Application of SAN DIEGO GAS & ELECTRIC)COMPANY for authority to update its gas and)electric revenue requirement and base rates)effective January 1, 2024 (U 902-M))

Application No. 22-05-___ Exhibit No.: (SDG&E-09-WP)

WORKPAPERS TO PREPARED DIRECT TESTIMONY OF AMY KITSON / TRAVIS T. SERA

ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

May 2022



2024 General Rate Case - APP INDEX OF WORKPAPERS

Exhibit SDG&E-09-WP - GAS INTEGRITY PROGRAMS

DOCUMENT	PAGE
Overall Summary For Exhibit No. SDG&E-09-WP	1
Summary of Non-Shared Services Workpapers	2
Category: A. TIMP	3
1TD001.000 - TIMP	4
Category: B. DIMP	12
1TD002.000 - DIMP	13
Category: C. FIMP	19
1TD004.000 - FIMP	20
Category: D. GSEP	29
1TD005.000 - GAS SAFETY ENHANCEMENT PROGRAMS	30
Appendix A: List of Non-Shared Cost Centers	44

Overall Summary For Exhibit No. SDG&E-09-WP

Total

	Area: GAS	Area: GAS INTEGRITY PROGRAMS			
	Witness: Amy I	Amy Kitson			
	In 2021 \$ (000) Incurred Costs				
	Adjusted-Recorde	d	Adjusted-Forecast		
Description	2021	2022	2023	2024	
Non-Shared Services	11,026	14,052	11,771	12,768	
Shared Services	0	0	0	0	

14,052

11,026

12,768

11,771

Area: GAS INTEGRITY PROGRAMS

Witness:

Amy Kitson

Summary of Non-Shared Services Workpapers:

In 2021 \$ (000) Incurred Costs						
Adjusted- Recorded	Adjusted-Forecast					
2021	2022	2023	2024			
8,772	11,425	8,676	9,514			
2,254	2,627	2,960	2,866			
0	0	0	258			
0	0	135	130			
11,026	14,052	11,771	12,768			
	Recorded 2021 8,772 2,254 0 0	Recorded Acceleration 2021 2022 8,772 11,425 2,254 2,627 0 0 0 0	Recorded Adjusted-Forecast 2021 2022 2023 8,772 11,425 8,676 2,254 2,627 2,960 0 0 0 0 0 135			

Area:GAS INTEGRITY PROGRAMSWitness:Amy KitsonCategory:A. TIMPWorkpaper:1TD001.000

Summary for Category: A. TIMP

		In 2021\$ (000) Inci	urred Costs	
	Adjusted-Recorded	Adjusted-Forecast		
	2021	2022	2023	2024
Labor	1,121	1,278	1,512	1,570
Non-Labor	7,651	10,147	7,164	7,944
NSE	0	0	0	0
Total	8,772	11,425	8,676	9,514
FTE	10.5	12.0	14.2	14.7

Workpapers belonging to this Category:

1TD001.000 TIMP				
Labor	1,121	1,278	1,512	1,570
Non-Labor	7,651	10,147	7,164	7,944
NSE	0	0	0	0
Total	8,772	11,425	8,676	9,514
FTE	10.5	12.0	14.2	14.7

Beginning of Workpaper 1TD001.000 - TIMP

Area:GAS INTEGRITY PROGRAMSWitness:Amy KitsonCategory:A. TIMPCategory-Sub1. TIMPWorkpaper:1TD001.000 - TIMP

Activity Description:

TIMP assessments, remediation, preventative & mitigative measures, and other activities in compliance with 49 CFR Part 192, Subpart O, as well as new requirements of 49 CFR § 192.710.

Forecast Explanations:

Labor - Base YR Rec

SDG&E company labor in support of the TIMP.

Non-Labor - Base YR Rec

SDG&E non-labor costs (e.g., contracts) in support of the TIMP.

NSE - Base YR Rec

N/A

Summary of Results:

				ln 2021\$ (00	0) Incurred	Costs		
		Adju	isted-Recor	ded		Ad	justed-Fore	cast
Years	2017	2018	2019	2020	2021	2022	2023	2024
Labor	524	592	703	855	1,121	1,279	1,513	1,571
Non-Labor	4,070	5,909	7,313	7,313	7,651	10,147	7,164	7,944
NSE	0	0	0	0	0	0	0	0
Total	4,594	6,501	8,016	8,167	8,772	11,426	8,677	9,515
FTE	5.0	6.0	6.7	8.0	10.5	12.0	14.2	14.7

Area:	GAS INTEGRITY PROGRAMS
Witness:	Amy Kitson
Category:	A. TIMP
Category-Sub:	1. TIMP
Workpaper:	1TD001.000 - TIMP

Summary of Adjustments to Forecast:

	In 2021 \$(000) Incurred Costs									
Forecas	t Method	Bas	se Foreca	Forecast Forecast Adjustments			tments	Adjusted-Forecast		
Years	s	2022	2023	2024	2022	2023	2024	2022	2023	2024
Labor	Base YR Rec	1,121	1,121	1,121	157	391	449	1,278	1,512	1,570
Non-Labor	Base YR Rec	7,651	7,651	7,651	2,496	-487	293	10,147	7,164	7,944
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Tota	al	8,772	8,772	8,772	2,653	-96	742	11,425	8,676	9,514
FTE	Base YR Rec	10.5	10.5	10.5	1.5	3.7	4.2	12.0	14.2	14.7

Forecast Adjustment Details:

Year	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj Type	
2022	157	2,496	0	2,653	1.5	1-Sided Adj	
Explanation:	This adjustment capture are primarily driven by th compliance assessment	ne number of e					
2022 Total	157	2,496	0	2,653	1.5		
2023	391	-487	0	-96	3.7	1-Sided Adj	
Explanation:	This adjustment capture are primarily driven by th compliance assessment	ne number of e			,		
2023 Total	391	-487	0	-96	3.7		
2024	449	293	0	742	4.2	1-Sided Adj	
Explanation:	This adjustment capture are primarily driven by th compliance assessment	ne number of e			•		
2024 Total	449	293	0	742	4.2		

