERN CALIFORNIA GAS COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

May 2022



2024 General Rate Case - APP INDEX OF WORKPAPERS

Exhibit SCG-09-CWP - GAS INTEGRITY PROGRAMS

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Overall Summary For Exhibit No. SCG-09-CWP

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson

A. TIMP
B. DIMP
C. SIMP
D. FIMP
E. GSEP

In 2021 \$ (000)								
	Adjusted-Forecast							
2022	2023	2024						
134,129	134,979	167,838						
231,052	231,744	232,119						
54,417	46,791	26,982						
0	0	2,366						
6,936	48,340	108,588						
426,534	461,854	537,893						

Total

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Category: A. TIMP
Workpaper: VARIOUS

Summary for Category: A. TIMP

, t		In 2021\$ (0	100)	
ļ	Adjusted-Recorded	111 202 10 (0	Adjusted-Forecast	
	2021	2022	2023	2024
Labor	6,246	13,110	14,581	17,718
Non-Labor	106,392	121,019	120,398	150,120
NSE	0	0	0	0
Total	112,638	134,129	134,979	167,838
FTE	52.6	112.0	123.8	148.8
002760 TIMP - Distribi	ution			
Labor	265	1,754	1,595	1,146
Non-Labor	3,826	19,064	13,005	6,187
NSE	0	0	0	0
Total	4,091	20,818	14,600	7,333
FTE	2.4	15.9	14.4	10.4
P03120 TIMP				
Labor	5,396	9,912	11,556	15,240
Non-Labor	98,573	93,084	98,608	135,750
NSE	0	0	0	0
Total	103,969	102,996	110,164	150,990
FTE	44.0	80.8	94.2	124.3
P07560 TIMP Data Ma	nagement - IT			
Labor	585	1,444	1,430	1,332
Non-Labor	3,993	8,871	8,785	8,183
NSE	0	0	0	0
Total	4,578	10,315	10,215	9,515
FTE	6.2	15.3	15.2	14.1

Beginning of Workpaper Group 002760 - TIMP - Distribution

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00276.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: 002760 - TIMP - Distribution

Summary of Results (Constant 2021 \$ in 000s):

Forecast	Method		Adjusted Forecast						
Years	S	2017	2018	2019	2020	2021	2022	2023	2024
Labor	Base YR Rec	239	451	510	218	265	1,754	1,595	1,146
Non-Labor	Base YR Rec	3,905	9,457	7,517	3,986	3,826	19,064	13,005	6,187
NSE	Base YR Rec	0	0	0	0	0	0	0	0
Tota	ıl	4,144	9,908	8,026	4,204	4,091	20,818	14,600	7,333
FTE	Base YR Rec	1.7	2.7	3.8	1.7	2.4	15.9	14.4	10.4

Business Purpose:

The TIMP is a federally-mandated program developed and implemented in compliance with 49 CFR Part 192, Subpart O and other related sections such as 49 CFR § 192.710.

Physical Description:

Remediation or replacement/installation of transmission pipeline assets managed by the Distribution organization as a result of TIMP assessments or other activities driven by 49 CFR Part 192, Subpart O (e.g., preventative and mitigative measures) and 49 CFR § 192.710.

Project Justification:

Remediation activities are necessary to maintain the integrity of the SoCalGas transmission system.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00276.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: 002760 - TIMP - Distribution

Forecast Methodology:

Labor - Base YR Rec

The forecast method selected for this workpaper is Base Year Recorded. This method is most appropriate beccause the base year most closely represents the current structure of the organization and cost drivers. Since forecasts are rooted in average costs and the number and types of assessments conducted each year and there is variability of assessment activity from year to year due to the compliance-driven reassessment cycles, SoCalGas adjusts the forecasts accordingly.

Non-Labor - Base YR Rec

The forecast method selected for this workpaper is Base Year Recorded. This method is most appropriate beccause the base year most closely represents the current structure of the organization and cost drivers. Since forecasts are rooted in average costs and the number and types of assessments conducted each year and there is variability of assessment activity from year to year due to the compliance-driven reassessment cycles, SoCalGas adjusts the forecasts accordingly.

NSE - Base YR Rec

The forecast method selected for this workpaper is Base Year Recorded. This method is most appropriate beccause the base year most closely represents the current structure of the organization and cost drivers. Since forecasts are rooted in average costs and the number and types of assessments conducted each year and there is variability of assessment activity from year to year due to the compliance-driven reassessment cycles, SoCalGas adjusts the forecasts accordingly.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00276.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: 002760 - TIMP - Distribution

Summary of Adjustments to Forecast

	In 2021 \$ (000)										
Forecast Method Base Forecast				Fore	cast Adju	stments	Ad	Adjusted-Forecast			
Years		2022	2023	2024	2022	2023	2024	2022	2023	2024	
Labor	Base YR Rec	265	265	265	1,489	1,330	881	1,754	1,595	1,146	
Non-Labor	Base YR Rec	3,826	3,826	3,826	15,238	9,179	2,361	19,064	13,005	6,187	
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0	
Total		4,091	4,091	4,091	16,727	10,509	3,242	20,818	14,600	7,333	
FTE	Base YR Rec	2.4	2.4	2.4	13.5	12.0	8.0	15.9	14.4	10.4	

Forecast Adjustment Details

<u>Year</u>		Labor	<u>NLbr</u>	NSE	<u>Total</u>	<u>FTE</u>	
2022	•	1,489	15,238	0	16,727	13.5	
Explanation:	This adjustment captu primarily based on the			base year recorde	ed. Cost forecasts are		
2022 To	tal ´	1,489	15,238	0	16,727	13.5	
2023	•	1,330	9,179	0	10,509	12.0	
Explanation:	This adjustment captu primarily based on the			base year recorde	ed. Cost forecasts are		
2023 To	tal ´	1,330	9,179	0	10,509	12.0	
2024		881	2,361	0	3,242	8.0	
Explanation: This adjustment captures the incremental 2024 costs above the base year recorded. Cost forecasts are primarily based on the expected O&M activities.							
2024 To	tal	881	2,361	0	3,242	8.0	

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00276.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: 002760 - TIMP - Distribution

Determination of Adjusted-Recorded:

Labor 152 304 355 161 224 Non-Labor 2,913 7,474 6,224 3,456 3,523 NSE 0 0 0 0 0 Total 3,065 7,778 6,579 3,617 3,747 FTE 1.4 2.3 3.2 1.4 1.9 Adjustments (Nominal \$)*** *** *** *** 1.9 0 0 0 1 1.9 Adjustments (Nominal \$)*** *** *** 0 0 0 0 0 1 1 1.9 3.03 1 1.9 3.03 3.03 3.03 3.03 3.03 3.03 3.03 3.03 3.03 3.03 3.03 3.03 3.04 3.03 3.04 3.04 3.04 3.04 3.04 3.04 3.04 3.04 3.05 161 2.25 3.04 3.05 161 2.25 3.04 3.05 3.04 3.05 3.05 <th></th> <th>2017 (\$000)</th> <th>2018 (\$000)</th> <th>2019 (\$000)</th> <th>2020 (\$000)</th> <th>2021 (\$000)</th>		2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Non-Labor 2,913 7,474 6,224 3,456 3,523 NSE	Recorded (Nominal \$)*					
NSE		152	304	355	161	224
Total FTE 3,065 FTP 7,778 FTE 6,579 Step Step Step Step Step Step Step Step		2,913	7,474	6,224	3,456	3,523
FTE 1.4 2.3 3.2 1.4 1.9 Adjustments (Nominal \$)*** Labor 0 0 0 0 1 Non-Labor 2 0 0 0 0 0 NSE 0 0 0 0 0 0 Total 2 0 0 0 0 0 FTE 0.0 0.0 0.0 0 0 0 Recorded-Adjusted (Nominal \$) Labor 152 304 355 161 225 Non-Labor 2,914 7,474 6,224 3,465 3,826 NSE 0 0 0 0 0 0 Total 3,066 7,778 6,579 3,626 4,051 FTE 1,4 2,3 3,2 1,4 2,0 Vacation & Sick (Nominal \$) Labor 2 6 52 67 28 40 NSE	NSE	0	0	0	0	0
Adjustments (Nominal \$) ** Labor 0 0 0 0 1 Non-Labor 2 0 0 0 9 303 NSE 0 0 0 0 9 304 FTE 0.0 0.0 0.0 0.0 0.0 0.1 Recorded-Adjusted (Nominal \$) Labor 152 304 355 161 225 Non-Labor 2,914 7,474 6,224 3,465 3,826 NSE 0 0 0 0 0 0 NSE 0 0 0 0 0 0 0 Total 3,066 7,778 6,579 3,626 4,051 1 2.0 Vacation & Sick (Nominal \$) Labor 26 52 67 28 40 0 0 0 0 0 0 0 0 0 0 0 0 0 0<		3,065	7,778	6,579	3,617	3,747
Labor 0 0 0 0 1 Non-Labor 2 0 0 0 9 303 NSE 0 0 0 0 0 0 Total 2 0 0 0 0 0 FTE 0.0 0.0 0.0 0.0 0.0 0 0 Recorded-Adjusted (Nominal \$) Use 0 <td>FTE</td> <td>1.4</td> <td>2.3</td> <td>3.2</td> <td>1.4</td> <td>1.9</td>	FTE	1.4	2.3	3.2	1.4	1.9
Non-Labor 2	Adjustments (Nominal \$)	**				
NSE	Labor	0	0	0	0	1
Total 2 0 0 9 304 FTE 0.0 0.0 0.0 0.0 0.0 0.1 Recorded-Adjusted (Nominal \$) Labor 152 304 355 161 225 Non-Labor 2,914 7,474 6,224 3,465 3,826 NSE 0 0 0 0 0 0 0 Total 3,066 7,778 6,579 3,626 4,051 4,051 5 1,4 2.0 2 1,4 2.0 2 1,4 2.0 2 1,4 2.0 2 1,4 2.0 2 1,4 2.0 2 1,4 2.0 2 1,4 2.0 2 1,4 2.0 2 1,4 2.0 2 1,4 2.0 2 1,4 2.0 2 1,4 2.0 2 1,4 2.0 2 2 1,4 2.0 2 2 1,4 2.0 </td <td>Non-Labor</td> <td>2</td> <td>0</td> <td>0</td> <td>9</td> <td>303</td>	Non-Labor	2	0	0	9	303
FTE 0.0 0.0 0.0 0.0 0.1 Recorded-Adjusted (Nominal \$) Labor 152 304 355 161 225 Non-Labor 2,914 7,474 6,224 3,465 3,826 NSE 0 0 0 0 0 Total 3,066 7,778 6,579 3,626 4,051 FTE 1.4 2.3 3.2 1.4 2.0 Vacation & Sick (Nominal \$) 0	NSE	0	0	0	0	0
Recorded-Adjusted (Nominal \$)	Total	2		0	9	304
Labor 152 304 355 161 225 Non-Labor 2,914 7,474 6,224 3,465 3,826 NSE 0 0 0 0 0 Total 3,066 7,778 6,579 3,626 4,051 FTE 1.4 2.3 3.2 1.4 2.0 Vacation & Sick (Nominal \$) Labor 26 52 67 28 40 Non-Labor 0 0 0 0 0 NSE 0 0 0 0 0 0 FTE 0.3 0.4 0.6 0.3 0.4 Escalation to 2021\$ Labor 61 95 88 29 0 Non-Labor 991 1,983 1,293 521 0 NSE 0 0 0 0 0 0 Total 1,052 2,078 1,381 549	FTE	0.0	0.0	0.0	0.0	0.1
Non-Labor 2,914 7,474 6,224 3,465 3,826 NSE	Recorded-Adjusted (Nom	inal \$)				
NSE 0 10 1 2.0 1 2.0 1 4.051 1 2.0 1 2.0 1 4.051 1 2.0 1 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 0	Labor	152	304	355	161	225
NSE 0 0 0 0 0 Total 3,066 7,778 6,579 3,626 4,051 FTE 1.4 2.3 3.2 1.4 2.0 Vacation & Sick (Nominal \$) Labor 26 52 67 28 40 Non-Labor 0 0 0 0 0 NSE 0 0 0 0 0 0 FTE 0.3 0.4 0.6 0.3 0.4 Escalation to 2021\$ Labor 61 95 88 29 0 Non-Labor 991 1,983 1,293 521 0 NSE 0 0 0 0 0 0 FTE 0.0 0 0 0 0 0 0 FTE 0.0 0 0 0 0 0 0 0 FTE 0.0 0	Non-Labor	2,914	7,474	6,224	3,465	3,826
FTE 1.4 2.3 3.2 1.4 2.0 Vacation & Sick (Nominal \$) Labor 26 52 67 28 40 Non-Labor 0 0 0 0 0 NSE 0 0 0 0 0 FTE 0.3 0.4 0.6 0.3 0.4 Escalation to 2021\$ 0 <td>NSE</td> <td>0</td> <td></td> <td>0</td> <td>0</td> <td>0</td>	NSE	0		0	0	0
FTE 1.4 2.3 3.2 1.4 2.0 Vacation & Sick (Nominal \$) Use of the part of th	Total	3,066	7,778	6,579	3,626	4,051
Labor 26 52 67 28 40 Non-Labor 0 0 0 0 0 NSE 0 0 0 0 0 Total 26 52 67 28 40 FTE 0.3 0.4 0.6 0.3 0.4 Escalation to 2021\$ Labor 61 95 88 29 0 NSE 0 0 0 0 0 NSE 0 0 0 0 0 Total 1,052 2,078 1,381 549 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 239 451 510 218 265 Non-Labor 3,905 9,457 7,517 3,986 3,826 NSE 0 0 0 0 0 0 <td>FTE</td> <td>1.4</td> <td></td> <td></td> <td></td> <td>2.0</td>	FTE	1.4				2.0
Non-Labor 0 4 0	Vacation & Sick (Nominal	\$)				
NSE 0 0 0 0 0 Total 26 52 67 28 40 FTE 0.3 0.4 0.6 0.3 0.4 Escalation to 2021\$ Labor 61 95 88 29 0 Non-Labor 991 1,983 1,293 521 0 NSE 0 0 0 0 0 0 Total 1,052 2,078 1,381 549 0 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 239 451 510 218 265 Non-Labor 3,905 9,457 7,517 3,986 3,826 NSE 0 0 0 0 0 0 0 Total 4,144 9,908 8,026 4,204 4,091	Labor	26	52	67	28	40
Total 26 52 67 28 40 FTE 0.3 0.4 0.6 0.3 0.4 Escalation to 2021\$ Escalation to 2021\$ Labor 61 95 88 29 0 Non-Labor 991 1,983 1,293 521 0 NSE 0 0 0 0 0 0 Total 1,052 2,078 1,381 549 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Eabor 239 451 510 218 265 Non-Labor 3,905 9,457 7,517 3,986 3,826 NSE 0 0 0 0 0 0 Total 4,144 9,908 8,026 4,204 4,091	Non-Labor	0	0	0	0	0
FTE 0.3 0.4 0.6 0.3 0.4 Escalation to 2021\$ Labor 61 95 88 29 0 Non-Labor 991 1,983 1,293 521 0 NSE 0 0 0 0 0 0 Total 1,052 2,078 1,381 549 0 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 0 0 Recorded-Adjusted (Constant 2021\$) Labor 239 451 510 218 265 Non-Labor 3,905 9,457 7,517 3,986 3,826 NSE 0 0 0 0 0 0 0 Total 4,144 9,908 8,026 4,204 4,091	NSE	0	0	0	0	0
Escalation to 2021\$ Labor	Total	26	52	67	28	40
Labor 61 95 88 29 0 Non-Labor 991 1,983 1,293 521 0 NSE 0 0 0 0 0 0 Total 1,052 2,078 1,381 549 0 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 239 451 510 218 265 Non-Labor 3,905 9,457 7,517 3,986 3,826 NSE 0 0 0 0 0 0 0 Total 4,144 9,908 8,026 4,204 4,091	FTE	0.3	0.4	0.6	0.3	0.4
Non-Labor 991 1,983 1,293 521 0 NSE 0 0 0 0 0 0 Total 1,052 2,078 1,381 549 0 FTE 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 239 451 510 218 265 Non-Labor 3,905 9,457 7,517 3,986 3,826 NSE 0 0 0 0 0 Total 4,144 9,908 8,026 4,204 4,091	Escalation to 2021\$					
NSE 0 0 0 0 0 0 Total 1,052 2,078 1,381 549 0 FTE 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 239 451 510 218 265 Non-Labor 3,905 9,457 7,517 3,986 3,826 NSE 0 0 0 0 0 Total 4,144 9,908 8,026 4,204 4,091	Labor	61	95	88	29	0
Total 1,052 2,078 1,381 549 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 239 451 510 218 265 Non-Labor 3,905 9,457 7,517 3,986 3,826 NSE 0 0 0 0 0 Total 4,144 9,908 8,026 4,204 4,091	Non-Labor	991	1,983	1,293	521	0
FTE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 239 451 510 218 265 Non-Labor 3,905 9,457 7,517 3,986 3,826 NSE 0 0 0 0 0 0 0 Total 4,144 9,908 8,026 4,204 4,091	NSE	0	0	0	0	0
FTE 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 239 451 510 218 265 Non-Labor 3,905 9,457 7,517 3,986 3,826 NSE 0 0 0 0 0 Total 4,144 9,908 8,026 4,204 4,091	Total	1,052	2,078	1,381	549	
Labor 239 451 510 218 265 Non-Labor 3,905 9,457 7,517 3,986 3,826 NSE 0 0 0 0 0 0 Total 4,144 9,908 8,026 4,204 4,091	FTE	0.0	0.0	0.0	0.0	0.0
Non-Labor 3,905 9,457 7,517 3,986 3,826 NSE 0 0 0 0 0 Total 4,144 9,908 8,026 4,204 4,091	Recorded-Adjusted (Cons	stant 2021\$)				
NSE 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Labor	239	451	510	218	265
NSE 0 0 0 0 0 0 0 0 0 0 0 0 4,091 Total 4,144 9,908 8,026 4,204 4,091	Non-Labor	3,905	9,457	7,517	3,986	3,826
Total 4,144 9,908 8,026 4,204 4,091	NSE	0				
	Total	4,144	9,908	8,026	4,204	4,091
	FTE			3.8	1.7	

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00276.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: 002760 - TIMP - Distribution

Summary of Adjustments to Recorded:

	In Nominal \$(000)									
	Years	2017	2018	2019	2020	2021				
Labor		0	0	0	0	1				
Non-Labor		2	0	0	9	303				
NSE		0	0	0	0	0				
	Total	2	0	0	9	304				
FTE		0.0	0.0	0.0	0.0	0.1				

Detail of Adjustments to Recorded in Nominal \$:

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>
2017	0	2	0	2	0.0
Explanation:	To reclassify 6215567, 63	215568 material costs from in	ndirect to direct.		
2017 Total	0	2	0	2	0.0
2018 Total	0	0	0	0	0.0
2019 Total	0	0	0	0	0.0
2020	0	9	0	9	0.0
Explanation:	To reclassify 6215567, 63	215568 material costs from in	ndirect to direct.		
2020 Total	0	9	0	9	0.0
2021	1	0	0	1	0.1
Explanation:	Cost reversal of 2016 sp	end, PSEP order, BC 278			
2021	0	303	0	303	0.0
Explanation:	To add material costs (62	215567 and 6215568) that we	ere misclassified as inc	lirect	
2021 Total	1	303	0	304	0.1

Beginning of Workpaper Sub Details for Workpaper Group 002760

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00276.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: 002760 - TIMP - Distribution

Workpaper Detail: 002760.001 - 002760 - RAMP - Integrity Assessments and Remediation (HCA and non-HCA)

In-Service Date: Not Applicable

Description:

TIMP Capital activities in budget code 276 include retrofitting pipelines for in-line inspection capability, replacements, and other capital remediation as a result of assessment findings on the DOT-defined transmission pipelines operated by the Distribution organization.

Forecast In 2021 \$(000)								
Years	2022	2023	2024					
Labor	1,754	1,595	1,146					
Non-Labor	19,064	13,005	6,187					
NSE	0	0	0					
Total	20,818	14,600	7,333					
FTE	15.9	14.4	10.4					

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00276.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: 002760 - TIMP - Distribution

Workpaper Detail: 002760.001 - 002760 - RAMP - Integrity Assessments and Remediation (HCA and non-HCA)

RAMP Item # 1

RAMP Activity

RAMP Chapter: SCG-Risk-1 Incident Related to the High Pressure System (Excluding Dig-in)

RAMP Line Item ID: C21 & M2 T1-T2

RAMP Line Item Name: Integrity Assessments & Remediation (HCA and Non-HCA)

Tranche(s): Tranche1: Transmission - HCA; Tranche2: Transmission - non-HCA

GRC Forecast Cost Estimates (\$000)										
	2021 Historical Embedded Costs	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast	RAMP (2020 Ir	Range ncurred \$)			
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High			
Tranche 1 Cost Estimate	1,849	8,476	3,494	4,469	16,439	158,236	202,346			
Tranche 2 Cost Estimate	2,242	12,342	11,106	2,864	26,312	262,687	335,975			

Cost Estimate Changes from RAMP:

Costs presented in this workpaper are limited to Budget Code 276. Additional costs under C22 are presented in workpapers P03120 and P07560. The total costs across workpapers are within the RAMP range.

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast		Range vities
Measure	Activities	Activities	Activities	Activities	Activities	Low	High
Franche 1 No feasible units	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ranche 2 No feasible inits	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Risk Spend Efficiency (RSE)			
	GRC RSE	RAMP RSE	
Tranche 1	4.600	83.100	
Tranche 2	2.500	85.500	
RSE Changes from RAMP: Refer to O&M workpapers.			

Beginning of Workpaper Group P03120 - TIMP

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: P0312.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: P03120 - TIMP

Summary of Results (Constant 2021 \$ in 000s):

Forecast I	Method	Adjusted Recorded Adjusted For				sted Fored	ecast		
Years	5	2017	2018	2019	2020	2021	2022	2023	2024
Labor	Base YR Rec	5,233	6,862	5,588	6,322	5,396	9,912	11,556	15,240
Non-Labor	Base YR Rec	128,176	225,490	109,443	72,546	98,573	93,084	98,608	135,750
NSE	Base YR Rec	0	0	0	0	0	0	0	0
Tota	I	133,410	232,351	115,031	78,868	103,969	102,996	110,164	150,990
FTE	Base YR Rec	34.1	49.5	38.3	45.3	44.0	80.8	94.2	124.3

Business Purpose:

The TIMP is a federally-mandated program developed and implemented in compliance with 49 CFR Part 192, Subpart O and other related sections such as 49 CFR § 192.710.

Physical Description:

Remediation and replacement/installation of transmission pipeline assets managed by the Transmission organization as a result of TIMP assessments or other activities driven by 49 CFR Part 192, Subpart O and 49 CFR § 192.710.

Project Justification:

Remediation activities are necessary to maintain the integrity of the SoCalGas transmission system.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: P0312.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: P03120 - TIMP

Forecast Methodology:

Labor - Base YR Rec

The forecast method selected for this workpaper is Base Year Recorded. This method is most appropriate beccause the base year most closely represents the current structure of the organization and cost drivers. Since forecasts are rooted in average costs and the number and types of assessments conducted each year and there is variability of assessment activity from year to year due to the compliance-driven reassessment cycles, SoCalGas adjusts the forecasts accordingly.

Non-Labor - Base YR Rec

The forecast method selected for this workpaper is Base Year Recorded. This method is most appropriate beccause the base year most closely represents the current structure of the organization and cost drivers. Since forecasts are rooted in average costs and the number and types of assessments conducted each year and there is variability of assessment activity from year to year due to the compliance-driven reassessment cycles, SoCalGas adjusts the forecasts accordingly.

