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. 22-05-016

Exhibit No.: (SDG&E-13-WP-R)

# REVISED WORKPAPERS TO PREPARED DIRECT TESTIMONY OF JONATHAN WOLDEMARIAM ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

# BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

AUGUST 2022



# 2024 General Rate Case - REVISED INDEX OF WORKPAPERS

## Exhibit SDG&E-13-WP-R - WILDFIRE MITIGATION & VEGETATION MANAGEMENT

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### Overall Summary For Exhibit No. SDG&E-13-WP-R

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Description
Non-Shared Services
Shared Services
Total

In 2021 \$ (000) Incurred Costs							
Adjusted-Recorded Adjusted-Forecast							
2021	2022	2023	2024				
168,436	242,150	209,218	174,002				
0	0	0	0				
168.436	242.150	209,218	174,002				

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

### **Summary of Non-Shared Services Workpapers:**

Description
A. Emergency Planning & Preparedness
B. Situational Awareness and Forecasting
C. Grid Design & System Hardening
D. Asset Management & Inspections
E. Vegetation Mgmt & Insp
F. Vegetation Mgmt & Insp Tree Trimming Only
G. Grid Operations & Operating Protocols
H. Resource Allocation Methodology
I. Risk Assessment & Mapping
J. Data Governance
K. Stakeholder Cooperation & Community Engagement Total

	In 2021 \$ (000) Incurred Costs							
Adjusted- Recorded	Adjusted-Forecast							
2021	2022	2023	2024					
13,315	16,024	16,277	16,236					
2,994	3,469	3,728	3,877					
26,041	34,170	35,215	30,446					
36,949	85,912	48,751	15,375					
10,365	13,177	13,809	14,301					
52,195	56,080	54,375	55,622					
10,079	12,554	13,792	14,769					
3,823	5,761	7,748	7,748					
608	2,013	2,327	2,413					
1,082	1,425	1,631	1,650					
10,985	11,565	11,565	11,565					
168,436	242,150	209,218	174,002					

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: A. Emergency Planning & Preparedness

Workpaper: 1WM001.000

### Summary for Category: A. Emergency Planning & Preparedness

	In 2021\$ (000) Incurred Costs						
	Adjusted-Recorded		Adjusted-Forecast				
	2021	2022	2023	2024			
Labor	3,775	3,979	4,556	5,051			
Non-Labor	9,540	12,045	11,721	11,185			
NSE	0	0	0	0			
Total	13,315	16,024	16,277	16,236			
FTE	27.7	29.7	35.5	43.5			

### Workpapers belonging to this Category:

### 1WM001.000 Emergency Planning & Preparedness

Labor	3,775	3,979	4,556	5,051
Non-Labor	9,540	12,045	11,721	11,185
NSE	0	0	0	0
Total	13,315	16,024	16,277	16,236
FTE	27.7	29.7	35.5	43.5

Beginning of Workpaper

1WM001.000 - Emergency Planning & Preparedness

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: A. Emergency Planning & Preparedness
Category-Sub 1. Emergency Planning & Preparedness

Workpaper: 1WM001.000 - Emergency Planning & Preparedness

### **Activity Description:**

The mission of the SDG&E Emergency Management department is to coordinate safe and effective emergency preparedness for the Company, the public, and emergency response personnel. That mission extends to safely and efficiently preparing for, responding to, and recovering from all threats and hazards through strategic planning, training and exercising, and a sustained Quality Assurance and Improvement process. The Emergency Planning & Preparedness cost category comprises of five divisions: (1) Emergency Services Division, (2) Operational Field and Emergency Readiness, (3) Aviation Services, (4) Training and Exercise, and (5) Emergency Management Technology Solutions.

#### **Forecast Explanations:**

#### Labor - Base YR Rec

The base-year forecast methodology was selected as most indicative of future work. New initiatives and programs have been implemented beginning in 2020 due to the Wildfire Mitigation Plan, and these enhancements are not captured in the historical costs of this category. Accordingly, 2021 base year expenses are most representative of future needs based on an expansion in complexity and scope of existing projects and initiatives.

#### Non-Labor - Base YR Rec

The base-year forecast methodology was selected as most indicative of future work. New initiatives and programs have been implemented beginning in 2020 due to the Wildfire Mitigation Plan, and these enhancements are not captured in the historical costs of this category. Accordingly, 2021 base year expenses are most representative of future needs based on an expansion in complexity and scope of existing projects and initiatives.

### **NSE - Base YR Rec**

Not applicable.

### **Summary of Results:**

[	In 2021\$ (000) Incurred Costs							
		Adjι	ısted-Recor	ded		Ad	justed-Fore	cast
Years	2017	2018	2019	2020	2021	2022	2023	2024
Labor	2,230	839	4,374	5,510	3,775	3,979	4,556	5,051
Non-Labor	2,197	2,312	3,018	8,525	9,540	12,045	11,721	11,185
NSE	0	0	0	0	0	0	0	0
Total	4,427	3,150	7,392	14,035	13,315	16,024	16,277	16,236
FTE	14.5	7.3	26.2	34.1	27.7	29.7	35.5	43.5

Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: A. Emergency Planning & Preparedness
Category-Sub: 1. Emergency Planning & Preparedness

Workpaper: 1WM001.000 - Emergency Planning & Preparedness

### **Summary of Adjustments to Forecast:**

In 2021 \$(000) Incurred Costs											
Forecas	t Method	Bas	Base Forecast			Forecast Adjustments			Adjusted-Forecast		
Years	s	2022	2023	2024 2022 2023 2024			2022	2023	2024		
Labor	Base YR Rec	3,775	3,775	3,775	204	781	1,276	3,979	4,556	5,051	
Non-Labor	Base YR Rec	9,540	9,540	9,540	2,505	2,181	1,645	12,045	11,721	11,185	
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0	
Tota	ıl	13,315	13,315	13,315	2,709	2,962	2,921	16,024	16,277	16,236	
FTE	Base YR Rec	27.7	27.7	27.7	2.0	7.8	15.8	29.7	35.5	43.5	

#### **Forecast Adjustment Details:**

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj Type	
2022	204	2,505	0	2,709	2.0	1-Sided Adj	
Explanation:	Increased forecast prima	arily related to	Emergency M	Management	department and	d emergency event	

increases.

See supplemental workpaper for adjustment details.

2022 Total	204	2,505	0	2,709	2.0	
2023	781	2,181	0	2,962	7.8	1-Sided Adj

Explanation: Increased forecast primarily related to Emergency Management department and emergency event

increases.

See supplemental workpaper for adjustment details.

2023 Total	781	2,181	0	2,962	7.8	
2024	1,276	1,645	0	2,921	15.8	1-Sided Adj
Explanation:	Increased forecast prima	arily related to	Emergency M	anagement	department and	emergency event

increases.

See supplemental workpaper for adjustment details.

2024 Total	1,276	1,645	0	2,921	15.8

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: A. Emergency Planning & Preparedness
Category-Sub: 1. Emergency Planning & Preparedness

Workpaper: 1WM001.000 - Emergency Planning & Preparedness

### **Determination of Adjusted-Recorded (Incurred Costs):**

•	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	828	664	721	97	3,282
Non-Labor	684	1,220	1,155	472	9,602
NSE	0	0	0	0	0
Total	1,512	1,884	1,875	569	12,884
FTE	7.7	5.9	5.9	1.1	23.8
djustments (Nominal \$) *					
Labor	911	7	2,895	4,579	0
Non-Labor	1,236	869	1,640	7,408	-62
NSE	0	0	0	0	0
Total	2,147	875	4,535	11,987	-62
FTE	4.8	0.4	16.7	28.3	0.0
ecorded-Adjusted (Nomir	nal \$)				
Labor	1,739	671	3,615	4,676	3,282
Non-Labor	1,920	2,089	2,795	7,880	9,540
NSE	0	0	0	0	0
Total	3,659	2,759	6,410	12,556	12,822
FTE	12.4	6.3	22.6	29.4	23.7
acation & Sick (Nominal \$	5)				
Labor	258	102	518	663	493
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	258	102	518	663	493
FTE	2.1	1.0	3.6	4.7	4.0
scalation to 2021\$					
Labor	232	66	241	171	0
Non-Labor	277	223	223	644	0
NSE	0	0	0	0	0
Total	509	289	464	815	0
FTE	0.0	0.0	0.0	0.0	0.0
ecorded-Adjusted (Const	ant 2021\$)				
Labor	2,230	839	4,374	5,510	3,775
Non-Labor	2,197	2,312	3,018	8,525	9,540
NSE	0	0	0	0	0
Total	4,427	3,150	7,392	14,035	13,315
FTE	14.5	7.3	26.2	34.1	27.7

<sup>\*</sup> After company-wide exclusions of Non-GRC costs

<sup>\*\*</sup> Refer to "Detail of Adjustments to Recorded" page for line item adjustments

### Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: A. Emergency Planning & Preparedness
Category-Sub: 1. Emergency Planning & Preparedness

Workpaper: 1WM001.000 - Emergency Planning & Preparedness

### Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs											
_	Years	2017	2018	2019	2020	2021					
Labor	-	911	7	2,895	4,579	0					
Non-Labor		1,236	869	1,640	7,408	-62					
NSE		0	0	0	0	0					
	Total	2,147	875	4,535	11,987	-62					
FTE		4.8	0.4	16.7	28.3	0.0					

### Detail of Adjustments to Recorded:

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type						
2017	-5	-4	0	-0.1	1-Sided Adj						
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).										
2017	916	1,233	0	5.0	CCTR Transf From 2100-4089.000						
Explanation:	Transfer Labor, FTEs, and Non-Labor associated with Emergency Planning & Preparedness from Workpaper 1WM007 Resource Allocation Methodology to Workpaper 1WM001 Emergency Planning & Preparedness in cost center 2100-3962 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.										
2017	0	0	0	-0.1	1-Sided Adj						
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).										
2017	0	8	0	0.0	CCTR Transf From 2100-3773.000						
Explanation:	Transfer Non-Labor associated with Ops & Protocols to Workpaper 1W align costs where they are reflected	M001 Emergen	cy Planning	& Preparedr	ness in cost center 2100-3962 to						
2017	0	0	0	0.0	1-Sided Adj						
Explanation:	Incremental costs that are anticipat Memorandum Account (CEMA).	ted to be reques	sted for reco	very through	a non-GRC Catastrophic Event						
2017 Total	911	1,236	0	4.8							
2018	3	-114	0	0.1	1-Sided Adj						
Explanation:	Incremental costs that are anticipal Memorandum Account (CEMA).	ted to be reques	sted for reco	very through	a non-GRC Catastrophic Event						
2018	0	0	0	0.0	CCTR Transf From 2100-0166.000						
Explanation:	Transfer Non-Labor associated with Vegetation Mgmt & Insp to Workpa 2100-3962 to align costs where the	per 1WM001 E	mergency P	lanning & Pr	eparedness in cost center						

### Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: A. Emergency Planning & Preparedness
Category-Sub: 1. Emergency Planning & Preparedness

Workpaper: 1WM001.000 - Emergency Planning & Preparedness

	1WM001.000		<b>9</b> 1			
<u>Year</u>		<u>Labor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type
2018		2	955	0	0.1	CCTR Transf From 2100-3761.000
Explanation:	1WM002 Situation	al Awareness a ost center 2100	and Forecasting	to Workpape	r 1WM001 E	paredness from Workpaper mergency Planning & cted in the Wildfire Mitigation Plan
2018		0	214	0	0.0	CCTR Transf From 2100-3773.000
Explanation:	Ops & Protocols to	Workpaper 1\	VM001 Emerger	ncy Planning	& Preparedr	from Workpaper 1WM006 Grid less in cost center 2100-3962 to nitiative Categories.
2018		0	0	0	0.1	1-Sided Adj
Explanation:	Incremental costs to Memorandum Acco	-	ated to be reque	ested for reco	very through	a non-GRC Catastrophic Event
2018		0	-278	0	0.0	1-Sided Adj
Explanation:	Incremental costs to Memorandum Acco		ated to be reque	sted for reco	very through	a non-GRC Catastrophic Event
2018		2	90	0	0.1	CCTR Transf From 2100-3963.000
Explanation:	1WM002 Situation	al Awareness a ost center 2100	and Forecasting	to Workpape	r 1WM001 E	paredness from Workpaper mergency Planning & cted in the Wildfire Mitigation Plan
2018		0	0	0	0.0	1-Sided Adj
	One sided adjustm					
Explanation:	One-sided adjustin	ent to exclude	\$19 related to E	vents and Ti	ckets.	
Explanation: 2018 Total	One-sided adjustin	ent to exclude <b>7</b>	\$19 related to E	vents and Ti	0.4	
	One-sided adjustin					CCTR Transf From 2100-3773.000
2018 Total	Transfer Non-Labo	<b>7</b> 0 or associated w 0 Workpaper 1V	869 4 ith Emergency F VM001 Emerger	<b>0</b> 0 Planning & Pr ncy Planning	0.4 0.0 reparedness & Preparedr	CCTR Transf From 2100-3773.000 from Workpaper 1WM006 Grid ness in cost center 2100-3962 to nitiative Categories.
<b>2018 Total</b> 2019	Transfer Non-Labo	<b>7</b> 0 or associated w 0 Workpaper 1V	869 4 ith Emergency F VM001 Emerger	<b>0</b> 0 Planning & Pr ncy Planning	0.4 0.0 reparedness & Preparedr	from Workpaper 1WM006 Grid ness in cost center 2100-3962 to
2018 Total 2019 Explanation:	Transfer Non-Labo Ops & Protocols to align costs where t Transfer Labor, FT 1WM007 Resource	7 0 or associated wo Workpaper 1\00000 chey are reflect 2,895 TEs, and Non-Le Allocation Me	4 ith Emergency F WM001 Emerger ed in the Wildfire 1,638 abor associated thodology to Wo	0 Planning & Property Planning Mitigation P 0 with Emerge	0.4  0.0 reparedness & Preparedr lan (WMP) li  16.7 rncy Planning	from Workpaper 1WM006 Grid ness in cost center 2100-3962 to nitiative Categories.
2018 Total 2019 Explanation:	Transfer Non-Labo Ops & Protocols to align costs where t Transfer Labor, FT 1WM007 Resource cost center 2100-3	7 0 or associated wo Workpaper 1\00000 chey are reflect 2,895 TEs, and Non-Le Allocation Me	4 ith Emergency F WM001 Emerger ed in the Wildfire 1,638 abor associated thodology to Wo	0 Planning & Property Planning Mitigation P 0 with Emerge	0.4  0.0 reparedness & Preparedr lan (WMP) li  16.7 rncy Planning	from Workpaper 1WM006 Grid ness in cost center 2100-3962 to nitiative Categories.  CCTR Transf From 2100-4089.000 g & Preparedness from Workpaper ency Planning & Preparedness in
2018 Total 2019 Explanation: 2019 Explanation:	Transfer Non-Labo Ops & Protocols to align costs where t  Transfer Labor, FT 1WM007 Resource cost center 2100-3 Categories.  Transfer Non-Labo Planning & Prepare	or associated we of Workpaper 11/2,895 TES, and Non-Le Allocation Me 1962 to align coordinated we dedness to Workpaper 11/2,895	4 ith Emergency F WM001 Emerger ed in the Wildfire 1,638 abor associated thodology to Wo sts where they a	0 Planning & Procy Planning Mitigation P 0 with Emergeorkpaper 1WI are reflected i 0 & System Ha	0.4  0.0 reparedness & Preparedr lan (WMP) In  16.7 rncy Planning M001 Emerg n the Wildfire  0.0 rdening from & System H	from Workpaper 1WM006 Grid less in cost center 2100-3962 to nitiative Categories.  CCTR Transf From 2100-4089.000  g & Preparedness from Workpaper lency Planning & Preparedness in e Mitigation Plan (WMP) Initiative

### Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: A. Emergency Planning & Preparedness
Category-Sub: 1. Emergency Planning & Preparedness

Workpaper: 1WM001.000 - Emergency Planning & Preparedness

vvorkpaper.	TWWWOOT.000 - Emergence		arcuriess							
<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type					
Explanation:	One-sided adjustment to exclud	le \$1,394 related to	Events and	Tickets.						
2019 Total	2,895	1,640	0	16.7						
2020	0	-328	0	0.0	1-Sided Adj					
Explanation:	Incremental 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 costs that are antic Memorandum Account (CEMA)	•	sted for recov	ery through	n a non-GRC Catastrophic Event					
2020	4,555	7,369	0	28.2	CCTR Transf From 2100-4089.000					
Explanation:	1WM007 Resource Allocation M	lethodology to Wo	rkpaper 1WM	1001 Emerg	g & Preparedness from Workpaper jency Planning & Preparedness in e Mitigation Plan (WMP) Initiative					
2020	-4	0	0	-0.1	1-Sided Adj					
Explanation:	Incremental costs that are antic Memorandum Account (CEMA)	•	sted for recov	ery through	n a non-GRC Catastrophic Event					
2020	0	174	0	0.0	CCTR Transf From 2100-0460.000					
Explanation:	Transfer historical Noggin 2.0 c	osts from IT chapte	er to Emerger	ncy Plannin	g & Preparedness chapter					
2020	29	24	0	0.3	CCTR Transf From 2100-3073.000					
Explanation:	Transfer historical Noggin 2.0 c		_		·					
2020	Transfer bistorical Nameio 200 a	196	0	0.0	CCTR Transf From 2100-3172.000					
Explanation:	Transfer historical Noggin 2.0 co		_		·					
2020 Explanation:	0 Incremental costs that are antic Memorandum Account (CEMA)	•	0 sted for recov	-0.1 ery through	1-Sided Adj n a non-GRC Catastrophic Event					
2020	0	-7	0	0.0	1-Sided Adj					
Explanation:	Incremental COVID-related cos Catastrophic Event Memorandu	· ·	-	uested for r	ecovery through a non-GRC					
2020	0	-17	0	0.0	1-Sided Adj					
Explanation:	Incremental COVID-related cos Catastrophic Event Memorandu	•		uested for re	ecovery through a non-GRC					
2020	0	-1	0	0.0	1-Sided Adj					
Explanation:	Incremental COVID-related cos Catastrophic Event Memorandu			uested for re	ecovery through a non-GRC					
2020	0	0	0	0.0	1-Sided Adj					

### Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: A. Emergency Planning & Preparedness
Category-Sub: 1. Emergency Planning & Preparedness

Workpaper: 1WM001.000 - Emergency Planning & Preparedness

Voor	Lohor	NLbr	NSE	FTE	Adi Tuno						
<u>Year</u> Explanation:	Labor				Adj Type						
Explanation:	Incremental COVID-related costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).										
2020	0	-1	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:	One-sided adjustment to exclude	\$250 related to E	Events and T	ickets.							
2020 Total	4,579	7,408	0	28.3							
2021	0	-11	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).										
2021	0	-21	0	0.0	1-Sided Adj						
Explanation:	Incremental COVID-related costs Catastrophic Event Memorandun	•		uested for re	ecovery through a non-GRC						
2021	0	-2	0	0.0	1-Sided Adj						
Explanation:	Incremental COVID-related costs Catastrophic Event Memorandum	•		uested for re	ecovery through a non-GRC						
2021	0	-1	0	0.0	1-Sided Adj						
Explanation:	Incremental COVID-related costs Catastrophic Event Memorandum	•		uested for re	ecovery through a non-GRC						
2021	0	-25	0	0.0	1-Sided Adj						
Explanation:	Incremental COVID-related costs Catastrophic Event Memorandum	•		uested for re	ecovery through a non-GRC						
2021	0	-2	0	0.0	1-Sided Adj						
Explanation:	One-sided adjustment to exclude	\$2121 related to	Events and	Tickets.							
2021 Total	0	-62	0	0.0							

Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: A. Emergency Planning & Preparedness
Category-Sub: 1. Emergency Planning & Preparedness

Workpaper: 1WM001.000 - Emergency Planning & Preparedness

### RAMP Item #1

### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C41

RAMP Line Item Name: Emergency Management Operations

Tranche(/s): Tranche1: N/A

### **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	13,315	16,024	16,277	16,236	10,938	13,369	

#### **Cost Estimate Changes from RAMP:**

Increased versus RAMP range primarily due to headcount increases identified after RAMP filing.

#### **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 Reduce risk by effectively responding to fires or extreme fire potential	0.00	0.00	0.00	0.00	0.00	0.00

### Work Unit Changes from RAMP:

events.

A department that reduces risk by effectively responding to fires or extreme fire potential events. Because there are multiple different types of units of measure in this program, it would not be accurate or consistent to identify one unit of measure.

### Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE	
Tranche 1	0.000	0.000	

#### **RSE Changes from RAMP:**

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2)

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: A. Emergency Planning & Preparedness
Category-Sub: 1. Emergency Planning & Preparedness

Workpaper: 1WM001.000 - Emergency Planning & Preparedness

San Diego Gas & Electric Company 2024 GRC - REVISED Non-Shared Service Workpapers **Supplemental Workpapers for Workpaper 1WM001.000** 

#### Wildfire Mitigation O&M - Forecast Adjustments

								2022		2023		2024			
Line Item WMP Initiative/Description	Labor/Non-Labor	RAMP/Non-RAMP	Unit Description	Unit Metric (ea./ft./mile)	Position Title	WMP%	# of units	Cost per unit	Total cost	# of units   Cost per unit	Total cost	# of units Cost per unit	Total cost	Total Cost	Explanation
Human Factor Engineering	Non-Labor	DAME	Contractor Hrs	Her											Partnership with the Department of Energy, Pacific Science& Engineering, and SDG&E to include human factor engineering in the PSPS decision-making process. Program is expected to expand to include other projects with EDD,
1	HOIPERDOI	III.	Contractor in 2			100%	1,440	\$ 264	\$ 252,512	1,440 \$ 277	\$ 398,488		s -	\$ 651,000	ERO, and GRID. Requires contract with PSE.
2 Human Factor Engineering	Labor	RAMP	FTE	FTE	Human Factors Engineering Scientist	58%		\$ 264	s -	. \$ 277	s -	1 \$ 200,000	\$ 116,000	\$ 116,000	Employee for Human Factors Engineering Scientist to support Human Factor Engineering beginning in 2024.
24/7 Watch Command Desk	Labor	RAMP	FTE's	FTE	24/7 Watch Command Desk Sup	59%		\$ 100,000	\$ 29,000	1 S 100,000	\$ 58,000	1 5 100 000	\$ 58,000	¢ 145.000	24/7 Watch Desk Supervisor (ST3) - Bottom-line operations, scheduling, performance management, and coordination of Analyst group. Assumes hire date 6/2022
1					247 Water Command Dear July	2070		2 100,000	2 23,000	1 7 100,000	3 30,000	1 3 100,000	30,000	3 143,000	Six 24/7 Watch Desk Analyst (SA3) - Perform real-time assessments of risk impacts to SDG&E's assets, customers, and
24/7 Watch Command Desk 3	Labor	RAMP	FTE's	FTE	24/7 Watch Desk Analyst	58%		\$ 78,250	ş -	3 \$ 78,250	\$ 136,155	6 \$ 78,250	\$ 272,310	\$ 408,465	employees. Provide advanced situational awareness reporting to aid informed decision-making and planning. Assumes hire date 2023
4 24/7 Watch Command Desk 5 Emergency Operations Services	Non-Labor		Equipment Costs, Training, Conferences, General	general	Emergency Planning Program Analyst	58% 58%	1	\$ 330,000	\$ 82,500	1 \$ 330,000	\$ 191,400	1 \$ 330,000			900k in RAMP in labor/non-labor. Assumes start date 9/2022. Documentation maintenance, outreach coordination, overall support to the planning program.
6 Emergency Operations Services	Labor		FTE	FTE	Emergency Planning Program Analyst Emergency Planning Strategic Lead	58%	0	0	\$ .	1 111.250	\$ 64.525	1 111.250		\$ 129.050	Develop & maintain emergency plans, policies, and procedures.
_Emergency Operations Services															(1) Emergency Services Program Coordinator, (2) Business Analyst, (1) Emergency Planning Specilaist. All performing
4	Non-Labor	RAMP	Contractor	each		58%	4	\$111,357	\$ 258,348	3 \$111,357	\$ 193,761	3 \$111,357	\$ 193,761	\$ 645,871	functions in support of the Emergency Operations Center and planning.
8 Emergency Operations Services	Non-Labor	RAMP	Contractor	each		58%	1	\$120,000	\$ 34,800	1 \$120,000	\$ 69,600	0 0	s -	\$ 104,400	Technical writer to produce plans, policy, and procedure related documentation. Assume hire date of 6/2022
OFER - FROP															One (AD2) to advance ICS principles in support of the Utility Field Commander and other on-scene operational crews and personnel. Formalize deployable resources and roles to support the overall safety and scene management
9	Labor	RAMP	FTE	FTE	Sr Emergency Readiness Program Advisor	58%	0		ş -	1 120,000	\$ 69,600	1 120,000	\$ 69,600	\$ 139,200	between SDG&E and first responder agencies for all risk responses.
OFFR- AAR															One (SAS) to draft improvement plans and after-action review reports of outcomes, capabilities, and progress to
10	Lahor	RAMP	FTF	FTF	Emergency Readiness Program Analyst	58%		sn.	٠.	1 \$96,650	\$ 56,057	1 \$96,650	\$ 56,057	\$ 112,114	directors and managers to support the continuous quality assurance and imporvement process of all emergency incidents and events.
11 OFER- AAR	Non-Labor	RAMP	AAR Specialist and OFER Advisor Contractor	Contractor		58%	2	\$255,000	\$ 295,800	0 \$255,000	\$ .	0 \$255,000			(1) Emergency Readiness Program Specialst, (1) Emergency Readiness Program Advisor
		RAMP	ETE			90%									One (AD2) to bottom-line operations, scheduling, and coordination with other stakeholder groups to maintain the
14 Aviation Training Center	Labor	KAMP	FIE	FIE	Aviation Services Advisor	90%	1	\$111,250	\$ 50,063	1 \$111,250	\$ 100,125	1 \$111,250	\$ 100,125	\$ 250,313	"On the Rocks" Aviation Training facility and complete ASD projects Six (SA3) resources to utilize UAS technology to conduct a variety of missions to increase system knowledge and
15 UAS Expansion	Labor	RAMP	FTE	FTE	Aviation Specialist (SA3)	90%	0	\$78,250	\$ -	0 \$78,250	\$ -	2 \$78,250	\$ 140,850	\$ 140,850	situational awareness of the structures, improving the electric system reliability.
16 Aviation Training Center	Non-Labor		Facility maintenance	general		90%	1	\$50,000	\$ 45,000	1 \$50,000	\$ 45,000				On the Rocks Facility management
17 Aviation (ASD)	Non-Labor	RAMP	Contractors	each		90%	1	\$100,848	\$ 90,763	1 \$100,848		1 \$100,848			Aviation contractor for facility maintenance and repairs.
18 Aviation (ASD)	Non-Labor	RAMP	Contractors	each		90%	1	\$50,000	\$ 45,000	1 \$50,000	\$ 45,000				Aviation contractor for facility maintenance and repairs.
19 Aviation (ASD)	Non-Labor Non-Labor	RAMP	Contractors Conferences	each total		90%	1	\$40,000	\$ 36,000 \$ 9,000	1 \$40,000 1 \$10,000	\$ 36,000 \$ 9,000				Aviation contractor for facility maintenance and repairs.
20 UAS Expansion 21 UAS Expansion	Non-Labor Non-Labor	RAMP	R&D / visits to a demo	total		90%	1	\$10,000 \$10,000	\$ 9,000	1 \$10,000	\$ 9,000	1 \$10,000 1 \$10,000			\$5000 per person per conference. 2 conferences per year. \$2500 per visit and 2 people per visit. 2 demos per year
22 UAS Expansion	Non-Labor	RAMP	Engineering support	total		90%	1	\$21,000	\$ 18,900	1 \$21,000	\$ 18,900			\$ 27,000	52500 per visit and 2 people per visit. 2 demos per year Engineering support
23 UAS Expansion	Non-Labor	RAMP	New UAS and Sensors	total		90%	1	\$150,000	\$ 135,000	1 \$150,000	\$ 135,000	1 \$150,000			New UAS and Sensors
26 UAS Expansion	Non-Labor	RAMP	Flight planning subscription service	total		90%	1	\$5,000	\$ 4500	1 SS.000	\$ 4500	1 \$5,000	\$ 4500		Flight planning subscription service.
29 IR Cameras	Non-Labor		Maintenance	general		90%	1	\$300,000	\$ 270,000	1 \$300,000	\$ 270,000			\$ 810,000	General maintenance of IR cameras
30 UAS Expansion	Non-Labor	RAMP	Maintenance	general		90%	1	\$30,000	\$ 27,000	1 \$30,000	\$ 27,000	1 \$30,000	\$ 27,000	\$ 81,000	General maintenance of UAS
31 ICS Implementation Initiative	Lahor	RAMP	FIF	FTF	ICS Implementation Program Manager	58%	1	130,000	\$ 37,700	130,000	\$ 75,400	130,000	\$ 75,400	\$ 188,500	One (PM2) resource to launch a companywide initiative to standardize and expand the implementation of ICS principles so all field workgroups will be unified under one response structure
								111,250		111,250		111,250			Two (AD2) resources to formalize position-specific training and certification, and define ICS capabilities with a utility-
32 ICS Implementation Initiative ICS Implementation Initiative & Training &	Labor	RAMP	FTE	FTE	ICS Implementation Advisor	58%	1	-	\$ 32,263	1	\$ 64,525	1	\$ 64,525	\$ 161,313	based focus
33 Exercise	Non-Labor	RAMP	Training Vendors	total		58%	1	140,000	\$ 81,200	1 140,000	\$ 81,200	2 140,000	\$ 162,400	\$ 324,800	Contract agency training to meet state mandates for PSPS/EOC requirements.
34 Training & Exercise	Labor	RAMP	ETE	ETE	Training & Exercise Advisor	58%		111,250	\$ 32.263	111,250	\$ 64.525	111,250	\$ 64,525	6 161 212	One (AD2) resource to manage Emergency Management training and exercise program based on an HSEEP competency-based approach to focus on utility-specific outcomes and learning
34 mining at Controls	Lautoi	i buti		112	maning a curiose nonsor	30%	_		3 31,103	78,250	3 04,323	78,250	, 04,323	3 101,313	Two (SA3) resources to develop and implement training and exercises to improve SDG&E's utility-focused ICS
35 Training & Exercise	Labor	RAMP	FTE	FTE	Training & Exercise Specialist	58%	0	· ·	s -	1	\$ 45,385	- 1	\$ 45,385	\$ 90,770	capabilities
36 Training & Exercise	Non-Labor	RAMP	Contractor	Each		58%	1	\$156,000	\$ 90,480	0 \$156,000	ş -	0 \$156,000		\$ 90,480	Contractor to assist with training and exercies scheduling and implementation.
37 Training & Exercise	Non-Labor	RAMP	Contractor	Each		58%	1	\$156,000	\$ 90,480	1 \$156,000	\$ 156,000	1 \$156,000	\$ 156,000	\$ 402,480	Contractor to assist with training and exercies scheduling and implementation.
38 ICS Implementation Initiati	ve Non-Labo	RAME	Contractor	Each		58%	1	\$110,000	\$ 63,800	0 \$110,000	s -	0 \$110,000	\$ -	\$ 63,800	Oraft company-wide ICS documentation, define response capabilities, and formalize position specific training and requirements.
39 Information Technology Services	Labor	RAMP	ETE	ETE	Emracy Mamt Techlay Analyst	58%	-	\$80,000	\$ 23.200	1 580,000	\$ 46400	2 \$80.000	\$ 92.800	6 162 400	Two (SA3) resources to maintain, oversee and upgrade all EOC technical equipment, including audio visual equipment communications tools
40 Information Technology Services	Non-Labor	RAMP	Contractor	each	and the state of t	100%	1	260,000	\$ 162,000	1 260,000		0 260,000			Business Systems Analyst. \$260k based on \$125/hr rate x 2080 hours
41 Information Technology Services	Non-Labor	RAMP	Contractor	each		58%	0	172,640	\$ -	1 172,640		1 172,640			Additional contractor needs for wildfire climate resiliency center in 2023 & 2024
42 Primary EOC	Non-Labor	RAMP	Control Station Equipment (RSP)	Total		58%	2	\$3,000	\$ 3,480	0 0	\$ -	0 0		\$ 3,480	Control station for EOC. Display and powerful workstation
43 Primary EOC	Non-Labor	RAMP	EOC Responder Headsets	Total		58%	44	\$250	\$ 6,380	4 \$250	\$ 580		\$ 580	\$ 7,540	New headsets for EOC responders
44 Primary EOC	Non-Labor	RAMP	EOC Display Stations	each		58%	5	\$1,000	\$ 2,900	0 0	\$ -	1 \$1,000	\$ 580	\$ 3,480	New display stations for EOC
46 Primary EOC	Non-Labor		Sat Phones	each		58%	13	\$7,800	\$ 58,812	5 \$7,800	\$ 22,620	5 \$7,800			Sat Phones: 3 in the backup EOC. 4 in the EOC. 6 in the eMCT = \$650 a month or \$7800 a Year.
47 Primary EOC	Non-Labor	RAMP	DirecTV Receivers	each		58% 58%	37	\$6,930	\$ 148,718	0 \$0	ş -	0 50			DirecTV Receivers: 20 in CP, 15 in RB, 2 in eMCT - 577.50 a month or 6930 a year
48 Primary EOC 49 Primary EOC	Non-Labor Non-Labor	RAMP RAMP	800Mhz Radio Cox Communications	each each		58% 58%	1	\$900 \$7,200	\$ 522 \$ 4176	1 \$900 1 \$7,200	\$ 522 \$ 4176	1 \$900 1 \$7.200			800Mhz Radio = 1 radio 75.00 a month 900 a year. COX Communications = 600 a month or 7200 a year.
50 Information Technology Services	Non-Labor Non-Labor	RAMP	Cox Communications Equipment to support new FTEs	each		58%	1 2	\$7,200	\$ 4,176	7 \$5,200	\$ 4,1/6	8 \$5,200			Equipment for new FTEs. Computers and associated equipment.
51 NEW EIC EOC	Non-Labor Non-Labor	RAMP	Workstation equip	each	l	38% 2002	EV.	\$ 2,438	\$ 70,690	, 5 ,200	\$ 21,112	0 \$5,200	\$ 24,128		Equipment for new Files. Computers and associated equipment.  New EIC EOC workstation equipment
52 Virtual EOC	non-Labor		EOC Responder work from home	each	1	58%	120	1,287		120 1,287	\$ 89,609	120 1,287	\$ 89,609		Virtual EOC responder equipment
53									\$ -		\$ -		\$ -	\$ -	
Summary			Labor	RAMP					S 204.488		\$ 780,697		\$ 1,276,159	s .	
			Non-Labor	RAMP	I				\$ 2,505,466		\$ 2,181,362		\$ 1,636,070	\$ -	
			Subtotal RAMP						\$ 2,709,954		\$ 2,962,059		\$ 2,912,229	\$ -	
			Labor	Non-RAMP	I				s -		s -		s -	s -	
			Non-Labor	Non-RAMP	l				s -		5 -		5	s -	
1			Subtotal Non-RAMP		l -				\$ -		\$ -		5 -	s -	
			Total Historical Adjustments						\$ 2,709,954		\$ 2,962,059		\$ 2,912,229	ş .	
· · · · · · · · · · · · · · · · · · ·															

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: B. Situational Awareness and Forecasting

Workpaper: 1WM002.000

### Summary for Category: B. Situational Awareness and Forecasting

	In 2021\$ (000) Incurred Costs									
	Adjusted-Recorded	Adjusted-Forecast								
	2021	2022	2023	2024						
Labor	1,002	1,095	1,196	1,251						
Non-Labor	1,992	2,374	2,532	2,626						
NSE	0	0	0	0						
Total	2,994	3,469	3,728	3,877						
FTE	9.1	10.1	11.0	11.6						
-										

### Workpapers belonging to this Category:

### 1WM002.000 Situational Awareness and Forecasting

1,2	1,196	1,095	1,002	Labor
2,6	2,532	2,374	1,992	Non-Labor
	0	0	0	NSE
3,8	3,728	3,469	2,994	Total
1	11.0	10.1	9.1	FTE
2,6 <b>3,8</b>	2,532 0 3,728	2,374 0 3,469	1,992 0 2,994	NSE <b>Total</b>

Beginning of Workpaper

1WM002.000 - Situational Awareness and Forecasting

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Jonathan Woldemariam Witness:

B. Situational Awareness and Forecasting Category: 1. Situational Awareness and Forecasting Category-Sub

1WM002.000 - Situational Awareness and Forecasting Workpaper:

### **Activity Description:**

Weather has a significant impact on utility operations. SDG&E develops and implements utility-specific meteorological technology to anticipate, prepare for, respond to, and recover from severe weather and wildfire events. Situational awareness tools are used to inform system planning, emergency operations, and the safe implementation of PSPS. Situational Awareness and Forecasting includes costs for SDG&E Fire Coordination, Meteorology, and Wildfire Resilience.