Area:	GAS INTEGRITY PROGRAMS
Witness:	Amy Kitson
Category:	A. TIMP
Category-Sub:	1. TIMP
Workpaper:	1TD001.000 - TIMP

Determination of Adjusted-Recorded (Incurred Costs):

·····,····	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	409	474	581	726	974
Non-Labor	3,691	5,447	6,883	6,860	7,577
NSE	0	0	0	0	0
Total	4,100	5,921	7,464	7,586	8,551
FTE	4.3	5.1	5.8	6.9	8.9
djustments (Nominal \$) **	r				
Labor	0	0	0	0	1
Non-Labor	-41	0	-2	-2	74
NSE	0	0	0	<u> </u>	0
Total	-41	0	-2	-2	75
FTE	0.0	0.0	0.0	0.0	0.1
Recorded-Adjusted (Nomin	nal \$)				
Labor	409	474	581	726	975
Non-Labor	3,650	5,447	6,881	6,858	7,651
NSE	0	0	0	0	0
Total	4,059	5,921	7,462	7,584	8,626
FTE	4.3	5.1	5.8	6.9	9.0
acation & Sick (Nominal \$	5)				
Labor	61	72	83	103	146
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	61	72	83	103	146
FTE	0.7	0.9	0.9	1.1	1.5
scalation to 2021\$					
Labor	55	47	39	27	0
Non-Labor	420	461	431	454	0
NSE	0	0	0	0	0
Total	475	508	470	481	0
FTE	0.0	0.0	0.0	0.0	0.0
ecorded-Adjusted (Consta	ant 2021\$)				
Labor	524	592	703	855	1,121
Non-Labor	4,070	5,909	7,313	7,313	7,651
NSE	0	0	0	0	0
Total	4,594	6,501	8,016	8,167	8,772
FTE	5.0	6.0	6.7	8.0	10.5

* After company-wide exclusions of Non-GRC costs

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

GAS INTEGRITY PROGRAMS
Amy Kitson
A. TIMP
1. TIMP
1TD001.000 - TIMP

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs						
	Years	2017	2018	2019	2020	2021
Labor	-	0	0	0	0	0.632
Non-Labor		-41	0	-2	-2	74
NSE		0	0	0	0	0
	Total -	-41	0	-2	-2	75
FTE		0.0	0.0	0.0	0.0	0.1

Detail of Adjustments to Recorded:

Year		Labor	NLbr	NSE	FTE	Adi Type
2017		0	-41	0	0.0	CCTR Transf To 2100-0086.000
Explanation:	Electric Distribution	-		•		
2017 Total		0	-41	0	0.0	
2018 Total		0	0	0	0.0	
2019		0	-2	0	0.0	CCTR Transf To 2100-0091.000
xplanation:	Electric Distribution	n costs that we	re erroneously m	apped to TI	VP due to re	mapping rules.
2019 Total		0	-2	0	0.0	
2020		0	-2	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).					
2020		0	0	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).					
2020 Total		0	-2	0	0.0	
2021		0	-2	0	0.0	1-Sided Adj
Explanation:	Incremental COVII Catastrophic Even		•		uested for r	ecovery through a non-GRC
2021		0	0	0	0.0	1-Sided Adj
Explanation:			•		uested for r	ecovery through a non-GRC
	Catastrophic Even	t Memorandum	Account (CEMA	x).		
2021	Catastrophic Even	t Memorandum 0	Account (CEMA -1	.). 0	0.0	1-Sided Adj
2021 Explanation:	One-sided entry - 0	0	-1	0		,

Area:	GAS INTEGRITY PROGRAMS
Witness:	Amy Kitson
Category:	A. TIMP
Category-Sub:	1. TIMP
Workpaper:	1TD001.000 - TIMP
0,	

Year	<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type
Explanation:	One-sided entry - SAP adj usi	ng cost element 690	00200, costs ir	n nonGRC	, should be in GRC
2021	1	0	0	0.1	1-Sided Adj
Explanation:	One-sided entry - transfer DIN	IP direct costs from	nonGRC to G	RC; mapp	ing error
2021 Total	1	74	0	0.1	

Area:	GAS INTEGRITY PROGRAMS
Witness:	Amy Kitson
Category:	A. TIMP
Category-Sub:	1. TIMP
Workpaper:	1TD001.000 - TIMP

RAMP Item # 1

RAMP Activity

RAMP Chapter: SDG&E-Risk-3 Incident Related to the High Pressure System (Excluding Dig-in)

RAMP Line Item ID: C15 & M3 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 Cost	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP R (2020 Inc	ange
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	5,889	10,189	7,480	9,038	5,048	6,483
Tranche 2 Cost Estimate	2,883	1,237	1,196	476	1,184	1,519

Cost Estimate Changes from RAMP:

Forecasted projects have been updated since the RAMP report; SDG&E continuously updates the TIMP assessment plan and manages projects in alignment within compliance cycles. Additionally, SDG&E determined that the Gas Transmission Safety Rule Part 1 verification of material properties and attributes should be considered a TIMP activity and C21 and M2 have been combined as a result.

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 RA Range Act	
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 Miles assessed - HCA	28.80	34.60	49.40	7.60	24.00	30.00
Tranche 2 Miles assessed - non-HCA	14.10	4.20	7.90	0.40	6.00	7.00

Units have been updated since the RAMP report based on project changes.

Risk Spend Efficiency (RSE)			
	GRC RSE	RAMP RSE	
Tranche 1	19.800	355.000	
Tranche 2	9.200	300.000	

Area:GAS INTEGRITY PROGRAMSWitness:Amy KitsonCategory:A. TIMPCategory-Sub:1. TIMPWorkpaper:1TD001.000 - TIMP

RSE Changes from RAMP:

RSE inputs have been updated since the RAMP report.