NSE - Base YR Rec

The forecast method selected for this workpaper is Base Year Recorded. This method is most appropriate beccause the base year most closely represents the current structure of the organization and cost drivers. Since forecasts are rooted in average costs and the number and types of assessments conducted each year and there is variability of assessment activity from year to year due to the compliance-driven reassessment cycles, SoCalGas adjusts the forecasts accordingly.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: P0312.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: P03120 - TIMP

Summary of Adjustments to Forecast

				In 2021	\$ (000)					
Forecast	Method	Ва	se Foreca	ast	Fore	cast Adju	stments	Adj	usted-For	ecast
Years		2022	2023	2024	2022	2023	2024	2022	2023	2024
Labor	Base YR Rec	5,396	5,396	5,396	4,516	6,160	9,844	9,912	11,556	15,240
Non-Labor	Base YR Rec	98,573	98,573	98,573	-5,489	35	37,177	93,084	98,608	135,750
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		103,969	103,969	103,969	-973	6,195	47,021	102,996	110,164	150,990
FTE	Base YR Rec	44.0	44.0	44.0	36.8	50.2	80.3	80.8	94.2	124.3

Forecast Adjustment Details

Labor		NSE	Total	FTE	
	NLbr				
4,516	-5,489	0	-973	36.8	
his adjustment captures the ir	ncremental 2022 costs	above the base y	ear recorded. Cost f	orecasts are	
rimarily based on the expecte	d O&M activities.				
4,516	-5,489	0	-973	36.8	
6,160	35	0	6,195	50.2	
his adjustment captures the ir	ncremental 2023 costs	above the base y	ear recorded. Cost f	orecasts are	
rimarily based on the expecte	d O&M activities.				
6,160	35	0	6,195	50.2	
9,844	37,177	0	47,021	80.3	
his adjustment captures the ir	ncremental 2024 costs	above the base	ear recorded. Cost f	orecasts are	
rimarily based on the expecte	d O&M activities.				
9,844	37,177	0	47,021	80.3	
	4,516 this adjustment captures the ir rimarily based on the expecte 4,516 6,160 this adjustment captures the ir rimarily based on the expecte 6,160 9,844 this adjustment captures the ir rimarily based on the expecte in 6,160	4,516 -5,489 his adjustment captures the incremental 2022 costs rimarily based on the expected O&M activities. 4,516 -5,489 6,160 35 his adjustment captures the incremental 2023 costs rimarily based on the expected O&M activities. 6,160 35 9,844 37,177 his adjustment captures the incremental 2024 costs rimarily based on the expected O&M activities.	4,516 -5,489 0 this adjustment captures the incremental 2022 costs above the base yerimarily based on the expected O&M activities. 4,516 -5,489 0 6,160 35 0 this adjustment captures the incremental 2023 costs above the base yerimarily based on the expected O&M activities. 6,160 35 0 9,844 37,177 0 This adjustment captures the incremental 2024 costs above the base yerimarily based on the expected O&M activities.	4,516 -5,489 0 -973 This adjustment captures the incremental 2022 costs above the base year recorded. Cost for imarily based on the expected O&M activities. 4,516 -5,489 0 -973 6,160 35 0 6,195 This adjustment captures the incremental 2023 costs above the base year recorded. Cost for imarily based on the expected O&M activities. 6,160 35 0 6,195 9,844 37,177 0 47,021 This adjustment captures the incremental 2024 costs above the base year recorded. Cost for imarily based on the expected O&M activities.	4,516 -5,489 0 -973 36.8 This adjustment captures the incremental 2022 costs above the base year recorded. Cost forecasts are rimarily based on the expected O&M activities. 4,516 -5,489 0 -973 36.8 6,160 35 0 6,195 50.2 This adjustment captures the incremental 2023 costs above the base year recorded. Cost forecasts are rimarily based on the expected O&M activities. 6,160 35 0 6,195 50.2 9,844 37,177 0 47,021 80.3 This adjustment captures the incremental 2024 costs above the base year recorded. Cost forecasts are rimarily based on the expected O&M activities.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: P0312.0
Category: A. TIMP
Category-Sub: 1. TIMP
Workpaper Group: P03120 - TIMP

Determination of Adjusted-Recorded:

	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	3,339	4,627	3,889	4,672	4,581
Non-Labor	95,446	177,990	90,602	62,740	94,412
NSE	0	0	0	0	0
Total	98,785	182,617	94,492	67,412	98,994
FTE	29.0	42.0	32.1	37.9	36.9
Adjustments (Nominal \$)	**				
Labor	0	0	0	0	5
Non-Labor	199	214	17	324	4,160
NSE	0	0	0	0	0
Total	199	214	17	324	4,166
FTE	0.0	0.0	0.0	0.0	0.1
Recorded-Adjusted (Nomi	inal \$)				
Labor	3,339	4,627	3,889	4,672	4,587
Non-Labor	95,645	178,205	90,619	63,064	98,573
NSE	0	0	0	0	0
Total	98,984	182,831	94,509	67,736	103,159
FTE	29.0	42.0	32.1	37.9	37.0
Vacation & Sick (Nominal	\$)				
Labor	566	796	737	823	810
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	566	796	737	823	810
FTE	5.1	7.5	6.2	7.4	7.0
Escalation to 2021\$					
Labor	1,328	1,439	961	826	0
Non-Labor	32,531	47,285	18,824	9,482	0
NSE	0	0	0	0	0
Total	33,859	48,724	19,785	10,308	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Cons	stant 2021\$)				
Labor	5,233	6,862	5,588	6,322	5,396
Non-Labor	128,176	225,490	109,443	72,546	98,573
NSE	0	0	0	0	0
Total	133,410	232,351	115,031	78,868	103,969
FTE	34.1	49.5	38.3	45.3	44.0

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: P0312.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: P03120 - TIMP

Summary of Adjustments to Recorded:

			In Nominal \$(00	0)		
	Years	2017	2018	2019	2020	2021
Labor		0	0	0	0	5
Non-Labor		199	214	17	324	4,160
NSE		0	0	0	0	0
	Total	199	214	17	324	4,166
FTE		0.0	0.0	0.0	0.0	0.1

Detail of Adjustments to Recorded in Nominal \$:

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	NSE	<u>Total</u>	<u>FTE</u>
2017	0	199	0	199	0.0
Explanation:	Adjustment to account for mis	sed internal settlements	s. Sempra incurred c	osts for TIMP.	
2017 Total	0	199	0	199	0.0
2018	0	214	0	214	0.0
Explanation:	Adjustment to account for mis	sed internal settlements	s. Sempra incurred c	osts for TIMP.	
2018 Total	0	214	0	214	0.0
2019	0	17	0	17	0.0
Explanation:	Adjustment to account for mis	sed internal settlements	s. Sempra incurred c	osts for TIMP.	
2019 Total	0	17	0	17	0.0
2020	0	324	0	324	0.0
Explanation:	To reclassify 6215567, 621556	68 material costs from i	ndirect to direct.		
2020 Total	0	324	0	324	0.0
2021	0	4,148	0	4,148	0.0
Explanation:	To add material costs (621556	37 and 6215568) that w	ere misclassified as i	ndirect	
2021	5	12	0	18	0.1
Explanation:	Costs belong in WKP P312.				
=xpiailatioiii					

Beginning of Workpaper Sub Details for Workpaper Group P03120

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: P0312.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: P03120 - TIMP

Workpaper Detail: P03120.001 - P03120 - RAMP - Integrity Assessments and Remediation (HCA and non-HCA)

In-Service Date: Not Applicable

Description:

TIMP Capital activities in budget code 312 include retrofitting pipelines for in-line inspection capability, replacements, and other capital remediation as a result of assessment findings on the DOT-defined transmission pipelines operated by the Transmission organization.

	Forecast In 2021 \$(000)				
Years	2022	2023	2024		
Labor	9,912	11,114	14,340		
Non-Labor	93,084	84,307	106,650		
NSE	0	0	0		
Tota	102,996	95,421	120,990		
FTE	80.8	90.6	116.9		

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: P0312.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: P03120 - TIMP

Workpaper Detail: P03120.001 - P03120 - RAMP - Integrity Assessments and Remediation (HCA and non-HCA)

RAMP Item # 1

RAMP Activity

RAMP Chapter: SCG-Risk-1 Incident Related to the High Pressure System (Excluding Dig-in)

RAMP Line Item ID: C21 & M2 T1-T2

RAMP Line Item Name: Integrity Assessments & Remediation (HCA and Non-HCA)

Tranche(s): Tranche1: Transmission - HCA; Tranche2: Transmission - non-HCA

GRC Forecast Cost Estim	nates (\$000)					2022 1	to 2024
	2021 Historical Embedded Costs	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast	(2020 lr	Range
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	46,993	41,933	22,836	73,735	138,504	158,236	202,346
Tranche 2 Cost Estimate	56,976	61,063	87,327	77,255	225,645	262,687	335,975

Cost Estimate Changes from RAMP:

Costs presented in this workpaper are limited to Budget Code 312. Additional costs under C22 are presented in the workpapers 002760 and P07560. The total costs across workpapers are within the RAMP range.

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast		Range vities
Measure	Activities	Activities	Activities	Activities	Activities	Low	High
Tranche 1 No feasible units	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tranche 2 No feasible units	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Risk Spend Efficiency (RSE)		
	GRC RSE	RAMP RSE
Tranche 1	4.600	83.100
Tranche 2	2.500	85.500

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: P0312.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: P03120 - TIMP

Workpaper Detail: P03120.002 - P03120 - RAMP - Integrity Assessments and Remediation - L235 (SAME RAMP Item

as 003120.001)

In-Service Date: Not Applicable

Description:

TIMP Capital activities in budget code 312 include retrofitting pipelines for in-line inspection capability, replacements, and other capital remediation as a result of assessment findings on the DOT-defined transmission pipelines operated by the Transmission organization. These costs are specific to repairs on L235 and are captured within the non-HCA transche (C21-T2).

Forecast In 2021 \$(000)							
	Years	2022	2023	2024			
Labor		0	442	900			
Non-Labor		0	14,301	29,100			
NSE		0	0	0			
	Total		14,743	30,000			
FTE		0.0	3.6	7.4			

Beginning of Workpaper Group P07560 - TIMP Data Management - IT

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: P0756.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: P07560 - TIMP Data Management - IT

Summary of Results (Constant 2021 \$ in 000s):

Forecast	Method	Adjusted Recorded Adjusted Forec			ast				
Years	s	2017	2018	2019	2020	2021	2022	2023	2024
Labor	Base YR Rec	1,251	1,163	1,523	623	585	1,444	1,430	1,332
Non-Labor	Base YR Rec	4,695	5,202	4,154	4,583	3,993	8,871	8,785	8,183
NSE	Base YR Rec	0	0	0	0	0	0	0	0
Tota	ıl	5,946	6,365	5,677	5,206	4,578	10,315	10,215	9,515
FTE	Base YR Rec	10.5	10.8	14.6	6.0	6.2	15.3	15.2	14.1

Business Purpose:

The TIMP is a federally-mandated program developed and implemented in compliance with 49 CFR Part 192, Subpart O and other related sections such as 49 CFR § 192.710. Activities presented in this workpaper are related to the systems and applications that are used to manage the TIMP.

Physical Description:

Implementation of software enhancements such as new software applications for data management initiatives in support of risk and threat evaluation.

Project Justification:

Data management is a foundational element of integrity management and SoCalGas continues to enhance applications to support this activity.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: P0756.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: P07560 - TIMP Data Management - IT

Forecast Methodology:

Labor - Base YR Rec

The forecast method selected for this workpaper is Base Year Recorded. This method is most appropriate because the base year most closely represents the most current level of activity; adjustments in support of new initiatives are made accordingly.

Non-Labor - Base YR Rec

The forecast method selected for this workpaper is Base Year Recorded. This method is most appropriate because the base year most closely represents the most current level of activity; adjustments in support of new initiatives are made accordingly.

NSE - Base YR Rec

The forecast method selected for this workpaper is Base Year Recorded. This method is most appropriate because the base year most closely represents the most current level of activity; adjustments in support of new initiatives are made accordingly.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: P0756.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: P07560 - TIMP Data Management - IT

Summary of Adjustments to Forecast

	In 2021 \$ (000)									
Forecast Method Base Forecast			ast	Forecast Adjustments			Ad	Adjusted-Forecast		
Years		2022	2023	2024	2022	2023	2024	2022	2023	2024
Labor	Base YR Rec	585	585	585	859	845	747	1,444	1,430	1,332
Non-Labor	Base YR Rec	3,993	3,993	3,993	4,878	4,792	4,190	8,871	8,785	8,183
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		4,578	4,578	4,578	5,737	5,637	4,937	10,315	10,215	9,515
FTE	Base YR Rec	6.2	6.2	6.2	9.1	9.0	7.9	15.3	15.2	14.1

Forecast Adjustment Details

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	
2022	859	4,878	0	5,737	9.1	
Explanation:	This adjustment captures incremental 2022 costs above the base year recorded for TIMP data management.					
	Cost increases are associated with capital enhancements such as new software applications to integrate					

TIMP data with an Enterprise Asset Management system.

2022 Total 859 4,878 0 5,737 9.1

2023 845 4,792 0 5,637 9.0 Explanation: This adjustment captures incremental 2023 costs above the base year recorded for TIMP data management.

This adjustment captures incremental 2023 costs above the base year recorded for TIMP data management. Cost increases are associated with capital enhancements such as new software applications to integrate TIMP data with an Enterprise Asset Management system.

 2023 Total
 845
 4,792
 0
 5,637
 9.0

 2024
 747
 4,190
 0
 4,937
 7.9

Explanation: This adjustment captures incremental 2024 costs above the base year recorded for TIMP data management. Cost increases are associated with capital enhancements such as new software applications to integrate

TIMP data with an Enterprise Asset Management system.

2024 Total 747 4,190 0 4,937 7.9

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: P0756.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: P07560 - TIMP Data Management - IT

Determination of Adjusted-Recorded:

Recorded (Nominal \$)* Labor 798 794 1,060 461 497 Non-Labor 3,504 4,111 3,440 3,944 3,738 NSE		2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Non-Labor 3,504 4,111 3,440 3,984 3,738 NSE 0 0 0 0 0 Total 4,302 4,896 4,500 4,445 4,236 FTE 8,9 9,2 12,2 5,0 5,2 Adjustments (Nominal \$)*** 2 12,2 5,0 5,2 Labor 0 0 0 0 0 0 0 NSE 0 <t< td=""><td>Recorded (Nominal \$)*</td><td></td><td></td><td></td><td></td><td></td></t<>	Recorded (Nominal \$)*					
NSE 0 0 0 0 0 0 Total 4,302 4,896 4,500 4,445 4,236 FTE 8,9 9,2 12,2 5,0 5,2 Adjustments (Nominal \$)*** Use of the control of		798	784	1,060	461	497
Total 4,302 4,896 4,500 4,445 4,236 FTE 8.9 9.2 12.2 5.0 5.2 Adjustments (Nominal \$)*** Labor 0 0 0 0 0 255 NSE 0 0 0 0 0 255 NSE 0 0 0 0 0 0 255 FTE 0.0 0		3,504	4,111	3,440	3,984	3,738
FTE 8.9 9.2 12.2 5.0 5.2 Adjustments (Nominal \$) *** Labor 0 0 0 0 0 Non-Labor 0 0 0 0 0 255 NSE 0 0 0 0 0 0 0 FTE 0.0 0.0 0.0 0.0 0	NSE	0	0	0	0	0
Adjustments (Nominal \$) *** Second Seco		4,302	4,896	4,500	4,445	4,236
Labor 0 0 0 0 0 Non-Labor 0 0 0 0 0 255 NSE 0 0 0 0 0 255 FTE 0.0 0.0 0.0 0.0 0.0 0.0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Nominal \$) Value Value 4.0 4.0 4.0 4.0 4.0 4.0 9.2 1.0 0 <td>FTE</td> <td>8.9</td> <td>9.2</td> <td>12.2</td> <td>5.0</td> <td>5.2</td>	FTE	8.9	9.2	12.2	5.0	5.2
Non-Labor 0	Adjustments (Nominal \$)	**				
NSE Total 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Labor	0	0	0	0	0
Total 0 0 0 0 0 255 FTE 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Nominal \$) Labor 798 784 1.060 461 497 Non-Labor 3,504 4,111 3,440 3,984 3,993 NSE 0 0 0 0 0 0 Total 4,302 4,896 4,500 4,445 4,491 FTE 8.9 9.2 12.2 5.0 5.2 Vacation & Sick (Nominal \$) 135 135 201 81 88 Non-Labor 135 135 201 81 88 NSE 0 0 0 0 0 0 Total 135 135 201 81 88 FTE 1.6 1.6 2.4 1.0 1.0 Escalation to 2021\$ 2 1.91 715	Non-Labor	0	0	0	0	255
FTE 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Nominal \$) Labor 798 784 1,060 461 497 Non-Labor 3,504 4,111 3,440 3,984 3,993 NSE 0 0 0 0 0 Total 4,302 4,896 4,500 4,445 4,491 FTE 8.9 9.2 12.2 5.0 5.2 Vacation & Sick (Nominal \$) Use of the properties of	NSE	0	0	0	0	0
Carbon C		0	0	0	0	255
Labor 798 784 1,060 461 497 Non-Labor 3,504 4,111 3,440 3,984 3,993 NSE 0 0 0 0 0 Total 4,302 4,896 4,500 4,445 4,491 FTE 8.9 9.2 12.2 5.0 5.2 Vacation & Sick (Nominal \$) 8 8 8 8 8 8 8 Non-Labor 135 135 201 81 88 9 9 0 <	FTE	0.0	0.0	0.0	0.0	0.0
Non-Labor 3,504 4,111 3,440 3,984 3,993 NSE 0 0 0 0 0 0 0 Total 4,302 4,896 4,500 4,445 4,491 FTE 8.9 9.2 12.2 5.0 5.2 5.2 5.2 5.2 5.2 5.0 5.2 5.2 5.0 5.2 5.2 5.0 5.2 5.2 5.0 5.2 5.2 5.0 5.2 5.2 5.0 5.2 5.2 5.0 5.2	Recorded-Adjusted (Nomi	inal \$)				
NSE 0 0 0 0 0 Total 4,302 4,896 4,500 4,445 4,491 FTE 8.9 9.2 12.2 5.0 5.2 Vacation & Sick (Nominal \$) Use of the control of the co	Labor	798	784	1,060	461	497
Total 4,302 4,896 4,500 4,445 4,491 FTE 8.9 9.2 12.2 5.0 5.2 Vacation & Sick (Nominal \$) Labor 135 135 201 81 88 Non-Labor 0		3,504	4,111	3,440	3,984	3,993
FTE 8.9 9.2 12.2 5.0 5.2 Vacation & Sick (Nominal \$) Labor 135 135 201 81 88 Non-Labor 0 0 0 0 0 0 NSE 0 0 0 0 0 0 0 Total 135 135 201 81 88 88 88 88 84 88 88 86 90 0 <th< td=""><td>NSE</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></th<>	NSE	0	0	0	0	0
Vacation & Sick (Nominal \$) Labor 135 135 201 81 88 Non-Labor 0 0 0 0 0 NSE 0 0 0 0 0 Total 135 135 201 81 88 FTE 1.6 1.6 2.4 1.0 1.0 Escalation to 2021\$ 244 262 81 0 Non-Labor 1,192 1,091 715 599 0 NSE 0 0 0 0 0 0 Total 1,509 1,335 977 680 0 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) 2 4,154 4,583 3,993 NSE 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Total	4,302	4,896	4,500	4,445	4,491
Labor 135 135 201 81 88 Non-Labor 0 0 0 0 0 NSE 0 0 0 0 0 Total 135 135 201 81 88 FTE 1.6 1.6 2.4 1.0 1.0 Escalation to 2021\$ Labor 318 244 262 81 0 Non-Labor 1,192 1,091 715 599 0 NSE 0 0 0 0 0 0 Total 1,509 1,335 977 680 0 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$* Labor 1,251 1,163 1,523 623 585 Non-Labor 4,695 5,202 4,154 4,583 3,993 NSE 0 0 0 </td <td>FTE</td> <td>8.9</td> <td>9.2</td> <td>12.2</td> <td>5.0</td> <td>5.2</td>	FTE	8.9	9.2	12.2	5.0	5.2
Non-Labor 0 0 0 0 0 0 NSE 0 0 0 0 0 0 Total 135 135 201 81 88 FTE 1.6 1.6 2.4 1.0 1.0 Escalation to 2021\$ Labor 318 244 262 81 0 Non-Labor 1,192 1,091 715 599 0 NSE 0 0 0 0 0 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) 1,251 1,163 1,523 623 585 Non-Labor 4,695 5,202 4,154 4,583 3,993 NSE 0 0 0 0 0 0 Total 5,946 6,365 5,677 5,206 4,578	Vacation & Sick (Nominal	\$)				
NSE 0 0 0 0 0 Total 135 135 201 81 88 FTE 1.6 1.6 2.4 1.0 1.0 Escalation to 2021\$ Labor 318 244 262 81 0 Non-Labor 1,192 1,091 715 599 0 NSE 0 0 0 0 0 0 Total 1,509 1,335 977 680 0 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) 2 4,154 4,583 3,993 NSE 0 0 0 0 0 0 NSE 0 0 0 0 0 0 0 Total 5,946 6,365 5,677 5,206 4,578	Labor	135	135	201	81	88
Total 135 135 201 81 88 FTE 1.6 1.6 2.4 1.0 1.0 Escalation to 2021\$ Labor 318 244 262 81 0 Non-Labor 1,192 1,091 715 599 0 NSE 0 0 0 0 0 0 Total 1,509 1,335 977 680 0 FTE 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) 4,695 5,202 4,154 4,583 3,993 Non-Labor 4,695 5,202 4,154 4,583 3,993 NSE 0 0 0 0 0 0 Total 5,946 6,365 5,677 5,206 4,578		0	0	0	0	0
FTE 1.6 1.6 2.4 1.0 1.0 Escalation to 2021\$ Labor 318 244 262 81 0 Non-Labor 1,192 1,091 715 599 0 NSE 0 0 0 0 0 0 Total 1,509 1,335 977 680 0 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 1,251 1,163 1,523 623 585 Non-Labor 4,695 5,202 4,154 4,583 3,993 NSE 0 0 0 0 0 0 0 Total 5,946 6,365 5,677 5,206 4,578	NSE	0	0	0	0	0
Escalation to 2021\$ Labor 318 244 262 81 0 Non-Labor 1,192 1,091 715 599 0 NSE		135	135	201	81	88
Labor 318 244 262 81 0 Non-Labor 1,192 1,091 715 599 0 NSE 0 0 0 0 0 0 Total 1,509 1,335 977 680 0 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 1,251 1,163 1,523 623 585 Non-Labor 4,695 5,202 4,154 4,583 3,993 NSE 0 0 0 0 0 0 0 Total 5,946 6,365 5,677 5,206 4,578	FTE	1.6	1.6	2.4	1.0	1.0
Non-Labor 1,192 1,091 715 599 0 NSE 0 0 0 0 0 0 Total 1,509 1,335 977 680 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 1,251 1,163 1,523 623 585 Non-Labor 4,695 5,202 4,154 4,583 3,993 NSE 0 0 0 0 0 0 Total 5,946 6,365 5,677 5,206 4,578						
NSE 0 0 0 0 0 0 Total 1,509 1,335 977 680 0 FTE 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 1,251 1,163 1,523 623 585 Non-Labor 4,695 5,202 4,154 4,583 3,993 NSE 0 0 0 0 0 Total 5,946 6,365 5,677 5,206 4,578		318	244	262	81	0
Total 1,509 1,335 977 680 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 1,251 1,163 1,523 623 585 Non-Labor 4,695 5,202 4,154 4,583 3,993 NSE 0 0 0 0 0 0 Total 5,946 6,365 5,677 5,206 4,578		1,192	1,091	715	599	0
FTE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	NSE	0	0	0	0	0
Recorded-Adjusted (Constant 2021\$) Labor 1,251 1,163 1,523 623 585 Non-Labor 4,695 5,202 4,154 4,583 3,993 NSE 0 0 0 0 0 0 Total 5,946 6,365 5,677 5,206 4,578		1,509	1,335	977	680	0
Labor 1,251 1,163 1,523 623 585 Non-Labor 4,695 5,202 4,154 4,583 3,993 NSE 0 0 0 0 0 0 Total 5,946 6,365 5,677 5,206 4,578	FTE	0.0	0.0	0.0	0.0	0.0
Non-Labor 4,695 5,202 4,154 4,583 3,993 NSE 0 0 0 0 0 0 0 Total 5,946 6,365 5,677 5,206 4,578	Recorded-Adjusted (Cons	tant 2021\$)				
NSE 0 0 0 0 0 0 0 0 Total 5,946 6,365 5,677 5,206 4,578		1,251	1,163	1,523	623	585
Total 5,946 6,365 5,677 5,206 4,578		4,695	5,202	4,154	4,583	3,993
	NSE	0	0	0	0	0
FTE 10.5 10.8 14.6 6.0 6.2		5,946	6,365	5,677	5,206	4,578
	FTE	10.5	10.8	14.6	6.0	6.2

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: P0756.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: P07560 - TIMP Data Management - IT

Summary of Adjustments to Recorded:

	In Nominal \$(000)								
	Years	2017	2018	2019	2020	2021			
Labor		0	0	0	0	0			
Non-Labor		0	0	0	0	255			
NSE		0	0	0	0	0			
	Total	0	0	0	0	255			
FTE		0.0	0.0	0.0	0.0	0.0			

Detail of Adjustments to Recorded in Nominal \$:

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>
2017 Total	0	0	0	0	0.0
2018 Total	0	0	0	0	0.0
2019 Total	0	0	0	0	0.0
2020 Total	0	0	0	0	0.0
2021	0	255	0	255	0.0
Explanation:	One-sided entry to move ESRI I SDGE nonGRC)	icensing costs to GR0	C (from SDGE sending	g order 7131156 mapp	ed to
2021 Total	0	255	0	255	0.0

Beginning of Workpaper Sub Details for Workpaper Group P07560

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: P0756.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: P07560 - TIMP Data Management - IT

Workpaper Detail: P07560.001 - P0756A - RAMP - TIMP - Data Management

In-Service Date: Not Applicable

Description:

TIMP Capital activities in budget code 756 include enhancements to TIMP data management such as software upgrades (e.g., new applications).

	Forecast In 2021 \$(000)							
	Years	2022	2023	2024				
Labor		911	897	799				
Non-Labor		5,598	5,512	4,910				
NSE		0	0	0				
	Total	6,509	6,409	5,709				
FTE		9.7	9.6	8.5				

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: P0756.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: P07560 - TIMP Data Management - IT

Workpaper Detail: P07560.001 - P0756A - RAMP - TIMP - Data Management

RAMP Item # 1

RAMP Activity

RAMP Chapter: SCG-Risk-1 Incident Related to the High Pressure System (Excluding Dig-in)

RAMP Line Item ID: C21 & M2 T1-T2

RAMP Line Item Name: Integrity Assessments & Remediation (HCA and Non-HCA)

Tranche(s): Tranche1: Transmission - HCA; Tranche2: Transmission - non-HCA

tes (\$000)					2022 t	o 2024
2021 Historical Embedded Costs	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast	(2020 lr	Range ncurred \$)
.,	.,	, ,,	.,	.,	_	High 202,346
_,	,	,	,-	,	,	335,975
1	2021 Historical	2021 Historical 2022 Embedded Costs Forecast (2021 \$) 2,069 2,650	2021 Historical 2022 2023 Embedded Costs Forecast (2021 \$) (2021 \$) (2021 \$) 2,069 2,650 2,609	2021 Historical Embedded Costs (2021 \$) 2022 2023 Forecast Forecast (2021 \$) 2024 Forecast (2021 \$) 2,069 2,650 2,609 2,324	2021 Historical Embedded Costs (2021 \$) 2022 Porecast (2021 \$) 2023 Porecast (2021 \$) 2024 Porecast (2021 \$) 2022 to 2024 Porecast (2021 \$) 2,069 2,650 2,609 2,324 7,583	2021 Historical 2022 2023 2024 2022 to 2024 RAMP Embedded Costs Forecast Forecast Forecast (2020 Ir (2021 \$) (2

Cost Estimate Changes from RAMP:

Costs presented in this workpaper are limited to Budget Code 756. Additional costs under C22 are presented in the workpapers 002760 and P03120. The total costs across workpapers are within the RAMP range.