#### Forecast Explanations:

#### Labor - Base YR Rec

The base-year forecast methodology was selected as most indicative of future work. New initiatives and programs have been implemented beginning in 2020 due to the Wildfire Mitigation Plan, and these enhancements are not captured in the historical costs of this category. Accordingly, 2021 base year expenses are most representative of future needs based on an expansion in complexity and scope of existing projects and initiatives.

#### Non-Labor - Base YR Rec

The base-year forecast methodology was selected as most indicative of future work. New initiatives and programs have been implemented beginning in 2020 due to the Wildfire Mitigation Plan, and these enhancements are not captured in the historical costs of this category. Accordingly, 2021 base year expenses are most representative of future needs based on an expansion in complexity and scope of existing projects and initiatives.

### **NSE - Base YR Rec**

Not applicable.

#### Summary of Results:

	In 2021\$ (000) Incurred Costs										
		Adju	ısted-Recor	ded		Ad	justed-Fore	cast			
Years	2017	2018	2019	2020	2021	2022	2023	2024			
Labor	264	274	1,113	1,005	1,002	1,096	1,197	1,252			
Non-Labor	659	1,446	1,558	2,763	1,992	2,374	2,532	2,626			
NSE	0	0	0	0	0	0	0	0			
Total	923	1,720	2,672	3,768	2,994	3,470	3,729	3,878			
FTE	2.5	2.4	9.1	8.5	9.1	10.1	11.0	11.6			

Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: B. Situational Awareness and Forecasting
Category-Sub: 1. Situational Awareness and Forecasting

Workpaper: 1WM002.000 - Situational Awareness and Forecasting

### **Summary of Adjustments to Forecast:**

	In 2021 \$(000) Incurred Costs										
Forecast	Forecast Method		Base Forecast			ast Adjust	ments	Adjus	ted-Forec	ast	
Years	S	2022	2023	2024	2022	2023	2024	2022	2023	2024	
Labor	Base YR Rec	1,002	1,002	1,002	93	194	249	1,095	1,196	1,251	
Non-Labor	Base YR Rec	1,992	1,992	1,992	382	540	634	2,374	2,532	2,626	
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0	
Tota	I	2,994	2,994	2,994	475	734	883	3,469	3,728	3,877	
FTE	Base YR Rec	9.1	9.1	9.1	1.0	1.9	2.5	10.1	11.0	11.6	

### **Forecast Adjustment Details:**

rorecast Aujusti							
<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj Type	
2022	93	287	0	380	1.0	1-Sided Adj	
Explanation:	Increased forecast prim event increases. See supplemental work	·			laptation depar	tment and fire weather	
2022	0	95	0	95	0.0	1-Sided Adj	
Explanation:	Forecast for Wildfire Sm	oke Particulate	s under RAM	IP Risk 8 Inc	idents Involving	g Employee.	
2022 Total	93	382	0	475	1.0		
2023	194	409	0	603	1.9	1-Sided Adj	
Explanation:	Increased forecast primarily related to Fire Science & Climate Adaptation department and fire weather event increases.  See supplemental workpaper for adjustment details.						
2023	0	131	0	131	0.0	1-Sided Adj	
Explanation:	Forecast for Wildfire Sm	oke Particulate	s under RAM	IP Risk 8 Inc	idents Involving	g Employee.	
2023 Total	194	540	0	734	1.9		
2024	249	534	0	783	2.5	1-Sided Adj	
	Increased forecast primarily related to Fire Science & Climate Adaptation department and fire weather event increases.  See supplemental workpaper for adjustment details.						
Explanation:	event increases.	arily related to F	Fire Science	& Climate Ac		,	
Explanation: 2024	event increases.	arily related to F	Fire Science	& Climate Ac		,	
•	event increases. See supplemental work	arily related to F paper for adjust 100	Fire Science of transfer transfer transfer to the science of the s	& Climate Ac	laptation depar	tment and fire weather  1-Sided Adj	

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Jonathan Woldemariam Witness:

Category: B. Situational Awareness and Forecasting 1. Situational Awareness and Forecasting Category-Sub:

1WM002.000 - Situational Awareness and Forecasting Workpaper:

### **Determination of Adjusted-Recorded (Incurred Costs):**

retermination of Aujusteu-iv	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	206	223	272	-14	871
Non-Labor	576	2,370	367	1,179	2,001
NSE	0	0	0	0	0
Total	782	2,593	639	1,165	2,872
FTE	2.1	2.2	2.3	-0.1	7.7
Adjustments (Nominal \$) **					
Labor	0	-4	649	867	0
Non-Labor	0	-1,064	1,076	1,375	-9
NSE	0	0	0	0	0
Total	0	-1,068	1,724	2,243	-9
FTE	0.0	-0.2	5.5	7.4	0.0
Recorded-Adjusted (Nominal	\$)				
Labor	206	219	920	853	871
Non-Labor	576	1,307	1,443	2,554	1,992
NSE	0	0	0	0	0
Total	782	1,526	2,363	3,407	2,863
FTE	2.1	2.0	7.8	7.3	7.8
/acation & Sick (Nominal \$)					
Labor	31	33	132	121	131
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	31	33	132	121	131
FTE	0.4	0.4	1.3	1.2	1.3
scalation to 2021\$					
Labor	27	22	61	31	0
Non-Labor	83	139	115	209	0
NSE	0	0	0	0	0
Total	111	161	177	240	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant	2021\$)				
Labor	264	274	1,113	1,005	1,002
Non-Labor	659	1,446	1,558	2,763	1,992
NSE	0	0	0	0	0
Total	923	1,720	2,672	3,768	2,994
FTE	2.5	2.4	9.1	8.5	9.1

<sup>\*</sup> After company-wide exclusions of Non-GRC costs

<sup>\*\*</sup> Refer to "Detail of Adjustments to Recorded" page for line item adjustments

### Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: B. Situational Awareness and Forecasting
Category-Sub: 1. Situational Awareness and Forecasting

Workpaper: 1WM002.000 - Situational Awareness and Forecasting

### Summary of Adjustments to Recorded:

	In Nominal \$ (000) Incurred Costs										
	Years	2017	2018	2019	2020	2021					
Labor		0	-4	649	867	0					
Non-Labor		0	-1,064	1,076	1,375	-9					
NSE		0	0	0	0	0					
	Total		-1,068	1,724	2,243	-9					
FTE		0.0	-0.2	5.5	7.4	0.0					

### **Detail of Adjustments to Recorded:**

<u>Year</u>	<u>I</u>	_abor	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type			
2017 Total		0	0	0	0.0				
2018		0	-19	0	0.0	1-Sided Adj			
Explanation:	Incremental costs that are anticipated to be requested for recovery through a non-GRC Catastrophic Event Memorandum Account (CEMA).								
2018		-2	-955	0	-0.1	CCTR Transf To 2100-3962.000			
Explanation:	Transfer Labor and Non-Labor associated with Emergency Planning & Preparedness from Workpaper 1WM002 Situational Awareness and Forecasting to Workpaper 1WM001 Emergency Planning & Preparedness in cost center 2100-3962 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.								
2018		-2	-90	0	-0.1	CCTR Transf To 2100-3962.000			
Explanation:	1WM002 Situational A	wareness and center 2100-39	Forecasting to	Workpaper 1	WM001 Eme	redness from Workpaper ergency Planning & d in the Wildfire Mitigation Plan			
2018 Total		-4	-1,064	0	-0.2				
2019		0	-1	0	0.0	1-Sided Adj			
Explanation:	One-sided adjustment	t to exclude \$1,	130 related to E	Events and T	ickets.				
2019		649	1,077	0	5.5	CCTR Transf From 2100-4089.000			
Explanation:	Transfer Labor, FTEs, and Non-Labor associated with Fire Science & Climate Adaptation Department from Workpaper 1WM007 Resource Allocation Methodology to Workpaper 1WM002.000 Situational Awareness and Forecasting in cost center 2100-3963 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.								

Note: Totals may include rounding differences.

649

0

2019 Total

2020

0

5.5

0.0

1-Sided Adj

1,076

-1,080

### Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: B. Situational Awareness and Forecasting
Category-Sub: 1. Situational Awareness and Forecasting

Workpaper: 1WM002.000 - Situational Awareness and Forecasting

Workpaper.						
<u>Year</u>	<u>ı</u>	_abor	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type
Explanation:	Incremental costs the Memorandum Accou	•	ted to be reque	sted for reco	very through	n a non-GRC Catastrophic Event
2020		-1	0	0	-0.1	1-Sided Adj
Explanation:	Incremental costs the Memorandum Accou	•	ted to be reque	sted for reco	very through	n a non-GRC Catastrophic Event
2020		0	-1	0	0.0	1-Sided Adj
Explanation:	Incremental COVID- Catastrophic Event N		•		uested for r	ecovery through a non-GRC
2020		868	2,552	0	7.5	CCTR Transf From 2100-4089.000
Explanation:	Workpaper 1WM007	Resource Alloost center 210	ocation Method	ology to Worl	kpaper 1WN	nate Adaptation Department from M002.000 Situational Awareness flected in the Wildfire Mitigation
2020		0	-1	0	0.0	1-Sided Adj
Explanation:	Incremental COVID- Catastrophic Event N		•		uested for r	ecovery through a non-GRC
2020		0	-65	0	0.0	1-Sided Adj
Explanation:	Incremental COVID- Catastrophic Event N		•		uested for r	ecovery through a non-GRC
2020		0	-29	0	0.0	1-Sided Adj
Explanation:	Incremental COVID- Catastrophic Event N				uested for r	ecovery through a non-GRC
2020 Total		867	1,375	0	7.4	
2021		0	-1	0	0.0	1-Sided Adj
Explanation:	Incremental COVID- Catastrophic Event N		•		uested for r	ecovery through a non-GRC
2021		0	-1	0	0.0	1-Sided Adj
Explanation:	Incremental COVID- Catastrophic Event N		-		uested for r	ecovery through a non-GRC
2021		0	-1	0	0.0	1-Sided Adj
Explanation:	Incremental COVID- Catastrophic Event N		•		uested for r	ecovery through a non-GRC
2021		0	-6	0	0.0	1-Sided Adj
Explanation:	Incremental COVID- Catastrophic Event N				uested for r	ecovery through a non-GRC

Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: B. Situational Awareness and Forecasting
Category-Sub: 1. Situational Awareness and Forecasting

Workpaper: 1WM002.000 - Situational Awareness and Forecasting

### RAMP Item # 1

### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C04

RAMP Line Item Name: Fire Science and Climate Adaptation Department

Tranche(/s): Tranche1: N/A

### **GRC Forecast Cost Estimates (\$000)**

					2024	1
	2021 Historical Embedded Cost	2022	2023	2024	RAMP R	ange
		Forecast	Forecast	Forecast	(2020 Inci	urred \$)
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	2,994	3,374	3,597	3,777	3,700	4,523

#### **Cost Estimate Changes from RAMP:**

Slightly under RAMP range primarily due to headcount updates.

#### **GRC Work Unit/Activity Level Estimates**

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP Range Activities	
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 Creates weather forecasts including FPI forecasts.	0.00	0.00	0.00	0.00	0.00	0.00

#### Work Unit Changes from RAMP:

A department that creates weather forecasts, including FPI forecasts. Because there are multiple different types of units of measure in this program, it would not be accurate or consistent to identify one unit of measure.

### Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	0.000	0.000

### **RSE Changes from RAMP:**

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2)

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

Category: B. Situational Awareness and Forecasting Category-Sub: 1. Situational Awareness and Forecasting

Workpaper: 1WM002.000 - Situational Awareness and Forecasting

### RAMP Item # 2

### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-8 Incident Involving an Employee

RAMP Line Item ID: M01

RAMP Line Item Name: Wildfire Smoke Particulates

Tranche(/s): Tranche1: N/A

### **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	0	95	131	100	2	2

### **Cost Estimate Changes from RAMP:**

Higher than RAMP range primarily due to increased cyber support costs for sensors.

#### **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 # of particulate smoke sensors	0.00	6.00	23.00	40.00	40.00	46.00

### Work Unit Changes from RAMP:

Within RAMP range.

### Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	59.000	500.000

### **RSE Changes from RAMP:**

General changes to risks scores or RSE values are primarily due to changes in the MAVF and RSE methodology, as discussed in the RAMP to GRC Integration testimony of R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2)

2024 GRC - REVISED Non-Shared Service Workpapers **Supplemental Workpapers for Workpaper 1WM002.000** 

San Diego Gas & Electric Company

#### Wildfire Mitigation O&M - Forecast Adjustments

								Headcount			2022		I		2	023		2024			
Line Item	Workpaper	Cost Center	WMP Initiative/Description	Labor/Non-Labor	RAMP/Non- RAMP	Unit Description	Unit Metric (ea./ft./mile)	GRC or Positio Non- n Title		# of units	Cost per unit	Total	cost	# of units	Cost per unit	Total cost	# of units	Cost per unit	Total cost	Total Cost	Explanation (External - Text to be entered in GRID)
1	1WM002.000	2100-3761	Ignition Mgt Program (IMP) Fire Coordinator	Labor	RAMP	FTE's	FTE		58%	1	\$ 115,000	\$	44,467	1	\$ 115,000	\$ 66,700	1	\$ 115,000	\$ 66,700	\$ 177,867	1 IMP Fire Coordinator expected hire Apr 2022 (8/12 months), 58% to WMP & 42% to transmission O&M.
2	1WM002.000		Climate Education Specialist (WF Resilience Project Advisor)	Labor	RAMP	FTE's	FTE		58%	1	\$ 125,000	\$	48,333	1	\$ 125,000	\$ 72,500	1	\$ 125,000	\$ 72,500		1 Climate Education Specialist expected hire April 2022 (8/12 months) 2022, 58% to WMP & 42% to transmission O&M
3	1WM002.000	2100-4056	Communtiy Resilience & Engagement FTE's	Labor	RAMP	FTE's	FTE		58%	-	\$ -	\$	-	1	\$ 95,000	\$ 55,100	2	\$ 95,000	\$ 110,200		2 FTE's (1 Community Engagement Planning Manager at 115k + 1 Community Resilience Specialist at 75k) expected hire Jan 2023, 58% to WMP & 42% to transmission O&M.
4	1WM002.000	2100-4055	New Hire Non-Labor	Non-Labor	RAMP				58%	3	\$ 5,000	\$	8,700	1	\$ 5,000	\$ 2,900			\$ -	\$ 11,600	Non-Labor costs for new FTE computer equipment
5	1WM002.000	2100-3761	Training for Fire Coorindation	Non-Labor	RAMP				58%	1	\$ 100,000	\$	58,000	1	\$ 100,000	\$ 58,000	1	\$ 100,000	\$ 58,000	\$ 174,000	Non-Labor costs for contract training for fire coordination personnel.
6	1WM002.000	2100-4056	Mobile Command Trailer	Non-Labor	RAMP				58%	3	\$ 60,000	\$ 1	104,400	3	\$ 60,000	\$ 104,400	3	\$ 60,000	\$ 104,400	\$ 313,200	Mobile Command Trailers to serve as field headquarters during wildfire or other emergency.
7	1WM002.000		Meteorology Increased O&M for Vendors	Non-Labor	RAMP				58%	1	\$ 200,000	\$ 1	116,000	1	\$ 420,000	\$ 243,600	1	\$ 640,000	\$ 371,200		Increase in vendor costs for meteorology. Enhancements being made to data management including weather stations, cameras, and Al Smoke detection.
8	1WM002.000	TBD	Wildfire Smoke Particulates		RAMP				100%	6	\$ 15,900	\$	95,400	17	\$ 7,729	\$ 131,400	17	\$ 5,906	\$ 100,400		RAMP Item for wildfire smoke particulate sensors; cost estiamtes include \$69k/yr maintenance + IT and environmental support for up to 17 sensors each year.
12												\$	-			\$ -			\$ -		
10												>	-			\$ -			\$ -	2 -	
Summary			<u> </u>								<u> </u>										
							RAMP RAMP					\$ 2	92,800 287,100			\$ 194,300 \$ 408,900			\$ 249,400 \$ 533,600	\$ 536,500 \$ 1,229,600	
				·		Subtotal RAMP						\$ 3	379,900			\$ 603,200		-	\$ 783,000	\$ 1,766,100	
1							Non-RAMP					\$	-			\$ -			\$ -	\$ -	
							Non-RAMP					\$	-			\$ -			\$ -	\$ -	4
						Subtotal Non-RAMP										\$ -					
ь						Total Historical Adjus	stments	1				\$ 3	379,900			\$ 603,200	l		\$ 783,000	\$ 1,766,100	

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening

Workpaper: 1WM003.000

### Summary for Category: C. Grid Design & System Hardening

	In 2021\$ (000) Inci	urred Costs						
Adjusted-Recorded	Adjusted-Forecast							
2021	2022	2023	2024					
821	911	904	687					
25,221	33,260	34,312	29,760					
0	0	0	0					
26,042	34,171	35,216	30,447					
6.5	7.4	7.3	5.1					
	2021 821 25,221 0 26,042	Adjusted-Recorded         2021           821         911           25,221         33,260           0         0           26,042         34,171	2021         2022         2023           821         911         904           25,221         33,260         34,312           0         0         0           26,042         34,171         35,216					

### Workpapers belonging to this Category:

### 1WM003.000 Grid Design & System Hardening

Labor	821	911	904	687
Non-Labor	25,221	33,260	34,312	29,760
NSE	0	0	0	0
Total	26,042	34,171	35,216	30,447
FTE	6.5	7.4	7.3	5.1

Beginning of Workpaper
1WM003.000 - Grid Design & System Hardening

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening
Category-Sub 1. Grid Design & System Hardening

Workpaper: 1WM003.000 - Grid Design & System Hardening

#### **Activity Description:**

SDG&E's grid hardening programs are a set of initiatives that address the goal of reducing wildfires caused by utility equipment and minimizing the impacts to customers from mitigations such as PSPS. SDG&E has a number of initiatives including covered conductor and strategic undergrounding that reduce risk events on utility equipment, reducing the opportunities for ignition. SDG&E has a number of protection and equipment programs such as advanced protection, the expulsion fuse replacement program, and the lightning arrestor program. These programs reduce the chance that a risk event results in an ignition by utilizing protection settings and/or equipment that address a specific failure mode known to lead to ignition. Finally, SDG&E has a number of programs with the purpose of reducing PSPS impacts to customers including the PSPS sectionalizing program, microgrid and generator programs, as well as strategic undergrounding. The impacts of these programs are measured in the number of customers who will have reduced impacts from PSPS events assuming weather conditions similar to previous events. The costs represented are the O&M costs associated with the capital grid hardening programs, and the costs associated with the fully O&M programs such as the generator programs.

#### **Forecast Explanations:**

#### Labor - Base YR Rec

The base-year forecast methodology was selected as most indicative of future work. New initiatives and programs have been implemented beginning in 2020 due to the Wildfire Mitigation Plan, and these enhancements are not captured in the historical costs of this category. Accordingly, 2021 base year expenses are most representative of future needs based on an expansion in complexity and scope of existing projects and initiatives.

#### Non-Labor - Base YR Rec

The base-year forecast methodology was selected as most indicative of future work. New initiatives and programs have been implemented beginning in 2020 due to the Wildfire Mitigation Plan, and these enhancements are not captured in the historical costs of this category. Accordingly, 2021 base year expenses are most representative of future needs based on an expansion in complexity and scope of existing projects and initiatives.

### NSE - Base YR Rec

Not applicable.

### **Summary of Results:**

				ln 2021\$ (00	0) Incurred (	Costs		
		Adju	sted-Recor	ded		Ad	justed-Fored	cast
Years	2017	2018	2019	2020	2021	2022	2023	2024
Labor	36	23	410	608	821	910	903	686
Non-Labor	3,341	3,594	2,994	13,914	25,221	33,259	34,311	29,759
NSE	0	0	0	0	0	0	0	0
Total	3,378	3,617	3,403	14,523	26,041	34,169	35,214	30,445
FTE	0.5	0.5	1.8	3.7	6.5	7.4	7.3	5.1

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening
Category-Sub: 1. Grid Design & System Hardening

Workpaper: 1WM003.000 - Grid Design & System Hardening

### **Summary of Adjustments to Forecast:**

			In 202	1 \$(000) I	ncurred Co	sts					
Forecast	t Method	Bas	Base Forecast Forecast Adjustments					Adjus	Adjusted-Forecast		
Years		2022	2023	2024	2022	2023	2024	2022	2023	2024	
Labor	Base YR Rec	821	821	821	90	83	-134	911	904	687	
Non-Labor	Base YR Rec	25,221	25,221	25,221	8,039	9,091	4,539	33,260	34,312	29,760	
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0	
Tota	I	26,041	26,041	26,041	8,129	9,174	4,405	34,170	35,215	30,446	
FTE	Base YR Rec	6.5	6.5	6.5	0.9	0.8	-1.4	7.4	7.3	5.1	

### Forecast Adjustment Details:

Year	<u>Labor</u>	NLbr	NSE	Total	FTE	Adj Type	
2022	36	636		672	0.4	1-Sided Adj	
Explanation:	Increased forecast for H					•	
2022	0	231	0	231	0.0	1-Sided Adj	
Explanation:	BLM Land Managemen O&M), 29% Transmission		•		% of total costs	are distribution (WMP	
2022	0	2,308	0	2,308	0.0	1-Sided Adj	
Explanation:	Increased forecast for V	VMP O&M rela	ited to Strate	gic Undergrou	nding.		
2022	0	655	0	655	0.0	1-Sided Adj	
Explanation:	Increased forecast for V	VMP O&M rela	ated to Covere	ed Conductor	based on 1% o	f capital forecast.	
2022	0	2,508	0	2,508	0.0	1-Sided Adj	
Explanation:	Increased forecast for V backup battery units an			•	•	ed forecasts for	
2022	0	1,416	0	1,416	0.0	1-Sided Adj	
Explanation:	Increased forecast for WMP 2022 plan.	VMP O&M rela	ated to Standb	y Power Prog	grams and aligr	nment with the filed	
2022	214	870	0	1,084	2.1	1-Sided Adj	
Explanation:	Increased forecast for V filed WMP 2022 plan.	VMP O&M rela	ated to Resilie	ncy Assistanc	e Program and	I alignment with the	
2022	0	115	0	115	0.0	1-Sided Adj	
Explanation:	Increased forecast for Microgrid O&M program to align forecast with filed WMP 2022 plan.						
2022	0	1,467	0	1,467	0.0	1-Sided Adj	
Explanation:	WMP O&M forecast for CNF Access Road work associated with the CNF PLRP Project. Includes decommissioning of roads, engineered solutions, and installation of new BMPs.						
2022	0	202	0	202	0.0	1-Sided Adj	

### Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening
Category-Sub: 1. Grid Design & System Hardening