Area:GAS INTEGRITY PROGRAMSWitness:Amy KitsonCategory:B. DIMPWorkpaper:1TD002.000

Summary for Category: B. DIMP

	In 2021\$ (000) Incurred Costs					
	Adjusted-Recorded	Adjusted-Forecast				
	2021	2022	2023	2024		
Labor	336	387	436	422		
Non-Labor	1,918	2,240	2,524	2,444		
NSE	0	0	0	0		
Total	2,254	2,627	2,960	2,866		
FTE	3.7	4.3	4.8	4.7		

Workpapers belonging to this Category:

1TD002.000 DIMP				
Labor	336	387	436	422
Non-Labor	1,918	2,240	2,524	2,444
NSE	0	0	0	0
Total	2,254	2,627	2,960	2,866
FTE	3.7	4.3	4.8	4.7

Beginning of Workpaper 1TD002.000 - DIMP

Area:GAS INTEGRITY PROGRAMSWitness:Amy KitsonCategory:B. DIMPCategory-Sub1. DIMPWorkpaper:1TD002.000 - DIMP

Activity Description:

DIMP activities and projects such as DREAMS, GIPP, SLIP, DRIP and other various activities in compliance with 49 CFR Part 192, Subpart P.

Forecast Explanations:

Labor - Base YR Rec

SDG&E company labor in support of the DIMP.

Non-Labor - Base YR Rec

SDG&E non-labor costs (e.g., contracts) in support of the DIMP.

NSE - Base YR Rec

N/A

Summary of Results:

Γ				In 2021\$ (00	0) Incurred C	Costs		
		Adjı	isted-Recor	ded		Ad	justed-Fore	cast
Years	2017	2018	2019	2020	2021	2022	2023	2024
Labor	1,023	793	327	387	336	386	435	421
Non-Labor	5,213	805	1,151	1,974	1,918	2,240	2,524	2,444
NSE	0	0	0	0	0	0	0	0
Total	6,236	1,598	1,479	2,361	2,254	2,626	2,959	2,865
FTE	11.3	4.1	2.8	3.4	3.7	4.3	4.8	4.7

Area:	GAS INTEGRITY PROGRAMS
Witness:	Amy Kitson
Category:	B. DIMP
Category-Sub:	1. DIMP
Workpaper:	1TD002.000 - DIMP

Summary of Adjustments to Forecast:

In 2021 \$(000) Incurred Costs										
Forecas	t Method	Base Forecast			Forec	ast Adjust	ments	Adjusted-Forecast		ast
Years	s	2022	2023	2024	2022	2023	2024	2022	2023	2024
Labor	Base YR Rec	336	336	336	51	100	86	387	436	422
Non-Labor	Base YR Rec	1,918	1,918	1,918	322	606	526	2,240	2,524	2,444
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Tota	ıl	2,254	2,254	2,254	373	706	612	2,627	2,960	2,866
FTE	Base YR Rec	3.7	3.7	3.7	0.6	1.1	1.0	4.3	4.8	4.7

Forecast Adjustment Details:

<u>Year</u>	Labor	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj Type			
2022	51	322	0	373	0.6	1-Sided Adj			
Explanation:	driven in part by the capit include DIMP manageme	This adjustment captures incremental 2022 costs above the base year recorded. O&M costs are driven in part by the capital VIPP activities, which are increasing in alignment with D.19-09-051. Costs include DIMP management activities such as reporting, data and records management, and development of prospective PAARs.							
2022 Total	51	322	0	373	0.6				
2023	100	606	0	706	1.1	1-Sided Adj			
Explanation:	This adjustment captures incremental 2023 costs above the base year recorded. O&M costs are driven in part by the capital VIPP activities, which are increasing in alignment with D.19-09-051. Costs include DIMP management activities such as reporting, data and records management, and development of prospective PAARs.								
2023 Total	100	606	0	706	1.1				
2024	86	526	0	612	1.0	1-Sided Adj			
Explanation:	This adjustment captures incremental 2024 costs above the base year recorded. O&M costs are driven in part by the capital VIPP activities, which are increasing in alignment with D.19-09-051. Costs include DIMP management activities such as reporting, data and records management, and development of prospective PAARs.								
2024 Total	86	526	0	612	1.0				

Area:	GAS INTEGRITY PROGRAMS
Witness:	Amy Kitson
Category:	B. DIMP
Category-Sub:	1. DIMP
Workpaper:	1TD002.000 - DIMP

Determination of Adjusted-Recorded (Incurred Costs):

j	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	798	634	271	328	290
Non-Labor	4,675	742	1,083	1,851	1,917
NSE	0	0	0	0	0
Total	5,473	1,377	1,354	2,180	2,207
FTE	9.7	3.5	2.4	2.9	3.1
djustments (Nominal \$) **					
Labor	0	0	0	0	2
Non-Labor	0	0	0	0	1
NSE	0	0	0	0	0
Total	0	0	0	0	3
FTE	0.0	0.0	0.0	0.0	0.1
Recorded-Adjusted (Nomin	al \$)				
Labor	798	634	271	328	292
Non-Labor	4,675	742	1,083	1,851	1,918
NSE	0	0	0	0	0
Total	5,473	1,377	1,354	2,180	2,210
FTE	9.7	3.5	2.4	2.9	3.2
acation & Sick (Nominal \$	5)				
Labor	118	96	39	47	44
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	118	96	39	47	44
FTE	1.6	0.6	0.4	0.5	0.5
scalation to 2021\$					
Labor	107	63	18	12	0
Non-Labor	538	63	68	123	0
NSE	0	0	0	0	0
Total	645	126	86	135	0
FTE	0.0	0.0	0.0	0.0	0.0
ecorded-Adjusted (Consta	ant 2021\$)				
Labor	1,023	793	327	387	336
Non-Labor	5,213	805	1,151	1,974	1,918
NSE	0	0	0	0	0
Total	6,236	1,598	1,479	2,361	2,254
FTE	11.3	4.1	2.8	3.4	3.7