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast		Range vities
Measure	Activities	Activities	Activities	Activities	Activities	Low	High
Franche 1 No feasible units	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Franche 2 No feasible units	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Risk Spend Efficiency (RSE)			
	GRC RSE	RAMP RSE	
Tranche 1	4.600	83.100	
Tranche 2	2.500	85.500	

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: P0756.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: P07560 - TIMP Data Management - IT

Workpaper Detail: P07560.002 - P0756A - RAMP - TIMP - Data Management - EAM Data Build

In-Service Date: Not Applicable

Description:

TIMP Capital activities in budget code 756 include enhancements to TIMP data management such as software upgrades (e.g., new applications). These costs are specific to a new data application build for Enterprise Asset Management.

	Forecast In 2021 \$(000)							
	Years	2022	2023	2024				
Labor		533	533	533				
Non-Labor		3,273	3,273	3,273				
NSE		0	0	0				
	Total	3,806	3,806	3,806				
FTE		5.6	5.6	5.6				

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: P0756.0
Category: A. TIMP
Category-Sub: 1. TIMP

Workpaper Group: P07560 - TIMP Data Management - IT

Workpaper Detail: P07560.002 - P0756A - RAMP - TIMP - Data Management - EAM Data Build

RAMP Item # 1

RAMP Activity

RAMP Chapter: SCG-CFF-1 Asset and Records Management

RAMP Line Item ID: 05

RAMP Line Item Name: Establishing a Data Lake

Tranche(s): Tranche1: Overall

GRC Forecast Cost Estim	2021 Historical Embedded Costs	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast	2022 to RAMP (2020 In	Range curred \$)
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	0	3,806	3,806	3,806	11,418	8,867	12,808
Cost Estimate Changes for Costs are within the range							

GRC Work Unit/Activity	Level Estimates 2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast	2022 to 2024 RAMP Range Activities	
Measure	Activities	Activities	Activities	Activities	Activities	Low	High
Tranche 1 No feasible units	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Work Unit Changes from RAMP:

No change to the work units from the RAMP report.

Risk Spend Efficiency (RSE)							
	GRC RSE	RAMP RSE					
Tranche 1	0.000	0.000					
RSE Changes from RAMP: No change from the RAMP report.							

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Category: B. DIMP
Workpaper: VARIOUS

Summary for Category: B. DIMP

		In 2021\$ (000)					
	Adjusted-Recorded						
	2021	2022	2023	2024			
Labor	17,138	18,165	18,420	19,005			
Non-Labor	195,676	212,887	213,324	213,114			
NSE	0	0	0	0			
Total	212,814	231,052	231,744	232,119			
FTE	166.5	176.5	178.9	184.6			
002770 DIMP							
Labor	16,570	17,569	17,823	18,409			
Non-Labor	192,029	208,857	209,295	209,084			
NSE	0	0	0	0			
Total	208,599	226,426	227,118	227,493			
FTE	160.6	170.3	172.7	178.4			
D07560 DIMP Data Ma	nagement - IT						
Labor	568	596	597	596			
Non-Labor	3,647	4,030	4,029	4,030			
NSE	0	0	0	0			
Total	4,215	4,626	4,626	4,626			
FTE	5.9	6.2	6.2	6.2			

Beginning of Workpaper Group 002770 - DIMP

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00277.0
Category: B. DIMP
Category-Sub: 1. DIMP
Workpaper Group: 002770 - DIMP

Summary of Results (Constant 2021 \$ in 000s):

Forecast I	Method		Adjusted Recorded					Adjusted Forecast		
Years	s	2017	2018	2019	2020	2021	2022	2023	2024	
Labor	Base YR Rec	9,766	11,050	11,045	19,049	16,570	17,569	17,823	18,409	
Non-Labor	Base YR Rec	112,883	185,769	129,109	201,058	192,029	208,857	209,295	209,084	
NSE	Base YR Rec	0	0	0	0	0	0	0	0	
Tota	ıl	122,649	196,819	140,154	220,107	208,599	226,426	227,118	227,493	
FTE	Base YR Rec	82.6	71.5	60.0	133.0	160.6	170.3	172.7	178.4	

Business Purpose:

The DIMP is a federally-mandated program developed and implemented in compliance with 49 CFR Part 192, Subpart P.

Physical Description:

Replacement or installation of Distribution assets in support of the different DIMP PAARs, such as pipe replacement under VIPP and BSRP or installation of protective infrastructure under GIPP.

Project Justification:

Remediation and other activities as presented in this workpaper are necessary to mitigate risks on and maintain the integrity of the SoCalGas Distribution system.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00277.0
Category: B. DIMP
Category-Sub: 1. DIMP

Workpaper Group: 002770 - DIMP

Forecast Methodology:

Labor - Base YR Rec

The forecast method selected for this workpaper is Base Year Recorded. This method is most appropriate beccause the base year most closely represents the current structure of the project teams and cost drivers. Since forecasts are rooted in average costs and the number and types of activities conducted each year, SoCalGas adjusts the forecasts accordingly.

Non-Labor - Base YR Rec

The forecast method selected for this workpaper is Base Year Recorded. This method is most appropriate beccause the base year most closely represents the current structure of the project teams and cost drivers. Since forecasts are rooted in average costs and the number and types of activities conducted each year, SoCalGas adjusts the forecasts accordingly.

NSE - Base YR Rec

The forecast method selected for this workpaper is Base Year Recorded. This method is most appropriate beccause the base year most closely represents the current structure of the project teams and cost drivers. Since forecasts are rooted in average costs and the number and types of activities conducted each year, SoCalGas adjusts the forecasts accordingly.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00277.0
Category: B. DIMP
Category-Sub: 1. DIMP
Workpaper Group: 002770 - DIMP

Summary of Adjustments to Forecast

				In 2021	\$ (000)					
Forecast N	/lethod	Ва	se Foreca	ıst	Fore	cast Adjus	stments	Adj	usted-For	ecast
Years		2022	2023	2024	2022	2023	2024	2022	2023	2024
Labor	Base YR Rec	16,570	16,570	16,570	999	1,253	1,839	17,569	17,823	18,409
Non-Labor	Base YR Rec	192,029	192,029	192,029	16,828	17,266	17,055	208,857	209,295	209,084
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total		208,599	208,599	208,599	17,827	18,519	18,894	226,426	227,118	227,493
FTE	Base YR Rec	160.6	160.6	160.6	9.7	12.1	17.8	170.3	172.7	178.4

<u>Year</u>		<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>
2022		178	13,690	0	13,868	1.7
xplanation:	In alignment with D).19-09-051, SoCa	VIPP and BSRP incre IlGas is planning an i re driven by units and	ncrease to the rate	s above the base year e of replacement of	recorded.
2022		821	3,138	0	3,959	8.0
xplanation:	the number of mitig	gations completed erage that is adjus	and mitigations may sted to account for the	be standard or no	r recorded. Costs are n-standard. Costs are n-standard mitigations	forecasted
2022 T	otal	999	16,828	0	17,827	9.7
2023		436	14,089	0	14,525	4.2
xplanation:	In alignment with D	0.19-09-051, SoCa t pipe. Costs are c	s VIPP and BSRP inc IlGas is planning an i Iriven by units and pe	ncrease to the rate	sts above the base yea e of replacement of	ar recorded.
2023		817	3,177	0	3,994	7.9
xplanation:	the number of mition forecasted using a	aptures GIPP incre gations completed per-unit average t	mental 2023 costs al and mitigations in 20 hat is adjusted to acc	23 are expected to	r recorded. Costs are be non-standard. Co r cost of non-standard	driven by ests are mitigations.
	the number of mition forecasted using a	aptures GIPP incre gations completed	mental 2023 costs all and mitigations in 20	23 are expected to	r recorded. Costs are o be non-standard. Co	driven by ests are
xplanation:	the number of mition forecasted using a	aptures GIPP incre gations completed per-unit average t	mental 2023 costs al and mitigations in 20 hat is adjusted to acc	23 are expected to	r recorded. Costs are be non-standard. Co r cost of non-standard	driven by ests are mitigations.
xplanation:	the number of mition forecasted using a sotal This DREAMS addinglin alignment with E	aptures GIPP incre gations completed per-unit average t 1,253 1,044 justment captures 0.19-09-051, SoCa	mental 2023 costs al and mitigations in 20 hat is adjusted to acc 17,266 13,923	23 are expected to count for the higher 0 0 emental 2024 cost	r recorded. Costs are to be non-standard. Co r cost of non-standard 18,519 14,967 ts above the base yea	driven by osts are mitigations. 12.1
2023 T 2024	the number of mition forecasted using a sotal This DREAMS addinglin alignment with E	aptures GIPP incre gations completed per-unit average t 1,253 1,044 justment captures 0.19-09-051, SoCa	mental 2023 costs al and mitigations in 20 hat is adjusted to acc 17,266 13,923 VIPP and BSRP increased	23 are expected to count for the higher 0 0 emental 2024 cost	r recorded. Costs are to be non-standard. Co r cost of non-standard 18,519 14,967 ts above the base yea	driven by osts are mitigations. 12.1
xplanation: 2023 T 2024 xplanation:	the number of mitige forecasted using a sotal This DREAMS adjunction alignment with Endowstate-of-the-are the number of mitiges.	aptures GIPP incre gations completed per-unit average t 1,253 1,044 justment captures 0.19-09-051, SoCa t pipe. Costs are c 795 aptures GIPP incre gations completed	mental 2023 costs al and mitigations in 20 hat is adjusted to acc 17,266 13,923 VIPP and BSRP increased alGas is planning an increased lriven by units and per 3,132 mental 2024 costs all and mitigations in 20	23 are expected to count for the higher 0 0 emental 2024 cost ncrease to the rate or unit costs. 0 cove the base year 24 are expected to count for the higher than 100 covers the base year 24 are expected to count for the higher than 100 covers the base year 24 are expected to count for the higher than 100 covers the base year 24 are expected to count for the higher than 100 covers than 100 covers the higher than 100 covers tha	r recorded. Costs are to be non-standard. Co r cost of non-standard 18,519 14,967 ts above the base yea e of replacement of	driven by osts are mitigations. 12.1 10.1 r recorded. 7.7 driven by osts are

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00277.0
Category: B. DIMP
Category-Sub: 1. DIMP
Workpaper Group: 002770 - DIMP

Determination of Adjusted-Recorded:

Peccoded (Nominal \$)* Labor 6,566 7,561 7,758 14,114 14,102 Non-Labor 84,374 146,818 106,903 174,782 193,235 NSE 0 0 0 0 0 Total 90,940 154,379 114,661 188,895 207,338 FTE 73.6 61.7 50.8 111.5 135.3 Adjustments (Nominal \$)** Labor -335 -110 -70 -35 -18 Non-Labor -140 -5 -1 -2 -1,206 NSE 0 0 0 0 0 Total 475 -115 -71 -37 -1,225 FTE -3.4 -1.1 -0.6 -0.2 -0.2 Recorded-Adjusted (Nominal \$)** Labor 6,231 7,451 7,688 14,079 14,084 Non-Labor 84,234 146,813 106,902 174,780 192,029 NSE 0 0 0 0 0 0 Total 90,465 154,264 114,590 188,859 206,113 FTE 70.2 60.6 50.2 111.3 135.1 Vacation & Sick (Nominal \$)** Labor 1,056 1,282 1,458 2,481 2,486 Non-Labor 0 0 0 0 0 Total 1,056 1,282 1,458 2,481 2,486 Non-Labor 0 0 0 0 0 Total 1,056 1,282 1,458 2,481 2,486 Non-Labor 2,479 2,317 1,900 2,490 0 Total 1,056 1,282 1,458 2,481 2,486 FTE 12.4 10.9 9.8 21.7 25.5 Escalation to 201\$ Labor 2,479 2,317 1,900 2,490 0 Total 1,056 1,282 1,458 2,481 2,486 FTE 12.4 10.9 9.8 21.7 25.5 Escalation to 201\$ Labor 2,479 2,317 1,900 2,490 0 Total 31,128 41,273 24,106 28,788 0 FTE 0 0 0 0 0 0 0 0 0 0 0 Recorded-Adjusted (Constant 2021\$ Labor 1,283 14,273 24,106 28,788 0 FTE 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 Total 1,283 185,769 129,109 201,058 19,029 NSE 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Non-Labor	Recorded (Nominal \$)*					
NSE 0 207,338 FTE 73.6 61.7 50.8 111.5 135.3 335 335 311.5 135.3 335 140 -70 -35 -18 18 18 18 19 19 20 -18 11 12 12 12 12 12 12 12 12 12 12 12 12 12 12	Labor	6,566	7,561	7,758	14,114	14,102
Total FTE 90,940 (73.6) 154,379 (61.7) 114,661 (75.8) 188,895 (75.8) 207,338 (75.8) FTE 73.6 61.7 50.8 111.5 135.3 Adjustments (Nominal \$)*** 335 -110 -70 -35 -18 Non-Labor 1-140 -5 -1 -2 1.206 NSE 0 0 0 0 0 0 0 0 0 0 0 0 0 Total 4-75 1-15 7-1 -37 1-225 -72 -72 -2.2 FTE - 3.4 1-1.1 -0.6 -0.2 -0.2 -0.2 -0.2 -0.2 -0.2 Recorded-Adjusted (Nominal \$)		84,374	146,818	106,903	174,782	193,235
FTE 73.6 61.7 50.8 111.5 135.3 Adjustments (Nominal \$) *** Labor -335 -110 -70 -35 -18 Non-Labor 1-140 -5 -1 -2 -1,206 NSE 0 0 0 0 0 Total -475 -115 -71 -37 -1,225 FTE -3.4 -1.1 -0.6 -0.2 -0.2 Recorded-Adjusted (Nominal \$)	NSE	0	0	0	0	0
Adjustments (Nominal \$) ** Labor 335 -110 -70 -35 -18 Non-Labor -140 -5 -1 -2 -1,206 NSE 0 0 0 0 Total -475 -115 -71 -37 -1,225 FTE -3,4 -1,1 -0,6 -0,2 -0,2 Recorded-Adjusted (Nominal \$) Labor 6,231 7,451 7,688 14,079 14,084 Non-Labor 84,234 146,813 106,902 174,780 192,029 NSE 0 0 0 0 0 0 Total 90,465 154,264 114,590 188,859 206,113 FTE 70,2 60,6 50,2 111,3 135,1 Vacation & Sick (Nominal \$) Labor 1,056 1,282 1,458 2,481 2,486 Non-Labor 0 0 0 0 0 NSE 0 0 0 0 0 Total 1,056 1,282 1,458 2,481 2,486 Non-Labor 0 0 0 0 0 Total 1,056 1,282 1,458 2,481 2,486 FTE 12,4 10,9 9,8 21,7 25,5 Escalation to 2021\$ Labor 2,479 2,317 1,900 2,490 0 Non-Labor 28,650 38,956 22,207 26,278 0 Non-Labor 28,650 38,956 22,207 26,278 0 Non-Labor 28,650 38,956 22,207 26,278 0 Total 31,128 41,273 24,106 28,768 0 FTE 0,0 0,0 0,0 0,0 0,0 Recorded-Adjusted (Constant 2021\$) Labor 9,766 11,050 11,045 19,049 16,570 Non-Labor 112,883 185,769 129,109 20,058 192,029 NSE 0 0 0 0 0 0 0 Total 112,883 185,769 129,109 20,058 192,029 NSE 0 0 0 0 0 0 0 Total 112,883 185,769 129,109 20,1058 192,029 NSE 0 0 0 0 0 0 0 Total 112,649 196,819 140,154 220,107 208,599		90,940	154,379	114,661	188,895	207,338
Labor .335 .110 .70 .35 .18 Non-Labor .140 .5 .1 .2 .1,206 NSE 0 0 0 0 0 Total .475 .115 .71 .37 .1,225 FTE .3.4 -1.1 -0.6 -0.2 -0.2 Recorded-Adjusted (Nominal \$)			61.7	50.8	111.5	135.3
Non-Labor 1-140	Adjustments (Nominal \$) *	**				
NSE 0 0 0 0 0 0 Total -475 -115 -71 -37 -1,225 FTE -3.4 -1.1 -0.6 -0.2 -0.2 Recorded-Adjusted (Nominal \$) Labor 6,231 7,451 7,688 14,079 14,084 Non-Labor 84,234 146,813 106,902 174,780 192,029 NSE 0 0 0 0 0 0 0 Total 90,465 154,264 114,590 188,859 206,113 135.1 FTE 70.2 60.6 50.2 111.3 135.1 Vacation & Sick (Nominal \$) Labor 1,056 1,282 1,458 2,481 2,486 Non-Labor 0	Labor	-335	-110	-70	-35	-18
Total 4475 -115 -71 37 -1,225 FTE -3.4 -1.1 -0.6 -0.2 -0.2 Recorded-Adjusted (Nominal \$) Labor 6,231 7,451 7,688 14,079 14,084 Non-Labor 84,234 146,813 106,902 174,780 192,029 NSE 0 0 0 0 0 0 0 Total 90,465 154,264 114,590 188,859 206,113 135.1 FTE 70.2 60.6 50.2 111.3 135.1 Vacation & Sick (Nominal \$) Labor 1,056 1,282 1,458 2,481 2,486 NSE 0 0 0 0 0 0 0 Total 1,056 1,282 1,458 2,481 2,486 1 2,486 1 1,486 1,486 1,486 1,486 1,486 1,486 1,486 1,486 <td< td=""><td></td><td>-140</td><td>-5</td><td>-1</td><td>-2</td><td>-1,206</td></td<>		-140	-5	-1	-2	-1,206
FTE -3.4 -1.1 -0.6 -0.2 -0.2 Recorded-Adjusted (Nominal \$) Labor 6,231 7,451 7,688 14,079 14,084 Non-Labor 84,234 146,813 106,902 174,780 192,029 NSE 0 0 0 0 0 0 0 Total 90,465 154,264 114,590 188,859 206,113 135.1 Vacation & Sick (Nominal \$) Labor 1,056 1,282 1,458 2,481 2,486 Non-Labor 0 0 0 0 0 0 Total 1,056 1,282 1,458 2,481 2,486 Non-Labor 0 0 0 0 0 0 FTE 12.4 10.9 9.8 21.7 25.5 Escalation to 2021\$ 2 1 1,900 2,490 0 Non-Labor 2,479 2,317 1,900 <	NSE	0	0	0	0	0
Recorded-Adjusted (Nominal \$)		-475	-115	-71	-37	-1,225
Labor 6,231 7,451 7,688 14,079 14,084 Non-Labor 84,234 146,813 106,902 174,780 192,029 NSE 0 0 0 0 0 0 Total 90,465 154,264 114,590 188,859 206,113 FTE 70.2 60.6 50.2 111.3 135.1 Vacation & Sick (Nominal \$) 1 1,282 1,458 2,481 2,486 Non-Labor 0 0 0 0 0 0 0 NSE 0	FTE	-3.4	-1.1	-0.6	-0.2	-0.2
Non-Labor 84,234 146,813 106,902 174,780 192,029 NSE 0 0 0 0 0 0 Total 99,465 154,264 114,590 188,859 206,113 FTE 70.2 60.6 50.2 111.3 135.1 Vacation & Sick (Nominal \$) 1 1,056 1,282 1,458 2,481 2,486 Non-Labor 0 0 0 0 0 0 0 NSE 0 0 0 0 0 0 0 FTE 12.4 10.9 9.8 21.7 25.5 Escalation to 2021\$ 2 1,458 2,481 2,486 FTE 12.4 10.9 9.8 21.7 25.5 Escalation to 2021\$ 2 1,900 2,490 0 NSE 0 0 0 0 0 NSE 0 0 0 0 0 <t< td=""><td>Recorded-Adjusted (Nomi</td><td>inal \$)</td><td></td><td></td><td></td><td></td></t<>	Recorded-Adjusted (Nomi	inal \$)				
NSE 0 0 0 0 0 0 Total 90,465 154,264 114,590 188,859 206,113 FTE 70.2 60.6 50.2 111.3 135.1 Vacation & Sick (Nominal \$) Use of the color of the c	Labor	6,231	7,451	7,688	14,079	14,084
Total 90,465 154,264 114,590 188,859 206,113 FTE 70.2 60.6 50.2 111.3 135.1 Vacation & Sick (Nominal \$) Labor 1,056 1,282 1,458 2,481 2,486 Non-Labor 0 0 0 0 0 0 NSE 0 0 0 0 0 0 0 FTE 12.4 10.9 9.8 21.7 25.5 25.5 Escalation to 2021\$ Labor 2,479 2,317 1,900 2,490 0 NSE 0 0 0 0 0 0 NSE 0 0 0 0 0 0 0 0 Total 31,128 41,273 24,106 28,768 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 <		84,234	146,813	106,902	174,780	192,029
FTE 70.2 60.6 50.2 111.3 135.1 Vacation & Sick (Nominal \$) Labor 1,056 1,282 1,458 2,481 2,486 Non-Labor 0 0 0 0 0 NSE 0 0 0 0 0 Total 1,056 1,282 1,458 2,481 2,486 FTE 12.4 10.9 9.8 21.7 25.5 Escalation to 2021\$ 2 1,458 2,481 2,486 FTE 12.4 10.9 9.8 21.7 25.5 Escalation to 2021\$ 2 2 2.2 2.2 2.490 0 Non-Labor 2,479 2,317 1,900 2,490 0 0 NSE 0 0 0 0 0 0 0 FTE 0.0 0 0 0 0 0 0 0 Recorded-Adjusted (Constant 2021\$*)	NSE	0	0	0	0	0
Vacation & Sick (Nominal \$) Labor 1,056 1,282 1,458 2,481 2,486 Non-Labor 0 0 0 0 0 NSE 0 0 0 0 0 Total 1,056 1,282 1,458 2,481 2,486 FTE 12.4 10.9 9.8 21.7 25.5 Escalation to 2021\$ Labor 2,479 2,317 1,900 2,490 0 NSE 0 0 0 0 0 0 NSE 0 0 0 0 0 0 0 0 Total 31,128 41,273 24,106 28,768 0	Total	90,465	154,264	114,590	188,859	206,113
Labor 1,056 1,282 1,458 2,481 2,486 Non-Labor 0 0 0 0 0 NSE 0 0 0 0 0 Total 1,056 1,282 1,458 2,481 2,486 FTE 12.4 10.9 9.8 21.7 25.5 Escalation to 2021\$ Labor 2,479 2,317 1,900 2,490 0 NSE 0 0 0 0 0 0 NSE 0 0 0 0 0 0 0 0 Total 31,128 41,273 24,106 28,768 0	FTE	70.2	60.6	50.2	111.3	135.1
Non-Labor	Vacation & Sick (Nominal	\$)				
NSE 0 0 0 0 0 Total 1,056 1,282 1,458 2,481 2,486 FTE 12.4 10.9 9.8 21.7 25.5 Escalation to 2021\$ Labor 2,479 2,317 1,900 2,490 0 Non-Labor 28,650 38,956 22,207 26,278 0 NSE 0 0 0 0 0 Total 31,128 41,273 24,106 28,768 0 FTE 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 9,766 11,050 11,045 19,049 16,570 Non-Labor 112,883 185,769 129,109 201,058 192,029 NSE 0 0 0 0 0 0 Total 122,649 196,819 140,154 220,107 208,599		1,056	1,282	1,458	2,481	2,486
Total FTE 1,056 1,282 1,458 2,481 2,486 FTE 12.4 10.9 9.8 21.7 25.5 Escalation to 2021\$ Labor 2,479 2,317 1,900 2,490 0 Non-Labor 28,650 38,956 22,207 26,278 0 NSE 0 0 0 0 0 0 Total 31,128 41,273 24,106 28,768 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) 200 11,045 19,049 16,570 Non-Labor 112,883 185,769 129,109 201,058 192,029 NSE 0 0 0 0 0 0 0 Total 122,649 196,819 140,154 220,107 208,599		0	0	0	0	0
FTE 12.4 10.9 9.8 21.7 25.5 Escalation to 2021\$ Labor 2,479 2,317 1,900 2,490 0 Non-Labor 28,650 38,956 22,207 26,278 0 NSE 0 0 0 0 0 Total 31,128 41,273 24,106 28,768 0 FTE 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 9,766 11,050 11,045 19,049 16,570 Non-Labor 112,883 185,769 129,109 201,058 192,029 NSE 0 0 0 0 0 0 0 Total 122,649 196,819 140,154 220,107 208,599	NSE	0	0	0	0	0
Escalation to 2021\$ Labor 2,479 2,317 1,900 2,490 0 Non-Labor 28,650 38,956 22,207 26,278 0 NSE 0 0 0 0 0 0 Total 31,128 41,273 24,106 28,768 0 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 9,766 11,050 11,045 19,049 16,570 Non-Labor 9,766 11,050 11,045 19,049 16,570 NSE 0 0 0 0 0 0 0 Total 122,649 196,819 140,154 220,107 208,599		1,056	1,282	1,458	2,481	2,486
Labor 2,479 2,317 1,900 2,490 0 Non-Labor 28,650 38,956 22,207 26,278 0 NSE 0 0 0 0 0 0 Total 31,128 41,273 24,106 28,768 0 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 9,766 11,050 11,045 19,049 16,570 Non-Labor 112,883 185,769 129,109 201,058 192,029 NSE 0 0 0 0 0 0 0 Total 122,649 196,819 140,154 220,107 208,599	FTE	12.4	10.9	9.8	21.7	25.5
Non-Labor 28,650 38,956 22,207 26,278 0 NSE 0 0 0 0 0 0 Total 31,128 41,273 24,106 28,768 0 FTE 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 9,766 11,050 11,045 19,049 16,570 Non-Labor 112,883 185,769 129,109 201,058 192,029 NSE 0 0 0 0 0 0 Total 122,649 196,819 140,154 220,107 208,599	Escalation to 2021\$					
NSE 0 0 0 0 0 0 Total 31,128 41,273 24,106 28,768 0 FTE 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 9,766 11,050 11,045 19,049 16,570 Non-Labor 112,883 185,769 129,109 201,058 192,029 NSE 0 0 0 0 0 Total 122,649 196,819 140,154 220,107 208,599	Labor	2,479	2,317	1,900	2,490	0
Total 31,128 41,273 24,106 28,768 0 FTE 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 9,766 11,050 11,045 19,049 16,570 Non-Labor 112,883 185,769 129,109 201,058 192,029 NSE 0 0 0 0 0 Total 122,649 196,819 140,154 220,107 208,599		28,650	38,956	22,207	26,278	0
FTE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 9,766 11,050 11,045 19,049 16,570 Non-Labor 112,883 185,769 129,109 201,058 192,029 NSE 0 0 0 0 0 0 0 0 Total 122,649 196,819 140,154 220,107 208,599	NSE	0	0	0	0	0
Recorded-Adjusted (Constant 2021\$) Labor 9,766 11,050 11,045 19,049 16,570 Non-Labor 112,883 185,769 129,109 201,058 192,029 NSE 0 0 0 0 0 Total 122,649 196,819 140,154 220,107 208,599		31,128	41,273	24,106	28,768	0
Labor 9,766 11,050 11,045 19,049 16,570 Non-Labor 112,883 185,769 129,109 201,058 192,029 NSE 0 0 0 0 0 0 Total 122,649 196,819 140,154 220,107 208,599	FTE	0.0	0.0	0.0	0.0	0.0
Non-Labor 112,883 185,769 129,109 201,058 192,029 NSE 0 0 0 0 0 Total 122,649 196,819 140,154 220,107 208,599	Recorded-Adjusted (Cons	tant 2021\$)				
NSE 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Labor	9,766	11,050	11,045	19,049	16,570
Total 122,649 196,819 140,154 220,107 208,599	Non-Labor	112,883	185,769	129,109	201,058	192,029
125,00	NSE	0	0	0	0	0
FTE 82.6 71.5 60.0 133.0 160.6	Total	122,649	196,819	140,154	220,107	208,599
	FTE	82.6	71.5	60.0	133.0	160.6

