SAN DIEGO GAS & ELECTRIC COMPANY
Risk Assessment and Mitigation Phase
2025 Report

Chapter: SDG&E-Risk-4
Number: SDG&E-R04-CWP

Wildfires and PSPS Capital Workpapers

SAN DIEGO GAS & ELECTRIC COMPANY

May 15, 2025

2025 Risk Assessment & Mitigation Phase

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Risk Chapter 1CR04: SDG&E-RISK-4 WILDFIRES AND PSPS

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Summary of Risk Chapter: 1CR04 - SDG&E-Risk-4 Wildfires and PSPS

In 2024 $ (000s) Incurred Costs												
	Adjusted Recorded					**Adjusted Forecast**						
	2020	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**
Control/Mitigation	636,043	591,300	608,274	601,220	479,548	273,772	178,822	206,153	478,657	473,029	477,934	407,342
Alternative Mitigation	0	0	0	0	0	0	0	250,404	749,556	749,556	749,556	549,733
Units	See detailed pages for Units as the unit measure can vary for each mitigation.											

Note: Totals may include rounding differences.

Risk Chapter: **SDG&E-Risk-4 Wildfires and PSPS**

Risk ID: **1CR04**

In 2024 $ (000s) Incurred Costs

Mitigation		Unit Measure	Adjusted Recorded					Adjusted Forecast						
ID	Name		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
A520	Grid Hardening Alternative 1	Miles UG (C	0	0	0	0	0	0	0	101,164	472,917	472,917	472,917	422,334
A522	Grid Hardening Alternative 2	Miles harde	0	0	0	0	0	0	0	149,240	276,639	276,639	276,639	127,399
C501	Wireless Fault Indicators	Wireless fau	1,368	1,713	1,151	6	3	0	0	0	0	0	0	0
C502	Capacitor Maintenance and	Capacitors r	1,594	3,079	4,779	1,691	189	0	0	0	0	0	0	0
C506	Microgrids	Microgrids (	5,865	20,023	3,669	4,124	7,096	0	0	0	910	0	0	0
C507	CMP Repairs	Poles	16,235	20,322	17,258	10,808	10,298	11,655	12,305	12,305	12,305	12,305	12,305	12,305
C508	Advanced Protection	Nodes	15,043	12,628	20,590	16,940	11,048	8,010	2,759	1,808	1,226	1,228	1,302	0
C510	Hotline Clamps	Hotline clam	0	0	0	0	684	146	0	0	0	0	0	0
C518	Strategic Undergrounding	Miles UG (C	63,166	105,611	169,775	193,343	213,171	85,633	1,494	75,873	354,688	354,688	354,688	329,397
C520	Distribution Overhead Syste	Miles harde	223,087	143,577	27,701	7,615	3,564	2,800	8,299	280	280	280	0	0
C522	Transmission Overhead Har	Miles harde	8,998	8,965	5,113	16,628	12,460	2,459	6,505	4,970	3,536	503	0	0
C524	Lightning Arrestor Removal/I	Lightning Ar	32	2,746	4,367	3,036	2,664	539	0	0	0	0	0	0
C534	Risk-Informed Drone Inspec	Poles replac	26,338	20,188	69,768	83,149	73,111	32,272	31,000	12,797	12,797	12,797	12,797	12,797
C546	Aviation Firefighting Progran	No feasible	13,320	23,943	17,407	4,068	3,009	1,691	3,648	0	0	0	0	0
C550	Combined Covered Conduct	Miles harde	3,386	58,940	120,356	88,046	75,037	69,580	69,439	69,439	69,439	69,439	69,160	31,850
C552	PSPS Sectionalizing Enhan	Switches ins	8,330	2,979	3,172	2,259	2,178	2,205	2,205	1,890	1,575	1,575	945	630
C558	Risk Methodology and Asse	No feasible	0	1,423	9,650	6,714	4,745	3,974	3,974	3,974	3,974	3,974	3,974	3,974
C561	Fire Potential Index	No feasible	2,236	2,562	2,540	1,817	0	0	0	0	0	0	0	0
C562	Weather Station Maintenanc	Weather ser	1,709	689	8,454	290	116	88	88	88	88	88	7,088	88
C563	Wildfire Mitigation Strategy D	No feasible	1,473	3,442	4,391	1,598	678	0	0	0	0	0	0	0
C564	Distribution Communications	Base station	65,279	84,869	66,980	93,516	21,336	10,615	0	0	0	0	0	0
C565	Transmission Overhead De	Poles	1,519	666	852	1,725	1,043	1,202	1,152	1,127	1,101	1,076	1,026	975
C566	Enterprise Data Foundation	No feasible	16,483	26,913	19,649	16,130	7,226	8,504	7,397	6,731	6,425	4,806	4,806	4,806
C567	Public Emergency Communi	No feasible	8,435	9,276	8,900	14,222	16,887	9,219	0	0	0	0	0	0

Note: Totals may include rounding differences.

Risk Chapter: **SDG&E-Risk-4 Wildfires and PSPS**

Risk ID: **1CR04**

In 2024 $ (000s) Incurred Costs

Mitigation ID	Mitigation Name	Unit Measure	Adjusted Recorded 2020	2021	2022	2023	2024	Adjusted Forecast 2025	2026	2027	2028	2029	2030	2031
C568	Strategic Pole Replacement	Poles	0	0	0	76	2,445	7,928	7,928	7,928	7,928	7,928	7,928	7,928
C569	Cleveland National Forest Fi	No feasible	135,876	19,123	2,132	1,531	1,036	1,182	429	293	181	148	25	0
C570	Expulsion Fuse Replacemer	Fuses repla	10,155	9,174	826	51	206	601	0	0	0	0	0	0
C571	Emergency Preparedness ai	No feasible	6,048	5,700	5,479	21,303	3,870	8,578	17,232	3,782	0	0	0	0
C573	Early Fault Detection	Nodes	69	2,417	10,338	7,655	3,761	4,292	2,968	2,868	1,768	1,668	1,567	1,467
C574	Air Quality Station Maintenai	Other	0	0	529	112	0	0	0	0	0	0	0	0
C575	Vegetation Management Ent	No feasible	0	0	0	1,223	622	0	0	0	0	0	0	0
C576	Avian Protection	Poles protec	1	332	2,449	1,542	1,066	599	0	0	0	0	0	0
M503	Grounding Banks	Feet	0	0	0	0	0	0	0	0	436	526	323	1,125

Units

Mitigation ID	Mitigation Name	Unit Measure	Adjusted Recorded 2020	2021	2022	2023	2024	Adjusted Forecast 2025	2026	2027	2028	2029	2030	2031
A520	Grid Hardening Alternative 1	Miles UG (C	0	0	0	0	0	0	0	0	200	200	200	200
A522	Grid Hardening Alternative 2	Miles harder	0	0	0	0	0	0	0	0	200	200	200	200
C501	Wireless Fault Indicators	Wireless fau	502	544	595	0	0	0	0	0	0	0	0	0
C502	Capacitor Maintenance and	Capacitors r	30	35	58	20	1	0	0	0	0	0	0	0
C506	Microgrids	Microgrids (	4	0	1	0	0	0	0	0	1	0	0	0
C507	CMP Repairs	Poles	666	665	592	407	422	459	485	485	485	485	485	485
C508	Advanced Protection	Nodes	72	46	7	110	18	56	33	39	30	30	30	0
C510	Hotline Clamps	Hotline clam	0	0	0	0	678	197	0	0	0	0	0	0
C518	Strategic Undergrounding	Miles UG (C	16	26	65	72	112	28	0	0	150	150	150	150
C520	Distribution Overhead Syste	Miles harder	100	100	26	2	1	0	6	0	0	0	0	0
C522	Transmission Overhead Har	Miles harder	9	3	1	17	7	3	5	7	6	0	0	0

Note: Totals may include rounding differences.

Risk Chapter: **SDG&E-Risk-4 Wildfires and PSPS**

Risk ID: **1CR04**

Units

Mitigation		Unit Measure	Adjusted Recorded					Adjusted Forecast						
ID	Name		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
C524	Lightning Arrestor Removal/I	Lightning Ar	0	1,789	2,710	2,202	1,654	516	0	0	0	0	0	0
C534	Risk-Informed Drone Inspec	Poles replac	306	365	341	1,464	1,992	854	775	353	353	353	353	353
C546	Aviation Firefighting Progran	No feasible	0	0	0	0	0	0	0	0	0	0	0	0
C550	Combined Covered Conduct	Miles harder	2	20	61	60	36	50	50	50	50	50	50	50
C552	PSPS Sectionalizing Enhanc	Switches ins	23	13	12	10	18	7	7	6	5	5	3	2
C558	Risk Methodology and Asse	No feasible	0	0	0	0	0	0	0	0	0	0	0	0
C561	Fire Potential Index	No feasible	0	0	0	0	0	0	0	0	0	0	0	0
C562	Weather Station Maintenanc	Weather ser	0	0	0	0	0	2	2	2	2	2	2	2
C563	Wildfire Mitigation Strategy D	No feasible	0	0	0	0	0	0	0	0	0	0	0	0
C564	Distribution Communications	Base statior	15	10	21	10	3	5	0	0	0	0	0	0
C565	Transmission Overhead De	Poles	46	18	67	30	14	46	44	43	42	41	39	37
C566	Enterprise Data Foundation	No feasible	0	0	0	0	0	0	0	0	0	0	0	0
C567	Public Emergency Communi	No feasible	0	0	0	0	0	0	0	0	0	0	0	0
C568	Strategic Pole Replacement	Poles	0	0	0	1	40	200	200	200	200	200	200	200
C569	Cleveland National Forest Fi	No feasible	0	0	0	0	0	0	0	0	0	0	0	0
C570	Expulsion Fuse Replacemer	Fuses repla	3,179	3,976	231	36	188	311	0	0	0	0	0	0
C571	Emergency Preparedness a	No feasible	0	0	0	0	0	0	0	0	0	0	0	0
C573	Early Fault Detection	Nodes	0	0	0	32	62	60	60	60	60	60	60	60
C574	Air Quality Station Maintena	Other	0	0	8	6	0	0	0	0	0	0	0	0
C575	Vegetation Management Ent	No feasible	0	0	0	0	0	0	0	0	0	0	0	0
C576	Avian Protection	Poles protec	0	0	973	663	774	236	0	0	0	0	0	0
M503	Grounding Banks	Feet	0	0	0	0	0	0	0	0	14,300	18,500	10,000	36,000

Note: Totals may include rounding differences.

Supplemental Workpapers

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	A520 Grid Hardening Alternative 1
Budget Code(s):	19246
Estimated In Service Date:	Ongoing

19246 -

Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	2025 # of units	2025 Cost per unit*	2025 Total cost	2026 # of units	2026 Cost per unit*	2026 Total cost	2027 # of units	2027 Cost per unit*	2027 Total cost
1	Construction - Civil, Electrical, Materials	Non-Labor	RAMP	Miles			$ -			$ -			$ -
2	Design & Engineering	Non-Labor	RAMP	Miles			$ -			$ -	200	$ 505,822	$ 101,164,488
3	Project Support	Non-Labor	RAMP	Miles			$ -			$ -			$ -
4	Labor	Labor	RAMP	Hours			$ -			$ -			$ -

Line Item	Unit Description	2028 # of units	2028 Cost per unit*	2028 Total cost	2029 # of units	2029 Cost per unit*	2029 Total cost	2030 # of units	2030 Cost per unit*	2030 Total cost	2031 # of units	2031 Cost per unit*	2031 Total cost	Total Cost	Comments
1	Construction - Civil, Electrical, Materials	200	$ 1,202,433	$ 240,486,672	200	$ 1,202,433	$ 240,486,672	200	$ 1,202,433	$ 240,486,672	200	$ 1,202,433	$ 240,486,672	*$ 961,946,688*	
2	Design & Engineering	200	$ 505,822	$ 101,164,488	200	$ 505,822	$ 101,164,488	200	$ 505,822	$ 101,164,488	100	$ 505,822	$ 50,582,244	*$ 455,240,196*	
3	Project Support	200	$ 638,963	$ 127,792,505	200	$ 638,963	$ 127,792,505	200	$ 638,963	$ 127,792,505	200	$ 638,963	$ 127,792,505	*$ 511,170,020*	
4	Labor	48,952	$ 71	$ 3,473,128	48,952	$ 71	$ 3,473,128	48,952	$ 71	$ 3,473,128	48,952	$ 71	$ 3,473,128	*$ 13,892,511*	