Workpaper: 1WM003.000 - Grid Design & System Hardening

Explanation:   Cost estimates for Cleveland National Forecast Master Special Use Permit (CNF MSUP) include (1) O&M CostRecovery Agreement: The annual estimate is based upon the total project cost of \$1,757,680 over 5 years = \$351,536. The cost recovery agreement is subject to further negotiation with the Agency. (2) CNF O&M Plan Implementation (\$105k in 2022): Costs for estimated mitigation based upon past CNF projects. (3) CNF O&M Projammatic Agreement (575k in 2022): New programmatic agreements (PA) for O&M to minimize agency review timeframes similar to what was obtained for the CNF PLRP project. 38% of total costs are distribution (WMP O&M), 62% Transmission and excluded from totals.  2022	' '		,				
O&M Cost -Recovery Agreement: The annual estimate is based upon the total project cost of \$1,757,680 over 5 years = \$351,536. The cost recovery agreement is subject to further negotiation with the Agency. (2) CNF O&M Plan Implementation (\$105k in 2022): Costs for estimated mitigation based upon past CNF projects. (3) CNF O&M Programmatic Agreement (\$75k in 2022): New programmatic agreements (PA) for O&M to minimize agency review timeframes similar to what was obtained for the CNF PLRP project. 33% of total costs are distribution (WMP O&M), 62% Transmission and excluded from totals.  2022 -160 -2,369 0 -2,529 -1.6 1-Sided Adj  Explanation: Reduced forecasts for OH Dist Fire Hardening Bare Conductor.  2022 Total 90 8,039 0 8,129 0.9  Explanation: Reduced forecasts for Hotline Clamp program to align forecast with filed WMP 2022 plan.  2023 36 636 0 672 0.4 1-Sided Adj  Explanation: Increased forecast for Hotline Clamp program to align forecast with filed WMP 2022 plan.  2023 -167 -2,486 0 -2,653 -1.7 1-Sided Adj  Explanation: Reduced forecasts for OH Dist Fire Hardening Bare Conductor.  2023 -0 3,452 0 3,452 0.0 1-Sided Adj  Explanation: Increased forecast for WMP O&M related to Strategic Undergrounding based on 1% of total capital forecast.  2023 -0 975 0 975 0.0 1-Sided Adj  Explanation: Increased forecast in 2023 for WMP O&M related to Covered Conductor based on 1% of capital forecast.  2023 -0 2,508 0 2,508 0.0 1-Sided Adj  Explanation: Increased forecast for WMP O&M related to Resiliency Grant Programs increased forecasts for backup battery units and alignment with the filed WMP 2022 plan.  2023 -0 1,416 0 1,416 0.0 1-Sided Adj  Explanation: Increased forecast for WMP O&M related to Resiliency Grant Programs and alignment with the filed WMP 2022 plan.  2023 -0 1,416 0 1,084 2.1 1-Sided Adj  Explanation: Increased forecast for WMP O&M related to Resiliency Assistance Program and alignment with the filed WMP 2022 plan.  2023 -0 1,467 0 1,467 0.0 1-Sided Adj  Explanation: Increased forecast for MMP O&M related t	<u>Year</u>	Labor	NLbr	NSE	<u>Total</u>	FTE	Adj_Type
Reduced forecasts for OH Dist Fire Hardening Bare Conductor.  2022 Total  90 8,039 0 8,129 0.9  2023 36 636 0 672 0.4 1-Sided Adj Increased forecast for Hotline Clamp program to align forecast with filed WMP 2022 plan.  2023 -167 -2,486 0 -2,653 -1.7 1-Sided Adj Explanation: Reduced forecasts for OH Dist Fire Hardening Bare Conductor.  2023 0 3,452 0 3,452 0 0 1-Sided Adj Increased forecast for WMP O&M related to Strategic Undergrounding based on 1% of total capital forecast.  2023 0 975 0 975 0 975 0.0 1-Sided Adj Increased forecast in 2023 for WMP O&M related to Covered Conductor based on 1% of capital forecast.  2023 0 0 2,508 0 0 2,508 0 0 1-Sided Adj Increased forecast for WMP O&M related to Resiliency Grant Programs increased forecasts for backup battery units and alignment with the filed WMP 2022 plan.  2023 0 1,416 0 1,416 0 0 1,416 0 0 1-Sided Adj Increased forecast for WMP O&M related to Standby Power Programs and alignment with the filed WMP 2022 plan.  2023 214 870 0 1,084 2.1 1-Sided Adj Increased forecast for WMP O&M related to Resiliency Grant Programs and alignment with the filed WMP 2022 plan.  2023 214 870 0 1,084 2.1 1-Sided Adj Increased forecast for WMP O&M related to Resiliency Assistance Program and alignment with the filed WMP 2022 plan.  2023 214 870 0 1,084 2.1 1-Sided Adj Increased forecast for WMP O&M related to Resiliency Assistance Program and alignment with the filed WMP 2022 plan.  2023 0 115 0 115 0 115 0 0 1-Sided Adj Increased forecast for MMP O&M program to align forecast with filed WMP 2022 plan.  2023 0 1,467 0 1,467 0 0 1,467 0 0 1-Sided Adj Increased forecast for CNF Access Road work associated with the CNF PLRP Project. Includes decommissioning of roads, engineered solutions, and installation of new BMPs.	Explanation:	O&M Cost -Recovery \$1,757,680 over 5 yea with the Agency. (2) C based upon past CNF programmatic agreem obtained for the CNF	Agreement: The ars = \$351,536. To the ars = \$351,536. To the ars = \$351,536. To the ars = \$351,536. The arc = \$351,536. The ar	annual esti The cost rec plementatic TO&M Proo M to minimiz of total co	mate is based usovery agreeme on (\$105k in 200 grammatic Agre ze agency revie	upon the total part is subject to 22): Costs for ement (\$75k in ew timeframes	project cost of control further negotiation estimated mitigation n 2022): New similar to what was
2022 Total 90 8,039 0 8,129 0.9  2023 36 636 0 672 0.4 1-Sided Adj Explanation: Increased forecast for Hotline Clamp program to align forecast with filed WMP 2022 plan.  2023 -167 -2,486 0 -2,653 -1.7 1-Sided Adj Explanation: Reduced forecasts for OH Dist Fire Hardening Bare Conductor.  2023 0 3,452 0 3,452 0.0 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Strategic Undergrounding based on 1% of total capital forecast.  2023 0 975 0 975 0.0 1-Sided Adj Explanation: Increased forecast in 2023 for WMP O&M related to Covered Conductor based on 1% of capital forecast.  2023 0 2,508 0 2,508 0.0 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Resiliency Grant Programs increased forecasts for backup battery units and alignment with the filed WMP 2022 plan.  2023 0 1,416 0 1,416 0.0 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Standby Power Programs and alignment with the filed WMP 2022 plan.  2023 214 870 0 1,084 2.1 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Resiliency Assistance Program and alignment with the filed WMP 2022 plan.  2023 214 870 0 1,084 2.1 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Resiliency Assistance Program and alignment with the filed WMP 2022 plan.  2023 0 115 0 115 0.0 1-Sided Adj Explanation: Increased forecast for Microgrid O&M program to align forecast with filed WMP 2022 plan.  2023 0 1,467 0 1,467 0.0 1-Sided Adj Explanation: WMP O&M forecast for CNF Access Road work associated with the CNF PLRP Project. Includes decommissioning of roads, engineered solutions, and installation of new BMPs.	2022	-160	-2,369	0	-2,529	-1.6	1-Sided Adj
2023 36 636 0 672 0.4 1-Sided Adj Increased forecast for Hotline Clamp program to align forecast with filed WMP 2022 plan. 2023 -167 -2,486 0 -2,653 -1.7 1-Sided Adj Explanation: Reduced forecasts for OH Dist Fire Hardening Bare Conductor. 2023 0 3,452 0 3,452 0.0 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Strategic Undergrounding based on 1% of total capital forecast.  2023 0 975 0 975 0.0 1-Sided Adj Explanation: Increased forecast in 2023 for WMP O&M related to Covered Conductor based on 1% of capital forecast.  2023 0 2,508 0 2,508 0.0 1-Sided Adj Increased forecast for WMP O&M related to Resiliency Grant Programs increased forecasts for backup battery units and alignment with the filed WMP 2022 plan.  2023 0 1,416 0 1,416 0.0 1-Sided Adj Increased forecast for WMP O&M related to Standby Power Programs and alignment with the filed WMP 2022 plan.  2023 214 870 0 1,084 2.1 1-Sided Adj Increased forecast for WMP O&M related to Resiliency Assistance Program and alignment with the filed WMP 2022 plan.  2023 214 870 0 1,084 2.1 1-Sided Adj Increased forecast for WMP O&M related to Resiliency Assistance Program and alignment with the filed WMP 2022 plan.  2023 0 115 0 115 0.0 1-Sided Adj Increased forecast for WMP O&M related to Resiliency Assistance Program and alignment with the filed WMP 2022 plan.  2023 0 1467 0 1,467 0.0 1-Sided Adj Increased forecast for CNF Access Road work associated with the CNF PLRP Project. Includes decommissioning of roads, engineered solutions, and installation of new BMPs.	Explanation:	Reduced forecasts for	OH Dist Fire Har	dening Ba	re Conductor.		
Increased forecast for Hotline Clamp program to align forecast with filed WMP 2022 plan.  2023	2022 Total	90	8,039	0	8,129	0.9	
2023 -167 -2,486 0 -2,653 -1.7 1-Sided Adj Explanation: Reduced forecasts for OH Dist Fire Hardening Bare Conductor.  2023 0 3,452 0 3,452 0.0 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Strategic Undergrounding based on 1% of total capital forecast.  2023 0 975 0 975 0.0 1-Sided Adj Explanation: Increased forecast in 2023 for WMP O&M related to Covered Conductor based on 1% of capital forecast.  2023 0 2,508 0 2,508 0.0 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Resiliency Grant Programs increased forecasts for backup battery units and alignment with the filed WMP 2022 plan.  2023 0 1,416 0 1,416 0.0 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Standby Power Programs and alignment with the filed WMP 2022 plan.  2023 214 870 0 1,084 2.1 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Resiliency Assistance Program and alignment with the filed WMP 2022 plan.  2023 0 115 0 115 0.0 1-Sided Adj Explanation: Increased forecast for Microgrid O&M program to align forecast with filed WMP 2022 plan.  2023 0 1467 0 1,467 0.0 1-Sided Adj Explanation: Uncreased forecast for CNF Access Road work associated with the CNF PLRP Project. Includes decommissioning of roads, engineered solutions, and installation of new BMPs.	2023	36	636	0	672	0.4	1-Sided Adj
Reduced forecasts for OH Dist Fire Hardening Bare Conductor.  2023 0 3,452 0 3,452 0.0 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Strategic Undergrounding based on 1% of total capital forecast.  2023 0 975 0 975 0.0 1-Sided Adj Explanation: Increased forecast in 2023 for WMP O&M related to Covered Conductor based on 1% of capital forecast.  2023 0 2,508 0 2,508 0.0 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Resiliency Grant Programs increased forecasts for backup battery units and alignment with the filed WMP 2022 plan.  2023 0 1,416 0 1,416 0.0 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Standby Power Programs and alignment with the filed WMP 2022 plan.  2023 214 870 0 1,084 2.1 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Resiliency Assistance Program and alignment with the filed WMP 2022 plan.  2023 0 115 0 115 0.0 1-Sided Adj Explanation: Increased forecast for Microgrid O&M program to align forecast with filed WMP 2022 plan.  2023 0 1467 0 1,467 0.0 1-Sided Adj Explanation: Uncreased forecast for CNF Access Road work associated with the CNF PLRP Project. Includes decommissioning of roads, engineered solutions, and installation of new BMPs.	Explanation:	Increased forecast for	Hotline Clamp pr	ogram to al	ign forecast wit	h filed WMP 2	022 plan.
10 3,452 0 3,452 0.0 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Strategic Undergrounding based on 1% of total capital forecast.  2023 0 975 0 975 0.0 1-Sided Adj Explanation: Increased forecast in 2023 for WMP O&M related to Covered Conductor based on 1% of capital forecast.  2023 0 2,508 0 2,508 0.0 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Resiliency Grant Programs increased forecasts for backup battery units and alignment with the filed WMP 2022 plan.  2023 0 1,416 0 1,416 0.0 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Standby Power Programs and alignment with the filed WMP 2022 plan.  2023 214 870 0 1,084 2.1 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Resiliency Assistance Program and alignment with the filed WMP 2022 plan.  2023 0 115 0 115 0.0 1-Sided Adj Explanation: Increased forecast for Microgrid O&M program to align forecast with filed WMP 2022 plan.  2023 0 1,467 0 1,467 0.0 1-Sided Adj WMP O&M forecast for CNF Access Road work associated with the CNF PLRP Project. Includes decommissioning of roads, engineered solutions, and installation of new BMPs.	2023	-167	-2,486	0	-2,653	-1.7	1-Sided Adj
Increased forecast for WMP O&M related to Strategic Undergrounding based on 1% of total capital forecast.  2023 0 975 0 975 0.0 1-Sided Adj Increased forecast in 2023 for WMP O&M related to Covered Conductor based on 1% of capital forecast.  2023 0 2,508 0 2,508 0.0 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Resiliency Grant Programs increased forecasts for backup battery units and alignment with the filed WMP 2022 plan.  2023 0 1,416 0 1,416 0.0 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Standby Power Programs and alignment with the filed WMP 2022 plan.  2023 214 870 0 1,084 2.1 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Resiliency Assistance Program and alignment with the filed WMP 2022 plan.  2023 0 115 0 115 0.0 1-Sided Adj Explanation: Increased forecast for Microgrid O&M program to align forecast with filed WMP 2022 plan.  2023 0 1,467 0 1,467 0.0 1-Sided Adj Explanation: WMP O&M forecast for CNF Access Road work associated with the CNF PLRP Project. Includes decommissioning of roads, engineered solutions, and installation of new BMPs.	Explanation:	Reduced forecasts for	OH Dist Fire Har	dening Ba	re Conductor.		
forecast.  2023 0 975 0 975 0.0 1-Sided Adj Explanation: Increased forecast in 2023 for WMP O&M related to Covered Conductor based on 1% of capital forecast.  2023 0 2,508 0 2,508 0.0 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Resiliency Grant Programs increased forecasts for backup battery units and alignment with the filed WMP 2022 plan.  2023 0 1,416 0 1,416 0.0 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Standby Power Programs and alignment with the filed WMP 2022 plan.  2023 214 870 0 1,084 2.1 1-Sided Adj Explanation: Increased forecast for WMP O&M related to Resiliency Assistance Program and alignment with the filed WMP 2022 plan.  2023 0 115 0 115 0.0 1-Sided Adj Explanation: Increased forecast for Microgrid O&M program to align forecast with filed WMP 2022 plan.  2023 0 1,467 0 1,467 0.0 1-Sided Adj Explanation: WMP O&M forecast for CNF Access Road work associated with the CNF PLRP Project. Includes decommissioning of roads, engineered solutions, and installation of new BMPs.	2023	0	3,452	0	3,452	0.0	1-Sided Adj
Increased forecast in 2023 for WMP O&M related to Covered Conductor based on 1% of capital forecast.  2023 0 2,508 0 2,508 0.0 1-Sided Adj Increased forecast for WMP O&M related to Resiliency Grant Programs increased forecasts for backup battery units and alignment with the filed WMP 2022 plan.  2023 0 1,416 0 1,416 0.0 1-Sided Adj Increased forecast for WMP O&M related to Standby Power Programs and alignment with the filed WMP 2022 plan.  2023 214 870 0 1,084 2.1 1-Sided Adj Increased forecast for WMP O&M related to Resiliency Assistance Program and alignment with the filed WMP 2022 plan.  2023 0 115 0 115 0.0 1-Sided Adj Increased forecast for Microgrid O&M program to align forecast with filed WMP 2022 plan.  2023 0 1,467 0 1,467 0.0 1-Sided Adj Increased forecast for CNF Access Road work associated with the CNF PLRP Project. Includes decommissioning of roads, engineered solutions, and installation of new BMPs.	explanation:		r WMP O&M relat	ted to Strate	egic Undergrou	nding based o	n 1% of total capital
forecast.  2023	2023	0	975	0	975	0.0	1-Sided Adj
Increased forecast for WMP O&M related to Resiliency Grant Programs increased forecasts for backup battery units and alignment with the filed WMP 2022 plan.  2023  0 1,416 0 1,416 0.0 1-Sided Adj Increased forecast for WMP O&M related to Standby Power Programs and alignment with the filed WMP 2022 plan.  2023  214 870 0 1,084 2.1 1-Sided Adj Increased forecast for WMP O&M related to Resiliency Assistance Program and alignment with the filed WMP 2022 plan.  2023  0 115 0 115 0.0 1-Sided Adj Increased forecast for Microgrid O&M program to align forecast with filed WMP 2022 plan.  2023  0 1,467 0 1,467 0.0 1-Sided Adj Increased forecast for CNF Access Road work associated with the CNF PLRP Project. Includes decommissioning of roads, engineered solutions, and installation of new BMPs.	explanation:		2023 for WMP O&	&M related t	to Covered Cor	iductor based	on 1% of capital
backup battery units and alignment with the filed WMP 2022 plan.  2023  0 1,416 0 1,416 0.0 1-Sided Adj Increased forecast for WMP O&M related to Standby Power Programs and alignment with the filed WMP 2022 plan.  2023  214 870 0 1,084 2.1 1-Sided Adj Increased forecast for WMP O&M related to Resiliency Assistance Program and alignment with the filed WMP 2022 plan.  2023  0 115 0 115 0.0 1-Sided Adj Increased forecast for Microgrid O&M program to align forecast with filed WMP 2022 plan.  2023  0 1,467 0 1,467 0.0 1-Sided Adj Explanation:  WMP O&M forecast for CNF Access Road work associated with the CNF PLRP Project. Includes decommissioning of roads, engineered solutions, and installation of new BMPs.	2023	0	2,508	0	2,508	0.0	1-Sided Adj
Increased forecast for WMP O&M related to Standby Power Programs and alignment with the filed WMP 2022 plan.  2023  214  870  0  1,084  2.1  1-Sided Adj  Increased forecast for WMP O&M related to Resiliency Assistance Program and alignment with the filed WMP 2022 plan.  2023  0  115  0  115  0  1-Sided Adj  Increased forecast for Microgrid O&M program to align forecast with filed WMP 2022 plan.  2023  0  1,467  0  1,467  0  1-Sided Adj  Explanation:  WMP O&M forecast for CNF Access Road work associated with the CNF PLRP Project. Includes decommissioning of roads, engineered solutions, and installation of new BMPs.	xplanation:				-	-	ed forecasts for
WMP 2022 plan.  2023  214  870  0  1,084  2.1  1-Sided Adj  Increased forecast for WMP O&M related to Resiliency Assistance Program and alignment with the filed WMP 2022 plan.  2023  0  115  0  115  0  1-Sided Adj  Increased forecast for Microgrid O&M program to align forecast with filed WMP 2022 plan.  2023  0  1,467  0  1,467  0.0  1-Sided Adj  Explanation:  WMP O&M forecast for CNF Access Road work associated with the CNF PLRP Project. Includes decommissioning of roads, engineered solutions, and installation of new BMPs.	2023	0	1,416	0	1,416	0.0	1-Sided Adj
Increased forecast for WMP O&M related to Resiliency Assistance Program and alignment with the filed WMP 2022 plan.  2023  0 115 0 115 0.0 1-Sided Adj  Explanation:  Increased forecast for Microgrid O&M program to align forecast with filed WMP 2022 plan.  2023  0 1,467 0 1,467 0.0 1-Sided Adj  Explanation:  WMP O&M forecast for CNF Access Road work associated with the CNF PLRP Project. Includes decommissioning of roads, engineered solutions, and installation of new BMPs.	Explanation:		WMP O&M relate	ed to Stand	by Power Prog	rams and aligr	nment with the filed
filed WMP 2022 plan.  2023  0 115 0 115 0.0 1-Sided Adj  Explanation: Increased forecast for Microgrid O&M program to align forecast with filed WMP 2022 plan.  2023  0 1,467 0 1,467 0.0 1-Sided Adj  Explanation: WMP O&M forecast for CNF Access Road work associated with the CNF PLRP Project. Includes decommissioning of roads, engineered solutions, and installation of new BMPs.	2023	214	870	0	1,084	2.1	1-Sided Adj
Increased forecast for Microgrid O&M program to align forecast with filed WMP 2022 plan.  2023  0 1,467 0 1,467 0.0 1-Sided Adj  Explanation: WMP O&M forecast for CNF Access Road work associated with the CNF PLRP Project. Includes decommissioning of roads, engineered solutions, and installation of new BMPs.	Explanation:		WMP O&M relate	ed to Resilie	ency Assistance	e Program and	l alignment with the
2023 0 1,467 0 1,467 0.0 1-Sided Adj  Explanation: WMP O&M forecast for CNF Access Road work associated with the CNF PLRP Project. Includes decommissioning of roads, engineered solutions, and installation of new BMPs.	2023						•
<b>xplanation:</b> WMP O&M forecast for CNF Access Road work associated with the CNF PLRP Project. Includes decommissioning of roads, engineered solutions, and installation of new BMPs.	xplanation:	Increased forecast for	Microgrid O&M p	rogram to a	align forecast w	ith filed WMP	2022 plan.
decommissioning of roads, engineered solutions, and installation of new BMPs.	2023	0	1,467	0	1,467	0.0	1-Sided Adj
2023 0 134 0 134 0.0 1-Sided Adj	xplanation:						Project. Includes
	2023	0	134	0	134	0.0	1-Sided Adj

### Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening
Category-Sub: 1. Grid Design & System Hardening

Workpaper: 1WM003.000 - Grid Design & System Hardening

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	FTE	Adj_Type			
Explanation:	Cost estimates for Cleveland National Forecast Master Special Use Permit (CNF MSUP) include (1) O&M Cost -Recovery Agreement: The annual estimate is based upon the total project cost of \$1,757,680 over 5 years = \$351,536. The cost recovery agreement is subject to further negotiation with the Agency. (2) CNF O&M Plan Implementation (\$105k in 2022): Costs for estimated mitigation based upon past CNF projects. (3) CNF O&M Programmatic Agreement (\$75k in 2022): New programmatic agreements (PA) for O&M to minimize agency review timeframes similar to what was obtained for the CNF PLRP project. 38% of total costs are distribution (WMP O&M), 62% Transmission and excluded from totals.								
2023	0	4	0	4	0.0	1-Sided Adj			
Explanation:	BLM Land Managemen O&M), 29% Transmission	• • •	•		of total costs	are distribution (WMP			
2023 Total	83	9,091	0	9,174	0.8				
2024	-180	-3,104	0	-3,284	-1.8	1-Sided Adj			
Explanation:	Decreased forecast for	Hotline Clamp	program to a	lign forecast w	ith filed WMP	2022 plan.			
2024	-168	-2,491	0	-2,659	-1.7	1-Sided Adj			
Explanation:	Reduced forecasts for 0	OH Dist Fire Ha	ardening Bai	re Conductor					
2024	0	4,025	0	4,025	0.0	1-Sided Adj			
Explanation:	Increased forecast for forecast.	WMP O&M rel	ated to Strate	gic Undergrou	nding based o	n 1% of total capital			
2024	0	1,063	0	1,063	0.0	1-Sided Adj			
Explanation:	Increased forecast in 20 forecast.	024 for WMP C	0&M related to	Covered Cor	nductor based	on 1% of capital			
2024	0	2,508	0	2,508	0.0	1-Sided Adj			
Explanation:	Increased forecast for V backup battery units an			•	•	ed forecasts for			
2024	0	1,416	0	1,416	0.0	1-Sided Adj			
Explanation:	Increased forecast for V WMP 2022 plan.	VMP O&M rela	ited to Standb	y Power Prog	rams and aligr	ment with the filed			
2024	214	870	0	1,084	2.1	1-Sided Adj			
Explanation:	Increased forecast for V filed WMP 2022 plan.	VMP O&M rela	ited to Resilie	ncy Assistance	e Program and	alignment with the			
2024	0	115	0	115	0.0	1-Sided Adj			
Explanation:	Increased forecast for N	/licrogrid O&M	program to a	lign forecast w	ith filed WMP	2022 plan.			
2024	0	133	0	133	0.0	1-Sided Adj			

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening
Category-Sub: 1. Grid Design & System Hardening

Workpaper: 1WM003.000 - Grid Design & System Hardening

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	NSE	<u>Total</u>	<u>FTE</u>	Adj_Type
Explanation:	Cost estimates for Cleve O&M Cost -Recovery Ag \$1,757,680 over 5 years with the Agency. (2) CNF based upon past CNF pr programmatic agreemen obtained for the CNF PL Transmission and exclude	reement: The = \$351,536. F O&M Plan In ojects. (3) CN ts (PA) for O& RP project. 38	e annual estime. The cost reconplementation F O&M Programmer M to minimize M of total cos	ate is based overy agreeme (\$105k in 20 ammatic Agree agency revie	upon the total pent is subject to 22): Costs for eement (\$75k in ew timeframes	oroject cost of further negotiation estimated mitigation n 2022): New similar to what was
2024	0	4	0	4	0.0	1-Sided Adj
Explanation:	BLM Land Management O&M), 29% Transmissio		-	on costs. 71%	of total costs	are distribution (WMP
2024 Total	-134	4,539	0	4,405	-1.4	

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening
Category-Sub: 1. Grid Design & System Hardening

Workpaper: 1WM003.000 - Grid Design & System Hardening

### **Determination of Adjusted-Recorded (Incurred Costs):**

retermination of Aujusteu-Re	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	8	18	18	74	676
Non-Labor	1,890	1,978	319	354	24,165
NSE	0	0	0	0	0
Total	1,898	1,997	337	428	24,841
FTE	0.1	0.2	0.0	0.5	5.2
Adjustments (Nominal \$) **					
Labor	20	0	321	442	37
Non-Labor	1,030	1,270	2,453	12,509	1,056
NSE	0	0	0	0	0
Total	1,051	1,270	2,774	12,951	1,093
FTE	0.4	0.3	1.5	2.7	0.4
Recorded-Adjusted (Nominal S	\$)				
Labor	28	19	339	516	713
Non-Labor	2,920	3,248	2,772	12,862	25,221
NSE	0	0	0	0	0
Total	2,949	3,267	3,111	13,379	25,934
FTE	0.5	0.5	1.6	3.2	5.6
/acation & Sick (Nominal \$)					
Labor	4	3	48	73	107
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	4	3	48	73	107
FTE	0.0	0.0	0.2	0.5	0.9
Escalation to 2021\$					
Labor	4	2	23	19	0
Non-Labor	421	346	222	1,052	0
NSE	0	0	0	0	0
Total	425	348	244	1,071	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant	2021\$)				
Labor	36	23	410	608	821
Non-Labor	3,341	3,594	2,994	13,914	25,221
NSE	0	0	0	0	0
Total	3,378	3,617	3,403	14,523	26,041
FTE	0.5	0.5	1.8	3.7	6.5

<sup>\*</sup> After company-wide exclusions of Non-GRC costs

<sup>\*\*</sup> Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening
Category-Sub: 1. Grid Design & System Hardening

Workpaper: 1WM003.000 - Grid Design & System Hardening

### Summary of Adjustments to Recorded:

		In Nomina	\$ (000) Incurred C	osts		
	Years	2017	2018	2019	2020	2021
Labor		20	0.356	321	442	37
Non-Labor		1,030	1,270	2,453	12,509	1,056
NSE		0	0	0	0	0
	Total	1,051	1,270	2,774	12,951	1,093
FTE		0.4	0.3	1.5	2.7	0.4

### Detail of Adjustments to Recorded:

<u>Year</u>	<u>Lal</u>	por <u>N</u>	Lbr N	<u>SE                                    </u>	<u>TE</u>	Adj Type
2017		1	0	0	0.1	CCTR Transf From 2100-0119.000
Explanation:	Transfer wildfire related Engineering to Workpap costs where they are ref	er 1WM003 Grid	Design & Sys	stem Harder	ning in cost c	enter 2100-3932 to align
2017		0 2	298	0	0.0	CCTR Transf From 2100-0218.000
Explanation:	Management & Inspection	ons to Workpape	r 1WM003 Gr	id Design &	System Hard	rkpaper 1WM005 Vegetation dening in cost center ı (WMP) Initiative Categories.
2017	:	20 5	523	0	0.1	CCTR Transf From 2100-4089.000
Explanation:	Resource Allocation Met	hodology to Worl	kpaper 1WM0	003 Grid De	sign & Syster	ng from Workpaper 1WM007 m Hardening in cost center n (WMP) Initiative Categories.
2017		0	6	0	0.0	CCTR Transf From 2100-0222.000
Explanation:	Transfer wildfire related Engineering to Workpap costs where they are ref	er 1WM003 Grid	Design & Sys	stem Harder	ning in cost c	enter 2100-3932 to align
2017		0	0	0	0.1	CCTR Transf From 2100-0223.000
Explanation:	Transfer wildfire related Engineering to Workpap costs where they are ref	er 1WM003 Grid	Design & Sys	stem Harder	ning in cost c	enter 2100-3932 to align
2017		0 1	99	0	0.1	CCTR Transf From 2100-0225.000
Explanation:	Transfer wildfire related Engineering to Workpap costs where they are ref	er 1WM003 Grid	Design & Sys	stem Harder	ning in cost c	enter 2100-3932 to align
2017		0	4	0	0.0	CCTR Transf From 2100-3773.000

### Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening
Category-Sub: 1. Grid Design & System Hardening

Workpaper: 1WM003.000 - Grid Design & System Hardening

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>
xplanation:	Transfer Non-Labor associated Operations & Protocols to Work to align costs where they are re	paper 1WM003 G	Grid Design &	System Har	dening in cost center 2100-3932
2017 Total	20	1,030	0	0.4	
2018	0	0	0	0.1	CCTR Transf From 2100-0119.00
xplanation:	Transfer wildfire related O&M at Engineering to Workpaper 1WM costs where they are reflected in	1003 Grid Design	& System Ha	rdening in co	ost center 2100-3932 to align
2018	0	117	0	0.0	CCTR Transf From 2100-0166.00
xplanation:	Management & Inspections to V	Vorkpaper 1WM0	03 Grid Desig	n & System	n Workpaper 1WM005 Vegetation Hardening in cost center Plan (WMP) Initiative Categories.
2018	0	2	0	0.0	CCTR Transf From 2100-0218.00
xplanation:	Management & Inspections to V	Vorkpaper 1WM0	03 Grid Desig	n & System	n Workpaper 1WM005 Vegetation Hardening in cost center Plan (WMP) Initiative Categories.
2018	0	31	0	0.0	CCTR Transf From 2100-0222.00
xplanation:	Transfer wildfire related O&M at Engineering to Workpaper 1WM costs where they are reflected in	1003 Grid Design	& System Ha	rdening in co	ost center 2100-3932 to align
2018	0	0	0	0.1	CCTR Transf From 2100-0223.00
cplanation:	Transfer wildfire related O&M at Engineering to Workpaper 1WM costs where they are reflected in	1003 Grid Design	& System Ha	rdening in co	ost center 2100-3932 to align
2018	0	15	0	0.0	CCTR Transf From 2100-0224.00
xplanation:	Transfer wildfire related O&M at Engineering to Workpaper 1WM costs where they are reflected in	1003 Grid Design	& System Ha	rdening in co	ost center 2100-3932 to align
2018	0	1,108	0	0.1	CCTR Transf From 2100-0225.00
xplanation:	Transfer wildfire related O&M at Engineering to Workpaper 1WM costs where they are reflected in	1003 Grid Design	& System Ha	rdening in co	ost center 2100-3932 to align
2018	0	0	0	0.0	CCTR Transf From 2100-3773.00
xplanation:	Transfer Non-Labor associated Operations & Protocols to Work to align costs where they are re	paper 1WM003 G	Grid Design &	System Har	dening in cost center 2100-3932
2018	0	-2	0	0.0	1-Sided Adj
xplanation:	One-sided adjustment to exclud	le \$1 917 related t	o Events and	l Tickets	

SDG&E/WILDFIRE MITIGATION & VEGETATION MANAGEMENT/Exh No:SDG&E-13-WP-R/Witness: J. Woldemariam Page 36 of 165

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening
Category-Sub: 1. Grid Design & System Hardening

Workpaper: 1WM003.000 - Grid Design & System Hardening

Vegetation Management & Inspections to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019 0 0 0 0 0.0 CCTR Transf From 2100-0222.000  Explanation: Transfer wildfire related O&M associated with System Hardening from Workpaper 1ED012 Electric Engineering to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019 0 -29 0 0.0 CCTR Transf From 2100-0225.000  Explanation: Transfer wildfire related O&M associated with System Hardening from Workpaper 1ED012 Electric Engineering to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019 17 0 0 0 CCTR Transf From 2100-3773.000  Explanation: Transfer Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM006 Grid Operations & Protocols to Workpaper 1VM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019 0 0 0 0 0 CCTR Transf From 2100-3854.000  Explanation: Transfer Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM001 Emergency Planning & Preparedness to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019 0 1 0 0.0 CCTR Transf From 2100-0218.000  Explanation: Transfer Non-Labor associated with Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019 1 1 0 0 0.0 CCTR Transf From 2100-0218.000  Explanation: Transfer Labor, FTEs, and Non-Labor associated with Grid Design & System Hardening in cost center 2100-3932 to a	Vorkpaper:	1WM003.000	- Grid Design	& System Harde	ening		
2019 0 0 0 0 0.1 CCTR Transf From 2100-0166.000 Explanation: Transfer Labor and Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM005 Vegetation Management & Inspections to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019 0 0 0 0 0.0 CCTR Transf From 2100-0222.000 Explanation: Transfer wildfire related O&M associated with System Hardening from Workpaper 1ED012 Electric Engineering to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019 0 -29 0 0.0 CCTR Transf From 2100-0225.000 Explanation: Transfer wildfire related O&M associated with System Hardening from Workpaper 1ED012 Electric Engineering to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019 0 17 0 0.0 CCTR Transf From 2100-3773.000 Explanation: Transfer Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM006 Grid Operations & Protocols to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019 0 0 0 0.0 CCTR Transf From 2100-3854.000 Explanation: Transfer Non-Labor associated with Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019 0 1 0 0.0 CCTR Transf From 2100-0218.000 Explanation: Transfer Non-Labor associated with Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019 0 1 0 0.0 CCTR Transf From 2100-0218.000 Explanation: Transfer Labor, FTEs, and Non-Labor associated with Grid Design &	<u>Year</u>		<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type
Explanation: Transfer Labor and Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM005 Vegetation Management & Inspections to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019 0 0 0 0.0 CCTR Transf From 2100-0222.000 Explanation: Transfer wildfire related O&M associated with System Hardening from Workpaper 1ED012 Electric Engineering to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019 0 2-29 0 0.0 CCTR Transf From 2100-0225.000 Explanation: Transfer wildfire related O&M associated with System Hardening from Workpaper 1ED012 Electric Engineering to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019 0 17 0 0.0 CCTR Transf From 2100-3773.000 Explanation: Transfer Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM003 Grid Design & System Hardening from Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019 0 0 0 0.0 CCTR Transf From 2100-3854.000 Explanation: Transfer Non-Labor associated with Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019 0 1 0 0.0 CCTR Transf From 2100-0218.000 Explanation: Transfer Non-Labor associated with Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019 0 1 0 0.0 CCTR Transf From 2100-4089.000 Explanation: Transfer Labor, FTEs, and Non-Labor associated with Grid Design & System Hardening in cost center 2100-3932 to	2018 Total		0	1,270	0	0.3	
Transfer wildfire related O&M associated with System Hardening from Workpaper 1ED012 Electric Engineering to Workpaper 1VM/003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  Transfer wildfire related O&M associated with System Hardening from Workpaper 1ED012 Electric Engineering to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  Transfer Non-Labor associated with Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  Transfer Non-Labor associated with Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  Transfer Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM001 Emergency Planning & Preparedness to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  Transfer Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM001 Emergency Planning & Preparedness to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  Transfer Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM005 Vegetation Management & Inspections to Workpaper 1WM003 Grid Design & System Hardening from Workpaper 1WM007 Resource Allocation Methodology to Workpaper 1WM003 Grid Design & System Hardening from Workpaper 1WM007 Resource Allocation Methodology to Workpaper 1WM003 Grid Design & System Hardening from Workpaper 1WM003 Grid Design & System Hardening from Workpaper 1W	2019 Explanation:	Vegetation Manage center 2100-3932 to	Non-Labor as ment & Inspe	sociated with Gr ctions to Workpa	id Design & 3 per 1WM003	System Hard Grid Desigi	dening from Workpaper 1WM005 n & System Hardening in cost
Engineering to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  O -29 O 0.0 CCTR Transf From 2100-0225.000  Explanation:  Transfer wildfire related O&M associated with System Hardening from Workpaper 1ED012 Electric Engineering to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  O 17 O 0.0 CCTR Transf From 2100-3773.000  Explanation:  Transfer Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM006 Grid Operations & Protocols to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  O 0 0 0.0 CCTR Transf From 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  Transfer Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM001 Emergency Planning & Preparedness to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  Transfer Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM005 Vegetation Management & Inspections to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  321  2,464  0  1,4  CCTR Transf From 2100-4089.000  Explanation:  Transfer Labor, FTEs, and Non-Labor associated with Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  O -1  O 0.0 CCTR Transf From 2100-4089.000  Transfer Labor, FTEs, and Non-Labor associated with Grid Des	2019		0	0	0	0.0	CCTR Transf From 2100-0222.000
Transfer wildfire related O&M associated with System Hardening from Workpaper 1ED012 Electric Engineering to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  0 17 0 0.0 CCTR Transf From 2100-3773.000  Explanation:  Transfer Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM006 Grid Operations & Protocols to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  0 0 0 0.0 CCTR Transf From 2100-3954.000  Explanation:  Transfer Non-Labor associated with Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  0 1 0 0.0 CCTR Transf From 2100-0218.000  Explanation:  Transfer Non-Labor associated with Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  Transfer Non-Labor associated with Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  321 2,464 0 1.4 CCTR Transf From 2100-4089.000  Explanation:  Transfer Labor, FTEs, and Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM007 Resource Allocation Methodology to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  0 -1 0 0.0 CCTR Transf To 2100-4089.002  Explanation:  Transfer Non-Labor associated with Asset Management & Inspections from Workpaper 1WM003 Grid Design & System Hardening to Workpaper 1WM004 Asset Management & Inspections in cost center 2100-4089.002 to align costs where they are reflected in the Wildfi	Explanation:	Engineering to Wor	kpaper 1WM0	03 Grid Design 8	System Ha	rdening in co	ost center 2100-3932 to align
Engineering to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  0 17 0 0.0 CCTR Transf From 2100-3773.000  Explanation:  Transfer Non-Labor associated with Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  0 0 0 0.0 CCTR Transf From 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  Explanation:  Transfer Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM001 Emergency Planning & Preparedness to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  Explanation:  Transfer Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM005 Vegetation Management & Inspections to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  321  2,464  0  1.4 CCTR Transf From 2100-4089.000  Transfer Labor, FTEs, and Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM007 Resource Allocation Methodology to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  0 -1 0 0.0 CCTR Transf From 2100-4089.002  Explanation:  Transfer Non-Labor associated with Asset Management & Inspections from Workpaper 1WM003 Grid Design & System Hardening to Workpaper 1WM004 Asset Management & Inspections in cost center 2100-4089.002 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.	2019		0	-29	0	0.0	CCTR Transf From 2100-0225.000
Transfer Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM006 Grid Operations & Protocols to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  0 0 0 0 0 0 CCTR Transf From 2100-3854.000  Explanation:  Transfer Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM001 Emergency Planning & Preparedness to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  0 1 0 0.0 CCTR Transf From 2100-0218.000  Explanation:  Transfer Non-Labor associated with Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  321 2,464 0 1.4 CCTR Transf From 2100-4089.000  Explanation:  Transfer Labor, FTEs, and Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM007 Resource Allocation Methodology to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  0 -1 0 0.0 CCTR Transf To 2100-4089.002  Explanation:  Transfer Non-Labor associated with Asset Management & Inspections from Workpaper 1WM003 Grid Design & System Hardening to Workpaper 1WM004 Asset Management & Inspections in cost center 2100-4089.002 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.	Explanation:	Engineering to Wor	kpaper 1WM0	03 Grid Design 8	& System Ha	rdening in co	ost center 2100-3932 to align
Operations & Protocols to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  0 0 0 0 0.0 CCTR Transf From 2100-3854.000  Explanation: Transfer Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM001 Emergency Planning & Preparedness to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  0 1 0 0.0 CCTR Transf From 2100-0218.000  Explanation: Transfer Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM005 Vegetation Management & Inspections to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  321 2,464 0 1.4 CCTR Transf From 2100-4089.000  Explanation: Transfer Labor, FTEs, and Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM007 Resource Allocation Methodology to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  0 1 0 0 1 0 0.0 CCTR Transf From 2100-4089.002  Explanation: Transfer Non-Labor associated with Asset Management & Inspections from Workpaper 1WM003 Grid Design & System Hardening to Workpaper 1WM004 Asset Management & Inspections in cost center 2100-4089.002 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.	2019		0	17	0	0.0	CCTR Transf From 2100-3773.000
Transfer Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM001 Emergency Planning & Preparedness to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  0 1 0 0.0 CCTR Transf From 2100-0218.000  Explanation:  Transfer Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM005 Vegetation Management & Inspections to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  321 2,464 0 1.4 CCTR Transf From 2100-4089.000  Explanation:  Transfer Labor, FTEs, and Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM007 Resource Allocation Methodology to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  0 -1 0 0.0 CCTR Transf To 2100-4089.002  Explanation:  Transfer Non-Labor associated with Asset Management & Inspections from Workpaper 1WM003 Grid Design & System Hardening to Workpaper 1WM004 Asset Management & Inspections in cost center 2100-4089.002 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.	Explanation:	Operations & Proto	cols to Workpa	aper 1WM003 G	rid Design &	System Har	dening in cost center 2100-3932
Planning & Preparedness to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  0 1 0 0.0 CCTR Transf From 2100-0218.000  Explanation:  Transfer Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM005 Vegetation Management & Inspections to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  321 2,464 0 1.4 CCTR Transf From 2100-4089.000  Explanation:  Transfer Labor, FTEs, and Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM007 Resource Allocation Methodology to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  0 -1 0 0.0 CCTR Transf To 2100-4089.002  Explanation:  Transfer Non-Labor associated with Asset Management & Inspections from Workpaper 1WM003 Grid Design & System Hardening to Workpaper 1WM004 Asset Management & Inspections in cost center 2100-4089.002 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.	2019		0	0	0	0.0	CCTR Transf From 2100-3854.000
Transfer Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM005 Vegetation Management & Inspections to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  321  2,464  0  1.4  CCTR Transf From 2100-4089.000  Explanation:  Transfer Labor, FTEs, and Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM007 Resource Allocation Methodology to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  0  -1  0  0.0  CCTR Transf To 2100-4089.002  Explanation:  Transfer Non-Labor associated with Asset Management & Inspections from Workpaper 1WM003 Grid Design & System Hardening to Workpaper 1WM004 Asset Management & Inspections in cost center 2100-4089.002 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.	Explanation:	Planning & Prepare	dness to Worl	kpaper 1WM003	Grid Design	& System H	lardening in cost center
Management & Inspections to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  321 2,464 0 1.4 CCTR Transf From 2100-4089.000  Explanation:  Transfer Labor, FTEs, and Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM007 Resource Allocation Methodology to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  0 -1 0 0.0 CCTR Transf To 2100-4089.002  Explanation:  Transfer Non-Labor associated with Asset Management & Inspections from Workpaper 1WM003 Grid Design & System Hardening to Workpaper 1WM004 Asset Management & Inspections in cost center 2100-4089.002 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.	2019		0	1	0	0.0	CCTR Transf From 2100-0218.000
Transfer Labor, FTEs, and Non-Labor associated with Grid Design & System Hardening from Workpaper 1WM007 Resource Allocation Methodology to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  0 -1 0 0.0 CCTR Transf To 2100-4089.002  Explanation: Transfer Non-Labor associated with Asset Management & Inspections from Workpaper 1WM003 Grid Design & System Hardening to Workpaper 1WM004 Asset Management & Inspections in cost center 2100-4089.002 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.	Explanation:	Management & Ins	pections to Wo	orkpaper 1WM00	3 Grid Desig	ın & System	Hardening in cost center
1WM007 Resource Allocation Methodology to Workpaper 1WM003 Grid Design & System Hardening in cost center 2100-3932 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.  2019  0 -1 0 0.0 CCTR Transf To 2100-4089.002  Explanation: Transfer Non-Labor associated with Asset Management & Inspections from Workpaper 1WM003 Grid Design & System Hardening to Workpaper 1WM004 Asset Management & Inspections in cost center 2100-4089.002 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.	2019		321	2,464	0	1.4	CCTR Transf From 2100-4089.000
Transfer Non-Labor associated with Asset Management & Inspections from Workpaper 1WM003 Grid Design & System Hardening to Workpaper 1WM004 Asset Management & Inspections in cost center 2100-4089.002 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.	Explanation:	1WM007 Resource cost center 2100-39	Allocation Me	thodology to Wo	rkpaper 1WN	M003 Grid D	esign & System Hardening in
Design & System Hardening to Workpaper 1WM004 Asset Management & Inspections in cost center 2100-4089.002 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.	2019		0	-1	0	0.0	CCTR Transf To 2100-4089.002
2019 Total 321 2,453 0 1.5	Explanation:	Design & System F 2100-4089.002 to a	lardening to W	orkpaper 1WM0	04 Asset Ma	nagement &	Inspections in cost center
	2019 Total		321	2,453	0	1.5	

### Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening
Category-Sub: 1. Grid Design & System Hardening

Workpaper: 1WM003.000 - Grid Design & System Hardening

<u>Year</u>		<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type
2020		0	-81	0	0.0	1-Sided Adj
explanation:	Incremental costs the Memorandum Acco	•	ated to be reque	ested for reco	very through	a non-GRC Catastrophic Event
2020		0	-1	0	0.0	1-Sided Adj
xplanation:	Incremental COVID Catastrophic Event		•		uested for re	ecovery through a non-GRC
2020		0	9	0	0.0	CCTR Transf From 2100-3773.000
Explanation:	Operations & Protoc	cols to Workp	aper 1WM003 G	Grid Design &	System Hard	Workpaper 1WM006 Grid dening in cost center 2100-3932 ) Initiative Categories.
2020		1	0	0	0.1	CCTR Transf From 2100-0166.000
Explanation:	Vegetation Manage	ment & Inspe	ctions to Workpa	aper 1WM003	Grid Design	lening from Workpaper 1WM005 n & System Hardening in cost gation Plan (WMP) Initiative
2020		0	1	0	0.0	CCTR Transf From 2100-0218.000
xplanation:	Management & Insp	ections to W	orkpaper 1WM0	03 Grid Desig	ın & System	Workpaper 1WM005 Vegetation Hardening in cost center Plan (WMP) Initiative Categories.
2020		441	12,578	0	2.6	CCTR Transf From 2100-4089.000
Explanation:	1WM007 Resource	Allocation Me	thodology to Wo	orkpaper 1WI	M003 Grid De	em Hardening from Workpaper esign & System Hardening in e Mitigation Plan (WMP) Initiative
2020		0	-12	0	0.0	CCTR Transf To 2100-4089.002
Explanation:	Design & System H	ardening to V	/orkpaper 1WM(	004 Asset Ma	nagement &	Norkpaper 1WM003 Grid Inspections in cost center tion Plan (WMP) Initiative
2020		0	11	0	0.0	CCTR Transf From 2100-0222.000
Explanation:		kpaper 1WM0	003 Grid Design	& System Ha	rdening in co	kpaper 1ED012 Electric ost center 2100-3932 to align ve Categories.
2020		0	5	0	0.0	CCTR Transf From 2100-0225.000
explanation:		kpaper 1WM0	003 Grid Design	& System Ha	rdening in co	kpaper 1ED012 Electric ost center 2100-3932 to align re Categories.
	ocoto whore they ar	o romodiou iii		,	,	

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening
Category-Sub: 1. Grid Design & System Hardening

Workpaper: 1WM003.000 - Grid Design & System Hardening

<u>Year</u>	<u>La</u>	<u>bor</u>	<u>NLbr</u>	NSE	<u>FTE</u>	Adj Type
2021		0	-4	0	0.0	1-Sided Adj
Explanation:	Incremental costs that Memorandum Account	•	to be requeste	ed for recover	ry through a	non-GRC Catastrophic Event
2021		0	-1	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-re Catastrophic Event Me		•	d to be reque	sted for reco	overy through a non-GRC
2021		17	506	0	0.2	1-Sided Adj
Explanation:	One-sided adjustment Settlement order.	to include Labo	or, Non-Labor a	and FTE dired	ct costs for th	ne Covered Conductor O&M
2021		20	555	0	0.2	1-Sided Adj
Explanation:	One-sided adjustment System Hardening Set			and FTE direc	ct costs for th	ne O&M associated with
2021 Total		37	1,056	0	0.4	

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening Category-Sub: 1. Grid Design & System Hardening

1WM003.000 - Grid Design & System Hardening Workpaper:

### RAMP Item # 1

### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C12/M7 T1-T2 RAMP Line Item Name: Hotline Clamps

Tranche(/s): Tranche1: Tier 3; Tranche2: Tier 2

### **GRC Forecast Cost Estimates (\$000)**

	2021 Historical Embedded Cost	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP R (2020 Inci	ange
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	383	2,160	2,160	182	164	201
Tranche 2 Cost Estimate	3,265	2,160	2,160	182	164	201
Cost Estimate Changes from Within RAMP range.	m RAMP:					

GRC Work Unit/Activity Level	<u>Estimates</u>					
Unit of Measure	2021 Historical Embedded Activities	2022 Forecast Activities	2023 Forecast Activities	2024 Forecast Activities	2024 RA Range Ac Low	
Tranche 1 # of hotline clamps removed	288.00	825.00	825.00	106.00	86.00	106.00
Tranche 2 # of hotline clamps removed	2,456.00	825.00	825.00	106.00	86.00	106.00
Work Unit Changes from RAM Within RAMP range.	<b>P</b> :					

	GRC RSE	RAMP RSE
Tranche 1	264.000	0.000
Tranche 2	80.000	0.000

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

C. Grid Design & System Hardening Category: Category-Sub: 1. Grid Design & System Hardening

1WM003.000 - Grid Design & System Hardening Workpaper:

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex.

SCG-03/SDG&E-03, Chapter 2)

Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening Category-Sub: 1. Grid Design & System Hardening

1WM003.000 - Grid Design & System Hardening Workpaper:

### RAMP Item # 2

### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C16/M11 T1-T2

RAMP Line Item Name: Strategic Undergrounding Tranche(/s): Tranche1: Tier 3; Tranche2: Tier 2

### **GRC Forecast Cost Estimates (\$000)**

	2021 Historical Embedded Cost	2022 Forecast	2023 Forecast	2024 Forecast	202 <sup>4</sup> RAMP R (2020 Inci	ange
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	57	1,511	2,321	2,592	5,993	7,324
Tranche 2 Cost Estimate	33	887	1,310	1,523	3,596	4,395
Cost Estimate Changes fro	m RAMP:					

Lower than RAMP range primarily due to updates to expected work units in 2024.

GRC Work Unit/Activity Level E	<u>stimates</u>					
Unit of Measure	2021 Historical Embedded Activities	2022 Forecast Activities	2023 Forecast Activities	2024 Forecast Activities	2024 RA Range Ac Low	
Tranche 1 # of Miles UG (Capital)	19.50	37.80	78.80	94.50	84.00	103.00
Tranche 2 # of Miles UG (Capital)	11.50	22.20	46.30	55.50	51.00	62.00
Work Unit Changes from RAMP Within RAMP range.	<b>?</b> :					

	GRC RSE	RAMP RSE
Tranche 1	235.000	156.000
Tranche 2	122.000	54.000

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

C. Grid Design & System Hardening Category: Category-Sub: 1. Grid Design & System Hardening

1WM003.000 - Grid Design & System Hardening Workpaper:

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as

discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex.

SCG-03/SDG&E-03, Chapter 2)

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening 1. Grid Design & System Hardening Category-Sub:

1WM003.000 - Grid Design & System Hardening Workpaper:

### RAMP Item # 3

### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C07/M2 T1-T2

RAMP Line Item Name: OH Dist Fire Hardening Covered Cond

Tranche(/s): Tranche1: Tier 3; Tranche2: Tier 2

### **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	445	971	1,237	1,309	2,962	3,620
Tranche 2 Cost Estimate	73	218	272	287	650	795

### **Cost Estimate Changes from RAMP:**

Lower than RAMP range primarily due to updated unit targets for program through 2024.

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 RA Range Act	
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 # of miles hardened (Capital)	11.00	49.00	82.00	82.00	74.00	90.00
Tranche 2 # of miles hardened (Capital)	2.00	11.00	18.00	18.00	16.00	20.00

Risk Spend Efficiency (RSE)			
	GRC RSE	RAMP RSE	
Tranche 1	80.000	32.000	
Tranche 2	54.000	14.000	
RSE Changes from RAMP:			

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

C. Grid Design & System Hardening Category: Category-Sub: 1. Grid Design & System Hardening

1WM003.000 - Grid Design & System Hardening Workpaper:

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex.

SCG-03/SDG&E-03, Chapter 2).

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Jonathan Woldemariam Witness:

Category: C. Grid Design & System Hardening Category-Sub: 1. Grid Design & System Hardening

Workpaper: 1WM003.000 - Grid Design & System Hardening

### RAMP Item # 4

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C13/M8 T1-T2

RAMP Line Item Name: Resiliency Grant Programs Tranche(/s): Tranche1: Tier 3; Tranche2: Tier 2

### **GRC Forecast Cost Estimates (\$000)**

	2021 Historical Embedded Cost	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP R (2020 Inci	ange
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	2,938	3,640	3,640	3,465	2,370	2,897
Tranche 2 Cost Estimate	4,954	6,760	6,760	6,934	4,740	5,793

#### **Cost Estimate Changes from RAMP:**

Higher than RAMP range primarily due to increased targets for backup battery units.

GRC Work Unit/Activity Level Estimates								
Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 R Range A			
Measure	Activities	Activities	Activities	Activities	Low	High		
Tranche 1 # of generators	860.00	1,050.00	1,050.00	1,000.00	600.00	733.00		
Tranche 2 # of generators	1,450.00	1,950.00	1,950.00	2,000.00	1,200.00	1,467.00		

### Work Unit Changes from RAMP:

Higher than RAMP range primarily due to increased targets for backup battery units.

### Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE	
Tranche 1	418.000	76.000	_
Tranche 2	466.000	38.000	

#### **RSE Changes from RAMP:**

WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Area:

Category: C. Grid Design & System Hardening
Category-Sub: 1. Grid Design & System Hardening

Workpaper: 1WM003.000 - Grid Design & System Hardening

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening Category-Sub: 1. Grid Design & System Hardening

Workpaper: 1WM003.000 - Grid Design & System Hardening

### RAMP Item # 5

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C14/M9 T1-T2

RAMP Line Item Name: Standby Power Programs Tranche(/s): Tranche1: Tier 3; Tranche2: Tier 2

### **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	8,822	10,253	10,247	10,350	4,163	5,088
Tranche 2 Cost Estimate	112	97	104	0	0	0

### **Cost Estimate Changes from RAMP:**

Increase versus RAMP range 180 units 100% Tier 3 in 2024. Program expansion identified after RAMP filing to increase the number of fixed backup power generators to customers.

GRC Work	Unit/Activity	Level Estimates

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 RA	
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 # of generators	395.00	530.00	407.90	412.00	164.00	200.00
Tranche 2 # of generators	5.00	5.00	4.10	0.00	2.00	2.00

### Work Unit Changes from RAMP:

Increase versus RAMP range 180 units 100% Tier 3 in 2024. Program expansion identified after RAMP filing to increase the number of fixed backup power generators to customers.

			· ·
Risk	Spend	Efficiency	(RSF)

	GRC RSE	RAMP RSE	
Tranche 1	133.000	120.000	
Tranche 2	0.000	0.000	

### **RSE Changes from RAMP:**

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

C. Grid Design & System Hardening Category: Category-Sub: 1. Grid Design & System Hardening

1WM003.000 - Grid Design & System Hardening Workpaper:

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex.

SCG-03/SDG&E-03, Chapter 2).

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening Category-Sub: 1. Grid Design & System Hardening

Workpaper: 1WM003.000 - Grid Design & System Hardening

### RAMP Item # 6

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C15/M10 T1-T2

RAMP Line Item Name: Resiliency Assistance Programs

Tranche(/s): Tranche1: Tier 3; Tranche2: Tier 2

### **GRC Forecast Cost Estimates (\$000)**

	2021 Historical Embedded Cost	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP R (2020 Inci	ange
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	299	731	731	732	324	396
Tranche 2 Cost Estimate	446	1,097	1,097	1,097	486	594

### **Cost Estimate Changes from RAMP:**

Increase versus RAMP range due to Resiliency Assistance Program growth based on identifying additional customers and increasing capabilities to provide those customers with generators.

GRC Work	Unit/Activity	Level Estimates

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 RA Range Ac	
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 # of generators	295.00	500.00	500.00	500.00	221.00	271.00
Tranche 2 # of generators	440.00	750.00	750.00	750.00	332.00	406.00

### Work Unit Changes from RAMP:

Increase versus RAMP range due to Resiliency Assistance Program growth based on identifying additional customers and increasing capabilities to provide those customers with generators.

			/B 6 B 1
Risk	Spend	<b>Efficiency</b>	(RSF)

	GRC RSE	RAMP RSE	
Tranche 1	380.000	569.000	
Tranche 2	190.000	284.000	

### **RSE Changes from RAMP:**

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

C. Grid Design & System Hardening Category: Category-Sub: 1. Grid Design & System Hardening

1WM003.000 - Grid Design & System Hardening Workpaper:

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex.

SCG-03/SDG&E-03, Chapter 2).

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening 1. Grid Design & System Hardening Category-Sub:

1WM003.000 - Grid Design & System Hardening Workpaper:

### RAMP Item #7

### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C10/M5 T2 RAMP Line Item Name: Microgrids

Tranche(/s): Tranche1: Tier 3; Tranche2: Tier 2

### **GRC Forecast Cost Estimates (\$000)**

	2021 Historical Embedded Cost	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP R (2020 Inci	ange
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	1,492	0	0	0	0	0
Tranche 2 Cost Estimate	0	1,607	1,607	1,607	1,284	1,570

### **Cost Estimate Changes from RAMP:**

Increase versus RAMP range based on updated cost and unit forecasts aligned with filed WMP 2022 plan.

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 RA Range Act	
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 # of microgrids (Capital)	6.00	0.00	0.00	0.00	0.00	0.00
Tranche 2 # of microgrids (Capital)	0.00	6.00	6.00	6.00	1.00	1.00

	GRC RSE	RAMP RSE
Tranche 1	0.000	0.000
Tranche 2	28.000	30.000

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening Category-Sub: 1. Grid Design & System Hardening

Workpaper: 1WM003.000 - Grid Design & System Hardening

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2)

#### RAMP Item #8

### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: New02

RAMP Line Item Name: CNF Access Roads

Tranche(/s): Tranche1: N/A

### **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	0	1,467	1,467	0	0	0

#### **Cost Estimate Changes from RAMP:**

New item not included in original RAMP filing, No new circuits are being hardened, but environmental restoration work on CNF land will continue.

### **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 # Line Segments	0.00	4.50	4.50	0.00	0.00	0.00

### Work Unit Changes from RAMP:

New item not included in original RAMP filing, No new circuits are being hardened, but environmental restoration work on CNF land will continue.

### Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE	
Tranche 1	0.000	0.000	

#### **RSE Changes from RAMP:**

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening 1. Grid Design & System Hardening Category-Sub:

1WM003.000 - Grid Design & System Hardening Workpaper:

### RAMP Item #9

### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: New03

RAMP Line Item Name: CNF Land Management

Tranche(/s): Tranche1: N/A

GRC Forecast Cost Estima	ites (\$000)					
	2021 Historical Embedded Cost	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP R (2020 Inci	ange urred \$)
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	0	202	134	134	0	0
Cost Estimate Changes from New item not included in ori						

GRC Work Unit/Activity Level	<u>Estimates</u>					
Unit of Measure	2021 Historical Embedded Activities	2022 Forecast Activities	2023 Forecast Activities	2024 Forecast Activities	2024 RA Range Act Low	tivities
Weasure	Activities	Activities	Activities	Activities	LOW	High
Tranche 1 Cleveland National Forecast Master Special Use Permit	0.00	1.00	1.00	1.00	0.00	0.00
Work Unit Changes from RAM New item not included in original						

Risk Spend Efficiency (RSE)					
	GRC RSE	RAMP RSE			
Tranche 1	0.000	0.000			
BSE Changes from BAMD					

#### RSE Changes from RAMP:

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening Category-Sub: 1. Grid Design & System Hardening

1WM003.000 - Grid Design & System Hardening Workpaper:

### RAMP Item # 10

### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: N/A

RAMP Line Item Name: BLM Land Management

Tranche(/s): Tranche1: New01

GRC Forecast Cost Estima	<u>tes (\$000)</u>					
	2021 Historical	2022	2023	2024	2024 RAMP R	
	<b>Embedded Cost</b>	Forecast	Forecast	Forecast	(2020 Inc	urred \$)
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	0	231	4	4	0	0

**Cost Estimate Changes from RAMP:** 

New item not included in original RAMP filing.

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 RA Range Act	
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 # plans	0.00	1.00	1.00	1.00	0.00	0.00

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

### **RSE Changes from RAMP:**

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening
Category-Sub: 1. Grid Design & System Hardening

Workpaper: 1WM003.000 - Grid Design & System Hardening

### RAMP Item # 11

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C17/M12 T1-T3

RAMP Line Item Name: OH Dist Fire Hardening Bare Conductor

Tranche(/s): Tranche1: Tier 3; Tranche2: Tier 2; Tranche3: Non-HFTD

### **GRC Forecast Cost Estimates (\$000)**

	2021 Historical Embedded Cost			2024 Forecast	2024 RAMP Range (2020 Incurred \$)	
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	1,143	75	23	20	0	0
Tranche 2 Cost Estimate	1,470	96	30	26	0	0
Tranche 3 Cost Estimate	109	7	2	2	0	0

### **Cost Estimate Changes from RAMP:**

Increase versus RAMP range primarily due to expected program closeout costs not included in orginal RAMP report.

GRC Work	Unit/Activity I	evel Estimates
GRC WOIK	UIIII/ACIIVIIV L	evei Estilliates.

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 RA Range Act	
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 # of miles hardened (Capital)	42.00	10.50	2.10	2.10	0.00	0.00
Tranche 2 # of miles hardened (Capital)	54.10	13.50	2.70	2.70	0.00	0.00
Tranche 3 # of miles hardened (Capital)	4.00	1.00	0.20	0.20	0.00	0.00

### Work Unit Changes from RAMP:

Increase versus RAMP range primarily due to expected program closeout costs not included in orginal RAMP report.

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: C. Grid Design & System Hardening
Category-Sub: 1. Grid Design & System Hardening

Workpaper: 1WM003.000 - Grid Design & System Hardening

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

	GRC RSE	RAMP RSE	
Tranche 1	41.000	53.000	_
Tranche 2	0.000	53.000	
Tranche 3	0.000	0.000	

### **RSE Changes from RAMP:**

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Jonathan Woldemariam Witness:

D. Asset Management & Inspections Category:

1WM004.000 Workpaper:

### Summary for Category: D. Asset Management & Inspections

	In 2021\$ (000) Incurred Costs						
	Adjusted-Recorded	Adjusted-Forecast					
	2021	2022	2023	2024			
Labor	1,421	2,536	1,785	1,186			
Non-Labor	35,528	83,376	46,966	14,189			
NSE	0	0	0	0			
Total	36,949	85,912	48,751	15,375			
FTE	10.2	21.4	13.9	7.9			

### Workpa

### 1WM004.000 Asset Management & Inspections

1,421	2,536	1,785	1,186
35,528	83,376	46,966	14,189
0	0	0	0
36,949	85,912	48,751	15,375
10.2	21.4	13.9	7.9
	35,528 0 36,949	35,528 83,376 0 0 36,949 85,912	35,528     83,376     46,966       0     0     0       36,949     85,912     48,751

Beginning of Workpaper

1WM004.000 - Asset Management & Inspections

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Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: D. Asset Management & Inspections
Category-Sub 1. Asset Management & Inspections

Workpaper: 1WM004.000 - Asset Management & Inspections

### **Activity Description:**

This cost category consists of SDG&E's asset management and inspection programs. The purpose of these programs is to promote safety for the general public, SDG&E personnel, and contractors by providing a safe operating and construction environment while maintaining system reliability. SDG&E's established inspection and maintenance programs enable SDG&E to identify and repair conditions and components to reduce the potential of equipment failure on SDG&E's electric system to minimize hazards and maintain system reliability. To accomplish this, SDG&E meets or exceeds the requirements of the inspections mandated by Public Resource Code Sections 4292 and 4293 as well as G.O. 95, G.O. 128, G.O. 165, and G.O. 174.

The asset inspection programs contained within this workpaper are the HFTD inspections associated with drone inspections, detailed inspections, HFTD Tier 3 inspections, patrol inspections, intrusive wood pole inspections, LiDAR inspections, and infrared inspections.

#### Forecast Explanations:

#### Labor - Base YR Rec

The base-year forecast methodology was selected as most indicative of future work. New initiatives and programs have been implemented beginning in 2020 due to the Wildfire Mitigation Plan, and these enhancements are not captured in the historical costs of this category. Accordingly, 2021 base year expenses are most representative of future needs based on an expansion in complexity and scope of existing projects and initiatives.

### Non-Labor - Base YR Rec

The base-year forecast methodology was selected as most indicative of future work. New initiatives and programs have been implemented beginning in 2020 due to the Wildfire Mitigation Plan, and these enhancements are not captured in the historical costs of this category. Accordingly, 2021 base year expenses are most representative of future needs based on an expansion in complexity and scope of existing projects and initiatives.

#### **NSE - Base YR Rec**

Not applicable.

### **Summary of Results:**

	In 2021\$ (000) Incurred Costs							
	Adjusted-Recorded				Ad	justed-Fore	cast	
Years	2017	2018	2019	2020	2021	2022	2023	2024
Labor	0	0	811	2,013	1,421	2,535	1,784	1,185
Non-Labor	2	9	15,849	56,435	35,528	83,376	46,966	14,189
NSE	0	0	0	0	0	0	0	0
Total	2	9	16,661	58,448	36,949	85,911	48,750	15,374
FTE	0.0	0.0	5.1	13.2	10.2	21.4	13.9	7.9

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: D. Asset Management & Inspections
Category-Sub: 1. Asset Management & Inspections

Workpaper: 1WM004.000 - Asset Management & Inspections

### Summary of Adjustments to Forecast:

			In 202	1 \$(000) lı	ncurred Co	sts				
Forecas	t Method	Base Forecast Forecast Adjustments			tments	Adjusted-Forecast				
Years	s	2022	2023	2024	2022	2023	2024	2022	2023	2024
Labor	Base YR Rec	1,421	1,421	1,421	1,115	364	-235	2,536	1,785	1,186
Non-Labor	Base YR Rec	35,528	35,528	35,528	47,848	11,438	-21,339	83,376	46,966	14,189
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Tota	ıl	36,949	36,949	36,949	48,963	11,802	-21,574	85,912	48,751	15,375
FTE	Base YR Rec	10.2	10.2	10.2	11.2	3.7	-2.3	21.4	13.9	7.9

### Forecast Adjustment Details:

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj Type	
2022	953	46,714	0	47,667	9.6	1-Sided Adj	
Explanation:	2022-2024 increase pr Inspection – Drone Ins See supplemental wor	pections.	_		d repair costs fo	r Dist System	
2022	-28	-6	0	-34	-0.3	1-Sided Adj	
Explanation:	Reduced forecast for V	VMP O&M relat	ed to Dist Sy	stem Inspection	on – HFTD Tier	3 Inspections.	
2022	33	15	0	48	0.3	1-Sided Adj	
Explanation:	Increased forecast for	WMP O&M rela	ited to Dist Sy	ystem Inspect	– CMP – Annu	al Patrol.	
2022	-12	-767	0	-779	-0.1	1-Sided Adj	
Explanation:	Decreased forecast for	WMP O&M rel	ated to Intrus	ive Poles			
2022	141	77	0	218	1.4	1-Sided Adj	
Explanation:	Increased forecast for	WMP O&M rela	ated to Dist S	syst Inspect–C	MP –5 Yr Deta	I Inspect.	
2022	28	1	0	29	0.3	1-Sided Adj	
Explanation:	Increased forecast for	WMP O&M rela	ited to Dist Sy	ystem Inspect	ion – IR/Corona	l	
2022	0	1,849	0	1,849	0.0	1-Sided Adj	
Explanation:	Increased forecast for	WMP O&M rela	ted to LiDAR	Flights.			
2022	0	-313	0	-313	0.0	1-Sided Adj	
Explanation:	Decreased forecast for expected 2022-2024.	· WMP O&M rel	ated to Enha	nced Steel Po	ole Insp. No fore	casted spend	
2022	0	278	0	278	0.0	1-Sided Adj	
Explanation:	Increased 2022 foreca 2023-2024.	st for WMP O&	M related to (	Cross-Arm Re	mediation. No e	expected spend	
2022 Total	1,115	47,848	0	48,963	11.2		
2023	260	12,750	0	13,010	2.6	1-Sided Adj	

### Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: D. Asset Management & Inspections
Category-Sub: 1. Asset Management & Inspections

Workpaper: 1WM004.000 - Asset Management & Inspections

Workpaper.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ooot managomo	in a mopoor			
<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj_Type
Explanation:	2022-2024 increase p Inspection – Drone In- See supplemental wo	spections.	· ·		repair costs fo	or Dist System
2023	-44	-10	0	-54	-0.4	1-Sided Adj
Explanation:	Reduced forecast for	WMP O&M rela	ted to Dist S	ystem Inspectio	n – HFTD Tie	3 Inspections.
2023	33	15	0	48	0.3	1-Sided Adj
Explanation:	Increased forecast for	WMP O&M rela	ated to Dist S	System Inspect	– CMP – Annı	ıal Patrol.
2023	-13	-786	0	-799	-0.1	1-Sided Adj
Explanation:	Decreased forecast for	or WMP O&M re	lated to Intru	sive Poles		
2023	100	54	0	154	1.0	1-Sided Adj
Explanation:	Increased forecast for	· WMP O&M rela	ated to Dist S	Syst Inspect CM	P –5 Yr Detai	Inspect
2023	28	1	0	29	0.3	1-Sided Adj
Explanation:	Increased forecast for	WMP O&M rela	ated to Dist S	System Inspecti	on – IR/Coron	a
2023	0	349	0	349	0.0	1-Sided Adj
Explanation:	Increased forecast for	WMP O&M rela	ated to LiDAl	R Flights.		
2023	0	-313	0	-313	0.0	1-Sided Adj
Explanation:	Decreased forecast for expected 2022-2024.	or WMP O&M re	lated to Enh	anced Steel Po	e Insp. No for	ecasted spend
2023	0	-622	0	-622	0.0	1-Sided Adj
Explanation:	Decreased forecast for	or WMP O&M re	lated to Cros	ss-Arm Remedia	ation. No expe	cted spend 2023-2024.
2023 Total	364	11,438	0	11,802	3.7	
2024	-411	-20,162	0	-20,573	-4.1	1-Sided Adj
Explanation:	2022-2024 decrease   Inspection – Drone In- See supplemental wo	spections.	_	_	d repair costs	for Dist System
2024	31	7	0	38	0.3	1-Sided Adj
Explanation:	Increased forecast for	WMP O&M rela	ated to Dist S	System Inspecti	on – HFTD Tie	er 3 Inspections.
2024	33	15	0	48	0.3	1-Sided Adj
Explanation:	Increased forecast for	· WMP O&M rela	ated to Dist S	System Inspect	– CMP – Annı	ıal Patrol.
2024	-11	-666	0	-677	-0.1	1-Sided Adj
Explanation:	Decreased forecast for	or WMP O&M re	lated to Intru	sive Poles		
2024	95	52	0	147	1.0	1-Sided Adj
Explanation:	Increased forecast for	· WMP O&M rela	ated to Dist S	Syst Inspect CM	P –5 Yr Detai	Inspect
2024	28	1	0	29	0.3	1-Sided Adj
Explanation:	Increased forecast for	· WMP O&M rela	ated to Dist S	System Inspecti	on – IR/Coron	a
2024	0	349	0	349	0.0	1-Sided Adj

### Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: D. Asset Management & Inspections
Category-Sub: 1. Asset Management & Inspections