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00277.0
Category: B. DIMP
Category-Sub: 1. DIMP
Workpaper Group: 002770 - DIMP

Summary of Adjustments to Recorded:

In Nominal \$(000)								
	Years	2017	2018	2019	2020	2021		
Labor		-335	-110	-70	-35	-18		
Non-Labor		-140	-5	-1	-2	-1,206		
NSE		0	0	0	0	0		
	Total	-475	-115	<u>-71</u>	-37	-1,225		
FTE		-3.4	-1.1	-0.6	-0.2	-0.2		

Detail of Adjustments to Recorded in Nominal \$:

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	NSE	<u>Total</u>	<u>FTE</u>
2017	42	2	0	44	0.5
Explanation:	Transfer of DIMP-related proje 002770.	ct trailing cost from G	as Distribution 002520	to Integrity Managem	nent
	\$44,366 (2017)				
2017	0.027	0	0	0.027	0.1
Explanation:	Transfer of DIMP-related proje 002770. \$27 (2017)	ct trailing cost from Ga	as Distribution 002560	to Integrity Managem	ent
2017	-377	-150	0	-527	-4.0
Explanation:	Adjustment to move costs that		U	-021	-4.0
2017	0	8	0	8	0.0
Explanation:	Add back capital from previous			Ü	0.0
2017 Total	-335	-140	0	-475	-3.4
2018	-110	-5	0	-115	-1.1
Explanation:	Adjustment to move costs that	should be O&M.			
2018	0	-0.616	0	-0.616	0.0
Explanation:	Costs were erroneously mappe	ed as GRC; adjustmer	nt to map costs as non	-GRC.	
2018 Total	-110	-5	0	-115	-1.1
2019	1	0.780	0	2	0.1
Explanation:	Transferring costs from BC593	to BC277 related to o	costs not properly rema	apped. (Order 519877	4)
2019	-69	-1	0	-71	-0.6
Explanation:	Adjustment to move costs that	should be O&M.			
2019	-2	-0.647	0	-2	-0.1

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00277.0
Category: B. DIMP
Category-Sub: 1. DIMP

Workpaper Group: 002770 - DIMP

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>
Explanation:	Costs were erroneously mapped	as GRC; adjustme	nt to map costs as non-	GRC.	
2019 Total	-70	-1	0	-71	-0.6
2020	-37	-2	0	-38	-0.3
Explanation:	Adjustment to move costs that sh	ould be O&M.			
2020	1	0	0	1	0.1
Explanation:	Costs were erroneously mapped	as non-GRC; adjus	stment to map costs bac	k to BC277	
2020 Total	-35	-2	0	-37	-0.2
2021	0	-1,206	0	-1,206	0.0
Explanation:	One-sided entry to reduce capital	amounts already a	accounted in O&M		
2021	-18	-0.114	0	-18	-0.2
Explanation:	One-sided adj to reduce capital a	mounts already ac	counted in O&M, budge	t code E01 and E41	
2021 Total	-18	-1,206	0	-1,225	-0.2

Beginning of Workpaper Sub Details for Workpaper Group 002770

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00277.0
Category: B. DIMP
Category-Sub: 1. DIMP

Workpaper Group: 002770 - DIMP

Workpaper Detail: 002770.001 - 002770 - RAMP - DIMP - DREAMS (VIPP and BSRP)

In-Service Date: Not Applicable

Description:

DIMP Capital activities in budget code 277 include installations, replacements, and other risk mitigation or remediation activities driven by DIMP Projects and Activities to Address Risk (PAARs). These costs are associated with executing the VIPP, which consists of replacement of vintage non-state-of-the-art (NSOTA) plastic distribution pipeline segments, and the BSRP, which consists of replacement of vintage NSOTA steel distribution pipeline segments. These plans fall under the Distribution Risk Evaluation and Monitoring System (DREAMS) umbrella.

Forecast In 2021 \$(000)							
Years	2022	2023	2024				
Labor	14,293	14,551	15,159				
Non-Labor	197,458	197,856	197,690				
NSE	0	0	0				
Total	211,751	212,407	212,849				
FTE	138.5	141.0	146.9				

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00277.0
Category: B. DIMP
Category-Sub: 1. DIMP

Workpaper Group: 002770 - DIMP

Workpaper Detail: 002770.001 - 002770 - RAMP - DIMP - DREAMS (VIPP and BSRP)

RAMP Item #1

RAMP Activity

RAMP Chapter: SCG-Risk-3 Incident Related to the Medium Pressure System (Excluding Dig-in)

RAMP Line Item ID: C21 T1-T2

RAMP Line Item Name: DIMP - Distribution Risk Evaluation and Monitoring System (DREAMS)

Tranche(s): Tranche1: Plastic - Main (VIPP); Tranche2: Steel - Main (BSRP)

GRC Forecast Cost Estim				0004			to 2024
	2021 Historical Embedded Costs (2021 \$)	2022 Forecast (2021 \$)	2023 Forecast (2021 \$)	2024 Forecast (2021 \$)	2022 to 2024 Forecast (2021 \$)		Range ncurred \$) High
Tranche 1 Cost Estimate	135,853	118,595	140,250	188,034	446,879	501,072	606,561
Tranche 2 Cost Estimate	62,030	93,156	72,157	24,815	190,128	214,745	259,955

Cost Estimate Changes from RAMP:

Since the RAMP report, SoCalGas has updated the DREAMS model and based on preliminary analysis of the quantitative risk result, plans to adjust the ratio of VIPP and BSRP replacements over time. Additionally, per unit cost forecasts for VIPP and BSRP have been evaluated and updated. Costs presented in this work paper are limited to Budget Code 277; other costs associated with C21 are presented in workpaper D07560.

GRC Work Unit/Activity Le	evel Estimates					2022 1	o 2024
Unit of Measure	2021 Historical Embedded Activities	2022 Forecast Activities	2023 Forecast Activities	2024 Forecast Activities	2022 to 2024 Forecast Activities		Range ivities High
Tranche 1 Miles replaced - Plastic	92.00	104.00	111.00	136.00	351.00	270.00	327.00
Tranche 2 Miles replaced - Steel	43.00	40.00	30.00	10.00	80.00	115.00	139.00

Work Unit Changes from RAMP:

Since the RAMP report, SoCalGas has updated the DREAMS model and based on preliminary analysis of the quantitative risk result, plans to adjust the ratio of VIPP and BSRP replacements over time; as a result, VIPP units are higher while BSRP units are lower than presented in the RAMP report. However, the combined units of VIPP and BSRP are within range of the RAMP report.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00277.0
Category: B. DIMP
Category-Sub: 1. DIMP

Workpaper Group: 002770 - DIMP

Workpaper Detail: 002770.001 - 002770 - RAMP - DIMP - DREAMS (VIPP and BSRP)

	GRC RSE	RAMP RSE
Tranche 1	0.300	1.200
Tranche 2	0.100	0.900

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00277.0
Category: B. DIMP
Category-Sub: 1. DIMP

Workpaper Group: 002770 - DIMP

Workpaper Detail: 002770.002 - 002770 - RAMP - DIMP - Gas Infrastruction Protection Program (GIPP)

In-Service Date: Not Applicable

Description:

DIMP Capital activities in budget code 277 include installations, replacements, and other risk mitigation or remediation activities driven by DIMP Projects and Activities to Address Risk (PAARs). These costs are associated with executing the GIPP, which is driven by risk mitigation of third-party damage associated with aboveground pressurized facilities and includes installation of protection measures (e.g., bollards or block walls).

Forecast In 2021 \$(000)							
Years	2022	2023	2024				
Labor	3,276	3,272	3,250				
Non-Labor	11,399	11,439	11,394				
NSE	0	0	0				
Total	14,675	14,711	14,644				
FTE	31.8	31.7	31.5				

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00277.0
Category: B. DIMP
Category-Sub: 1. DIMP

Workpaper Group: 002770 - DIMP

Workpaper Detail: 002770.002 - 002770 - RAMP - DIMP - Gas Infrastruction Protection Program (GIPP)

RAMP Item # 1

RAMP Activity

RAMP Chapter: SCG-Risk-3 Incident Related to the Medium Pressure System (Excluding Dig-in)

RAMP Line Item ID: C22

RAMP Line Item Name: DIMP - Gas Infrastructure Protection Program (GIPP)

Tranche(s): Tranche1: Meter & Beyond

GRC Forecast Cost Estim	nates (\$000)					2022 t	o 2024
	2021 Historical Embedded Costs	2022 2023 Forecast Forecas		2024 t Forecast	2022 to 2024 Forecast	RAMP Range (2020 Incurred \$)	
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	10,716	14,675	14,711	14,644	44,030	49,146	62,798

Cost Estimate Changes from RAMP:

Since the RAMP report, per unit cost forecasts for the GIPP have been evaluated and updated. Costs presented in this work paper are limited to Budget Code 277; other costs associated with C21 are presented in workpaper D07560.

GRC Work Unit/Activity Le	GRC Work Unit/Activity Level Estimates 2022 to 2024											
Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast	RAM	P Range tivities					
Measure	Activities	Activities	Activities	Activities	Activities	Low	High					
Tranche 1 # of mitigations	2,384.00	2,400.00	500.00	600.00	3,500.00	2,970.00	3,795.00					

Work Unit Changes from RAMP:

The GRC forecasted units are within range of the RAMP forecast.

RSE inputs have been updated since the RAMP report.

Risk Spend Efficiency (RSE)			
	GRC RSE	RAMP RSE	
Tranche 1	36.300	221.000	
RSE Changes from RAMP:			

Beginning of Workpaper Group D07560 - DIMP Data Management - IT

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: D0756.0
Category: B. DIMP
Category-Sub: 1. DIMP

Workpaper Group: D07560 - DIMP Data Management - IT

Summary of Results (Constant 2021 \$ in 000s):

Forecast I	Method	Adjusted Recorded Adjusted Foreca					ast		
Years	S	2017	2018	2019	2020	2021	2022	2023	2024
Labor	Base YR Rec	999	575	839	593	568	596	597	596
Non-Labor	Base YR Rec	2,108	3,892	5,238	4,614	3,647	4,030	4,029	4,030
NSE	Base YR Rec	0	0	0	0	0	0	0	0
Tota	ıl	3,107	4,467	6,077	5,207	4,214	4,626	4,626	4,626
FTE	Base YR Rec	8.4	5.2	7.2	5.6	5.9	6.2	6.2	6.2

Business Purpose:

The DIMP is a federally-mandated program developed and implemented in compliance with 49 CFR Part 192, Subpart P. Activities presented in this workpaper are related to the systems and applications that are used to manage the TIMP.

Physical Description:

Implementation of software enhancements such as new software applications for data modeling/management initiatives in support of risk and threat evaluation (e.g., a new quantitative risk assessment model).

Project Justification:

DIMP data management is critical to the development and measurement of DIMP Projects and Activities Addressing Risk (PAARs).

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: D0756.0
Category: B. DIMP
Category-Sub: 1. DIMP

Workpaper Group: D07560 - DIMP Data Management - IT

Forecast Methodology:

Labor - Base YR Rec

The forecast method selected for this workpaper is Base Year Recorded. This method is most appropriate because the base year most closely represents the most current level of activity; adjustments in support of new initiatives are made accordingly.

Non-Labor - Base YR Rec

The forecast method selected for this workpaper is Base Year Recorded. This method is most appropriate because the base year most closely represents the most current level of activity; adjustments in support of new initiatives are made accordingly.

NSE - Base YR Rec

The forecast method selected for this workpaper is Base Year Recorded. This method is most appropriate because the base year most closely represents the most current level of activity; adjustments in support of new initiatives are made accordingly.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: D0756.0
Category: B. DIMP
Category-Sub: 1. DIMP

Workpaper Group: D07560 - DIMP Data Management - IT

Summary of Adjustments to Forecast

	In 2021 \$ (000)										
Forecast Method Base Forecast			For	ecast Adju	ıstments	Ac	Adjusted-Forecast				
Years	;	2022	2023	2024	2022	2023	2024	2022	2023	2024	
Labor	Base YR Rec	568	568	568	28	29	28	596	597	596	
Non-Labor	Base YR Rec	3,647	3,647	3,647	383	382	383	4,030	4,029	4,030	
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0	
Total		4,215	4,215	4,215	411	411	411	4,626	4,626	4,626	
FTE	Base YR Rec	5.9	5.9	5.9	0.3	0.3	0.3	6.2	6.2	6.2	

Forecast Adjustment Details

<u>Year</u>		<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>			
2022		23	362	0	385	0.2			
Explanation:	This adjustment captures the DREAMS-allocated portion of incremental IT 2022 costs above the base year recorded. Costs are driven by software enhancement activities such as the implementation of new software applications to support and improve data management. The portion of IT costs allocated to DREAMS is informed by a ratio of DREAMS vs. GIPP activity levels.								
2022		5	21	0	26	0.1			
Explanation:	recorded. Costs are	driven by software	e enhancement activ	ities such as the ir	costs above the base material control of new strain allocated to GIPP is	software			

by a ratio of DREAMS vs. GIPP activity levels.

2022 Total 28 383 0 411 0.3

2023 25 361 0 386 0.2

Explanation: This adjustment captures the DREAMS-allocated portion of incremental IT 2023 costs above the base year recorded. Costs are driven by software enhancement activities such as the implementation of new software applications to support and improve data management. The portion of IT costs allocated to DREAMS is informed by a ratio of DREAMS vs. GIPP activity levels.

2023 4 21 0 25 0.1

Explanation: This adjustment captures the GIPP-allocated portion of incremental IT 2023 costs above the base year recorded. Costs are driven by software enhancement activities such as the implementation of new software applications to support and improve data management. The portion of IT costs allocated to GIPP is informed by a ratio of DREAMS vs. GIPP activity levels.

 2023 Total
 29
 382
 0
 411
 0.3

 2024
 29
 362
 0
 391
 0.4

Explanation: This adjustment captures the DREAMS-allocated portion of incremental IT 2024 costs above the base year recorded. Costs are driven by software enhancement activities such as the implementation of new software applications to support and improve data management. The portion of IT costs allocated to DREAMS is informed by a ratio of DREAMS vs. GIPP activity levels.

2024 -1 21 0 20 -0.1

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: D0756.0
Category: B. DIMP
Category-Sub: 1. DIMP

Workpaper Group: D07560 - DIMP Data Management - IT

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>
Explanation:	This adjustment captures the recorded. Costs are driven applications to support and by a ratio of DREAMS vs. G	oy software enhanceme improve data managen	ent activities such as	the implementation of r	new software
2024 To	otal 28	383	0	411	0.3

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: D0756.0
Category: B. DIMP
Category-Sub: 1. DIMP

Workpaper Group: D07560 - DIMP Data Management - IT

Determination of Adjusted-Recorded:

Labor 638 388 584 438 438 438 Non-Labor 1,573 3,076 4,337 4,011 3,392		2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Non-Labor 1,573 3,076 4,337 4,011 3,992 NSE 0 0 0 0 0 Total 2,211 3,464 4,921 4,449 3,874 FTE 7,1 4,4 6.0 4,7 5.0 Adjustments (Nominal \$)*** Secondary Sec	Recorded (Nominal \$)*					
NSE		638	388	584	438	483
Total 2,211 3,464 4,921 4,449 3,874 FTE 7.1 4.4 6.0 4.7 5.0 Adjustments (Nominal \$)** Secondary Secondary Secondary 0		1,573	3,076	4,337	4,011	3,392
FTE 7.1 4.4 6.0 4.7 5.0 Adjustments (Nominal \$) *** Labor 0 0 0 0 0 255 NSE 0 0 0 0 0 0 255 NSE 0 0 0 0 0 0 0 0 0 255 FTE 0.0 0.0 0.0 0	NSE	0	0	0	0	0
Adjustments (Nominal \$) ** Labor 0		2,211	3,464	4,921	4,449	3,874
Labor 0 0 0 0 0 NSE 0 0 0 0 0 Total 0 0 0 0 255 FTE 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Nominal \$) Use 0 0 0 0 0 0 Labor 638 388 584 438 483 Non-Labor 1,573 3,076 4,337 4,011 3,647 NSE 0 0 0 0 0 0 0 Total 2,211 3,464 4,921 4,449 4,129 129 FTE 7.1 4.4 6.0 4.7 5.0 0 Vacation & Sick (Nominal \$) 67 111 77 85 NSE 0 0 0 0 0 0 NSE 0 0 0 0 0 0 0	FTE	7.1	4.4	6.0	4.7	5.0
Non-Labor 0	Adjustments (Nominal \$)	**				
NSE 0 0 0 0 0 255 FTE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Nominal \$) Labor 638 388 584 438 483 Non-Labor 1,573 3,076 4,337 4,011 3,647 NSE 0 <td< td=""><td>Labor</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></td<>	Labor	0	0	0	0	0
Total 0 0 0 0 255 FTE 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Nominal \$) Labor 638 388 584 438 483 Non-Labor 1,573 3,076 4,337 4,011 3,647 NSE 0 0 0 0 0 0 0 Total 2,211 3,464 4,921 4,449 4,129 +129 +120 <td>Non-Labor</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>255</td>	Non-Labor	0	0	0	0	255
FTE 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Nominal \$) Labor 638 388 584 438 483 Non-Labor 1,573 3,076 4,337 4,011 3,647 NSE 0 0 0 0 0 Total 2,211 3,464 4,921 4,449 4,129 FTE 7.1 4.4 6.0 4.7 5.0 Vacation & Sick (Nominal \$) Use of the colspan="2">Use o	NSE	0	0	0	0	0
Recorded-Adjusted (Nominal \$)		0	0	0	0	255
Labor 638 388 584 438 483 Non-Labor 1,573 3,076 4,337 4,011 3,647 NSE 0 0 0 0 0 0 Total 2,211 3,464 4,921 4,449 4,129 FTE 7.1 4.4 6.0 4.7 5.0 Vacation & Sick (Nominal \$) 5 111 77 85 Labor 108 67 111 77 85 Non-Labor 0 0 0 0 0 Total 108 67 111 77 85 FTE 1.3 0.8 1.2 0.9 0.9 Escalation to 2021\$ 254 121 144 77 0 Non-Labor 535 816 901 603 0 NSE 0 0 0 0 0 0 FTE 0.0 0 0	FTE	0.0	0.0	0.0	0.0	0.0
Non-Labor 1,573 3,076 4,337 4,011 3,647 NSE 0 0 0 0 0 Total 2,211 3,464 4,921 4,449 4,129 FTE 7.1 4.4 6.0 4.7 5.0 Vacation & Sick (Nominal \$) 5 5 5 5 Labor 108 67 111 77 85 Non-Labor 0 0 0 0 0 NSE 0 0 0 0 0 FTE 1.3 0.8 1.2 0.9 0.9 Escalation to 2021\$ 254 121 144 77 0 Non-Labor 535 816 901 603 0 NSE 0 0 0 0 0 FTE 0.0 0 0 0 0 FTE 0.0 0 0 0 0 FTE<	Recorded-Adjusted (Nom	inal \$)				
NSE 0	Labor	638	388	584	438	483
Total 2,211 3,464 4,921 4,449 4,129 FTE 7.1 4.4 6.0 4.7 5.0 Vacation & Sick (Nominal \$) Labor 108 67 111 77 85 Non-Labor 0 0 0 0 0 NSE 0 0 0 0 0 Total 108 67 111 77 85 FTE 1.3 0.8 1.2 0.9 0.9 Escalation to 2021\$ Labor 254 121 144 77 0 Non-Labor 535 816 901 603 0 NSE 0 0 0 0 0 FTE 0.0 0 0 0 0 FTE 0.0 0 0 0 0 FTE 0.0 0 0 0 0 Ecorded-Adjusted (Constant 20		1,573	3,076	4,337	4,011	3,647
FTE 7.1 4.4 6.0 4.7 5.0 Vacation & Sick (Nominal \$) Labor 108 67 111 77 85 Non-Labor 0 0 0 0 0 NSE 0 0 0 0 0 Total 108 67 111 77 85 FTE 1.3 0.8 1.2 0.9 0.9 Escalation to 2021\$ 254 121 144 77 0 Non-Labor 535 816 901 603 0 NSE 0 0 0 0 0 0 Total 789 937 1,045 681 0 FTE 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) 2 839 593 568 Non-Labor 2,108 3,892 5,238 4,614 3,647 NSE 0 <td>NSE</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td>	NSE	0	0	0	0	0
Vacation & Sick (Nominal \$) Labor 108 67 1111 77 85 Non-Labor 0 0 0 0 0 NSE 0 0 0 0 0 Total 108 67 111 77 85 FTE 1.3 0.8 1.2 0.9 0.9 Escalation to 2021\$ Labor 254 121 144 77 0 Non-Labor 535 816 901 603 0 NSE 0 0 0 0 0 0 Total 789 937 1,045 681 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 999 575 839 593 568 Non-Labor 2,108 3,892 5,238 4,614 3,647 NSE <		2,211	3,464	4,921	4,449	4,129
Labor 108 67 111 77 85 Non-Labor 0 0 0 0 0 0 NSE 0 0 0 0 0 0 0 Total 108 67 111 77 85 5 5 5 5 5 6 121 111 77 0 0 0 0 9 0 9 0 9 0 0 0 0 0 0 9 0 9 0	FTE	7.1	4.4	6.0	4.7	5.0
Non-Labor 0 0 0 0 0 0 NSE 0 0 0 0 0 0 Total 108 67 111 77 85 FTE 1.3 0.8 1.2 0.9 0.9 Escalation to 2021\$ Use of the color of	Vacation & Sick (Nominal	\$)				
NSE 0 0 0 0 0 Total 108 67 111 77 85 FTE 1.3 0.8 1.2 0.9 0.9 Escalation to 2021\$ Labor 254 121 144 77 0 Non-Labor 535 816 901 603 0 NSE 0 0 0 0 0 0 Total 789 937 1,045 681 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 999 575 839 593 568 Non-Labor 2,108 3,892 5,238 4,614 3,647 NSE 0 0 0 0 0 0 Total 3,107 4,467 6,077 5,207 4,214	Labor	108	67	111	77	85
Total 108 67 111 77 85 FTE 1.3 0.8 1.2 0.9 0.9 Escalation to 2021\$ Labor 254 121 144 77 0 Non-Labor 535 816 901 603 0 NSE 0 0 0 0 0 Total 789 937 1,045 681 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 999 575 839 593 568 Non-Labor 2,108 3,892 5,238 4,614 3,647 NSE 0 0 0 0 0 0 0 Total 3,107 4,467 6,077 5,207 4,214		0	0	0	0	0
FTE 1.3 0.8 1.2 0.9 0.9 Escalation to 2021\$ Labor 254 121 144 77 0 Non-Labor 535 816 901 603 0 NSE 0 0 0 0 0 0 Total 789 937 1,045 681 0	NSE	0	0	0	0	0
Escalation to 2021\$ Labor 254 121 144 77 0 Non-Labor 535 816 901 603 0 NSE		108	67	111	77	85
Labor 254 121 144 77 0 Non-Labor 535 816 901 603 0 NSE 0 0 0 0 0 0 Total 789 937 1,045 681 0 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 999 575 839 593 568 Non-Labor 2,108 3,892 5,238 4,614 3,647 NSE 0 0 0 0 0 0 0 Total 3,107 4,467 6,077 5,207 4,214	FTE	1.3	0.8	1.2	0.9	0.9
Non-Labor 535 816 901 603 0 NSE 0 0 0 0 0 0 0 Total 789 937 1,045 681 0 0 0 0.	Escalation to 2021\$					
NSE 0 0 0 0 0 0 Total 789 937 1,045 681 0 FTE 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 999 575 839 593 568 Non-Labor 2,108 3,892 5,238 4,614 3,647 NSE 0 0 0 0 0 Total 3,107 4,467 6,077 5,207 4,214		254	121	144	77	0
Total 789 937 1,045 681 0 FTE 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 999 575 839 593 568 Non-Labor 2,108 3,892 5,238 4,614 3,647 NSE 0 0 0 0 0 0 Total 3,107 4,467 6,077 5,207 4,214		535	816	901	603	0
FTE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	NSE	0	0	0	0	0
Recorded-Adjusted (Constant 2021\$) Labor 999 575 839 593 568 Non-Labor 2,108 3,892 5,238 4,614 3,647 NSE 0 0 0 0 0 Total 3,107 4,467 6,077 5,207 4,214		789	937	1,045	681	0
Labor 999 575 839 593 568 Non-Labor 2,108 3,892 5,238 4,614 3,647 NSE 0 0 0 0 0 0 Total 3,107 4,467 6,077 5,207 4,214	FTE	0.0	0.0	0.0	0.0	0.0
Non-Labor 2,108 3,892 5,238 4,614 3,647 NSE 0 0 0 0 0 Total 3,107 4,467 6,077 5,207 4,214		stant 2021\$)				
NSE 0 0 0 0 0 0 0 0 Total 3,107 4,467 6,077 5,207 4,214	Labor	999	575	839	593	568
Total 3,107 4,467 6,077 5,207 4,214		2,108	3,892	5,238	4,614	3,647
.,	NSE	0	0	0	0	0
		3,107	4,467	6,077	5,207	4,214
	FTE	8.4	5.2	7.2	5.6	5.9

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: D0756.0
Category: B. DIMP
Category-Sub: 1. DIMP

Workpaper Group: D07560 - DIMP Data Management - IT

Summary of Adjustments to Recorded:

	In Nominal \$(000)										
	Years	2017	2018	2019	2020	2021					
Labor		0	0	0	0	0					
Non-Labor		0	0	0	0	255					
NSE		0	0	0	0	0					
	Total	0	0	0	0	255					
FTE		0.0	0.0	0.0	0.0	0.0					

Detail of Adjustments to Recorded in Nominal \$:

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>
2017 Total	0	0	0	0	0.0
2018 Total	0	0	0	0	0.0
2019 Total	0	0	0	0	0.0
2020 Total	0	0	0	0	0.0
2021	0	255	0	255	0.0
Explanation:	One-sided entry to move ESRI I SDGE nonGRC)	icensing costs to GR0	C (from SDGE sending	g order 7131156 mapp	ed to
2021 Total	0	255	0	255	0.0

Beginning of Workpaper Sub Details for Workpaper Group D07560

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: D0756.0
Category: B. DIMP
Category-Sub: 1. DIMP

Workpaper Group: D07560 - DIMP Data Management - IT

Workpaper Detail: D07560.001 - 007560 - RAMP - DIMP - Data Management (DREAMS)

In-Service Date: Not Applicable

Description:

DIMP Capital activities in budget code 756 include IT-based enhancements to DIMP data management such as software upgrades (e.g., new applications). These costs are the costs allocated to DREAMS based on the ratio of expected DREAMS vs. GIPP activity levels.