Summary

			2025 Total cost	2026 Total cost	2027 Total cost	2028 Total cost	2029 Total cost	2030 Total cost	2031 Total cost	Total Cost	Comments
	Labor	**RAMP**	$ -	$ -	$ -	$ 3,473,128	$ 3,473,128	$ 3,473,128	$ 3,473,128	$ 13,892,511	
	Non-Labor	**RAMP**	$ -	$ -	$ 101,164,488	$ 469,443,665	$ 469,443,665	$ 469,443,665	$ 418,861,421	$1,928,356,904	
	NSE	**RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Subtotal RAMP			$ -	$ -	$ 101,164,488	$ 472,916,793	$ 472,916,793	$ 472,916,793	$ 422,334,549	$1,942,249,415	
										$ -	
	Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	Non-Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	NSE	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Subtotal Non-RAMP			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
										$ -	
Total Project Forecast			$ -	$ -	$ 101,164,488	$ 472,916,793	$ 472,916,793	$ 472,916,793	$ 422,334,549	$1,942,249,415	

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	A522 - Grid Hardening Alternative 2
Budget Code(s):	20285
Estimated In Service Date:	Ongoing

20285 -					2025			2026			2027			2028			2029			2030			2031				
Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	Total Cost	Comments
1	Material	Non-Labor	RAMP	mi			$ -			$ -			$ -	200	$ 201,104	$ 40,220,832	200	$ 201,104	$ 40,220,832	200	$ 201,104	$ 40,220,832	200	$ 201,104	$ 40,220,832	$ 160,883,328	
2	Construction FTE	Labor	RAMP	mi			$ -			$ -			$ -	200	$ 95,782	$ 19,156,494	200	$ 95,782	$ 19,156,494	200	$ 95,782	$ 19,156,494	200	$ 95,782	$ 19,156,494	$ 76,625,976	
3	Construction Contractor	Non-Labor	RAMP	mi			$ -			$ -			$ -	200	$ 340,109	$ 68,021,891	200	$ 340,109	$ 68,021,891	200	$ 340,109	$ 68,021,891	200	$ 340,109	$ 68,021,891	$ 272,087,564	
4	Pre-Construction FTE	Labor	RAMP	mi			$ -			$ -	200	$ 22,500	$ 4,500,000	200	$ 22,500	$ 4,500,000	200	$ 22,500	$ 4,500,000	200	$ 22,500	$ 4,500,000	-		$ -	$ 18,000,000	
5	Pre-Construction Contractor	Non-Labor	RAMP	mi			$ -			$ -	200	$ 723,701	$ 144,740,135	200	$ 723,701	$ 144,740,135	200	$ 723,701	$ 144,740,135	200	$ 723,701	$ 144,740,135	-		$ -	$ 578,960,541	

Summary			2025 Total cost	2026 Total cost	2027 Total cost	2028 Total cost	2029 Total cost	2030 Total cost	2031 Total cost	Total Cost
	Labor	**RAMP**	$ -	$ -	$ 4,500,000	$ 23,656,494	$ 23,656,494	$ 23,656,494	$ 19,156,494	$ 94,625,976
	Non-Labor	**RAMP**	$ -	$ -	$ 144,740,135	$ 252,982,858	$ 252,982,858	$ 252,982,858	$ 108,242,723	$ 1,011,931,433
	NSE	**RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal RAMP			$ -	$ -	$ 149,240,135	$ 276,639,352	$ 276,639,352	$ 276,639,352	$ 127,399,217	$ 1,106,557,409
										$ -
	Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Non-Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	NSE	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal Non-RAMP			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
										$ -
Total Project Forecast			**$ -**	**$ -**	**$ 149,240,135**	**$ 276,639,352**	**$ 276,639,352**	**$ 276,639,352**	**$ 127,399,217**	$ 1,106,557,409

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C506 Microgrids
Budget Code(s):	21273
Estimated In Service Date:	2028

21273 -					2025			2026			2027			2028			2029			2030			2031				
Line Item	Unit Description	Labor/ Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	Total Cost	Comments
1	Contracted Services - Remote Grid (Off-Grid) Sites	Non-Labor	RAMP	# of Microgrids			$ -			$ -			$ -	1	$ 500,000	$ 500,000			$ -			$ -			$ -	$ 500,000	Engineering and installation services of smaller remote grid power solutions
2	Internal Labor - Remote Grid (Off-Grid) Site	Labor	RAMP	hours			$ -			$ -			$ -	1719	$ 64	$ 110,016			$ -			$ -			$ -	$ 110,016	
3	All Other -Remote Grid (Off-Grid) Site	Non-Labor	RAMP	N/A			$ -			$ -			$ -	1	$ 300,000	$ 300,000			$ -			$ -			$ -	$ 300,000	Employee Costs

Summary

			2025 Total cost	2026 Total cost	2027 Total cost	2028 Total cost	2029 Total cost	2030 Total cost	2031 Total cost	Total Cost
	Labor	**RAMP**	$ -	$ -	$ -	$ 110,016	$ -	$ -	$ -	$ 110,016
	Non-Labor	**RAMP**	$ -	$ -	$ -	$ 800,000	$ -	$ -	$ -	$ 800,000
	NSE	**RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal RAMP			$ -	$ -	$ -	$ 910,016	$ -	$ -	$ -	$ 910,016
	Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Non-Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	NSE	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal Non-RAMP			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Project Forecast			$ -	$ -	$ -	$ 910,016	$ -	$ -	$ -	$ 910,016

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C507 CMP Repairs
Budget Code(s):	239, 23249
Estimated In Service Date:	Ongoing

239, 23249 - CMP Repairs

Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	2025 # of units	2025 Cost per unit*	2025 Total cost	2026 # of units	2026 Cost per unit*	2026 Total cost	2027 # of units	2027 Cost per unit*	2027 Total cost	2028 # of units	2028 Cost per unit*	2028 Total cost
1	Company Labor (239)	Labor	RAMP	hours	40050	$ 64	$ 2,563,200	40050	$ 64	$ 2,563,200	40050	$ 64	$ 2,563,200	40050	$ 64	$ 2,563,200
2	Contractors (239)	Non-Labor	RAMP	poles	420	$ 10,731	$ 4,507,020	420	$ 10,731	$ 4,507,020	420	$ 10,731	$ 4,507,020	420	$ 10,731	$ 4,507,020
3	Pole Materials (239)	Non-Labor	RAMP	poles	420	$ 8,595	$ 3,609,900	420	$ 8,595	$ 3,609,900	420	$ 8,595	$ 3,609,900	420	$ 8,595	$ 3,609,900
4	Company Labor (23249)	Labor	RAMP	hours	5180	$ 64	$ 331,520	8633	$ 64	$ 552,512	8,633	$ 64	$ 552,512	8,633	$ 64	$ 552,512
5	Contractors (23249)	Non-Labor	RAMP	poles	39	$ 11,250	$ 438,750	65	$ 11,250	$ 731,250	65	$ 11,250	$ 731,250	65	$ 11,250	$ 731,250
6	Pole materials (23249)	Non-Labor	RAMP	poles	39	$ 5,250	$ 204,750	65	$ 5,250	$ 341,250	65	$ 5,250	$ 341,250	65	$ 5,250	$ 341,250

Line Item	2029 # of units	2029 Cost per unit*	2029 Total cost	2030 # of units	2030 Cost per unit*	2030 Total cost	2031 # of units	2031 Cost per unit*	2031 Total cost	Total Cost	Comments
1	40050	$ 64	$ 2,563,200	40050	$ 64	$ 2,563,200	40050	$ 64	$ 2,563,200	$ 17,942,400	
2	420	$ 10,731	$ 4,507,020	420	$ 10,731	$ 4,507,020	420	$ 10,731	$ 4,507,020	$ 31,549,140	
3	420	$ 8,595	$ 3,609,900	420	$ 8,595	$ 3,609,900	420	$ 8,595	$ 3,609,900	$ 25,269,300	
4	8,633	$ 64	$ 552,512	8,633	$ 64	$ 552,512	8,633	$ 64	$ 552,512	$ 3,646,592	
5	65	$ 11,250	$ 731,250	65	$ 11,250	$ 731,250	65	$ 11,250	$ 731,250	$ 4,826,250	
6	65	$ 5,250	$ 341,250	65	$ 5,250	$ 341,250	65	$ 5,250	$ 341,250	$ 2,252,250	

Summary

			2025 Total cost	2026 Total cost	2027 Total cost	2028 Total cost	2029 Total cost	2030 Total cost	2031 Total cost	Total Cost	Comments
	Labor	**RAMP**	$ 2,894,720	$ 3,115,712	$ 3,115,712	$ 3,115,712	$ 3,115,712	$ 3,115,712	$ 3,115,712	$ 21,588,992	
	Non-Labor	**RAMP**	$ 8,760,420	$ 9,189,420	$ 9,189,420	$ 9,189,420	$ 9,189,420	$ 9,189,420	$ 9,189,420	$ 63,896,940	
	NSE	**RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Subtotal RAMP			$ 11,655,140	$ 12,305,132	$ 12,305,132	$ 12,305,132	$ 12,305,132	$ 12,305,132	$ 12,305,132	$ 85,485,932	
										$ -	
	Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	Non-Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	NSE	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Subtotal Non-RAMP			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
										$ -	
Total Project Forecast			**$ 11,655,140**	**$ 12,305,132**	**$ 12,305,132**	**$ 12,305,132**	**$ 12,305,132**	**$ 12,305,132**	**$ 12,305,132**	$ 85,485,932	

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C508 Advanced Protection
Budget Code(s):	15259 & 24251
Estimated In Service Date:	Various

15259 & 24251 - Advanced Protection Program					2025			2026			2027			2028			2029			2030			2031				
Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	Total Cost	Comments
1	Internal Labor - Mgmt & Non-Union	Labor	RAMP	hours	1,486	$ 65	$ 96,580	1,364	$ 65	$ 88,671	-	$ -	$ -	1,400	$ 65	$ 91,000	1,400	$ 69	$ 96,460	1,400	$ 73	$ 102,248			$ -	$ 474,959	
2	Internal Labor - Union	Labor	RAMP	hours	9,400	$ 75	$ 704,975	4,921	$ 75	$ 369,085	2,857	$ 75	$ 214,305	2,857	$ 80	$ 227,163	2,008	$ 84	$ 169,240	2,008	$ 89	$ 179,394			$ -	$ 1,864,163	
3	Materials - Warehouse	Non-Labor	RAMP	FCP Nodes	56	$ 19,640	$ 1,099,815	33	$ 12,631	$ 416,831	39	$ 10,827	$ 422,254	30	$ 11,477	$ 344,299	30	$ 12,165	$ 364,957	30	$ 12,895	$ 386,855			$ -	$ 3,035,012	
4	Materials - Vendor Procured	Non-Labor	RAMP	FCP Nodes	56	$ 9,920	$ 555,523	33	$ 12,310	$ 406,220	39	$ 7,761	$ 302,691	30	$ 8,227	$ 246,810	30	$ 8,721	$ 261,618	30	$ 9,244	$ 277,315			$ -	$ 2,050,177	
5	Contract Services	Non-Labor	RAMP	FCP Nodes	56	$ 29,304	$ 1,641,036	33	$ 20,104	$ 663,443	39	$ 9,954	$ 388,201	30	$ 10,551	$ 316,533	30	$ 11,184	$ 335,525	30	$ 11,855	$ 355,657			$ -	$ 3,700,395	
6	Internal Labor - Mgmt & Non-Union	Labor	RAMP	hours	1,359	$ 65	$ 88,311	1,028	$ 65	$ 66,820	508	$ 65	$ 33,051			$ -			$ -			$ -			$ -	$ 188,182	
7	Internal Labor - Union	Labor	RAMP	hours	7,635	$ 75	$ 572,649	436	$ 75	$ 32,688	699	$ 75	$ 52,395			$ -			$ -			$ -			$ -	$ 657,732	
8	Materials - Warehouse	Non-Labor	RAMP	Substation Upgrades	3	$ 27,896	$ 83,688	2	$ 19,380	$ 38,759	1	$ 30,000	$ 30,000			$ -			$ -			$ -			$ -	$ 152,447	
9	Materials - Vendor Procured	Non-Labor	RAMP	Substation Upgrades	3	$ 13,110	$ 39,330	2	$ 46,260	$ 92,520	1	$ 171,870	$ 171,870			$ -			$ -			$ -			$ -	$ 303,720	
10	Contract Services	Non-Labor	RAMP	Substation Upgrades	3	$ 1,042,631	$ 3,127,894	2	$ 292,065	$ 584,129	1	$ 192,684	$ 192,684			$ -			$ -			$ -			$ -	$ 3,904,707	

