SOUTHERN CALIFORNIA EDISON®

(U 338-E)

2025 GRC
A.23-05-010

Amended
Workpapers

SCE-02 Vol.10A
Vegetation Management

Nov 2023

2025 General Rate Case
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WP SCE-02 Vol. 10A

Workpaper for O&M and Capital Requests by Business Planning Elements (BPE)

SCE-02, Vol. 10A
Supplemental Workpaper for O&M and Capital Requests at the Business Planning Element (BPE) Level
Witnesses: Ohanian/Borngrebe

O&M Request

(Constant 2022 $)

BPE	GRC Activity	2018	2019	2020	2021	2022	2023	2024	2025
Vegetation Management	Distribution Routine Vegetation Management	121,420,219	285,804,117	381,156,055	391,732,691	387,512,688	415,366,056	440,379,064	418,034,335
Vegetation Management	Transmission Routine Vegetation Management	22,773,705	40,496,723	57,018,004	43,263,011	28,882,155	46,217,323	52,445,327	48,265,281
Vegetation Management	Dead, Dying and Diseased Tree Removal	575,115	822,283	1,369,632	(1,673)	400,087	-	-	-
Wildfire Management	Dead, Dying and Diseased Tree Removal	45,265,591	38,621,608	42,918,761	18,590,283	28,602,745	28,376,581	31,394,604	35,067,351
Wildfire Management	Distribution Routine Vegetation Management	-	5,024,868	21,278,646	19,211,238	15,083,130	31,930,451	35,147,161	78,768,148
Wildfire Management	Fire Hazard Prevention	417,891	326	859,803	392,090	78,528	813,726	797,770	1,058,181
Wildfire Management	Transmission Routine Vegetation Management	-	5,538,059	2,615,967	4,039,437	3,191,661	8,754,441	10,035,365	15,428,481
Wildfire Management	Wildfire Mitigation and Vegetation Management	-	-	1,161,801	666,189	3,286,035	3,725,610	3,844,708	3,730,544
Wildfire Management	Wildfire Vegetation Management	5,767	19,500,485	59,908,206	37,500,632	29,544,557	46,113,069	59,258,198	54,219,370
	Total	**190,458,288**	**395,808,468**	**568,286,874**	**515,393,899**	**496,581,585**	**581,297,256**	**633,302,196**	**654,571,692**

SCE-02, Vol. 10A
Supplemental Workpaper for O&M and Capital Requests at the Business Planning Element (BPE) Level
Witness: Torres

Capital Request

(Nominal $)

BPE	GRC Activity	Sub-work Activity	2018	2019	2020	2021	2022	2023	2024	2025
Wildfire Management	Wildfire Mitigation and Vegetation Management Technology Solutions	Technology Solutions	-	4,218,619	16,146,819	11,005,183	7,124,574	2,602,566	2,746,924	2,436,574
	Total		**-**	**4,218,619**	**16,146,819**	**11,005,183**	**7,124,574**	**2,602,566**	**2,746,924**	**2,436,574**

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Alternative Forecast O&M Expenses Workpaper for Inspections

WP SCE-02, Vol. 10A
Forecast O&M Expenses Workpaper for Remote Sensing (LiDAR + Satellite)
Witness: Ohanian

Assumptions

Contractor Market Escalation in 2024	10%

Forecast

(Constant 2022 $000)	2023	2024	2025	2026	2027	2028	Normalized 2025
LiDAR (2)							
Transmission Circuit Miles Volume (1)	6,900	6,900	9,300	7,200	9,500	9,400	$ 8,850
Unit Cost (2)	$ 0.574	$ 0.631	$ 0.631	$ 0.631	$ 0.631	$ 0.631	$ 0.631
Total Cost	$ 3,961	$ 4,357	$ 5,872	$ 4,546	$ 5,998	$ 5,935	$ 5,588
Distribution Circuit Miles Volume (3)	1,600	2,100	2,600	3,100	3,600	4,100	3,350
Unit Cost (2)	$ 0.574	$ 0.631	$ 0.631	$ 0.631	$ 0.631	$ 0.631	$ 0.631
Total Cost	$ 918	$ 1,326	$ 1,642	$ 1,957	$ 2,273	$ 2,589	$ 2,115
Total LiDAR	**$ 4,879**	**$ 5,683**	**$ 7,514**	**$ 6,503**	**$ 8,271**	**$ 8,524**	**$ 7,703**
Satellite							
Miles Volume	1,000	2,000	3,000	4,000	5,000	6,000	4,500
Unit Cost (4)	$ 0.200	$ 0.220	$ 0.220	$ 0.220	$ 0.220	$ 0.220	$ 0.220
Miles Sub-Total	$ 200	$ 440	$ 660	$ 880	$ 1,100	$ 1,320	$ 990
Site Volume	100	150	200	250	300	350	275
Unit Cost	$ 1.700	$ 1.870	$ 1.870	$ 1.870	$ 1.870	$ 1.870	$ 1.870
Sites Sub-Total	$ 170	$ 281	$ 374	$ 468	$ 561	$ 655	$ 514
Total Satellite	**$ 370**	**$ 721**	**$ 1,034**	**$ 1,348**	**$ 1,661**	**$ 1,975**	**$ 1,504**
Costs - LiDAR+Satellite	**$ 5,249**	**$ 6,403**	**$ 8,548**	**$ 7,851**	**$ 9,932**	**$ 10,498**	**$ 9,207**
Support Activity %	14%	14%	14%	14%	14%	14%	14%
Support Activities (5) 14%	$ 735	$ 896	$ 1,197	$ 1,099	$ 1,391	$ 1,470	$ 1,289
Compensation Changes & Other Adj.	$ 10	$ 16	$ 240	$ 240	$ 240	$ 240	$ 240
TOTAL ALTERNATIVE FORECAST	**$ 5,994**	**$ 7,315**	**$ 9,985**	**$ 9,190**	**$ 11,563**	**$ 12,209**	**$ 10,737**

Notes

1) Transmission circuit miles are based on the class ranking system as of August 2022.
2) LiDAR unit cost is based on 2022 contractual rates for acquisition, processing, and other costs.
3) Distribution circuit miles are based on the support required for seasonal patrols, with an increase of 500 miles for expansion of program.
4) Satellite unit costs are based on current pilot rates.
5) Support activities include costs that cannot be directly charged to projects, including maintenance costs, overall support related costs, and cost of tools that cannot be directly charged.

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Recorded O&M Expenses Workpaper for Inspections for the Hazard Tree Program

WP SCE-02 Vol. 10A
Workpaper for Recorded O&M Expenses for Dead, Dying and Diseased Tree Removal Inspections
Witness: Ohanian

2022 Constant $

	2018	2019	2020	2021	2022
Contract	5,806,287	8,781,064	8,349,574	6,913,192	5,834,287
Indirect	49,225	45,662	43,418	35,949	30,338
Labor	2,305	743	-	36	25
Other	(49,914)	-	3,529,365	(981,908)	(1,369,229)
Overhead	668,201	873,703	876,255	672,783	546,696
Grand Total	**6,476,106**	**9,701,171**	**12,798,612**	**6,640,051**	**5,042,118**

WP SCE-02 Vol. 10A
Workpaper for Recorded O&M Expenses for HTMP Inspections
Witness: Ohanian

2022 Constant $

BPE	Work Activity	Sub-work Activity	2018	2019	2020	2021	2022
Wildfire Management	Wildfire Vegetation Management	Hazard Tree Inspection	-	4,596,344	5,781,436	8,359,166	6,001,785

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Forecast O&M Expenses Workpaper for Traditional Ground Inspections

WP SCE-02, Vol. 10A
Forecast O&M Expenses Workpaper for Traditional Ground Inspections
Witness: Ohanian

Assumptions

Distribution % of Service Territory	85%
Transmission % of Service Territory	15%
Time & Equipment Multiplier	8%
Escalation Related to Retention/Upskilling of Inspectors	15%
Distribution Support Activities	11.45%
Transmission Support Activities	2.78%

Forecast

(2022 Constant $)	2023	2024	2025	2026	2027	2028	Normalized 2025
Lump Sum Contract (1)	$ 46,133,333						
Time & Equipment (8%) (1)	$ 3,690,667						
Sub-Total Contract	$ 49,824,000						
Escalation (15%) for 2024 and 2025 (2)	$ 49,824,000	$ 57,297,600	$ 65,892,240	$ 65,892,240	$ 65,892,240	$ 65,892,240	$ 65,892,240
Allocation of Ground Inspection Work	100%	100%	100%	50%	35%	20%	
Total Inspection Costs before Support Activities	**$ 49,824,000**	**$ 57,297,600**	**$ 65,892,240**	**$ 32,946,120**	**$ 23,062,284**	**$ 13,178,448**	**$ 33,769,773**
Distribution % of Territory 85% (3)	$ 42,350,400	$ 48,702,960	$ 56,008,404	$ 28,004,202	$ 19,602,941	$ 11,201,681	
Support Activities (11.45%) (4)	$ 4,849,121	$ 5,576,489	$ 6,412,962	$ 3,206,481	$ 2,244,537	$ 1,282,592	
Total Distribution Inspection with Support Activities	**$ 47,199,521**	**$ 54,279,449**	**$ 62,421,366**	**$ 31,210,683**	**$ 21,847,478**	**$ 12,484,273**	**$ 31,990,950**
Transmission % of Territory 15% (3)	$ 7,473,600	$ 8,594,640	$ 9,883,836	$ 4,941,918	$ 3,459,343	$ 1,976,767	
Support Activities (2.78%) (4)	$ 207,766	$ 238,931	$ 274,771	$ 137,385	$ 96,170	$ 54,954	
Total Transmission Inspection with Support Activities	**$ 7,681,366**	**$ 8,833,571**	**$ 10,158,607**	**$ 5,079,303**	**$ 3,555,512**	**$ 2,031,721**	**$ 5,206,286**
Compensation Changes & Other Adj.	$ 65,621	$ 116,445	$ 140,060	$ 140,060	$ 140,060	$ 140,060	$ 140,060
TOTAL INSPECTIONS FORECAST	**$ 54,946,508**	**$ 63,229,465**	**$ 72,720,033**	**$ 36,430,047**	**$ 25,543,051**	**$ 14,656,055**	**$ 37,337,296**

Notes

(1) The ground inspections lump sum contract comprises inspection work for all vegetation management programs, including Routine Vegetation Management and Hazard Tree Programs (HTMP and Dead and Dying Tree Removal). SCE estimates that ~8% of the contracted work will require payment on hourly T&E rates.
(2) Attendant costs related to retention and upskilling of inspector workforce apply to 2024 and 2025 forecasts.
(3) Distribution/transmission split based on SCE's most recent data at time of forecast and subject to change.
(4) Support activities includes costs that cannot be directly charged to projects, including maintenance costs, overall support related costs, and cost of tools that cannot be directly charged.

Alternative Forecast

If full network remote sensing is not authorized, SCE submits the following alternative forecast:

(2022 Constant $)	2023	2024	2025	2026	2027	2028	Normalized 2025
TOTAL ALTERNATIVE FORECAST (1)	$ 54,946,508	$ 63,229,465	$ 72,720,033	$ 72,720,033	$ 72,720,033	$ 72,720,033	$ 72,720,033

Notes for Alternative Forecast

(1) The alternative forecast reflects the forecast in row 38 (Total Inspections Forecast) through 2025. For 2026 through 2028, the alternative forecast has no reduction in ground inspections.

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O&M Detail
for Distribution Routine Vegetation Management

2025 GRC Summary

(Constant 2022 $000)

Beginning of Workpapers for:

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation Management
Business Planning Element:	Various
Activity:	Distribution Routine Vegetation Management
Witness:	T.Ohanian/K.Borngrebe

Cost Type	Recorded/Adj. 2022	Forecast 2025
Labor	29,186	17,359
Non-Labor	373,410	479,443
Other	0	0
Total	**402,596**	**496,802**

Due to rounding, totals may not tie to individual items.

Description of Activity:
This work comprises the end-to-end processes, including ground inspections and remote sensing, mitigation activity, quality control, and environmental support activities, that focus on maintaining compliance and program standard clearances on vegetation located in proximity to SCE's distribution assets. Mitigation activities include tree trimming and removal, structure brushing, weed abatement, seasonal patrols, Areas-of-Concern, and emergent work

Forecast Methods - Summary of Results of Methods Studied

(Constant 2022 $000)

Exhibit: SCE-02 Grid Activities
Volume: 10A - Vegetation Management
Business Planning Element: Various
Activity: Distribution Routine Vegetation Management
Witness: T.Ohanian/K.Borngrebe

Cost Type	Recorded/Adj.				
	2018	2019	2020	2021	2022
Labor	12,539	20,671	34,801	30,646	29,186
Non-Labor	108,881	270,158	367,634	380,298	373,410
Other	0	0	0	0	0
Total	**121,420**	**290,829**	**402,435**	**410,944**	**402,596**

Cost Type	Results of Linear Trending					
	3 Years: 2020 - 2022		4 Years: 2019 - 2022		5 Years: 2018 - 2022	
	$	r2*	$	r2*	$	r2*
Labor	20,315	0.93	38,452	0.22	47,203	0.59
Non-Labor	385,332	0.21	492,963	0.64	619,675	0.76
Other	0	0.00	0	0.00	0	0.00
Total	**405,647**	**N/A**	**531,415**	**N/A**	**666,878**	**N/A**

Cost Type	Results of Averaging							
	2 Years:		3 Years:		4 Years:		5 Years:	
	2021 - 2022	sd**	2020 - 2022	sd**	2019 - 2022	sd**	2018 - 2022	sd**
Labor	29,916	730	31,544	2,379	28,826	5,139	25,569	7,973
Non-Labor	376,854	3,444	373,780	5,177	347,875	45,093	300,076	103,757
Other	0	0	0	0	0	0	0	0
Total	**406,770**	**N/A**	**405,325**	**N/A**	**376,701**	**N/A**	**325,645**	**N/A**

Cost Type	Last Recorded Year		
	2023	2024	2025
Labor	29,186	29,186	29,186
Non-Labor	373,410	373,410	373,410
Other	0	0	0
Total	**402,596**	**402,596**	**402,596**

Cost Type	Itemized Forecast		
	2023	2024	2025
Labor	18,104	17,687	17,359
Non-Labor	429,193	457,839	490,451
Other	0	0	0
Total	**447,297**	**475,526**	**507,810**

** r2 = R Squared (Based on recorded years data)*

*** sd = standard deviation (Based on recorded years data)*

2025 GRC Selected Forecast Method

(Constant 2022 $000)

Exhibit: SCE-02 Grid Activities
Volume: 10A - Vegetation Management
Business Planning Element: Various
Activity: Distribution Routine Vegetation Management
Witness: T.Ohanian/K.Borngrebe

Cost Type	Recorded/Adj.					Forecast			Selected Forecast		TY Forecast Incr/(Decr) from 2022
	2018	2019	2020	2021	2022	2023	2024	2025	Method	($000)	
Labor	12,539	20,671	34,801	30,646	29,186	18,104	17,687	17,359	Itemized	17,359	(11,827)
Non-Labor	108,881	270,158	367,634	380,298	373,410	429,193	457,839	479,443	Itemized	479,443	106,034
Other											
Total	**121,420**	**290,829**	**402,435**	**410,944**	**402,596**	**447,297**	**475,526**	**496,802**		**496,802**	**94,207**

Due to rounding, totals may not tie to individual items.

Analysis of Forecasting Methods

Itemized Forecast:
Itemized Forecast Method

Other Forecast Methods not Selected

Last Recorded Year:
In D.89-12-057, and subsequently in D.04-07-022, the CPUC stated that if recorded expenses have been relatively stable for three or more years, the last recorded year is an appropriate base estimate. For this activity the Last Recorded Year method does not account for the variables discussed in testimony to determine the 2025 Test Year forecast. Therefore, the Last Recorded Year method is not appropriate.

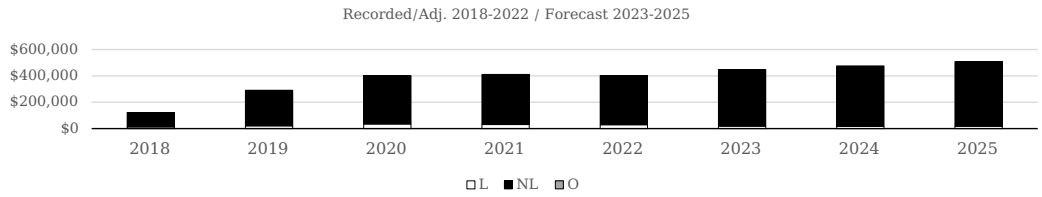
Linear Trending:
In D.89-12-057, and subsequently in D.04-07-022, the CPUC stated that if recorded expenses have been relatively stable for three or more years, the last recorded year is an appropriate base estimate. For this activity the Linear Trending method does not account for the variables discussed in testimony to determine the 2025 Test Year forecast. Therefore, the Linear Trending method is not appropriate.

Averaging:
In D.89-12-057, and subsequently in D.04-07-022, the CPUC stated that if recorded expenses have significant fluctuations from year to year, or expenses are influenced by external forces beyond the utility's control, an average of recorded-expenses is appropriate. For this activity the Averaging method does not account for the variables discussed in testimony to determine the 2025 Test Year forecast. Therefore, the Averaging method is not appropriate.