		Forecast In 2021	\$(000)	
	Years	2022	2023	2024
Labor		485	487	491
Non-Labor		3,809	3,809	3,810
NSE		0	0	0
	Total	4,294	4,296	4,301
FTE		5.0	5.1	5.1

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: D0756.0
Category: B. DIMP
Category-Sub: 1. DIMP

Workpaper Group: D07560 - DIMP Data Management - IT

Workpaper Detail: D07560.001 - 007560 - RAMP - DIMP - Data Management (DREAMS)

RAMP Item # 1

RAMP Activity

RAMP Chapter: SCG-Risk-3 Incident Related to the Medium Pressure System (Excluding Dig-in)

RAMP Line Item ID: C21 T1-T2

RAMP Line Item Name: DIMP - Distribution Risk Evaluation and Monitoring System (DREAMS)

Tranche(s): Tranche1: Plastic - Main (VIPP); Tranche2: Steel - Main (BSRP)

GRC Forecast Cost Estim	ates (\$000)					2022 t	o 2024
	2021 Historical Embedded Costs	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast		Range ncurred \$)
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	2,684	2,500	2,501	2,504	7,505	501,072	606,561
Tranche 2 Cost Estimate	1,226	1,795	1,795	1,797	5,387	214,745	259,955

Cost Estimate Changes from RAMP:

Costs presented in this workpaper are only for the IT-related data mangement activities for DIMP. Primary costs under C21 are presented in workpaper 002770.

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast	2022 to 2024 RAMP Range Activities	
Measure	Activities	Activities	Activities	Activities	Activities	Low	High
Tranche 1 No feasible units	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tranche 2 No feasible units	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Work Unit Changes from RAMP:

IT activity is not measurable by units since activities consist of data management system enhancements.

	GRC RSE	RAMP RSE
Tranche 1	0.300	1.200
Tranche 2	0.100	0.900

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: D0756.0
Category: B. DIMP
Category-Sub: 1. DIMP

Workpaper Group: D07560 - DIMP Data Management - IT

Workpaper Detail: D07560.002 - 007560 - RAMP - DIMP - Data Management (GIPP)

In-Service Date: Not Applicable

Description:

DIMP Capital activities in budget code 756 include IT-based enhancements to DIMP data management such as software upgrades (e.g., new applications). These costs are the costs allocated to GIPP based on the ratio of expected DREAMS vs. GIPP activity levels.

		Forecast In 2021	\$(000)	
	Years	2022	2023	2024
Labor		111	110	105
Non-Labor		221	220	220
NSE		0	0	0
	Total	332	330	325
FTE		1.2	1.1	1.1

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: D0756.0
Category: B. DIMP
Category-Sub: 1. DIMP

Workpaper Group: D07560 - DIMP Data Management - IT

Workpaper Detail: D07560.002 - 007560 - RAMP - DIMP - Data Management (GIPP)

RAMP Item # 1

RAMP Activity

RAMP Chapter: SCG-Risk-3 Incident Related to the Medium Pressure System (Excluding Dig-in)

RAMP Line Item ID: C22

RAMP Line Item Name: DIMP - Gas Infrastructure Protection Program (GIPP)

Tranche(s): Tranche1: Meter & Beyond

GRC Forecast Cost Estim	nates (\$000)					2022 to	o 2024
	2021 Historical Embedded Costs	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast	RAMP (2020 In	Range curred \$)
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	305	331	330	325	986	49,146	62,798

Cost Estimate Changes from RAMP:

Costs presented in this workpaper are only for the IT-related data mangement activities for DIMP. Primary costs under C22 are presented in workpaper 002770.

GRC Work Unit/Activity	Level Estimates 2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast	RAMP	o 2024 Range ivities
Measure	Activities	Activities	Activities	Activities	Activities	Low	High
Tranche 1 No feasible	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Work Unit Changes from RAMP:

IT activity is not measurable by units since activities consist of data management system enhancements.

Risk Spend Efficiency (RSE)

 GRC RSE
 RAMP RSE

 Tranche 1
 36.300
 221.000

RSE Changes from RAMP:

Refer to workpaper 002770. The RSE is based on the combined GIPP Capital costs.

GAS INTEGRITY PROGRAMS Area:

Witness: Amy Kitson C. SIMP Category: 004410 Workpaper:

Summar

		In 2021\$ (0	00)	
	Adjusted-Recorded		Adjusted-Forecast	
	2021	2022	2023	2024
Labor	1,692	1,060	912	528
Non-Labor	85,539	53,357	45,879	26,454
NSE	0	0	0	0
Total	87,231	54,417	46,791	26,982
FTE	12.5	7.9	6.8	3.9
410 SIMP				
Labor	1,692	1,060	912	528
Non-Labor	85,539	53,357	45,879	26,454
NSE	0	0	0	0
Total	87,231	54,417	46,791	26,982
FTE	12.5	7.9	6.8	3.9

Beginning of Workpaper Group 004410 - SIMP

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson

Budget Code: 00441.0

Category: C. SIMP

Category-Sub: 1. SIMP

Workpaper Group: 004410 - SIMP

Summary of Results (Constant 2021 \$ in 000s):

Forecast I	Method		Adjus	sted Record	ed		Adju	sted Forec	ast
Years	s	2017	2018	2019	2020	2021	2022	2023	2024
Labor	Base YR Rec	1,229	1,495	1,687	1,757	1,692	1,060	912	528
Non-Labor	Base YR Rec	84,607	112,965	75,750	92,084	85,539	53,357	45,879	26,454
NSE	Base YR Rec	0	0	0	0	0	0	0	0
Tota	ıl	85,836	114,461	77,437	93,840	87,231	54,417	46,791	26,982
FTE	Base YR Rec	7.9	9.5	10.9	11.4	12.5	7.9	6.8	3.9

Business Purpose:

The SIMP is a compliance program applied to SoCalGas storage fields and managed in accordance with state and federal regulations.

Physical Description:

Capital activities include well remediation and abandonment when applicable and is driven by SIMP assessments.

Project Justification:

Remediation activities are required and necessary to maintain the integrity of SoCalGas storage fields.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00441.0
Category: C. SIMP
Category-Sub: 1. SIMP

Workpaper Group: 004410 - SIMP

Forecast Methodology:

Labor - Base YR Rec

The forecast method selected for this workpaper is Base Year Recorded. This method is most appropriate beccause the base year most closely represents the current structure of the organization and cost drivers. Since forecasts are rooted in average costs and the number of assessments conducted each year, SoCalGas adjusts the forecasts accordingly.

Non-Labor - Base YR Rec

The forecast method selected for this workpaper is Base Year Recorded. This method is most appropriate beccause the base year most closely represents the current structure of the organization and cost drivers. Since forecasts are rooted in average costs and the number of assessments conducted each year, SoCalGas adjusts the forecasts accordingly.

NSE - Base YR Rec

The forecast method selected for this workpaper is Base Year Recorded. This method is most appropriate beccause the base year most closely represents the current structure of the organization and cost drivers. Since forecasts are rooted in average costs and the number of assessments conducted each year, SoCalGas adjusts the forecasts accordingly.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00441.0
Category: C. SIMP
Category-Sub: 1. SIMP
Workpaper Group: 004410 - SIMP

Summary of Adjustments to Forecast

				In 2021	\$ (000)					
Forecast	Method	В	Base Forecast Forecast Adjustments			Adjusted-Forecast				
Years	;	2022	2023	2024	2022	2023	2024	2022	2023	2024
Labor	Base YR Rec	1,692	1,692	1,692	-632	-780	-1,164	1,060	912	528
Non-Labor	Base YR Rec	85,539	85,539	85,539	-32,182	-39,660	-59,085	53,357	45,879	26,454
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Total	l	87,231	87,231	87,231	-32,814	-40,440	-60,249	54,417	46,791	26,982
FTE	Base YR Rec	12.5	12.5	12.5	-4.6	-5.7	-8.6	7.9	6.8	3.9

Forecast Adju	stment Details							
<u>Year</u>		<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>		
2022		-656	-33,218	0	-33,874	-4.8		
explanation:	resulting from inte	egrity inspections. are calculated usin	s as compared to the Costs are forecasted ng average cost assu	based on the numl	per of expected well			
2022		24	1,036	0	1,060	0.2		
explanation:	This adjustment captures incremental 2022 costs above the base year recorded for SIMP abandonments. Costs are forecasted based on the number of expected well abandonment activities and are calculated using average cost assumptions. Actual abandonments may vary from year to year based on inspection findings.							
2022 To	otal	-632	-32,182	0	-32,814	-4.6		
2023		-804	-40,696	0	-41,500	-5.9		
Explanation:	This adjustment presents 2023 costs as compared to the base year recorded for SIMP remediation activities resulting from integrity inspections. Costs are forecasted based on the number of expected well assessments and are calculated using average cost assumptions. Actual remediation may vary based on inspections and findings.							
2023		24	1,036	0	1,060	0.2		
xplanation:	This adjustment captures incremental 2023 costs above the base year recorded for SIMP abandonments. Costs are forecasted based on the number of expected well abandonment activities and are calculated using average cost assumptions. Actual abandonments may vary from year to year based on inspection findings.							
2023 To		-780	-39,660	0	-40,440	-5.7		
2024		24	1,036	0	1,060	0.2		
explanation:	Costs are forecas	ted based on the n	al 2024 costs above to umber of expected wo pandonments may val	ell abandonment a	ctivities and are calcu	ulated using		
2024		-1,188	-60,121	0	-61,309	-8.8		
Explanation:	resulting from inte	egrity inspections.	s as compared to the Costs are forecasted g average cost assur	based on the numl	per of expected well			

Note: Totals may include rounding differences.

inspections and findings.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00441.0
Category: C. SIMP
Category-Sub: 1. SIMP
Workpaper Group: 004410 - SIMP

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	NSE	<u>Total</u>	FTE	
2024 Total	-1,164	-59,085	0	-60,249	-8.6	

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00441.0
Category: C. SIMP
Category-Sub: 1. SIMP
Workpaper Group: 004410 - SIMP

Determination of Adjusted-Recorded:

Recorded (Nominal \$)* Labor 790 1,008 1,174 1,298 1,438 Non-Labor 63,152 89,277 62,721 80,048 85,539 NSE 0 0 0 0 0 0 0 0 0		2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Non-Labor 63,152 89,277 62,721 80,048 85,539 NSE 0 0 0 0 0 Total 63,942 90,285 63,895 81,347 86,977 FTE 6.8 8.1 9.1 9.5 10,5 Adjustments (Nominal \$)*** ***********************************	Recorded (Nominal \$)*					
NSE 0 0 0 0 0 0 Total 63,942 90,285 63,895 81,347 86,977 FTE 6.8 8.1 9.1 9.5 10.5 Adjustments (Nominal \$)*** Use of the control of the contr		790	1,008	1,174	1,298	1,438
Total FTE 63,942 (6.8) 90,285 (8.8) 63,895 (8.1) 81,347 (9.5) 86,977 (9.5) FTE (6.8) 8.1 9.1 9.5 10.5 Adjustments (Nominal \$) ** ***		63,152	89,277	62,721	80,048	85,539
FTE 6.8 8.1 9.1 9.5 10.5 Adjustments (Nominal \$) *** Labor -6 0 0 0 0 Non-Labor -19 0 0 0 0 0 NSE 0 0 0 0 0 0 0 FTE -0.1 0.0 0.0 0.0 0.0 0 0 0 Recorded-Adjusted (Nominal \$) Labor 784 1,008 1,174 1,298 1,438 85,539 NSE 0	NSE	0	0	0	0	0
Adjustments (Nominal \$) ** Labor		63,942	90,285	63,895	81,347	86,977
Labor -6 0 0 0 0 Non-Labor -19 0 0 0 0 NSE 0 0 0 0 0 Total -25 0 0 0 0 FTE -0.1 0.0 0.0 0.0 0.0 Recorded-Adjusted (Nominal \$) U U 0 0 0 0 0 Labor 784 1,008 1,174 1,298 1,438 85,539 NSE 0	FTE	6.8	8.1	9.1	9.5	10.5
Non-Labor 1-19 0 0 0 0 NSE 0 0 0 0 0 Total -25 0 0 0 0 FTE -0.1 0.0 0.0 0.0 0.0 Recorded-Adjusted (Nominal \$)* Use of the control of the cont	Adjustments (Nominal \$)	**				
NSE 0 0 0 0 0 FTE -0.1 0.0 0.0 0.0 0.0 FTE -0.1 0.0 0.0 0.0 0.0 Recorded-Adjusted (Nominal \$) Labor 784 1,008 1,174 1,298 1,438 Non-Labor 63,133 89,277 62,721 80,048 85,539 NSE 0 0 0 0 0 0 0 Total 63,918 90,285 63,895 81,347 86,977 86,977 FTE 6.7 8.1 9.1 9.5 10.5 95 10.5 95 10.5 96,977 FTE 6.7 8.1 9.1 9.5 10.5 96,977 FTE 6.7 8.1 9.1 9.5 10.5 92,94 74 9.3 229 254 24,05 9.0 0 0 0 0 0 0 0 0 0 0	Labor	-6	0	0	0	0
Total -25 0 0 0 0 FTE -0.1 0.0 0.0 0.0 0.0 Recorded-Adjusted (Nominal \$\\$) Labor 784 1,008 1,174 1,298 1,438 Non-Labor 63,133 89,277 62,721 80,048 85,539 NSE 0 0 0 0 0 0 0 Total 63,918 90,285 63,895 81,347 86,977 86,977 FTE 6.7 8.1 9.1 9.5 10.5	Non-Labor	-19	0	0	0	0
FTE -0.1 0.0 0.0 0.0 0.0 Recorded-Adjusted (Nominal \$) Labor 784 1,008 1,174 1,298 1,438 Non-Labor 63,133 89,277 62,721 80,048 85,539 NSE 0 0 0 0 0 0 Total 63,918 90,285 63,895 81,347 86,977 FTE 6.7 8.1 9.1 9.5 10.5 Vacation & Sick (Nominal \$) Labor 133 174 223 229 254 Non-Labor 0 0 0 0 0 0 Total 133 174 223 229 254 Non-Labor 0 0 0 0 0 0 FTE 1.2 1.4 1.8 1.9 2.0 Escalation to 2021\$ Labor 312 314 290 230	NSE	0	0	0	0	0
Recorded-Adjusted (Nominal \$\frac{1}{2} Labor 784 1,008 1,174 1,298 1,438 Non-Labor 63,133 89,277 62,721 80,048 85,539 NSE 0 0 0 0 0 0 0 0 0	Total	-25	0	0	0	0
Labor 784 1,008 1,174 1,298 1,438 Non-Labor 63,133 89,277 62,721 80,048 85,539 NSE 0 0 0 0 0 0 Total 63,918 90,285 63,895 81,347 86,977 FTE 6,7 8.1 9.1 9.5 10.5 Vacation & Sick (Nominal \$) Labor 133 174 223 229 254 Non-Labor 0 0 0 0 0 0 NSE 0 0 0 0 0 0 0 FTE 1,2 1,4 1,8 1,9 2.0 2 Escalation to 2021\$ Labor 312 314 290 230 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 </td <td>FTE</td> <td>-0.1</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td>	FTE	-0.1	0.0	0.0	0.0	0.0
Non-Labor 63,133 89,277 62,721 80,048 85,539 NSE 0 0 0 0 0 Total 63,918 90,285 63,895 81,347 86,977 FTE 6.7 8.1 9.1 9.5 10.5 Vacation & Sick (Nominal \$) Use of the colspan="3">Use of the colspan="3">	Recorded-Adjusted (Nomi	inal \$)				
NSE 0	Labor	784	1,008	1,174	1,298	1,438
Total 63,918 90,285 63,895 81,347 86,977 FTE 6.7 8.1 9.1 9.5 10.5 Vacation & Sick (Nominal \$) Labor 133 174 223 229 254 Non-Labor 0 0 0 0 0 0 NSE 0 0 0 0 0 0 0 FTE 1.2 1.4 1.8 1.9 2.0 254 Escalation to 2021\$ 1.2 1.4 1.8 1.9 2.0 254 Labor 312 314 290 230 0		63,133	89,277	62,721	80,048	85,539
FTE 6.7 8.1 9.1 9.5 10.5 Vacation & Sick (Nominal \$) Labor 133 174 223 229 254 Non-Labor 0 0 0 0 0 NSE 0 0 0 0 0 Total 133 174 223 229 254 FTE 1.2 1.4 1.8 1.9 2.0 Escalation to 2021\$ 2 1.4 1.8 1.9 2.0 Labor 312 314 290 230 0 0 NSE 0 0 0 0 0 0 0 Total 21,473 23,689 13,029 12,035 0	NSE	0	0	0	0	0
FTE 6.7 8.1 9.1 9.5 10.5 Vacation & Sick (Nominal \$) Labor 133 174 223 229 254 Non-Labor 0 0 0 0 0 NSE 0 0 0 0 0 Total 133 174 223 229 254 FTE 1.2 1.4 1.8 1.9 2.0 Escalation to 2021\$ 2 1.4 1.8 1.9 2.0 Escalation to 2021\$ 2 314 290 230 0 0 Non-Labor 21,473 23,689 13,029 12,035 0 0 NSE 0 <td< td=""><td></td><td>63,918</td><td>90,285</td><td>63,895</td><td>81,347</td><td>86,977</td></td<>		63,918	90,285	63,895	81,347	86,977
Labor 133 174 223 229 254 Non-Labor 0 0 0 0 0 NSE 0 0 0 0 0 Total 133 174 223 229 254 FTE 1.2 1.4 1.8 1.9 2.0 Escalation to 2021\$ Labor 312 314 290 230 0 Non-Labor 21,473 23,689 13,029 12,035 0 NSE 0 0 0 0 0 0 Total 21,785 24,002 13,319 12,265 0 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 1,229 1,495 1,687 1,757 1,692 Non-Labor 84,607 112,965 75,750 92,084 85,539 NSE	FTE	6.7	8.1	9.1	9.5	
Non-Labor 0 0 0 0 0 NSE 0 0 0 0 0 Total 133 174 223 229 254 FTE 1.2 1.4 1.8 1.9 2.0 Escalation to 2021\$ Use of the colspan="3">Use	Vacation & Sick (Nominal	\$)				
NSE 0 0 0 0 0 Total 133 174 223 229 254 FTE 1.2 1.4 1.8 1.9 2.0 Escalation to 2021\$ Labor 312 314 290 230 0 Non-Labor 21,473 23,689 13,029 12,035 0 NSE 0 0 0 0 0 0 Total 21,785 24,002 13,319 12,265 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 1,229 1,495 1,687 1,757 1,692 Non-Labor 84,607 112,965 75,750 92,084 85,539 NSE 0 0 0 0 0 0 0 Total 85,836 114,461 77,437 93,840 87,231	Labor	133	174	223	229	254
Total 133 174 223 229 254 FTE 1.2 1.4 1.8 1.9 2.0 Escalation to 2021\$ Labor 312 314 290 230 0 Non-Labor 21,473 23,689 13,029 12,035 0 NSE 0 0 0 0 0 0 Total 21,785 24,002 13,319 12,265 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 1,229 1,495 1,687 1,757 1,692 Non-Labor 84,607 112,965 75,750 92,084 85,539 NSE 0 0 0 0 0 0 Total 85,836 114,461 77,437 93,840 87,231		0	0	0	0	0
FTE 1.2 1.4 1.8 1.9 2.0 Escalation to 2021\$ Labor 312 314 290 230 0 Non-Labor 21,473 23,689 13,029 12,035 0 NSE 0 0 0 0 0 0 Total 21,785 24,002 13,319 12,265 0 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 1,229 1,495 1,687 1,757 1,692 Non-Labor 84,607 112,965 75,750 92,084 85,539 NSE 0 0 0 0 0 0 Total 85,836 114,461 77,437 93,840 87,231	NSE	0	0	0	0	0
Escalation to 2021\$ Labor 312 314 290 230 0 Non-Labor 21,473 23,689 13,029 12,035 0 NSE 0 0 0 0 0 0 0 0 0 Total 21,785 24,002 13,319 12,265 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 1,229 1,495 1,687 1,757 1,692 Non-Labor 84,607 112,965 75,750 92,084 85,539 NSE 0 0 0 0 0 0 0 0 Total 85,836 114,461 77,437 93,840 87,231		133	174	223	229	254
Labor 312 314 290 230 0 Non-Labor 21,473 23,689 13,029 12,035 0 NSE 0 0 0 0 0 0 Total 21,785 24,002 13,319 12,265 0 0 FTE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) 1,229 1,495 1,687 1,757 1,692 Non-Labor 84,607 112,965 75,750 92,084 85,539 NSE 0 0 0 0 0 0 Total 85,836 114,461 77,437 93,840 87,231	FTE	1.2	1.4	1.8	1.9	2.0
Non-Labor 21,473 23,689 13,029 12,035 0 NSE 0 0 0 0 0 0 Total 21,785 24,002 13,319 12,265 0 FTE 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 1,229 1,495 1,687 1,757 1,692 Non-Labor 84,607 112,965 75,750 92,084 85,539 NSE 0 0 0 0 0 0 Total 85,836 114,461 77,437 93,840 87,231	Escalation to 2021\$					
NSE 0 0 0 0 0 0 Total 21,785 24,002 13,319 12,265 0 FTE 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 1,229 1,495 1,687 1,757 1,692 Non-Labor 84,607 112,965 75,750 92,084 85,539 NSE 0 0 0 0 0 Total 85,836 114,461 77,437 93,840 87,231		312	314	290	230	0
Total 21,785 24,002 13,319 12,265 0 FTE 0.0 0.0 0.0 0.0 0.0 Recorded-Adjusted (Constant 2021\$) Labor 1,229 1,495 1,687 1,757 1,692 Non-Labor 84,607 112,965 75,750 92,084 85,539 NSE 0 0 0 0 0 Total 85,836 114,461 77,437 93,840 87,231		21,473	23,689	13,029	12,035	0
FTE 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	NSE	0	0	0	0	0
Recorded-Adjusted (Constant 2021\$) Labor 1,229 1,495 1,687 1,757 1,692 Non-Labor 84,607 112,965 75,750 92,084 85,539 NSE 0 0 0 0 0 Total 85,836 114,461 77,437 93,840 87,231		21,785	24,002	13,319	12,265	0
Labor 1,229 1,495 1,687 1,757 1,692 Non-Labor 84,607 112,965 75,750 92,084 85,539 NSE 0 0 0 0 0 Total 85,836 114,461 77,437 93,840 87,231	FTE	0.0	0.0	0.0	0.0	0.0
Non-Labor 84,607 112,965 75,750 92,084 85,539 NSE 0 0 0 0 0 Total 85,836 114,461 77,437 93,840 87,231	Recorded-Adjusted (Cons	tant 2021\$)				
NSE 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Labor	1,229	1,495	1,687	1,757	1,692
Total 85,836 114,461 77,437 93,840 87,231		84,607	112,965	75,750	92,084	85,539
	NSE	0	0	0	0	0
FTE 7.9 9.5 10.9 11.4 12.5	Total	85,836	114,461	77,437	93,840	87,231
	FTE	7.9	9.5	10.9	11.4	12.5

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson

Budget Code: 00441.0

Category: C. SIMP

Category-Sub: 1. SIMP

Workpaper Group: 004410 - SIMP

Summary of Adjustments to Recorded:

			In Nominal \$(00	0)		
	Years	2017	2018	2019	2020	2021
Labor		-6	0	0	0	0
Non-Labor		-19	0	0	0	0
NSE		0	0	0	0	0
	Total	-25	0		0	0
FTE		-0.1	0.0	0.0	0.0	0.0

Detail of Adjustments to Recorded in Nominal \$:

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>
2017	-6	-19	0	-25	-0.1
Explanation:	PSEP GMA costs allocated inco appropriate.	rrectly to SIMP. PSE	P planner confirmed th	at one-sided adjustm	ent was
2017 Total	-6	-19	0	-25	-0.1
2018 Total	0	0	0	0	0.0
2019 Total	0	0	0	0	0.0
2020 Total	0	0	0	0	0.0
2021 Total	0	0	0	0	0.0

Beginning of Workpaper Sub Details for Workpaper Group 004410

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00441.0
Category: C. SIMP
Category-Sub: 1. SIMP

Workpaper Group: 004410 - SIMP

Workpaper Detail: 004410.001 - 00441A - RAMP - SIMP - Integrity Demonstration, Verification, Monitoring Practices

In-Service Date: Not Applicable

Description:

SIMP capital activities in budget code 441 are driven by remediation as a result of integrity inspections on gas storage wells. Remediation activities may include replacement of the wellhead, replacement of valves, replacement of the tubing and packer, installation of an inner casing string or liner, and installation of shallow-set subsurface safety valves, as well as abandonment. These costs are associated with the forecasted non-abandonment remediation activities.