Summary

				2025 Total cost	2026 Total cost	2027 Total cost	2028 Total cost	2029 Total cost	2030 Total cost	2031 Total cost	Total Cost	Comments
		Labor	**RAMP**	$ 1,462,515	$ 557,264	$ 299,751	$ 318,163	$ 265,700	$ 281,642	$ -	$ 3,185,035	
		Non-Labor	**RAMP**	$ 6,547,286	$ 2,201,902	$1,507,700	$ 907,642	$ 962,101	$ 1,019,827	$ -	$ 13,146,457	
		NSE	**RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	Subtotal RAMP			$ 8,009,801	$ 2,759,166	$1,807,451	$ 1,225,805	$ 1,227,801	$ 1,301,469	$ -	$ 16,331,493	
											$ -	
		Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
		Non-Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
		NSE	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	Subtotal Non-RAMP			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
											$ -	
	Total Project Forecast			**$ 8,009,801**	**$ 2,759,166**	**$1,807,451**	**$ 1,225,805**	**$ 1,227,801**	**$ 1,301,469**	**$ -**	$ 16,331,493	

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C510 Hotline Clamps
Budget Code(s):	24242
Estimated In Service Date:	2025

24242 -					2025			2026			2027		
Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost
HFTD Hot Line Clamps	Labor (FTE)	Labor	RAMP	hours	296	$ 64	$ 18,944			$ -			$ -
HFTD Hot Line Clamps	Contract Labor	Non-Labor	RAMP	Hot Line Clamps	197	$ 560	$ 110,393			$ -			$ -
HFTD Hot Line Clamps	Hot Line Clamps	Non-Labor	RAMP	Hot Line Clamps	197	$ 86	$ 17,002			$ -			$ -

Line Item	2028			2029			2030			2031				
	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	Total cost	Comments
HFTD Hot Line Clamps			$ -			$ -			$ -			$ -	*$ 18,944*	
HFTD Hot Line Clamps			$ -			$ -			$ -			$ -	*$ 110,393*	
HFTD Hot Line Clamps			$ -			$ -			$ -			$ -	*$ 17,002*	

Summary

			2025	2026	2027	2028	2029	2030	2031	Total cost	Comments
	Labor	**RAMP**	$ 18,944	$ -	$ -	$ -	$ -	$ -	$ -	$ 18,944	
	Non-Labor	**RAMP**	$ 127,395	$ -	$ -	$ -	$ -	$ -	$ -	$ 127,395	
	NSE	**RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Subtotal RAMP			$ 146,339	$ -	$ -	$ -	$ -	$ -	$ -	$ 146,339	
	Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
	Non-Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	NSE	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Subtotal Non-RAMP			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Total Project Forecast			**$ 146,339**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 146,339**	

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C518 Strategic Undergrounding
Budget Code(s):	19246
Estimated In Service Date:	Ongoing

19246 -					2025			2026			2027			2028			2029			2030			2031				
Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	Total Cost	Comments
1	Construction - Civil, Electrical, Materials	Non-Labor	RAMP	Miles	28	$ 2,010,879	$ 56,304,619			$ -			$ -	150	$ 1,202,433	$ 180,365,004	150	$ 1,202,433	$ 180,365,004	150	$ 1,202,433	$ 180,365,004	150	$ 1,202,433	$ 180,365,004	$ 777,764,635	
2	Design & Engineering	Non-Labor	RAMP	Miles	28	$ 548,559	$ 15,359,639			$ -	150	$ 505,822	$ 75,873,366	150	$ 505,822	$ 75,873,366	150	$ 505,822	$ 75,873,366	150	$ 505,822	$ 75,873,366	100	$ 505,822	$ 50,582,244	$ 369,435,347	
3	Project Support	Non-Labor	RAMP	Miles	28	$ 424,889	$ 11,896,885			$ -			$ -	150	$ 638,963	$ 95,844,379	150	$ 638,963	$ 95,844,379	150	$ 638,963	$ 95,844,379	150	$ 638,963	$ 95,844,379	$ 395,274,400	
4	Labor	Labor	RAMP	Hours	23,929	$ 71	$ 1,697,770			$ -			$ -	36,714	$ 71	$ 2,604,846	36,714	$ 71	$ 2,604,846	36,714	$ 71	$ 2,604,846	36,714	$ 71	$ 2,604,846	$ 12,117,153	
5	Staging Yard Improvements	Labor	RAMP	Hours	86	$ 71	$ 6,115	345	$ 71	$ 24,460			$ -			$ -			$ -			$ -			$ -	$ 30,574	
6	Staging Yard Improvements	Non-Labor	RAMP	ea			$ 367,452			$ 1,469,806			$ -			$ -			$ -			$ -			$ -	$ 1,837,258	

Summary			2025	2026	2027	2028	2029	2030	2031	Total Cost
	Labor	**RAMP**	$ 1,703,884	$ 24,460	$ -	$ 2,604,846	$ 2,604,846	$ 2,604,846	$ 2,604,846	$ 12,147,727
	Non-Labor	**RAMP**	$ 83,928,594	$ 1,469,806	$ 75,873,366	$ 352,082,749	$ 352,082,749	$ 352,082,749	$ 326,791,627	$ 1,544,311,640
	NSE	**RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal RAMP			$ 85,632,479	$ 1,494,266	$ 75,873,366	$ 354,687,595	$ 354,687,595	$ 354,687,595	$ 329,396,473	$ 1,556,459,367
	Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Non-Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	NSE	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal Non-RAMP			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Project Forecast			**$ 85,632,479**	**$ 1,494,266**	**$ 75,873,366**	**$ 354,687,595**	**$ 354,687,595**	**$ 354,687,595**	**$ 329,396,473**	**$ 1,556,459,367**

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C520 Distribution Overhead System Hardening
Budget Code(s):	20284
Estimated In Service Date:	Various

20284 -

Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	2025 # of units	2025 Cost per unit*	2025 Total cost	2026 # of units	2026 Cost per unit*	2026 Total cost	2027 # of units	2027 Cost per unit*	2027 Total cost
1	Material	Non-Labor	RAMP	mi			$ -	6	$ 201,104	$ 1,206,625	-	$ -	$ -
2	Construction FTE	Labor	RAMP	mi			$ -	6	$ 95,782	$ 574,695	-	$ -	$ -
3	Construction Contractor	Non-Labor	RAMP	mi			$ -	6	$ 340,109	$ 2,040,657	-	$ -	$ -
4	Pre-Construction FTE	Labor	RAMP	mi			$ -	6	$ 22,500	$ 135,000	-	$ -	$ -
5	Pre-Construction Contractor	Non-Labor	RAMP	mi			$ -	6	$ 723,701	$ 4,342,204	-	$ -	$ -
6	Other	Non-Labor	RAMP	mi			$ -	6	$ -	$ -	-	$ -	$ -
7	Material (TU)	Non-Labor	RAMP	jobs	200	$ 2,432	$ 486,436			$ -	20	$ 2,432	$ 48,644
8	Construction FTE (TU)	Labor	RAMP	jobs	200	$ 2,173	$ 434,566			$ -	20	$ 2,173	$ 43,457
9	Construction Contractor (TU)	Non-Labor	RAMP	jobs	200	$ 4,157	$ 831,341			$ -	20	$ 4,157	$ 83,134
10	Pre-Construction FTE (TU)	Labor	RAMP	jobs	200	$ 168	$ 33,662			$ -	20	$ 168	$ 3,366
11	Pre-Construction Contractor (TU)	Non-Labor	RAMP	jobs	200	$ 5,070	$ 1,013,996			$ -	20	$ 5,070	$ 101,400

Line Item	2028 # of units	2028 Cost per unit*	2028 Total cost	2029 # of units	2029 Cost per unit*	2029 Total cost	2030 # of units	2030 Cost per unit*	2030 Total cost	2031 # of units	2031 Cost per unit*	2031 Total cost	Total Cost	Comments
1	-		$ -	-		$ -	-		$ -	-		$ -	*$ 1,206,625*	
2	-		$ -	-		$ -	-		$ -	-		$ -	*$ 574,695*	
3	-		$ -	-		$ -	-		$ -	-		$ -	*$ 2,040,657*	
4	-		$ -	-		$ -	-		$ -	-		$ -	*$ 135,000*	
5	-		$ -	-		$ -	-		$ -	-		$ -	*$ 4,342,204*	
6	-		$ -	-		$ -	-		$ -	-		$ -	$ -	
7	20	$ 2,432	$ 48,644	20	$ 2,432	$ 48,644	-		$ -	-		$ -	*$ 632,367*	
8	20	$ 2,173	$ 43,457	20	$ 2,173	$ 43,457	-		$ -	-		$ -	*$ 564,936*	
9	20	$ 4,157	$ 83,134	20	$ 4,157	$ 83,134	-		$ -	-		$ -	*$ 1,080,743*	
10	20	$ 168	$ 3,366	20	$ 168	$ 3,366	-		$ -	-		$ -	*$ 43,760*	
11	20	$ 5,070	$ 101,400	20	$ 5,070	$ 101,400	-		$ -	-		$ -	*$ 1,318,194*	

Summary

			2025	2026	2027	2028	2029	2030	2031	Total Cost
	Labor	**RAMP**	$ 468,228	$ 709,695	$ 46,823	$ 46,823	$ 46,823	$ -	$ -	$ 1,318,391
	Non-Labor	**RAMP**	$ 2,331,772	$ 7,589,486	$ 233,177	$ 233,177	$ 233,177	$ -	$ -	$ 10,620,790
	NSE	**RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal RAMP			$ 2,800,000	$ 8,299,181	$ 280,000	$ 280,000	$ 280,000	$ -	$ -	$ 11,939,181
										$ -
	Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Non-Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	NSE	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal Non-RAMP			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
										$ -
Total Project Forecast			**$ 2,800,000**	**$ 8,299,181**	**$ 280,000**	**$ 280,000**	**$ 280,000**	**$ -**	**$ -**	$ 11,939,181

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C522 Transmission Overhead hardening (Distribution Underbuilt)
Budget Code(s):	Various
Estimated In Service Date:	Various

Various -						2025			2026			2027			2028			2029			2030			2031				
Line Item	Unit Description	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	Total Cost	Comments
1	TL690E – Camp Pendleton – Wood to Steel (2028)	no. of hours worked	Labor	RAMP	hours	177	$ 64	$ 11,299	188	$ 64	$ 12,000	188	$ 64	$ 12,000	2,063	$ 64	$ 132,000	172	$ 64	$ 11,000			$ -			$ -	$ 178,299	
2	TL690E – Camp Pendleton – Wood to Steel (2028)	Dist. underbuilt Miles	Non-Labor	RAMP	miles	-		$ 238,963	-		$ 216,400	-		$ 870,200	5.50	$ 545,668	$ 3,001,175	-		$ 492,390			$ -			$ -	$ 4,819,128	
3	TL691 - Avocado to Camp Pendleton (2024)	no. of hours worked	Labor	RAMP	hours	21	$ 64	$ 1,368			$ -			$ -			$ -			$ -			$ -			$ -	$ 1,368	
4	TL691 - Avocado to Camp Pendleton (2024)	Dist. underbuilt Miles	Non-Labor	RAMP	miles			$ 18,006			$ -			$ -			$ -			$ -			$ -			$ -	$ 18,006	
5	TL695/6971 Talega-Cristianitos Japanese (Camp Pend) (2027)	no. of hours worked	Labor	RAMP	hours	121	$ 64	$ 7,751	184	$ 64	$ 11,760	1,170	$ 64	$ 74,880	195	$ 64	$ 12,480			$ -			$ -			$ -	$ 106,871	
6	TL695/6971 Talega-Cristianitos Japanese (Camp Pend) (2027)	Dist. underbuilt Miles	Non-Labor	RAMP	miles	-		$ 435,184	-		$ 1,030,715	2.60	$ 784,448	$ 2,039,566	-		$ 391,101			$ -			$ -			$ -	$ 3,896,566	
7	TL694 Wood to Steel Replacement (2026)	no. of hours worked	Labor	RAMP	hours	78.13	$ 64	$ 5,000	937.50	$ 64	$ 60,000			$ -			$ -			$ -			$ -			$ -	$ 65,000	
8	TL694 Wood to Steel Replacement (2026)	Dist. underbuilt Miles	Non-Labor	RAMP	miles			$ 55,688	3.30		$ 3,590,440			$ -			$ -			$ -			$ -			$ -	$ 3,646,128	
9	TL698 Wood to Steel Replacement (Monserate - Avocado) (2024)	no. of hours worked	Labor	RAMP	hours			$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
10	TL698 Wood to Steel Replacement (Monserate - Avocado) (2024)	Dist. underbuilt Miles	Non-Labor	RAMP	miles			$ 743,173			$ -			$ -			$ -			$ -			$ -			$ -	$ 743,173	
11	TL627 Tier 2 W2S Project (2027)	no. of hours worked	Labor	RAMP	hours			$ -	187.50	$ 64	$ 12,000	187.50	$ 64	$ 12,000			$ -			$ -			$ -			$ -	$ 24,000	
12	TL627 Tier 2 W2S Project (2027)	Dist. underbuilt Miles	Non-Labor	RAMP	miles			$ -			$ 721,334	1.80		$ 388,000			$ -			$ -			$ -			$ -	$ 1,109,334	
13	TL691 Tier 2 W2S Project (2028)	no. of hours worked	Labor	RAMP	hours			$ -	781.25	$ 64	$ 50,000						$ -			$ -			$ -			$ -	$ 50,000	
14	TL691 Tier 2 W2S Project (2028)	Dist. underbuilt Miles	Non-Labor	RAMP	miles			$ -				2.70		$ 1,573,600			$ -			$ -			$ -			$ -	$ 1,573,600	
15	TL675 Tier 2 W2S Project (2026)	no. of hours worked	Labor	RAMP	hours	-	$ 64	$ -	46.88	$ 64	$ 3,000			$ -			$ -			$ -			$ -			$ -	$ 3,000	
16	TL675 Tier 2 W2S Project (2026)	Dist. underbuilt Miles	Non-Labor	RAMP	miles			$ 11,866	0.20		$ 13,980			$ -			$ -			$ -			$ -			$ -	$ 25,846	
17	TL6910 Tier 2 W2S Project (2026)	no. of hours worked	Labor	RAMP	hours	156.25	$ 64	$ 10,000		$ 64	$ -			$ -			$ -			$ -			$ -			$ -	$ 10,000	
18	TL6910 Tier 2 W2S Project (2026)	Dist. underbuilt Miles	Non-Labor	RAMP	miles			$ -	1.00		$ 262,000			$ -			$ -			$ -			$ -			$ -	$ 262,000	
19	TL13811-W2S (2027)	no. of hours worked	Labor	RAMP	hours	78.52	$ 64	$ 5,025	78.52	$ 64	$ 5,025			$ -			$ -			$ -			$ -			$ -	$ 10,051	
20	TL13811-W2S (2027)	Dist. underbuilt Miles	Non-Labor	RAMP	miles	3.00		$ 915,974			$ 515,819			$ -			$ -			$ -			$ -			$ -	$ 1,431,793	