Workpaper: 1WM004.000 - Asset Management & Inspections

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj_Type	
Explanation:	Increased forecast for \	WMP O&M rela	ted to LiDAR	Flights.			
2024	0	-313	0	-313	0.0	1-Sided Adj	
Explanation:	Decreased forecast for expected 2022-2024.	WMP O&M rel	ated to Enha	nced Steel Pol	e Insp. No for	ecasted spend	
2024	0	-622	0	-622	0.0	1-Sided Adj	
Explanation:	Decreased forecast for	WMP O&M rela	ated to Cross	-Arm Remedia	ation. No expe	cted spend 2023-2024.	
2024 Total	-235	-21,339	0	-21,574	-2.3		

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Jonathan Woldemariam Witness:

Category: D. Asset Management & Inspections 1. Asset Management & Inspections Category-Sub:

1WM004.000 - Asset Management & Inspections Workpaper:

### **Determination of Adjusted-Recorded (Incurred Costs):**

retermination of Aujusteu-Ne	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	0	0	0	101	1,235
Non-Labor	0	0	0	9,216	35,528
NSE	0	0	0	0	0
Total	0	0	0	9,317	36,763
FTE	0.0	0.0	0.0	0.5	8.7
Adjustments (Nominal \$) **					
Labor	0	0	671	1,607	0
Non-Labor	1	8	14,676	42,953	0
NSE	0	0	0	0	0
Total	1	8	15,347	44,559	0
FTE	0.0	0.0	4.4	10.9	0.0
Recorded-Adjusted (Nominal S	<b>5</b> )				
Labor	0	0	671	1,708	1,235
Non-Labor	1	8	14,676	52,168	35,528
NSE	0	0	0	0	0
Total	1	8	15,347	53,876	36,763
FTE	0.0	0.0	4.4	11.4	8.7
/acation & Sick (Nominal \$)					
Labor	0	0	96	242	186
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	96	242	186
FTE	0.0	0.0	0.7	1.8	1.5
Escalation to 2021\$					
Labor	0	0	45	62	0
Non-Labor	0	1	1,173	4,266	0
NSE	0	0	0	0	0
Total		1	1,217	4,329	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant	2021\$)				
Labor	0	0	811	2,013	1,421
Non-Labor	2	9	15,849	56,435	35,528
NSE	0	0	0	0	0
Total	2	9	16,661	58,448	36,949
FTE	0.0	0.0	5.1	13.2	10.2

<sup>\*</sup> After company-wide exclusions of Non-GRC costs

<sup>\*\*</sup> Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: D. Asset Management & Inspections
Category-Sub: 1. Asset Management & Inspections

Workpaper: 1WM004.000 - Asset Management & Inspections

### Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs							
	Years	2017	2018	2019	2020	2021	
Labor		0	0	671	1,607	0	
Non-Labor		1	8	14,676	42,953	0	
NSE		0	0	0	0	0	
	Total	1	8	15,347	44,559	0	
FTE		0.0	0.0	4.4	10.9	0.0	

### Detail of Adjustments to Recorded:

<u>Year</u>	<u>L</u>	<u>abor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type	
2017		0	1	0	0.0	CCTR Transf From 2100-3773.000	
Explanation:	Operations & Protocol	s to Workpape	r 1WM004 Ass	et Manage	ment & Insp	m Workpaper 1WM006 Grid ections in cost center tion Plan (WMP) Initiative	
2017 Total		0	1	0	0.0		
2018		0	8	0	0.0	CCTR Transf From 2100-0225.000	
Explanation:		4 Asset Manag	ement & Inspe	ctions in co	ost center 21	per 1ED012 Electric Engineering 00-4089.002 to align costs egories.	
2018 Total		0	8	0	0.0		
2019		6	31	0	0.1	CCTR Transf From 2100-0225.000	
Explanation:	Transfer wildfire related to Asset Management & Inspections from Workpaper 1ED012 Electric Engineering to Workpaper 1WM004 Asset Management & Inspections in cost center 2100-4089.002 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.						
2019		0	1	0	0.0	CCTR Transf From 2100-3932.000	
Explanation:	Design & System Hard	dening to Work	paper 1WM004	4 Asset Ma	nagement &	n Workpaper 1WM003 Grid Inspections in cost center tion Plan (WMP) Initiative	
2019		665	14,644	0	4.3	CCTR Transf From 2100-4089.000	
Explanation:	1WM007 Resource All	ocation Methd	ology to Workp	aper 1WM	004 Asset M	& Inspections from Workpaper anagement & Inspections in cost & Mitigation Plan (WMP) Initiative	
2019 Total		671	14,676	0	4.4		

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: D. Asset Management & Inspections
Category-Sub: 1. Asset Management & Inspections

Workpaper: 1WM004.000 - Asset Management & Inspections

<u>Year</u>	<u>ı</u>	_abor	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type
2020		0	12	0	0.0	CCTR Transf From 2100-3932.000
Explanation:	Design & System Ha	ordening to Wor	kpaper 1WM00	4 Asset Mai	nagement &	Workpaper 1WM003 Grid Inspections in cost center tion Plan (WMP) Initiative
2020		1,584	42,699	0	10.7	CCTR Transf From 2100-4089.000
Explanation:	1WM007 Resource A	Allocation Metho	dology to Workp	aper 1WM0	004 Asset M	& Inspections from Workpaper anagement & Inspections in cost Mitigation Plan (WMP) Initiative
2020		0	179	0	0.0	CCTR Transf From 2100-4114.000
Explanation:		04 Asset Mana	gement & Inspe	ctions in co	st center 21	er 1ED012 Electric Engineering 00-4089.002 to align costs egories.
2020		0	53	0	0.0	CCTR Transf From 2100-0225.000
Explanation:		04 Asset Mana	gement & Inspe	ctions in co	st center 21	er 1ED012 Electric Engineering 00-4089.002 to align costs egories.
2020		23	9	0	0.2	CCTR Transf From 2100-0099.000
Explanation:		04 Asset Mana	gement & Inspe	ctions in co	st center 21	er 1ED012 Electric Engineering 00-4089.002 to align costs egories.
2020 Total		1,607	42,953	0	10.9	
2021 Total		0	0	0	0.0	

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

Category: D. Asset Management & Inspections Category-Sub: 1. Asset Management & Inspections

Workpaper: 1WM004.000 - Asset Management & Inspections

### RAMP Item #1

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C28 T1-T2

RAMP Line Item Name: Dist System Inspection Drone Inspections

Tranche(/s): Tranche1: Tier 3; Tranche2: Tier 2

#### **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	14,349	0	0	12,656	2,025	2,475
Tranche 2 Cost Estimate	18,879	80,896	46,238	0	0	0

#### **Cost Estimate Changes from RAMP:**

Increase vs. RAMP range primarily due to the timing and number of repairs found during 2021 flights. In 2021, SDG&E's drone inspection program was paused for the first four months to establish a PMO for the program. Delays in starting flights led to more repair costs being pushed into 2022 and 2023. Additionally, these repair costs were higher than expected as the number of items found in 2021 in Tier 2 was higher than the number of items found in Tier 3 in 2020.

### **GRC Work Unit/Activity Level Estimates**

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 I Range A	
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 # of HFTD inspections	9,517.00	0.00	0.00	22,000.00	13,320.00	16,280.00
Tranche 2 # of HFTD inspections	12,523.00	22,000.00	22,000.00	0.00	0.00	0.00

### Work Unit Changes from RAMP:

Increase vs. RAMP range primarily due to the timing and number of repairs found during 2021 flights. In 2021, SDG&E's drone inspection program was paused for the first four months to establish a PMO for the program. Delays in starting flights led to more repair costs being pushed into 2022 and 2023. Additionally, these repair costs were higher than expected as the number of items found in 2021 in Tier 2 was higher than the number of items found in Tier 3 in 2020.

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: D. Asset Management & Inspections
Category-Sub: 1. Asset Management & Inspections

Workpaper: 1WM004.000 - Asset Management & Inspections

### Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE	
Tranche 1	22.000	194.000	
Tranche 2	9.000	9.000	

### **RSE Changes from RAMP:**

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

Category: D. Asset Management & Inspections Category-Sub: 1. Asset Management & Inspections

Workpaper: 1WM004.000 - Asset Management & Inspections

### RAMP Item # 2

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C27 T1-T2

RAMP Line Item Name: Dist System Inspection HFTD Tier 3 Inspections

Tranche(/s): Tranche1: Tier 3; Tranche2: Tier 2

#### **GRC Forecast Cost Estimates (\$000)** 2024 2021 Historical 2022 2023 2024 **RAMP Range Embedded Cost Forecast Forecast** (2020 Incurred \$) **Forecast** (2021 \$)(2021 \$)(2021 \$)(2021 \$)Low High 282 344 Tranche 1 Cost Estimate 290 256 237 328 0 0 Tranche 2 Cost Estimate 0 0 0 0

**Cost Estimate Changes from RAMP:** 

Within range, Tier 2 costs not included in original RAMP report.

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 F Range A	
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 # of HFTD inspections	10,815.00	12,380.00	11,864.00	11,596.00	9,734.00	11,897.00
Tranche 2 # of HFTD inspections	0.00	0.00	0.00	0.00	3.00	3.00

	GRC RSE	RAMP RSE
anche 1	187.000	111.000
nche 2	0.000	0.000

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

Category: D. Asset Management & Inspections Category-Sub: 1. Asset Management & Inspections

1WM004.000 - Asset Management & Inspections Workpaper:

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex.

SCG-03/SDG&E-03, Chapter 2).

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: D. Asset Management & Inspections
Category-Sub: 1. Asset Management & Inspections

Workpaper: 1WM004.000 - Asset Management & Inspections

#### RAMP Item # 3

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C30 T1-T2

RAMP Line Item Name: Dist System Inspect CMP Annual Patrol

Tranche(/s): Tranche1: Tier 3; Tranche2: Tier 2

#### **GRC Forecast Cost Estimates (\$000)**

	2021 Historical Embedded Cost	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP R (2020 Inci	ange
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	106	127	127	127	10	13
Tranche 2 Cost Estimate	125	151	151	151	12	15

#### **Cost Estimate Changes from RAMP:**

Increased vs. RAMP range in 2022-2024 due to higher than expected patrol and associated repair costs for the program.

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 F Range A	
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 # of HFTD patrols	39,315.00	39,315.00	39,371.00	39,371.00	35,434.00	43,308.00
Tranche 2 # of HFTD patrols	46,685.00	46,685.00	46,751.00	46,751.00	42,076.00	51,426.00

	GRC RSE	RAMP RSE
anche 1	994.000	684.000
ranche 2	533.000	373.000

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: D. Asset Management & Inspections
Category-Sub: 1. Asset Management & Inspections

Workpaper: 1WM004.000 - Asset Management & Inspections

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex.

SCG-03/SDG&E-03, Chapter 2).

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

Category: D. Asset Management & Inspections Category-Sub: 1. Asset Management & Inspections

Workpaper: 1WM004.000 - Asset Management & Inspections

#### RAMP Item #4

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C25 T1-T2

RAMP Line Item Name: Intrusive Poles

Tranche(/s): Tranche1: Tier 3; Tranche2: Tier 2

#### **GRC Forecast Cost Estimates (\$000)**

	2021 Historical Embedded Cost	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP R (2020 Inci	ange
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	531	16	3	83	0	0
Tranche 2 Cost Estimate	272	8	1	43	0	0

#### **Cost Estimate Changes from RAMP:**

Increase vs. RAMP for 2022-2024 primarily related to timing of HFTD wood pole intrusive inspections not included in original RAMP report. HFTD intrusive inspections are on a cycle, and while there is a significant decrease from 2021 into 2022 through 2024, it will not go to zero.

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 RA Range Act	
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 # of HFTD inspections	6,470.00	251.00	42.00	1,321.00	0.00	0.00
Tranche 2 # of HFTD inspections	3,326.00	129.00	21.00	679.00	0.00	0.00

#### Work Unit Changes from RAMP:

Increase vs. RAMP for 2022-2024 primarily related to timing of HFTD wood pole intrusive inspections not included in original RAMP report. HFTD intrusive inspections are on a cycle, and while there is a significant decrease from 2021 into 2022 through 2024, it will not go to zero.

Rick	Snand	Efficiency	(BSE)

	GRC RSE	RAMP RSE	
Tranche 1	534.000	2.000	

Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: D. Asset Management & Inspections
Category-Sub: 1. Asset Management & Inspections

Workpaper: 1WM004.000 - Asset Management & Inspections

Tranche 2 10.000 2.000

### **RSE Changes from RAMP:**

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2).

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

Category: D. Asset Management & Inspections Category-Sub: 1. Asset Management & Inspections

Workpaper: 1WM004.000 - Asset Management & Inspections

#### RAMP Item # 5

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C22 T1-T2

RAMP Line Item Name: Dist Syst InspectCMP 5 Yr Detail Inspect

Tranche(/s): Tranche1: Tier 3; Tranche2: Tier 2

#### **GRC Forecast Cost Estimates (\$000)** 2024 2021 Historical 2022 2023 2024 **RAMP Range Embedded Cost Forecast Forecast** (2020 Incurred \$) **Forecast** (2021 \$)(2021 \$)(2021 \$)(2021 \$)Low High 185 226 Tranche 1 Cost Estimate 84 242 201 197 109 133 Tranche 2 Cost Estimate 81 142 119 116

**Cost Estimate Changes from RAMP:** 

Within range

GRC Work Unit/Activity Level Estimates							
Unit of Measure	2021 Historical Embedded Activities	2022 Forecast Activities	2023 Forecast Activities	2024 Forecast Activities	2024 I Range A Low		
Tranche 1 # of HFTD inspections	11,245.00	11,368.00	7,440.00	10,320.00	9,266.00	11,326.00	
Tranche 2 # of HFTD inspections	11,024.00	6,687.00	4,376.00	6,070.00	5,450.00	6,662.00	
Work Unit Changes from RAM Within range.	IP:						

	GRC RSE	RAMP RSE
Tranche 1	170.000	65.000
Tranche 2	43.000	33.000

WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: D. Asset Management & Inspections
Category-Sub: 1. Asset Management & Inspections

Workpaper: 1WM004.000 - Asset Management & Inspections

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex.

SCG-03/SDG&E-03, Chapter 2).

Area:

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: D. Asset Management & Inspections
Category-Sub: 1. Asset Management & Inspections

Workpaper: 1WM004.000 - Asset Management & Inspections

### RAMP Item # 6

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C24 T1-T2

RAMP Line Item Name: Dist System Inspection IR/Corona

Tranche(/s): Tranche1: Tier 3; Tranche2: Tier 2

GRC Forecast Cost Estimates (\$000)							
	2021 Historical Embedded Cost (2021 \$)	2022 Forecast (2021 \$)	2023 Forecast (2021 \$)	2024 Forecast (2021 \$)	2024 RAMP R: (2020 Incu Low	ange	
Tranche 1 Cost Estimate	146	0	0	0	0	0	
Tranche 2 Cost Estimate	0	175	175	175	157	192	
Cost Estimate Changes fro Within range	m RAMP:						

GRC Work Unit/Activity Level Estimates							
Unit of Measure	2021 Historical Embedded Activities	2022 Forecast Activities	2023 Forecast Activities	2024 Forecast Activities	2024 F Range A Low		
Tranche 1 # of HFTD inspections	18,000.00	0.00	0.00	0.00	0.00	0.00	
Tranche 2 # of HFTD inspections	0.00	18,000.00	18,000.00	18,000.00	16,200.00	19,800.00	
Work Unit Changes from RAMP Within range	:						

	GRC RSE	RAMP RSE
Tranche 1	0.000	0.000
Tranche 2	372.000	322.000

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: D. Asset Management & Inspections
Category-Sub: 1. Asset Management & Inspections

Workpaper: 1WM004.000 - Asset Management & Inspections

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex.

SCG-03/SDG&E-03, Chapter 2).

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: D. Asset Management & Inspections
Category-Sub: 1. Asset Management & Inspections

Workpaper: 1WM004.000 - Asset Management & Inspections

#### RAMP Item #7

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C29 T1-T2

RAMP Line Item Name: Dist System Inspection Circuit Ownership

Tranche(/s): Tranche1: Tier 3; Tranche2: Tier 2

#### **GRC Forecast Cost Estimates (\$000)**

	2021 Historical Embedded Cost	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP R (2020 Inci	ange
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	0	0	0	0	38	46
Tranche 2 Cost Estimate	0	0	0	0	75	92

#### **Cost Estimate Changes from RAMP:**

Initiative will be removed from WMP in 2022. This initiative is being removed because it was no longer necessary due to redundancy with other avenues to report concerns, primarily SDG&E's near miss application.

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 Submissions made to the Circuit Ownership program that result in repairs being made in the field.	0.00	0.00	0.00	0.00	5.00	6.00
Tranche 2 Submissions made to the Circuit Ownership program that result in repairs being made in the field.	0.00	0.00	0.00	0.00	9.00	11.00

#### Work Unit Changes from RAMP:

Initiative will be removed from WMP in 2022. This initiative is being removed because it was no longer necessary due to redundancy with other avenues to report concerns, primarily SDG&E's near miss application.

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: D. Asset Management & Inspections
Category-Sub: 1. Asset Management & Inspections

Workpaper: 1WM004.000 - Asset Management & Inspections

#### Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE	
Tranche 1	0.000	0.000	
Tranche 2	0.000	0.000	

#### **RSE Changes from RAMP:**

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2).

Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: D. Asset Management & Inspections
Category-Sub: 1. Asset Management & Inspections

Workpaper: 1WM004.000 - Asset Management & Inspections

#### RAMP Item #8

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C26

RAMP Line Item Name: LiDAR Flights

Tranche(/s): Tranche1: N/A

#### **GRC Forecast Cost Estimates (\$000)**

	2021 Historical	2022	2023	2024	2024 RAMP R	=
	Embedded Cost	Forecast	Forecast	Forecast	(2020 Inci	.,
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	1,151	3,000	1,500	1,500	1,620	1,980

#### **Cost Estimate Changes from RAMP:**

Slightly lower than RAMP range in 2024 due to accomplishing more work in 2021 and 2022 than originally expected. Costs shifted more towards 2022, reducing future spend in 2023 and 2024.

#### **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 New initiative, no units determined vet	0.00	0.00	0.00	0.00	0.00	0.00

#### Work Unit Changes from RAMP:

Program to create accurate surveys of electric distribution lines, structures, vegetation, and other potential hazards critical to design. One unit of measure would not accurately represent the program.

#### Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE	
Tranche 1	0.000	0.000	

#### **RSE Changes from RAMP:**

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2).

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

10,365

3.9

Witness: Jonathan Woldemariam
Category: E. Vegetation Mgmt & Insp

Workpaper: 1WM005.000

**Total** 

FTE

#### Summary for Category: E. Vegetation Mgmt & Insp

<b> -</b>	III 20219 (000) Illiculted Costs							
	Adjusted-Recorded		Adjusted-Forecast					
	2021	2022	2023	2024				
Labor	362	435	457	473				
Non-Labor	10,003	12,742	13,352	13,828				
NSE	0	0	0	0				
Total	10,365	13,177	13,809	14,301				
FTE	3.9	5.5	5.7	6.1				
Workpapers belonging t	o this Category:							
1WM005.000 Vegetation	on Mgmt & Insp							
Labor	362	435	457	473				
Non-Labor	10,003	12,742	13,352	13,828				
NSE	0	0	0	0				

13,177

5.5

13,809

5.7

In 2021\$ (000) Incurred Costs

14,301

6.1

Beginning of Workpaper
1WM005.000 - Vegetation Mgmt & Insp

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Jonathan Woldemariam Witness: E. Vegetation Mgmt & Insp Category: 1. Vegetation Mgmt & Insp Category-Sub

1WM005.000 - Vegetation Mgmt & Insp Workpaper:

#### **Activity Description:**

Vegetation around electric distribution lines and equipment poses potential risks for safety , wildfire, compliance, and reliability. To address these risks, SDG&E developed and executes a robust and detailed schedule and scope for its vegetation inspection activities. While tree clearances are mandated by CPUC G.O. 95, Rule 35, Public Resources Code 4293, and NERC FAC003-4, SDG&E's program goes beyond these minimum requirements to further enhance safety and mitigate ignition risk, especially in the HFTD. SDG&E's vegetation management initiatives captured in this workpaper are: fuels management, pole brushing, and sustainability initiatives such as 10,000 Tree Program efforts.

#### **Forecast Explanations:**

#### Labor - Base YR Rec

The base-year forecast methodology was selected as most indicative of future work. New initiatives and programs have been implemented beginning in 2020 due to the Wildfire Mitigation Plan, and these enhancements are not captured in the historical costs of this category. Additionally, the rates for vegetation management personnel were increased by SB247 in 2020. Accordingly, 2021 base year expenses are most representative of future needs based on an expansion in complexity and scope of existing projects and initiatives.

#### Non-Labor - Base YR Rec

The base-year forecast methodology was selected as most indicative of future work. New initiatives and programs have been implemented beginning in 2020 due to the Wildfire Mitigation Plan, and these enhancements are not captured in the historical costs of this category. Additionally, the rates for vegetation management personnel were increased by SB247 in 2020. Accordingly, 2021 base year expenses are most representative of future needs based on an expansion in complexity and scope of existing projects and initiatives.

#### **NSE - Base YR Rec**

Not applicable.

#### **Summary of Results:**

In 2021\$ (000) Incurred Costs Adjusted-Recorded Adjusted-Forecast 2017 2018 2019 2020 2021 2022 2023 2024 Years 272 186 426 362 435 457 473 Labor 391 3,203 3,990 12,742 13,828 9,347 11,755 10,003 13,352 Non-Labor **NSE** 0 0 0 0 0 0 0 0 Total 3,474 4,176 9,738 12,182 10,365 13,177 13,809 14,301 FTE 2.9 2.1 4.0 4.3 3.9 5.5 5.7

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: E. Vegetation Mgmt & Insp

Category-Sub: 1. Vegetation Mgmt & Insp

Workpaper: 1WM005.000 - Vegetation Mgmt & Insp

### **Summary of Adjustments to Forecast:**

	In 2021 \$(000) Incurred Costs										
Forecas	t Method	Base Forecast			Adjus	ted-Forec	ast				
Years	s	2022	2023	2024	2022	2023	2024	2022	2023	2024	
Labor	Base YR Rec	362	362	362	73	95	111	435	457	473	
Non-Labor	Base YR Rec	10,003	10,003	10,003	2,739	3,349	3,825	12,742	13,352	13,828	
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0	
Tota	ıl	10,365	10,365	10,365	2,812	3,444	3,936	13,177	13,809	14,301	
FTE	Base YR Rec	3.9	3.9	3.9	1.6	1.8	2.2	5.5	5.7	6.1	

#### **Forecast Adjustment Details:**

	Labau				CTC.	Adi Tura				
<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj Type				
2022	14	1,370	0	1,384	1.0	1-Sided Adj				
Explanation:	Increased forecast for WMP O&M related to Fuels Management based on 1 Fuels Mgmt Lead Forester hired March 2021, Adds 1 FTE for 9 months (Apr-Dec) for 2022-2024. Non-Labor increase									
	related to increased fue									
2022	41	780	0	821	0.4	1-Sided Adj				
Explanation:	Increased forecast for \		-	-		•				
	increase of 3% annually			•	•					
2022	18	589	0	607	0.2	1-Sided Adj				
Explanation:	Increased costs for WM	IP 10,000 Tree	Program, no	t included in o	original RAMP r	eport.				
2022 Total	73	2,739	0	2,812	1.6					
2023	16	1,600	0	1,616	1.0	1-Sided Adj				
Explanation:	Increased forecast for \	NMP O&M rela	ted to Fuels I	Management	based on 1 Fue	els Mgmt Lead				
	Forester hired March 20									
	related to increased fue	-	-	_						
2023	61	1,160	0	1,221	0.6	1-Sided Adj				
Explanation:	Increased forecast for \ increase of 3% annually			•	•					
2023	18	589	0	607	0.2	1-Sided Adj				
Explanation:	Increased costs for WM	1P 10,000 Tree	Program, no	t included in o	original RAMP r	eport.				
2023 Total	95	3,349	0	3,444	1.8					
<b>2023 Total</b> 2024	<b>95</b> 19	<b>3,349</b> 1,839	<b>0</b> 0	<b>3,444</b> 1,858	<b>1.8</b> 1.0	1-Sided Adj				
	19 Increased forecast for \	1,839 WMP O&M relat	0 ted to Fuels I	1,858 Management	1.0 based on 1 Fue	els Mgmt Lead				
2024	19	1,839 WMP O&M relat 021, Adds 1 FT	0 ted to Fuels I E for 9 month	1,858 Management ns (Apr-Dec) 1	1.0 based on 1 Fue for 2022-2024.	els Mgmt Lead Non-Labor increase				
2024	19 Increased forecast for \ Forester hired March 20	1,839 WMP O&M relat 021, Adds 1 FT	0 ted to Fuels I E for 9 month	1,858 Management ns (Apr-Dec) 1	1.0 based on 1 Fue for 2022-2024.	els Mgmt Lead Non-Labor increase				
2024 Explanation:	19 Increased forecast for \ Forester hired March 20 related to increased fue	1,839 WMP O&M relat 021, Adds 1 FT els reduction gra 1,397	0 ted to Fuels I E for 9 month ants and align 0	1,858 Management ns (Apr-Dec) to ning 22-24 for 1,471	1.0 based on 1 Fue for 2022-2024. recast with filed 1.0	els Mgmt Lead Non-Labor increase WMP 2022 plan. 1-Sided Adj				

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: E. Vegetation Mgmt & Insp

Category-Sub: 1. Vegetation Mgmt & Insp

Workpaper: 1WM005.000 - Vegetation Mgmt & Insp

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj_Type			
2024	18	589	0	607	0.2	1-Sided Adj			
Explanation:	Explanation: Increased costs for WMP 10,000 Tree Program, not included in original RAMP report.								
2024 Total	111	3,825	0	3,936	2.2				

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam
Category: E. Vegetation Mgmt & Insp
Category-Sub: 1. Vegetation Mgmt & Insp

Workpaper: 1WM005.000 - Vegetation Mgmt & Insp

#### **Determination of Adjusted-Recorded (Incurred Costs):**

termination of Adjusted-R	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
corded (Nominal \$)*					
Labor	0	148	2	1	315
Non-Labor	316	3,724	12	137	9,104
NSE	0	0	0	0	0
Total	316	3,873	14	138	9,418
FTE	0.0	1.8	0.1	0.0	3.3
ljustments (Nominal \$) **					
Labor	212	0	321	361	0
Non-Labor	2,484	-118	8,643	10,730	899
NSE	0	0	0	0	0
Total	2,696	-118	8,965	11,090	899
FTE	2.5	0.0	3.4	3.7	0.0
ecorded-Adjusted (Nominal	\$)				
Labor	212	148	323	362	315
Non-Labor	2,799	3,606	8,655	10,867	10,003
NSE	0	0	0	0	0
Total	3,011	3,754	8,978	11,229	10,318
FTE	2.5	1.8	3.4	3.7	3.3
cation & Sick (Nominal \$)					
Labor	31	22	46	51	47
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	31	22	46	51	47
FTE	0.4	0.3	0.6	0.6	0.6
scalation to 2021\$					
Labor	28	15	21	13	0
Non-Labor	404	384	692	889	0
NSE	0	0	0	0	0
Total	432	399	713	902	0
FTE	0.0	0.0	0.0	0.0	0.0
ecorded-Adjusted (Constan	t 2021\$)				
Labor	272	186	391	426	362
Non-Labor	3,203	3,990	9,347	11,755	10,003
NSE	0	0	0	0	0
Total	3,474	4,176	9,738	12,182	10,365
FTE	2.9	2.1	4.0	4.3	3.9

<sup>\*</sup> After company-wide exclusions of Non-GRC costs

<sup>\*\*</sup> Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: E. Vegetation Mgmt & Insp

Category-Sub: 1. Vegetation Mgmt & Insp

Workpaper: 1WM005.000 - Vegetation Mgmt & Insp

### Summary of Adjustments to Recorded:

	In Nominal \$ (000) Incurred Costs						
	Years	2017	2018	2019	2020	2021	
Labor		212	0	321	361	0	
Non-Labor		2,484	-118	8,643	10,730	899	
NSE		0	0	0	0	0	
	Total	2,696	-118	8,965	11,090	899	
FTE		2.5	0.0	3.4	3.7	0.0	

#### **Detail of Adjustments to Recorded:**

<u>Year</u>	<u>La</u>	<u>bor</u>	NLbr N	ISE	<u>FTE</u>	Adj Type
2017		0	-298	0	0.0	CCTR Transf To 2100-3932.000
Explanation:	Management & Inspecti	ons to Workpar	per 1WM003 Gr	id Design ខ	& System Ha	orkpaper 1WM005 Vegetation rdening in cost center n (WMP) Initiative Categories.
2017	2	12 2	2,782	0	2.5	CCTR Transf From 2100-4089.000
Explanation:	1WM007 Resource Allo	cation Methdolo	ogy to Workpap	er 1WM00	5 Vegetation	pections from Workpaper Management & Inspections in itigation Plan (WMP) Initiative
2017 Total	2	12 2	2,484	0	2.5	
2018		0	0	0	0.0	CCTR Transf To 2100-3962.000
Explanation:	Transfer Non-Labor ass Vegetation Mgmt & Insp 2100-3962 to align cost	to Workpaper	1WM001 Emer	gency Plan	ning & Prepa	• •
2018		0	-117	0	0.0	CCTR Transf To 2100-3932.000
Explanation:	Management & Inspecti	ons to Workpar	per 1WM003 Gr	id Design 8	& System Ha	orkpaper 1WM005 Vegetation rdening in cost center n (WMP) Initiative Categories.
2018		0	-2	0	0.0	CCTR Transf To 2100-3932.000
Explanation:	Management & Inspecti	ons to Workpar	per 1WM003 Gr	id Design ខ	& System Ha	orkpaper 1WM005 Vegetation rdening in cost center n (WMP) Initiative Categories.
2018 Total		0	-118	0	0.0	

2018 Total	0	-118	0	0.0	
2019	0	0	0	-0.1	CCTR Transf To 2100-3932.000

### Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: E. Vegetation Mgmt & Insp

Category-Sub: 1. Vegetation Mgmt & Insp

Workpaper: 1WM005.000 - Vegetation Mgmt & Insp

Workpaper:	1WM005.000 - \	egetation Mgn	nt & Insp			
<u>Year</u>	<u>La</u>	<u>bor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type
Explanation:	Vegetation Manageme	ent & Inspection	ns to Workpape	r 1WM003 G	Grid Design &	ing from Workpaper 1WM005 System Hardening in cost ion Plan (WMP) Initiative
2019		0	-1	0	0.0	CCTR Transf To 2100-3932.000
Explanation:	Management & Inspec	tions to Workp	aper 1WM003	Grid Design	& System Ha	orkpaper 1WM005 Vegetation rdening in cost center n (WMP) Initiative Categories.
2019		321	8,645	0	3.5	CCTR Transf From 2100-4089.000
Explanation:	1WM007 Resource All	ocation Methdo	ology to Workpa	aper 1WM00	5 Vegetation	pections from Workpaper Management & Inspections in itigation Plan (WMP) Initiative
2019 Total		321	8,643	0	3.4	
2020		0	-132	0	0.0	1-Sided Adj
Explanation:	Incremental costs that Memorandum Account	-	d to be requeste	ed for recove	ry through a r	non-GRC Catastrophic Event
2020		0	-3	0	0.0	1-Sided Adj
Explanation:	Incremental COVID-re Catastrophic Event Me		•	-	sted for reco	very through a non-GRC
2020		-1	0	0	-0.1	CCTR Transf To 2100-3932.000
Explanation:	Vegetation Manageme	ent & Inspection	ns to Workpape	r 1WM003 G	Grid Design &	ing from Workpaper 1WM005 System Hardening in cost ion Plan (WMP) Initiative
2020		0	-1	0	0.0	CCTR Transf To 2100-3932.000
Explanation:	Management & Inspec	tions to Workp	aper 1WM003	Grid Design	& System Ha	orkpaper 1WM005 Vegetation rdening in cost center n (WMP) Initiative Categories.
2020		361	10,865	0	3.8	CCTR Transf From 2100-4089.000
Explanation:	1WM007 Resource All	ocation Methdo	ology to Workpa	aper 1WM00	5 Vegetation	pections from Workpaper Management & Inspections in litigation Plan (WMP) Initiative
2020 Total		361	10,730	0	3.7	
2021		0	0	0	0.0	1-Sided Adj
Explanation:	Incremental costs that Memorandum Account	-	d to be requeste	ed for recove	ry through a r	non-GRC Catastrophic Event

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: E. Vegetation Mgmt & Insp

Category-Sub: 1. Vegetation Mgmt & Insp

Workpaper: 1WM005.000 - Vegetation Mgmt & Insp

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	FTE	Adj Type	2
2021	0	-6	0	0.0	1-Sided Adj	
Explanation:	Incremental COVID-related Catastrophic Event Memora		•	requested f	or recovery through a no	on-GRC
2021	0	905	0	0.0	1-Sided Adj	
Explanation:	One-sided adjustment to inc Accounting Adj CE 6900200		direct costs fo	r Fuels Mana	agement related associa	ted to
2021 Total	0	899	0	0.0		

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: E. Vegetation Mgmt & Insp

Category-Sub: 1. Vegetation Mgmt & Insp

Workpaper: 1WM005.000 - Vegetation Mgmt & Insp

### RAMP Item # 1

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C32/M15 T1-T2

RAMP Line Item Name: Fuels Management Program

Tranche(/s): Tranche1: Tier 3; Tranche2: Tier 2

#### **GRC Forecast Cost Estimates (\$000)**

	2021 Historical Embedded Cost	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP R (2020 Inci	ange
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	3,434	4,640	4,826	5,019	5,586	6,827
Tranche 2 Cost Estimate	982	1,160	1,206	1,255	0	0

#### **Cost Estimate Changes from RAMP:**

Within RAMP range. HFTD Tier 2 costs and units not included in original RAMP estimate.