Forecast In 2021 \$(000)						
	Years	2022	2023	2024		
Labor		1,025	877	493		
Non-Labor		51,892	44,414	24,989		
NSE		0	0	0		
	Total	52,917	45,291	25,482		
FTE		7.6	6.5	3.6		

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00441.0
Category: C. SIMP
Category-Sub: 1. SIMP

Workpaper Group: 004410 - SIMP

Workpaper Detail: 004410.001 - 00441A - RAMP - SIMP - Integrity Demonstration, Verification, Monitoring Practices

RAMP Item #1

RAMP Activity

RAMP Chapter: SCG-Risk-4 Incident Related to the Storage System (Excluding Dig-in)

RAMP Line Item ID: C01

RAMP Line Item Name: Integrity Demonstration, Verification, and Monitoring Practices

Tranche(s): Tranche1: Underground Components

GRC Forecast Cost Estim	nates (\$000)					2022 1	to 2024
	2021 Historical Embedded Costs	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast		Range
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	86,791	52,917	45,291	25,482	123,690	263,720	319,240

Cost Estimate Changes from RAMP:

Forecasted activity has changed since the RAMP report and is expected to decrease. Costs for this RAMP activity are shared with SCG's Gas Storage Operations and Construction; refer to workpaper 004120. Costs presented in this workpaper are only for the SIMP.

GRC Work Unit/Activity	Level Estimates					2022	to 2024
Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast		Range ivities
Measure	Activities	Activities	Activities	Activities	Activities	Low	High
Tranche 1 No feasible units	0.00	0.00	0.00	0.00	0.00	174.00	210.00

Work Unit Changes from RAMP:

SoCalGas has determined that Capital remediation is driven by O&M activities presented in workpaper 2TD003.000 and therefore, a stand-alone Capital unit cannot be forecasted. Refer to workpaper 2TD003.000 for work unit estimates. Units for this RAMP activity are shared with SCG's Gas Storage Operations and Construction; refer to workpaper 004120.

Risk Spend Efficiency (RSE)						
	GRC RSE	RAMP RSE				
Tranche 1	4.300	0.300				
RSE Changes from RAMP: RSE inputs have been updated since th	e RAMP report					

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00441.0
Category: C. SIMP
Category-Sub: 1. SIMP

Workpaper Group: 004410 - SIMP

Workpaper Detail: 004410.002 - 00441A - RAMP - SIMP - Well Abandonment and Replacement

In-Service Date: Not Applicable

Description:

SIMP capital activities in budget code 441 are driven by remediation as a result of integrity inspections on gas storage wells. Under certain circumstances, SoCalGas may abandon a well rather than continue to utilize it for gas storage operations. These costs are associated with forecasted abandonment activities.

Forecast In 2021 \$(000)					
	Years	2022	2023	2024	
Labor		35	35	35	
Non-Labor		1,465	1,465	1,465	
NSE		0	0	0	
	Total	1,500	1,500	1,500	
FTE		0.3	0.3	0.3	

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00441.0
Category: C. SIMP
Category-Sub: 1. SIMP

Workpaper Group: 004410 - SIMP

Workpaper Detail: 004410.002 - 00441A - RAMP - SIMP - Well Abandonment and Replacement

RAMP Item # 1

RAMP Activity

RAMP Chapter: SCG-Risk-4 Incident Related to the Storage System (Excluding Dig-in)

RAMP Line Item ID: C02

RAMP Line Item Name: SIMP Well Abandonment and Replacement

Tranche(s): Tranche1: Underground Components

GRC Forecast Cost Estimates (\$000)									
		2021 Historical Embedded Costs	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast	RAMP	Range	
		(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High	
	Tranche 1 Cost Estimate	440	1,500	1,500	1,500	4,500	120,626	146,020	

Cost Estimate Changes from RAMP:

Costs for this RAMP activity are shared with SCG's Gas Storage Operations and Construction; refer to workpaper 004120. Costs presented in this workpaper are only for the SIMP.

GRC Work Unit/Activity Unit of	Level Estimates 2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast	RAMP	o 2024 Range ivities
Measure	Activities	Activities	Activities	Activities	Activities	Low	High
Tranche 1 # of assets	9.00	1.00	1.00	1.00	3.00	24.00	27.00

Work Unit Changes from RAMP:

Units for this RAMP activity are shared with SCG's Gas Storage Operations and Construction; refer to workpaper 004120. Units presented in this workpaper are only for the SIMP.

Risk Spend Efficiency (RSE)			
	GRC RSE	RAMP RSE	
Tranche 1	2.600	2.800	

RSE Changes from RAMP:

RSE inputs have been updated since the RAMP report.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Category: D. FIMP
Workpaper: VARIOUS

Summary for Category: D. FIMP

		In 2021\$ (0		
	Adjusted-Recorded		Adjusted-Forecast	
	2021	2022	2023	2024
Labor	0	0	0	159
Non-Labor	0	0	0	2,207
NSE	0	0	0	0
Total		0	0	2,366
FTE	0.0	0.0	0.0	1.4
002400 FIMP - Distrib	ution			
Labor	0	0	0	5
Non-Labor	0	0	0	95
NSE	0	0	0	0
Total		0	0	100
FTE	0.0	0.0	0.0	0.1
003700 FIMP - Transm	nission			
Labor	0	0	0	70
Non-Labor	0	0	0	926
NSE	0	0	0	0
Total		0	0	996
FTE	0.0	0.0	0.0	0.6
00460A FIMP- Storage				
Labor	0	0	0	84
Non-Labor	0	0	0	1,186
NSE	0	0	0	0
Total		0		1,270
FTE	0.0	0.0	0.0	0.7

Beginning of Workpaper Group 002400 - FIMP - Distribution

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00240.0
Category: D. FIMP
Category-Sub: 1. FIMP

Workpaper Group: 002400 - FIMP - Distribution

Summary of Results (Constant 2021 \$ in 000s):

Forecast I	Method		Adjusted Recorded					Adjusted Forecast		
Years		2017	2018	2019	2020	2021	2022	2023	2024	
Labor	Zero-Based	0	0	0	0	0	0	0	5	
Non-Labor	Zero-Based	0	0	0	0	0	0	0	95	
NSE	Zero-Based	0	0	0	0	0	0	0	0	
Total		0	0	0	0	0	0	0	100	
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	

Business Purpose:

FIMP is a newly developed integrity management program that will enhance the safety of facilities in the SoCalGas system by applying integrity management principles to facility equipment. FIMP includes facilities such as compressor stations, storage facilities, pressure limiting stations, natural gas vehicle stations, renewable natural gas facilities and associated equipment.

Physical Description:

Remediation of distribution facility equipment and related assets as a result of FIMP inspections . Refer to supplemental workpapers for details.

Project Justification:

Remediation activities are needed to maintain the integrity of SoCalGas facilities and associated equipment. Upon inspection, it is possible that equipment will need to be repaired or replaced.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00240.0
Category: D. FIMP
Category-Sub: 1. FIMP

Workpaper Group: 002400 - FIMP - Distribution

Forecast Methodology:

Labor - Zero-Based

Zero-based method selected due to the FIMP being a new program.

Non-Labor - Zero-Based

Zero-based method selected due to the FIMP being a new program.

NSE - Zero-Based

Zero-based method selected due to the FIMP being a new program.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00240.0
Category: D. FIMP
Category-Sub: 1. FIMP

Workpaper Group: 002400 - FIMP - Distribution

Summary of Adjustments to Forecast

	In 2021 \$ (000)									
Forecast	Method	Base Forecast Forecast Adjustments				A	Adjusted-Forecast			
Years	;	2022	2023	2024	2022	2023	2024	2022	2023	2024
Labor	Zero-Based	0	0	0	0	0	5	0	0	5
Non-Labor	Zero-Based	0	0	0	0	0	95	0	0	95
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		0	<u> </u>	<u> </u>	- -	0	100	0	0	100
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1

Forecast Adjustment Details

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>
2022 Total	0	0	0	0	0.0
2023 Total	0	0	0	0	0.0
2024 Total	0	0	0	0	0.0

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00240.0
Category: D. FIMP
Category-Sub: 1. FIMP

Workpaper Group: 002400 - FIMP - Distribution

Determination of Adjusted-Recorded:

-	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Adjustments (Nominal \$) **					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal	I \$)				
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total		0	0	0	
FTE	0.0	0.0	0.0	0.0	0.0
Vacation & Sick (Nominal \$)					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Escalation to 2021\$					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constan	nt 2021\$)				
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00240.0
Category: D. FIMP
Category-Sub: 1. FIMP

Workpaper Group: 002400 - FIMP - Distribution

Summary of Adjustments to Recorded:

In Nominal \$(000)								
	Years	2017	2018	2019	2020	2021		
Labor		0	0	0	0	0		
Non-Labor		0	0	0	0	0		
NSE		0	0	0	0	0		
	Total	0	0	0	0	0		
FTE		0.0	0.0	0.0	0.0	0.0		

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Beginning of Workpaper Sub Details for Workpaper Group 002400

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00240.0
Category: D. FIMP
Category-Sub: 1. FIMP

Workpaper Group: 002400 - FIMP - Distribution

Workpaper Detail: 002400.001 - 00240- RAMP- Facility Integrity Management Program (FIMP) - Distribution

In-Service Date: Not Applicable

Description:

FIMP is a newly developed integrity management program that will enhance the safety of facilities in the SoCalGas system by applying integrity management principles to facility equipment. Activities forecasted under budget code 240 are related to Distribution facilities and include equipment remediation. Refer to supplemental workpapers in workpaper 003700 for more detail.

Forecast In 2021 \$(000)								
Years	2022	2023	2024					
Labor	0	0	5					
Non-Labor	0	0	95					
NSE	0	0	0					
Total		0	100					
FTE	0.0	0.0	0.1					

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00240.0
Category: D. FIMP
Category-Sub: 1. FIMP

Workpaper Group: 002400 - FIMP - Distribution

Workpaper Detail: 002400.001 - 00240- RAMP- Facility Integrity Management Program (FIMP) - Distribution

RAMP Item # 1

RAMP Activity

RAMP Chapter: SCG-Risk-1 Incident Related to the High Pressure System (Excluding Dig-in)

RAMP Line Item ID: NEW 01

RAMP Line Item Name: NEW - Facility Integrity Management (FIMP) - Distribution

Tranche(s): Tranche1: Supply Line - Facilities

GRC Forecast Cost Estimates (\$000)										
	2021 Historical Embedded Costs	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast	RAMP I				
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High			
Tranche 1 Cost Estimate	0	0	0	100	100	0	0			

Cost Estimate Changes from RAMP:

Applying the FIMP to distribution facilities was not considered at the time of the RAMP report. Capital costs are associated with equipment repair and replacement as a result of integrity inspections.

GRC Work Unit/Activity Level Estimates 2022 to 2024										
Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast		Range vities			
Measure	Activities	Activities	Activities	Activities	Activities	Low	High			
Tranche 1 No feasible units	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

Work Unit Changes from RAMP:

Capital costs are driven by inspections and are therefore not forecasted by unit.

<u>Risk</u>	Spend	Efficiency	(RSE)

 GRC RSE
 RAMP RSE

 Tranche 1
 15.500
 0.000

RSE Changes from RAMP:

RSE score has been calculated since RAMP report.

Beginning of Workpaper Group 003700 - FIMP - Transmission

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00370.0
Category: D. FIMP
Category-Sub: 1. FIMP

Workpaper Group: 003700 - FIMP - Transmission

Summary of Results (Constant 2021 \$ in 000s):

Forecast I	Method		Adjusted Recorded						ast
Years	S	2017	2018	2019	2020	2021	2022	2023	2024
Labor	Zero-Based	0	0	0	0	0	0	0	70
Non-Labor	Zero-Based	0	0	0	0	0	0	0	926
NSE	Zero-Based	0	0	0	0	0	0	0	0
Tota	ıl	0	0	0	0	0	0	0	996
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6

Business Purpose:

FIMP is a newly developed integrity management program that will enhance the safety of facilities in the SoCalGas system by applying integrity management principles to facility equipment. FIMP includes facilities such as compressor stations, storage facilities, pressure limiting stations, natural gas vehicle stations, renewable natural gas facilities and associated equipment.

Physical Description:

Remediation of Transmission facility equipment and related assets as a result of FIMP inspections. Refer to supplemental workpapers for details.

Project Justification:

Remediation activities are needed to maintain the integrity of SoCalGas facilities and associated equipment. Upon inspection, it is possible that equipment will need to be repaired or replaced.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00370.0
Category: D. FIMP
Category-Sub: 1. FIMP

Workpaper Group: 003700 - FIMP - Transmission

Forecast Methodology:

Labor - Zero-Based

Zero-based method selected due to the FIMP being a new program.

Non-Labor - Zero-Based

Zero-based method selected due to the FIMP being a new program.

NSE - Zero-Based

Zero-based method selected due to the FIMP being a new program.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00370.0
Category: D. FIMP
Category-Sub: 1. FIMP

Workpaper Group: 003700 - FIMP - Transmission

Summary of Adjustments to Forecast

	In 2021 \$ (000)											
Forecast Method Base Forecast			cast	For	ecast Adju	ıstments	A	Adjusted-Forecast				
Years	;	2022	2023	2024	2022	2023	2024	2022	2023	2024		
Labor	Zero-Based	0	0	0	0	0	70	0	0	70		
Non-Labor	Zero-Based	0	0	0	0	0	926	0	0	926		
NSE	Zero-Based	0	0	0	0	0	0	0	0	0		
Total	l	0	0	0	- o	0	996	0	0	996		
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.6		

Forecast Adjustment Details

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>
2022 Total	0	0	0	0	0.0
2023 Total	0	0	0	0	0.0
2024 Total	0	0	0	0	0.0

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00370.0
Category: D. FIMP
Category-Sub: 1. FIMP

Workpaper Group: 003700 - FIMP - Transmission

Determination of Adjusted-Recorded:

	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0
Adjustments (Nominal \$)	**				
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nomi	inal \$)				
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0		0	0	
FTE	0.0	0.0	0.0	0.0	0.0
Vacation & Sick (Nominal	\$)				
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0		0	0	
FTE	0.0	0.0	0.0	0.0	0.0
Escalation to 2021\$					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total					
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Cons					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	0	0
FTE	0.0	0.0	0.0	0.0	0.0

^{*} After company-wide exclusions of Non-GRC costs

^{**} Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00370.0
Category: D. FIMP
Category-Sub: 1. FIMP

Workpaper Group: 003700 - FIMP - Transmission

Summary of Adjustments to Recorded:

In Nominal \$(000)									
	Years	2017	2018	2019	2020	2021			
Labor		0	0	0	0	0			
Non-Labor		0	0	0	0	0			
NSE		0	0	0	0	0			
	Total	0	0	0		0			
FTE		0.0	0.0	0.0	0.0	0.0			

Beginning of Workpaper Sub Details for Workpaper Group 003700

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00370.0
Category: D. FIMP
Category-Sub: 1. FIMP

Workpaper Group: 003700 - FIMP - Transmission

Workpaper Detail: 003700.001 - 003700 - RAMP - Facility Integrity Management Program (FIMP) - Transmission

In-Service Date: Not Applicable

Description:

FIMP is a newly developed integrity management program that will enhance the safety of facilities in the SoCalGas system by applying integrity management principles to facility equipment. Activities forecasted under budget code 370 are related to Transmission facilities and include equipment remediation. Refer to supplemental workpapers in workpaper 003700 for more detail.

Forecast In 2021 \$(000)									
Yea	ars	2022	2023	2024					
Labor		0	0	70					
Non-Labor		0	0	926					
NSE		0	0	0					
То	tal	0	0	996					
FTE		0.0	0.0	0.6					

Area: **GAS INTEGRITY PROGRAMS**

Witness: Amy Kitson 00370.0 Budget Code: D. FIMP Category: Category-Sub: 1. FIMP

Workpaper Group: 003700 - FIMP - Transmission

003700.001 - 003700 - RAMP - Facility Integrity Management Program (FIMP) - Transmission Workpaper Detail:

RAMP Item # 1

RAMP Activity

RAMP Chapter: SCG-Risk-1 Incident Related to the High Pressure System (Excluding Dig-in)

RAMP Line Item ID: C20

RAMP Line Item Name: Facility Integrity Management Program (FIMP) - Transmission

Tranche(s): Tranche1: Transmission Facilities

GRC Forecast Cost Estim	<u>ates (\$000)</u>					2022 to	2024
	2021 Historical Embedded Costs	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast	RAMP I (2020 Inc	Range curred \$)
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	0	0	0	996	996	0	0

Cost Estimate Changes from RAMP:

At the time of the RAMP report, FIMP forecasts did not include capital activities. Capital costs are associated with equipment repair and replacement as a result of integrity inspections.

GRC Work Unit/Activity Level Estimates 2022 to 2024										
Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast		Range vities			
Measure	Activities	Activities	Activities	Activities	Activities	Low	High			
Tranche 1 No feasible units	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

RAMP RSE

Work Unit Changes from RAMP:

Capital costs are primarily driven by inspections and are therefore not forecasted by unit.

GRC RSE Tranche 1 3.100 0.000

RSE Changes from RAMP:

RSE Score has been calculated since RAMP report.

Supplemental Workpapers for Workpaper Group 003700

FIMP SCG Capital Supplemental Workpaper

					Table	e 1: SCG Capit	al Forecast				
Year	Organization	Workpaper #	Category	Unit Measure	Labor	Non-labor	Total	Units	\$/U	nit	Narrative
			Fixed equipment	# of facilities	\$31,250	\$593,750	\$625,000	4	\$	156,250	Capital costs include repair and replacement costs associated with inspection results. In
			Electrical equipment	# of facilities	\$7,471	\$141,950	\$149,421	4	\$	37,355	addition, the rotating equipment includes installation of a new vibration monitoring
	Storage	00460A	Rotating equipment	# of compressors	\$44,850	\$450,000	\$494,850	2	\$	247,425	system at compressor stations located in Storage facilities.
											Capital costs include repair and replacement costs associated with inspection results. In
											addition, the rotating equipment includes installation of a new vibration monitoring
2024											system at compressor stations located in Transmission facilities.
2024			Fixed Equipment	# of facilities	\$16,250	\$308,750	\$325,000	5	\$	65,000	
			Electrical equipment	# of facilities	\$8,781	\$166,831	\$175,612	5	\$	35,122	
	Transmission	003700	Rotating equipment	# of compressors	\$44,850	\$450,000	\$494,850	2	\$	247,425	
			NGV Stations - Fixed Equipment &								
	Distribution	002400	Electrical Equipment	# of facilities	\$5,000	\$95,000	\$100,000	5	\$	20,000	Capital costs include repair and replacement costs associated with inspection results.
			2024 Totals		\$158,452	\$2,206,281	\$2,364,733				
			Fixed equipment	# of facilities	\$31,250	\$593,750	\$625,000	4	\$	156,250	Capital costs include repair and replacement costs associated with inspection results. In
			Electrical equipment	# of facilities	\$7,471	\$141,950	\$149,421	4	\$	37,355	addition, the rotating equipment includes installation of a new vibration monitoring
	Storage		Rotating equipment	# of compressors	\$44,850	\$450,000	\$494,850	2	\$	247,425	system at compressor stations located in Storage facilities.
			Fixed Equipment	# of facilities	\$21,250	\$403,750	\$425,000	5	Ś	, -	Capital costs include repair and replacement costs associated with inspection results. In
			Electrical equipment	# of facilities	\$8,781		\$175,612	5	\$	35,122	addition, the rotating equipment includes installation of a new vibration monitoring
2025					1.7				T .		system at compressor stations located in Transmission facilities.
											-,
	Transmission		Rotating equipment	# of compressors	\$44,850	\$450,000	\$494,850	2	\$	247,425	
			NGV Stations - Fixed Equipment &								
	Distribution		Electrical Equipment	# of facilities	\$5,000	\$95,000	\$100,000	5	\$	20,000	Capital costs include repair and replacement costs associated with inspection results.
			2025 Totals		\$163,452	\$2,301,281	\$2,464,733				
			Fixed equipment	# of facilities	\$31,250		\$625,000		\$		Capital costs include repair and replacement costs associated with inspection results. In
			Electrical equipment	# of facilities	\$7,471	\$141,950	\$149,421	4	\$	37,355	addition, the rotating equipment includes installation of a new vibration monitoring
	C+		Datation and insurant	# -6	\$44.850	\$450,000	\$494.850	,	s	247.425	system at compressor stations located in Storage facilities.
	Storage		Rotating equipment	# of compressors	\$21,250		,		Ś	, ,	Cit-lt-ilt-iiit-i
			Fixed Equipment Electrical equipment	# of facilities # of facilities	\$21,250		\$425,000 \$175,612		5 5	85,000 35.122	Capital costs include repair and replacement costs associated with inspection results. In
2026			Electrical equipment	# Of facilities	\$8,781	\$100,831	\$175,012	3	9	33,122	addition, the rotating equipment includes installation of a new vibration monitoring system at compressor stations located in Transmission facilities.
									١.		system at compressor stations located in Transmission facilities.
	Transmission		Rotating equipment	# of compressors	\$44,850	\$450,000	\$494,850	2	\$	247,425	
			NGV Stations - Fixed Equipment &						١.		
	Distribution		Electrical Equipment	# of facilities	\$5,000		\$100,000	5	\$	20,000	Capital costs include repair and replacement costs associated with inspection results.
		1	2026 Totals		\$163,452				<u>. </u>		
			Fixed equipment	# of facilities	\$31,250		\$625,000		\$		Capital costs include repair and replacement costs associated with inspection results. In
			Electrical equipment	# of facilities	\$7,471	\$141,950	\$149,421	4	\$	_	addition, the rotating equipment includes installation of a new vibration monitoring
	Storage		Rotating equipment	# of compressors	\$44,850		\$494,850		\$	247,423	system at compressor stations located in Storage facilities.
			Fixed Equipment	# of facilities	\$21,250	\$403,750	\$425,000	5	\$	85,000	Capital costs include repair and replacement costs associated with inspection results. In
2027			Electrical equipment	# of facilities	\$8,781	\$166,831	\$175,612	5	\$	35,122	addition, the rotating equipment includes installation of a new vibration monitoring
2027											system at compressor stations located in Transmission facilities.
	Transmission		Rotating equipment	# of compressors	\$44,850	\$450,000	\$494,850	2	٥	247,425	
	1101121111221011		moraring equipment	# or compressors	344,63U	3430,000	3454,63U		٠	247,423	
			NGV Stations - Fixed Equipment &								
	Distribution		Electrical Equipment	# of facilities	\$5,000	\$95,000	\$100,000	-	s	20,000	Capital costs include repair and replacement costs associated with inspection results.
	Distribution		2027 Totals	# Or facilities		\$2,301,281		3	, ې	20,000	capital costs include repair and replacement costs associated with inspection results.
			Total cost		\$648,807		\$9,758,932				
			were split between Storage and Transn				25,700,332				

		Table 2	: Program Development Capital Fore	cast		
Year	Organization	Category	Unit Measure	Total Cost	Units	\$/Unit
2024	IM&SP	Program Development	# of programs	\$250,000	1	\$ 250,000
2025	IM&SP	Program Development	# of programs	\$250,000	1	\$ 250,000
2026	IM&SP	Program Development	# of programs	\$250,000	1	\$ 250,000
2027	IM&SP	Program Development	# of programs	\$250,000	1	\$ 250,000
		Total cost		\$1,000,000		
Note: 50	% of the total o	costs in Table 2 were split	between Storage and Transmission fix	ed equipment catego	ories in Table	1.