2025 GRC Year Over Year Variance

(Constant 2022 $000)

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation Management
Business Planning Element:	Various
Activity:	Distribution Routine Vegetation Management
Witness:	T.Ohanian/K.Borngrebe



Cost Type		Recorded/Adj.					Forecast		
		2018	2019	2020	2021	2022	2023	2024	2025
Recorded / Forecast	Labor	12,539	20,671	34,801	30,646	29,186	18,104	17,687	17,359
	Non-Labor	108,881	270,158	367,634	380,298	373,410	429,193	457,839	490,451
	Other	0	0	0	0	0	0	0	0
	Total	**121,420**	**290,829**	**402,435**	**410,944**	**402,596**	**447,297**	**475,526**	**507,810**
Labor	Prior Year Total	12,539	20,671	34,801	30,646	29,186	18,104	17,687	
	Change	8,132	14,130	(4,155)	(1,460)	(11,083)	(416)	(328)	
	Total	**20,671**	**34,801**	**30,646**	**29,186**	**18,104**	**17,687**	**17,359**	
Non-Labor	Prior Year Total	108,881	270,158	367,634	380,298	373,410	429,193	457,839	
	Change	161,277	97,476	12,664	(6,888)	55,783	28,646	32,612	
	Total	**270,158**	**367,634**	**380,298**	**373,410**	**429,193**	**457,839**	**490,451**	
Other	Prior Year Total	0	0	0	0	0	0	0	
	Change	0	0	0	0	0	0	0	
	Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
Total Change	Prior Year Total	121,420	290,829	402,435	410,944	402,596	447,297	475,526	
	Change	169,409	111,606	8,509	(8,348)	44,701	28,230	32,283	
	Total	**290,829**	**402,435**	**410,944**	**402,596**	**447,297**	**475,526**	**507,810**	

Due to rounding, totals may not tie to individual items.

2025 GRC Forecast Commentary

(Constant 2022 $000)

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation Management
Business Planning Element:	Various
Activity:	Distribution Routine Vegetation Management
Witness:	T.Ohanian/K.Borngrebe

Summary of Changes: See Testimony

Cost Type		Recorded/Adj.					Forecast		
		2018	2019	2020	2021	2022	2023	2024	2025
Recorded / Forecast	Labor	12,539	20,671	34,801	30,646	29,186	18,104	17,687	17,359
	Non-Labor	108,881	270,158	367,634	380,298	373,410	429,193	457,839	479,443
	Other	0	0	0	0	0	0	0	0
	Total	**121,420**	**290,829**	**402,435**	**410,944**	**402,596**	**447,297**	**475,526**	**496,802**

Due to rounding, totals may not tie to individual items.

Recorded (2018-2022)

See Testimony

Forecast (2023-2025)

See Testimony

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O&M Detail
for Transmission Routine Vegetation Management

Forecast Methods - Summary of Results of Methods Studied

(Constant 2022 $000)

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation Management
Business Planning Element:	Various
Activity:	Transmission Routine Vegetation Management
Witness:	T.Ohanian/K.Borngrebe

Cost Type	Recorded/Adj.				
	2018	2019	2020	2021	2022
Labor	1,249	1,829	2,125	1,379	1,246
Non-Labor	21,525	44,206	57,509	45,924	30,828
Other	0	0	0	0	0
Total	**22,774**	**46,035**	**59,634**	**47,302**	**32,074**

Cost Type	Results of Linear Trending					
	3 Years: 2020 - 2022		4 Years: 2019 - 2022		5 Years: 2018 - 2022	
	$	r2*	$	r2*	$	r2*
Labor	(174)	0.86	522	0.63	1,337	0.03
Non-Labor	(8,609)	0.99	21,343	0.37	50,160	0.05
Other	0	0.00	0	0.00	0	0.00
Total	**(8,784)**	**N/A**	**21,865**	**N/A**	**51,498**	**N/A**

Cost Type	Results of Averaging							
	2 Years:		3 Years:		4 Years:		5 Years:	
	2021 - 2022	sd**	2020 - 2022	sd**	2019 - 2022	sd**	2018 - 2022	sd**
Labor	1,312	66	1,583	387	1,645	351	1,565	352
Non-Labor	38,376	7,548	44,754	10,924	44,617	9,463	39,998	12,529
Other	0	0	0	0	0	0	0	0
Total	**39,688**	**N/A**	**46,337**	**N/A**	**46,261**	**N/A**	**41,564**	**N/A**

Cost Type	Last Recorded Year		
	2023	2024	2025
Labor	1,246	1,246	1,246
Non-Labor	30,828	30,828	30,828
Other	0	0	0
Total	**32,074**	**32,074**	**32,074**

Cost Type	Itemized Forecast		
	2023	2024	2025
Labor	61	64	85
Non-Labor	54,911	62,417	64,322
Other	0	0	0
Total	**54,972**	**62,481**	**64,407**

** r2 = R Squared (Based on recorded years data)*

*** sd = standard deviation (Based on recorded years data)*

2025 GRC Summary

(Constant 2022 $000)

Beginning of Workpapers for:

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation Management
Business Planning Element:	Various
Activity:	Transmission Routine Vegetation Management
Witness:	T.Ohanian/K.Borngrebe

Cost Type	Recorded/Adj. 2022	Forecast 2025
Labor	1,246	85
Non-Labor	30,828	63,609
Other	0	0
Total	**32,074**	**63,694**

Due to rounding, totals may not tie to individual items.

Description of Activity:
This work comprises the end-to-end processes, including ground inspections and remote sensing, mitigation activity, quality control, and environmental support activities, that focus on maintaining compliance and program standard clearances on vegetation located in proximity to SCE's transmission assets. Mitigation activities include tree trimming and removal, structure brushing, weed abatement, fuel management, seasonal patrols, and emergent work.

2025 GRC Selected Forecast Method

(Constant 2022 $000)

Exhibit: SCE-02 Grid Activities
Volume: 10A - Vegetation Management
Business Planning Element: Various
Activity: Transmission Routine Vegetation Management
Witness: T.Ohanian/K.Borngrebe

Cost Type	Recorded/Adj.					Forecast			Selected Forecast		TY Forecast Incr/(Decr) from 2022
	2018	2019	2020	2021	2022	2023	2024	2025	Method	($000)	
Labor	1,249	1,829	2,125	1,379	1,246	61	64	85	Itemized	85	(1,161)
Non-Labor	21,525	44,206	57,509	45,924	30,828	54,911	62,417	63,609	Itemized	63,609	32,781
Other											
Total	**22,774**	**46,035**	**59,634**	**47,302**	**32,074**	**54,972**	**62,481**	**63,694**		**63,694**	**31,620**

Due to rounding, totals may not tie to individual items.

Analysis of Forecasting Methods

Itemized Forecast:
Itemized Forecast Method

Other Forecast Methods not Selected

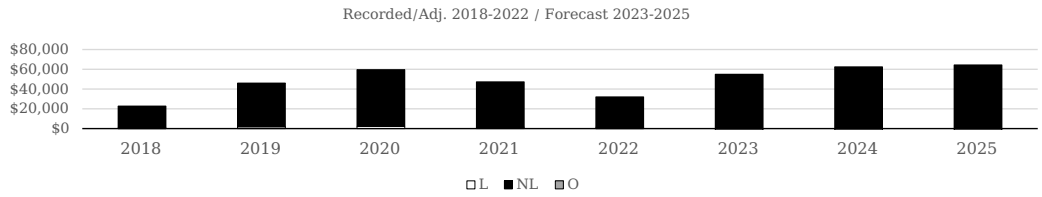
Last Recorded Year:
In D.89-12-057, and subsequently in D.04-07-022, the CPUC stated that if recorded expenses have been relatively stable for three or more years, the last recorded year is an appropriate base estimate. For this activity the Last Recorded Year method does not account for the variables discussed in testimony to determine the 2025 Test Year forecast. Therefore, the Last Recorded Year method is not appropriate.

Linear Trending:
In D.89-12-057, and subsequently in D.04-07-022, the CPUC stated that if recorded expenses have been relatively stable for three or more years, the last recorded year is an appropriate base estimate. For this activity the Linear Trending method does not account for the variables discussed in testimony to determine the 2025 Test Year forecast. Therefore, the Linear Trending method is not appropriate.

2025 GRC Year Over Year Variance

(Constant 2022 $000)

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation Management
Business Planning Element:	Various
Activity:	Transmission Routine Vegetation Management
Witness:	T.Ohanian/K.Borngrebe



Cost Type		Recorded/Adj.					Forecast		
		2018	2019	2020	2021	2022	2023	2024	2025
Recorded / Forecast	Labor	1,249	1,829	2,125	1,379	1,246	61	64	85
	Non-Labor	21,525	44,206	57,509	45,924	30,828	54,911	62,417	64,322
	Other	0	0	0	0	0	0	0	0
	Total	**22,774**	**46,035**	**59,634**	**47,302**	**32,074**	**54,972**	**62,481**	**64,407**
Labor	Prior Year Total	1,249	1,829	2,125	1,379	1,246	61	64	
	Change	580	296	(746)	(133)	(1,185)	3	21	
	Total	**1,829**	**2,125**	**1,379**	**1,246**	**61**	**64**	**85**	
Non-Labor	Prior Year Total	21,525	44,206	57,509	45,924	30,828	54,911	62,417	
	Change	22,681	13,304	(11,586)	(15,096)	24,083	7,506	1,905	
	Total	**44,206**	**57,509**	**45,924**	**30,828**	**54,911**	**62,417**	**64,322**	
Other	Prior Year Total	0	0	0	0	0	0	0	
	Change	0	0	0	0	0	0	0	
	Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
Total Change	Prior Year Total	22,774	46,035	59,634	47,302	32,074	54,972	62,481	
	Change	23,261	13,599	(12,332)	(15,229)	22,898	7,509	1,927	
	Total	**46,035**	**59,634**	**47,302**	**32,074**	**54,972**	**62,481**	**64,407**	

Due to rounding, totals may not tie to individual items.

2025 GRC Forecast Commentary

(Constant 2022 $000)

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation Management
Business Planning Element:	Various
Activity:	Transmission Routine Vegetation Management
Witness:	T.Ohanian/K.Borngrebe

Summary of Changes: See Testimony

Cost Type		Recorded/Adj.					Forecast		
		2018	2019	2020	2021	2022	2023	2024	2025
Recorded / Forecast	Labor	1,249	1,829	2,125	1,379	1,246	61	64	85
	Non-Labor	21,525	44,206	57,509	45,924	30,828	54,911	62,417	63,609
	Other	0	0	0	0	0	0	0	0
	Total	**22,774**	**46,035**	**59,634**	**47,302**	**32,074**	**54,972**	**62,481**	**63,694**

Due to rounding, totals may not tie to individual items.

Recorded (2018-2022)

See Testimony

Forecast (2023-2025)

See Testimony

WP SCE-02 Vol. 10A

Workpaper for GRC Activity to Sub-Work Activity Mapping

SCE-02, Vol. 10A
GRC Activity to Sub-work Activity Mapping

O&M

1. Dead, Dying & Diseased Tree Rmvl

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj. 2018	2019	2020	2021	2022	Forecast 2023	2024	2025
Dead, Dying and Diseased Tree Removal	Bark Beetle Remediation	Labor	444,692	572,966	1,033,205	(1,606)	104,134	-	-	-
Dead, Dying and Diseased Tree Removal	Bark Beetle Remediation	Non-Labor	130,423	249,316	336,427	(67)	295,953	-	-	-
Dead, Dying and Diseased Tree Removal	Drought Tree Removal	Labor	4,170,746	1,599,627	1,582,746	1,223,167	1,683,790	-	-	-
Dead, Dying and Diseased Tree Removal	Drought Tree Removal	Non-Labor	41,094,846	37,021,981	41,336,015	17,367,116	22,319,996	24,774,589	27,707,444	30,203,738
Dead, Dying and Diseased Tree Removal	Environmental Support - Drought	Labor	-	-	-	-	28,236	61,383	62,734	65,649
Dead, Dying and Diseased Tree Removal	Environmental Support - Drought	Non-Labor	-	-	-	-	4,570,723	3,540,609	3,624,426	4,797,965
		Total - Labor	**4,615,437**	**2,172,594**	**2,615,951**	**1,221,561**	**1,816,160**	**61,383**	**62,734**	**65,649**
		Total - Non-Labor	**41,225,269**	**37,271,297**	**41,672,442**	**17,367,049**	**27,186,672**	**28,315,198**	**31,331,869**	**35,001,703**
		Grand Total	**45,840,706**	**39,443,891**	**44,288,393**	**18,588,610**	**29,002,832**	**28,376,581**	**31,394,604**	**35,067,351**

2. Distribution Routine Veg Mgmt

GRC Activity	Cost Type	Recorded/Adj. 2018	2019	2020	2021	2022	Forecast 2023	2024	2025
Distribution Routine Vegetation Management	**Total - Labor**	**12,539,362**	**20,671,098**	**34,800,820**	**30,646,152**	**29,186,243**	**18,103,608**	**17,687,447**	**17,359,015**
Distribution Routine Vegetation Management	**Total - Non-Labor**	**108,880,856**	**270,157,887**	**367,633,881**	**380,297,777**	**373,409,575**	**429,192,899**	**457,838,778**	**479,443,4**
	Grand Total	**121,420,219**	**290,828,985**	**402,434,701**	**410,943,929**	**402,595,818**	**447,296,507**	**475,526,225**	**496,802,483**

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj. 2018	2019	2020	2021	2022	Forecast 2023	2024	2025
Distribution Routine Vegetation Management	Pre-Inspection	Labor	3,244,251	5,642,951	7,380,769	5,097,466	2,776,524	-	-	-
Distribution Routine Vegetation Management	Pre-Inspection	Non-Labor	1,045,191	23,954,752	24,102,250	23,219,474	24,241,722	47,002,013	54,091,548	31,948,589
		Total - Labor	**3,244,251**	**5,642,951**	**7,380,769**	**5,097,466**	**2,776,524**	**-**	**-**	**-**
		Total - Non-Labor	**1,045,191**	**23,954,752**	**24,102,250**	**23,219,474**	**24,241,722**	**47,002,013**	**54,091,548**	**31,948,589**
		Total	**4,289,442**	**29,597,703**	**31,483,018**	**28,316,941**	**27,018,246**	**47,002,013**	**54,091,548**	**31,948,589**

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj. 2018	2019	2020	2021	2022	Forecast 2023	2024	2025
Distribution Routine Vegetation Management	LiDAR - D	Labor	-	20,824	-	(5,668)	1,491	1,353	3,066	178,316
Distribution Routine Vegetation Management	LiDAR - D	Non-Labor	-	(51,100)	2,771,310	1,391,492	990,316	1,039,316	1,500,510	44,377,920
		Total - Labor	**-**	**20,824**	**-**	**(5,668)**	**1,491**	**1,353**	**3,066**	**178,316**
		Total - Non-Labor	**-**	**(51,100)**	**2,771,310**	**1,391,492**	**990,316**	**1,039,316**	**1,500,510**	**44,377,920**
		Total	**-**	**(30,275)**	**2,771,310**	**1,385,823**	**991,807**	**1,040,670**	**1,503,576**	**44,556,236**

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj. 2018	2019	2020	2021	2022	Forecast 2023	2024	2025
Distribution Routine Vegetation Management	Brush Removal	Non-Labor	-	-	-	10,823	1,147,139	-	-	-
Distribution Routine Vegetation Management	Customer Program Support	Labor	-	-	-	-	10,546	-	-	-
Distribution Routine Vegetation Management	Customer Program Support	Non-Labor	-	-	-	4,267,742	27,412,283	16,636,604	17,924,861	17,963,689
Distribution Routine Vegetation Management	Dist High Fire Inspection & Line Clearing	Labor	258,083	972,798	7,100,694	7,252,934	981,078	-	-	-
Distribution Routine Vegetation Management	Dist High Fire Inspection & Line Clearing	Non-Labor	11,181,163	18,230,147	106,877,758	35,298,654	(775,781)	-	-	-
Distribution Routine Vegetation Management	Distribution Trim & Remove Trees	Labor	7,420,121	11,212,436	13,741,748	5,137,171	511,159	-	-	-
Distribution Routine Vegetation Management	Distribution Trim & Remove Trees	Non-Labor	88,934,517	208,057,716	188,526,211	44,157,356	(842,663)	0	-	-
Distribution Routine Vegetation Management	D-Substation Trim & Remove Trees	Labor	-	708	66,456	-	58,587	-	-	-
Distribution Routine Vegetation Management	D-Substation Trim & Remove Trees	Non-Labor	-	9,947	1,454,742	(0)	1,111,849	-	-	-
Distribution Routine Vegetation Management	High Fire Inspection & Line Clearing	Non-Labor	1,922	-	-	(43,378,300)	-	-	-	-
Distribution Routine Vegetation Management	Routine Removals Unit	Labor	-	-	-	36,790	2,764,782	-	-	-
Distribution Routine Vegetation Management	Routine Removals Unit	Non-Labor	-	-	-	10,045,412	41,206,015	52,214,018	57,477,108	57,601,613
Distribution Routine Vegetation Management	Routine Trims Unit	Labor	694,224	1,344,277	4,175,900	11,102,441	17,571,414	17,733,717	17,268,553	16,658,113
Distribution Routine Vegetation Management	Routine Trims Unit	Non-Labor	161,538	305,106	870,610	222,312,462	164,915,642	147,566,511	148,274,680	148,635,507
Distribution Routine Vegetation Management	Traffic Control	Labor	-	-	-	-	(0)	-	-	-
Distribution Routine Vegetation Management	Traffic Control	Non-Labor	-	-	-	5,326,256	23,032,093	20,900,690	20,915,861	20,961,168
Distribution Routine Vegetation Management	Trims + Removals (T&E)	Labor	-	-	-	301,725	2,523,563	-	-	-
Distribution Routine Vegetation Management	Trims + Removals (T&E)	Non-Labor	-	-	-	10,685,627	29,492,538	47,784,881	52,601,521	52,715,465
		Total - Labor	**8,372,427**	**13,530,220**	**25,084,797**	**23,831,061**	**24,421,128**	**17,733,717**	**17,268,553**	**16,658,113**
		Total - Non-Labor	**100,279,139**	**226,602,917**	**297,729,322**	**288,726,032**	**286,699,116**	**285,102,705**	**297,194,032**	**297,877,442**
		Total	**108,651,566**	**240,133,136**	**322,814,119**	**312,557,093**	**311,120,243**	**302,836,422**	**314,462,585**	**314,535,555**