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 RA Range Ac	
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 # of structures cleared	360.00	400.00	400.00	440.00	450.00	550.00
Tranche 2 # of structures cleared	103.00	100.00	100.00	110.00	0.00	0.00

Risk Spend Efficiency (RSE)	Risk Spend Efficiency (RSE)						
	GRC RSE	RAMP RSE					
Tranche 1	19.000	7.000					
Tranche 2	9.000	7.000					
RSE Changes from RAMP:							

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: E. Vegetation Mgmt & Insp

Category-Sub: 1. Vegetation Mgmt & Insp

Workpaper: 1WM005.000 - Vegetation Mgmt & Insp

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex.

SCG-03/SDG&E-03, Chapter 2).

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: E. Vegetation Mgmt & Insp

Category-Sub: 1. Vegetation Mgmt & Insp

Workpaper: 1WM005.000 - Vegetation Mgmt & Insp

#### RAMP Item # 2

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C34 T1-T3

RAMP Line Item Name: Pole Brushing

Tranche(/s): Tranche1: Tier 3; Tranche2: Tier 2; Tranche3: Non-HFTD

#### **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	2,411	2,767	2,941	3,049	2,450	2,995
Tranche 2 Cost Estimate	2,580	2,961	3,147	3,263	2,773	3,390
Tranche 3 Cost Estimate	565	649	690	715	0	0

#### **Cost Estimate Changes from RAMP:**

Increase versus RAMP range primarily related to expected contractor rate increase of 3% annually. Non-HFTD estimates not included in original RAMP report.

#### **GRC Work Unit/Activity Level Estimates**

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 F Range A	
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 # of poles brushed	15,266.00	14,751.00	14,752.00	14,752.00	14,101.00	17,234.00
Tranche 2 # of poles brushed	16,338.00	15,787.00	15,788.00	15,788.00	15,959.00	19,506.00
Tranche 3 # of poles brushed	3,582.00	3,461.00	3,460.00	3,460.00	0.00	0.00

#### Work Unit Changes from RAMP:

Increase versus RAMP range primarily related to expected contractor rate increase of 3% annually. Non-HFTD estimates not included in original RAMP report.

Risk	Spend	Efficiency	/ (RSE)
_			

	GRC RSE	RAMP RSE	
Tranche 1	107.000	261.000	
Tranche 2	90.000	152.000	

Witness: Jonathan Woldemariam

Category: E. Vegetation Mgmt & Insp

Category-Sub: 1. Vegetation Mgmt & Insp

Workpaper: 1WM005.000 - Vegetation Mgmt & Insp

Tranche 3 0.000 0.000

WILDFIRE MITIGATION & VEGETATION MANAGEMENT

#### **RSE Changes from RAMP:**

Area:

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2).

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: E. Vegetation Mgmt & Insp

Category-Sub: 1. Vegetation Mgmt & Insp

Workpaper: 1WM005.000 - Vegetation Mgmt & Insp

#### RAMP Item #3

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: New04

RAMP Line Item Name: 10,000 Tree Program

Tranche(/s): Tranche1: NA

#### **GRC Forecast Cost Estimates (\$000)**

	2021 Historical Embedded Cost	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP R (2020 Inci	ange
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	393	1,000	1,000	1,000	0	0

#### **Cost Estimate Changes from RAMP:**

Cost estimates for WMP 10,000 Tree Program, not included in original RAMP report.

#### **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 # of trees planted	0.00	10,000.00	10,000.00	10,000.00	0.00	0.00

#### Work Unit Changes from RAMP:

Cost estimates for WMP 10,000 Tree Program, not included in original RAMP report.

#### Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE	
Tranche 1	0.000	0.000	

#### **RSE Changes from RAMP:**

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2).

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: F. Vegetation Mgmt & Insp. - Tree Trimming Only

Workpaper: 1WM005.001

#### Summary for Category: F. Vegetation Mgmt & Insp. - Tree Trimming Only

		In 2021\$ (000) Incurred Costs					
	Adjusted-Recorded		Adjusted-Forecast				
	2021	2022	2023	2024			
Labor	1,716	1,716	1,716	1,716			
Non-Labor	50,479	54,364	52,659	53,906			
NSE	0	0	0	0			
Total	52,195	56,080	54,375	55,622			
FTE	18.9	18.9	18.9	18.9			

### Workpapers belonging to this Category:

#### 1WM005.001 Vegetation Mgmt & Insp. - Tree Trimming Only

Labor	1,716	1,716	1,716	1,716
Non-Labor	50,479	54,364	52,659	53,906
NSE	0	0	0	0
Total	52,195	56,080	54,375	55,622
FTE	18.9	18.9	18.9	18.9

Beginning of Workpaper
1WM005.001 - Vegetation Mgmt & Insp. - Tree Trimming Only

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: F. Vegetation Mgmt & Insp. - Tree Trimming Only
Category-Sub 1. Vegetation Mgmt & Insp. - Tree Trimming Only

Workpaper: 1WM005.001 - Vegetation Mgmt & Insp. - Tree Trimming Only

#### **Activity Description:**

SDG&E's Vegetation Management Program is responsible for annually inspecting and maintaining an inventory of approximately 460,000 trees that have the potential to encroach within the minimum required compliance distance between vegetation and overhead powerlines. This includes pruning healthy trees growing into overhead powerlines as well as the pruning or removal of dead, dying, diseased or structurally unsound trees with the potential to fall into overhead lines. In the High Fire Threat District, SDG&E conducts a second patrol that follows approximately 6 months after the scheduled annual inspection to ensure trees remain compliant and additional tree hazards are observed. SDG&E increased its post prune clearance up to 25 feet on targeted species in the HFTD that have been identified to cause the majority of its tree related outages due to very fast growth, strike potential, and failure characteristics. Vegetation around electric distribution lines and equipment poses potential risks for safety, wildfire, compliance, and reliability. To address these risks, SDG&E developed and executes a robust and detailed schedule and scope for its vegetation inspection activities. While tree trimming is a mandated activity pursuant to CPUC G.O. 95, Rule 35, Public Resources Code 4293, and NERC FAC003-4, SDG&E's program goes beyond these minimum requirements to further enhance safety, especially in the HFTD. SDG&E's vegetation management initiatives included in this workpaper are: tracking and maintaining a database of inventory trees and poles, routine and enhanced patrolling, pruning and removing hazardous trees, and replacing unsafe trees with more situationally compatible species.

#### **Forecast Explanations:**

#### Labor - Base YR Rec

The base-year forecast methodology was selected as most indicative of future work. New initiatives and programs have been implemented beginning in 2020 due to the Wildfire Mitigation Plan, and these enhancements are not captured in the historical costs of this category. Accordingly, 2021 base year expenses are most representative of future needs based on an expansion in complexity and scope of existing projects and initiatives.

#### Non-Labor - Base YR Rec

The base-year forecast methodology was selected as most indicative of future work. New initiatives and programs have been implemented beginning in 2020 due to the Wildfire Mitigation Plan, and these enhancements are not captured in the historical costs of this category. Accordingly, 2021 base year expenses are most representative of future needs based on an expansion in complexity and scope of existing projects and initiatives.

#### **NSE - Base YR Rec**

Not applicable.

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: F. Vegetation Mgmt & Insp. - Tree Trimming Only
Category-Sub 1. Vegetation Mgmt & Insp. - Tree Trimming Only

Workpaper: 1WM005.001 - Vegetation Mgmt & Insp. - Tree Trimming Only

## **Summary of Results:**

		In 2021\$ (000) Incurred Costs							
		Adju	sted-Recor	ded		Ad	Adjusted-Forecast		
Years	2017	2018	2019	2020	2021	2022	2023	2024	
Labor	1,394	1,382	1,384	1,258	1,716	1,716	1,716	1,716	
Non-Labor	25,109	30,156	35,854	72,434	50,479	54,364	52,659	53,906	
NSE	0	0	0	0	0	0	0	0	
Total	26,502	31,538	37,238	73,692	52,195	56,080	54,375	55,622	
FTE	14.5	14.5	14.4	12.8	18.9	18.9	18.9	18.9	

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Jonathan Woldemariam Witness:

F. Vegetation Mgmt & Insp. - Tree Trimming Only Category: Category-Sub: 1. Vegetation Mgmt & Insp. - Tree Trimming Only

Workpaper: 1WM005.001 - Vegetation Mgmt & Insp. - Tree Trimming Only

## Summary of Adjustments to Forecast:

			In 202	1 \$(000) lı	ncurred Co	sts				
Forecas	t Method	Bas	se Foreca	st	Forec	ast Adjust	ments	Adjus	ted-Forec	ast
Years	s	2022	2023	2024	2022	2023	2024	2022	2023	2024
Labor	Base YR Rec	1,716	1,716	1,716	0	0	0	1,716	1,716	1,716
Non-Labor	Base YR Rec	50,479	50,479	50,479	3,885	2,180	3,427	54,364	52,659	53,906
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Tota	ıl	52,195	52,195	52,195	3,885	2,180	3,427	56,080	54,375	55,622
FTE	Base YR Rec	18.9	18.9	18.9	0.0	0.0	0.0	18.9	18.9	18.9

Forecast Adjustr	nent Details:										
<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj Type					
2022	0	280	0	280	0.0	1-Sided Adj					
Explanation:	Increased forecast for E	ncreased forecast for Enhanced Vegetation Management RAMP item.									
2022	0	2,163	0	2,163	0.0	1-Sided Adj					
Explanation:	Increased forecast for Ti Electric Infastructure Inte	_	•	ount (60% of	totals, 40% of	totals tracked as					
2022	0	1,442	0	1,442	0.0	1-Sided Adj					
Explanation:	Increased forecast for 40 Integrity RAMP chapter.	0% of Tree Tr	im Balancing A	ccount (TTB	A) tracked in E	lectric Infastructure					
2022 Total	0	3,885	0	3,885	0.0						
2023	0	280	0	280	0.0	1-Sided Adj					
Explanation:	Increased forecast for E	nhanced Vege	etation Manag	ement RAMP	item.						
2023	0	1,140	0	1,140	0.0	1-Sided Adj					
Explanation:	Increased forecast for Ti Electric Infastructure Inte	_	•	ount (60% of	totals, 40% of	totals tracked as					
2023	0	760	0	760	0.0	1-Sided Adj					
Explanation:	Increased forecast for 40 Integrity RAMP chapter.	0% of Tree Tr	im Balancing A	ccount (TTB	A) tracked in E	lectric Infastructure					
2023 Total	0	2,180	0	2,180	0.0						
2024	0	280	0	280	0.0	1-Sided Adj					
Explanation:	Increased forecast for E	nhanced Vege	etation Manag	ement RAMP	item.						
2024	0	1,888	0	1,888	0.0	1-Sided Adj					
Explanation:		creased forecast for Tree Trimming Balancing Account (60% of totals, 40% of totals tracked as lectric Infastructure Integrity RAMP item).									
2024	0	1,259	0	1,259	0.0	1-Sided Adj					
Explanation:	Increased forecast for 40 Integrity RAMP chapter.	creased forecast for 40% of Tree Trim Balancing Account (TTBA) tracked in Electric Infastructure									

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: F. Vegetation Mgmt & Insp. - Tree Trimming Only
Category-Sub: 1. Vegetation Mgmt & Insp. - Tree Trimming Only

Workpaper: 1WM005.001 - Vegetation Mgmt & Insp. - Tree Trimming Only

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj_Type
2024 Total	0	3,427	0	3,427	0.0	

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: F. Vegetation Mgmt & Insp. - Tree Trimming Only
Category-Sub: 1. Vegetation Mgmt & Insp. - Tree Trimming Only

Workpaper: 1WM005.001 - Vegetation Mgmt & Insp. - Tree Trimming Only

#### **Determination of Adjusted-Recorded (Incurred Costs):**

retermination of Aujusteu-Net	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	1,087	1,105	1,144	1,067	1,492
Non-Labor	21,945	27,252	33,201	66,958	50,479
NSE	0	0	0	0	0
Total	23,032	28,357	34,345	68,026	51,971
FTE	12.4	12.4	12.4	11.0	16.1
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 \$	)				
Labor	1,087	1,105	1,144	1,067	1,492
Non-Labor	21,945	27,252	33,201	66,958	50,479
NSE	0	0	0	0	0
Total	23,032	28,357	34,345	68,026	51,971
FTE	12.4	12.4	12.4	11.0	16.1
/acation & Sick (Nominal \$)					
Labor	161	167	164	151	224
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	161	167	164	151	224
FTE	2.1	2.1	2.0	1.8	2.8
scalation to 2021\$					
Labor	145	109	76	39	0
Non-Labor	3,164	2,904	2,653	5,476	0
NSE	0	0	0	0	0
Total	3,309	3,013	2,729	5,515	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constant 2	2021\$)				
Labor	1,394	1,382	1,384	1,258	1,716
Non-Labor	25,109	30,156	35,854	72,434	50,479
NSE	0	0	0	0	0
Total	26,502	31,538	37,238	73,692	52,195
FTE	14.5	14.5	14.4	12.8	18.9

<sup>\*</sup> After company-wide exclusions of Non-GRC costs

<sup>\*\*</sup> Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: F. Vegetation Mgmt & Insp. - Tree Trimming Only
Category-Sub: 1. Vegetation Mgmt & Insp. - Tree Trimming Only

Workpaper: 1WM005.001 - Vegetation Mgmt & Insp. - Tree Trimming Only

#### 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		

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

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: F. Vegetation Mgmt & Insp. - Tree Trimming Only
Category-Sub: 1. Vegetation Mgmt & Insp. - Tree Trimming Only

Workpaper: 1WM005.001 - Vegetation Mgmt & Insp. - Tree Trimming Only

#### RAMP Item # 1

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C33/M16 T1-T2

RAMP Line Item Name: Enhanced Vegetation Management

Tranche(/s): Tranche1: Tier 3; Tranche2: Tier 2

#### **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	3,248	4,410	4,410	4,410	4,637	5,668
Tranche 2 Cost Estimate	6,707	5,825	5,825	5,825	5,489	6,708
Cost Estimate Changes fro Within range for combined to						

## GRC Work Unit/Activity Level Estimates

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 F Range A	
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 # of trees trimmed	4,095.00	5,526.00	5,526.00	5,526.00	7,007.00	8,564.00
Tranche 2 # of trees trimmed	8,456.00	7,298.00	7,298.00	7,298.00	8,293.00	10,136.00

#### Work Unit Changes from RAMP:

Lower than RAMP range for combined totals primarily due to updated metrics for # of trees inspected since original RAMP report.

Diek	Snand	Efficion	cv (RSF)

	GRC RSE	RAMP RSE	
Tranche 1	230.000	111.000	
Tranche 2	174.000	61.000	
RSE Changes from RAMP:			

Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: F. Vegetation Mgmt & Insp. - Tree Trimming Only
Category-Sub: 1. Vegetation Mgmt & Insp. - Tree Trimming Only

Workpaper: 1WM005.001 - Vegetation Mgmt & Insp. - Tree Trimming Only

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex.

SCG-03/SDG&E-03, Chapter 2).

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: F. Vegetation Mgmt & Insp. - Tree Trimming Only
Category-Sub: 1. Vegetation Mgmt & Insp. - Tree Trimming Only

Workpaper: 1WM005.001 - Vegetation Mgmt & Insp. - Tree Trimming Only

#### RAMP Item # 2

## **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C31 T1-T2

RAMP Line Item Name: Tree Trimming

Tranche(/s): Tranche1: Tier 3; Tranche2: Tier 2

#### **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	11,314	12,304	11,847	12,346	14,521	17,748
Tranche 2 Cost Estimate	14,030	15,202	14,637	14,886	17,508	21,398

#### **Cost Estimate Changes from RAMP:**

Lower than RAMP range primarily due to 40% of costs represented in Elect Infast Integrity RAMP chapter.

GRC Work Unit/Activity Le	evel Estimates					
Unit of Measure	2021 Historical Embedded Activities	2022 Forecast Activities	2023 Forecast Activities	2024 Forecast Activities	2024 I Range A Low	
Tranche 1 # of trees inspected	116,068.00	115,038.00	115,038.00	123,772.00	41,294.00	50,470.00
Tranche 2 # of trees inspected	143,924.00	142,139.00	142,139.00	149,228.00	49,787.00	60,850.00

#### Work Unit Changes from RAMP:

Lower than RAMP range primarily due to 40% of costs represented in Elect Infast Integrity RAMP chapter.

isk Spend Efficiency (RSE)		
	GRC RSE	RAMP RSE
Tranche 1	222.000	192.000
Tranche 2	200.000	104.000

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

Category: F. Vegetation Mgmt & Insp. - Tree Trimming Only 1. Vegetation Mgmt & Insp. - Tree Trimming Only Category-Sub:

Workpaper: 1WM005.001 - Vegetation Mgmt & Insp. - Tree Trimming Only

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2).

### RAMP Item #3

### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-2 Electric Infrastructure Integrity

RAMP Line Item ID: C06

RAMP Line Item Name: Tree Trimming (non-HFTD)

Tranche(/s): Tranche1: N/A

### **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	16,896	18,338	17,656	18,155	42,155	51,523

#### **Cost Estimate Changes from RAMP:**

Lower than RAMP range primarily due to 60% of costs represented in Wildfire RAMP chapter.

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast		RAMP Activities
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 # of trees inspected	242,140.00	234,645.00	234,645.00	182,000.00	106,381.00	130,021.00

### Work Unit Changes from RAMP:

Lower than RAMP range primarily due to 60% of costs represented in Wildfire RAMP chapter.

### Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE	
Tranche 1	109.000	15.000	

### **RSE Changes from RAMP:**

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2).

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: G. Grid Operations & Operating Protocols

Workpaper: 1WM006.000

### Summary for Category: G. Grid Operations & Operating Protocols

		In 2021\$ (000) Incurred Costs								
	Adjusted-Recorded	Adjusted-Recorded Adjusted-Forecast								
	2021	2022	2023	2024						
Labor	0	0	0	0						
Non-Labor	10,079	12,554	13,792	14,769						
NSE	0	0	0	0						
Total	10,079	12,554	13,792	14,769						
FTE	0.0	0.0	0.0	0.0						

### Workpapers belonging to this Category:

### 1WM006.000 Grid Operations & Operating Protocols

Labor	0	0	0	0
Non-Labor	10,079	12,554	13,792	14,769
NSE	0	0	0	0
Total	10,079	12,554	13,792	14,769
FTE	0.0	0.0	0.0	0.0

Beginning of Workpaper

1WM006.000 - Grid Operations & Operating Protocols

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: G. Grid Operations & Operating Protocols
Category-Sub 1. Grid Operations & Operating Protocols

Workpaper: 1WM006.000 - Grid Operations & Operating Protocols

maintenance costs are also accounted for within this workpaper.

### **Activity Description:**

SDG&E Grid Operations & Protocols O&M costs account for the aviation firefighting program and wildfire infrastructure protection teams.

SDG&E's grid operations and protocols activities consist of mitigations that reduce risk through changing the way SDG&E operates during periods of elevated and extreme wildfire risk. This includes the disabling of reclosing in the HFTD, the enabling of fast recloser settings, restricting work in the HFTD during extreme fire potential and Red Flag Warnings, and sending contract fire resources into the field during elevated days in the HFTD. These operational decisions strive to reduce ignitions on the electric system. Also included within SDG&E's grid operations and protocols is the aviation firefighting program. Specifically, Firehawk and Bell 412 helicopters are available to be used by CalFire to respond to active fires. Operations and maintenance on new helicopters will begin in 2022. Additional costs to support the aviation firefighting program include leases for an aviation hanger and training facility for the helicopters. Annual hangar lease expected to begin in October 2021 with 10 months lease in 2022. Annual facility

SDG&E's wildfire infrastructure protection teams include contracting teams of qualified firefighters that join electric crews to assist in prevention and mitigation of ignitions.

#### **Forecast Explanations:**

#### Labor - Base YR Rec

The base-year forecast methodology was selected as most indicative of future work. New initiatives and programs have been implemented beginning in 2020 due to the Wildfire Mitigation Plan, and these enhancements are not captured in the historical costs of this category. Accordingly, 2021 base year expenses are most representative of future needs based on an expansion in complexity and scope of existing projects and initiatives.

#### Non-Labor - Base YR Rec

The base-year forecast methodology was selected as most indicative of future work. New initiatives and programs have been implemented beginning in 2020 due to the Wildfire Mitigation Plan, and these enhancements are not captured in the historical costs of this category. Accordingly, 2021 base year expenses are most representative of future needs based on an expansion in complexity and scope of existing projects and initiatives.

#### **NSE - Base YR Rec**

Not applicable.

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: G. Grid Operations & Operating Protocols
Category-Sub 1. Grid Operations & Operating Protocols

Workpaper: 1WM006.000 - Grid Operations & Operating Protocols

### **Summary of Results:**

		In 2021\$ (000) Incurred Costs									
		Adju	ısted-Recor	ded		Adjusted-Forecast					
Years	2017	2018	2019	2020	2021	2022	2023	2024			
Labor	0	0	0	0	0	0	0	0			
Non-Labor	2,321	5,593	8,454	10,136	10,079	12,554	13,792	14,769			
NSE	0	0	0	0	0	0	0	0			
Total	2,321	5,593	8,454	10,136	10,079	12,554	13,792	14,769			
FTE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: G. Grid Operations & Operating Protocols
Category-Sub: 1. Grid Operations & Operating Protocols

Workpaper: 1WM006.000 - Grid Operations & Operating Protocols

### **Summary of Adjustments to Forecast:**

			In 202	1 \$(000) I	ncurred Co	sts				
Forecas	t Method	Bas	se Foreca	st	Forecast Adjustments			Adjusted-Forecast		
Years	s	2022	2022 2023 2024			2022 2023 2024			2023	2024
Labor	Base YR Rec	0	0	0	0	0	0	0	0	0
Non-Labor	Base YR Rec	10,079	10,079	10,079	2,475	3,713	4,690	12,554	13,792	14,769
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Tota	al	10,079	10,079	10,079	2,475	3,713	4,690	12,554	13,792	14,769
FTE	Base YR Rec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

### **Forecast Adjustment Details:**

. c. ccaci, tajaci	nent Details.						_			
<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj Type				
2022	0	158	0	158	0.0	1-Sided Adj				
Explanation:		ncreased forecast primarily related to higher Wildland Infastructure Protection Team expenses for contract firefighting resources.								
2022	0	2,317	0	2,317	0.0	1-Sided Adj				
Explanation:	Increased forecast fo	r Aviation Firefigh	iting Program	based on exp	pected flight ho	ours.				
2022 Total	0	2,475	0	2,475	0.0					
2023	0	3,555	0	3,555	0.0	1-Sided Adj				
Explanation:	Increased forecast profor new aviation asset		higher Aviation	on Program fli	ght hours and	maintenance expenses				
2023	0	158	0	158	0.0	1-Sided Adj				
Explanation:	Increased forecast foresources.	r Wildfire Infastru	cture Protecti	ion Teams ba	sed on number	of expected				
2023 Total	0	3,713	0	3,713	0.0					
2024	0	4,532	0	4,532	0.0	1-Sided Adj				
Explanation:	Increased forecast profor new aviation asset		higher Aviation	on Program fli	ght hours and	maintenance expenses				
2024	0	158	0	158	0.0	1-Sided Adj				
Explanation:	Increased forecast foresources.	r Wildfire Infastru	cture Protecti	ion Teams ba	sed on number	of expected				
2024 Total	0	4,690	0	4,690	0.0					

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: G. Grid Operations & Operating Protocols
Category-Sub: 1. Grid Operations & Operating Protocols

Workpaper: 1WM006.000 - Grid Operations & Operating Protocols

### **Determination of Adjusted-Recorded (Incurred Costs):**

•	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	0	0	0	0	0
Non-Labor	2,050	5,403	324	79	10,143
NSE	0	0	0	0	0
Total	2,050	5,403	324	79	10,143
FTE	0.0	0.0	0.0	0.0	0.0
djustments (Nominal \$) **	•				
Labor	0	0	0	0	0
Non-Labor	-21	-348	7,504	9,290	-64
NSE	0	0	0	0	0
Total	-21	-348	7,504	9,290	-64
FTE	0.0	0.0	0.0	0.0	0.0
ecorded-Adjusted (Nomin	nal \$)				
Labor	0	0	0	0	0
Non-Labor	2,029	5,054	7,829	9,369	10,079
NSE	0	0	0	0	0
Total	2,029	5,054	7,829	9,369	10,079
FTE	0.0	0.0	0.0	0.0	0.0
acation & Sick (Nominal \$	5)				
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	292	539	626	766	0
NSE	0	0	0	0	0
Total	292	539	626	766	0
FTE	0.0	0.0	0.0	0.0	0.0
ecorded-Adjusted (Const	ant 2021\$)				
Labor	0	0	0	0	0
Non-Labor	2,321	5,593	8,454	10,136	10,079
NSE	0	0	0	0	0
Total	2,321	5,593	8,454	10,136	10,079
FTE	0.0	0.0	0.0	0.0	0.0

<sup>\*</sup> After company-wide exclusions of Non-GRC costs

<sup>\*\*</sup> Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: G. Grid Operations & Operating Protocols
Category-Sub: 1. Grid Operations & Operating Protocols

Workpaper: 1WM006.000 - Grid Operations & Operating Protocols

### Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs								
	Years	2017	2018	2019	2020	2021		
Labor	-	0	0	0	0	0		
Non-Labor		-21	-348	7,504	9,290	-64		
NSE		0	0	0	0	0		
	Total	-21	-348	7,504	9,290	-64		
FTE		0.0	0.0	0.0	0.0	0.0		

#### **Detail of Adjustments to Recorded:**

Detail of Aujust	iments to Recorded:						
<u>Year</u>		<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type	
2017		0	-8	0	0.0	1-Sided Adj	
Explanation:	Incremental costs that Memorandum Accou	•	ated to be reques	ted for reco	very through	a non-GRC Catastrophic Event	
2017		0	-8	0	0.0	CCTR Transf To 2100-3962.000	
Explanation:		Vorkpaper 1V	VM001 Emergend	y Planning	& Preparedr	from Workpaper 1WM006 Grid ness in cost center 2100-3962 to nitiative Categories.	
2017		0	-4	0	0.0	CCTR Transf To 2100-3932.000	
Explanation:	Operations & Protoc	ols to Workpa	per 1WM003 Gri	d Design &	System Har	n Workpaper 1WM006 Grid dening in cost center 2100-3932 r) Initiative Categories.	
2017		0	-1	0	0.0	CCTR Transf To 2100-4089.002	
Explanation:	Operations & Protoc	ols to Workpa	per 1WM004 As	set Manage	ment & Insp	m Workpaper 1WM006 Grid ections in cost center ation Plan (WMP) Initiative	
2017 Total		0	-21	0	0.0		
2018		0	-134	0	0.0	1-Sided Adj	
Explanation:	Incremental costs that Memorandum Accou	•	ated to be reques	ted for reco	very through	a non-GRC Catastrophic Event	
2018		0	-214	0	0.0	CCTR Transf To 2100-3962.000	
Explanation:	Transfer Non-Labor associated with Emergency Planning & Preparedness from Workpaper 1WM006 Grid Ops & Protocols to Workpaper 1WM001 Emergency Planning & Preparedness in cost center 2100-3962 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.						
2018		0	0	0	0.0	CCTR Transf To 2100-3932.000	

### Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: G. Grid Operations & Operating Protocols
Category-Sub: 1. Grid Operations & Operating Protocols

Workpaper: 1WM006.000 - Grid Operations & Operating Protocols

Year	Lab	or	NLbr	NSE	FTE	Adj Type
Explanation:	Transfer Non-Labor ass Operations & Protocols to align costs where the	to Workpaper	1WM003 Grid I	Design & Sy	stem Harden	ing in cost center 2100-3932
2018 Total		0	-348	0	0.0	
2019		0	-4	0	0.0	CCTR Transf To 2100-3962.000
Explanation:		cpaper 1WM0	01 Emergency	Planning & F	Preparednes	m Workpaper 1WM006 Grid s in cost center 2100-3962 to ative Categories.
2019		0	-17	0	0.0	CCTR Transf To 2100-3932.000
Explanation:	Transfer Non-Labor ass Operations & Protocols to align costs where the	to Workpaper	1WM003 Grid I	Design & Sy	stem Harden	ing in cost center 2100-3932
2019		0	7,526	0	0.0	CCTR Transf From 2100-4089.000
Explanation:	Transfer Non-Labor ass Allocation Methdology to align costs where they a	Workpaper 1	1WM006 Grid O	perations &	Protocols in	cost center 2100-4089.001 to
2019 Total		0	7,504	0	0.0	
2020		0	-36	0	0.0	1-Sided Adj
Explanation:	Incremental costs that a Memorandum Account (		to be requested	d for recover	y through a r	non-GRC Catastrophic Event
Explanation: 2020			to be requested	d for recover	y through a r	non-GRC Catastrophic Event  CCTR Transf To 2100-3932.000
	Memorandum Account ( Transfer Non-Labor ass	CEMA).  0  cociated with Good to Workpaper	-9 Grid Design & Sy 1WM003 Grid I	0 ystem Harde Design & Sy	0.0 ning from W stem Harden	CCTR Transf To 2100-3932.000 orkpaper 1WM006 Grid ing in cost center 2100-3932
2020	Memorandum Account ( Transfer Non-Labor ass Operations & Protocols	CEMA).  0  cociated with Good to Workpaper	-9 Grid Design & Sy 1WM003 Grid I	0 ystem Harde Design & Sy	0.0 ning from W stem Harden	CCTR Transf To 2100-3932.000 orkpaper 1WM006 Grid ing in cost center 2100-3932
2020 Explanation:	Memorandum Account ( Transfer Non-Labor ass Operations & Protocols to align costs where the	CEMA).  0  cociated with Goto Workpaper y are reflected 0  cociated with Goto Workpaper	-9 Grid Design & Sy 1WM003 Grid I I in the Wildfire 9,335 Grid Operations 1WM006 Grid O	0 ystem Harde Design & Sy Mitigation Pl 0 & Protocols perations &	0.0 ning from W stem Harden an (WMP) In 0.0 from Workpa	CCTR Transf To 2100-3932.000 orkpaper 1WM006 Grid ning in cost center 2100-3932 itiative Categories.  CCTR Transf From 2100-4089.000 aper 1WM007 Resource cost center 2100-4089.001 to
2020 Explanation:	Transfer Non-Labor ass Operations & Protocols to align costs where the	CEMA).  0  cociated with Goto Workpaper y are reflected 0  cociated with Goto Workpaper	-9 Grid Design & Sy 1WM003 Grid I I in the Wildfire 9,335 Grid Operations 1WM006 Grid O	0 ystem Harde Design & Sy Mitigation Pl 0 & Protocols perations &	0.0 ning from W stem Harden an (WMP) In 0.0 from Workpa	CCTR Transf To 2100-3932.000 orkpaper 1WM006 Grid ning in cost center 2100-3932 itiative Categories.  CCTR Transf From 2100-4089.000 aper 1WM007 Resource cost center 2100-4089.001 to
2020 Explanation: 2020 Explanation:	Transfer Non-Labor ass Operations & Protocols to align costs where the	CEMA).  0  cociated with Good with Good workpaper 0  cociated with Good workpaper re reflected in	-9 Grid Design & Sy 1WM003 Grid I I in the Wildfire 9,335 Grid Operations 1WM006 Grid O I the Wildfire Mil	0 ystem Harde Design & Sy Mitigation Pl 0 & Protocols perations & tigation Plan	0.0  ning from W stem Harden an (WMP) In  0.0  from Workpa Protocols in (WMP) Initia	CCTR Transf To 2100-3932.000 orkpaper 1WM006 Grid ning in cost center 2100-3932 itiative Categories.  CCTR Transf From 2100-4089.000 aper 1WM007 Resource cost center 2100-4089.001 to
2020 Explanation: 2020 Explanation: 2020 Total	Memorandum Account ( Transfer Non-Labor ass Operations & Protocols to align costs where the Transfer Non-Labor ass Allocation Methdology to align costs where they a	CEMA).  0  cociated with Cociated with Cociated with Cociated with Cociated with Cociated with Cociated in Cociate	-9 Grid Design & Sy 1WM003 Grid I I in the Wildfire 9,335 Grid Operations 1WM006 Grid O I the Wildfire Mit 9,290 -64	0 ystem Harde Design & Sy Mitigation Pl 0 & Protocols perations & tigation Plan 0	0.0 Ining from Westem Harden In (WMP) In I	CCTR Transf To 2100-3932.000 orkpaper 1WM006 Grid ling in cost center 2100-3932 litiative Categories.  CCTR Transf From 2100-4089.000 aper 1WM007 Resource cost center 2100-4089.001 to lative Categories.