Summary

			2025	2026	2027	2028	2029	2030	2031	Total Cost
	Labor	RAMP	$ 40,444	$ 153,785	$ 98,880	$ 144,480	$ 11,000	$ -	$ -	$ 448,589
	Non-Labor	RAMP	$ 2,418,854	$ 6,350,688	$ 4,871,366	$ 3,392,277	$ 492,390	$ -	$ -	$ 17,525,575
	NSE	RAMP	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal RAMP			$ 2,459,298	$ 6,504,474	$ 4,970,246	$ 3,536,757	$ 503,390	$ -	$ -	$ 17,974,164
										$ -
	Labor	Non-RAMP	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Non-Labor	Non-RAMP	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	NSE	Non-RAMP	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal Non-RAMP			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
										$ -
Total Project Forecast			$ 2,459,298	$ 6,504,474	$ 4,970,246	$ 3,536,757	$ 503,390	$ -	$ -	$ 17,974,164

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C524 Lightning Arrestor Removal/Replace Program
Budget Code(s):	20282
Estimated In Service Date:	2025

20282 - Lightning Arrestor Removal/Replace Program					2025			2026			2027			2028			2029			2030			2031				
Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	Total cost	Comments
Lightning Arrestor Replacement Program	Labor (FTE)	Labor	RAMP	hours	1,242	$ 64	$ 79,488			$ -			$ -			$ -			$ -			$ -			$ -	*$ 79,488*	
Lightning Arrestor Replacement Program	Contract Labor	Non-Labor	RAMP	Lightning Arrestors	516	$ 485	$ 250,110			$ -			$ -			$ -			$ -			$ -			$ -	*$250,110*	
Lightning Arrestor Replacement Program	Lightning Arrestors	Non-Labor	RAMP	Lightning Arrestors	516	$ 407	$ 209,833			$ -			$ -			$ -			$ -			$ -			$ -	*$209,833*	
							$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
Summary																											
		Labor	**RAMP**				$ 79,488			$ -			$ -			$ -			$ -			$ -			$ -	$ 79,488	
		Non-Labor	**RAMP**				$ 459,944			$ -			$ -			$ -			$ -			$ -			$ -	$459,944	
		NSE	**RAMP**				$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
	Subtotal RAMP						$ 539,432			$ -			$ -			$ -			$ -			$ -			$ -	$539,432	
		Labor	**Non-RAMP**				$ -			$ -			$ -			$ -			$ -			$ -			$ -		
		Non-Labor	**Non-RAMP**				$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
		NSE	**Non-RAMP**				$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
	Subtotal Non-RAMP						$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
	Total Project Forecast						**$ 539,432**			**$ -**			**$ -**			**$ -**			**$ -**			**$ -**			**$ -**	**$539,432**	

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C534 Risk-Informed Drone Inspections
Budget Code(s):	20286, 22259
Estimated In Service Date:	ongoing

20286, 22259 -					2025			2026			2027		
Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost
1	Company Labor - RIDI	Labor	RAMP	hours	67,634	$ 64	$ 4,328,568			$ -	47,373	$ 64	$ 3,031,846
2	Contractors - RIDI	Non-Labor	RAMP	poles	504	$ 15,343	$ 7,732,973			$ -	353	$ 15,343	$ 5,416,150
3	Pole Materials - RIDI	Non-Labor	RAMP	poles	504	$ 12,321	$ 6,209,784			$ -	353	$ 12,321	$ 4,349,313
4	Contractors - DIAR Tier 2	Non-Labor	RAMP	poles	350	$ 33,000	$ 11,550,000	775	$ 33,000	$ 25,575,000			$ -
5	Pole Materials - DIAR Tier 2	Non-Labor	RAMP	poles	350	$ 7,000	$ 2,450,000	775	$ 7,000	$ 5,425,000			$ -

Line Item	2028 # of units	2028 Cost per unit*	2028 Total cost	2029 # of units	2029 Cost per unit*	2029 Total cost	2030 # of units	2030 Cost per unit*	2030 Total cost	2031 # of units	2031 Cost per unit*	2031 Total cost	Total Cost	Comments
1	47,373	$ 64	$ 3,031,846	47,373	$ 64	$ 3,031,846	47,373	$ 64	$ 3,031,846	47,373	$ 64	$ 3,031,846	$ 19,487,800	
2	353	$ 15,343	$ 5,416,150	353	$ 15,343	$ 5,416,150	353	$ 15,343	$ 5,416,150	353	$ 15,343	$ 5,416,150	$ 34,813,721	
3	353	$ 12,321	$ 4,349,313	353	$ 12,321	$ 4,349,313	353	$ 12,321	$ 4,349,313	353	$ 12,321	$ 4,349,313	$ 27,956,349	
4			$ -			$ -			$ -			$ -	$ 37,125,000	
5			$ -			$ -			$ -			$ -	$ 7,875,000	

Summary

			2025 Total cost	2026 Total cost	2027 Total cost	2028 Total cost	2029 Total cost	2030 Total cost	2031 Total cost	Total Cost	Comments
	Labor	**RAMP**	$ 4,328,568	$ -	$ 3,031,846	$ 3,031,846	$ 3,031,846	$ 3,031,846	$ 3,031,846	$ 19,487,800	
	Non-Labor	**RAMP**	$ 27,942,757	$ 31,000,000	$ 9,765,463	$ 9,765,463	$ 9,765,463	$ 9,765,463	$ 9,765,463	$ 107,770,070	
	NSE	**RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Subtotal RAMP			$ 32,271,325	$ 31,000,000	$ 12,797,309	$ 12,797,309	$ 12,797,309	$ 12,797,309	$ 12,797,309	$ 127,257,870	
										$ -	
	Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	Non-Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	NSE	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Subtotal Non-RAMP			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
										$ -	
Total Project Forecast			$ 32,271,325	$ 31,000,000	$ 12,797,309	$ 12,797,309	$ 12,797,309	$ 12,797,309	$ 12,797,309	$ 127,257,870	

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C546 Aviation Firefighting Program
Budget Code(s):	20277, 21254, 21256
Estimated In Service Date:	2026

20277 - Aviation Firefighting Program

Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	2025 # of units	2025 Cost per unit*	2025 Total cost	2026 # of units	2026 Cost per unit*	2026 Total cost	2027 # of units	2027 Cost per unit*	2027 Total cost
1	Firehawk Helicopter (20277)	Non-Labor	RAMP	Helicopter		$ 1,401,684	$ 1,110,515	1	$ 3,647,686	$ 3,647,686			$ -
2	UAS (20277)	Non-Labor	RAMP	Each	6	$ 60,000	$ 360,000						
3	Aviation Training Area (21254)	Non-Labor	RAMP			$ 223,308	$ 223,308			$ -			$ -
4	Twin Engine Medium Lift Helicopter (21256)	Non-Labor	RAMP			$ 66,390	$ 66,390			$ -			$ -

Line Item	2028 # of units	2028 Cost per unit*	2028 Total cost	2029 # of units	2029 Cost per unit*	2029 Total cost	2030 # of units	2030 Cost per unit*	2030 Total cost	2031 # of units	2031 Cost per unit*	2031 Total cost	Total Cost	Comments
1			$ -			$ -			$ -			$ -	*$ 4,758,201*	Costs include purchase of firehawk helicopter and firefighting modifications.
2														Costs include purchase of approximately six drones.
3			$ -			$ -			$ -			$ -	*$ 223,308*	Costs include radios, on-site well repair, and poles to be installed in training area.
4			$ -			$ -			$ -			$ -	*$ 66,390*	Costs include radios and basket attachment.

Summary

			2025 Total cost	2026 Total cost	2027 Total cost	2028 Total cost	2029 Total cost	2030 Total cost	2031 Total cost	Total Cost
	Labor	**RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Non-Labor	**RAMP**	$ 1,760,213	$ 3,647,686	$ -	$ -	$ -	$ -	$ -	$ 5,407,899
	NSE	**RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal RAMP			$ 1,760,213	$ 3,647,686	$ -	$ -	$ -	$ -	$ -	$ 5,407,899
										$ -
	Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Non-Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	NSE	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal Non-RAMP			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
										$ -
Total Project Forecast			**$ 1,760,213**	**$ 3,647,686**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	$ 5,407,899

San Diego Gas & Electric Company
2025 RAMP
Capital Workpapers

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation: C550 Combined Covered Conductor
Budget Code(s): 20285
Estimated In Service Date: Ongoing

20285 -					2025			2026			2027		
Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non	Unit Met	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost
1	Material	Non-Labor	RAMP	mi	50	$ 201,104	$ 10,055,208	50	$ 201,104	$ 10,055,208	50	$ 201,104	$ 10,055,208
2	Construction FTE	Labor	RAMP	mi	50	$ 95,782	$ 4,789,124	50	$ 95,782	$ 4,789,124	50	$ 95,782	$ 4,789,124
3	Construction Contractor	Non-Labor	RAMP	mi	50	$ 340,109	$ 17,005,473	50	$ 340,109	$ 17,005,473	50	$ 340,109	$ 17,005,473
4	Pre-Construction FTE	Labor	RAMP	mi	50	$ 22,500	$ 1,125,000	50	$ 22,500	$ 1,125,000	50	$ 22,500	$ 1,125,000
5	Pre-Construction Contractor	Non-Labor	RAMP	mi	50	$ 723,701	$ 36,185,034	50	$ 723,701	$ 36,185,034	50	$ 723,701	$ 36,185,034
6	Material (TU)	Non-Labor	RAMP	jobs	30	$ 1,476	$ 44,287	20	$ 1,476	$ 29,525	20	$ 1,476	$ 29,525
7	Construction FTE (TU)	Labor	RAMP	jobs	30	$ 995	$ 29,851	20	$ 995	$ 19,901	20	$ 995	$ 19,901
8	Construction Contractor (TU)	Non-Labor	RAMP	jobs	30	$ 2,338	$ 70,148	20	$ 2,338	$ 46,765	20	$ 2,338	$ 46,765
9	Pre-Construction FTE (TU)	Labor	RAMP	jobs	30	$ 268	$ 8,035	20	$ 268	$ 5,357	20	$ 268	$ 5,357
10	Pre-Construction Contractor (TU)	Non-Labor	RAMP	jobs	30	$ 8,923	$ 267,678	20	$ 8,923	$ 178,452	20	$ 8,923	$ 178,452