* 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
Category:	B. DIMP
Category-Sub:	1. DIMP
Workpaper:	1TD002.000 - DIMP

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs								
	Years	2017	2018	2019	2020	2021		
Labor		0	0	0	0	2		
Non-Labor		0	0	0	0	1		
NSE		0	0	0	0	0		
	Total	0	0	0	0	3		
FTE		0.0	0.0	0.0	0.0	0.1		

Detail of Adjustments to Recorded:

Year		<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type
2017 Total		0	0	0	0.0	
2018 Total		0	0	0	0.0	
2019 Total		0	0	0	0.0	
2020 Total		0	0	0	0.0	
2021		2	1	0	0.1	CCTR Transf To 2100-0310.000
Explanation:	Transfer costs for D	IMP DCRR or	der 53000022176	63 from GO	GD WKP 1G	D004 to GOTD WKP 1TD002.
2021 Total		2	1	0	0.1	

Area:	GAS INTEGRITY PROGRAMS
Witness:	Amy Kitson
Category:	B. DIMP
Category-Sub:	1. DIMP
Workpaper:	1TD002.000 - DIMP

RAMP Item # 1

RAMP Activity

RAMP Chapter: SDG&E-Risk-9 Incident Related to the Medium Pressure System (Excluding Dig-in)

RAMP Line Item ID: C16 T1

RAMP Line Item Name: Distribution Integrity Management Program (DIMP)

Tranche(/s): Tranche1: Plastic - Main (VIPP)

GRC Forecast Cost Estimates (\$000)

	2021 Historical Embedded Cost	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP Range (2020 Incurred \$)	
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	2,254	2,627	2,960	2,866	2,850	3,300

Cost Estimate Changes from RAMP:

At the time of the RAMP report, C16 included shared services from SoCalGas. These same costs have been excluded from 1TD002.000 and are presented in 2200-7001. Since the RAMP report, including the shared services costs, cost estimates have increased immaterially due to expanded management activities.

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 RA Range Act	
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 No feasible units	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	0.200	3.400					
RSE Changes from RAMP: Refer to Capital workpapers.							

Area:GAS INTEGRITY PROGRAMSWitness:Amy KitsonCategory:C. FIMPWorkpaper:1TD004.000

Summary for Category: C. FIMP

	In 2021\$ (000) Incurred Costs								
	Adjusted-Recorded	Adjusted-Forecast							
	2021	2022	2023	2024					
Labor	0	0	0	0					
Non-Labor	0	0	0	258					
NSE	0	0	0	0					
Total	0	0	0	258					
FTE	0.0	0.0	0.0	0.0					

Workpapers belonging to this Category:

1TD004.000 FIMP				
Labor	0	0	0	0
Non-Labor	0	0	0	258
NSE	0	0	0	0
Total	0	0	0	258
FTE	0.0	0.0	0.0	0.0

Beginning of Workpaper 1TD004.000 - FIMP

Area:GAS INTEGRITY PROGRAMSWitness:Amy KitsonCategory:C. FIMPCategory-Sub1. FIMPWorkpaper:1TD004.000 - FIMP

Activity Description:

FIMP is a newly developed integrity management program that will enhance the safety of facilities in the SDG&E natural gas system by applying integrity management principles to facility equipment. FIMP includes facilities such as compressor stations, pressure limiting stations, natural gas vehicle stations, renewable natural gas facilities and associated equipment. FIMP O&M activities include inspections, remediation, and other associated activities.

Forecast Explanations:

Labor - Zero-Based

SDG&E company labor in support of the FIMP.

Non-Labor - Zero-Based

SDG&E non-labor costs (e.g., contracts) in support of the FIMP.

NSE - Zero-Based

N/A

Summary of Results:

	In 2021\$ (000) Incurred Costs							
		Adju	isted-Recor	ded		Ad	justed-Fored	cast
Years	2017	2018	2019	2020	2021	2022	2023	2024
Labor	0	0	0	0	0	0	0	0
Non-Labor	0	0	0	0	0	0	0	258
NSE	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	258
FTE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Area:	GAS INTEGRITY PROGRAMS
Witness:	Amy Kitson
Category:	C. FIMP
Category-Sub:	1. FIMP
Workpaper:	1TD004.000 - FIMP

Summary of Adjustments to Forecast:

			In 202	1 \$(000) l	ncurred Co	sts				
Forecas	t Method	Base Forecast			Forec	ast Adjust	ments	Adjus	sted-Forec	ast
Years	S	2022	2023	2024	2022	2023	2024	2022	2023	2024
Labor	Zero-Based	0	0	0	0	0	0	0	0	0
Non-Labor	Zero-Based	0	0	0	0	0	258	0	0	258
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Tota	d	0	0	0	0	0	258	0	0	258
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Forecast Adjustment Details:

Year	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj Type		
2022 Total	0	0	0	0	0.0			
2023 Total	0	0	0	0	0.0			
2024	0	40	0	40	0.0	1-Sided Adj		
Explanation:	Zero-based forecast for FIMP Transmission activities. The FIMP will be a new incremental program in 2024 that provides a comprehensive, systematic, and integrated approach for managing and enhancing the safety and integrity of facilities and associated equipment. Costs include activities related to program development; pressure vessel, tank, and electrical equipment inspections and remediation for 1 transmission station; data collection, integration, and management; and process improvement. Refer to supplemental workpapers in workpaper 1TD004.000 for more detail.							
2024	0	218	0	218	0.0	1-Sided Adj		
Explanation:	Zero-based forecast for FIMP Distribution activities. The FIMP will be a new incremental program in 2024 that provides a comprehensive, systematic, and integrated approach for managing and enhancing the safety and integrity of facilities and associated equipment. Costs include activities related to program development; pressure vessel, tank, and electrical equipment inspections and remediation for 6 NGV stations; data collection, integration, and management; and process improvement. Refer to supplemental workpapers in workpaper 1TD004.000 for more detail.							
2024 Total	0	258	0	258	0.0			