Beginning of Workpaper Group 00460A - FIMP- Storage

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00460.0
Category: D. FIMP
Category-Sub: 1. FIMP

Workpaper Group: 00460A - FIMP- Storage

Summary of Results (Constant 2021 \$ in 000s):

Forecast I	Method		Adju	sted Record	led		Adjı	sted Fored	ast
Years	5	2017	2018	2019	2020	2021	2022	2023	2024
Labor	Zero-Based	0	0	0	0	0	0	0	84
Non-Labor	Zero-Based	0	0	0	0	0	0	0	1,186
NSE	Zero-Based	0	0	0	0	0	0	0	0
Tota	I	0	0	0	0	0	0	0	1,270
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7

Business Purpose:

FIMP is a newly developed integrity management program that will enhance the safety of facilities in the SoCalGas system by applying integrity management principles to facility equipment. FIMP includes facilities such as compressor stations, storage facilities, pressure limiting stations, natural gas vehicle stations, renewable natural gas facilities and associated equipment.

Physical Description:

Remediation of Storage facility equipment and related assets as a result of FIMP inspections. Refer to supplemental workpapers for details.

Project Justification:

Remediation activities are needed to maintain the integrity of SoCalGas facilities and associated equipment. Upon inspection, it is possible that equipment will need to be repaired or replaced.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00460.0
Category: D. FIMP
Category-Sub: 1. FIMP

Workpaper Group: 00460A - FIMP- Storage

Forecast Methodology:

Labor - Zero-Based

Zero-based method selected due to the FIMP being a new program.

Non-Labor - Zero-Based

Zero-based method selected due to the FIMP being a new program.

NSE - Zero-Based

Zero-based method selected due to the FIMP being a new program.

Beginning of Workpaper Sub Details for Workpaper Group 00460A

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00460.0
Category: D. FIMP
Category-Sub: 1. FIMP

Workpaper Group: 00460A - FIMP- Storage

Workpaper Detail: 00460A.001 - *004600 - RAMP - Facility Integrity Management Program (FIMP) - Storage

In-Service Date: Not Applicable

Description:

FIMP is a newly developed integrity management program that will enhance the safety of facilities in the SoCalGas system by applying integrity management principles to facility equipment. Activities forecasted under budget code 460 are related to Storage facilities and include equipment remediation. Refer to supplemental workpapers in workpaper 003700 for more detail.

Forecast In 2021 \$(000)						
	Years	2022	2023	2024		
Labor		0	0	84		
Non-Labor		0	0	1,186		
NSE		0	0	0		
	Total	0	0	1,270		
FTE		0.0	0.0	0.7		

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: 00460.0
Category: D. FIMP
Category-Sub: 1. FIMP

Workpaper Group: 00460A - FIMP- Storage

Workpaper Detail: 00460A.001 - *004600 - RAMP - Facility Integrity Management Program (FIMP) - Storage

RAMP Item # 1

RAMP Activity

RAMP Chapter: SCG-Risk-4 Incident Related to the Storage System (Excluding Dig-in)

RAMP Line Item ID: M01

RAMP Line Item Name: Facility Integrity Management (FIMP) - Storage

Tranche(s): Tranche1: Aboveground Facilities

GRC Forecast Cost Estim	ates (\$000)					2022 to	2024
	2021 Historical Embedded Costs	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast	RAMP I (2020 Inc	Range curred \$)
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	0	0	0	1,270	1,270	0	0

Cost Estimate Changes from RAMP:

At the time of the RAMP report, FIMP forecasts did not include capital activities. Capital costs are associated with equipment repair and replacement as a result of integrity inspections.

GRC Work Unit/Activity	Level Estimates					2022 t	o 2024
Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast		Range vities
Measure	Activities	Activities	Activities	Activities	Activities	Low	High
Tranche 1 No feasible units	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Work Unit Changes from RAMP:

Capital costs are driven by inspections and are therefore not forecasted by unit.

Risk Spend Efficiency (RSE)			
	GRC RSE	RAMP RSE	
Tranche 1	1.000	0.000	
l			

RSE Changes from RAMP:

RSE score has been calculated since RAMP report.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson E. GSEP Category: X0367A Workpaper:

Summary for Category: E. GSEP

		In 2021\$ (0	000)	
	Adjusted-Recorded		Adjusted-Forecast	
	2021	2022	2023	2024
Labor	0	694	6,207	12,103
Non-Labor	0	6,242	42,133	96,485
NSE	0	0	0	0
Total	0	6,936	48,340	108,588
FTE	0.0	6.9	62.0	121.0

Labor	0	694	6,207	12,103
Non-Labor	0	6,242	42,133	96,485
NSE	0	0	0	0
Total		6,936	48,340	108,588
FTE	0.0	6.9	62.0	121.0

Beginning of Workpaper Group X0367A - Gas Safety Enhancement Programs

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: X0367.0
Category: E. GSEP

Category-Sub: 1. Gas Rules & Regulations Implementation
Workpaper Group: X0367A - Gas Safety Enhancement Programs

Summary of Results (Constant 2021 \$ in 000s):

Forecast I	Method		Adju	sted Record	led		Adju	sted Fored	ast
Years	S	2017	2018	2019	2020	2021	2022	2023	2024
Labor	Zero-Based	0	0	0	0	0	694	6,207	12,103
Non-Labor	Zero-Based	0	0	0	0	0	6,242	42,133	96,485
NSE	Zero-Based	0	0	0	0	0	0	0	0
Tota	I	0	0	0	0	0	6,936	48,340	108,588
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	6.9	62.0	121.0

Business Purpose:

Compliance with new gas safety rules and regulations, such as the Gas Transmission Safety Rule Parts 1 and 2 or other rules driven by the PIPES Act of 2020.

Physical Description:

Implementation of compliance requirements such as reconfirmation of transmission pipeline MAOP through pressure testing or replacement or installation of automatic shut-off valves or remote-controlled valves. Refer to supplemental workpaper for more detail.

Project Justification:

Activities presented in this workpaper are required or are expected to be required by new regulations.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: X0367.0
Category: E. GSEP

Category-Sub: 1. Gas Rules & Regulations Implementation
Workpaper Group: X0367A - Gas Safety Enhancement Programs

Forecast Methodology:

Labor - Zero-Based

Zero-based method selected due to the implementation activities resulting from new regulations.

Non-Labor - Zero-Based

Zero-based method selected due to the implementation activities resulting from new regulations.

NSE - Zero-Based

Zero-based method selected due to the implementation activities resulting from new regulations.

Beginning of Workpaper Sub Details for Workpaper Group X0367A

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: X0367.0
Category: E. GSEP

Category-Sub: 1. Gas Rules & Regulations Implementation
Workpaper Group: X0367A - Gas Safety Enhancement Programs

Workpaper Detail: X0367A.001 - X03670 - RAMP - Gas Transmission Safety Rule (GTSR) - MAOP-Reconfirmation/ISEP

In-Service Date: Not Applicable

Description:

Capital activities in budget code X03670 address the requirements of the GTSR Parts 1 and 2, as well as the Valve Rule. These costs are forecasted for the reconfirmation of maximum allowable operating pressure (MAOP) in accordance with 49 CFR § 192.624 and PUC 958 on DOT-defined transmission pipelines and consist of reconfirmation using the following methods: pressure testing and replacement.

Forecast In 2021 \$(000)							
Years	2022	2023	2024				
Labor	694	3,460	9,613				
Non-Labor	6,242	31,141	86,519				
NSE	0	0	0				
Total	6,936	34,601	96,132				
FTE	6.9	34.6	96.1				

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: X0367.0
Category: E. GSEP

Category-Sub: 1. Gas Rules & Regulations Implementation
Workpaper Group: X0367A - Gas Safety Enhancement Programs

Workpaper Detail: X0367A.001 - X0367O - RAMP - Gas Transmission Safety Rule (GTSR) - MAOP-Reconfirmation/ISEP

RAMP Item # 1

RAMP Activity

RAMP Chapter: SCG-Risk-1 Incident Related to the High Pressure System (Excluding Dig-in)

RAMP Line Item ID: M01 T1-T2

RAMP Line Item Name: Gas Transmission Safety Rule - MAOP Reconfirmation (HCA and Non-HCA)

Tranche(s): Tranche1: Transmission - HCA; Tranche2: Transmission - Non-HCA

GRC Forecast Cost Estim	2022 1	to 2024					
	2021 Historical Embedded Costs	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast	(2020 lr	Range
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	81	5,306	26,470	73,541	105,317	43,844	140,296
Tranche 2 Cost Estimate	33	1,630	8,131	22,591	32,352	17,909	57,304

Cost Estimate Changes from RAMP:

Costs are within the RAMP range. While pressure testing cost estimates have been capitalized in accordance with FERC guidance (refer to workpaper 2TD005), scope and compliance activities have also been evaluated and updated since the RAMP report.

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast	RAMP	o 2024 Range vities
Measure	Activities	Activities	Activities	Activities	Activities	Low	High
Tranche 1 Miles reconfirmed - HCA	0.00	0.02	1.54	66.07	67.63	4.20	14.30
Tranche 2 Miles reconfirmed - Non-HCA	0.00	0.00	0.47	20.29	20.76	1.80	6.00

Risk Spend Efficiency (RSE)			
	GRC RSE	RAMP RSE	
Tranche 1	3.300	2.700	
Tranche 2	11.400	1.800	

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: X0367.0
Category: E. GSEP

Category-Sub: 1. Gas Rules & Regulations Implementation
Workpaper Group: X0367A - Gas Safety Enhancement Programs

Workpaper Detail: X0367A.001 - X0367O - RAMP - Gas Transmission Safety Rule (GTSR) - MAOP-Reconfirmation/ISEP

RSE Changes from RAMP:

RSE inputs have been updated since the RAMP report.

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: X0367.0
Category: E. GSEP

Category-Sub: 1. Gas Rules & Regulations Implementation
Workpaper Group: X0367A - Gas Safety Enhancement Programs

Workpaper Detail: X0367A.003 - X03670 - RAMP - Gas Transmission Safety Rule (GTSR) Part 2

In-Service Date: Not Applicable

Description:

Capital activities in budget code X03670 address the requirements of the GTSR Parts 1 and 2, as well as the Valve Rule. These costs are forecasted for the implementation of GTSR Part 2 requirements; activities will be driven by compliance with 49 CFR §§ 192.465, 192.461, 192.319, and 192.473.

Forecast In 2021 \$(000)							
	Years	2022	2023	2024			
Labor		0	828	1,044			
Non-Labor		0	3,315	4,179			
NSE		0	0	0			
	Total	0	4,143	5,223			
FTE		0.0	8.2	10.4			

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: X0367.0
Category: E. GSEP

Category-Sub: 1. Gas Rules & Regulations Implementation
Workpaper Group: X0367A - Gas Safety Enhancement Programs

Workpaper Detail: X0367A.003 - X0367O - RAMP - Gas Transmission Safety Rule (GTSR) Part 2

RAMP Item #1

RAMP Activity

RAMP Chapter: SCG-Risk-1 Incident Related to the High Pressure System (Excluding Dig-in)

RAMP Line Item ID: NEW 03

RAMP Line Item Name: NEW - Gas Transmission Safety Rule (GTSR) Part 2

Tranche(s): Tranche1: Transmission - HCA & non-HCA

GRC	Forecast Cost Estim	ates (\$000)					2022 to	2024
		2021 Historical Embedded Costs	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast	RAMP Range (2020 Incurred \$)	
l		(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tran	che 1 Cost Estimate	0	0	4,143	5,223	9,366	0	0

Cost Estimate Changes from RAMP:

GTSR Part 2 was not considered at the time of the RAMP report since the requirements and timing of publication were not known at the time. PHMSA has established a projected publication date of June 2022 and forecasts have been developed for expected requirements.

GRC Work Unit/Activity Unit of	Level Estimates 2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast	2022 to 2024 RAMP Range Activities	
Measure	Activities	Activities	Activities	Activities	Activities	Low	High
Tranche 1 No feasible	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Work Unit Changes from RAMP:

A unit of measure is not feasible for the wide range of activities that are expected to be required under GTSR Part 2. Refer to supplemental workpapers in workpaper X03670 for additional detail.

Risk Spend Efficiency (RSE)			
	GRC RSE	RAMP RSE	
Tranche 1	0.000	0.000	
RSE Changes from RAMP: New mitigation since the RAMP report.			

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: X0367.0
Category: E. GSEP

Category-Sub: 1. Gas Rules & Regulations Implementation
Workpaper Group: X0367A - Gas Safety Enhancement Programs

Workpaper Detail: X0367A.005 - X03670 - RAMP - PHMSA Valve Rule

In-Service Date: Not Applicable

Description:

Capital activities in budget code X03670 address the requirements of the GTSR Parts 1 and 2, as well as the Valve Rule. These costs are forecasted for the implementation of the Valve Rule requirements, which include the installation of rupture mitigation valves for new or replacement transmission pipelines of at least 2 contiguous miles based on HCA and class location. Costs are inclusive of materials, communications equipment, and installation. Activities will be driven by compliance with 85 FR 7162.

Forecast In 2021 \$(000)						
Years	2022	2023	2024			
Labor	0	1,919	1,446			
Non-Labor	0	7,677	5,787			
NSE	0	0	0			
Total	0	9,596	7,233			
FTE	0.0	19.2	14.5			

Area: GAS INTEGRITY PROGRAMS

Witness: Amy Kitson
Budget Code: X0367.0
Category: E. GSEP

Category-Sub: 1. Gas Rules & Regulations Implementation

Workpaper Group: X0367A - Gas Safety Enhancement Programs

Workpaper Detail: X0367A.005 - X03670 - RAMP - PHMSA Valve Rule

RAMP Item # 1

RAMP Activity

RAMP Chapter: SCG-Risk-1 Incident Related to the High Pressure System (Excluding Dig-in)

RAMP Line Item ID: NEW 02

RAMP Line Item Name: NEW - Valve Rule

Tranche(s): Tranche1: Transmission - HCA & non-HCA

GRC Forecast Cost E	stimates (\$000)					2022 to	2024
	2021 Historical Embedded Costs	2022 Forecast	2023 Forecast	2024 Forecast	2022 to 2024 Forecast	RAMP Range (2020 Incurred \$)	
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estima	ate 0	0	9,596	7,233	16,829	0	0

Cost Estimate Changes from RAMP:

The Valve Rule was not considered at the time of the RAMP report since the timing of publication was not known. PHMSA has since issued the Valve Rule as of March 2022 and forecasts have been developed based on a preliminary analysis of required compliance activities.

GRC Work Unit/Activity Level Estimates 2021 Historical 2022 2023 2024 2022 to 2024							o 2024 Range
Unit of	Embedded	Forecast	Forecast	Forecast	Forecast	Act	ivities
Measure	Activities	Activities	Activities	Activities	Activities	Low	High
Tranche 1 # of assets installed - Valves	0.00	0.00	2.90	2.12	5.02	0.00	0.00

Work Unit Changes from RAMP:

New mitigation since the RAMP report. PHMSA issued the Valve Rule as of March 2022 and valve installation was determined to be the most appropriate unit to reflect the work.

Risk Spend Efficiency (RSE)			
	GRC RSE	RAMP RSE	
Tranche 1	0.000	0.000	
RSE Changes from RAMP: New mitigation since the RAMP report.			

Supplemental Workpapers for Workpaper Group X0367A

SCG Capital Part 1 Supplemental Workpaper

Budget Code: X03670.001

	2022	2023	2024	2025	2026	2027
Active Miles	233.83	341.13	229.02	273.41	166.93	121
Miles Completed (Incremental)	0.02	2.02	86.33	55.03	67.03	25.48
Projected Spend	\$ 6,935,462.1	\$ 34,601,342.49	\$ 96,132,014.28	\$ 159,811,816.18	\$ 162,467,032.42	\$ 179,141,569.04
HCA (76.5%)	\$5,305,62	\$26,470,027	\$73,540,991	\$122,256,039	\$124,287,280	\$ 137,043,300

					2022	2023	2024	2025	2026	2027	Total 2022-2027
Project	Section Name	Project Type	Total Miles	Estimated TIC	A	4 2740 (***	45.000.400.00	A 5 CO1 10C	4 257 400 5		25 444
	EST INCREMENTAL - \$ BUDGET SPEND EST INCREMENTAL - PIPELINE MILES INSTALLED	Test Test	23.1	\$ 31,200,000	\$ 520,000.00	\$ 2,740,400.00	\$ 15,932,488.00	\$ 5,691,400.00 4	\$ 257,400.00 \$	- 5	25,141,688.00
	EST INCREMENTAL - \$ BUDGET SPEND	Test	24,56	\$ 31,200,000	\$ 520,000.00	\$ 2,740,400.00		\$ 5,691,400.00	\$ 257,400.00 \$		25,141,688.00
	EST INCREMENTAL - PIPELINE MILES INSTALLED	Test					20	4			
GTSR-Sample-03-Hydrotest	EST INCREMENTAL - \$ BUDGET SPEND	Test	9.28	\$ 12,000,000	\$ 160,000.00	\$ 713,000.00	\$ 5,746,720.00	\$ 3,190,000.00	\$ 198,000.00 \$	- 5	10,007,720.00
GTSR-Sample-03-Hydrot GTSR-Sample-04-Hydrotest	EST INCREMENTAL - PIPELINE MILES INSTALLED EST INCREMENTAL - \$ BUDGET SPEND	Test Test	4.97	\$ 7,200,000	\$ 96,000.00	\$ 427,800.00	\$ 3,448,032.00	\$ 1,914,000.00	\$ 118,800.00 \$		6,004,632.00
	EST INCREMENTAL - 9 BODGET SPEND	Test	4.37	7,200,000	3 30,000.00	3 427,800.00	3 3,440,032.00	2	3 110,000.00 3		0,004,032.00
GTSR-Sample-05-Hydrotest	EST INCREMENTAL - \$ BUDGET SPEND	Test	22.93	\$ 31,200,000	\$ 520,000.00	\$ 2,740,400.00	\$ 15,932,488.00	\$ 5,691,400.00	\$ 257,400.00 \$	- 5	25,141,688.00
	EST INCREMENTAL - PIPELINE MILES INSTALLED	Test					. 19	4			
GTSR-Sample-06-Hydrotest	EST INCREMENTAL - \$ BUDGET SPEND EST INCREMENTAL - PIPELINE MILES INSTALLED	Test Test	0.64	\$ 1,506,659	\$ 20,088.79	\$ 89,520.65	\$ 721,528.92	\$ 400,520.17	\$ 24,859.87 \$		1,256,518.39
GTSR-Sample-07-Hydrotest	EST INCREMENTAL - \$ BUDGET SPEND	Test	12.26	\$ 16,800,000	\$ 224,000.00	\$ 998,200.00	\$ 8,045,408.00	\$ 4,466,000.00	\$ 277,200.00 \$	- 5	14,010,808.00
GTSR-Sample-07-Hydrot	EST INCREMENTAL - PIPELINE MILES INSTALLED	Test				-	8	4		-	
	EST INCREMENTAL - \$ BUDGET SPEND EST INCREMENTAL - PIPELINE MILES INSTALLED	Test Test	19.96	\$ 46,873,240	\$ 468,732.40	\$ 1,453,070.45	\$ -	\$ 31,451,944.26 10	\$ 16,370,479.18 \$	1,156,421.43	50,900,647.73
	EST INCREMENTAL - PIPELINE MILES INSTALLED EST INCREMENTAL - \$ BUDGET SPEND	Test	8.73	\$ 20,501,172	\$ 205,011.72	\$ 635,536.32			\$ 7,160,034.23 \$	505,789.53	22,262,658.05
	EST INCREMENTAL - PIPELINE MILES INSTALLED	Test						4	4		
GTSR-Sample-10-HYDROTEST	EST INCREMENTAL - \$ BUDGET SPEND	Test	5.57	\$ 13,080,358	\$ 130,803.58	\$ 405,491.10	\$ -	\$ 8,776,920.32	\$ 4,568,315.08 \$	322,708.79 \$	14,204,238.87
	EST INCREMENTAL - PIPELINE MILES INSTALLED EST INCREMENTAL - \$ BUDGET SPEND	Test Test	5.40	\$ 12.681.137	\$ 112.721.22	\$ 371.275.52	\$ 30.984.25	\$ 7.346.605.46	\$ 5.486.705.35 \$	417.146.01	13.765.437.80
	EST INCREMENTAL - 9 BODGET SPEND	Test		12,001,137		- 371,273.32	- 50,304.23	2	4		. 23,703,437.00
GTSR-Sample-12-HYDROTEST	EST INCREMENTAL - \$ BUDGET SPEND	Test	5.28	\$ 12,399,334	\$ 110,216.30	\$ 363,024.95	\$ 30,295.71	\$ 7,183,347.56	\$ 5,364,778.56 \$	407,876.10 \$	13,459,539.18
	EST INCREMENTAL - PIPELINE MILES INSTALLED EST INCREMENTAL - \$ BUDGET SPEND	Test Test	4.41	\$ 10,356,262	\$ 92,055.66	\$ 303,208.34	\$ 25,303.80	\$ 455,675.53	\$ 7,442,700,30 \$	2 744 279 98	11,063,223.61
	EST INCREMENTAL - PIPELINE MILES INSTALLED	Test	4.41	3 10,336,262	3 92,033.00	3 303,200.34	23,303.60	3 433,073.33	3 7,442,700.30 3	2,744,275.50 ;	11,003,223.01
GTSR-Sample-14-HYDROTEST	EST INCREMENTAL - \$ BUDGET SPEND	Test	3.44	\$ 8,073,515	\$ 62,794.01	\$ 222,470.19	\$ 39,452.58	\$ -	\$ 5,417,328.57 \$.,,	8,552,748.76
	EST INCREMENTAL - PIPELINE MILES INSTALLED	Test Test	3.46		\$ 63,219.46	\$ 223,977.53	\$ 39,719.89		\$ 5,454,033.36 \$	2,829,747.18	8,610,697.42
GTSR-Sample-15-HYDROTEST GTSR-Sample-15-HYDRO	EST INCREMENTAL - \$ BUDGET SPEND EST INCREMENTAL - PIPELINE MILES INSTALLED	Test	3.40	\$ 8,128,217	3 03,219.40	3 223,977.33	3 33,/13.03	•	2 3,434,055.50	2,029,747.10 3	8,010,097.42
GTSR-Sample-16-HYDROTEST	EST INCREMENTAL - \$ BUDGET SPEND	Test	3.29	\$ 15,758,709	\$ 122,567.74	\$ 434,239.99	\$ 77,007.56	\$ -	\$ 693,383.21 \$	11,289,224.20 \$	12,616,422.70
	EST INCREMENTAL - PIPELINE MILES INSTALLED EST INCREMENTAL - \$ BUDGET SPEND	Test Test	24.91	\$ 119,395,828	\$ 795,972.19	\$ 3,084,392.23	\$ 875,171.42			79,859,690.66 \$	84,615,226.50
	EST INCREMENTAL - 9 BODGET SPEND	Test	24.51	119,393,828	755,572.15	3 3,004,352.23	3 0/3,1/1.42			12	04,013,220.30
GTSR-Sample-18-HYDROTEST	EST INCREMENTAL - \$ BUDGET SPEND	Test	26.66	\$ 62,604,170	\$ 417,361.13	\$ 1,617,274.39	\$ 458,888.57	\$ -	\$ - \$	21,966,551.20 \$	24,460,075.29
	EST INCREMENTAL - PIPELINE MILES INSTALLED EST INCREMENTAL - \$ BUDGET SPEND	Test Test	16.6	\$ 39,085,585		\$ 605,826.56	s 859.492.01	\$ 8.598.828.62	\$ 29.021.046.59 \$	3.214.300.77	42 299 494 54
Test Bundle 03 Test Bundle 03	EST INCREMENTAL - 9 BODGET SPEND	Test	10.0	3 35,063,363	l* :	3 003,820.30	3 639,492.01	5 0,350,020.02	3 25,021,040.35 3	3,214,300.77	42,233,434.34
Test Bundle 04	EST INCREMENTAL - \$ BUDGET SPEND	Test	35.5	\$ 83,258,212	\$ -	\$ 1,290,502.29	\$ 1,830,848.09	\$ -	\$ - \$	40,473,065.93	43,594,416.31
Test Bundle 04 Test Bundle 05	EST INCREMENTAL - PIPELINE MILES INSTALLED EST INCREMENTAL - \$ BUDGET SPEND	Test Test	35.5	\$ 83,258,212		\$ 1,290,502.29	\$ 1,830,848.09				3,121,350.38
Test Bundle 05	EST INCREMENTAL - S BODGET SPEND EST INCREMENTAL - PIPELINE MILES INSTALLED	Test	35.5	\$ 83,258,212		\$ 1,290,502.29	5 1,830,848.09				3,121,350.38
Test Bundle 06	EST INCREMENTAL - \$ BUDGET SPEND	Test	35.5	\$ 83,258,212	\$ -	\$ -	\$ 813,710.26	\$ 3,358,081.23	\$ - \$	- 9	4,171,791.50
Test Bundle 06	EST INCREMENTAL - PIPELINE MILES INSTALLED	Test Test	35.5	\$ 83,258,212			\$ 813,710.26	s 3.358.081.23			4,171,791.50
Test Bundle 07 Test Bundle 07	EST INCREMENTAL - \$ BUDGET SPEND EST INCREMENTAL - PIPELINE MILES INSTALLED	Test	35.5	\$ 83,258,212	3		\$ 813,710.26	5 3,358,081.23			4,171,791.50
Test Bundle 08	EST INCREMENTAL - \$ BUDGET SPEND	Test	35.5	\$ 83,258,212	\$ -	\$ -	\$ 67,809.19	\$ 2,035,200.75	\$ 2,442,240.90 \$	- 9	4,545,250.83
Test Bundle 08	EST INCREMENTAL - PIPELINE MILES INSTALLED	Test	24.4					s 610 560 22			4 575 207 55
Test Bundle 09 Test Bundle 09	EST INCREMENTAL - \$ BUDGET SPEND EST INCREMENTAL - PIPELINE MILES INSTALLED	Test Test	35.5	\$ 83,258,212	3			\$ 610,560.22	\$ 3,052,801.12 \$	912,926.30	4,576,287.65
Test Bundle 10	EST INCREMENTAL - \$ BUDGET SPEND	Test	35.5	\$ 83,258,212	\$ -	\$ -	\$ -	\$ -	\$ 1,831,680.67 \$	2,738,778.90	4,570,459.57
Test Bundle 10 Replace Bundle 01	EST INCREMENTAL - PIPELINE MILES INSTALLED EST INCREMENTAL - S BUDGET SPEND	Test Replace	9.9	\$ 47.324.206		\$ 366,762.60	f 1 207 E4E 72	£ 13.403.500.47	s 32.587.448.47 \$	3,736,151.44	50,571,498.71
Replace Bundle 01	EST INCREMENTAL - S BODGET SPEND EST INCREMENTAL - PIPELINE MILES INSTALLED	Replace	5.5	47,324,206		→ 300,762.60	J 1,307,345.73	J 12,455,350.47	5 32,587,448.47 5	3,/30,131.44 3	30,371,498.71
Replace Bundle 02	EST INCREMENTAL - \$ BUDGET SPEND	Replace	9.9	\$ 47,324,206	s -	\$ 336,199.05	\$ 1,416,452.93	\$ 12,493,590.47	\$ 32,587,448.47 \$	3,736,151.44	50,569,842.36
Replace Bundle 02 Secondary Replace Projects Bundle 01	EST INCREMENTAL - PIPELINE MILES INSTALLED EST INCREMENTAL - S BUDGET SPEND	Replace Replace	0.095	\$ 457,268		\$ -	s -		10 \$ 5.029.95 \$	20,055.77	25,085.72
	EST INCREMENTAL - S BODGET SPEND	Replace	0.055	457,268		*	* :	* :	- 3,023.35 3	20,033.77 \$	23,085.72
GTSR Pilot-TEST* 01	EST INCREMENTAL - \$ BUDGET SPEND	Test	2.08	\$ 4,350,598	\$ 87,011.96	\$ 505,757.02		\$ 430,709.20	s - s	- 9	3,383,329.55
GTSR Pilot-TEST* 01 GTSR Pilot-TEST* 02	EST INCREMENTAL - PIPELINE MILES INSTALLED	Test Test	0.43	\$ 1.045.817	- S 20 916 34	\$ 121,576.23	\$ 567,272.06	\$ 103,535.88			813,300.51
GTSR Pilot-TEST* 02 GTSR Pilot-TEST* 02	EST INCREMENTAL - \$ BUDGET SPEND EST INCREMENTAL - PIPELINE MILES INSTALLED	Test	0.43	3 1,045,817	\$ 20,916.34	ə 121,576.23 -	o 567,272.06	a 103,535.88			813,300.51
GTSR/P Pilot-TEST 01	EST INCREMENTAL - \$ BUDGET SPEND	Test	5.90	\$ 13,848,645	\$ 553,945.80		\$ 3,222,960.54	\$ 342,753.97	\$ - \$	- 5	10,666,607.26
	EST INCREMENTAL - PIPELINE MILES INSTALLED	Test				1.97	4				4 450 5
GTSR/P Pilot-REPLACE 01 GTSR/P Pilot-REPLACE 0:	EST INCREMENTAL - \$ BUDGET SPEND EST INCREMENTAL - PIPELINE MILES INSTALLED	Replace Replace	0.04	\$ 1,732,459	\$ 651,864.17 0	\$ 801,722.14 0.02	\$ 4,970.18	> -	> - \$		1,458,556.49
GTSR/P Pilot-REPLACE 02	EST INCREMENTAL - \$ BUDGET SPEND	Replace	0.03	\$ 3,102,762	\$ 640,119.60	\$ 1,852,723.67	\$ 3,510.96	\$ -	s - s		2,496,354.23
	EST INCREMENTAL - PIPELINE MILES INSTALLED	Replace				0.03					
GTSR/P PIlot-TEST 02 GTSR/P PIlot-TEST 02	EST INCREMENTAL - \$ BUDGET SPEND EST INCREMENTAL - PIPELINE MILES INSTALLED	Test Test	0.25	\$ 1,739,786	\$ 34,795.72	\$ 202,250.12	\$ 943,694.72	\$ 172,238.81	\$ - \$		1,352,979.38
P Pilot-HYDROTEST 01	EST INCREMENTAL - \$ BUDGET SPEND	Test	16.12	\$ 37,851,551	\$ 294,400.95	\$ 1,043,020.50	\$ 12,485,333.96	\$ 19,534,554.40	\$ 1,561,376.46 \$		34,918,686.27
	EST INCREMENTAL - PIPELINE MILES INSTALLED	Test			-	-	. 3	13			
	EST INCREMENTAL - \$ BUDGET SPEND EST INCREMENTAL - PIPELINE MILES INSTALLED	Replace Replace	0.13	\$ 630,780	\$ 10,863.44	\$ 73,871.40	\$ 188,027.25	\$ 264,591.39	\$ 29,142.06 \$		566,495.54
GISK Pilot-Sample-01	EST INCREINENTAL - PIPELINE MILES INSTALLED	TOTAL Miles Started	F10 F								