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj. 2018	2019	2020	2021	2022	Forecast 2023	2024	2025
Distribution Routine Vegetation Management	Weed Abatement	Labor	-	-	-	-	-	-	-	-
Distribution Routine Vegetation Management	Weed Abatement	Non-Labor	-	-	-	95,479	149,191	3,882,740	4,702,190	4,285,781
		Total - Labor	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
		Total - Non-Labor	**-**	**-**	**-**	**95,479**	**149,191**	**3,882,740**	**4,702,190**	**4,285,781**
		Total	**-**	**-**	**-**	**95,479**	**149,191**	**3,882,740**	**4,702,190**	**4,285,781**

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj.					Forecast		
			2018	2019	2020	2021	2022	2023	2024	2025
Distribution Routine Vegetation Management	AOC Repairs / Replacements - D	Labor	-	-	-	-	328	-	-	-
Distribution Routine Vegetation Management	AOC Repairs / Replacements - D	Non-Labor	-	-	-	-	409,580	5,201,669	5,640,282	5,655,242
Distribution Routine Vegetation Management	Non-Routine Trim & Remove T&E	Labor	922,685	1,395,423	2,334,146	1,667,438	1,486,808	-	-	-
Distribution Routine Vegetation Management	Non-Routine Trim & Remove T&E	Non-Labor	7,556,526	14,677,854	24,524,772	24,864,968	13,055,358	13,386,295	14,148,127	26,836,133
Distribution Routine Vegetation Management	Seasonal Patrols	Labor	-	-	-	-	1,739	25,439	42,996	71,909
Distribution Routine Vegetation Management	Seasonal Patrols	Non-Labor	-	-	-	2,472,435	10,677,020	19,059,883	20,532,781	5,353,150
		Total - Labor	**922,685**	**1,395,423**	**2,334,146**	**1,667,816**	**1,488,874**	**25,439**	**42,996**	**71,909**
		Total - Non-Labor	**7,556,526**	**14,677,854**	**24,524,772**	**27,337,403**	**24,141,958**	**37,647,848**	**40,321,190**	**37,844,525**
		Total	**8,479,210**	**16,073,277**	**26,858,918**	**29,005,219**	**25,630,833**	**37,673,286**	**40,364,186**	**37,916,434**

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj.					Forecast		
			2018	2019	2020	2021	2022	2023	2024	2025
Distribution Routine Vegetation Management	Distribution Quality Assurance/Check	Labor	-	83,680	1,723,108	-	-	9,371	15,944	34,643
Distribution Routine Vegetation Management	Distribution Quality Assurance/Check	Non-Labor	-	985,993	4,724,213	3,192,168	3,648,193	7,020,997	7,614,300	8,411,567
		Total - Labor	**-**	**83,680**	**1,723,108**	**3,192,168**	**3,648,193**	**7,030,367**	**7,630,244**	**8,446,210**
		Total - Non-Labor	**-**	**985,993**	**4,724,213**	**3,192,168**	**3,648,193**	**7,020,997**	**7,614,300**	**8,411,587**
		Total	**-**	**1,068,673**	**4,725,321**	**3,192,168**	**3,648,193**	**7,030,368**	**7,630,244**	**8,446,230**

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj.					Forecast		
			2018	2019	2020	2021	2022	2023	2024	2025
Distribution Routine Vegetation Management	Structure Brushing	Labor	-	(0)	-	-	0	31,802	54,359	107,683
Distribution Routine Vegetation Management	Structure Brushing	Non-Labor	-	3,986,471	13,782,015	14,650,062	10,810,645	23,827,611	25,958,982	25,657,999
		Total - Labor	**-**	**(0)**	**-**	**-**	**0**	**31,802**	**54,359**	**107,683**
		Total - Non-Labor	**-**	**3,986,471**	**13,782,015**	**14,650,062**	**10,810,645**	**23,827,611**	**25,958,982**	**25,657,999**
		Total	**-**	**3,986,471**	**13,782,015**	**14,650,062**	**10,810,645**	**23,859,413**	**26,013,341**	**25,765,682**

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj.					Forecast		
			2018	2019	2020	2021	2022	2023	2024	2025
Distribution Routine Vegetation Management	Environmental Support	Labor	-	-	-	55,477	498,227	301,925	302,530	308,351
Distribution Routine Vegetation Management	Environmental Support	Non-Labor	-	-	-	21,685,668	22,728,433	23,669,669	26,456,027	29,039,625
		Total - Labor	**-**	**-**	**-**	**55,477**	**498,227**	**301,925**	**302,530**	**308,351**
		Total - Non-Labor	**-**	**-**	**-**	**21,685,668**	**22,728,433**	**23,669,669**	**26,456,027**	**29,039,625**
		Total	**-**	**-**	**-**	**21,741,144**	**23,226,660**	**23,971,595**	**26,758,556**	**29,347,976**

3. Fire Hazard Prevention

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj.					Forecast		
			2018	2019	2020	2021	2022	2023	2024	2025
Fire Hazard Prevention	Expanded Clearance	Labor	1,652	1	26,579	8,545	4,628	-	-	-
Fire Hazard Prevention	Expanded Clearance	Non-Labor	416,239	325	833,224	383,545	73,900	813,726	797,770	1,058,181
		Total - Labor	**1,652**	**1**	**26,579**	**8,545**	**4,628**	**-**	**-**	**-**
		Total - Non-Labor	**416,239**	**325**	**833,224**	**383,545**	**73,900**	**813,726**	**797,770**	**1,058,181**
		Total	**417,891**	**326**	**859,803**	**392,090**	**78,528**	**813,726**	**797,770**	**1,058,181**

4. Transmission Routine Veg Mgmt

GRC Activity	Cost Type	Recorded/Adj.					Forecast		
		2018	2019	2020	2021	2022	2023	2024	2025
	Total - Labor	**1,249,091**	**1,829,025**	**2,124,603**	**1,378,753**	**1,245,994**	**60,662**	**63,792**	**84,985**
	Total - Non-Labor	**21,524,614**	**44,205,757**	**57,509,368**	**45,923,696**	**30,827,821**	**54,911,103**	**62,416,900**	**63,608,778**
Transmission Routine Vegetation Management	**Grand Total**	**22,773,705**	**46,034,782**	**59,633,971**	**47,302,449**	**32,073,815**	**54,971,764**	**62,480,691**	**63,693,763**

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj.					Forecast		
			2018	2019	2020	2021	2022	2023	2024	2025
Transmission Routine Vegetation Management	Pre-Inspection	Labor	-	44,089	45,770	50,683	71,745	-	-	-
Transmission Routine Vegetation Management	Pre-Inspection	Non-Labor	-	2,161,317	2,042,949	2,556,807	2,572,240	7,944,495	9,137,918	5,388,707
		Total - Labor	**-**	**44,089**	**45,770**	**50,683**	**71,745**	**-**	**-**	**-**
		Total - Non-Labor	**-**	**2,161,317**	**2,042,949**	**2,556,807**	**2,572,240**	**7,944,495**	**9,137,918**	**5,388,707**
		Total	**-**	**2,161,317**	**2,042,949**	**2,556,807**	**2,572,240**	**7,944,495**	**9,137,918**	**5,388,707**

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj.					Forecast		
			2018	2019	2020	2021	2022	2023	2024	2025
Transmission Routine Vegetation Management	LiDAR - T	Labor	-	157,745	265,277	286,766	148,076	-	-	-
Transmission Routine Vegetation Management	LiDAR - T	Non-Labor	-	5,212,430	2,009,293	3,943,692	1,945,753	4,953,271	5,811,786	11,156,601
		Total - Labor	**-**	**157,745**	**265,277**	**286,766**	**148,076**	**-**	**-**	**-**
		Total - Non-Labor	**-**	**5,212,430**	**2,009,293**	**3,943,692**	**1,945,753**	**4,953,271**	**5,811,786**	**11,156,601**
		Total	**-**	**5,370,175**	**2,274,570**	**4,230,458**	**2,093,829**	**4,953,271**	**5,811,786**	**11,156,601**

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj.					Forecast		
			2018	2019	2020	2021	2022	2023	2024	2025
Transmission Routine Vegetation Management	Brush Removal	Labor	-	-	-	2,800	53,098	-	-	-
Transmission Routine Vegetation Management	Brush Removal	Non-Labor	-	-	-	143,662	2,157,418	-	-	-
Transmission Routine Vegetation Management	Customer Program Support	Labor	-	-	-	4,169	42,316	-	-	-
Transmission Routine Vegetation Management	Customer Program Support	Non-Labor	-	-	-	335,600	1,301,259	-	-	-
Transmission Routine Vegetation Management	Routine Removals Unit	Labor	-	-	-	71	34,356	-	-	-
Transmission Routine Vegetation Management	Routine Removals Unit	Non-Labor	-	-	-	8,382	1,340,465	8,486,280	9,315,712	9,333,094
Transmission Routine Vegetation Management	Routine Trims Unit	Labor	-	-	-	214,873	371,008	-	-	-
Transmission Routine Vegetation Management	Routine Trims Unit	Non-Labor	-	-	-	10,145,481	9,612,868	14,007,992	15,377,104	14,245,760
Transmission Routine Vegetation Management	Traffic Control	Labor	-	-	-	557	2,304	-	-	-
Transmission Routine Vegetation Management	Traffic Control	Non-Labor	-	-	-	28,269	92,234	-	-	-
Transmission Routine Vegetation Management	Trans High Fire Inspection & Line Clearing	Labor	-	327	305,314	282,265	12,757	-	-	-
Transmission Routine Vegetation Management	Trans High Fire Inspection & Line Clearing	Non-Labor	-	20,993	13,984,473	4,937,446	148,423	-	-	-
Transmission Routine Vegetation Management	Transmission Trim & Remove Trees	Labor	1,249,091	1,441,093	1,269,875	252,023	66,351	-	-	-
Transmission Routine Vegetation Management	Transmission Trim & Remove Trees	Non-Labor	21,524,614	35,980,760	35,091,178	15,610,852	(1,190,624)	-	-	-
Transmission Routine Vegetation Management	Trims + Removals (T&E)	Labor	-	-	-	11,196	82,101	-	-	-
Transmission Routine Vegetation Management	Trims + Removals (T&E)	Non-Labor	-	-	-	2,108,895	2,636,877	7,766,418	8,525,491	8,541,399
Transmission Routine Vegetation Management	T-Substation Trim & Remove Trees	Labor	-	184,355	229,127	120,165	43,949	-	-	-
Transmission Routine Vegetation Management	T-Substation Trim & Remove Trees	Non-Labor	-	663,789	3,549,318	1,651,163	558,207	-	-	-
		Total - Labor	**1,249,091**	**1,625,776**	**1,804,315**	**888,120**	**708,240**	**-**	**-**	**-**
		Total - Non-Labor	**21,524,614**	**36,665,542**	**53,124,970**	**34,969,749**	**16,657,127**	**30,260,690**	**33,218,306**	**32,120,252**
		Total	**22,773,705**	**38,291,318**	**54,929,285**	**35,857,869**	**17,365,367**	**30,260,690**	**33,218,306**	**32,120,252**

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj.					Forecast		
			2018	2019	2020	2021	2022	2023	2024	2025
Transmission Routine Vegetation Management	Weed Abatement	Labor	-	-	-	113,817	109,157	-	-	-
Transmission Routine Vegetation Management	Weed Abatement	Non-Labor	-	-	-	1,874,488	3,638,737	-	-	-
Transmission Routine Vegetation Management	Fuel Management - T	Labor	-	-	-	-	3,025	-	-	-
Transmission Routine Vegetation Management	Fuel Management - T	Non-Labor	-	-	-	-	20,406	3,787,631	4,086,266	5,503,370
		Total - Labor	**-**	**-**	**-**	**113,817**	**112,182**	**-**	**-**	**-**
		Total - Non-Labor	**-**	**-**	**-**	**1,874,488**	**3,659,143**	**3,787,631**	**4,086,266**	**5,503,370**
		Total	**-**	**-**	**-**	**1,988,306**	**3,771,325**	**3,787,631**	**4,086,266**	**5,503,370**

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj.					Forecast		
			2018	2019	2020	2021	2022	2023	2024	2025
Transmission Routine Vegetation Management	Seasonal Patrols	Labor	-	-	-	694	860	5,691	8,253	23,464
Transmission Routine Vegetation Management	Seasonal Patrols	Non-Labor	-	-	-	67,314	9,426	1,100,841	1,210,926	479,851
		Total - Labor	**-**	**-**	**-**	**694**	**860**	**5,691**	**8,253**	**23,464**
		Total - Non-Labor	**-**	**-**	**-**	**67,314**	**9,426**	**1,100,841**	**1,210,926**	**479,851**
		Total	**-**	**-**	**-**	**68,009**	**10,286**	**1,106,532**	**1,219,179**	**503,314**

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj.					Forecast		
			2018	2019	2020	2021	2022	2023	2024	2025
Transmission Routine Vegetation Management	Transmission Quality Assurance/Check	Labor	-	1,416	9,240	11,047	52,019	-	-	-
Transmission Routine Vegetation Management	Transmission Quality Assurance/Check	Non-Labor	-	165,468	332,156	506,837	1,822,807	3,801,171	4,223,578	4,271,880
		Total - Labor	**-**	**1,416**	**9,240**	**11,047**	**52,019**	**-**	**-**	**-**
		Total - Non-Labor	**-**	**165,468**	**332,156**	**506,837**	**1,822,807**	**3,801,171**	**4,223,578**	**4,271,880**
		Total	**-**	**166,884**	**341,396**	**517,884**	**1,874,827**	**3,801,171**	**4,223,578**	**4,271,880**

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj.					Forecast		
			2018	2019	2020	2021	2022	2023	2024	2025
Transmission Routine Vegetation Management	Environmental Support	Labor	-	-	-	27,625	152,872	54,971	55,539	61,521
Transmission Routine Vegetation Management	Environmental Support	Non-Labor	-	-	-	2,004,808	4,161,325	3,063,004	4,728,120	4,688,116
		Total - Labor	**-**	**-**	**-**	**27,625**	**152,872**	**54,971**	**55,539**	**61,521**
		Total - Non-Labor	**-**	**-**	**-**	**2,004,808**	**4,161,325**	**3,063,004**	**4,728,120**	**4,688,116**
		Total	**-**	**-**	**-**	**2,032,433**	**4,314,197**	**3,117,975**	**4,783,658**	**4,749,637**

5. Wildfire Mitigation and Vegetation Management Technology Solutions

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj.					Forecast		
			2018	2019	2020	2021	2022	2023	2024	2025
Wildfire Mitigation and Vegetation Management Tech	Technology Solutions	Labor	-	-	2,693	7,712	385,992	-	-	-
Wildfire Mitigation and Vegetation Management Tech	Technology Solutions	Non-Labor	-	-	1,159,108	658,477	2,900,043	3,725,610	3,844,708	3,730,544
		Total - Labor	**-**	**-**	**2,693**	**7,712**	**385,992**	**-**	**-**	**-**
		Total - Non-Labor	**-**	**-**	**1,159,108**	**658,477**	**2,900,043**	**3,725,610**	**3,844,708**	**3,730,544**
		Total	**-**	**-**	**1,161,801**	**666,189**	**3,286,035**	**3,725,610**	**3,844,708**	**3,730,544**

6. Wildfire Vegetation Management

GRC Activity	Cost Type	Recorded/Adj.					Forecast		
		2018	2019	2020	2021	2022	2023	2024	2025
Wildfire Vegetation Management	Total - Labor	-	2	228,427	448,494	614,636	259,029	218,632	220,986	236,027
Wildfire Vegetation Management	Total - Non-Labor	5,765	19,272,058	59,459,712	36,885,996	29,285,528	45,894,437	59,037,212	53,983,949
	Grand Total	5,767	19,500,485	59,908,206	37,500,632	29,544,557	46,113,069	59,258,198	54,219,370

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj.					Forecast		
			2018	2019	2020	2021	2022	2023	2024	2025
Wildfire Vegetation Management	Hazard Tree Inspection	Labor	-	(0)	457	-	-	-	-	-
Wildfire Vegetation Management	Hazard Tree Inspection	Non-Labor	-	4,596,344	5,780,980	8,359,166	6,001,785	-	-	-
		Total - Labor	-	(0)	457	-	-	-	-	-
		Total - Non-Labor	-	4,596,344	5,780,980	8,359,166	6,001,785	-	-	-
		Total	-	4,596,344	5,781,436	8,359,166	6,001,785	-	-	-

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj.					Forecast		
			2018	2019	2020	2021	2022	2023	2024	2025
Wildfire Vegetation Management	Hazard Tree Mitigation	Labor	2	22,472	-	-	3,970	600	1,095	2,749
Wildfire Vegetation Management	Hazard Tree Mitigation	Non-Labor	5,765	571,733	850,641	380,114	1,548,900	223,845	310,415	275,533
		Total - Labor	2	22,472	-	-	3,970	600	1,095	2,749
		Total - Non-Labor	5,765	571,733	850,641	380,114	1,548,900	223,845	310,415	275,533
		Total	5,767	594,205	850,641	380,114	1,552,870	224,444	311,510	278,283

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj.					Forecast		
			2018	2019	2020	2021	2022	2023	2024	2025
Wildfire Vegetation Management	Hazard Tree Program Management	Labor	-	152,338	323,581	225,066	104,159	-	-	-
Wildfire Vegetation Management	Hazard Tree Program Management	Non-Labor	-	165,153	1,948,513	3,087,965	717,925	-	-	-
		Total - Labor	-	152,338	323,581	225,066	104,159	-	-	-
		Total - Non-Labor	-	165,153	1,948,513	3,087,965	717,925	-	-	-
		Total	-	317,491	2,272,093	3,313,031	822,084	-	-	-