Area:	GAS INTEGRITY PROGRAMS
Witness:	Amy Kitson
Category:	C. FIMP
Category-Sub:	1. FIMP
Workpaper:	1TD004.000 - FIMP

Determination of Adjusted-Recorded (Incurred Costs):

	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
ecorded (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
djustments (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
ecorded-Adjusted (Nomin	al \$)				
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
acation & 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
scalation 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	0
FTE	0.0	0.0	0.0	0.0	0.0
ecorded-Adjusted (Consta	ant 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
Category:	C. FIMP
Category-Sub:	1. FIMP
Workpaper:	1TD004.000 - FIMP

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs								
	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		

Year	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>

Area:	GAS INTEGRITY PROGRAMS
Witness:	Amy Kitson
Category:	C. FIMP
Category-Sub:	1. FIMP
Workpaper:	1TD004.000 - FIMP

RAMP Item # 1

RAMP Activity

RAMP Chapter: SDG&E-Risk-3 Incident Related to the High Pressure System (Excluding Dig-in)

RAMP Line Item ID: NEW 04

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

Tranche(/s): Tranche1: Transmission Facilities

GRC Forecast Cost Estimates (\$000)

	2021 Historical Embedded Cost	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP Ra (2020 Incu	ange
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	0	0	0	40	0	0

Cost Estimate Changes from RAMP:

Applying the FIMP to SDG&E transmission facilities was not considered at the time of the RAMP report. This update supports the application of integrity management processes above and beyond existing operational activities and is intended to enhance processes for managing the safety and integrity of facilities infrastructure. Refer to supplemental workpapers in workpaper 1TD004.000 for more detail.

GRC Work Unit/Activity Le	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP Range Activities	
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 # of assets assessed - Stations	0.00	0.00	0.00	1.00	0.00	0.00

Work Unit Changes from RAMP:

As noted above, applying the FIMP to SDG&E transmission facilities was not considered at the time of the RAMP report. The updated forecast of 2024 scope includes pressure vessels and electrical equipment at 1 station.

Risk Spend Efficiency (RSE)			
	GRC RSE	RAMP RSE	
Tranche 1	42.500	0.000	
RSE Changes from RAMP: RSE Score has been calculated si	nce RAMP report.		

Area:	GAS INTEGRITY PROGRAMS
Witness:	Amy Kitson
Category:	C. FIMP
Category-Sub:	1. FIMP
Workpaper:	1TD004.000 - FIMP

RAMP Item # 2

RAMP Activity

RAMP Chapter: SDG&E-Risk-3 Incident Related to the High Pressure System (Excluding Dig-in)

RAMP Line Item ID: NEW 01

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

Tranche(/s): Tranche1: Supply Line - Facilities

GRC Forecast Cost Estimates (\$000)

	2021 Historical Embedded Cost	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP Ra (2020 Incu	ange
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	0	0	0	218	0	0

Cost Estimate Changes from RAMP:

Applying the FIMP to SDG&E distribution facilities was not considered at the time of the RAMP report. This update supports the application of integrity management processes above and beyond existing operational activities and is intended to enhance processes for managing the safety and integrity of facilities infrastructure. Refer to supplemental workpapers in workpaper 1TD004.000 for more detail.

GRC Work Unit/Activity Level Estimates 2021 Historical 2022 2023 2024 2024 RAMP Embedded **Range Activities** Unit of Forecast Forecast Forecast Measure Activities Activities Activities Activities Low Tranche 1 # of assets 0.00 0.00 0.00 6.00 0.00

High

0.00

assessed - Facilities

Work Unit Changes from RAMP:

As noted above, applying the FIMP to SDG&E distribution facilities was not considered at the time of the RAMP report. The updated forecast of 2024 scope includes pressure vessels and electrical equipment at 6 NGV facilities.

Risk Spend Efficiency (RSE)			
	GRC RSE	RAMP RSE	
Tranche 1	20.700	0.000	
RSE Changes from RAMP: RSE Score has been calculated sir	nce RAMP report.		

Supplemental Workpapers for Workpaper 1TD004.000

FIMP SDG&E O&M Supplemental Workpaper

	Table 1: 2024 SDG&E O&M Forecast								
Organization	Workpaper #	Category	Labor	Non-labor	Total	Units	Unit Measure	\$/Unit	Narrative
Data Management		Data Management	ŝū	\$81,000	\$81,000	0	ş -		Data management costs include data collection, record research, data entry and data integration. In addition, this cost includes process improvement by implementing an inspection workflow lifecycle solution to track fixed equipment inspections throughout the lifecycle of the equipment.
	Distribution 110004.000		\$0	\$136,500	\$136,500	6	Facilities		Electrical equipment costs include planning and scheduling support for inspections, NFPA 70B inspections, repairs and remediations resulting from inspections at SDG&E' six Natural Gas Vehicle stations.
Total Distribution			\$0	\$217,500	\$217,500				
		Electrical Equipment	\$0	\$10,000	\$10,000	1	Stations		Electrical equipment costs include planning and scheduling support for inspections, NFPA 70B inspections, repairs and remediations resulting from inspections at 1 transmission facility.
Transmission	1TD004.000	Fixed Equipment	\$0	\$30,000	\$30,000	1	Stations		Fixed equipment costs include pressure vessels preassessment, assessment and post assessment activities for approximately 10 vessels at 1 transmission facility. These activities include planning, scheduling, equipment preparation for inspection, inspection and data analysis, post inspection data QA/QC, repairs and alterations as a result of inspections.
Total Transmission			\$0	\$40,000	\$40,000				
Total Combined			\$0	\$257,500	\$257,500				

Area:GAS INTEGRITY PROGRAMSWitness:Amy KitsonCategory:D. GSEPWorkpaper:1TD005.000