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

Category: G. Grid Operations & Operating Protocols 1. Grid Operations & Operating Protocols Category-Sub:

1WM006.000 - Grid Operations & Operating Protocols Workpaper:

### RAMP Item # 1

### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C36 T1-T2

RAMP Line Item Name: Wildfire Infrastructure Protection Teams

Tranche(/s): Tranche1: Tier 3; Tranche2: Tier 2

### **GRC Forecast Cost Estimates (\$000)**

	2021 Historical Embedded Cost	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP R (2020 Inci	ange
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	2,156	2,267	2,267	2,267	1,855	2,267
Tranche 2 Cost Estimate	915	963	963	963	788	963
Cost Estimate Changes from Within RAMP range (max).	m RAMP:					

### **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 Qualified firefighters join electric crews to serve in a prevention and ignition mitigation role.	0.00	0.00	0.00	0.00	0.00	0.00
Tranche 2 Qualified firefighters join electric crews to serve in a prevention and ignition mitigation role.	0.00	0.00	0.00	0.00	0.00	0.00

#### Work Unit Changes from RAMP:

Qualified firefighters join electric crews to serve in a prevention and ignition mitigation role. Because there are multiple different types of units of measure in this program, it would not be accurate or consistent to identify one unit of measure.

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: G. Grid Operations & Operating Protocols
Category-Sub: 1. Grid Operations & Operating Protocols

Workpaper: 1WM006.000 - Grid Operations & Operating Protocols

### Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE	
Tranche 1	63.000	63.000	
Tranche 2	67.000	56.000	

### **RSE Changes from RAMP:**

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2).

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

Category: G. Grid Operations & Operating Protocols 1. Grid Operations & Operating Protocols Category-Sub:

1WM006.000 - Grid Operations & Operating Protocols Workpaper:

### RAMP Item # 2

### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C35 T1-T3

RAMP Line Item Name: Aviation Firefighting Program

Tranche(/s): Tranche1: Tier 3; Tranche2: Tier 2; Tranche3: Non-HFTD

### **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	4,294	5,713	6,472	7,070	5,691	6,956
Tranche 2 Cost Estimate	2,532	3,369	3,816	4,169	3,356	4,101
Tranche 3 Cost Estimate	182	242	275	300	241	295
Cost Estimate Changes fro	m RAMP:					

Increased forecast for Aviation Firefighting Program based on expected flight hours.

GRC W	ork Unit/	Activity	Level	<b>Estimates</b>

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
Tranche 2 No feasible units	0.00	0.00	0.00	0.00	0.00	0.00
Tranche 3 No feasible units	0.00	0.00	0.00	0.00	0.00	0.00

### Work Unit Changes from RAMP:

Helicopters available for use by CalFire to respond to active fires. One unit of measure would not accurately represent the program.

Rick	Snand	Efficiency	(BSE)

	GRC RSE	RAMP RSE	
Tranche 1	218.000	24.000	
Tranche 2	453.000	14.000	

Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: G. Grid Operations & Operating Protocols
Category-Sub: 1. Grid Operations & Operating Protocols

Workpaper: 1WM006.000 - Grid Operations & Operating Protocols

Tranche 3 0.000 0.000

### **RSE Changes from RAMP:**

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2).

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Adjusted-Recorded

3,823

10.1

Witness: Jonathan Woldemariam

Category: H. Resource Allocation Methodology

Workpaper: 1WM007.000

**Total** 

FTE

### Summary for Category: H. Resource Allocation Methodology

	2021	2022	2023	2024
Labor	1,367	2,655	4,642	4,642
Non-Labor	2,456	3,106	3,106	3,106
NSE	0	0	0	0
Total	3,823	5,761	7,748	7,748
FTE	10.1	23.0	42.9	42.9
Workpapers belonging	to this Category:			
1WM007.000 Resource	ce Allocation Methodology			
Labor	1,367	2,655	4,642	4,642
Non-Labor	2,456	3,106	3,106	3,106
NSE	0	0	0	0

5,761

23.0

In 2021\$ (000) Incurred Costs

**Adjusted-Forecast** 

7,748

42.9

7,748

42.9

Beginning of Workpaper

1WM007.000 - Resource Allocation Methodology

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Jonathan Woldemariam Witness:

H. Resource Allocation Methodology Category: 1. Resource Allocation Methodology Category-Sub

1WM007.000 - Resource Allocation Methodology Workpaper:

### **Activity Description:**

1WM007 Resource Allocation Methodology includes costs for WMP Mitigations: Asset Management O&M; Wildfire Mitigation Personnel and PSPS Mitigation Engineering Team. This WMP mitigation includes costs for the Wildfire Mitigation department (Cost Centers 2100-4089; 2100-4097). Resource Allocation includes costs for development of tools and models utilized for allocating funding for WMP programs (e.g., WINGS) to promote efficient and cost-effective wildfire mitigation efforts. SDG&E's Wildfire Mitigation department is also included in this workpaper. This department, which was formed in 2019, contains three departments. First, the Wildfire Mitigation Programs group which is involved with the various regulatory proceedings that address wildfire and de-energization as well as legislative and media inquiries. Second, the Wildfire Mitigation Plan Strategic group develops metrics, leads vision projects, promotes new ways to enhance fire safety, and explores advancements to further drive improvement and change including risk modeling capabilities. Third, the Wildfire Mitigation Plan Accountability group is responsible for monitoring fire-related metrics, tracking WMP activities, complying with reporting requirements, provide for governance specifications and procedures, and act in a lead capacity on audits of the WMP programs.

#### Forecast Explanations:

#### Labor - Base YR Rec

The base-year forecast methodology was selected as most indicative of future work. New initiatives and programs have been implemented beginning in 2020 due to the Wildfire Mitigation Plan, and these enhancements are not captured in the historical costs of this category. Given that aspects of this workpaper were initiated in 2019, utilizing historical data prior to 2019 would not represent the costs for this workpaper in test year 2024. Most recent recorded data, Base year 2021, more accurately reflects the costs for this workpaper.

#### Non-Labor - Base YR Rec

The base-year forecast methodology was selected as most indicative of future work. New initiatives and programs have been implemented beginning in 2020 due to the Wildfire Mitigation Plan, and these enhancements are not captured in the historical costs of this category. Given that aspects of this workpaper were initiated in 2019, utilizing historical data prior to 2019 would not represent the costs for this workpaper in test year 2024. Most recent recorded data, Base year 2021, more accurately reflects the costs for this workpaper.

#### **NSE - Base YR Rec**

Not applicable.

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: H. Resource Allocation Methodology
Category-Sub 1. Resource Allocation Methodology

Workpaper: 1WM007.000 - Resource Allocation Methodology

### **Summary of Results:**

		In 2021\$ (000) Incurred Costs							
		Adju	ısted-Recor	ded		Adjusted-Forecast			
Years	2017	2018	2019	2020	2021	2022	2023	2024	
Labor	0	0	245	1,833	1,367	2,656	4,643	4,643	
Non-Labor	0	0	65	1,350	2,456	3,106	3,106	3,106	
NSE	0	0	0	0	0	0	0	0	
Total	0	0	310	3,182	3,823	5,762	7,749	7,749	
FTE	0.0	0.0	5.4	17.0	10.1	23.0	42.9	42.9	

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

H. Resource Allocation Methodology Category: 1. Resource Allocation Methodology Category-Sub:

1WM007.000 - Resource Allocation Methodology Workpaper:

#### **Summary of Adjustments to Forecast:**

	In 2021 \$(000) Incurred Costs									
Forecas	t Method	Base Forecast		Forecast Adjustments			Adjusted-Forecast			
Years	s	2022	2023	2024	2022	2023	2024	2022	2023	2024
Labor	Base YR Rec	1,367	1,367	1,367	1,288	3,275	3,275	2,655	4,642	4,642
Non-Labor	Base YR Rec	2,456	2,456	2,456	650	650	650	3,106	3,106	3,106
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Tota	ıl	3,823	3,823	3,823	1,938	3,925	3,925	5,761	7,748	7,748
FTE	Base YR Rec	10.1	10.1	10.1	12.9	32.8	32.8	23.0	42.9	42.9

#### **Forecast Adjustment Details:**

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj Type	
2022	1,288	650	0	1,938	12.9	1-Sided Adj	

**Explanation:** 

Increased forecast for WMP O&M related to Wildfire Mitigation Department increases. Increased labor and FTE's 100% to WMP O&M. Non-Labor increases include forecasts for data foundation licenses, advanced analytics, independent Evaluator and PSPS Studies, Joint IOU Enhanced Veg Analysis, Risk Analysis contract support, applicable Asset Mgmt O&M. See supplemental workpaper for adjustment details.

2022 Total	1,288	650	0	1,938	12.9	
2023	3 275	650	0	3 925	32 8	1-Sided Adi

**Explanation:** 

Increased forecast for WMP O&M related to Wildfire Mitigation Department increases. Increased labor and FTE's 100% to WMP O&M. Non-Labor increases include forecasts for data foundation licenses, advanced analytics, independent Evaluator and PSPS Studies, Joint IOU Enhanced Veg Analysis, Risk Analysis contract support, and Asset Mgmt O&M.

See supplemental workpaper for adjustment details.

2023 Total	3,275	650	0	3,925	32.8	
2024	3,275	650	0	3,925	32.8	1-Sided Adj

**Explanation:** Increased forecast for WMP O&M related to Wildfire Mitigation Department increases. Increased labor

and FTE's 100% to WMP O&M. Non-Labor increases include forecasts for data foundation licenses, advanced analytics, independent Evaluator and PSPS Studies, Joint IOU Enhanced Veg Analysis,

Risk Analysis contract support, and Asset Mgmt O&M. See supplemental workpaper for adjustment details.

24 Total 3,275 650 0 3,925 32.8
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Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: H. Resource Allocation Methodology
Category-Sub: 1. Resource Allocation Methodology

Workpaper: 1WM007.000 - Resource Allocation Methodology

### **Determination of Adjusted-Recorded (Incurred Costs):**

•	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	1,148	0	5,122	10,159	1,511
Non-Labor	4,538	0	40,064	95,482	3,753
NSE	0	0	0	0	0
Total	5,685	0	45,186	105,642	5,264
FTE	8.1	0.0	36.7	73.7	11.1
djustments (Nominal \$) *	*				
Labor	-1,148	0	-4,919	-8,604	-322
Non-Labor	-4,537	0	-40,003	-94,234	-1,297
NSE	0	0	0	0	0
Total	-5,685	0	-44,923	-102,839	-1,619
FTE	-7.6	0.0	-32.0	-59.1	-2.4
Recorded-Adjusted (Nomi	nal \$)				
Labor	0	0	203	1,555	1,189
Non-Labor	0	0	60	1,248	2,456
NSE	0	0	0	0	0
Total	0	0	263	2,803	3,645
FTE	0.5	0.0	4.7	14.6	8.6
acation & Sick (Nominal s	\$)				
Labor	0	0	29	221	179
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	29	221	179
FTE	0.1	0.0	0.7	2.4	1.5
scalation to 2021\$					
Labor	0	0	13	57	0
Non-Labor	0	0	5	102	0
NSE	0	0	0	0	0
Total	0	0	18	159	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Const	·				
Labor	0	0	245	1,833	1,367
Non-Labor	0	0	65	1,350	2,456
NSE	0	0	0	0	0
Total	0	0	310	3,182	3,823
FTE	0.6	0.0	5.4	17.0	10.1

<sup>\*</sup> After company-wide exclusions of Non-GRC costs

<sup>\*\*</sup> Refer to "Detail of Adjustments to Recorded" page for line item adjustments

### Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

H. Resource Allocation Methodology Category: 1. Resource Allocation Methodology Category-Sub:

1WM007.000 - Resource Allocation Methodology Workpaper:

### Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs										
	Years 2017 2018 2019 2020 2021									
Labor		-1,148	0	-4,919	-8,604	-322				
Non-Labor		-4,537	0	-40,003	-94,234	-1,297				
NSE		0	0	0	0	0				
	Total	-5,685	0	-44,923	-102,839	-1,619				
FTE		-7.6	0.0	-32.0	-59.1	-2.4				

#### Detail of Adjustments to Becarded

Detail of Adjust	ments to Recorded:					
<u>Year</u>		<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type
2017		-916	-1,233	0	-5.0	CCTR Transf To 2100-3962.000
Explanation:	1WM007 Resource	Allocation Method	lology to Workp	aper 1WM0	01 Emergeno	Preparedness from Workpaper by Planning & Preparedness in itigation Plan (WMP) Initiative
2017		-20	-523	0	-0.1	CCTR Transf To 2100-3932.000
Explanation:	Resource Allocation	Methodology to V	Vorkpaper 1WN	лооз Grid D	esign & Syste	ng from Workpaper 1WM007 em Hardening in cost center n (WMP) Initiative Categories.
2017		-212	-2,782	0	-2.5	CCTR Transf To 2100-0166.000
Explanation:	1WM007 Resource	Allocation Methdo	ology to Workpa	per 1WM00	5 Vegetation	pections from Workpaper Management & Inspections in itigation Plan (WMP) Initiative
2017 Total		-1,148	-4,537	0	-7.6	
2018 Total		0	0	0	0.0	
2019		-2,895	-1,638	0	16.7	CCTR Transf To 2100-3962.000
Explanation:	Transfer Labor, FTE	s, and Non-Labor	associated wit	h Emergend	y Planning &	Preparedness from Workpaper

2017 Total	-1,148	-4,537	U	-7.6	
2018 Total	0	0	0	0.0	
2019	-2,895	-1,638	0	16.7	CCTR Transf To 2100-3962.000
Explanation:	Transfer Labor, FTEs, and N	Non-Labor associa	ated with Eme	ergency Plan	ning & Preparedness from Workpaper

1WM007 Resource Allocation Methodology to Workpaper 1WM001 Emergency Planning & Preparedness in cost center 2100-3962 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative

Categories.

**Explanation:** 

2019 -649 -1,077 0 -5.5 CCTR Transf To 2100-3963.000

> Transfer Labor, FTEs, and Non-Labor associated with Fire Science & Climate Adaptation Department from Workpaper 1WM007 Resource Allocation Methodology to Workpaper 1WM002.000 Situational Awareness and Forecasting in cost center 2100-3963 to align costs where they are reflected in the Wildfire Mitigation

Plan (WMP) Initiative Categories.

### Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: H. Resource Allocation Methodology
Category-Sub: 1. Resource Allocation Methodology

Workpaper: 1WM007.000 - Resource Allocation Methodology

vvorkpaper.	1 *************************************	7 - Nesource 7	ilocation iviethod					
<u>Year</u>		<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type		
2019		-321	-2,464	0	-1.4	CCTR Transf To 2100-3932.000		
Explanation:	1WM007 Resource	Allocation Me	thodology to Wo	rkpaper 1WN	лооз Grid De	m Hardening from Workpaper esign & System Hardening in e Mitigation Plan (WMP) Initiative		
2019		-665	-14,644	0	-4.3	CCTR Transf To 2100-4089.002		
Explanation:	1WM007 Resource	Allocation Me	thdology to Worl	kpaper 1WM	004 Asset Ma	& Inspections from Workpaper anagement & Inspections in cost Mitigation Plan (WMP) Initiative		
2019		-321	-8,645	0	-3.5	CCTR Transf To 2100-0166.000		
Explanation:	1WM007 Resource	Allocation Me	thdology to Worl	kpaper 1WM	005 Vegetati	nspections from Workpaper on Management & Inspections in e Mitigation Plan (WMP) Initiative		
2019		0	-7,526	0	0.0	CCTR Transf To 2100-4089.001		
Explanation:	Transfer Non-Labor associated with Grid Operations & Protocols from Workpaper 1WM007 Resource Allocation Methodogy to Workpaper 1WM006 Grid Operations & Protocols in cost center 2100-4089.001 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.							
2019		-67	-3,777	0	-0.5	CCTR Transf To 2100-4089.006		
Explanation:	from Workpaper 1\	WM007 Resoulagement in cos	rce Allocation Me et center 2100-40	ethdology to \ 89.006 to ali	Workpaper 1	ation & Community Engagement WM008 Stakeholder Cooperation are they are reflected in the		
2019		-2	-232	0	-0.1	CCTR Transf To 2100-4089.005		
Explanation:		orkpaper 1WM	007.002 Data Go	overnance in	cost center 2	07 Resource Allocation 2100-4089.005 to align costs egories.		
2019 Total		-4,919	-40,003	0	-32.0			
2020		0	-2	0	0.0	1-Sided Adj		
Explanation:	Incremental COVID Catastrophic Event		•		uested for re	covery through a non-GRC		
2020		-4,555	-7,369	0	28.2	CCTR Transf To 2100-3962.000		
Explanation:	1WM007 Resource	Allocation Me	thodology to Wo	rkpaper 1WN	лоо1 Emerge	Preparedness from Workpaper ency Planning & Preparedness in Mitigation Plan (WMP) Initiative		
2020		-868	-2,552	0	-7.5	CCTR Transf To 2100-3963.000		

### Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: H. Resource Allocation Methodology
Category-Sub: 1. Resource Allocation Methodology

Workpaper: 1WM007.000 - Resource Allocation Methodology

vvorkpaper:	1 00101007.000	- Resource Allo	cation Methodol	ogy 		
<u>Year</u>		<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type
Explanation:	Workpaper 1WM00	07 Resource Allo cost center 2100	cation Methodolo	ogy to Work	kpaper 1WM0	te Adaptation Department from 02.000 Situational Awareness cted in the Wildfire Mitigation
2020		-441	-12,578	0	-2.6	CCTR Transf To 2100-3932.000
Explanation:	1WM007 Resource	Allocation Meth	odology to Work	paper 1WN	1003 Grid Des	n Hardening from Workpaper sign & System Hardening in Mitigation Plan (WMP) Initiative
2020		-1,584	-42,699	0	10.7	CCTR Transf To 2100-4089.002
Explanation:	1WM007 Resource	Allocation Meth	dology to Workp	aper 1WM0	004 Asset Ma	Inspections from Workpaper nagement & Inspections in cost Mitigation Plan (WMP) Initiative
2020		-361	-10,865	0	-3.8	CCTR Transf To 2100-0166.000
Explanation:	1WM007 Resource	Allocation Meth	dology to Workp	aper 1WM0	005 Vegetatio	spections from Workpaper n Management & Inspections in Mitigation Plan (WMP) Initiative
2020		0	-9,335	0	0.0	CCTR Transf To 2100-4089.001
Explanation:		ogy to Workpape	er 1WM006 Grid	Operations	& Protocols i	paper 1WM007 Resource n cost center 2100-4089.001 to tiative Categories.
2020		-602	-8,157	0	-5.0	CCTR Transf To 2100-4089.006
Explanation:	from Workpaper 1V	VM007 Resource agement in cost of	e Allocation Meth center 2100-4089	ndology to V 9.006 to aliç	Vorkpaper 1V	tion & Community Engagement VM008 Stakeholder Cooperation te they are reflected in the
2020		-192	-677	0	-1.3	CCTR Transf To 2100-4089.005
Explanation:		orkpaper 1WM00	7.002 Data Gov	ernance in	cost center 2	7 Resource Allocation 100-4097 to align costs where
2020 Total		-8,604	-94,234	0	-59.1	
2021		0	-2	0	0.0	1-Sided Adj
Explanation:	Incremental COVID Catastrophic Event		•	•	uested for red	overy through a non-GRC
2021		-322	-695	0	-2.4	CCTR Transf To 2100-4089.005

Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: H. Resource Allocation Methodology
Category-Sub: 1. Resource Allocation Methodology

Workpaper: 1WM007.000 - Resource Allocation Methodology

<u>Year</u>	<u>Lab</u>	<u>oor</u>	<u>NLbr</u>	<u>NSE</u>	<u>FTE</u>	Adj Type
Explanation:	Transfer wildfire costs r Metholodogy to Workpa where they are reflected	per 1WM007.	002 Data Gove	rnance in cos	st center 2100-	4089.005 to align costs
2021		0	-600	0	0.0	CCTR Transf To 2100-4097.000
Explanation:	Transfer wildfire costs r Allocation Metholodogy to align costs where the	to Workpaper	1WM007.001	Risk Assessn	nent & Mappin	g in cost center 2100-4097
2021 Total	4	322	-1,297	0	-2.4	

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: H. Resource Allocation Methodology
Category-Sub: 1. Resource Allocation Methodology

Workpaper: 1WM007.000 - Resource Allocation Methodology

### RAMP Item #1

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C40

RAMP Line Item Name: Wildfire Mitigation Personnel

Tranche(/s): Tranche1: None

### **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	3,823	5,761	7,748	7,748	5,224	6,385

#### **Cost Estimate Changes from RAMP:**

Increased versus RAMP range driven by increased labor due to additional FTE's charging 100% to WMP. Non-labor increases include additional forecasts for data foundation licenses, advanced analytics, and regulatory mandated items such as Independent Evaluator and Joint IOU Enhanced Veg Analysis.

GRC Work	Unit/Activity	امیم ا	Fetimates
GRC WOIK	UIIII/ACIIVIIV	Level	<b>⊑</b> Sulliates

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 RA Range Act	
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 Track and report on wildfire mitigation programs through quarterly	0.00	0.00	0.00	0.00	0.00	0.00

#### Work Unit Changes from RAMP:

reports and annual WMP.

A department that tracks and reports on wildfire mitigation programs through quarterly reports and annual WMP . Because there are multiple different types of units of measure in this program , it would not be accurate or consistent to identify one unit of measure.

Risk S	pend	Efficiency	(RSE)
--------	------	------------	-------

	GRC RSE	RAMP RSE
Tranche 1	0.000	0.000

### **RSE Changes from RAMP:**

WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: H. Resource Allocation Methodology
Category-Sub: 1. Resource Allocation Methodology

Workpaper: 1WM007.000 - Resource Allocation Methodology

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex.

SCG-03/SDG&E-03, Chapter 2).

Area:

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

Category: H. Resource Allocation Methodology Category-Sub: 1. Resource Allocation Methodology

Workpaper: 1WM007.000 - Resource Allocation Methodology

### RAMP Item # 2

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C39

RAMP Line Item Name: Asset Management

Tranche(/s): Tranche1: None

### **GRC Forecast Cost Estimates (\$000)**

	2021 Historical Embedded Cost	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP R (2020 Inci	ange
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	0	0	0	0	349	426

### **Cost Estimate Changes from RAMP:**

Lower than RAMP range primarily due to management decision to track Asset Management O&M under appropriate sub-categories for Risk Assessment & Mapping and Data Governance. See supplemental workpaper for adjustment details.

#### **GRC Work Unit/Activity Level Estimates**

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP Range Activities		
Measure	Activities	Activities	Activities	Activities	Low	High	
Tranche 1 Develops proactive	0.00	0.00	0.00	0.00	0.00	0.00	

asset replacement, inspection, and repair

programs based on risk.

### Work Unit Changes from RAMP:

Initiative that develops proactive asset replacement, inspection, and repair programs based on risk. Because there are multiple different types of units of measure in this program, it would not be accurate or consistent to identify one unit of measure.

### Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	0.000	0.000

### **RSE Changes from RAMP:**

WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: H. Resource Allocation Methodology
Category-Sub: 1. Resource Allocation Methodology

Workpaper: 1WM007.000 - Resource Allocation Methodology

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex.

SCG-03/SDG&E-03, Chapter 2).

Area:

San Diego Gas & Electric Company 2024 GRC - REVISED Non-Shared Service Workpapers **Supplemental Workpapers for Workpaper 1WM007.000** 

#### Wildfire Mitigation O&M - Forecast Adjustments

									2022				2023			2024			
							Unit Metric		2022		_		2023			2024			
Line Item	Workpaper	Wkp Name	WMP Initiative	Labor/Non-Labor	RAMP/Non-RAMP	Unit Description	(ea./ft./mile)	# of units	Cost per unit	Total cos		# of units	Cost per unit	Total cost	# of units	Cost per unit	Total cost	Total Cost	Explanation
																			Wildfire Mitigation Programs and Accountability are
																			requesting eight additional employees to address the
																			increasing regulatory requirements and data
																			standardization. Additional employees are slated to start
1	WM007.000	Resource Allocation Method	Wildfire Mitigation Personnel	Labor	RAMP	FTE's	FTE	8	\$ 125,000	\$ 500	,000	8	\$ 125,000	\$ 1,000,000	8	\$ 125,000	\$ 1,000,000	\$ 2,500,000	halfway through 2022.
																			Wildfire Mitigation Strategy is requesting seven additional
																			employees to address increasing work around risk modeling,
																			including RSEs. Additional employees are slated to start
			New FTE requests (PSPS/Risk management)		RAMP	FTE's	FTE		\$ 125,000		,500		\$ 125,000			\$ 125,000	\$ 875,000		halfway through 2022.
3	.WM007.000	Resource Allocation Method	PSPS Department (1 Dir)	Labor	RAMP	FTE's	FTE	1	\$ 200,000	\$ 50	,000	1	\$ 200,000	\$ 200,000	1	\$ 200,000	\$ 200,000	\$ 450,000	New Director of PSPS beginning September 2022.
																			Three managers beginning September 2022: PSPS
4	.WM007.000	Resource Allocation Method	PSPS Department (3 Mgrs)	Labor	RAMP	FTE's	FTE	3	\$ 150,000	\$ 112	,500	3	\$ 150,000	\$ 450,000	3	\$ 150,000	\$ 450,000	\$ 1,012,500	Compliance, PSPS Strategy, and PSPS Programs.
																			Six project managers beginning September 2022. Two for
												_							each manager: PSPS Compliance, PSPS Strategy, and PSPS
5 2	WM007.000	Resource Allocation Method	PSPS Department (6 PM's)	Labor	RAMP	FTE's	FTE	- 6	\$ 125,000	\$ 187	,500	6	\$ 125,000	\$ 750,000	- 6	\$ 125,000	\$ 750,000	\$ 1,687,500	Programs.
																			Non-labor costs to address increased spend associated with
																			the Independent Evaluator. 2021 engagement was short, and expected future engagements will include additional
	WM007.000	Resource Allocation Method I	and a second and the second	Non-Labor	RAMP	# of Reports	Reports		\$ 400,000	ć 400	.000		\$ 400,000	s 400.000		\$ 400,000	ć 400.000	\$ 1,200,000	
0	. WIVIOU7.000	Resource Adjocation Method	ndependent Evaluator	NOTIFEADOI	KAIVIF	w or reports	Reports	- 1	3 400,000	2 400	,000		3 400,000	3 400,000	-	3 400,000	3 400,000	3 1,200,000	Third-party vendor costs to assist with project management
																			and data analysis of the OEIS ordered joint IOU Enhanced
7	WM007.000	Resource Allocation Method I	Joint IOU - Enhanced Veg Analysis	Non-Labor	RAMP			1	\$ 250,000	\$ 250	.000	1	\$ 250,000	\$ 250,000	1	\$ 250,000	\$ 250,000	\$ 750,000	Vegetation Managament study.
Summary	. *************************************	Incapatice Parocation in Caroons	one too Emuneca veg zamayaa	I TOTT ELLED OF	10-1411				3 230,000	1 23.	,000		2 230,000	2 230,000		2 230,000	2 230,000	, , , , , , , , , , , , , , , , , , , ,	regetation managament study.
						Labor	RAMP			\$ 1,287	.500			\$ 3,275,000			\$ 3,275,000	\$ 7,837,500	
1						Non-Labor	RAMP			\$ 650				\$ 650,000	l		\$ 650,000		
						Subtotal RAMP				\$ 1,937	,500			\$ 3,925,000			\$ 3,925,000	\$ 9,787,500	
						Labor	Non-RAMP			\$	-			s -			s -	\$ -	
							Non-RAMP			Š	-			š -	l		š -	š -	
						Subtotal Non-RAMP				\$	-			\$ -			\$ -	\$ -	
						Total Historical Adjus	stments			\$ 1.937	500			\$ 3,925,000			\$ 3.925.000	\$ 9,787,500	

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: I. Risk Assessment & Mapping

Workpaper: 1WM007.001

### Summary for Category: I. Risk Assessment & Mapping

	In 2021\$ (000) Incurred Costs							
	Adjusted-Recorded		Adjusted-Forecast					
	2021	2022	2023	2024				
Labor	0	125	125	125				
Non-Labor	608	1,888	2,202	2,288				
NSE	0	0	0	0				
Total	608	2,013	2,327	2,413				
FTE	0.0	1.3	1.3	1.3				

### Workpapers belonging to this Category:

### 1WM007.001 Risk Assessment & Mapping

Labor	0	125	125	125
Non-Labor	608	1,888	2,202	2,288
NSE	0	0	0	0
Total	608	2,013	2,327	2,413
FTE	0.0	1.3	1.3	1.3

Beginning of Workpaper

1WM007.001 - Risk Assessment & Mapping

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: I. Risk Assessment & Mapping
Category-Sub 1. Risk Assessment & Mapping

Workpaper: 1WM007.001 - Risk Assessment & Mapping

### **Activity Description:**

Risk Assessment & Mapping includes costs for specific risk modeling tools.

SDG&E has utilitized its Wildfire Risk Reduction Model (WRRM) and WRRM-Operational System (WRRM-Ops) which continue to help SDG&E understand the wildfire risk from electric grid assets and fire propagation.

While WRRM and WRRM-Ops continue to play a critical role in understanding the fire risk, SDG&E recognized a need for a model with the capability to analyze circuit segments for risk of wildfire and PSPS impacts, as well as calculate Risk Spend Efficiency scores for mitigation initiatives. To meet that need, SDG&E developed a new model in 2020 named Wildfire Next Generation System (WiNGS). While it is in the first year of use, WiNGS is expected to help prioritize SDG&E's grid hardening mitigations in the coming years.

SDG&E has remained committed to the ongoing development and implementation of its wildfire risk modeling through joint collaboration with Energy Safety, other IOUs, and contractors and continues to refine a primarily automated risk assessment and mapping methodology.

#### **Forecast Explanations:**

#### Labor - Base YR Rec

The base-year forecast methodology was selected as most indicative of future work. New initiatives and programs have been implemented beginning in 2020 due to the Wildfire Mitigation Plan, and these enhancements are not captured in the historical costs of this category. Given that aspects of this workpaper were initiated in 2019, utilizing historical data prior to 2019 would not represent the costs for this workpaper in test year 2024. Most recent recorded data, Base year 2021, more accurately reflects the costs for this workpaper.

#### Non-Labor - Base YR Rec

The base-year forecast methodology was selected as most indicative of future work. New initiatives and programs have been implemented beginning in 2020 due to the Wildfire Mitigation Plan, and these enhancements are not captured in the historical costs of this category. Given that aspects of this workpaper were initiated in 2019, utilizing historical data prior to 2019 would not represent the costs for this workpaper in test year 2024. Most recent recorded data, Base year 2021, more accurately reflects the costs for this workpaper.

#### **NSE - Base YR Rec**

Not applicable.

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: I. Risk Assessment & Mapping
Category-Sub 1. Risk Assessment & Mapping

Workpaper: 1WM007.001 - Risk Assessment & Mapping

### **Summary of Results:**

	In 2021\$ (000) Incurred Costs											
		Adju	ısted-Recor	ded		Adjusted-Forecast						
Years	2017	2018	2019	2020	2021	2022	2023	2024				
Labor	0	0	0	0	0	125	125	125				
Non-Labor	0	0	0	0	608	1,888	2,202	2,288				
NSE	0	0	0	0	0	0	0	0				
Total	0	0	0	0	608	2,013	2,327	2,413				
FTE	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3				

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: I. Risk Assessment & Mapping
Category-Sub: 1. Risk Assessment & Mapping

Workpaper: 1WM007.001 - Risk Assessment & Mapping

#### **Summary of Adjustments to Forecast:**

	In 2021 \$(000) Incurred Costs											
Forecas	recast Method Base Forecast			st	Forec	Forecast Adjustments Adjuste				ed-Forecast		
Years		2022	2023	2024	2022	2023	2024	2022	2023	2024		
Labor	Base YR Rec	0	0	0	125	125	125	125	125	125		
Non-Labor	Base YR Rec	608	608	608	1,280	1,594	1,680	1,888	2,202	2,288		
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0		
Tota	ıl	608	608	608	1,405	1,719	1,805	2,013	2,327	2,413		
FTE	Base YR Rec	0.0	0.0	0.0	1.3	1.3	1.3	1.3	1.3	1.3		

#### **Forecast Adjustment Details:**

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj Type	
2022	125	1,280	0	1,405	1.3	1-Sided Adj	

**Explanation:** 

Increased forecast for WMP O&M related to Wildfire Mitigation Department increases. Increased labor and FTE's 100% to WMP O&M. Non-Labor increases include forecasts for data foundation licenses, advanced analytics, independent Evaluator and PSPS Studies, Joint IOU Enhanced Veg Analysis, Risk Analysis contract support, applicable Asset Mgmt O&M.

See supplemental workpaper for adjustment details.