20285 -	2028			2029			2030			2031				
Line Item	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	Total Cost	Comments
1	50	$ 201,104	$ 10,055,208	50	$ 201,104	$ 10,055,208	50	$ 201,104	$ 10,055,208	50	$ 201,104	$ 10,055,208	$ 70,386,456	
2	50	$ 95,782	$ 4,789,124	50	$ 95,782	$ 4,789,124	50	$ 95,782	$ 4,789,124	50	$ 95,782	$ 4,789,124	$ 33,523,865	
3	50	$ 340,109	$ 17,005,473	50	$ 340,109	$ 17,005,473	50	$ 340,109	$ 17,005,473	50	$ 340,109	$ 17,005,473	$ 119,038,309	
4	50	$ 22,500	$ 1,125,000	50	$ 22,500	$ 1,125,000	50	$ 22,500	$ 1,125,000			$ -	$ 6,750,000	
5	50	$ 723,701	$ 36,185,034	50	$ 723,701	$ 36,185,034	50	$ 723,701	$ 36,185,034			$ -	$ 217,110,203	
6	20	$ 1,476	$ 29,525	20	$ 1,476	$ 29,525			$ -			$ -	$ 162,387	
7	20	$ 995	$ 19,901	20	$ 995	$ 19,901			$ -			$ -	$ 109,453	
8	20	$ 2,338	$ 46,765	20	$ 2,338	$ 46,765			$ -			$ -	$ 257,210	
9	20	$ 268	$ 5,357	20	$ 268	$ 5,357			$ -			$ -	$ 29,463	
10	20	$ 8,923	$ 178,452	20	$ 8,923	$ 178,452			$ -			$ -	$ 981,487	

Summary

			2025	2026	2027	2028	2029	2030	2031	Total Cost	Comments
	Labor	RAMP	$ 5,952,010	$ 5,939,381	$ 5,939,381	$ 5,939,381	$ 5,939,381	$ 5,914,124	$ 4,789,124	$ 40,412,781	
	Non-Labor	RAMP	$ 63,627,828	$ 63,500,457	$ 63,500,457	$ 63,500,457	$ 63,500,457	$ 63,245,715	$ 27,060,681	$ 407,936,052	
	NSE	RAMP	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Subtotal RAMP			$ 69,579,838	$ 69,439,838	$ 69,439,838	$ 69,439,838	$ 69,439,838	$ 69,159,838	$ 31,849,804	$ 448,348,833	
										$ -	
	Labor	Non-RAMP	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	Non-Labor	Non-RAMP	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	NSE	Non-RAMP	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Subtotal Non-RAMP			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
										$ -	
Total Project Forecast			$ 69,579,838	$ 69,439,838	$ 69,439,838	$ 69,439,838	$ 69,439,838	$ 69,159,838	$ 31,849,804	$ 448,348,833	

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C552 PSPS Sectionalizing Enhancements
Budget Code(s):	19245
Estimated In Service Date:	Ongoing

19245 - PSPS Sectionalizing Enhancements					2025			2026			2027			2028			2029			2030			2031				
Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	Total Cost	Comments
PSPS Engineering Enhancements	Labor (FTE)	Labor	RAMP	hours	1641	$ 64	$ 105,000	1641	$ 64	$ 105,000	1406	$ 64	$ 90,000	1172	$ 64	$ 75,000	1172	$ 64	$ 75,000	703	$ 64	$ 45,000	469	$ 64	$ 30,000	$ 525,000	
PSPS Engineering Enhancements	Contract Labor	Non-Labor	RAMP	Switches	7	$ 100,000	$ 700,000	7	$ 100,000	$ 700,000	6	$ 100,000	$ 600,000	5	$ 100,000	$ 500,000	5	$ 100,000	$ 500,000	3	$ 100,000	$ 300,000	2	$ 100,000	$ 200,000	$ 3,500,000	
PSPS Engineering Enhancements	Switches	Non-Labor	RAMP	Switches	7	$ 200,000	$ 1,400,000	7	$ 200,000	$ 1,400,000	6	$ 200,000	$ 1,200,000	5	$ 200,000	$ 1,000,000	5	$ 200,000	$ 1,000,000	3	$ 200,000	$ 600,000	2	$ 200,000	$ 400,000	$ 7,000,000	

Summary			2025	2026	2027	2028	2029	2030	2031	Total Cost	Comments
	Labor	**RAMP**	$ 105,000	$ 105,000	$ 90,000	$ 75,000	$ 75,000	$ 45,000	$ 30,000	$ 525,000	
	Non-Labor	**RAMP**	$ 2,100,000	$ 2,100,000	$ 1,800,000	$ 1,500,000	$ 1,500,000	$ 900,000	$ 600,000	$ 10,500,000	
	NSE	**RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Subtotal RAMP			$ 2,205,000	$ 2,205,000	$ 1,890,000	$ 1,575,000	$ 1,575,000	$ 945,000	$ 630,000	$ 11,025,000	
										$ -	
	Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	Non-Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	NSE	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Subtotal Non-RAMP			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
										$ -	
Total Project Forecast			**$ 2,205,000**	**$ 2,205,000**	**$ 1,890,000**	**$ 1,575,000**	**$ 1,575,000**	**$ 945,000**	**$ 630,000**	$ 11,025,000	

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C558 Risk Methodology and Assessment
Budget Code(s):	21884, 22255, 23875
Estimated In Service Date:	ongoing

21884, 22255, 23875 -					2025			2026			2027			2028			2029			2030			2031				
Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	Total Cost	Comments
Advanced Analytics	Contractors	Non-Labor	RAMP	months	12	$ 300,000	$ 3,600,000	12	$ 300,000	$ 3,600,000	12	$ 300,000	$ 3,600,000	12	$ 300,000	$ 3,600,000	12	$ 300,000	$ 3,600,000	12	$ 300,000	$ 3,600,000	12	$ 300,000	$ 3,600,000	*$ 25,200,000*	
Advanced Analytics	Internal Labor - Hours	Labor	RAMP	hours	5,940	$ 63	$ 374,220	5,940	$ 63	$ 374,220	5,940	$ 63	$ 374,220	5,940	$ 63	$ 374,220	5,940	$ 63	$ 374,220	5,940	$ 63	$ 374,220	5,940	$ 63	$ 374,220	*$ 2,619,540*	

Summary			2025	2026	2027	2028	2029	2030	2031	Total Cost	Comments
	Labor	**RAMP**	$ 374,220	$ 374,220	$ 374,220	$ 374,220	$ 374,220	$ 374,220	$ 374,220	$ 2,619,540	
	Non-Labor	**RAMP**	$ 3,600,000	$ 3,600,000	$ 3,600,000	$ 3,600,000	$ 3,600,000	$ 3,600,000	$ 3,600,000	$ 25,200,000	
	NSE	**RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Subtotal RAMP			$ 3,974,220	$ 3,974,220	$ 3,974,220	$ 3,974,220	$ 3,974,220	$ 3,974,220	$ 3,974,220	$ 27,819,540	
	Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	Non-Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	NSE	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Subtotal Non-RAMP			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Total Project Forecast			**$ 3,974,220**	**$ 3,974,220**	**$ 3,974,220**	**$ 3,974,220**	**$ 3,974,220**	**$ 3,974,220**	**$ 3,974,220**	**$ 27,819,540**	

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C562 Weather Station Maintenance and Calibration
Budget Code(s):	19247, 20240
Estimated In Service Date:	Various

19247, 20240 -					2025			2026			2027			2028			2029			2030			2031				
Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	Total Cost	Comments
1	Weather Station Install Labor (Kearny)	Labor	RAMP	Hours	80	$ 71	$ 5,680	80	$ 71	$ 5,680	80	$ 71	$ 5,680	80	$ 71	$ 5,680	80	$ 71	$ 5,680	80	$ 71	$ 5,680	80	$ 71	$ 5,680	$ 39,760	Kearny Labor weather station install
2	Weather Station Sensor Equipment	Non-Labor	RAMP	Sensors	2	$ 40,750	$ 82,000	2	$ 40,750	$ 82,000	2	$ 40,750	$ 82,000	2	$ 40,750	$ 82,000	2	$ 40,750	$ 82,000	2	$ 40,750	$ 82,000	2	$ 40,750	$ 82,000	$ 574,000	Weather station sensor equipment from vendor
3	Supercomputer Replacement	Non-Labor	RAMP	Ea.			$ -			$ -			$ -			$ -			$ -	2	$ 3,500,000	$ 7,000,000			$ -	$ 7,000,000	Supercomputer refresh

Summary

			2025 Total cost	2026 Total cost	2027 Total cost	2028 Total cost	2029 Total cost	2030 Total cost	2031 Total cost	Total Cost
	Labor	**RAMP**	$ 5,680	$ 5,680	$ 5,680	$ 5,680	$ 5,680	$ 5,680	$ 5,680	$ 39,760
	Non-Labor	**RAMP**	$ 82,000	$ 82,000	$ 82,000	$ 82,000	$ 82,000	$ 7,082,000	$ 82,000	$ 7,574,000
	NSE	**RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal RAMP			$ 87,680	$ 87,680	$ 87,680	$ 87,680	$ 87,680	$ 7,087,680	$ 87,680	$ 7,613,760
										$ -
	Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Non-Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	NSE	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal Non-RAMP			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
										$ -
Total Project Forecast			$ 87,680	$ 87,680	$ 87,680	$ 87,680	$ 87,680	$ 7,087,680	$ 87,680	$ 7,613,760

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C564 Distribution Communications Reliability Improvements (DCRI)
Budget Code(s):	19873, 19872, 21880, 19134
Estimated In Service Date:	Dec 2025

19873, 19872, 21880, 19134 -					2025			2026			2027			2028			2029			2030			2031				
Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/ Non-RAMP	Unit Metric (ea./ft./mile)	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	Total Cost	Comments
1	Non-Substation Sites (19872)	Non-Labor	RAMP	ea	2	$ 650,000	$ 1,300,000			$ -			$ -			$ -			$ -			$ -			$ -	$ 1,300,000	
2	Substation Sites (19872)	Non-Labor	RAMP	ea	3	$ 450,000	$ 1,350,000			$ -			$ -			$ -			$ -			$ -			$ -	$ 1,350,000	
3	Pre-Construction (19872)	Non-Labor	RAMP	ea	-	$ -	$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
4	Core Network Support (19873)	Non-Labor	RAMP	ea	1	$ 2,200,000	$ 2,200,000			$ -			$ -			$ -			$ -			$ -			$ -	$ 2,200,000	
5	Spectrum License (21880)	Non-Labor	RAMP	ea	1	$ 2,937,740	$ 2,937,740			$ -			$ -			$ -			$ -			$ -			$ -	$ 2,937,740	
6	Internal Labor (19872/19873)	Labor	RAMP	hours	2,259	$ 62	$ 140,063			$ -			$ -			$ -			$ -			$ -			$ -	$ 140,063	
7	Distribution Underbuild (19134)	Non-labor	RAMP	Miles	12	$ 203,068	$ 2,436,816			$ -			$ -			$ -			$ -			$ -			$ -	$ 2,436,816	
8	Distribution Poles (19134)	Non-Labor	RAMP	Poles	5	$ 50,000	$ 250,000			$ -			$ -			$ -			$ -			$ -			$ -	$ 250,000	

Summary																											
		Labor	**RAMP**				$ 140,063			$ -			$ -			$ -			$ -			$ -			$ -	$ 140,063	
		Non-Labor	**RAMP**				$ 10,474,556			$ -			$ -			$ -			$ -			$ -			$ -	$ 10,474,556	
		NSE	**RAMP**				$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
	Subtotal RAMP						$ 10,614,619			$ -			$ -			$ -			$ -			$ -			$ -	$ 10,614,619	
		Labor	**Non-RAMP**				$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
		Non-Labor	**Non-RAMP**				$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
		NSE	**Non-RAMP**				$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
	Subtotal Non-RAMP						$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
	Total Project Forecast						**$ 10,614,619**			**$ -**			**$ -**			**$ -**			**$ -**			**$ -**			**$ -**	**$ 10,614,619**	

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C565 Transmission OH Detailed Inspections
Budget Code(s):	21134, 20127
Estimated In Service Date:	Ongoing