Summary for Category: D. GSEP

	In 2021\$ (000) Incurred Costs							
	Adjusted-Recorded	Adjusted-Recorded Adjusted-Forecast						
	2021	2022	2023	2024				
Labor	0	0	27	26				
Non-Labor	0	0	108	104				
NSE	0	0	0	0				
Total	0	0	135	130				
FTE	0.0	0.0	0.4	0.4				

Workpapers belonging to this Category:

1TD005.000 Gas Safety Enhancement Programs

Labor	0	0	27	26
Non-Labor	0	0	108	104
NSE	0	0	0	0
Total	0	0	135	130
FTE	0.0	0.0	0.4	0.4

Beginning of Workpaper 1TD005.000 - Gas Safety Enhancement Programs

Area:	GAS INTEGRITY PROGRAMS
Witness:	Amy Kitson
Category:	D. GSEP
Category-Sub	1. Gas Rules & Regulations Implementation
Workpaper:	1TD005.000 - Gas Safety Enhancement Programs

Activity Description:

Implementation of new gas safety rules and regulations activities as follows: MAOP Reconfirmation as required by PHMSA's Gas Transmission Safety Rule (GTSR) Part 1 (49 CFR 192.624); GTSR Part 2, which includes corrosion management and remediation measures; and the Valve Installation and Minimum Rupture Standards Rule (Valve Rule).

Forecast Explanations:

Labor - Zero-Based

SDG&E company labor to implement and comply with new gas safety rules and regulations requirements.

Non-Labor - Zero-Based

SDG&E non-labor costs (e.g., contracts) in support of implementing and complying with new gas safety rules and regulations.

NSE - Zero-Based

N/A

Summary of Results:

		Adju	isted-Recor	ded		Adjusted-Forecast			
Years	2017	2018	2019	2020	2021	2022	2023	2024	
Labor	0	0	0	0	0	0	27	26	
Non-Labor	0	0	0	0	0	0	108	104	
NSE	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	135	130	
FTE	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	

Area:	GAS INTEGRITY PROGRAMS
Witness:	Amy Kitson
Category:	D. GSEP
Category-Sub:	1. Gas Rules & Regulations Implementation
Workpaper:	1TD005.000 - Gas Safety Enhancement Programs

Summary of Adjustments to Forecast:

			In 202	1 \$(000) l	ncurred Co	sts				
Forecas	t Method	Ba	Base Forecast			ast Adjust	ments	Adjusted-Forecast		
Years		2022	2023 2024		2022	2023	2024	2022	2023	2024
Labor	Zero-Based	0	0	0	0	27	26	0	27	26
Non-Labor	Zero-Based	0	0	0	0	108	104	0	108	104
NSE	Zero-Based	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	135	130	0	135	130
FTE	Zero-Based	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.4	0.4

Forecast Adjustment Details:

<u>Year</u>	Labor	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	<u>Adj Type</u>		
2022 Total	0	0	0	0	0.0			
2023	18	72	0	90	0.2	1-Sided Adj		
Explanation:		ro-based forecast for reconfirming pipeline MAOP as required by the GTSR Part 1. Refer to oplemental workpapers in workpaper 1TD005.000 for more detail.						
2023	3	10	0	13	0.1	1-Sided Adj		
Explanation:	Zero-based forecast for workpaper 1TD005.000		•	tivities. Refe	r to supplemen	tal workpapers in		
2023	6	26	0	32	0.1	1-Sided Adj		
Explanation:	Zero-based forecast for workpaper 1TD005.000		-	vities. Refer to	o supplementa	l workpapers in		
2023 Total	27	108	0	135	0.4			
2024	18	72	0	90	0.2	1-Sided Adj		
2024 Explanation:	18 Zero-based forecast for supplemental workpaper	reconfirming p	ipeline MAOF	as required	by the GTSR I	,		
	Zero-based forecast for	reconfirming p	ipeline MAOF	as required	by the GTSR I	,		
Explanation:	Zero-based forecast for supplemental workpaper	reconfirming p rs in workpape 13 GTSR Part 2 c	ipeline MAOF r 1TD005.000 0 compliance ac	9 as required) for more de 16	by the GTSR F tail. 0.1	Part 1. Refer to		
Explanation: 2024	Zero-based forecast for supplemental workpaper 3 Zero-based forecast for	reconfirming p rs in workpape 13 GTSR Part 2 c	ipeline MAOF r 1TD005.000 0 compliance ac	9 as required) for more de 16	by the GTSR F tail. 0.1	Part 1. Refer to		
Explanation: 2024 Explanation:	Zero-based forecast for supplemental workpaper 3 Zero-based forecast for workpaper 1TD005.000	reconfirming p rs in workpape 13 GTSR Part 2 c for more detail 19 Valve Rule cor	ipeline MAOF r 1TD005.00(ompliance ac 0 npliance activ	P as required) for more det 16 stivities. Refer	by the GTSR F tail. 0.1 r to supplemen 0.1	Part 1. Refer to 1-Sided Adj tal workpapers in 1-Sided Adj		

Note: Totals may include rounding differences. SDG&E/GAS INTEGRITY PROGRAMS/Exh No:SDG&E-09-WP/Witness: A. Kitson Page 32 of 44

Area:	GAS INTEGRITY PROGRAMS
Witness:	Amy Kitson
Category:	D. GSEP
Category-Sub:	1. Gas Rules & Regulations Implementation
Workpaper:	1TD005.000 - Gas Safety Enhancement Programs

Determination of Adjusted-Recorded (Incurred Costs):

	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
ecorded (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
djustments (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
ecorded-Adjusted (Nomin	al \$)				
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
acation & 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
scalation 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	0
FTE	0.0	0.0	0.0	0.0	0.0
ecorded-Adjusted (Consta	ant 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 *Note: Totals may include rounding differences.*