2022 Total	125	1,280	0	1,405	1.3		
2023	125	1,594	0	1,719	1.3	1-Sided Adj	

**Explanation:** 

Increased forecast for WMP O&M related to Wildfire Mitigation Department increases.Increased labor and FTE's 100% to WMP O&M. Non-Labor increases include forecasts for data foundation licenses, advanced analytics, independent Evaluator and PSPS Studies, Joint IOU Enhanced Veg Analysis, Risk Analysis contract support, applicable Asset Mgmt O&M.

See supplemental workpaper for adjustment details.

2023 Total	125	1,594	0	1,719	1.3	
2024	125	1,680	0	1,805	1.3	1-Sided Adj

**Explanation:** 

Increased forecast for WMP O&M related to Wildfire Mitigation Department increases. Increased labor and FTE's 100% to WMP O&M. Non-Labor increases include forecasts for data foundation licenses, advanced analytics, independent Evaluator and PSPS Studies, Joint IOU Enhanced Veg Analysis, Risk Analysis contract support, applicable Asset Mgmt O&M. See supplemental workpaper for adjustment details.

2024 Total 125 1,680 0 1,805 1.3

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: I. Risk Assessment & Mapping
Category-Sub: 1. Risk Assessment & Mapping

Workpaper: 1WM007.001 - Risk Assessment & Mapping

### **Determination of Adjusted-Recorded (Incurred Costs):**

retermination of Aujusteu-N	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	9
NSE	0	0	0	0	0
Total	0	0	0	0	9
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	599
NSE	0	0	0	0	0
Total	0	0	0	0	599
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Nominal	\$)				
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	608
NSE	0	0	0	0	0
Total	0	0	0	0	608
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
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	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constan	t 2021\$)				
Labor	0	0	0	0	0
Non-Labor	0	0	0	0	608
NSE	0	0	0	0	0
Total	0	0	0	0	608
FTE	0.0	0.0	0.0	0.0	0.0

<sup>\*</sup> After company-wide exclusions of Non-GRC costs

<sup>\*\*</sup> Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: I. Risk Assessment & Mapping
Category-Sub: 1. Risk Assessment & Mapping

Workpaper: 1WM007.001 - Risk Assessment & Mapping

### 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	-0.250	599			
NSE		0	0	0	0	0			
	Total			0 -	-0.250	599			
FTE		0.0	0.0	0.0	0.0	0.0			

### Detail of Adjustments to Recorded:

<u>Year</u>	<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	0	0	0	0.0	1-Sided Adj	
Explanation:	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	0	0	0.0		
2021	0	-1	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).					
2021	0	600	0	0.0	CCTR Transf From 2100-4089.000	
Explanation:	xplanation: Transfer wildfire costs related to Risk Assessment & Mapping from Workpaper 1WM007 Resource Allocation Metholodogy to Workpaper 1WM007.001 Risk Assessment & Mapping in cost center 2100-4097 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.					
2021 Total	0	599	0	0.0		

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

I. Risk Assessment & Mapping Category: Category-Sub: 1. Risk Assessment & Mapping

Workpaper: 1WM007.001 - Risk Assessment & Mapping

#### RAMP Item # 1

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: New05

RAMP Line Item Name: Risk Assessment & Mapping

Tranche(/s): Tranche1: N/A

#### **GRC Forecast Cost Estimates (\$000)**

	2021 Historical Embedded Cost	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP R (2020 Inci	ange
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	608	2,013	2,327	2,413	0	0

#### **Cost Estimate Changes from RAMP:**

Not included in original RAMP report and identified as a unique RAMP item primarily due to management decision to track program costs under appropriate sub-categories for Risk Assessment & Mapping and Data Governance. See supplemental workpaper for adjustment details.

GRC Work	Unit/Activity	امیرم ا	Fetimates
GRC WOIK	UIIII/ACIIVIIV	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 N/A	0.00	0.00	0.00	0.00	0.00	0.00

#### Work Unit Changes from RAMP:

#### Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	0.000	0.000

#### **RSE Changes from RAMP:**

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2).

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam
Category: J. Data Governance
Workpaper: 1WM007.002

Summary for Category: J. Data Governance

		In 2021\$ (000) Incurred Costs						
	Adjusted-Recorded		Adjusted-Forecast					
	2021	2022	2023	2024				
Labor	380	568	755	755				
Non-Labor	702	857	876	895				
NSE	0	0	0	0				
Total	1,082	1,425	1,631	1,650				
FTE	2.9	4.8	6.7	6.7				

#### Workpapers belonging to this Category:

1WM007.002 Data Gove	rnance			
Labor	380	568	755	755
Non-Labor	702	857	876	895
NSE	0	0	0	0
Total	1,082	1,425	1,631	1,650
FTE	2.9	4.8	6.7	6.7

Beginning of Workpaper
1WM007.002 - Data Governance

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam
Category: J. Data Governance
Category-Sub 1. Data Governance

Workpaper: 1WM007.002 - Data Governance

#### **Activity Description:**

Data Governance includes costs for centralization of data, WMP metrics, data repository, and documentation of models.

Initially, SDG&E almost exclusively collected data metrics and measures manually. To enhance data quality and improve the efficiency of the data gathering process, SDG&E began developing a WMP Data Governance Framework (DGF) and an automated Central Data Repository (CDR) for wildfire-related data, which can be used by multiple internal and external stakeholders in the future. These changes will improve data collection by moving away from manual collection to a more uniform, electronic format that will provide data metrics in a searchable format, similar to a GIS data structure.

The DGF will define a set of repeatable standards, policies, processes and controls for wildfire-related data. Similar to the Wildfire Safety Division's GIS Data Standards, the vision of SDG&E's DGF is to make its wildfire-related data actionable, accessible, aligned, and auditable.

In 2020, SDG&E began centralizing its measures and metrics put forth in Wildfire Mitigation Plans in a central repository to gain insights and assess progress on programs and initiatives.

#### **Forecast Explanations:**

#### Labor - Base YR Rec

Base-year was selected as most indicative of future work. New initiatives and programs have been implemented beginning in 2020 due to the Wildfire Mitigation Plan, and utilizing the base year captures these changes. Given that aspects of this workpaper were initiated in 2019, utilizing historical data prior to 2019 would not represent the costs for this workpaper in test year 2024. Most recent recorded data, Base year 2021, more accurately reflects the costs for this workpaper.

#### Non-Labor - Base YR Rec

Base-year was selected as most indicative of future work. New initiatives and programs have been implemented beginning in 2020 due to the Wildfire Mitigation Plan, and utilizing the base year captures these changes. Given that aspects of this workpaper were initiated in 2019, utilizing historical data prior to 2019 would not represent the costs for this workpaper in test year 2024. Most recent recorded data, Base year 2021, more accurately reflects the costs for this workpaper.

#### **NSE - Base YR Rec**

Not applicable.

#### **Summary of Results:**

		In 2021\$ (000) Incurred Costs								
		Adju	ısted-Recor	ded		Adjusted-Forecast				
Years	2017	2018	2019	2020	2021	2022	2023	2024		
Labor	0	0	3	227	380	568	755	755		
Non-Labor	0	0	251	732	702	857	876	895		
NSE	0	0	0	0	0	0	0	0		
Total	0	0	254	959	1,082	1,425	1,631	1,650		
FTE	0.0	0.0	0.1	1.5	2.9	4.8	6.7	6.7		

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam
Category: J. Data Governance
Category-Sub: 1. Data Governance

Workpaper: 1WM007.002 - Data Governance

#### **Summary of Adjustments to Forecast:**

	In 2021 \$(000) Incurred Costs									
Forecas	t Method	Bas	se Foreca	st	Forec	ast Adjust	ments	Adjus	ted-Forec	ast
Years	s	2022	2023	2024	2022	2023	2024	2022	2023	2024
Labor	Base YR Rec	380	380	380	188	375	375	568	755	755
Non-Labor	Base YR Rec	702	702	702	155	174	193	857	876	895
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Tota	ıl	1,082	1,082	1,082	343	549	568	1,425	1,631	1,650
FTE	Base YR Rec	2.9	2.9	2.9	1.9	3.8	3.8	4.8	6.7	6.7

#### **Forecast Adjustment Details:**

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj Type	
2022	188	155	0	343	1.9	1-Sided Adj	

**Explanation:** 

Increased forecast for WMP O&M related to Wildfire Mitigation Department increases.Increased labor and FTE's 100% to WMP O&M. Non-Labor increases include forecasts for data foundation licenses, advanced analytics, independent Evaluator and PSPS Studies, Joint IOU Enhanced Veg Analysis, Risk Analysis contract support, applicable Asset Mgmt O&M.

See supplemental workpaper for adjustment details.

2022 Total	188	155	0	343	1.9	
2023	375	174	0	549	3.8	1-Sided Adj

**Explanation:** 

Increased forecast for WMP O&M related to Wildfire Mitigation Department increases.Increased labor and FTE's 100% to WMP O&M. Non-Labor increases include forecasts for data foundation licenses, advanced analytics, independent Evaluator and PSPS Studies, Joint IOU Enhanced Veg Analysis, Risk Analysis contract support, applicable Asset Mgmt O&M.

See supplemental workpaper for adjustment details.

2023 Total	375	174	0	549	3.8	
2024	375	193	0	568	3.8	1-Sided Adj

**Explanation:** 

Increased forecast for WMP O&M related to Wildfire Mitigation Department increases. Increased labor and FTE's 100% to WMP O&M. Non-Labor increases include forecasts for data foundation licenses, advanced analytics, independent Evaluator and PSPS Studies, Joint IOU Enhanced Veg Analysis, Risk Analysis contract support, applicable Asset Mgmt O&M. See supplemental workpaper for adjustment details.

2024 Total 375 193 0 568 3.8

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam
Category: J. Data Governance
Category-Sub: 1. Data Governance

Workpaper: 1WM007.002 - Data Governance

#### **Determination of Adjusted-Recorded (Incurred Costs):**

Determination of Aujusteu-i	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	0	0	0	0	9
Non-Labor	0	0	0	0	7
NSE	0	0	0	0	0
Total	0	0	0	0	16
FTE	0.0	0.0	0.0	0.0	0.1
Adjustments (Nominal \$) **					
Labor	0	0	2	192	322
Non-Labor	0	0	232	677	695
NSE	0	0	0	0	0
Total	0	0	235	869	1,017
FTE	0.0	0.0	0.1	1.3	2.4
Recorded-Adjusted (Nomina	l \$)				
Labor	0	0	2	192	331
Non-Labor	0	0	232	677	702
NSE	0	0	0	0	0
Total	0	0	235	869	1,032
FTE	0.0	0.0	0.1	1.3	2.5
/acation & Sick (Nominal \$)					
Labor	0	0	0	27	50
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	0	0	0	27	50
FTE	0.0	0.0	0.0	0.2	0.4
Escalation to 2021\$					
Labor	0	0	0	7	0
Non-Labor	0	0	19	55	0
NSE	0	0	0	0	0
Total	0	0	19	62	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constar	nt 2021\$)				
Labor	0	0	3	227	380
Non-Labor	0	0	251	732	702
NSE	0	0	0	0	0
Total	0	0	254	959	1,082
FTE	0.0	0.0	0.1	1.5	2.9

<sup>\*</sup> After company-wide exclusions of Non-GRC costs

<sup>\*\*</sup> Refer to "Detail of Adjustments to Recorded" page for line item adjustments

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam
Category: J. Data Governance
Category-Sub: 1. Data Governance

Workpaper: 1WM007.002 - Data Governance

#### Summary of Adjustments to Recorded:

In Nominal \$ (000) Incurred Costs									
	Years	2017	2018	2019	2020	2021			
Labor		0	0	2	192	322			
Non-Labor		0	0	232	677	695			
NSE		0	0	0	0	0			
	Total	0	0	235	869	1,017			
FTE		0.0	0.0	0.1	1.3	2.4			

#### Detail of Adjustments to Recorded:

V	Laha	. All low	NOF		Aut. Tour				
<u>Year</u>	<u>Labo</u>	<u>r NLbr</u>	<u>NSE</u>	<u>FTE</u>	<u>Adj Type</u>				
2017 Total	0	0	0	0.0					
2018 Total	0	0	0	0.0					
2019	2	232	0	0.1	CCTR Transf From 2100-4089.000				
Explanation:	Transfer wildfire costs related to Data Governance from Workpaper 1WM007 Resource Allocation Metholodogy to Workpaper 1WM007.002 Data Governance in cost center 2100-4089.005 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.								
2019 Total	2	232	0	0.1					
2020	192	677	0	1.3	CCTR Transf From 2100-4089.000				
Explanation:		1WM007.002 Da	ta Governanc	e in cost cer	WM007 Resource Allocation nter 2100-4097 to align costs where ories.				
2020 Total	192	677	0	1.3					
2021	322	695	0	2.4	CCTR Transf From 2100-4089.000				
Explanation:	Transfer wildfire costs related to Data Governance from Workpaper 1WM007 Resource Allocation Metholodogy to Workpaper 1WM007.002 Data Governance in cost center 2100-4089.005 to align costs where they are reflected in the Wildfire Mitigation Plan (WMP) Initiative Categories.								
2021 Total	322	695	0	2.4					

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam Category: J. Data Governance Category-Sub: 1. Data Governance

Workpaper: 1WM007.002 - Data Governance

#### RAMP Item # 1

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: New06

RAMP Line Item Name: Data Governance

Tranche(/s): Tranche1: N/A

#### **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	1,082	1,425	1,631	1,650	0	0

#### **Cost Estimate Changes from RAMP:**

Not included in original RAMP report and identified as a unique RAMP item to enhance SDG &E's data governance framework.

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 RA Range Act	
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 N/A	0.00	0.00	0.00	0.00	0.00	0.00

Work Unit Changes from RAMP:

#### Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE
Tranche 1	0.000	0.000

#### **RSE Changes from RAMP:**

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2).

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: K. Stakeholder Cooperation & Community Engagement

Workpaper: 1WM008.000

#### Summary for Category: K. Stakeholder Cooperation & Community Engagement

		In 2021\$ (000) Incurred Costs						
	Adjusted-Recorded		Adjusted-Forecast					
	2021	2022	2023	2024				
Labor	1,497	1,968	1,968	1,968				
Non-Labor	9,488	9,597	9,597	9,597				
NSE	0	0	0	0				
Total	10,985	11,565	11,565	11,565				
FTE	12.8	16.8	16.8	16.8				

#### Workpapers belonging to this Category:

#### 1WM008.000 Stakeholder Cooperation & Community Engagement

Labor	1,497	1,968	1,968	1,968
Non-Labor	9,488	9,597	9,597	9,597
NSE	0	0	0	0
Total	10,985	11,565	11,565	11,565
FTE	12.8	16.8	16.8	16.8

Beginning of Workpaper

1WM008.000 - Stakeholder Cooperation & Community Engagement

Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: K. Stakeholder Cooperation & Community Engagement
Category-Sub 1. Stakeholder Cooperation & Community Engagement

Workpaper: 1WM008.000 - Stakeholder Cooperation & Community Engagement

#### **Activity Description:**

Engagement and cooperation among all wildfire stakeholders, including the public, are extremely important to SDG&E. SDG&E partners with utility customers, elected officials, nonprofit support organizations, first responders and all other public safety and community partners. Each stakeholder group plays a unique and important role in achieving wildfire prevention and mitigation in SDG&E's service territory. SDG&E provides an essential service, and it takes its role within the communities it serves very seriously. This is especially true during times of PSPS events, when communities depend on complete, accurate, and timely information for their well-being.

#### **Forecast Explanations:**

#### Labor - Base YR Rec

The base-year forecast methodology was selected as most indicative of future work. New initiatives and programs have been implemented beginning in 2020 due to the Wildfire Mitigation Plan, and these enhancements are not captured in the historical costs of this category. Accordingly, 2021 base year expenses are most representative of future needs based on an expansion in complexity and scope of existing projects and initiatives.

#### Non-Labor - Base YR Rec

The base-year forecast methodology was selected as most indicative of future work. New initiatives and programs have been implemented beginning in 2020 due to the Wildfire Mitigation Plan, and these enhancements are not captured in the historical costs of this category. Accordingly, 2021 base year expenses are most representative of future needs based on an expansion in complexity and scope of existing projects and initiatives.

#### **NSE - Base YR Rec**

Not applicable.

#### **Summary of Results:**

Γ	In 2021\$ (000) Incurred Costs									
		Adjι	sted-Recor	ded		Ad	justed-Fore	cast		
Years	2017	2018	2019	2020	2021	2022	2023	2024		
Labor	8	0	81	710	1,497	1,968	1,968	1,968		
Non-Labor	118	214	4,090	8,825	9,488	9,597	9,597	9,597		
NSE	0	0	0	0	0	0	0	0		
Total	125	214	4,171	9,534	10,985	11,565	11,565	11,565		
FTE	0.1	0.0	0.6	5.8	12.8	16.8	16.8	16.8		

#### Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: K. Stakeholder Cooperation & Community Engagement
Category-Sub: 1. Stakeholder Cooperation & Community Engagement

Workpaper: 1WM008.000 - Stakeholder Cooperation & Community Engagement

#### **Summary of Adjustments to Forecast:**

			In 202	1 \$(000) Ir	ncurred Co	sts				
Forecas	t Method	Bas	Base Forecast			ast Adjust	ments	Adjusted-Forecast		
Years	s	2022	2023	2024	2022	2023	2024	2022	2023	2024
Labor	Base YR Rec	1,497	1,497	1,497	471	471	471	1,968	1,968	1,968
Non-Labor	Base YR Rec	9,488	9,488	9,488	109	109	109	9,597	9,597	9,597
NSE	Base YR Rec	0	0	0	0	0	0	0	0	0
Tota	ıl	10,985	10,985	10,985	580	580	580	11,565	11,565	11,565
FTE	Base YR Rec	12.8	12.8	12.8	4.0	4.0	4.0	16.8	16.8	16.8

#### **Forecast Adjustment Details:**

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj Type		
2022	125	0	0	125	1.0	1-Sided Adj		
Explanation:	Increased forecast for W	MP O&M rela	ted to WMP (	Communicatio	n Practices.			
2022	0	48	0	48	0.0	1-Sided Adj		
Explanation:	Increased forecast for W	MP O&M rela	ted to WMP N	/lylar Balloons	S.			
2022	250	13	0	263	2.0	1-Sided Adj		
Explanation:	Increased costs for WMF adds 2 FTE's in 2022 10				n original RAMF	Preport. Forecast		
2022	96	48	0	144	1.0	1-Sided Adj		
Explanation:	Increased costs for WMF adds 1 FTE's in 2022 10				in original RAM	MP report. Forecast		
2022 Total	471	109	0	580	4.0			
2023	125	0	0	125	1.0	1-Sided Adj		
Explanation:	Increased forecast for W	MP O&M rela	ted to WMP (	Communicatio	n Practices.			
2023	0	48	0	48	0.0	1-Sided Adj		
Explanation:	Increased forecast for W	MP O&M rela	ted to WMP N	/lylar Balloons	S.			
2023	250	13	0	263	2.0	1-Sided Adj		
Explanation:	Increased costs for WMF adds 2 FTE's in 2022 10				n original RAMF	Preport. Forecast		
2023	96	48	0	144	1.0	1-Sided Adj		
Explanation:	Increased costs for WMF adds 1 FTE's in 2022 10				in original RAM	MP report. Forecast		
2023 Total	471	109	0	580	4.0			
2024	125	0	0	125	1.0	1-Sided Adj		
Explanation:	Increased forecast due t	o increased in	terest in Stak	eholder & Co	mmunity Enga	gement programs .		
2024	0	48	0	48	0.0	1-Sided Adj		
Explanation:	Increased forecast for WMP O&M related to WMP Mylar Balloons.							

Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: K. Stakeholder Cooperation & Community Engagement
Category-Sub: 1. Stakeholder Cooperation & Community Engagement

Workpaper: 1WM008.000 - Stakeholder Cooperation & Community Engagement

<u>Year</u>	<u>Labor</u>	<u>NLbr</u>	<u>NSE</u>	<u>Total</u>	<u>FTE</u>	Adj_Type			
2024	250	13	0	263	2.0	1-Sided Adj			
Explanation:	Increased costs for WMF adds 2 FTE's in 2022 10				original RAMP	report. Forecast			
2024	96	48	0	144	1.0	1-Sided Adj			
Explanation:	Explanation: Increased costs for WMP Tribal Customer Support, not included in original RAMP report. Forecast adds 1 FTE's in 2022 100% WMP plus associated non-labor.								
2024 Total	471	109	0	580	4.0				

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: K. Stakeholder Cooperation & Community Engagement
Category-Sub: 1. Stakeholder Cooperation & Community Engagement

Workpaper: 1WM008.000 - Stakeholder Cooperation & Community Engagement

#### **Determination of Adjusted-Recorded (Incurred Costs):**

Determination of Aujusteu-r	2017 (\$000)	2018 (\$000)	2019 (\$000)	2020 (\$000)	2021 (\$000)
Recorded (Nominal \$)*					
Labor	0	0	0	0	1,302
Non-Labor	0	0	0	0	9,489
NSE	0	0	0	0	0
Total	0	0	0	0	10,790
FTE	0.0	0.0	0.0	0.0	10.9
djustments (Nominal \$) **					
Labor	6	0	67	602	0
Non-Labor	103	193	3,788	8,157	-1
NSE	0	0	0	0	0
Total	109	193	3,855	8,760	-1
FTE	0.1	0.0	0.5	5.0	0.0
Recorded-Adjusted (Nominal	l \$)				
Labor	6	0	67	602	1,302
Non-Labor	103	193	3,788	8,157	9,488
NSE	0	0	0	0	0
Total	109	193	3,855	8,760	10,789
FTE	0.1	0.0	0.5	5.0	10.9
/acation & Sick (Nominal \$)					
Labor	1	0	10	85	195
Non-Labor	0	0	0	0	0
NSE	0	0	0	0	0
Total	1	0	10	85	195
FTE	0.0	0.0	0.1	0.8	1.9
scalation to 2021\$					
Labor	1	0	4	22	0
Non-Labor	15	21	303	667	0
NSE	0	0	0	0	0
Total	16	21	307	689	0
FTE	0.0	0.0	0.0	0.0	0.0
Recorded-Adjusted (Constar	nt 2021\$)				
Labor	8	0	81	710	1,497
Non-Labor	118	214	4,090	8,825	9,488
NSE	0	0	0	0	0
Total	125	214	4,171	9,534	10,985
FTE	0.1	0.0	0.6	5.8	12.8

<sup>\*</sup> After company-wide exclusions of Non-GRC costs

<sup>\*\*</sup> Refer to "Detail of Adjustments to Recorded" page for line item adjustments

#### Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: K. Stakeholder Cooperation & Community Engagement
Category-Sub: 1. Stakeholder Cooperation & Community Engagement

Workpaper: 1WM008.000 - Stakeholder Cooperation & Community Engagement

#### Summary of Adjustments to Recorded:

	In Nominal \$ (000) Incurred Costs							
Years 2017 2018 2019 2020 2021								
Labor		6	0	67	602	0		
Non-Labor		103	193	3,788	8,157	-0.765		
NSE		0	0	0	0	0		
	Total	109	193	3,855	8,760	-0.765		
FTE		0.1	0.0	0.5	5.0	0.0		

#### **Detail of Adjustments to Recorded:**

Year	L	abor	NLbr	NSE	FTE	Adi Type	
2017	<u> </u>	6	3	0	0.1	CCTR Transf From 2100-0622.000	
Explanation:	Transfer labor, non-labor and FTE associated with Community Fire Preparedness Program Mgr. from cost center 2100-0622 in work paper group 100005 CCC Support to cost center 2100-4089.006 in workpaper group 1WM008 Stakeholder Cooperation & Community Engagement to align costs where activity/function resides and is forecasted.						
2017		0	100	0	0.0	CCTR Transf From 2100-0058.000	
Explanation:	Transfer WMP related of 1WM008.000 Stakehol	•				89.006 in WMP workpaper vity resides.	
2017 Total		6	103	0	0.1		
2018		0	193	0	0.0	CCTR Transf From 2100-0058.000	
Explanation:	Transfer WMP related of 1WM008.000 Stakehol	•				89.006 in WMP workpaper vity resides.	
2018 Total		0	193	0	0.0		
2019		67	3,777	0	0.5	CCTR Transf From 2100-4089.000	
Explanation:	from Workpaper 1WM0	007 Resource A nent in cost cer	llocation Metho ter 2100-4089.	lology to Wo	rkpaper 1WI	on & Community Engagement M008 Stakeholder Cooperation they are reflected in the	
2019		0	10	0	0.0	CCTR Transf From 2100-0058.000	
Explanation:	Transfer WMP related of 1WM008.000 Stakehol	•				89.006 in WMP workpaper vity resides.	
2019 Total		67	3,788	0	0.5		

Note: Totals may include rounding differences.

602

2020

0

5.0

CCTR Transf From 2100-4089.000

8,157

Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: K. Stakeholder Cooperation & Community Engagement
Category-Sub: 1. Stakeholder Cooperation & Community Engagement

Workpaper: 1WM008.000 - Stakeholder Cooperation & Community Engagement

<u>Year</u> Explanation:	Labor Transfer Labor, FTEs, and from Workpaper 1WM007 & Community Engagement Wildfire Mitigation Plan (W	Resource Allocation in cost center 21	on Methdology 00-4089.006 t	to Workpap	er 1WM008 Stakeholder	Engagement Cooperation
2020 Total	602	8,157	0	5.0		
2021	0	-1	0	0.0	1-Sided Adj	
Explanation:	One-sided adjustment to e	xclude \$765 relate	ed to Events a	nd Tickets.		
2021 Total	0	-1	0	0.0		

Non-Shared Service Workpapers

WILDFIRE MITIGATION & VEGETATION MANAGEMENT Area:

Witness: Jonathan Woldemariam

Category: K. Stakeholder Cooperation & Community Engagement Category-Sub: 1. Stakeholder Cooperation & Community Engagement

Workpaper: 1WM008.000 - Stakeholder Cooperation & Community Engagement

#### RAMP Item #1

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C42

RAMP Line Item Name: PSPS Communication Practices

Tranche(/s): Tranche1: N/A

#### **GRC Forecast Cost Estimates (\$000)**

	2021 Historical	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP Range	
	Embedded Cost				(2020 Inc	.,
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	9,766	9,889	9,889	9,889	5,996	7,328

#### **Cost Estimate Changes from RAMP:**

Higher than RAMP range primarily due to shift in forecasting. PSPS Communication practices expected to retain base year levels of spend through 2024.

#### **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 Improve coordination and customer	0.00	0.00	0.00	0.00	0.00	0.00

awareness during fires or

PSPS events.

#### Work Unit Changes from RAMP:

Program that improves coordination and customer awareness during fires or PSPS events. Because there are multiple different types of units of measure in this program, it would not be accurate or consistent to identify one unit of measure.

#### Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE	
Tranche 1	0.000	0.000	

#### **RSE Changes from RAMP:**

Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: K. Stakeholder Cooperation & Community Engagement
Category-Sub: 1. Stakeholder Cooperation & Community Engagement

Workpaper: 1WM008.000 - Stakeholder Cooperation & Community Engagement

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex.

SCG-03/SDG&E-03, Chapter 2).

Non-Shared Service Workpapers

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: K. Stakeholder Cooperation & Community Engagement
Category-Sub: 1. Stakeholder Cooperation & Community Engagement

Workpaper: 1WM008.000 - Stakeholder Cooperation & Community Engagement

#### RAMP Item # 2

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: C43

RAMP Line Item Name: Mylar Balloon Alternative

Tranche(/s): Tranche1: N/A

#### **GRC Forecast Cost Estimates (\$000)**

	2021 Historical Embedded Cost	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP R (2020 Inci	ange
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	37	86	86	86	68	83

#### **Cost Estimate Changes from RAMP:**

Slightly higher than RAMP due primarily due to continuation of program versus lower than expected cost forecasts in original RAMP report.

#### **GRC Work Unit/Activity Level Estimates**

Unit of	2021 Historical Embedded	2022 Forecast	2023 Forecast	2024 Forecast	2024 RA	
Measure	Activities	Activities	Activities	Activities	Low	High
Tranche 1 Develop a non-conductive balloon which will not cause an electrical fault when it comes in contact	0.00	0.00	0.00	0.00	0.00	0.00

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#### Work Unit Changes from RAMP:

Program to develop a non-conductive balloon that will not cause an electrical fault when it comes in contact with overhead distribution power lines. One unit of measure would not accurately represent the program.

#### Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE	
Tranche 1	0.000	0.000	

#### **RSE Changes from RAMP:**

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Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: K. Stakeholder Cooperation & Community Engagement
Category-Sub: 1. Stakeholder Cooperation & Community Engagement

Workpaper: 1WM008.000 - Stakeholder Cooperation & Community Engagement

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex.

SCG-03/SDG&E-03, Chapter 2).

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: K. Stakeholder Cooperation & Community Engagement
Category-Sub: 1. Stakeholder Cooperation & Community Engagement

Workpaper: 1WM008.000 - Stakeholder Cooperation & Community Engagement

#### RAMP Item #3

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: New07

RAMP Line Item Name: WMP AFN Customer Support

Tranche(/s): Tranche1: N/A

#### **GRC Forecast Cost Estimates (\$000)**

	2021 Historical Embedded Cost	2022 Forecast	2023 Forecast	2024 Forecast	2024 RAMP R (2020 Inci	ange
	(2021 \$)	(2021 \$)	(2021 \$)	(2021 \$)	Low	High
Tranche 1 Cost Estimate	1,127	1,390	1,390	1,390	0	0

#### **Cost Estimate Changes from RAMP:**

To address regulatroy requirements, additional forecasts for WMP AFN Customer Support have been added that were not included in original RAMP report.

#### **GRC Work Unit/Activity Level Estimates**

Unit of Measure	2021 Historical Embedded Activities	2022 Forecast Activities	2023 Forecast Activities	2024 Forecast Activities	2024 RA Range Act Low	
Tranche 1 Improve AFN coordination and customer awareness during fires or PSPS events.	0.00	0.00	0.00	0.00	0.00	0.00

#### Work Unit Changes from RAMP:

#### Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE	
Tranche 1	0.000	0.000	

#### **RSE Changes from RAMP:**

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2).

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

Category: K. Stakeholder Cooperation & Community Engagement
Category-Sub: 1. Stakeholder Cooperation & Community Engagement

Workpaper: 1WM008.000 - Stakeholder Cooperation & Community Engagement

#### RAMP Item # 4

#### **RAMP Activity**

RAMP Chapter: SDG&E-Risk-1 Wildfire Involving SDG&E Equipment

RAMP Line Item ID: New08

RAMP Line Item Name: WMP Tribal Customer Support

Tranche(/s): Tranche1: N/A

#### **GRC Forecast Cost Estimates (\$000)**

	2021 Historical	2022	2023	2024	2024 RAMP Range	
	Embedded Cost (2021 \$)	Forecast (2021 \$)	Forecast (2021 \$)	Forecast (2021 \$)	(2020 Inc	urred \$) High
Tranche 1 Cost Estimate	54	200	200	200	0	0

#### **Cost Estimate Changes from RAMP:**

Forecasts for WMP Tribal Customer Support, not included in original RAMP report.

#### **GRC Work Unit/Activity Level Estimates**

Unit of Measure	2021 Historical Embedded Activities	2022 Forecast Activities	2023 Forecast Activities	2024 Forecast Activities	2024 RA Range Act Low	
Tranche 1 Improve Tribal coordination and customer awareness during fires or	0.00	0.00	0.00	0.00	0.00	0.00

#### Work Unit Changes from RAMP:

PSPS events.

#### Risk Spend Efficiency (RSE)

	GRC RSE	RAMP RSE	
Tranche 1	0.000	0.000	

#### **RSE Changes from RAMP:**

General changes to risk scores or RSE values are primarily due to changes in the MAVF and RSE methodology as discussed in the RAMP to GRC integration testimony of R. Scott Pearson and Gregory S. Flores (Ex. SCG-03/SDG&E-03, Chapter 2).

Area: WILDFIRE MITIGATION & VEGETATION MANAGEMENT

Witness: Jonathan Woldemariam

#### Appendix A: List of Non-Shared Cost Centers

Cost Center	Sub	<u>Description</u>
2100-0166	000	VEGETATION MGMT ADMIN
2100-0216	000	EMERGENCY SERVICES SOUTH
2100-0218	000	TREE TRIM PROGRAM
2100-3761	000	SDGE F. COORDINATION
2100-3773	000	HELICOPTER UTILIZATION
2100-3854	000	AIR COORDINATION
2100-3889	000	FIELD SRVC SAFETY SUPPORT
2100-3932	000	FIRE & RISK MITIGATION
2100-3962	000	DIR EMERGENCY PREPAREDNESS & MANAGEMENT
2100-3963	000	METEOROLOGY
2100-4048	000	BUSINESS RESUMPTION & TECH SOLUTIONS
2100-4055	000	Fire Science & Climate Dir
2100-4056	000	Fire Mit & Climate Adap
2100-4089	000	DIR-WF MIT & VEG MGT
2100-4097	000	FIRE MITIGATION MEASURES & METRICS
2100-4176	000	EMERGENCY MANAGEMENT TRAINING & EXERCIS
2100-4178	000	ESH PROGRAM MANAGEMENT # SOUTH