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj.					Forecast		
			2018	2019	2020	2021	2022	2023	2024	2025
Wildfire Vegetation Management	Hazard Tree Property Owner Incentives	Labor	-	-	-	-	-	237	432	1,086
Wildfire Vegetation Management	Hazard Tree Property Owner Incentives	Non-Labor	-	-	-	39,501	3,058	88,379	122,560	108,788
		Total - Labor	-	-	-	-	-	237	432	1,086
		Total - Non-Labor	-	-	-	39,501	3,058	88,379	122,560	108,788
		Total	-	-	-	39,501	3,058	88,616	122,993	109,874

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj.					Forecast		
			2018	2019	2020	2021	2022	2023	2024	2025
Wildfire Vegetation Management	Hazard Tree Removal	Labor	-	53,617	124,457	389,570	37,597	-	-	-
Wildfire Vegetation Management	Hazard Tree Removal	Non-Labor	-	13,938,828	50,879,578	25,019,251	12,950,257	36,320,602	49,653,432	43,813,943
		Total - Labor	-	53,617	124,457	389,570	37,597	-	-	-
		Total - Non-Labor	-	13,938,828	50,879,578	25,019,251	12,950,257	36,320,602	49,653,432	43,813,943
		Total	-	13,992,445	51,004,035	25,408,821	12,987,854	36,320,602	49,653,432	43,813,943

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj.					Forecast		
			2018	2019	2020	2021	2022	2023	2024	2025
Wildfire Vegetation Management	Environmental Support - HTMP	Labor	-	-	-	-	43,052	77,566	78,159	82,693
Wildfire Vegetation Management	Environmental Support - HTMP	Non-Labor	-	-	-	-	2,760,756	4,418,647	4,499,718	4,257,500
		Total - Labor	-	-	-	-	43,052	77,566	78,159	82,693
		Total - Non-Labor	-	-	-	-	2,760,756	4,418,647	4,499,718	4,257,500
		Total	-	-	-	-	2,803,808	4,496,213	4,577,877	4,340,193

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj.					Forecast		
			2018	2019	2020	2021	2022	2023	2024	2025
Wildfire Vegetation Management	Environmental Support - Structure Brushing	Labor	-	-	-	-	70,251	140,229	141,300	149,499
Wildfire Vegetation Management	Environmental Support - Structure Brushing	Non-Labor	-	-	-	-	5,302,847	4,842,964	4,451,086	5,527,579
		Total - Labor	-	-	-	-	70,251	140,229	141,300	149,499
		Total - Non-Labor	-	-	-	-	5,302,847	4,842,964	4,451,086	5,527,579
		Total	-	-	-	-	5,373,099	4,983,193	4,592,386	5,677,078

CAPITAL

1. Wildfire Mitigation and Vegetation Management Technology Solutions

GRC Activity	Sub-work Activity	C-WBS	Recorded/Adj.					Forecast				
			2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Wildfire Mitigation and Vegetation Management	Technology Solutions	CIT00WMCSB22406	-	4,218,619	16,146,819	11,005,183	7,124,000	2,602,566	2,746,924	2,436,574	4,768,588	2,649,393	2,745,519
Technology Solutions		**Total**	**-**	**4,218,619**	**16,146,819**	**11,005,183**	**7,124,000**	**2,602,566**	**2,746,924**	**2,436,574**	**4,768,588**	**2,649,393**	**2,745,519**

SCE-02, Vol. 10A
Testimony to GRC Activity to Sub-work Activity Mapping
(The data below reflects the underlying GRC activity and sub-work activity amounts comprising the recorded and forecast O&M expenses in each section of SCE-02, Vol. 10.)
O&M

1. Ground Inspections (Section II.B.1.a)(1))

			Recorded/Adj.					Forecast				
GRC Activity	Sub-work Activity	Cost Type	2018	2019	2020	2021	2022	2023	2024	2025	Workpaper Reference	Testimony Table/Figure Reference
Distribution Routine Vegetation Management	Pre-Inspection	Labor	3,244,251	5,642,951	7,380,769	5,097,466	2,776,524	-	-	-	WP SCE-02, Vol. 10 – Forecast O&M Expenses Workpaper for Traditional Ground Inspections	Table II-7, Table II-8, Table II-9, Table II- 10, Table II-12, Figure II-5
Distribution Routine Vegetation Management	Pre-Inspection	Non-Labor	1,045,191	23,954,752	24,102,250	23,219,474	24,241,722	47,002,013	54,091,548	31,948,589		
Transmission Routine Vegetation Management	Pre-Inspection	Labor	-	44,089	45,770	50,683	71,745	-	-	-		
Transmission Routine Vegetation Management	Pre-Inspection	Non-Labor	-	2,161,317	2,042,949	2,556,807	2,572,240	7,944,495	9,137,918	5,388,707		
		Total - Labor	**3,244,251**	**5,687,040**	**7,426,539**	**5,148,150**	**2,848,269**	-	-	-		
		Total - Non-Labor	**1,045,191**	**26,116,069**	**26,145,198**	**25,776,281**	**26,813,962**	**54,946,508**	**63,229,465**	**37,337,296**		
		Total	**4,289,442**	**31,803,108**	**33,571,737**	**30,924,430**	**29,662,231**	**54,946,508**	**63,229,465**	**37,337,296**		

2. Remote Sensing (Section II.B.1.a)(2))

			Recorded/Adj.					Forecast				
GRC Activity	Sub-work Activity	Cost Type	2018	2019	2020	2021	2022	2023	2024	2025	Workpaper Reference	Testimony Table/Figure Reference
Distribution Routine Vegetation Management	LiDAR - D	Labor	-	20,824	-	(5,668)	1,491	1,353	3,066	178,316	WP SCE-02, Vol. 10 – Forecast O&M Expenses Workpaper for Remote Sensing	Table II-7, Table II-8, Table II-9, Table II-11, Table II-12, Figure II-6
Distribution Routine Vegetation Management	LiDAR - D	Non-Labor	-	(51,100)	2,771,310	1,391,492	990,316	1,039,316	1,500,510	44,377,920		
Transmission Routine Vegetation Management	LiDAR - T	Labor	-	157,745	265,277	286,766	148,076	-	-	-		
Transmission Routine Vegetation Management	LiDAR - T	Non-Labor	-	5,212,430	2,009,293	3,943,692	1,945,753	4,953,271	5,811,786	11,156,601		
		Total - Labor	**-**	**178,569**	**265,277**	**281,098**	**149,567**	**1,353**	**3,066**	**178,316**		
		Total - Non-Labor	**-**	**5,161,330**	**4,780,603**	**5,335,184**	**2,936,069**	**5,992,587**	**7,312,297**	**55,534,521**		
		Total	**-**	**5,339,899**	**5,045,880**	**5,616,281**	**3,085,636**	**5,993,940**	**7,315,362**	**55,712,837**		

3. Routine Line Clearing (Section II.B.1.b)

			Recorded/Adj.					Forecast				
GRC Activity	Sub-work Activity	Cost Type	2018	2019	2020	2021	2022	2023	2024	2025	Workpaper Reference	Testimony Table/Figure Reference
Distribution Routine Vegetation Management	Brush Removal	Non-Labor	-	-	-	10,823	1,147,139	-	-	-	WP SCE-02, Vol. 10 – Forecast O&M Expenses Workpaper for Routine Line Clearing	Table II-7, Table II-8, Table II-13, Figure II-11
Distribution Routine Vegetation Management	Customer Program Support	Labor	-	-	-	-	103,546	-	-	-		
Distribution Routine Vegetation Management	Customer Program Support	Non-Labor	-	-	-	4,267,742	27,412,283	16,636,604	17,924,861	17,963,689		
Distribution Routine Vegetation Management	Dist High Fire Inspection & Line Clearing	Labor	258,083	972,798	7,100,694	7,252,934	981,078	-	-	-		
Distribution Routine Vegetation Management	Dist High Fire Inspection & Line Clearing	Non-Labor	11,181,163	18,230,147	106,877,758	35,298,654	(77,578)	-	-	-		
Distribution Routine Vegetation Management	Distribution Trim & Remove Trees	Labor	7,420,121	11,212,436	13,741,748	5,137,171	511,159	-	-	-		
Distribution Routine Vegetation Management	Distribution Trim & Remove Trees	Non-Labor	88,934,517	208,057,716	188,526,211	44,157,356	(84,263)	(0)	-	-		
Distribution Routine Vegetation Management	D- Substation Trim & Remove Trees	Labor	-	708	6,646	-	58,587	-	-	-		
Distribution Routine Vegetation Management	D- Substation Trim & Remove Trees	Non-Labor	-	9,947	1,454,742	(0)	1,111,849	-	-	-		
Distribution Routine Vegetation Management	High Fire Inspection & Line Clearing	Non-Labor	1,922	-	-	(43,378,300)		-	-	-		
Distribution Routine Vegetation Management	Routine Removals Unit	Labor	-	-	-	36,790	2,764,782	-	-	-		
Distribution Routine Vegetation Management	Routine Removals Unit	Non-Labor	-	-	-	10,045,412	41,206,015	52,214,018	57,477,108	57,601,613		
Distribution Routine Vegetation Management	Routine Trims Unit	Labor	694,224	1,344,277	4,175,900	11,102,441	17,571,414	17,733,717	17,268,553	16,658,113		
Distribution Routine Vegetation Management	Routine Trims Unit	Non-Labor	161,538	305,106	870,610	2,222,312,462	164,915,642	147,566,511	148,274,680	148,635,507		
Distribution Routine Vegetation Management	Traffic Control	Labor	-	-	-	-	(0)	-	-	-		
Distribution Routine Vegetation Management	Traffic Control	Non-Labor	-	-	-	5,326,256	23,032,093	20,900,690	20,915,861	20,961,168		
Distribution Routine Vegetation Management	Trims + Removals (T&E)	Labor	-	-	-	301,725	2,523,563	-	-	-		
Distribution Routine Vegetation Management	Trims + Removals (T&E)	Non-Labor	-	-	-	10,685,627	29,492,538	47,784,881	52,601,521	52,715,465		
Transmission Routine Vegetation Management	Brush Removal	Labor	-	-	-	2,800	53,098	-	-	-		
Transmission Routine Vegetation Management	Brush Removal	Non-Labor	-	-	-	143,662	2,157,418	-	-	-		
Transmission Routine Vegetation Management	Customer Program Support	Labor	-	-	-	4,169	42,316	-	-	-		
Transmission Routine Vegetation Management	Customer Program Support	Non-Labor	-	-	-	335,600	1,301,259	-	-	-		
Transmission Routine Vegetation Management	Routine Removals Unit	Labor	-	-	-	71	34,356	-	-	-		
Transmission Routine Vegetation Management	Routine Removals Unit	Non-Labor	-	-	-	8,382	1,340,465	8,486,280	9,315,712	9,333,094		
Transmission Routine Vegetation Management	Routine Trims Unit	Labor	-	-	-	214,873	371,008	-	-	-		
Transmission Routine Vegetation Management	Routine Trims Unit	Non-Labor	-	-	-	10,145,481	9,612,868	14,007,992	15,377,104	14,245,760		
Transmission Routine Vegetation Management	Traffic Control	Labor	-	-	-	557	2,304	-	-	-		
Transmission Routine Vegetation Management	Traffic Control	Non-Labor	-	-	-	28,269	92,234	-	-	-		
Transmission Routine Vegetation Management	Trans High Fire Inspection & Line Clearing	Labor	-	327	30,534	282,265	12,757	-	-	-		
Transmission Routine Vegetation Management	Trans High Fire Inspection & Line Clearing	Non-Labor	-	20,993	13,984,473	4,937,446	148,423	-	-	-		
Transmission Routine Vegetation Management	Transmission Trim & Remove Trees	Labor	1,249,091	1,441,093	1,269,875	252,023	66,351	-	-	-		
Transmission Routine Vegetation Management	Transmission Trim & Remove Trees	Non-Labor	21,524,614	35,980,760	35,591,178	15,610,852	(1,190,624)	-	-	-		
Transmission Routine Vegetation Management	Trims + Removals (T&E)	Labor	-	-	-	11,196	82,101	-	-	-		
Transmission Routine Vegetation Management	Trims + Removals (T&E)	Non-Labor	-	-	-	2,108,895	2,636,877	7,766,418	8,525,491	8,541,399		
Transmission Routine Vegetation Management	T-Substation Trim & Remove Trees	Labor	-	184,355	229,127	120,165	43,949	-	-	-		
Transmission Routine Vegetation Management	T-Substation Trim & Remove Trees	Non-Labor	-	663,789	3,549,318	1,651,163	558,207	-	-	-		
Fire Hazard Prevention	Expanded Clearance	Labor	1,652	1	26,579	8,545	46,128	-	-	-		
Fire Hazard Prevention	Expanded Clearance	Non-Labor	416,239	325	833,224	383,545	73,900	813,726	797,770	1,058,181		
		Total - Labor	**9,623,169**	**15,155,997**	**26,915,692**	**24,727,726**	**25,133,996**	**17,733,717**	**17,268,553**	**16,658,113**		
		Total - Non-Labor	**122,219,993**	**263,268,784**	**351,687,515**	**324,079,326**	**303,430,143**	**316,177,120**	**331,210,108**	**331,005,675**		
		Total	**131,843,162**	**278,424,780**	**378,603,207**	**348,807,052**	**328,564,139**	**333,910,838**	**348,478,661**	**347,713,988**		

4. Weed Abatement/Fuel Management (Section II.B.1.c))

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj. 2018	2019	2020	2021	2022	Forecast 2023	2024	2025	Workpaper Reference	Testimony Table/Figure Reference
Distribution Routine Vegetation Management	Weed Abatement	Labor	-	-	-	-	-	-	-	-	WP SCE-02, Vol. 10 – Forecast O&M Expenses Workpaper for Weed Abatement	Table II-7, Table II-8, Table II-17, Table II-18, Table II-19, Figure II-12
Distribution Routine Vegetation Management	Weed Abatement	Non-Labor	-	-	-	95,479	149,191	3,882,740	4,702,190	4,285,781		
Transmission Routine Vegetation Management	Weed Abatement	Labor	-	-	-	113,817	109,157	-	-	-		
Transmission Routine Vegetation Management	Weed Abatement	Non-Labor	-	-	-	1,874,488	3,638,737	-	-	-		
Transmission Routine Vegetation Management	Fuel Management - T	Labor	-	-	-	-	3,025	-	-	-	WP SCE-02, Vol. 10 – Forecast O&M Expenses Workpaper for Fuel Management	Table II-7, Table II-8, Table II-17, Table II-19, Table II-21, Figure II-12
Transmission Routine Vegetation Management	Fuel Management - T	Non-Labor	-	-	-	-	20,406	3,787,631	4,086,266	5,503,370		
		Total - Labor	**-**	**-**	**-**	**113,817**	**112,182**	**-**	**-**	**-**		
		Total - Non-Labor	**-**	**-**	**-**	**1,969,967**	**3,808,334**	**7,670,371**	**8,788,456**	**9,789,152**		
		Total	**-**	**-**	**-**	**2,083,785**	**3,920,516**	**7,670,371**	**8,788,456**	**9,789,152**		

5. Seasonal Patrols/Areas-of-Concern/Emergent Work (Section II.B.1.d))

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj. 2018	2019	2020	2021	2022	Forecast 2023	2024	2025	Workpaper Reference	Testimony Table/Figure Reference
Distribution Routine Vegetation Management	AOC Repairs / Replacements - D	Labor	-	-	-	-	328	-	-	-	WP SCE-02, Vol. 10 – Forecast O&M Expenses Workpaper for Seasonal Patrols, Areas-of-Concern, and Emergent Work	Table II-7, Table II-8, Table II-22, Table II-23, Figure II-13
Distribution Routine Vegetation Management	AOC Repairs / Replacements - D	Non-Labor	-	-	-	-	409,580	5,201,669	5,640,282	5,655,242		
Distribution Routine Vegetation Management	Non-Routine Trim & Remove T&E	Labor	922,685	1,395,423	2,334,146	1,667,438	1,486,808	-	-	-		
Distribution Routine Vegetation Management	Non-Routine Trim & Remove T&E	Non-Labor	7,556,526	14,677,854	24,524,772	24,864,968	13,055,358	13,386,295	14,148,127	26,836,133		
Distribution Routine Vegetation Management	Seasonal Patrols	Labor	-	-	-	378	1,739	25,439	42,996	71,909		
Distribution Routine Vegetation Management	Seasonal Patrols	Non-Labor	-	-	-	2,472,435	10,677,020	19,059,883	20,532,781	5,353,150		
Transmission Routine Vegetation Management	Seasonal Patrols	Labor	-	-	-	694	860	5,691	8,253	23,464		
Transmission Routine Vegetation Management	Seasonal Patrols	Non-Labor	-	-	-	67,314	9,426	1,100,841	1,210,926	479,851		
		Total - Labor	**922,685**	**1,395,423**	**2,334,146**	**1,668,510**	**1,489,734**	**31,129**	**51,249**	**95,372**		
		Total - Non-Labor	**7,556,526**	**14,677,854**	**24,524,772**	**27,404,717**	**24,151,384**	**38,748,689**	**41,532,116**	**38,324,376**		
		Total	**8,479,210**	**16,073,277**	**26,858,918**	**29,073,228**	**25,641,118**	**38,779,818**	**41,583,365**	**38,419,748**		