21134, 20127 - Transmission OH Detailed Inspections					2025			2026			2027			2028			2029			2030			2031				
Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	Total Cost	Comments
1	Poles (21134)	Non-Labor	RAMP	Poles	20	$ 5,000	$ 100,000	20	$ 5,000	$ 100,000	20	$ 5,000	$ 100,000	20	$ 5,000	$ 100,000	20	$ 5,000	$ 100,000	20	$ 5,000	$ 100,000	20	$ 5,000	$100,000	*$ 700,000*	
2	Contractors (21134)	Non-Labor	RAMP	Poles	20	$ 20,000	$ 400,000	20	$ 20,000	$ 400,000	20	$ 20,000	$ 400,000	20	$ 20,000	$ 400,000	20	$ 20,000	$ 400,000	20	$ 20,000	$ 400,000	20	$ 20,000	$400,000	*$ 2,800,000*	
3	FTE's (21134)	Labor	RAMP	FTE	0.2	$ 201,543	$ 47,250	0.2	$ 201,543	$ 47,250	0.2	$ 201,543	$ 47,250	0.2	$ 201,543	$ 47,250	0.2	$ 201,543	$ 47,250	0.2	$ 201,543	$ 47,250	0.2	$ 201,543	$ 47,250	*$ 330,750*	
4	CMP Poles (20127)	Non-labor	RAMP	Poles	26	$ 25,198	$ 655,148	24	$ 25,198	$ 604,752	23	$ 25,198	$ 579,554	22	$ 25,198	$ 554,356	21	$ 25,198	$ 529,158	19	$ 25,198	$ 478,762	17	$ 25,198	$428,366	*$ 3,830,096*	

Summary			2025	2026	2027	2028	2029	2030	2031	Total Cost	Comments
	Labor	**RAMP**	$ 47,250	$ 47,250	$ 47,250	$ 47,250	$ 47,250	$ 47,250	$ 47,250	$ 330,750	
	Non-Labor	**RAMP**	$1,155,148	$1,104,752	$1,079,554	$1,054,356	$1,029,158	$ 978,762	$928,366	$ 7,330,096	
	NSE	**RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Subtotal RAMP			$1,202,398	$1,152,002	$1,126,804	$1,101,606	$1,076,408	$1,026,012	$975,616	$ 7,660,846	
										$ -	
	Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	Non-Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	NSE	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Subtotal Non-RAMP			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
										$ -	
Total Project Forecast			**$1,202,398**	**$1,152,002**	**$1,126,804**	**$1,101,606**	**$1,076,408**	**$1,026,012**	**$975,616**	$ 7,660,846	

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C566 Enterprise Data Foundation
Budget Code(s):	23876, 24877
Estimated In Service Date:	ongoing

23876, 24877 -					2025			2026			2027			2028			2029			2030			2031				
Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	Total Cost	Comments
1	GIS Software Engineers	Labor	RAMP	hours	4,160	$ 100	$ 416,000	4,160	$ 66	$ 274,560	4,160	$ 66	$ 274,560	6,240	$ 100	$ 624,000	4,160	$ 66	$ 274,560	4,160	$ 66	$ 274,560	4,160	$ 66	$ 274,560	$ 2,412,800	Internal software lead, architect, and developers for OEIS Spatial QDR
2	GIS Contractors	Non-Labor	RAMP	ea	3	$ 400,000	$ 1,200,000	3	$ 400,000	$1,200,000	3	$ 400,000	$ 1,200,000	5	$ 400,000	$ 2,000,000	3	$ 400,000	$ 1,200,000	3	$ 400,000	$ 1,200,000	3	$ 400,000	$ 1,200,000	$ 9,200,000	Contracted resources for OEIS Spatial QDR
3	Veg Mgmt Data Engineers/Developers	Non-Labor	RAMP	ea	1	$ 332,800	$ 332,800	1	$ 332,800	$ 332,800	1	$ 332,800	$ 332,800	1	$ 332,800	$ 332,800			$ -			$ -			$ -	$ 1,331,200	Contracted resources for cloud migration of Vegetation Management data
4	Veg Mgmt Data Engineers/Developers	Labor	RAMP	hours	2,080	$ 66	$ 137,280	2,080	$ 66	$ 137,280	2,080	$ 66	$ 137,280	2,080	$ 66	$ 137,280			$ -			$ -			$ -	$ 549,120	Internal resources for cloud migration of Vegetation Management data
5	OEIS/WMP Data Engineers/Developers	Non-Labor	RAMP	ea	11	$ 332,800	$ 3,660,800	10	$ 332,800	$3,328,000	8	$ 332,800	$ 2,662,400	6	$ 332,800	$ 1,996,800	6	$ 332,800	$ 1,996,800	6	$ 332,800	$ 1,996,800	6	$ 332,800	$ 1,996,800	$ 17,638,400	Contracted resources supporting SAP HANA and OEIS Foundation
6	OEIS/WMP Data Engineers/Developers	Labor	RAMP	hours	6,240	$ 66	$ 411,840	8,320	$ 66	$ 549,120	8,320	$ 66	$ 549,120	8,320	$ 66	$ 549,120	8,320	$ 66	$ 549,120	8,320	$ 66	$ 549,120	8,320	$ 66	$ 549,120	$ 3,706,560	Internal resources supporting SAP HANA and OEIS Foundation
7	OEIS/WMP IT Architect	Labor	RAMP	hours	2,080	$ 70	$ 145,600	2,080	$ 70	$ 145,600	2,080	$ 70	$ 145,600	2,080	$ 70	$ 145,600	2,080	$ 70	$ 145,600	2,080	$ 70	$ 145,600	2,080	$ 70	$ 145,600	$ 1,019,200	Internal resources supporting SAP HANA and OEIS Foundation
8	OEIS/WMP IT Architect	Non-Labor	RAMP	ea	2	$ 457,600	$ 915,200	1	$ 457,600	$ 457,600	1	$ 457,600	$ 457,600			$ -			$ -			$ -			$ -	$ 1,830,400	Contracted resources supporting cloud migration of WMP Data Foundation
9	WMP Data Foundation Cloud	Non-Labor	RAMP	ea	1	$ 24,000	$ 24,000	1	$ 24,000	$ 24,000	1	$ 24,000	$ 24,000	1	$ 24,000	$ 24,000	1	$ 24,000	$ 24,000	1	$ 24,000	$ 24,000	1	$ 24,000	$ 24,000	$ 168,000	SAP HANA, OEIS Foundation + Cloud, Spatial QDR-OEIS, GIS, Veg Mgmt POC
10	Asset & Work Mgmt Data Engineers/Developers	Non-Labor	RAMP	ea	2	$ 332,800	$ 665,600	2	$ 332,800	$ 665,600	2	$ 332,800	$ 665,600	1	$ 332,800	$ 332,800	1	$ 332,800	$ 332,800	1	$ 332,800	$ 332,800	1	$ 332,800	$ 332,800	$ 3,328,000	Contracted resources for Asset & Work Management: Asset 360 WMP scope
11	Asset & Work Mgmt Data Engineers/Developers	Labor	RAMP	hours	2,080	$ 66	$ 137,280	2,080	$ 66	$ 137,280	2,080	$ 66	$ 137,280	2,080	$ 66	$ 137,280	2,080	$ 66	$ 137,280	2,080	$ 66	$ 137,280	2,080	$ 66	$ 137,280	$ 960,960	Internal resources for Asset & Work Management: Asset 360 WMP scope
12	Asset & Work Mgmt IT Architect	Labor	RAMP	hours			$ -	2,080	$ 70	$ 145,600	2,080	$ 70	$ 145,600	2,080	$ 70	$ 145,600	2,080	$ 70	$ 145,600	2,080	$ 70	$ 145,600	2,080	$ 70	$ 145,600	$ 873,600	Internal resources for Asset & Work Management: Asset 360 WMP scope
13	Asset & Work Mgmt IT Architect	Non-Labor	RAMP	ea	1	$ 457,600	$ 457,600			$ -			$ -			$ -			$ -			$ -			$ -	$ 457,600	Contracted resources for Asset & Work Management: Asset 360 WMP scope

Summary

		Labor	RAMP				$ 1,248,000			$1,389,440			$ 1,389,440			$ 1,738,880			$ 1,252,160			$ 1,252,160			$ 1,252,160	$ 9,522,240	
		Non-Labor	RAMP				$ 7,256,000			$6,008,000			$ 5,342,400			$ 4,686,400			$ 3,553,600			$ 3,553,600			$ 3,553,600	$ 33,953,600	
		NSE	RAMP				$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
	Subtotal RAMP						$ 8,504,000			$7,397,440			$ 6,731,840			$ 6,425,280			$ 4,805,760			$ 4,805,760			$ 4,805,760	$ 43,475,840	
		Labor	Non-RAMP				$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
		Non-Labor	Non-RAMP				$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
		NSE	Non-RAMP				$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
	Subtotal Non-RAMP						$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
	Total Project Forecast						$ 8,504,000			$7,397,440			$ 6,731,840			$ 6,425,280			$ 4,805,760			$ 4,805,760			$ 4,805,760	$ 43,475,840	

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C567 Public Emergency Communication Strategy
Budget Code(s):	23879, 24875
Estimated In Service Date:	Various

23879, 24875 -					2025			2026			2027			2028			2029			2030			2031				
Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric(ea./ft./mile)	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	Total Cost	Comments
1	PSPP FTE's	Labor	RAMP	hours	2,500	$ 70	$ 175,000			$ -			$ -			$ -			$ -			$ -			$ -	$ 175,000	
2	PSPP Contractors - Slalom	Non-Labor	RAMP	ea	25,000	$ 200	$ 5,000,000			$ -			$ -			$ -			$ -			$ -			$ -	$ 5,000,000	
3	PSPP Contractors - Cap Gemini	Non-Labor	RAMP	ea	10,000	$ 100	$ 1,000,000			$ -			$ -			$ -			$ -			$ -			$ -	$ 1,000,000	
4	ENS Replacement FTE's	Labor	RAMP	hours	14,921	$ 70	$ 1,044,470			$ -			$ -			$ -			$ -			$ -			$ -	$ 1,044,470	Employees support for the ongoing deployment project up to go live 1) Build and update Database, PowerBI, and UI to support business needs 2) Manage and support the build out of documentation for purposes of documenting the build application and perform KT for ongoing support and maintenance 3) Perform code changes and builds to support business needs and identified system and process improvements
5	ENS Replacement Contract Labor	Non-Labor	RAMP	ea	1	2,000,000	$ 2,000,000			$ -			$ -			$ -			$ -			$ -			$ -	$ 2,000,000	Contractor support for the ongoing deployment project up to go live 1) Build and update Database, PowerBI, and UI to support business needs 2) Manage and support the build out of documentation for purposes of documenting the build application and perform KT for ongoing support and maintenance 3) Perform code changes and builds to support business needs and identified system and process improvements

Summary					2025			2026			2027			2028			2029			2030			2031			Total Cost	
		Labor	**RAMP**				$ 1,219,470			$ -			$ -			$ -			$ -			$ -			$ -	$ 1,219,470	
		Non-Labor	**RAMP**				$ 8,000,000			$ -			$ -			$ -			$ -			$ -			$ -	$ 8,000,000	
		NSE	**RAMP**				$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
	Subtotal RAMP						$ 9,219,470			$ -			$ -			$ -			$ -			$ -			$ -	$ 9,219,470	
		Labor	**Non-RAMP**				$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
		Non-Labor	**Non-RAMP**				$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
		NSE	**Non-RAMP**				$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
	Subtotal Non-RAMP						$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
	Total Project Forecast						**$ 9,219,470**			**$ -**			**$ -**			**$ -**			**$ -**			**$ -**			**$ -**	**$ 9,219,470**	

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C568 Strategic Pole Replacement Program
Budget Code(s):	22242
Estimated In Service Date:	Ongoing

22242 -					2025			2026			2027			2028			2029			2030			2031				
Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	Total Cost	Comments
1	Material	Non-Labor	RAMP	poles	200	$ 10,220	$ 2,044,000	200	$ 10,220	$ 2,044,000	200	$ 10,220	$ 2,044,000	200	$ 10,220	$ 2,044,000	$ 200	$ 10,220	$ 2,044,000	200	$ 10,220	$ 2,044,000	200	$ 10,220	$ 2,044,000	*$ 14,308,000*	
2	Construction Contractor	Non-Labor	RAMP	poles	200	$ 22,580	$ 4,516,000	200	$ 22,580	$ 4,516,000	200	$ 22,580	$ 4,516,000	200	$ 22,580	$ 4,516,000	$ 200	$ 22,580	$ 4,516,000	200	$ 22,580	$ 4,516,000	200	$ 22,580	$ 4,516,000	*$ 31,612,000*	
3	Construction FTE	Labor	RAMP	hours	12,142	$ 107	$ 1,299,151	12,142	$ 107	$ 1,299,151	12,142	$ 107	$ 1,299,151	12,142	$ 107	$ 1,299,151	$ 12,142	$ 107	$ 1,299,194	12,142	$ 107	$ 1,299,151	12,142	$ 107	$ 1,299,151	*$ 9,094,101*	
4	All Other	Non-Labor	RAMP	poles	200	$ 346	$ 69,200	200	$ 346	$ 69,200	200	$ 346	$ 69,200	200	$ 346	$ 69,200	$ 200	$ 346	$ 69,200	200	$ 346	$ 69,200	200	$ 346	$ 69,200	*$ 484,400*	