SDG&E/GAS INTEGRITY PROGRAMS/Exh No:SDG&E-09-WP/Witness: A. Kitson Page 33 of 44

Area:	GAS INTEGRITY PROGRAMS
Witness:	Amy Kitson
Category:	D. GSEP
Category-Sub:	1. Gas Rules & Regulations Implementation
Workpaper:	1TD005.000 - Gas Safety Enhancement Programs

Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs								
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		

Year	Labor	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type

Area:	GAS INTEGRITY PROGRAMS
Witness:	Amy Kitson
Category:	D. GSEP
Category-Sub:	1. Gas Rules & Regulations Implementation
Workpaper:	1TD005.000 - Gas Safety Enhancement Programs

RAMP Item # 1

RAMP Activity

RAMP Chapter: SDG&E-Risk-3 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 Estimates (\$000)

	2021 Historical Embedded Cost	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP R (2020 Incu	ange
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	0	0	32	24	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							
Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 RA Range Act		
Measure	Activities	Activities	Activities	Activities	Low	High	
Tranche 1 No feasible units	0.00	0.00	0.00	0.00	0.00	0.00	

Work Unit Changes from RAMP:

Since O&M costs are driven by capital activities, units are presented in workpaper X03670.

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

Area:	GAS INTEGRITY PROGRAMS
Witness:	Amy Kitson
Category:	D. GSEP
Category-Sub:	1. Gas Rules & Regulations Implementation
Workpaper:	1TD005.000 - Gas Safety Enhancement Programs

RAMP Item # 2

RAMP Activity

RAMP Chapter: SDG&E-Risk-3 Incident Related to the High Pressure System (Excluding Dig-in)

RAMP Line Item ID: M02 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 Estimates (\$000)

	2021 Historical Embedded Cost	2022 Forecast	2023 Forecast	2024 Forecast	202 RAMP F (2020 Inc	Range
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	0	0	69	69	6,480	20,736
Tranche 2 Cost Estimate	0	0	21	21	270	864

Cost Estimate Changes from RAMP:

Since the RAMP report, pressure testing costs are forecasted as capital expenditures based on FERC guidance (refer to testimony); costs have generally shifted to the capital workpapers and remaining O&M costs are driven by program management activities.

GRC Work Unit/Activity Leve	<u>l Estimates</u>					
Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 RA Range Act	tivities
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 No feasible units	0.00	0.00	0.00	0.00	2.40	8.16
Tranche 2 No feasible units	0.00	0.00	0.00	0.00	0.10	0.34

Work Unit Changes from RAMP:

Since the RAMP report, pressure testing costs are forecasted as capital expenditures based on FERC guidance (refer to testimony). O&M costs consist of program management activities (e.g., data management and reporting) and identifying a unit of measure is not feasible. Refer to workpaper 214770.001 for unit forecasts.

GRC RSE	RAMP RSE	
5.400	6.900	
7.600	4.100	
	5.400	5.400 6.900

Area:	GAS INTEGRITY PROGRAMS
Witness:	Amy Kitson
Category:	D. GSEP
Category-Sub:	1. Gas Rules & Regulations Implementation
Workpaper:	1TD005.000 - Gas Safety Enhancement Programs

RSE Changes from RAMP:

RSE inputs have changed since the RAMP report.

RAMP Item # 3

RAMP Activity

RAMP Chapter: SDG&E-Risk-3 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 Estimates (\$000)

	2021 Historical Embedded Cost	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP R (2020 Incu	ange
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	0	0	13	16	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 Leve	Estimates					
Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 RA Range Act	
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 No feasible units	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 1TD005.000 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 Rep	ort.		

Supplemental Workpapers for Workpaper 1TD005.000

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

SDGE O&M Supplemental Workpaper

Workpaper: 1TD005.000

Workpaper for Shared Services: 2200.7003

	Labo	or	Nor	n-Labor	Sha	red Services	Tot	al
2021	\$	-	\$	-	\$	-	\$	-
2022	\$	-	\$	-	\$	-	\$	-
2023	\$	18,000.00	\$	72,000.00	\$	10,000.00	\$	100,000.00
2024	\$	18,000.00	\$	72,000.00	\$	10,000.00	\$	100,000.00
2025	\$	18,000.00	\$	72,000.00	\$	10,000.00	\$	100,000.00
2026	\$	18,000.00	\$	72,000.00	\$	10,000.00	\$	100,000.00
2027	\$	18,000.00	\$	72,000.00	\$	10,000.00	\$	100,000.00

**based in SME input

O&*M* costs may include elements of program management such as reporting, training, etc.

Non-Shared Service Workpapers

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

	CY2022 Coating Survey	CY2023 Coating Survey	CY2024 Coating Survey	CY2025 Coating Survey	CY2026 Coating	CY2027 Coating
	Scope	Scope	Scope	Scope	Survey Scope	Survey Scope
Item	(feet/year)	(feet/year)	(feet/year)	(feet/year)	(feet/year)	(feet/year)
Class 1	-	158,024.39	8,943.73	-	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	-

Area	Coat	ing Survey Cost (\$/mile)	 g Survey Cost \$/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

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 foot.

tterage itemediaders magaden eeete per ieeu							
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		CY2026 Program		C١	2027 Program
	Estimate	Estimate Estimate		Estimate		Estimate			Estimate	
Item	(2021 dollars)		(2021 dollars)	(2021 dollars)		(2021 dollars)	(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

ltem	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
	Item	(2021 dollars)	(2021 dollars)				
Workpaper	SoCalGas						
X03670.003	Capital	0	\$ 858,229.68	\$ 55,344.94	\$ 442,946.99	\$ 1,317,798.00	\$-
2TD005.000	0&M	0	\$ 45,169.98	\$ 2,912.89	\$ 23,313.00	\$ 69,357.79	\$-
	SoCalGas Total	0	\$ 903,399.67	\$ 58,257.83	\$ 466,259.99	\$ 1,387,155.79	\$-
	SDG&E						
214770.003	Capital	0	\$ 54,780.62	\$ 3,532.66	\$ 28,273.21	\$ 84,114.77	\$-
1TD005.000	0&M	0	\$ 2,594.87	\$ 167.34	\$ 1,339.26	\$ 3,984.38	\$-
2200.7003	Shared Services	0	\$ 288.32	\$ 18.59	\$ 148.81	\$ 442.71	\$-
	SDG&E Total	0	\$ 57,663.81	\$ 3,718.58	\$ 29,761.28	\$ 88,541.86	\$-
	Grand Total	0	\$ 961,063.47	\$ 61,976.41	\$ 496,021.27	\$ 1,475,697.65	\$-