6. Hazard Tree Management Program (Section II.B.2.a))

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj. 2018	2019	2020	2021	2022	Forecast 2023	2024	2025	Workpaper Reference	Testimony Table/Figure Reference
Wildfire Vegetation Management	Hazard Tree Inspection	Labor	-	(0)	457	-	-	-	-	-	WP SCE-02, Vol. 10 – Forecast O&M Expenses Workpaper for HTMP	Table II-7, Table II-25, Table II-27, Figure II-15
Wildfire Vegetation Management	Hazard Tree Inspection	Non-Labor	-	4,596,344	5,780,980	8,359,166	6,001,785	-	-	-		
Wildfire Vegetation Management	Hazard Tree Mitigation	Labor	2	22,472	-	-	3,970	600	1,095	2,749		
Wildfire Vegetation Management	Hazard Tree Mitigation	Non-Labor	5,765	571,733	850,641	380,114	1,548,900	223,845	310,415	275,533		
Wildfire Vegetation Management	Hazard Tree Program Management	Labor	-	152,338	323,581	225,066	104,159	-	-	-		
Wildfire Vegetation Management	Hazard Tree Program Management	Non-Labor	-	165,153	1,948,513	3,087,965	717,925	-	-	-		
Wildfire Vegetation Management	Hazard Tree Property Owner Incentives	Labor	-	-	-	-	-	237	432	1,086		
Wildfire Vegetation Management	Hazard Tree Property Owner Incentives	Non-Labor	-	-	-	39,501	3,058	88,379	122,560	108,788		
Wildfire Vegetation Management	Hazard Tree Removal	Labor	-	53,617	124,457	389,570	37,597	-	-	-		
Wildfire Vegetation Management	Hazard Tree Removal	Non-Labor	-	13,938,828	50,879,578	25,019,251	12,950,257	36,320,602	49,653,432	43,813,943		
		Total - Labor	**2**	**228,427**	**448,494**	**614,636**	**145,726**	**837**	**1,527**	**3,835**		
		Total - Non-Labor	**5,765**	**19,272,058**	**59,459,712**	**36,885,996**	**21,221,924**	**36,632,826**	**50,086,408**	**44,198,264**		
		Total	**5,767**	**19,500,485**	**59,908,206**	**37,500,632**	**21,367,650**	**36,633,663**	**50,087,935**	**44,202,099**		

7. Dead, Dying, and Diseased Tree Removal (Section II.B.2.b))

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj. 2018	2019	2020	2021	2022	Forecast 2023	2024	2025	Workpaper Reference	Testimony Table/Figure Reference
Dead, Dying and Diseased Tree Removal	Bark Beetle Remediation	Labor	444,692	572,966	1,033,205	(1,606)	104,134	-	-	-	WP SCE-02, Vol. 10 – Forecast O&M Expenses Workpaper for Dead, Dying and Diseased Tree Removal	Table II-7, Table II-25, Table II-29, Figure II-16
Dead, Dying and Diseased Tree Removal	Bark Beetle Remediation	Non-Labor	130,423	249,316	336,427	(67)	295,953	-	-	-		
Dead, Dying and Diseased Tree Removal	Drought Tree Removal	Labor	4,170,746	1,599,627	1,582,746	1,223,167	1,683,790	-	-	-		
Dead, Dying and Diseased Tree Removal	Drought Tree Removal	Non-Labor	41,094,846	37,021,981	41,336,015	17,367,116	22,319,996	24,774,589	27,707,444	30,203,738		
		Total - Labor	**4,615,437**	**2,172,594**	**2,615,951**	**1,221,561**	**1,787,924**	**-**	**-**	**-**		
		Total - Non-Labor	**41,225,269**	**37,271,297**	**41,672,442**	**17,367,049**	**22,615,949**	**24,774,589**	**27,707,444**	**30,203,738**		
		Grand Total	**45,840,706**	**39,443,891**	**44,288,393**	**18,588,610**	**24,403,873**	**24,774,589**	**27,707,444**	**30,203,738**		

8. Structure Brushing (Section II.B.3)

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj. 2018	2019	2020	2021	2022	Forecast 2023	2024	2025	Workpaper Reference	Testimony Table/Figure Reference
Distribution Routine Vegetation Management	Structure Brushing	Labor	-	(0)	-	-	0	31,802	54,359	107,683	WP SCE-02, Vol. 10 – Forecast O&M Expenses Workpaper for Structure Brushing	Table II-7, Table II-31, Figure II-19
Distribution Routine Vegetation Management	Structure Brushing	Non-Labor	-	3,986,471	13,782,015	14,650,062	10,810,645	23,827,611	25,958,982	25,657,999		
		Total - Labor	**-**	**(0)**	**-**	**-**	**0**	**31,802**	**54,359**	**107,683**		
		Total - Non-Labor	**-**	**3,986,471**	**13,782,015**	**14,650,062**	**10,810,645**	**23,827,611**	**25,958,982**	**25,657,999**		
		Total	**-**	**3,986,471**	**13,782,015**	**14,650,062**	**10,810,645**	**23,859,413**	**26,013,341**	**25,765,682**		

9. Quality Control (Section II.B.4)

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj. 2018	2019	2020	2021	2022	Forecast 2023	2024	2025	Workpaper Reference	Testimony Table/Figure Reference
Distribution Routine Vegetation Management	Distribution Quality Assurance/Check	Labor	-	81,680	1,108	-	-	9,371	15,944	34,643	WP SCE-02, Vol. 10 – Forecast O&M Expenses Workpaper for Quality Control	Table II-7, Table II-34, Figure II-20
Distribution Routine Vegetation Management	Distribution Quality Assurance/Check	Non-Labor	-	986,993	4,724,213	3,192,168	3,644,193	7,020,997	7,614,300	8,411,587		
Transmission Routine Vegetation Management	Transmission Quality Assurance/Check	Labor	-	1,416	9,240	11,047	52,019					
Transmission Routine Vegetation Management	Transmission Quality Assurance/Check	Non-Labor	-	166,468	33,2156	506,837	1,822,807	3,801,171	4,223,578	4,271,880		
		Total - Labor	**-**	**83,096**	**10,348**	**11,047**	**52,019**	**9,371**	**15,944**	**34,643**		
		Total - Non-Labor	**-**	**1,153,461**	**5,056,370**	**3,699,005**	**5,471,000**	**10,822,168**	**11,837,878**	**12,683,468**		
		Total	**-**	**1,236,557**	**5,066,718**	**3,710,052**	**5,523,020**	**10,831,539**	**11,853,822**	**12,718,111**		

10. Environmental Support (Section II.B.5)

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj. 2018	2019	2020	2021	2022	Forecast 2023	2024	2025	Workpaper Reference	Testimony Table/Figure Reference
Distribution Routine Vegetation Management	Environmental Support	Labor	-	-	55,477	49,8227		301,925	302,530	308,351	WP SCE-02 Vol. 10 – Forecast O&M Expenses Workpaper for Environmental Support of Vegetation Management Programs	Table II-7, Table II-35, Table II-36, Figure II-21
Distribution Routine Vegetation Management	Environmental Support	Non-Labor	-	-	-	21,685,668	22,728,433	23,669,669	26,456,027	29,039,625		
Transmission Routine Vegetation Management	Environmental Support	Labor	-	-	-	27,625	152,872	54,971	55,539	61,521		
Transmission Routine Vegetation Management	Environmental Support	Non-Labor	-	-	-	2,004,808	4,161,325	3,063,004	4,728,120	4,688,116		
Wildfire Vegetation Management	Environmental Support - HTMP	Labor	-	-	-	-	43,052	77,566	78,159	82,693		
Wildfire Vegetation Management	Environmental Support - HTMP	Non-Labor	-	-	-	-	2,760,756	4,418,647	4,499,718	4,257,500		
Dead, Dying and Diseased Tree Removal	Environmental Support - Drought	Labor	-	-	-	-	28,236	61,383	62,734	65,649		
Dead, Dying and Diseased Tree Removal	Environmental Support - Drought	Non-Labor	-	-	-	-	4,570,723	3,540,609	3,624,426	4,797,965		
Wildfire Vegetation Management	Environmental Support - Structure Brushing	Labor	-	-	-	-	70,251	140,229	141,300	149,499		
Wildfire Vegetation Management	Environmental Support - Structure Brushing	Non-Labor	-	-	-	-	5,302,847	4,842,964	4,451,086	5,527,579		
		Total - Labor	**-**	**-**	**-**	**83,101**	**792,638**	**636,075**	**640,261**	**667,712**		
		Total - Non-Labor	**-**	**-**	**-**	**23,690,476**	**39,524,085**	**39,534,894**	**43,759,376**	**48,310,785**		
		Grand Total (1)	**-**	**-**	**-**	**23,773,577**	**40,316,723**	**40,170,968**	**44,399,637**	**48,978,497**		

(1) The amounts in Table II-34 and Figure II-9 differ for 2021 through 2024 due to specific amounts being recorded in GRC Activity Wildfire Vegetation Management, GRC Activity Dead, Dying, and Diseased Tree Removal, and GRC Activity Environmental Programs. GRC Activity Environmental Programs is included in the standard workpapers for SCE-06 Volume 6.

11. Technology Solutions - O&M (Section III.B)

GRC Activity	Sub-work Activity	Cost Type	Recorded/Adj. 2018	2019	2020	2021	2022	Forecast 2023	2024	2025	Workpaper Reference	Testimony Table/Figure Reference
Wildfire Mitigation and Vegetation Management Technology Solutions	Technology Solutions	Labor	-	-	2,693	7,712	385,992	-	-	-	WP SCE-02, Vol. 10 – Forecast O&M Expenses Workpaper for Technology Solutions	Table II-7, Table III-39, Figure III-22
Wildfire Mitigation and Vegetation Management Technology Solutions	Technology Solutions	Non-Labor	-	-	1,159,108	658,477	2,900,043	3,725,610	3,844,708	3,730,544		
		Total - Labor	**-**	**-**	**2,693**	**7,712**	**385,992**	**-**	**-**	**-**		
		Total - Non-Labor	**-**	**-**	**1,159,108**	**658,477**	**2,900,043**	**3,725,610**	**3,844,708**	**3,730,544**		
		Total	**-**	**-**	**1,161,801**	**666,189**	**3,286,035**	**3,725,610**	**3,844,708**	**3,730,544**		

CAPITAL

1. Technology Solutions - Capital (Section III.C)

GRC Activity	Sub-work Activity	C-WBS	Recorded/Adj. 2018	2019	2020	2021	2022	Forecast 2023	2024	2025	2026	2027	2028	Workpaper Reference	Testimony Table/Figure Reference
Wildfire Mitigation and Vegetation Management	Technology Solutions	CIT00WMCS822406	-	4,218,619	16,146,819	11,005,183	7,124,000	2,602,566	2,746,924	2,436,574	4,768,588	2,649,393	2,745,519	WP SCE-02, Vol. 10 – Forecast Capital Expenditures Workpaper for Technology Solutions	Table I-3, Table I-4, Table II-40, Table III-41, Figure I-4
Technology Solutions		**Total**	**-**	**4,218,619**	**16,146,819**	**11,005,183**	**7,124,000**	**2,602,566**	**2,746,924**	**2,436,574**	**4,768,588**	**2,649,393**	**2,745,519**		

WP SCE-02 Vol. 10A

Forecast O&M Expenses Workpaper for Remote Sensing

WP SCE-02, Vol. 10A
Forecast O&M Expenses Workpaper for Remote Sensing (LiDAR + Satellite)
Witness: Ohanian

Assumptions

Contractor Market Escalation in 2024	10%

Forecast

(Constant 2022 $000)	2023	2024	2025	2026	2027	2028	Normalized 2025
Remote Sensing (1)							
Transmission Circuit Miles Volume	$ -	$ -	12,000	12,000	12,000	12,000	12,000
Unit Cost	$ -	$ -	$ 0.811	$ 0.811	$ 0.811	$ 0.811	$ 0.811
Total Cost	$ -	$ -	$ 9,732	$ 9,732	$ 9,732	$ 9,732	$ 9,732
Distribution Circuit Miles Volume	$ -	$ -	48,000	48,000	48,000	48,000	48,000
Unit Cost	$ -	$ -	$ 0.811	$ 0.811	$ 0.811	$ 0.811	$ 0.811
Total Cost	$ -	$ -	$ 38,928	$ 38,928	$ 38,928	$ 38,928	$ 38,928
Total Remote Sensing	**$ -**	**$ -**	**$ 48,660**	**$ 48,660**	**$ 48,660**	**$ 48,660**	**48,660**
LiDAR (2)							
Transmission Circuit Miles Volume (5)	6,900	6,900	$ -	$ -	$ -	$ -	$ -
Unit Cost (6)	$ 0.574	$ 0.631	$ -	$ -	$ -	$ -	$ -
Total Cost	$ 3,961	$ 4,357	$ -	$ -	$ -	$ -	$ -
Distribution Circuit Miles Volume (7)	1,600	2,100	$ -	$ -	$ -	$ -	$ -
Unit Cost (6)	$ 0.574	$ 0.631	$ -	$ -	$ -	$ -	$ -
Total Cost	$ 918	$ 1,326	$ -	$ -	$ -	$ -	$ -
Total LiDAR	**$ 4,879**	**$ 5,683**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Satellite (2)							
Miles Volume	1,000	2,000	$ -	$ -	$ -	$ -	$ -
Unit Cost (4)	$ 0.200	$ 0.220	$ -	$ -	$ -	$ -	$ -
Miles Sub-Total	$ 200	$ 440	$ -	$ -	$ -	$ -	$ -
Site Volume	100	150	$ -	$ -	$ -	$ -	$ -
Unit Cost	$ 1.700	$ 1.870	$ -	$ -	$ -	$ -	$ -
Sites Sub-Total	$ 170	$ 281	$ -	$ -	$ -	$ -	$ -
Total Satellite	**$ 370**	**$ 721**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Costs - Remote Sensing +LiDAR+Satellite	**$ 5,249**	**$ 6,403**	**$ 48,660**	**$ 48,660**	**$ 48,660**	**$ 48,660**	**$ 48,660**
Support Activity %	14%	14%	14%	14%	14%	14%	14%
Support Activities (3) 14%	$ 735	$ 896	$ 6,812	$ 6,812	$ 6,812	$ 6,812	$ 6,812
Compensation Changes & Other Adj.	$ 10	$ 16	$ 240	$ 240	$ 240	$ 240	$ 240
TOTAL REMOTE SENSING FORECAST	**$ 5,994**	**$ 7,315**	**$ 55,713**	**$ 55,713**	**$ 55,713**	**$ 55,713**	**$ 55,713**

Notes

1) In 2025 through 2028, SCE forecast costs for remote sensing across the entire service territory. The forecast is based on estimated LiDAR unit costs, although SCE continues to explore various remote sensing technologies. See additional details in the Unit Cost tab.
2) SCE forecasts satellite and LiDAR costs in 2023 and 2024 based on total volumes and unit costs for those years.
3) Support activities include costs that cannot be directly charged to projects, including maintenance costs, overall support related costs, and cost of tools that cannot be directly charged.
4) Satellite unit costs are based on current pilot rates.
5) Transmission circuit miles are based on the class ranking system as of August 2022.
6) LiDAR unit cost is based on 2022 contractual rates for acquisition, processing, and other costs.
7) Distribution circuit miles are based on the support required for seasonal patrols, with an increase of 500 miles for expansion of program.

Alternative Forecast

If full network remote sensing is not authorized, SCE submits the following alternative forecast:

(Constant 2022 $000)	2023	2024	2025	2026	2027	2028	Normalized 2025
TOTAL ALTERNATIVE FORECAST (1)	$ 5,994	$ 7,315	$ 9,985	$ 9,190	$ 11,563	$ 12,209	$ 10,737

Notes for Alternative Forecast

1) The alternative forecast assumes varying partial network total circuit miles in 2025 through 2028. See tab "AltForecast".

WP SCE-02, Vol. 10A
Forecast O&M Expenses Workpaper for Remote Sensing (LiDAR + Satellite)
Witness: Ohanian

Unit Cost Calculation

Assumptions:
1. Costs are as of 2022.
2. Assumes the cost is per circuit mile and includes both transmission and distribution circuit miles.
3. Assumes acquisition and processing workflow is by circuit miles.

4. Cost estimate assumes reliance on only LiDAR costs, which is based on SCE's best known information at the time of forecast development.

	Unit Cost (by work)	Quantity (Circuit Miles)		Costs
Data Gathering & Modeling Costs	**$ 600**	**60,000**	**$**	**36,000,000**
Acquisition	*$ 300*			
Processing	*$ 300*			
Data Integration Costs	**$ 20**	**60,000**	**$**	**1,200,000**
Processing	*$ 10*			
Integration of Tree Attributes/Species	*$ 10*			
LiDAR Modeling Costs	**$ 35**	**60,000**	**$**	**2,100,000**
			$	**39,300,000**
Project Management/Execution [(1)]	10%		**$**	**3,930,000**
Project Enhancements [(2)]	10%		**$**	**3,930,000**
Consultant Support [(3)]			**$**	**1,500,000**
		Total Forecast	**$**	**48,660,000**
		Volume (in circuit miles)		**60,000**
		Unit Cost	**$**	**811**

[(1)] Project Management/Execution includes resources required to operate, integate, and QC: (1) internal software automation for LiDAR classification; (2) circuit asset alignments into internal software for digital model alignment rectifications (GIS); and (3) internal software for vegetation management clearance reporting.

[(2)] Costs include necessary software upgrades and storage capacity.

[(3)] Consultant support includes integrating and automating LiDAR and satellite clearance data into Vegetation Management's work management tool to optimize work order creation. This also involves detailed requirements and scoping to assess cost.