Summary			2025	2026	2027	2028	2029	2030	2031	Total Cost	Comments
	Labor	**RAMP**	$ 1,299,151	$ 1,299,151	$ 1,299,151	$ 1,299,151	$ 1,299,194	$ 1,299,151	$ 1,299,151	$ 9,094,101	
	Non-Labor	**RAMP**	$ 6,629,200	$ 6,629,200	$ 6,629,200	$ 6,629,200	$ 6,629,200	$ 6,629,200	$ 6,629,200	$ 46,404,400	
	NSE	**RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Subtotal RAMP			$ 7,928,351	$ 7,928,351	$ 7,928,351	$ 7,928,351	$ 7,928,394	$ 7,928,351	$ 7,928,351	$ 55,498,501	
										$ -	
	Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	Non-Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	NSE	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Subtotal Non-RAMP			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
										$ -	
Total Project Forecast			$ 7,928,351	$ 7,928,351	$ 7,928,351	$ 7,928,351	$ 7,928,394	$ 7,928,351	$ 7,928,351	$ 55,498,501	

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C569 Cleveland National Forest Fire Hardening
Budget Code(s):	23128
Estimated In Service Date:	2030

23128 - Cleveland National Forest Fire Hardening						2025			2026			2027			2028			2029			2030			2031				
Line Item	Program Description	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	Total Cost	Comments
1	CNF PLRP Project (23128)	FTE's	Labor	RAMP	hours	720	$ 65	$ 46,795	805	$ 65	$ 52,351	586	$ 65	$ 38,074	586	$ 65	$ 38,074	586	$ 65	$ 38,074	-	$ -	$ -	-	$ -	$ -	$ 213,367	
2	CNF PLRP Project (23128)	Contractors	Non-Labor	RAMP	ea	11,346	$ 100	$1,134,556	3,770	$ 100	$376,955	2,553	$ 100	$255,283	1,427	$ 100	$142,699	1,096	$ 100	$109,596	249	$ 100	$24,852	-	$ -	$ -	$2,043,940	

Summary

			2025	2026	2027	2028	2029	2030	2031	Total Cost	Comments
	Labor	**RAMP**	$ 46,795	$ 52,351	$ 38,074	$ 38,074	$ 38,074	$ -	$ -	$ 213,367	
	Non-Labor	**RAMP**	$1,134,556	$376,955	$255,283	$142,699	$109,596	$24,852	$ -	$2,043,940	
	NSE	**RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Subtotal RAMP			$1,181,351	$429,306	$293,356	$180,773	$147,669	$24,852	$ -	$2,257,307	
										$ -	
	Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	Non-Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	NSE	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Subtotal Non-RAMP			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
										$ -	
Total Project Forecast			**$1,181,351**	**$429,306**	**$293,356**	**$180,773**	**$147,669**	**$24,852**	$ -	$2,257,307	

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C570 Expulsion Fuse Replacements
Budget Code(s):	19242
Estimated In Service Date:	2025

19242 -					2025			2026			2027			2028			2029			2030			2031				
Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	Total cost	Comments
HFTD Fuse Replacements	Labor (FTE)	Labor	RAMP	Hours	786	$ 64	$ 50,304			$ -			$ -			$ -			$ -			$ -			$ -	$ 50,304	
HFTD Fuse Replacements	Contract Labor	Non-Labor	RAMP	Fuse	311	$ 1,187	$ 369,157			$ -			$ -			$ -			$ -			$ -			$ -	$ 369,157	
HFTD Fuse Replacements	Fuses	Non-Labor	RAMP	Fuse	311	$ 584	$ 181,692			$ -			$ -			$ -			$ -			$ -			$ -	$ 181,692	

Summary					2025			2026			2027			2028			2029			2030			2031			Total	Comments
		Labor	**RAMP**				$ 50,304			$ -			$ -			$ -			$ -			$ -			$ -	$ 50,304	
		Non-Labor	**RAMP**				$ 550,849			$ -			$ -			$ -			$ -			$ -			$ -	$ 550,849	
		NSE	**RAMP**				$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
	Subtotal RAMP						$ 601,153			$ -			$ -			$ -			$ -			$ -			$ -	$ 601,153	
		Labor	**Non-RAMP**				$ -			$ -			$ -			$ -			$ -			$ -			$ -		
		Non-Labor	**Non-RAMP**				$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
		NSE	**Non-RAMP**				$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
	Subtotal Non-RAMP						$ -			$ -			$ -			$ -			$ -			$ -			$ -	$ -	
	Total Project Forecast						**$ 601,153**			**$ -**			**$ -**			**$ -**			**$ -**			**$ -**			**$ -**	**$ 601,153**	

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C571 Emergency Preparedness and Recovery Plan
Budget Code(s):	22879, etc.
Estimated In Service Date:	Various

22879, etc. -					2025			2026			2027			2028			2029			2030			2031				
Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/ Non-RAMP	Unit Metric(ea./ft./mile)	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	Total Cost	Comments
1	Digital Fortress FTE's	Labor	RAMP	hours	8,320	$ 70	$ 582,400	8,320	$ 70	$ 582,400	8,320	$ 70	$ 582,400			$ -			$ -			$ -			$ -	$ 1,747,200	Continued Development supporting the added requirements to support pushing data to the end users, and taking advantage of the Emergency Management Data Lake to ensure alignment across the company.
2	Digital Fortress Contract Labor	Non-Labor	RAMP	ea	1	$ 1,000,000	$ 1,000,000	1	$ 2,500,000	$ 2,500,000	1	$ 2,500,000	$ 2,500,000			$ -			$ -			$ -			$ -	$ 6,000,000	Continued Development supporting the added requirements to support pushing data to the end users, and taking advantage of the Emergency Management Data Lake to ensure alignment across the company.
3	Data Optimization/Outage Location Mapping FTE's	Labor	RAMP	hours	2,080	$ 70	$ 145,600	20,000	$ 70	$ 1,400,000			$ -			$ -			$ -			$ -			$ -	$ 1,545,600	
4	Data Optimization/Outage Location Mapping Contract Labor	Non-Labor	RAMP	ea	1	$ 3,000,000	$ 3,000,000	1	$ 6,000,000	$ 6,000,000			$ -			$ -			$ -			$ -			$ -	$ 9,000,000	
5	Emergency Management Data Lake FTE's	Labor	RAMP	hours	2,857	$ 70	$ 200,000	14,286	$ 70	$ 1,000,000	2,857	$ 70	$ 200,000			$ -			$ -			$ -			$ -	$ 1,400,000	Employee resources in support of building a dataset used by multiple applications to provide a single source for data.
6	Emergency Management Data Lake Contract Labor	Non-Labor	RAMP	ea	1	$ 300,000	$ 300,000	1	$ 3,500,000	$ 3,500,000	1	$ 500,000	$ 500,000			$ -			$ -			$ -			$ -	$ 4,300,000	Contractor resources in support of building a dataset used by multiple applications to provide a single source for data.
7	Responder Life Cycle Contract Labor	Non-Labor	RAMP	ea	1	$ 3,000,000	$ 3,000,000	1	$ 1,500,000	$ 1,500,000			$ -			$ -			$ -			$ -			$ -	$ 4,500,000	Contract labor to build out a single portal to track and manage gaps in accuracy, fast tracking onboard and other training support, simplify and correct sign-in and sign-out procedures, speed up ways to work with position leads and other support roles to ensure the best emergency mitigation practices, allow for the access to personal documentation and response records in one place and finally meet company record retention requirements and understand the next steps in the training.
8	Responder Life Cycle FTE's	Labor	RAMP	hours	5,000	$ 70	$ 350,000	1	$ 750,000	$ 750,000			$ -			$ -			$ -			$ -			$ -	$ 1,100,000	Contract labor to build out a single portal to track and manage gaps in accuracy, fast tracking onboard and other training support, simplify and correct sign-in and sign-out procedures, speed up ways to work with position leads and other support roles to ensure the best emergency mitigation practices, allow for the access to personal documentation and response records in one place and finally meet company record retention requirements and understand the next steps in the training.

Summary			2025 Total cost	2026 Total cost	2027 Total cost	2028 Total cost	2029 Total cost	2030 Total cost	2031 Total cost	Total Cost
	Labor	**RAMP**	$ 1,278,000	$ 3,732,400	$ 782,400	$ -	$ -	$ -	$ -	$ 5,792,800
	Non-Labor	**RAMP**	$ 7,300,000	$ 13,500,000	$ 3,000,000	$ -	$ -	$ -	$ -	$ 23,800,000
	NSE	**RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal RAMP			$ 8,578,000	$ 17,232,400	$ 3,782,400	$ -	$ -	$ -	$ -	$ 29,592,800
	Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Non-Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	NSE	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal Non-RAMP			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Project Forecast			**$ 8,578,000**	**$ 17,232,400**	**$ 3,782,400**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 29,592,800**

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C573 Early Fault Detection
Budget Code(s):	22256
Estimated In Service Date:	Ongoing

22256 -					2025			2026			2027		
Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost
1	Mgmt & Non-Union Labor (ARFS)	Labor	RAMP	hours	239	$ 65	$ 15,535	239	$ 65	$ 15,535	239	$ 65	$ 15,535
2	Union Labor (ARFS)	Labor	RAMP	hours	70	$ 75	$ 5,250	70	$ 75	$ 5,250	70	$ 75	$ 5,250
3	Materials, Warehouse (ARFS)	Non-Labor	RAMP	Nodes	30	$ 2,379	$ 71,370	30	$ 2,379	$ 71,370	30	$ 2,379	$ 71,370
4	Materials, Vendor Procured (ARFS)	Non-Labor	RAMP	Nodes	30	$ 9,022	$ 270,660	30	$ 9,022	$ 270,660	30	$ 9,022	$ 270,660
5	Contract Services (ARFS)	Non-Labor	RAMP	Nodes	30	$ 15,452	$ 463,560	30	$ 15,452	$ 463,560	30	$ 15,452	$ 463,560
6	Mgmt & Non-Union Labor (PQ)	Labor	RAMP	hours	94	$ 65	$ 6,110	94	$ 65	$ 6,110	94	$ 65	$ 6,110
7	Union Labor (PQ)	Labor	RAMP	hours	241	$ 75	$ 18,075	241	$ 75	$ 18,075	241	$ 75	$ 18,075
8	Materials, Warehouse (PQ)	Non-Labor	RAMP	Nodes	30	$ -	$ -	-	$ -	$ -	-	$ -	$ -
9	Materials, Vendor Procured (PQ)	Non-Labor	RAMP	Nodes	30	$ 6,914	$ 207,410	30	$ 6,914	$ 207,410	30	$ 6,914	$ 207,410
10	Contract Services (PQ)	Non-Labor	RAMP	Nodes	30	$ 2,889	$ 86,656	30	$ 2,889	$ 86,656	30	$ 2,889	$ 86,656
11	Mgmt & Non-Union Labor (iPredict/AWS)	Labor	RAMP	hours	570	$ 65	$ 37,050	340	$ 65	$ 22,100	340	$ 65	$ 22,100
12	Union Labor (iPredict/AWS)	Labor	RAMP	hours	-	$ 75	$ -	7	$ 75	$ 525	7	$ 75	$ 525
13	Contract Services (iPredict/AWS)	Non-Labor	RAMP	each	1	$ 3,110,000	$ 3,110,000	1	$ 1,800,000	$1,800,000	1	$ 1,700,000	$1,700,000