SDG&E/GAS INTEGRITY PROGRAMS/Exh No:SDG&E-09-WP/Witness: A. Kitson Page 40 of 44

Non-Shared Service Workpapers

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

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

	Close	Interval Survey	CIS Cost
Area	C	ost (\$/mile)	(\$/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.

ltem	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	C	2026 Program	CY	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								

Notes

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

Program Scaling Factors

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

Notes

Notes

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

Shared Service Factor Capital vs. O&M Distribution Factors Shared Services Distribution ltem CY2022 Item CY2022 (unitless) (unitless) SoCalGas 0.94 Capital 0.95 SDG&E O&M 0.06 0.05 Same assumptions as for 192.461 and 192.319

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
	Item	(2021 dollars)	(2021 dollars)	(2021 dollars)	(2021 dollars)	(2021 dollars)	(2021 dollars)
Workpaper	SoCalGas						
X03670.003	Capital	0	\$ 3,116,895.07	\$ 4,949,022.68	\$ 5,710,410.78	\$ 6,471,798.88	\$ 7,613,881.04
2TD005.000	0&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						
214770.003	Capital	0	\$ 198,950.75	\$ 315,895.06	\$ 364,494.31	\$ 413,093.55	\$ 485,992.41
1TD005.000	0&M	0	\$ 9,423.98	\$ 14,963.45	\$ 17,270.02	\$ 19,567.59	\$ 23,020.69
2200.7003	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

Non-Shared Service Workpapers

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								
Item	CY2022 Interference Current Survey Scope (miles/year)	CY2023 Interference Current Survey Scope (miles/year)	CY2024 Interference Current Survey Scope (miles/year)	CY2025 Interference Current Survey Scope (miles/year)	CY2026 Interference Current Survey Scope (miles/year)	CY2027 Interference Current Survey Scope (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

	interie	and current
	Su	rvey 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.

Item	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

	CY2022 Program			CY2023 Program		CY2024 Program		CY2025 Program	C	Y2026 Program	CY2	2027 Program
	Estimate		Estimate		Estimate		Estimate		Estimate		Estimate	
Item		(2021 dollars)		(2021 dollars)		(2021 dollars)		(2021 dollars)		(2021 dollars)	(2	021 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 It is assumed interference current studies will take one year and AC mitigation will take one year												

Program Scaling Factors

	Ramp Up					
Item	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
Same assumptions as for	192.461 and 192.319

Sapital VS. Okivi Distribu	ILION FACIOIS
Item	Distribution CY2022 (unitless)
Capital	0.95
D&M	0.05

ital ve. O&M Distribution Factor

Notes

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

		CY2022 Program	0	CY2023 Program	CY2024 Program	CY2025 Program	C١	2026 Program	CY2	027 Program
		Estimate		Estimate	Estimate	Estimate		Estimate		Estimate
	Item	(2021 dollars)		(2021 dollars)	(2021 dollars)	(2021 dollars)		2021 dollars)	(2	021 dollars)
Workpaper	SoCalGas									
X03670.003	Capital	0	\$	168,268.15	\$ 218,748.60	\$ 252,402.23	\$	286,055.86	\$	336,536.31
2TD005.000	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									
214770.003	Capital	0	\$	10,740.52	\$ 13,962.68	\$ 16,110.78	\$	18,258.88	\$	21,481.04
1TD005.000	0&M	0	\$	508.76	\$ 661.39	\$ 763.14	\$	864.89	\$	1,017.52
2200.7003	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

Non-Shared Service Workpapers

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	

	CY2022	CY2023	CY2024	CY2025	CY2026	CY2027
Project Name	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)

ltem	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	\$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

ltem	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							Workpaper
Capital	\$0.00	\$9,596,178.00	\$7,233,300.00	\$7,908,408.00	\$7,908,408.00	\$7,908,408.00	X03670.005
O&M	\$0.00	\$505,062.00	\$380,700.00	\$416,232.00	\$416,232.00	\$416,232.00	2TD005.000
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	214770.005
O&M	\$0.00	\$32,238.00	\$24,300.00	\$26,568.00	\$26,568.00	\$26,568.00	1TD005.000
Shared Services	\$0.00	\$ 3,223.80	\$ 2,430.00	\$ 2,656.80	\$ 2,656.80	\$ 2,656.80	2200.7003
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]

Area: GAS INTEGRITY PROGRAMS

Witness:

Amy Kitson

Appendix A: List of Non-Shared Cost Centers

Cost Center	Sub	Description
2100-0167	000	GAS DISTRIBUTION SERVICES DIRECTOR-TIMP
2100-3419	000	PIPELINE INTEGRITY CONSTRUCTION SDG&E
2100-3569	000	INTEGRITY MANAGEMENT SDG&E
2100-3595	000	SDG&E PIPELINE INTEGRITY EVALUATIONS-TIMP
2100-3827	000	retired.GAS INFRASTRUCTURE PROTECTION PROJECT-Trans
2100-3828	000	retired.PROJ MGR - SEWER LATERAL INSPECT PRGM-TIMP
2100-3902	000	retired.PROJ MGR - ANODLESS RISER PRGM-TIMP
2100-3909	000	GIS STRATEGY & APPS-TIMP
2100-4051	000	PI CONTRACTS & MATLS
2100-4160	000	GTSR Program Management
2100-4161	000	FIMP (Facilities Integrity Management Program)
2100-7002	000	FIMP (Facilities Integrity Management Program)