WP SCE-02 Vol. 10A

Workpaper for Wildfire Vegetation Management RAMP to GRC Integration

SCE-02, Vol. 10A
Supplemental Workpaper for Wildfire to RAMP Integration
Witness: Ohanian

Wildfire

					RAMP Forecast ($000s)							GRC Forecast ($000s)							Variance (GRC less RAMP)									
Risk	**RAMP Control/ Mitigation ID**	**Mitigation Description**	**Tranche ID**	**Spend**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2025 - 2028 RAMP RSE****	**2025 - 2028 GRC RSE***	**GRC - RAMP RSE**
Wildfire	**C16**	Hazard Tree Mitigation Program	Severe	O&M				$ 12,753	$ 12,697	$ 12,122	$ 12,418				$ 20,977	$ 17,819	$ 18,440	$ 18,089	$ -	$ -	$ -	$ 8,224	$ 5,122	$ 6,318	$ 5,671	18	8	(10)
Wildfire	**C16**	Hazard Tree Mitigation Program	High Consequence	O&M				$ 28,273	$ 29,390	$ 30,846	$ 31,629				$ 18,823	$ 19,894	$ 20,671	$ 20,613	$ -	$ -	$ -	$ (9,450)	$ (9,496)	$ (10,175)	$ (11,015)	17	8	(9)
Wildfire	**C16**	Hazard Tree Mitigation Program	Other	O&M				$ 5,031	$ 5,455	$ 6,002	$ 6,392				$ 13,315	$ 15,402	$ 14,004	$ 14,412	$ -	$ -	$ -	$ 8,284	$ 9,946	$ 8,002	$ 8,020	17	8	(9)
Wildfire	**C16**	**Hazard Tree Mitigation Program**	**Total**	**O&M**	**$ 42,636**	**$ 45,575**	**$ 44,039**	**$ 46,056**	**$ 47,543**	**$ 48,969**	**$ 50,439**	**$24,171**	**$41,955**	**$56,878**	**$ 53,115**	**$ 53,115**	**$ 53,115**	**$ 53,115**	**$ (18,464)**	**$ (3,620)**	**$ 12,839**	**$ 7,059**	**$ 5,572**	**$ 4,145**	**$ 2,676**	**17**	8	**(9)**
Wildfire	**C17**	Expanded Pole Brushing	Severe	O&M				$ 1,854	$ 1,878	$ 1,906	$ 1,936				$ 3,521	$ 3,874	$ 4,305	$ 4,785	$ -	$ -	$ -	$ 1,667	$ 1,996	$ 2,399	$ 2,849	3,245	12,735	9,489
Wildfire	**C17**	Expanded Pole Brushing	High Consequence	O&M				$ 4,198	$ 4,253	$ 4,316	$ 4,385				$ 4,569	$ 4,997	$ 5,488	$ 5,981	$ -	$ -	$ -	$ 370	$ 744	$ 1,172	$ 1,596	2,250	9,410	7,161
Wildfire	**C17**	Expanded Pole Brushing	Other	O&M				$ 1,687	$ 1,709	$ 1,734	$ 1,762				$ 2,166	$ 2,410	$ 2,616	$ 2,884	$ -	$ -	$ -	$ 479	$ 701	$ 882	$ 1,122	1,023	3,999	2,977
Wildfire	**C17**	**Expanded Pole Brushing**	**Total**	**O&M**	**$ 7,882**	**$ 7,754**	**$ 7,702**	**$ 7,739**	**$ 7,839**	**$ 7,957**	**$ 8,082**	**$10,811**	**$8,699**	**$9,569**	**$ 10,256**	**$ 11,281**	**$ 12,410**	**$ 13,650**	**$ 2,928**	**$ 945**	**$ 1,867**	**$ 2,517**	**$ 3,442**	**$ 4,453**	**$ 5,568**	**2,221**	9,415	**7,195**
Wildfire	**C18**	Dead and Dying Tree Removal Program	Severe	O&M				$ 9,334	$ 9,820	$ 9,456	$ 9,450				$ 15,528	$ 15,493	$ 15,032	$ 13,980	$ -	$ -	$ -	$ 6,194	$ 5,673	$ 5,576	$ 4,531	23	14	(10)
Wildfire	**C18**	Dead and Dying Tree Removal Program	High Consequence	O&M				$ 22,311	$ 25,279	$ 25,386	$ 25,378				$ 18,378	$ 18,429	$ 19,063	$ 19,772	$ -	$ -	$ -	$ (3,933)	$ (6,850)	$ (6,322)	$ (5,606)	23	13	(10)
Wildfire	**C18**	Dead and Dying Tree Removal Program	Other	O&M				$ 13,056	$ 15,897	$ 16,918	$ 17,750				$ $4,472	$ 4,455	$ 4,282	$ 4,625	$ -	$ -	$ -	$ (8,584)	$ (11,441)	$ (12,636)	$ (13,125)	23	13	(9)
Wildfire	**C18**	**Dead and Dying Tree Removal Program**	**Total**	**O&M**	**$ 31,258**	**$ 36,212**	**$ 39,419**	**$ 44,700**	**$ 50,996**	**$ 51,759**	**$ 52,577**	**$29,003**	**$28,946**	**$32,666**	**$ 38,377**	**$ 38,377**	**$ 38,377**	**$ 38,377**	**$ (2,255)**	**$ (7,266)**	**$ (6,753)**	**$ (6,323)**	**$ (12,619)**	**$ (13,382)**	**$ (14,200)**	**23**	13	**(9)**
Wildfire	**C19**	Expanded Line Clearing	Severe	O&M				$ 8,563	$ 8,820	$ 9,084	$ 9,357				$ 3,138	$ 3,109	$ 3,034	$ 2,776	$ -	$ -	$ -	$ (5,425)	$ (5,711)	$ (6,051)	$ (6,581)	471	4	(467)
Wildfire	**C19**	Expanded Line Clearing	High Consequence	O&M				$ 22,972	$ 23,661	$ 24,371	$ 25,102				$ 4,863	$ 4,931	$ 5,002	$ 5,082	$ -	$ -	$ -	$ (18,109)	$ (18,730)	$ (19,369)	$ (20,020)	290	4	(286)
Wildfire	**C19**	Expanded Line Clearing	Other	O&M				$ 13,239	$ 13,636	$ 14,045	$ 14,467				$ 2,761	$ 2,722	$ 2,726	$ 2,904	$ -	$ -	$ -	$ (10,478)	$ (10,914)	$ (11,319)	$ (11,563)	147	4	(143)
Wildfire	**C19**	**Expanded Line Clearing**	**Total**	**O&M**	**$ 40,975**	**$ 42,204**	**$ 43,470**	**$ 44,774**	**$ 46,117**	**$ 47,501**	**$ 48,926**	**$60,461**	**$9,783**	**$10,762**	**$ 10,762**	**$ 10,762**	**$ 10,762**	**$ 10,762**	**$ 19,486**	**$ (32,421)**	**$ (32,708)**	**$ (34,012)**	**$ (35,355)**	**$ (36,739)**	**$ (38,164)**	**282**	4	**(278)**
WF / PSPS	**F2**	**Arbora**	System	Capital and O&M	$ 3,500	$ 3,800	$ 4,000	$ -	$ -	$ -	$ -	$10,421	$6,403	$6,747	$6,637	$9,069	$6,349	$6,846	$ 6,921	$ 2,603	$ 2,747	$ 6,637	$ 9,069	$ 6,349	$ 6,846	N/A	N/A	N/A

SCE-02, Vol. 10A
Supplemental Workpaper for Wildfire to RAMP Integration
Witness: Ohanian

Work Units					RAMP Forecast*								GRC Forecast*								Variance (GRC less RAMP)								
Risk	**Control/Mitigation ID**	**Mitigation Description**	**Tranche ID**	**Units**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**Total (2025 - 2028)****	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**Total (2025 - 2028)**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**Total (2025 - 2028)**
Wildfire	C16	Hazard Tree Mitigation Program	Severe	Structures				2,056	1,983	1,838	1,828	7,705				2,111	1,332	1,663	1,301	6,407	$ -	$ -	$ -	$ 55	$ (651)	$ (175)	$ (527)	$ (1,298)
Wildfire	C16	Hazard Tree Mitigation Program	High Consequence	Structures				4,558	4,590	4,677	4,656	18,481				3,241	3,267	4,055	3,494	14,057	$ -	$ -	$ -	$ (1,317)	$ (1,323)	$ (622)	$ (1,162)	$ (4,424)
Wildfire	C16	Hazard Tree Mitigation Program	Other	Structures				811	852	910	941	3,514				2,391	2,388	3,093	2,948	10,820	$ -	$ -	$ -	$ 1,580	$ 1,536	$ 2,183	$ 2,027	$ 7,306
Wildfire	**C16**	**Hazard Tree Mitigation Program**	**Total**	**Structures**	**7,425**	**7,425**	**7,425**	**7,425**	**7,425**	**7,425**	**7,425**	**29,700**	**5,465**	**6,987**	**8,811**	**7,743**	**6,987**	**8,811**	**7,743**	**31,284**	$ (1,960)	$ (438)	$ 1,386	$ 318	$ (438)	$ 1,386	$ 318	$ 1,584
Wildfire	**C17**	Expanded Pole Brushing	Severe	Structures				28,356	28,356	28,356	28,356	113,424				24,543	24,571	24,925	25,384	99,423	$ -	$ -	$ -	$ (3,813)	$ (3,785)	$ (3,431)	$ (2,972)	$ (14,001)
Wildfire	**C17**	Expanded Pole Brushing	High Consequence	Structures				64,214	64,214	64,214	64,214	256,856				72,940	73,053	72,868	72,291	291,152	$ -	$ -	$ -	$ 8,726	$ 8,839	$ 8,654	$ 8,077	$ 34,296
Wildfire	**C17**	Expanded Pole Brushing	Other	Structures				25,800	25,800	25,800	25,800	103,200				37,814	37,673	37,504	37,622	150,613	$ -	$ -	$ -	$ 12,014	$ 11,873	$ 11,704	$ 11,822	$ 47,413
Wildfire	**C17**	**Expanded Pole Brushing**	**Total**	**Structures**	**119,900**	**119,900**	**119,900**	**118,370**	**118,370**	**118,370**	**118,370**	**473,480**	**158,000**	**135,297**	**135,297**	**135,297**	**135,297**	**135,297**	**135,297**	**541,188**	$ 38,100	$ 15,397	$ 15,397	$ 16,927	$ 16,927	$ 16,927	$ 16,927	$ 67,708
Wildfire	**C18**	Dead and Dying Tree Removal Program	Severe	Structures				2,598	2,875	3,273	3,864	12,610				1,940	1,939	1,925	1,839	7,643	$ -	$ -	$ -	$ (658)	$ (936)	$ (1,348)	$ (2,025)	$ (4,967)
Wildfire	**C18**	Dead and Dying Tree Removal Program	High Consequence	Structures				6,210	7,401	8,787	10,377	32,775				5,172	5,453	5,714	5,967	22,306	$ -	$ -	$ -	$ (1,038)	$ (1,948)	$ (3,073)	$ (4,410)	$ (10,469)
Wildfire	**C18**	Dead and Dying Tree Removal Program	Other	Structures				3,634	4,654	5,856	7,258	21,402				1,788	1,808	1,861	1,994	7,451	$ -	$ -	$ -	$ (1,846)	$ (2,846)	$ (3,995)	$ (5,264)	$ (13,951)
Wildfire	**C18**	**Dead and Dying Tree Removal Program**	**Total**	**Structures**	**7,200**	**8,640**	**10,368**	**12,442**	**14,930**	**17,916**	**21,499**	**66,787**	**9,143**	**8,300**	**8,600**	**8,900**	**9,200**	**9,500**	**9,800**	**37,400**	$ 1,943	$ (340)	$ (1,768)	$ (3,542)	$ (5,730)	$ (8,416)	$ (11,699)	$ (29,387)
Wildfire	**C19**	Expanded Line Clearing	Severe	Structures				41,342	41,342	41,342	41,342	165,368				6,347	6,069	5,625	5,040	23,081	$ -	$ -	$ -	$ (34,995)	$ (35,273)	$ (35,717)	$ (36,302)	$ (142,287)
Wildfire	**C19**	Expanded Line Clearing	High Consequence	Structures				110,910	110,910	110,910	110,910	443,640				18,295	18,680	18,948	18,831	74,754	$ -	$ -	$ -	$ (92,615)	$ (92,230)	$ (91,962)	$ (92,079)	$ (368,886)
Wildfire	**C19**	Expanded Line Clearing	Other	Structures				63,919	63,919	63,919	63,919	255,676				11,558	11,451	11,627	12,329	46,965	$ -	$ -	$ -	$ (52,361)	$ (52,468)	$ (52,292)	$ (51,590)	$ (208,711)
Wildfire	**C19**	**Expanded Line Clearing**	**Total**	**Structures**	**230,000**	**230,000**	**230,000**	**216,171**	**216,171**	**216,171**	**216,171**	**864,684**	**222,897**	**36,200**	**36,200**	**36,200**	**36,200**	**36,200**	**36,200**	**144,800**	$ (7,103)	$ (193,800)	$ (193,800)	$ (179,971)	$ (179,971)	$ (179,971)	$ (179,971)	$ (719,884)

WMP ID	VM-1
RAMP ID	C16
Description	Hazard Tree Management Program (HTMP)

Useful Life	60
Useful Life Rationale	Tree regrowth period after removal

Drivers	Driver/ Consequence Type	Subdriver/ Consequence Type	Mitigation Effectiveness	Rationale/Data source
Driver 1	D-CFO	Veg. contact - Distribution	63%	ME value is based on evaluation of 2016-June 2022 TCCIs that would have been mitigated by heavy tree contact (i.e., failing heavy tree). All "Fall-in" and "Blow-in" TCCIs on trees not normally trimmed are attributed to the Dead and Dying Tree Removal ME. Final ME value is reduced based on QC findings of HTMP trees from Jan 2021 through July 2022
Driver 2	D-CFO	Animal contact - Distribution	0%	N/A
Driver 3	D-CFO	Balloon contact - Distribution	0%	N/A
Driver 4	D-CFO	Vehicle contact - Distribution	0%	N/A
Driver 5	D-CFO	Unknown contact - Distribution	0%	N/A
Driver 6	D-UNK	Unknown - Distribution	0%	N/A
Driver 7	D-CFO	Other contact from object - Distribution	0%	N/A
Driver 8	D-WTW	Wire-to-wire contact / contamination - Distribution	0%	N/A
Driver 9	D-EFF	Anchor / guy damage or failure - Distribution	0%	N/A
Driver 10	D-EFF	Conductor damage or failure - Distribution	0%	N/A
Driver 11	D-EFF	Connection device damage or failure - Distribution	0%	N/A
Driver 12	D-EFF	Connector damage or failure - Distribution	0%	N/A
Driver 13	D-EFF	Crossarm damage or failure - Distribution	0%	N/A
Driver 14	D-EFF	Fuse damage or failure - Distribution	0%	N/A
Driver 15	D-EFF	Insulator and bushing damage or failure - Distribution	0%	N/A
Driver 16	D-EFF	Lightning arrestor damage or failure - Distribution	0%	N/A
Driver 17	D-EFF	Other - Distribution	0%	N/A
Driver 18	D-EFF	Pole damage or failure - Distribution	0%	N/A
Driver 19	D-EFF	Recloser damage or failure - Distribution	0%	N/A
Driver 20	D-EFF	Splice damage or failure - Distribution	0%	N/A
Driver 21	D-EFF	Tie wire damage or failure - Distribution	0%	N/A
Driver 22	D-EFF	Voltage regulator / booster damage or failure - Distribution	0%	N/A
Driver 23	D-CTM	Contamination - Distribution	0%	N/A
Driver 24	D-EFF	Capacitor bank damage or failure - Distribution	0%	N/A
Driver 25	D-EFF	Switch damage or failure - Distribution	0%	N/A
Driver 26	D-EFF	Transformer damage or failure - Distribution	0%	N/A
Driver 27	D-EFF	Tap damage or failure - Distribution	0%	N/A
Driver 28	D-EFF	Sectionalizer damage or failure - Distribution	0%	N/A
Driver 29	D-OTH	All Other - Distribution	0%	N/A
Driver 30	D-UTW	Utility work / Operation - Distribution	0%	N/A
Driver 31	D-VAN	Vandalism / Theft - Distribution	0%	N/A
Driver 32	T-CFO	Veg. contact - Transmission	63%	ME value is based on evaluation of 2016-June 2022 TCCIs that would have been mitigated by heavy tree contact (i.e., failing heavy tree). All "Fall-in" and "Blow-in" TCCIs on trees not normally trimmed are attributed to the Dead and Dying Tree Removal ME. Final ME value is reduced based on QC findings of HTMP trees from Jan 2021 through July 2022
Driver 33	T-CFO	Animal contact - Transmission	0%	N/A
Driver 34	T-CFO	Balloon contact - Transmission	0%	N/A
Driver 35	T-CFO	Vehicle contact - Transmission	0%	N/A
Driver 36	T-CFO	Other contact from object - Transmission	0%	N/A
Driver 37	T-CTM	Contamination - Transmission	0%	N/A
Driver 38	T-VAN	Vandalism / Theft - Transmission	0%	N/A
Driver 39	T-WTW	Wire-to-wire contact / contamination - Transmission	0%	N/A
Driver 40	T-EFF	Anchor / guy damage or failure - Transmission	0%	N/A
Driver 41	T-EFF	Capacitor bank damage or failure - Transmission	0%	N/A
Driver 42	T-EFF	Conductor damage or failure - Transmission	0%	N/A
Driver 43	T-EFF	Connection device damage or failure - Transmission	0%	N/A
Driver 44	T-EFF	Connector damage or failure - Transmission	0%	N/A
Driver 45	T-EFF	Crossarm damage or failure - Transmission	0%	N/A
Driver 46	T-EFF	Fuse damage or failure - Transmission	0%	N/A
Driver 47	T-EFF	Insulator and brushing damage or failure - Transmission	0%	N/A
Driver 48	T-EFF	Lightning arrestor damage or failure - Transmission	0%	N/A
Driver 49	T-EFF	Other - Transmission	0%	N/A
Driver 50	T-EFF	Recloser damage or failure - Transmission	0%	N/A
Driver 51	T-EFF	Splice damage or failure - Transmission	0%	N/A
Driver 52	T-EFF	Switch damage or failure - Transmission	0%	N/A
Driver 53	T-EFF	Transformer damage or failure - Transmission	0%	N/A
Driver 54	T-EFF	Voltage regulator / booster damage or failure - Transmission	0%	N/A
Driver 55	T-EFF	Pole damage or failure - Transmission	0%	N/A
Driver 56	T-EFF	Sectionalizer damage or failure - Transmission	0%	N/A
Driver 57	T-EFF	Tap damage or failure - Transmission	0%	N/A
Driver 58	T-EFF	Tie wire damage or failure - Transmission	0%	N/A
Driver 59	T-OTH	All Other - Transmission	0%	N/A
Driver 60	T-UNK	Unknown - Transmission	0%	N/A