Southern California Gas Company 2024 GRC - APP

Capital Workpapers

	Active Miles	2022	2023	2024	2025	2026	2027
Test	498.5	\$ 5,632,614.97	\$ 31,170,063.63	\$ 93,131,507.23	\$ 134,560,043.86	\$ 97,257,963.47	\$ 171,649,210.38
Replace	20.0	\$ 1,302,847.22	\$ 3,431,278.86	\$ 3,000,507.05	\$ 25,251,772.33	\$ 65,209,068.95	\$ 7,492,358.65
	Total (Check)	\$ 6,935,462.19	\$ 34,601,342.49	\$ 96,132,014.28	\$ 159,811,816.18	\$ 162,467,032.42	\$ 179,141,569.04
	Miles Completed (Incremental)	2022	2023	2024	2025	2026	2027
Test	Miles Completed (Incremental)	2022	2023	2024 86.31	2025	2026 47.28	2027
Test Replace	Miles Completed (Incremental)	2022					
	Miles Completed (Incremental) Total (Check)		1.97			47.28	

- 1	Project Cost Assumptions		
		TEST	REPLACE
	Cost Per Mile	\$2,348,359	\$4,793,165
	Test = Pressure Test	**Based on SME input – indiv	ridual costs for each project were update

Replace = Replacement

*Secondary Project = attempted other reconfirmation method (e.g., ECA) but had to come back to test/replace

*Plot = more detailed cost estimate based on specific pipeline segment

PRIVILEGED AND CONFIDENTIAL/WORK PRODUCT: Created at the Direction of Counsel Setareh Mortazavi

GSEP Part 2 Supplemental Workpaper - SCG O&M, SCG Capital, SDGE O&M, SDGE Capital, Shared Services

192.461 and 192.319

Total Survey Scope for DCVG/ACVG (All Programs)

Item	CY2022 Coating Survey Scope (feet/year)	CY2023 Coating Survey Scope (feet/year)	CY2024 Coating Survey Scope (feet/year)	CY2025 Coating Survey Scope (feet/year)	CY2026 Coating Survey Scope (feet/year)	CY2027 Coating Survey Scope (feet/year)
Class 1	-	158.024.39			110.880.00	-
Class 2	_	_	-	_	-	_
Class 3	_	19.008.00	-	52.944.00	44.352.00	_
Class 4	_	_	-	-	-	-
Total (feet/year)		177,032.39	8,943.73	52,944.00	155,232.00	-
Total (miles/year)	-	33.53	1.69	10.03	29.40	-

	Co	ating Survey Cost	Coating Survey Cost		
Area		(\$/mile)		(\$/foot)	
Class 1	\$	17,000.00	\$	3.22	
Class 2	\$	18,000.00	\$	3.41	
Class 3	\$	26,666.67	\$	5.05	
Class 4	\$	43,333.33	\$	8.21	

The average cost to do a coating survey was obtained from the 2016 PHMSA Impact Assessment and adjusted based on feedback from the SME.

Average Remediation/Mitigation costs per foot.

Item	Recoat Average Cost (\$/foot of repair)
Repair Cost	\$4,458.22

Notes

Based on approximated historical project costs

Program Estimate (Gross, non-adjusted)

	CY2022 Program	CY2023 Program	CY2024 Program	CY2025 Program	CY	2026 Program	C	Y2027 Program
	Estimate	Estimate	Estimate	Estimate		Estimate		Estimate
Item	(2021 dollars)	(2021 dollars)	(2021 dollars)	(2021 dollars)	(2	2021 dollars)		(2021 dollars)
Coating Survey (DCVG/ACVG)	\$ -	\$ 604,790.65	\$ 28,796.10	\$ 267,393.94	\$	581,000.00	\$	-
Repair (Recoat)	\$ -	\$ 1,317,336.30	\$ 66,552.23	\$ 393,967.75	\$	1,155,114.88	\$	-
Total	\$ -	\$ 1,922,126.95	\$ 95,348.33	\$ 661,361.69	\$	1,736,114.88	\$	-

Notes

It is assumed projects will take one year

Program Scaling Factors

Item	Ramp Up					
	CY2022	CY2023	CY2024	CY2025	CY2026	CY2027
	(unitless)	(unitless)	(unitless)	(unitless)	(unitless)	(unitless)
Scaling Factor	0.01	0.50	0.65	0.75	0.85	1.00

Notes

The scaling factors (0-1) are designed to account for the gradual increase in spend as the program scales.

Shared Service Factor

Item	Shared Services CY2022 (unitless)
SoCalGas	0.94
SDG&E	0.06

Notes

The shared service factor includes the distribution of costs between SoCalGas and SDG&E, and was based on the ratio of transmission lines in company database

Capital vs. O&M Distribution Factors

Item	Distribution CY2022 (unitless)
Capital	0.95
O&M	0.05

Notes

The distribution factors are being included to account for the fact that the cost per dig factor includes the remediation cost.

Capital vs. O&M Distribution of the Program Estimate for Each Utility

CY2022 Program CY2023 Program CY2024 Program CY2025 Program CY2026 Program CY2027 Program Estimate Estimate Estimate Estimate Estimate Estimate ltem (2021 dollars) (2021 dollars) (2021 dollars) (2021 dollars) (2021 dollars) (2021 dollars) SoCalGas 55,344.94 858,229.68 442,946.99 1,317,798.00 Capital 0&M 45,169.98 2,912.89 23,313.00 69,357.79 903,399.67 58,257.83 466,259.99 1,387,155.79 SoCalGas Total SDG&E apital 0 54,780.62 \$ 3,532.66 28,273.21 84,114.77 0&M 0 \$ 2,594.87 167.34 1,339.26 3,984.38 Shared Services 288.32 18.59 148.81 442.71 57.663.81 \$ 3.718.58 \$ 88.541.86 SDG&E Total 29.761.28 \$ o s Grand Total

Workpaper X03670.003 2TD005.000

214770.003 1TD005.000 2200.7003

PRIVILEGED AND CONFIDENTIAL/WORK PRODUCT: Created at the Direction of Counsel Setareh Mortazavi

GSEP Part 2 Supplemental Workpaper - SCG O&M, SCG Capital, SDGE O&M, SDGE Capital, Shared Services

192.465

Total Incremental Survey Scope for Close Interval Surveys (CIS), by Class Location

Item	CY2022 CIS 1 Scope (feet/year)	CY2023 CIS 1 Scope (feet/year)	CY2024 CIS 1 Scope (feet/year)	CY2025 CIS 1 Scope (feet/year)	CY2026 CIS 1 Scope (feet/year)	CY2027 CIS 1 Scope (feet/year)
Class 1	48960	48960	48960	48960	48960	48960
Class 2	3060	3060	3060	3060	3060	3060
Class 3	91800	91800	91800	91800	91800	91800
Class 4	3060	3060	3060	3060	3060	3060
Total (feet/year)	146,880	146,880	146,880	146,880	146,880	146,880
Total (miles/year)	28	28	28	28	28	28

Area	Close Interval Survey Cost (\$/mile)			CIS Cost (\$/foot)
Class 1	\$	34,000.00	\$	6.44
Class 2	\$	36,000.00	\$	6.82
Class 3	\$	53,333.33	\$	10.10
Class 4	\$	86,666.67	\$	16.41

Notes

The average cost to do a coating survey was obtained from the 2016 PHMSA Impact Assessment and adjusted based on feedback from the SME.

The cost per mile of conducting a CIS includes a factor of 2 to account for proposed language requiring 5 ft. interval spacing for a CIS (current practice is 10 ft)

Average Remediation/Mitigation costs per foot.

Item	Recoat Average Cost (\$/foot of repair)
Repair Cost	\$12,737.77

Notes

Based on approximated historical project costs

Program Estimate (Gross, non-adjusted)

	CY2022 Program	CY2023 Program	CY2024 Program	CY2025 Program	CY	2026 Program	C١	/2027 Program
	Estimate	Estimate	Estimate	Estimate		Estimate		Estimate
Item	(2021 dollars)	(2021 dollars)	(2021 dollars)	(2021 dollars)	(2021 dollars)		2021 dollars)
CIS 1	\$ 1,313,636.36	\$ 1,313,636.36	\$ 1,313,636.36	\$ 1,313,636.36	\$	1,313,636.36	\$	1,313,636.36
Repair (Recoat)	\$ -	\$ 5,667,091.67	\$ 5,667,091.67	\$ 5,667,091.67	\$	5,667,091.67	\$	5,667,091.67
CIS 2	\$ -	\$ -	\$ 1,545,454.55	\$ 1,545,454.55	\$	1,545,454.55	\$	1,545,454.55
Total	\$ 1,313,636.36	\$ 6,980,728.03	\$ 8,526,182.58	\$ 8,526,182.58	\$	8,526,182.58	\$	8,526,182.58

Notes

It is assumed projects will take one year and permitting will take one year

Program Scaling Factors

Item	Ramp Up					
	CY2022	CY2023	CY2024	CY2025	CY2026	CY2027
	(unitless)	(unitless)	(unitless)	(unitless)	(unitless)	(unitless)
Scaling Factor	0.01	0.50	0.65	0.75	0.85	1.00

Notes

The scaling factors (0-1) are designed to account for the gradual increase in spend as the program scales.

Shared Service Factor

ltem	Shared Services CY2022 (unitless)				
SoCalGas	0.94				
SDG&E	0.06				
Camp assumptions as for 102 461 and 102 210					

Capital vs. O&M Distribution Factors

Item	Distribution CY2022 (unitless)
Capital	0.95
O&M	0.05

Notes

Same assumptions as for 192.461 and 192.

Capital vs. O&M Distribution of the Program Estimate for Each Utility

	CY2022 Program	CY2	023 Program	CY2024 Program	CY2025 Program	CY	2026 Program	C	2027 Program
	Estimate		Estimate	Estimate	Estimate		Estimate		Estimate
Item	(2021 dollars)	(2	021 dollars)	(2021 dollars)	(2021 dollars)		2021 dollars)		(2021 dollars)
SoCalGas									
Capital	0	\$	3,116,895.07	\$ 4,949,022.68	\$ 5,710,410.78	\$	6,471,798.88	\$	7,613,881.04
O&M	0	\$	164,047.11	\$ 260,474.88	\$ 300,547.94	\$	340,620.99	\$	400,730.58
SoCalGas Total	0	\$	3,280,942.17	\$ 5,209,497.55	\$ 6,010,958.72	\$	6,812,419.88	\$	8,014,611.62
SDG&E									
Capital	0	\$	198,950.75	\$ 315,895.06	\$ 364,494.31	\$	413,093.55	\$	485,992.41
0&M	0	\$	9,423.98	\$ 14,963.45	\$ 17,270.02	\$	19,567.59	\$	23,020.69
Shared Services	0		1047.109	1662.606	1913.891		2174.177		2557.855
SDG&E Total	0	\$	209,421.84	\$ 332,521.12	\$ 383,678.22	\$	434,835.31	\$	511,570.95
Grand Total	0	\$	3,490,364.02	\$ 5,542,018.67	\$ 6,394,636.93	\$	7,247,255.19	\$	8,526,182.58

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214770.003 1TD005.000 2200.7003

PRIVILEGED AND CONFIDENTIAL/WORK PRODUCT: Created at the Direction of Counsel Setareh Mortazavi

GSEP Part 2 Supplemental Workpaper - SCG O&M, SCG Capital, SDGE O&M, SDGE Capital, Shared Services

192.473

Total Incremental Survey Scope for Interference Current Surveys, by Class Location

					CY2026	CY2027
	CY2022 Interference	CY2023 Interference	CY2024 Interference	CY2025 Interference	Interference	Interference
	Current Survey Scope	Current Survey Scope	Current Survey Scope	Current Survey Scope	Current Survey	Current Survey
	(miles/year)	(miles/year)	(miles/year)	(miles/year)	Scope	Scope
Item					(miles/year)	(miles/year)
Class 1	4.198	4.198	4.198	4.198	4.198	4.198
Class 2	0.26	0.26	0.26	0.26	0.26	0.26
Class 3	3.144	3.144	3.144	3.144	3.144	3.144
Class 4	0	0	0	0	0	0
Total (feet/year)	40138.56	40138.56	40138.56	40138.56	40138.56	40138.56
Total (miles/year)	7.60	7.60	7.60	7.60	7.60	7.60

Estimated Cost to Complete an Interference Current Survey, by Class Location

		Interference Current
	1	Survey Cost
Area		(\$/mile)
Class 1	\$	17,000.00
Class 2	\$	18,000.00
Class 3	\$	26,666.67
Class 4	\$	43,333.33

Notes

The average cost to do a coating survey was obtained from the 2016 PHMSA Impact Assessment and adjusted based on feedback from the SME.

Average Remediation/Mitigation costs per mile, by Class Location.

ltem	Average AC Mitigation Cost (\$/mile)
Class 1	\$1,666,799.34
Class 2	\$2,083,499.18
Class 3	\$2,916,898.85
Class 4	\$0.00

Notes

Based on approximated historical project costs

Program Estimate (Gross, non-adjusted)

		CY2022 Program		CY2023 Program		CY2024 Program		CY2025 Program	CY	2026 Program	CY	/2027 Program
		Estimate		Estimate		Estimate		Estimate		Estimate		Estimate
Item		(2021 dollars)		(2021 dollars)		(2021 dollars)		(2021 dollars)	(2021 dollars)	(2021 dollars)
Interference Current Survey	\$	159,886.00	\$	159,886.00	\$	159,886.00	\$	159,886.00	\$	159,886.00	\$	159,886.00
Repair (AC Mitigation)	\$	-	\$	216,974.37	\$	216,974.37	\$	216,974.37	\$	216,974.37	\$	216,974.37
Total	\$	159,886.00	\$	376,860.37	\$	376,860.37	\$	376,860.37	\$	376,860.37	\$	376,860.37
Notes	lotes It is assumed interference current studies will take one year and AC mitigation will take one year											

Program Scaling Factors

1 109	rain ocainig ractors						
		Ramp Up					
	Item	CY2022	CY2023	CY2024	CY2025	CY2026	CY2027
		(unitless)	(unitless)	(unitless)	(unitless)	(unitless)	(unitless)
Scali	ing Factor	0.01	0.50	0.65	0.75	0.85	1.00

Notes

The scaling factors (0-1) are designed to account for the gradual increase in spend as the program scales.

Shared Service Factor

ltem	Shared Services CY2022 (unitless)
SoCalGas	0.94
SDG&E	0.06

Capital vs. O&M Distribution Factors

oupitui va. oum biatribution i uctora					
	Distribution				
Item	CY2022				
	(unitless)				
Capital	0.95				
O&M	0.05				

Notes

Same assumptions as for 192.461 and 192.319

Workpaper X03670.003 2TD005.000

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	CY2022 Program	CY2023 Program	CY2024 Program	CY2025 Program	CY2026 Program	CY2027 Program Estimate
Item	Estimate (2021 dollars)	(2021 dollars)				
SoCalGas	(2021 dollars)					
Capital	0	\$ 168,268.15	\$ 218,748.60	\$ 252,402.23	\$ 286,055.86	\$ 336,536.31
0&M	0	\$ 8,856.22	\$ 11,513.08	\$ 13,284.33	\$ 15,055.57	\$ 17,712.44
SoCalGas Total	0	\$ 177,124.37	\$ 230,261.68	\$ 265,686.56	\$ 301,111.43	\$ 354,248.74
SDG&E						
Capital	0	\$ 10,740.52	\$ 13,962.68	\$ 16,110.78	\$ 18,258.88	\$ 21,481.04
O&M	0	\$ 508.76	\$ 661.39	\$ 763.14	\$ 864.89	\$ 1,017.52
Shared Services	0	\$ 56.53	\$ 73.49	\$ 84.79	\$ 96.10	\$ 113.06
SDG&E Total	0	\$ 11,305.81	\$ 14,697.55	\$ 16,958.72	\$ 19,219.88	\$ 22,611.62
Grand Total	0	\$ 188,430.18	\$ 244,959.24	\$ 282,645.27	\$ 320,331.31	\$ 376,860.37

PRIVILEGED AND CONFIDENTIAL/WORK PRODUCT: Created at the Direction of Counsel Setareh Mortazavi

GSEP Valve Rule Supplemental Workpaper - SCG O&M, SCG Capital, SDGE O&M, SDGE Capital, Shared Services

Project Scope for Valve Rule

Project Name	CY2022	CY2023	CY2024	CY2025	CY2026	CY2027
	Replacement	Replacement	Replacement	Replacement	Replacement	Replacement
	Pipeline	Pipeline	Pipeline	Pipeline	Pipeline	Pipeline
	(miles/year)	(miles/year)	(miles/year)	(miles/year)	(miles/year)	(miles/year)
Total	0.00	15.92	9.00	9.84	9.84	0.00

Notes

Estimating projects that start after effective date

Valve Requirements for the Rule

	CY2022 Valve	CY2023 Valve	CY2024 Valve	CY2025 Valve	CY2026 Valve	CY2027 Valve
Project Name	Requirement	Requirement	Requirement	Requirement	Requirement	Requirement
	(valves/year)	(valves/year)	(valves/year)	(valves/year)	(valves/year)	(valves/year)
Total	0	4	2	2	2	2

Notes

Based on spacing requirements (8) and project mileage assumptions

Item	CY2022 Program Estimate (2021 dollars)	CY2023 Program Estimate (2021 dollars)	CY2024 Program Estimate (2021 dollars)	CY2025 Program Estimate (2021 dollars)	CY2026 Program Estimate (2021 dollars)	CY2027 Program Estimate (2021 dollars)
Valves and Valve Installation	\$0.00	\$14,328,000.00	\$8,100,000.00	\$8,856,000.00	\$8,856,000.00	\$8,856,000.00
Total	\$0.00	\$14,328,000.00	\$8,100,000.00	\$8,856,000.00	\$8,856,000.00	\$8,856,000.00

Notes

Based on historical valve project costs, assume \$3.6M per valve

Program Scaling Factors

	Ramp Up					
Item	CY2022	CY2023	CY2024	CY2025	CY2026	CY2027
	(unitless)	(unitless)	(unitless)	(unitless)	(unitless)	(unitless)
Scaling Factor	0.00	0.75	1.00	1.00	1.00	1.00

Notes

The scaling factors (0-1) are designed to account for the gradual increase in spend as the program scales.

2022 is assumed to be 0 since the effective date of these activities are in early 2023

Program Estimate (net, adjusted)

	CY2022 Program	CY2023 Program	CY2024 Program	CY2025 Program	CY2026 Program	CY2027 Program
Item	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate
	(2021 dollars)	(2021 dollars)	(2021 dollars)	(2021 dollars)	(2021 dollars)	(2021 dollars)
Valves and Valve Installation	\$0.00	\$10,746,000.00	\$8,100,000.00	\$8,856,000.00	\$8,856,000.00	\$8,856,000.00
Total	\$0.00	\$10,746,000.00	\$8,100,000.00	\$8,856,000.00	\$8,856,000.00	\$8,856,000.00

Notes

The adjusted (net) program estimate incorporates the abandonment factor and program scaling factor.

Shared Service Factor

Item	Shared Services (unitless)
SoCalGas	0.94
SDG&E	0.06

Notes

The shared service factor includes the distribution of costs between SoCalGas and SDG&E, and was based on the ratio of transmission lines in company database

Capital vs. O&M Distribution Factors

Item	Distribution (unitless)
Capital	0.95
O&M	0.05

Notes

O&M based on SME judgment of possible non-capital costs associated with the requirements

Capital vs. O&M Distribution of the Program Estimate for Each Utility

Item	CY2022 Program Estimate (2021 dollars)	CY2023 Program Estimate (2021 dollars)	CY2024 Program Estimate (2021 dollars)	CY2025 Program Estimate (2021 dollars)	CY2026 Program Estimate (2021 dollars)	CY2027 Program Estimate (2021 dollars)
SoCalGas						
Capital	\$0.00	\$9,596,178.00	\$7,233,300.00	\$7,908,408.00	\$7,908,408.00	\$7,908,408.00
O&M	\$0.00	\$505,062.00	\$380,700.00	\$416,232.00	\$416,232.00	\$416,232.00
SoCalGas Total	\$0.00	\$10,101,240.00	\$7,614,000.00	\$8,324,640.00	\$8,324,640.00	\$8,324,640.00
SDG&E						
Capital	\$0.00	\$612,522.00	\$461,700.00	\$504,792.00	\$504,792.00	\$504,792.00
O&M	\$0.00	\$32,238.00	\$24,300.00	\$26,568.00	\$26,568.00	\$26,568.00
Shared Services	\$0.00	\$ 3,223.80	\$ 2,430.00	\$ 2,656.80	\$ 2,656.80	\$ 2,656.80
SDG&E Total	\$0.00	\$644,760.00	\$486,000.00	\$531,360.00	\$531,360.00	\$531,360.00
Grand Total	\$0.00	\$10,746,000.00	\$8,100,000.00	\$8,856,000.00	\$8,856,000.00	\$8,856,000.00

Workpaper X03670.005 2TD005.000 214770.005 1TD005.000 2200.7003