22256 -	2028			2029			2030			2031				
Line Item	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	Total Cost	Comments
1	239	$ 65	$ 15,535	239	$ 65	$ 15,535	239	$ 65	$ 15,535	239	$ 65	$ 15,535	$ *108,745*	
2	70	$ 75	$ 5,250	70	$ 75	$ 5,250	70	$ 75	$ 5,250	70	$ 75	$ 5,250	$ *36,750*	
3	30	$ 2,379	$ 71,370	30	$ 2,379	$ 71,370	30	$ 2,379	$ 71,370	30	$ 2,379	$ 71,370	$ *499,590*	
4	30	$ 9,022	$ 270,660	30	$ 9,022	$ 270,660	30	$ 9,022	$ 270,660	30	$ 9,022	$ 270,660	$ *1,894,620*	
5	30	$ 15,452	$ 463,560	30	$ 15,452	$ 463,560	30	$ 15,452	$ 463,560	30	$ 15,452	$ 463,560	$ *3,244,920*	
6	94	$ 65	$ 6,110	94	$ 65	$ 6,110	94	$ 65	$ 6,110	94	$ 65	$ 6,110	$ *42,770*	
7	241	$ 75	$ 18,075	241	$ 75	$ 18,075	241	$ 75	$ 18,075	241	$ 75	$ 18,075	$ *126,525*	
8	-	$ -	$ -	-	$ -	$ -	-	$ -	$ -	-	$ -	$ -	$ -	
9	30	$ 6,914	$ 207,410	30	$ 6,914	$ 207,410	30	$ 6,914	$ 207,410	30	$ 6,914	$ 207,410	$ *1,451,867*	
10	30	$ 2,889	$ 86,656	30	$ 2,889	$ 86,656	30	$ 2,889	$ 86,656	30	$ 2,889	$ 86,656	$ *606,593*	
11	340	$ 65	$ 22,100	340	$ 65	$ 22,100	340	$ 65	$ 22,100	340	$ 65	$ 22,100	$ *169,650*	
12	7	$ 75	$ 525	7	$ 75	$ 525	-	$ 75	$ -	-	$ 75	$ -	$ *2,100*	
13	1	$ 600,000	$ 600,000	1	$ 500,000	$ 500,000	1	$ 400,000	$ 400,000	1	$ 300,000	$ 300,000	$ *8,410,000*	

Summary

			2025	2026	2027	2028	2029	2030	2031	Total Cost
	Labor	RAMP	$ 82,020	$ 67,595	$ 67,595	$ 67,595	$ 67,595	$ 67,070	$ 67,070	$ 486,540
	Non-Labor	RAMP	$ 4,209,656	$2,899,656	$2,799,656	$ 1,699,656	$ 1,599,656	$ 1,499,656	$ 1,399,656	$16,107,590
	NSE	RAMP	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal RAMP			$ 4,291,676	$2,967,251	$2,867,251	$ 1,767,251	$ 1,667,251	$ 1,566,726	$ 1,466,726	$16,594,130
	Labor	Non-RAMP	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Non-Labor	Non-RAMP	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	NSE	Non-RAMP	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal Non-RAMP			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Project Forecast			**$ 4,291,676**	**$2,967,251**	**$2,867,251**	**$ 1,767,251**	**$ 1,667,251**	**$ 1,566,726**	**$ 1,466,726**	**$16,594,130**

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	C576 Avian Protection
Budget Code(s):	22247
Estimated In Service Date:	2025

22247 -					2025			2026			2027		
Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost
Avian Protection WMP	Labor (FTE)	Labor	RAMP	hours	2,832	$ 64	$ 181,248			$ -			$ -
Avian Protection WMP	Contract Labor	Non-Labor	RAMP	Poles	236	$ 1,328	$ 313,408			$ -			$ -
Avian Protection WMP	Materials	Non-Labor	RAMP	Poles	236	$ 445	$ 105,020			$ -			$ -

22247 -	2028			2029			2030			2031				
Line Item	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	Total cost	Comments
Avian Protection WMP			$ -			$ -			$ -			$ -	*$ 181,248*	
Avian Protection WMP			$ -			$ -			$ -			$ -	*$ 313,408*	
Avian Protection WMP			$ -			$ -			$ -			$ -	*$ 105,020*	

Summary

			2025 Total cost	2026 Total cost	2027 Total cost	2028 Total cost	2029 Total cost	2030 Total cost	2031 Total cost	Total cost	Comments
	Labor	**RAMP**	$ 181,248	$ -	$ -	$ -	$ -	$ -	$ -	$ 181,248	
	Non-Labor	**RAMP**	$ 418,428	$ -	$ -	$ -	$ -	$ -	$ -	$ 418,428	
	NSE	**RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Subtotal RAMP			$ 599,676	$ -	$ -	$ -	$ -	$ -	$ -	$ 599,676	
	Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
	Non-Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	NSE	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Subtotal Non-RAMP			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Total Project Forecast			**$ 599,676**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 599,676**	

2025 RAMP FORECAST - DETAILS

Workpaper/Mitigation:	M503 Grounding Banks
Budget Code(s):	N/A
Estimated In Service Date:	Various

N/A -					2025			2026			2027			2028			2029			2030			2031				
Line Item	Unit Description	Labor/Non-Labor/ NSE	RAMP/Non-RAMP	Unit Metric (ea./ft./mile)	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	# of units	Cost per unit*	Total cost	Total Cost	Comments
C470 Grounding Bank Removal (2)	Union Labor	Labor	RAMP	hours			$ -			$ -			$ -	1,224	$ 64.00	$ 78,336			$ -			$ -			$ -	$ 78,336	
C470 Grounding Bank Removal (2)	Contractor Labor	Non-Labor	RAMP	feet			$ -			$ -			$ -	14,300	$ 15.00	$ 214,500			$ -			$ -			$ -	$ 214,500	
C470 Grounding Bank Removal (2)	Wire (includes wire and related hardware/equipment)	Non-Labor	RAMP	feet			$ -			$ -			$ -	14,300	$ 5.82	$ 83,155			$ -			$ -			$ -	$ 83,155	
C470 Grounding Bank Removal (2)	Steel Poles	Non-Labor	RAMP	ea			$ -			$ -			$ -	4	$ 15,000.00	$ 60,000			$ -			$ -			$ -	$ 60,000	
C231 Grounding Bank Removal (2)	Union Labor	Labor	RAMP	hours			$ -			$ -			$ -			$ -	1,520	$ 64.00	$ 97,280			$ -			$ -	$ 97,280	
C231 Grounding Bank Removal (2)	Contractor Labor	Non-Labor	RAMP	feet			$ -			$ -			$ -			$ -	18,500	$ 15.00	$ 277,500			$ -			$ -	$ 277,500	
C231 Grounding Bank Removal (2)	Wire (includes wire and related hardware/equipment)	Non-Labor	RAMP	feet			$ -			$ -			$ -			$ -	18,500	$ 6.55	$ 121,175			$ -			$ -	$ 121,175	
C231 Grounding Bank Removal (2)	Steel Poles	Non-Labor	RAMP	ea			$ -			$ -			$ -			$ -	2	$ 15,000.00	$ 30,000			$ -			$ -	$ 30,000	
C230 Grounding Bank Removal (3)	Union Labor	Labor	RAMP	hours			$ -			$ -			$ -			$ -			$ -	880	$ 64.00	$ 56,320			$ -	$ 56,320	
C230 Grounding Bank Removal (3)	Contractor Labor	Non-Labor	RAMP	feet			$ -			$ -			$ -			$ -			$ -	10,000	$ 15.00	$ 150,000			$ -	$ 150,000	
C230 Grounding Bank Removal (3)	Wire (includes wire and related hardware/equipment)	Non-Labor	RAMP	feet			$ -			$ -			$ -			$ -			$ -	10,000	$ 5.70	$ 57,000			$ -	$ 57,000	
C230 Grounding Bank Removal (3)	Steel Poles	Non-Labor	RAMP	ea			$ -			$ -			$ -			$ -			$ -	4	$ 15,000.00	$ 60,000			$ -	$ 60,000	
C176 Grounding Bank Removal (3)	Union Labor	Labor	RAMP	hours			$ -			$ -			$ -			$ -			$ -			$ -	2,880	$ 64.00	$ 184,320	$ 184,320	
C176 Grounding Bank Removal (3)	Contractor Labor	Non-Labor	RAMP	feet			$ -			$ -			$ -			$ -			$ -			$ -	36,000	$ 15.00	$ 540,000	$ 540,000	
C176 Grounding Bank Removal (3)	Wire (includes wire and related hardware/equipment)	Non-Labor	RAMP	feet			$ -			$ -			$ -			$ -			$ -			$ -	36,000	$ 6.15	$ 221,400	$ 221,400	
C176 Grounding Bank Removal (3)	Steel Poles	Non-Labor	RAMP	ea			$ -			$ -			$ -			$ -			$ -			$ -	12	$ 15,000	$ 180,000	$ 180,000	

Summary				2025	2026	2027	2028	2029	2030	2031	Total Cost	Comments
		Labor	**RAMP**	$ -	$ -	$ -	$ 78,336	$ 97,280	$ 56,320	$ 184,320	$ 416,256	
		Non-Labor	**RAMP**	$ -	$ -	$ -	$ 357,655	$ 428,675	$ 267,000	$ 941,400	$1,994,730	
		NSE	**RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	Subtotal RAMP			$ -	$ -	$ -	$ 435,991	$ 525,955	$ 323,320	$ 1,125,720	$2,410,986	
		Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
		Non-Labor	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
		NSE	**Non-RAMP**	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	Subtotal Non-RAMP			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
	Total Project Forecast			$ -	$ -	$ -	$ 435,991	$ 525,955	$ 323,320	$ 1,125,720	$2,410,986	

Risk Chapter: **SDG&E-Risk-4 Wildfires and PSPS**

Risk ID: **1CR04**

Appendix A: Forecast Methodology

Mitigation ID	Mitigation Name	Labor	Non-Labor	NSE	Units
A520	Grid Hardening Alternative 1	Zero-Based	Zero-Based	Zero-Based	Zero-Based
A522	Grid Hardening Alternative 2	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C506	Microgrids	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C507	CMP Repairs	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C508	Advanced Protection	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C510	Hotline Clamps	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C518	Strategic Undergrounding	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C520	Distribution Overhead System Hardening	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C522	Transmission Overhead Hardening (Distribution Underbuild)	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C524	Lightning Arrestor Removal/Replace Program	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C534	Risk-Informed Drone Inspections	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C546	Aviation Firefighting Program	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C550	Combined Covered Conductor	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C552	PSPS Sectionalizing Enhancements	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C558	Risk Methodology and Assessment	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C561	Fire Potential Index	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C562	Weather Station Maintenance and Calibration	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C563	Wildfire Mitigation Strategy Development	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C564	Distribution Communications Reliability Improvements (DCRI)	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C565	Transmission Overhead Detailed Inspections	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C566	Enterprise Data Foundation	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C567	Public Emergency Communication Strategy	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C568	Strategic Pole Replacement	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C569	Cleveland National Forest Fire Hardening	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C570	Expulsion Fuse Replacements	Zero-Based	Zero-Based	Zero-Based	Zero-Based

Risk Chapter: **SDG&E-Risk-4 Wildfires and PSPS**

Risk ID: **1CR04**

Appendix A: Forecast Methodology

Mitigation ID	Mitigation Name	Labor	Non-Labor	NSE	Units
C571	Emergency Preparedness and Recovery Plan	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C573	Early Fault Detection	Zero-Based	Zero-Based	Zero-Based	Zero-Based
C576	Avian Protection	Zero-Based	Zero-Based	Zero-Based	Zero-Based
M503	Grounding Banks	Zero-Based	Zero-Based	Zero-Based	Zero-Based

Appendix B: Unit Measure

Mitigation ID	Mitigation Name	Unit Measure
A520	Grid Hardening Alternative 1	Miles UG (Capital)
A522	Grid Hardening Alternative 2	Miles hardened (Capital)
C506	Microgrids	Microgrids (Capital)
C507	CMP Repairs	Poles
C508	Advanced Protection	Nodes
C510	Hotline Clamps	Hotline clamps removed
C518	Strategic Undergrounding	Miles UG (Capital)
C520	Distribution Overhead System Hardening	Miles hardened (Capital)
C522	Transmission Overhead Hardening (Distribution Underbuild)	Miles hardened
C524	Lightning Arrestor Removal/Replace Program	Lightning Arrestors
C534	Risk-Informed Drone Inspections	Poles replaced
C546	Aviation Firefighting Program	No feasible units
C550	Combined Covered Conductor	Miles hardened (Capital)
C552	PSPS Sectionalizing Enhancements	Switches installed
C558	Risk Methodology and Assessment	No feasible units
C561	Fire Potential Index	No feasible units
C562	Weather Station Maintenance and Calibration	Weather sensors
C563	Wildfire Mitigation Strategy Development	No feasible units
C564	Distribution Communications Reliability Improvements (DCRI)	Base stations
C565	Transmission Overhead Detailed Inspections	Poles
C566	Enterprise Data Foundation	No feasible units
C567	Public Emergency Communication Strategy	No feasible units
C568	Strategic Pole Replacement	Poles
C569	Cleveland National Forest Fire Hardening	No feasible units
C570	Expulsion Fuse Replacements	Fuses replaced

Appendix B: Unit Measure

Mitigation ID	Mitigation Name	Unit Measure
C571	Emergency Preparedness and Recovery Plan	No feasible units
C573	Early Fault Detection	Nodes
C576	Avian Protection	Poles protected
M503	Grounding Banks	Feet