WF Consequences	**Mitigation Effectiveness**	**Rationale/Data source**
Safety	N/A	N/A
Reliability	N/A	N/A
Financial	N/A	N/A

PSPS Consequences	**Mitigation Effectiveness**	**Rationale/Data source**
Safety	N/A	N/A
Reliability	N/A	N/A
Financial	N/A	N/A

WMP ID	VM-2
RAMP ID	C17
Description	Expanded Pole Brushing
Useful Life	1
Useful Life Rationale	Vegetation regrowth potential. PRC 4292 compliance poles are brushed annually due to regrowth

Drivers	Driver/ Consequence Type	Subdriver/ Consequence Type	Mitigation Effectiveness	Rationale/Data source
Driver 1	D-CFO	Veg. contact - Distribution	0%	N/A
Driver 2	D-CFO	Animal contact - Distribution	0%	N/A
Driver 3	D-CFO	Balloon contact - Distribution	0%	N/A
Driver 4	D-CFO	Vehicle contact - Distribution	0%	N/A
Driver 5	D-CFO	Unknown contact - Distribution	0%	N/A
Driver 6	D-UNK	Unknown - Distribution	0%	N/A
Driver 7	D-CFO	Other contact from object - Distribution	0%	N/A
Driver 8	D-WTW	Wire-to-wire contact / contamination - Distribution	0%	N/A
Driver 9	D-EFF	Anchor / guy damage or failure - Distribution	0%	N/A
Driver 10	D-EFF	Conductor damage or failure - Distribution	0%	N/A
Driver 11	D-EFF	Connection device damage or failure - Distribution	39%	Based on evaluation of CPUC reportable ignition rates on poles brushed vs. not brushed from 2020 through August of 2022. Analysis looked all equipment/facility failure (EFF) CPUC reportable ignitions during the time period and overlapped completed pole brushing data to determine failure rates. Poles that had been brushed within 12 months of ignition were found to have a 39% less EFF CPUC reportable ignition rate than those that were never brushed.
Driver 12	D-EFF	Connector damage or failure - Distribution	39%	
Driver 13	D-EFF	Crossarm damage or failure - Distribution	39%	
Driver 14	D-EFF	Fuse damage or failure - Distribution	39%	
Driver 15	D-EFF	Insulator and bushing damage or failure - Distribution	39%	
Driver 16	D-EFF	Lightning arrestor damage or failure - Distribution	39%	
Driver 17	D-EFF	Other - Distribution	39%	
Driver 18	D-EFF	Pole damage or failure - Distribution	0%	N/A
Driver 19	D-EFF	Recloser damage or failure - Distribution	39%	See rationale above
Driver 20	D-EFF	Splice damage or failure - Distribution	0%	N/A
Driver 21	D-EFF	Tie wire damage or failure - Distribution	0%	N/A
Driver 22	D-EFF	Voltage regulator / booster damage or failure - Distribution	39%	See rationale above
Driver 23	D-CTM	Contamination - Distribution	0%	N/A
Driver 24	D-EFF	Capacitor bank damage or failure - Distribution	39%	See rationale above
Driver 25	D-EFF	Switch damage or failure - Distribution	39%	See rationale above
Driver 26	D-EFF	Transformer damage or failure - Distribution	39%	See rationale above
Driver 27	D-EFF	Tap damage or failure - Distribution	0%	N/A
Driver 28	D-EFF	Sectionalizer damage or failure - Distribution	39%	See rationale above
Driver 29	D-OTH	All Other - Distribution	0%	N/A
Driver 30	D-UTW	Utility work / Operation - Distribution	0%	N/A
Driver 31	D-VAN	Vandalism / Theft - Distribution	0%	N/A
Driver 32	T-CFO	Veg. contact - Transmission	0%	N/A
Driver 33	T-CFO	Animal contact - Transmission	0%	N/A
Driver 34	T-CFO	Balloon contact - Transmission	0%	N/A
Driver 35	T-CFO	Vehicle contact - Transmission	0%	N/A
Driver 36	T-CFO	Other contact from object - Transmission	0%	N/A
Driver 37	T-CTM	Contamination - Transmission	0%	N/A
Driver 38	T-VAN	Vandalism / Theft - Transmission	0%	N/A
Driver 39	T-WTW	Wire-to-wire contact / contamination - Transmission	0%	N/A
Driver 40	T-EFF	Anchor / guy damage or failure - Transmission	0%	N/A
Driver 41	T-EFF	Capacitor bank damage or failure - Transmission	0%	N/A
Driver 42	T-EFF	Conductor damage or failure - Transmission	0%	N/A
Driver 43	T-EFF	Connection device damage or failure - Transmission	0%	N/A
Driver 44	T-EFF	Connector damage or failure - Transmission	0%	N/A
Driver 45	T-EFF	Crossarm damage or failure - Transmission	0%	N/A
Driver 46	T-EFF	Fuse damage or failure - Transmission	0%	N/A
Driver 47	T-EFF	Insulator and brushing damage or failure - Transmission	0%	N/A
Driver 48	T-EFF	Lightning arrestor damage or failure - Transmission	0%	N/A
Driver 49	T-EFF	Other - Transmission	0%	N/A
Driver 50	T-EFF	Recloser damage or failure - Transmission	0%	N/A
Driver 51	T-EFF	Splice damage or failure - Transmission	0%	N/A
Driver 52	T-EFF	Switch damage or failure - Transmission	0%	N/A
Driver 53	T-EFF	Transformer damage or failure - Transmission	0%	N/A
Driver 54	T-EFF	Voltage regulator / booster damage or failure - Transmission	0%	N/A
Driver 55	T-EFF	Pole damage or failure - Transmission	0%	N/A
Driver 56	T-EFF	Sectionalizer damage or failure - Transmission	0%	N/A
Driver 57	T-EFF	Tap damage or failure - Transmission	0%	N/A
Driver 58	T-EFF	Tie wire damage or failure - Transmission	0%	N/A
Driver 59	T-OTH	All Other - Transmission	0%	N/A
Driver 60	T-UNK	Unknown - Transmission	0%	N/A

WF Consequences	**Mitigation Effectiveness**	**Rationale/Data source**
Safety	N/A	N/A
Reliability	N/A	N/A
Financial	N/A	N/A

PSPS Consequences	**Mitigation Effectiveness**	**Rationale/Data source**
Safety	N/A	N/A
Reliability	N/A	N/A
Financial	N/A	N/A

WMP ID	VM-4
RAMP ID	C18
Description	Dead and Dying Tree Removal

Useful Life	60
Useful Life Rationale	Tree regrowth period after removal

Drivers	Driver/ Consequence Type	Subdriver/ Consequence Type	Mitigation Effectiveness	Rationale/Data source
Driver 1	D-CFO	Veg. contact - Distribution	52%	ME value is based on evaluation of 2016-June 2022 TCCIs that would have been mitigated by heavy tree contact (i.e., failing heavy tree). All "Fall-in" and "Blow-in" TCCIs on trees not normally trimmed are attributed to the Dead and Dying Tree Removal ME. Final ME value is reduced based on QC findings of HTMP trees from Jan 2021 through July 2022
Driver 2	D-CFO	Animal contact - Distribution	0%	N/A
Driver 3	D-CFO	Balloon contact - Distribution	0%	N/A
Driver 4	D-CFO	Vehicle contact - Distribution	0%	N/A
Driver 5	D-CFO	Unknown contact - Distribution	0%	N/A
Driver 6	D-UNK	Unknown - Distribution	0%	N/A
Driver 7	D-CFO	Other contact from object - Distribution	0%	N/A
Driver 8	D-WTW	Wire-to-wire contact / contamination - Distribution	0%	N/A
Driver 9	D-EFF	Anchor / guy damage or failure - Distribution	0%	N/A
Driver 10	D-EFF	Conductor damage or failure - Distribution	0%	N/A
Driver 11	D-EFF	Connection device damage or failure - Distribution	0%	N/A
Driver 12	D-EFF	Connector damage or failure - Distribution	0%	N/A
Driver 13	D-EFF	Crossarm damage or failure - Distribution	0%	N/A
Driver 14	D-EFF	Fuse damage or failure - Distribution	0%	N/A
Driver 15	D-EFF	Insulator and bushing damage or failure - Distribution	0%	N/A
Driver 16	D-EFF	Lightning arrestor damage or failure - Distribution	0%	N/A
Driver 17	D-EFF	Other - Distribution	0%	N/A
Driver 18	D-EFF	Pole damage or failure - Distribution	0%	N/A
Driver 19	D-EFF	Recloser damage or failure - Distribution	0%	N/A
Driver 20	D-EFF	Splice damage or failure - Distribution	0%	N/A
Driver 21	D-EFF	Tie wire damage or failure - Distribution	0%	N/A
Driver 22	D-EFF	Voltage regulator / booster damage or failure - Distribution	0%	N/A
Driver 23	D-CTM	Contamination - Distribution	0%	N/A
Driver 24	D-EFF	Capacitor bank damage or failure - Distribution	0%	N/A
Driver 25	D-EFF	Switch damage or failure - Distribution	0%	N/A
Driver 26	D-EFF	Transformer damage or failure - Distribution	0%	N/A
Driver 27	D-EFF	Tap damage or failure - Distribution	0%	N/A
Driver 28	D-EFF	Sectionalizer damage or failure - Distribution	0%	N/A
Driver 29	D-OTH	All Other - Distribution	0%	N/A
Driver 30	D-UTW	Utility work / Operation - Distribution	0%	N/A
Driver 31	D-VAN	Vandalism / Theft - Distribution	0%	N/A
Driver 32	T-CFO	Veg. contact - Transmission	52%	ME value is based on evaluation of 2016-June 2022 TCCIs that would have been mitigated by heavy tree contact (i.e., failing heavy tree). All "Fall-in" and "Blow-in" TCCIs on trees not normally trimmed are attributed to the Dead and Dying Tree Removal ME. Final ME value is reduced based on QC findings of HTMP trees from Jan 2021 through July 2022
Driver 33	T-CFO	Animal contact - Transmission	0%	N/A
Driver 34	T-CFO	Balloon contact - Transmission	0%	N/A
Driver 35	T-CFO	Vehicle contact - Transmission	0%	N/A
Driver 36	T-CFO	Other contact from object - Transmission	0%	N/A
Driver 37	T-CTM	Contamination - Transmission	0%	N/A
Driver 38	T-VAN	Vandalism / Theft - Transmission	0%	N/A
Driver 39	T-WTW	Wire-to-wire contact / contamination - Transmission	0%	N/A
Driver 40	T-EFF	Anchor / guy damage or failure - Transmission	0%	N/A
Driver 41	T-EFF	Capacitor bank damage or failure - Transmission	0%	N/A
Driver 42	T-EFF	Conductor damage or failure - Transmission	0%	N/A
Driver 43	T-EFF	Connection device damage or failure - Transmission	0%	N/A
Driver 44	T-EFF	Connector damage or failure - Transmission	0%	N/A
Driver 45	T-EFF	Crossarm damage or failure - Transmission	0%	N/A
Driver 46	T-EFF	Fuse damage or failure - Transmission	0%	N/A
Driver 47	T-EFF	Insulator and brushing damage or failure - Transmission	0%	N/A
Driver 48	T-EFF	Lightning arrestor damage or failure - Transmission	0%	N/A
Driver 49	T-EFF	Other - Transmission	0%	N/A
Driver 50	T-EFF	Recloser damage or failure - Transmission	0%	N/A
Driver 51	T-EFF	Splice damage or failure - Transmission	0%	N/A
Driver 52	T-EFF	Switch damage or failure - Transmission	0%	N/A
Driver 53	T-EFF	Transformer damage or failure - Transmission	0%	N/A
Driver 54	T-EFF	Voltage regulator / booster damage or failure - Transmission	0%	N/A
Driver 55	T-EFF	Pole damage or failure - Transmission	0%	N/A
Driver 56	T-EFF	Sectionalizer damage or failure - Transmission	0%	N/A
Driver 57	T-EFF	Tap damage or failure - Transmission	0%	N/A
Driver 58	T-EFF	Tie wire damage or failure - Transmission	0%	N/A
Driver 59	T-OTH	All Other - Transmission	0%	N/A
Driver 60	T-UNK	Unknown - Transmission	0%	N/A

WF Consequences	**Mitigation Effectiveness**	**Rationale/Data source**
Safety	N/A	N/A
Reliability	N/A	N/A
Financial	N/A	N/A

PSPS Consequences	**Mitigation Effectiveness**	**Rationale/Data source**
Safety	N/A	N/A
Reliability	N/A	N/A
Financial	N/A	N/A

WMP ID	VM-NA
RAMP ID	C19
Description	Expanded Line Clearing

Useful Life	1
Useful Life Rationale	Vegetation regrowth potential. Compliance routine line clearing is scheduled annually due to regrowth potential

Drivers	Driver/ Consequence Type	Subdriver/ Consequence Type	Mitigation Effectiveness	Rationale/Data source
Driver 1	D-CFO	Veg. contact - Distribution	37%	ME value is based on evaluation of 2016-June 2022 TCCIs that would have been mitigated by vegetation contact in routine inventory. All "Fall-in", "Blow-in", and "Grow-in" TCCIs on trees normally trimmed are attributed to Expanded Line Clearing ME. Final ME value is reduced by actual GRCD clearance rate reported by Quality Control inspections results.
Driver 2	D-CFO	Animal contact - Distribution	0%	N/A
Driver 3	D-CFO	Balloon contact - Distribution	0%	N/A
Driver 4	D-CFO	Vehicle contact - Distribution	0%	N/A
Driver 5	D-CFO	Unknown contact - Distribution	0%	N/A
Driver 6	D-UNK	Unknown - Distribution	0%	N/A
Driver 7	D-CFO	Other contact from object - Distribution	0%	N/A
Driver 8	D-WTW	Wire-to-wire contact / contamination - Distribution	0%	N/A
Driver 9	D-EFF	Anchor / guy damage or failure - Distribution	0%	N/A
Driver 10	D-EFF	Conductor damage or failure - Distribution	0%	N/A
Driver 11	D-EFF	Connection device damage or failure - Distribution	0%	N/A
Driver 12	D-EFF	Connector damage or failure - Distribution	0%	N/A
Driver 13	D-EFF	Crossarm damage or failure - Distribution	0%	N/A
Driver 14	D-EFF	Fuse damage or failure - Distribution	0%	N/A
Driver 15	D-EFF	Insulator and bushing damage or failure - Distribution	0%	N/A
Driver 16	D-EFF	Lightning arrestor damage or failure - Distribution	0%	N/A
Driver 17	D-EFF	Other - Distribution	0%	N/A
Driver 18	D-EFF	Pole damage or failure - Distribution	0%	N/A
Driver 19	D-EFF	Recloser damage or failure - Distribution	0%	N/A
Driver 20	D-EFF	Splice damage or failure - Distribution	0%	N/A
Driver 21	D-EFF	Tie wire damage or failure - Distribution	0%	N/A
Driver 22	D-EFF	Voltage regulator / booster damage or failure - Distribution	0%	N/A
Driver 23	D-CTM	Contamination - Distribution	0%	N/A
Driver 24	D-EFF	Capacitor bank damage or failure - Distribution	0%	N/A
Driver 25	D-EFF	Switch damage or failure - Distribution	0%	N/A
Driver 26	D-EFF	Transformer damage or failure - Distribution	0%	N/A
Driver 27	D-EFF	Tap damage or failure - Distribution	0%	N/A
Driver 28	D-EFF	Sectionalizer damage or failure - Distribution	0%	N/A
Driver 29	D-OTH	All Other - Distribution	0%	N/A
Driver 30	D-UTW	Utility work / Operation - Distribution	0%	N/A
Driver 31	D-VAN	Vandalism / Theft - Distribution	0%	N/A
Driver 32	T-CFO	Veg. contact - Transmission	37%	ME value is based on evaluation of 2016-2022 TCCIs that would have been mitigated by vegetation contact in routine inventory. All "Fall-in", "Blow-in", and "Grow-in" TCCIs on trees normally trimmed are attributed to Expanded Line Clearing ME. Final ME value is reduced by actual GRCD clearance rate reported by Quality Control inspections results.
Driver 33	T-CFO	Animal contact - Transmission	0%	N/A
Driver 34	T-CFO	Balloon contact - Transmission	0%	N/A
Driver 35	T-CFO	Vehicle contact - Transmission	0%	N/A
Driver 36	T-CFO	Other contact from object - Transmission	0%	N/A
Driver 37	T-CTM	Contamination - Transmission	0%	N/A
Driver 38	T-VAN	Vandalism / Theft - Transmission	0%	N/A
Driver 39	T-WTW	Wire-to-wire contact / contamination - Transmission	0%	N/A
Driver 40	T-EFF	Anchor / guy damage or failure - Transmission	0%	N/A
Driver 41	T-EFF	Capacitor bank damage or failure - Transmission	0%	N/A
Driver 42	T-EFF	Conductor damage or failure - Transmission	0%	N/A
Driver 43	T-EFF	Connection device damage or failure - Transmission	0%	N/A
Driver 44	T-EFF	Connector damage or failure - Transmission	0%	N/A
Driver 45	T-EFF	Crossarm damage or failure - Transmission	0%	N/A
Driver 46	T-EFF	Fuse damage or failure - Transmission	0%	N/A
Driver 47	T-EFF	Insulator and brushing damage or failure - Transmission	0%	N/A
Driver 48	T-EFF	Lightning arrestor damage or failure - Transmission	0%	N/A
Driver 49	T-EFF	Other - Transmission	0%	N/A
Driver 50	T-EFF	Recloser damage or failure - Transmission	0%	N/A
Driver 51	T-EFF	Splice damage or failure - Transmission	0%	N/A
Driver 52	T-EFF	Switch damage or failure - Transmission	0%	N/A
Driver 53	T-EFF	Transformer damage or failure - Transmission	0%	N/A
Driver 54	T-EFF	Voltage regulator / booster damage or failure - Transmission	0%	N/A
Driver 55	T-EFF	Pole damage or failure - Transmission	0%	N/A
Driver 56	T-EFF	Sectionalizer damage or failure - Transmission	0%	N/A
Driver 57	T-EFF	Tap damage or failure - Transmission	0%	N/A
Driver 58	T-EFF	Tie wire damage or failure - Transmission	0%	N/A
Driver 59	T-OTH	All Other - Transmission	0%	N/A
Driver 60	T-UNK	Unknown - Transmission	0%	N/A

WF Consequences	**Mitigation Effectiveness**	**Rationale/Data source**
Safety	N/A	N/A
Reliability	N/A	N/A
Financial	N/A	N/A

PSPS Consequences	**Mitigation Effectiveness**	**Rationale/Data source**
Safety	N/A	N/A
Reliability	N/A	N/A
Financial	N/A	N/A

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O&M Detail
for Fire Hazard Prevention

2025 GRC Summary

(Constant 2022 $000)

Beginning of Workpapers for:

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation Management
Business Planning Element:	Wildfire Management
Activity:	Fire Hazard Prevention
Witness:	T.Ohanian/K.Borngrebe

Cost Type	Recorded/Adj. 2022	Forecast 2025
Labor	5	0
Non-Labor	74	1,058
Other	0	0
Total	**79**	**1,058**

Due to rounding, totals may not tie to individual items.

Description of Activity:
This work includes wildfire mitigation activities including vegetation expanded clearance distances to align with CPUC recommendations and program standards. 2023-2028 forecasts for continued expanded clearance are included in Distribution and Transmission Vegetation Management

Forecast Methods - Summary of Results of Methods Studied

(Constant 2022 $000)

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation
Business Planning Element:	Management Wildfire
Activity:	Management
Witness:	Fire Hazard Prevention
	T.Ohanian/K.Borngrebe

Cost Type	Recorded/Adj.				
	2018	2019	2020	2021	2022
Labor	2	0	27	9	84,865
Non-Labor	416	0	833	384	(84,787)
Other	0	0	0	0	0
Total	**418**	**0**	**860**	**392**	**79**

Cost Type	Results of Linear Trending					
	3 Years: 2020 - 2022		4 Years: 2019 - 2022		5 Years: 2018 - 2022	
	$	r2*	$	r2*	$	r2*
Labor	197,978	0.75	135,785	0.60	101,848	0.50
Non-Labor	(199,097)	0.75	(135,557)	0.60	(101,642)	0.50
Other	0	0.00	0	0.00	0	0.00
Total	**(1,119)**	**N/A**	**228**	**N/A**	**206**	**N/A**

Cost Type	Results of Averaging							
	2 Years:		3 Years:		4 Years:		5 Years:	
	2021 - 2022	sd**	2020 - 2022	sd**	2019 - 2022	sd**	2018 - 2022	sd**
Labor	42,437	42,428	28,300	39,998	21,225	36,743	16,980	33,942
Non-Labor	(42,202)	42,585	(27,857)	40,256	(20,892)	36,891	(16,631)	34,079
Other	0	0	0	0	0	0	0	0
Total	**235**	**N/A**	**443**	**N/A**	**333**	**N/A**	**350**	**N/A**

Cost Type	Last Recorded Year		
	2023	2024	2025
Labor	84,865	84,865	84,865
Non-Labor	(84,787)	(84,787)	(84,787)
Other	0	0	0
Total	**79**	**79**	**79**

Cost Type	Itemized Forecast		
	2023	2024	2025
Labor	0	0	0
Non-Labor	814	798	1,058
Other	0	0	0
Total	**814**	**798**	**1,058**

** r2 = R Squared (Based on recorded years data)*

*** sd = standard deviation (Based on recorded years data)*

2025 GRC Selected Forecast Method

(Constant 2022 $000)

Exhibit: SCE-02 Grid Activities
Volume: 10A - Vegetation Management
Business Planning Element: Wildfire Management
Activity: Fire Hazard Prevention
Witness: T.Ohanian/K.Borngrebe

Cost Type	Recorded/Adj.					Forecast			Selected Forecast		TY Forecast Incr/(Decr) from 2022
	2018	2019	2020	2021	2022	2023	2024	2025	Method	($000)	
Labor	2	0	27	9	5				Itemized		(5)
Non-Labor	416	0	833	384	74	814	798	1,058	Itemized	1,058	984
Other											
Total	**418**	**0**	**860**	**392**	**79**	**814**	**798**	**1,058**		**1,058**	**980**

Due to rounding, totals may not tie to individual items.

Analysis of Forecasting Methods

Itemized Forecast:
Itemized Forecast Method

Other Forecast Methods not Selected

Last Recorded Year:
In D.89-12-057, and subsequently in D.04-07-022, the CPUC stated that if recorded expenses have been relatively stable for three or more years, the last recorded year is an appropriate base estimate. For this activity the Last Recorded Year method does not account for the variables discussed in testimony to determine the 2025 Test Year forecast. Therefore, the Last Recorded Year method is not appropriate.

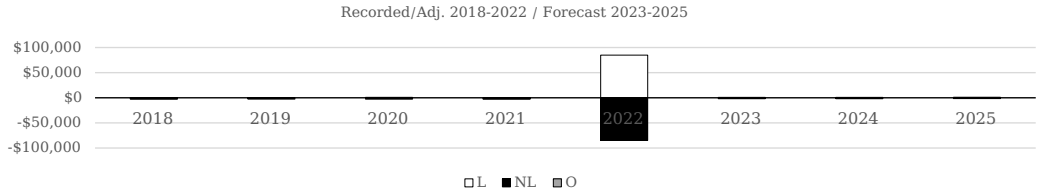
Linear Trending:
In D.89-12-057, and subsequently in D.04-07-022, the CPUC stated that if recorded expenses have been relatively stable for three or more years, the last recorded year is an appropriate base estimate. For this activity the Linear Trending method does not account for the variables discussed in testimony to determine the 2025 Test Year forecast. Therefore, the Linear Trending method is not appropriate.

Averaging:
In D.89-12-057, and subsequently in D.04-07-022, the CPUC stated that if recorded expenses have significant fluctuations from year to year, or expenses are influenced by external forces beyond the utility's control, an average of recorded-expenses is appropriate. For this activity the Averaging method does not account for the variables discussed in testimony to determine the 2025 Test Year forecast. Therefore, the Averaging method is not appropriate.

2025 GRC Year Over Year Variance

(Constant 2022 $000)

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation Management
Business Planning Element:	Wildfire Management
Activity:	Fire Hazard Prevention
Witness:	T.Ohanian/K.Borngrebe



Cost Type		Recorded/Adj.					Forecast		
		2018	2019	2020	2021	2022	2023	2024	2025
Recorded / Forecast	Labor	2	0	27	9	84,865	0	0	0
	Non-Labor	416	0	833	384	(84,787)	814	798	1,058
	Other	0	0	0	0	0	0	0	0
	Total	**418**	**0**	**860**	**392**	**79**	**814**	**798**	**1,058**
Labor	Prior Year Total	2	0	27	9	84,865	0	0	
	Change	(2)	27	(18)	84,857	(84,865)	0	0	
	Total	**0**	**27**	**9**	**84,865**	**0**	**0**	**0**	
Non-Labor	Prior Year Total	416	0	833	384	(84,787)	814	798	
	Change	(416)	833	(450)	(85,170)	85,600	(16)	260	
	Total	**0**	**833**	**384**	**(84,787)**	**814**	**798**	**1,058**	
Other	Prior Year Total	0	0	0	0	0	0	0	
	Change	0	0	0	0	0	0	0	
	Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
Total Change	Prior Year Total	418	0	860	392	79	814	798	
	Change	(418)	859	(468)	(314)	735	(16)	260	
	Total	**0**	**860**	**392**	**79**	**814**	**798**	**1,058**	

Due to rounding, totals may not tie to individual items.

2025 GRC Forecast Commentary

(Constant 2022 $000)

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation Management
Business Planning Element:	Wildfire Management
Activity:	Fire Hazard Prevention
Witness:	T.Ohanian/K.Borngrebe

Summary of Changes: See Testimony

Cost Type		Recorded/Adj.					Forecast		
		2018	2019	2020	2021	2022	2023	2024	2025
Recorded / Forecast	Labor	2	0	27	9	5	0	0	0
	Non-Labor	416	0	833	384	74	814	798	1,058
	Other	0	0	0	0	0	0	0	0
	Total	**418**	**0**	**860**	**392**	**79**	**814**	**798**	**1,058**

Due to rounding, totals may not tie to individual items.

Recorded (2018-2022)

See Testimony

Forecast (2023-2025)

See Testimony

WP SCE-02 Vol. 10A

Confidential - Forecast O&M Expenses Workpaper for Routine Line Clearing (Redacted)

WP SCE-02, Vol. 10A
Forecast O&M Expenses Workpaper for Routine Line Clearing
Witness: Ohanian
Public Version

Assumptions

Market Escalation Rate in 2024		10%
Distribution % of Service Territory (8)		85%
Transmission % of Service Territory (8)		15%
Distribution Support Activities (6)		11.45%
Transmission Support Activities (6)		2.78%
Trim Allocation for Mitigations		95%
Removal Allocation for Mitigations		5%
Unit Cost for Trim	$	228
Unit Cost for Removal	$	1,473
Time & Equipment (T&E) Cost for Trim	$	532
Time & Equipment (T&E) Cost for Removal	$	2,557
Traffic Control Unit Cost	$	27.88
Customer Program Support Unit Cost in 2023	$	22.19
Customer Program Support Unit Cost in 2024-2028	$	23.89

Blend Unit Cost Calculations

(Constant 2022 $000)
Blended Unit Cost for Trims (2) (7)

		Amount	Allocation
Unit Cost	$	0.228	90%
T&E Cost	$	0.532	10%
	$	**0.258**	

(Blended Unit Cost = $0.228*90% + $0.532*10% = $0.259)

(Constant 2022 $000)
Blended Unit Cost for Removal (1) (7)

		Amount	Allocation
Unit Cost	$	1.473	90%
T&E Cost	$	2.557	10%
	$	**1.582**	

(Blended Unit Cost = $1.473*90% + $2.557*10% = $1.582)

Forecast
(Constant 2022 $000)

	2023	2024	2025	2026	2027	2028	Normalized 2025
Mitigation Volume (4)	790,000	790,000	790,000	790,000	790,000	790,000	790,000
Removal Volume (3)	39,500	39,500	39,500	39,500	39,500	39,500	39,500
Removal Allocation	**5%**	**5%**	**5%**	**5%**	**5%**	**5%**	**5%**
Trim Volume	750,500	750,500	750,500	750,500	750,500	750,500	750,500
Trim Allocation	**95%**	**95%**	**95%**	**95%**	**95%**	**95%**	**95%**
Blended Unit Cost for Removal (5)	$ 1.582	$ 1.740	$ 1.740	$ 1.740	$ 1.740	$ 1.740	$ 1.740
Blended Unit Cost for Trimming (5)	$ 0.258	$ 0.284	$ 0.284	$ 0.284	$ 0.284	$ 0.284	$ 0.284
Total Removal Costs	$ 62,471	$ 68,718	$ 68,718	$ 68,718	$ 68,718	$ 68,718	$ 68,718
Total Trim Costs	$ 193,890	$ 213,279	$ 213,279	$ 213,279	$ 213,279	$ 213,279	$ 213,279
Distribution Costs Only							
Traffic Control Unit Cost	$ 0.028	$ 0.028	$ 0.028	$ 0.028	$ 0.028	$ 0.028	$ 0.028
Customer Program Support Unit Cost	$ 0.022	$ 0.024	$ 0.024	$ 0.024	$ 0.024	$ 0.024	$ 0.024
Total Traffic Control Costs	$ 18,720	$ 18,720	$ 18,720	$ 18,720	$ 18,720	$ 18,720	$ 18,720
Total Customer Program Support Costs	$ 14,901	$ 18,874	$ 18,874	$ 18,874	$ 18,874	$ 18,874	$ 18,874
Trim and Removal Costs before Savings and Costs for SCE Labor, Support Activities, and Adjustments	**$ 289,981**	**$ 319,591**	**$ 319,591**	**$ 319,591**	**$ 319,591**	**$ 319,591**	**$ 319,591**
Savings							
Arbora Systems Savings	$ -	$ (12,500)	$ (12,500)	$ (12,500)	$ (12,500)	$ (12,500)	$ (12,500)

Targeted Undergrounding-Related Savings	$ -	$ -	$ (83)	$ (735)	$ (1,299)	$ (2,523)	$ (1,160)
Total Savings	$ -	$ (12,500)	$ (12,583)	$ (13,235)	$ (13,799)	$ (15,023)	$ (13,660)
Net Trim and Removal Costs before Costs for SCE Labor, Support Activities, and Adjustments	**289,981**	**307,091**	**307,007**	**306,356**	**305,792**	**304,568**	**305,931**
SCE Labor Costs	$ 18,300	$ 18,300	$ 18,300	$ 18,300	$ 18,300	$ 18,300	$ 18,300
Support Activities Costs (6)							
Distribution Trim and Removal Costs (8)	$ 251,527	$ 264,791	$ 264,791	$ 264,791	$ 264,791	$ 264,791	$ 264,791
Total Removal Costs	*$ 53,100*	*$ 58,410*	*$ 58,410*	*$ 58,410*	*$ 58,410*	*$ 58,410*	*$ 58,410*
Total Trim Costs	*$ 164,806*	*$ 181,287*	*$ 181,287*	*$ 181,287*	*$ 181,287*	*$ 181,287*	*$ 181,287*
Total Traffic Control Costs	*$ 18,720*	*$ 18,720*	*$ 18,720*	*$ 18,720*	*$ 18,720*	*$ 18,720*	*$ 18,720*
Total Customer Program Support Costs	*$ 14,901*	*$ 18,874*	*$ 18,874*	*$ 18,874*	*$ 18,874*	*$ 18,874*	*$ 18,874*
Arbora Systems Savings	*$ -*	*$ (12,500)*	*$ (12,500)*	*$ (12,500)*	*$ (12,500)*	*$ (12,500)*	*$ (12,500)*
Transmission Trim and Removal Costs (8)	$ 38,454	$ 42,299	$ 42,216	$ 41,565	$ 41,000	$ 39,776	$ 41,139
Total Removal Costs	*$ 9,371*	*$ 10,308*	*$ 10,308*	*$ 10,308*	*$ 10,308*	*$ 10,308*	*$ 10,308*
Total Trim Costs	*$ 29,083*	*$ 31,992*	*$ 31,992*	*$ 31,992*	*$ 31,992*	*$ 31,992*	*$ 31,992*
Targeted Undergrounding-Related Savings	*$ -*	*$ -*	*$ (83)*	*$ (735)*	*$ (1,299)*	*$ (2,523)*	*$ (1,160)*
	$ 31,964	$ 33,590	$ 33,588	$ 33,569	$ 33,554	$ 33,520	$ 33,558
For Distribution (11.45% of Distribution Trim and Removal Costs and SCE Labor)	*$ 30,895*	*$ 32,414*	*$ 32,414*	*$ 32,414*	*$ 32,414*	*$ 32,414*	*$ 32,414*
For Transmission (2.78% of Transmission Trim and Removal Costs)	*$ 1,069*	*$ 1,176*	*$ 1,174*	*$ 1,156*	*$ 1,140*	*$ 1,106*	*$ 1,144*
Adjustment Costs							
Compensation Changes and Other Adj.	$ 802	$ 579	$ 930	$ 930	$ 930	$ 930	$ 930
TOTAL ROUTINE LINE CLEARING COSTS (9)	**$ 341,048**	**$ 359,560**	**$ 359,825**	**$ 359,156**	**$ 358,575**	**$ 357,318**	**$ 358,718**
Routine Line Clearing (Distribution) Costs	*$ 301,405*	*$ 315,997*	*$ 316,296*	*$ 316,296*	*$ 316,296*	*$ 316,296*	*$ 316,296*
Routine Line Clearing (Transmission) Costs	*$ 39,643*	*$ 43,562*	*$ 43,529*	*$ 42,860*	*$ 42,280*	*$ 41,022*	*$ 42,423*

Notes

(1) Average removal cost based on historical removal types performed by species and DBH (Diameter at Breast Height) as weighted percentage on currently negotiated vendor rates - see tab UnitCost for the calculation of the average rate.
(2) Average trim cost based on historical trimming work types performed and currently negotiated vendor rates. See tab UnitCost for the calculation of the average rate.
(3) Removal % is based on SCE's target for removals.
(4) Mitigation Volume reflects annualized volumes as of August 2022.
(5) Market rate escalation of 10% applied for 2024 costs.
(6) Support activities include costs that cannot be directly charged to projects, including maintenance costs, overall support related costs, and cost of tools that cannot be directly charged.
(7) The unit costs for trimming and removing are based on historical averages of 90% for unit rates and 10% for T&E rates of the work invoiced.
(8) Most recent averages allocate 85% and 15% for Distribution and Transmission respectively, subject to change. Only Distribution Costs (and not Transmission Costs) include Traffic Control and Customer Program Support costs.
(9) For Routine Line Clearing, SCE has a variance of approximately $11 million between this workpaper and the RO Model; the RO Model contains a lower amount.

WP SCE-02, Vol. 10A
Forecast O&M Expenses Workpaper for Routine Line Clearing
Witness: Ohanian
Public Version

Routine Line Clearing - Unit Cost Calculations

Assumptions

(1) SCE is using the currently active vendor rates for all vendor costs as of January 1, 2023.
(2) It is assumed that SCE may approve equal or less than 5% of work as approved Premium Time.
(3) SCE estimated a 4% increase in contract costs in order to extend the current contract through December 2023.

1. Summary of Costs

Est. Mitigation Volume		Baseline Amount	Roaming (+)	Late Release (+)	Equipment (+)	Unit Cost Sub-Total	Contract Extension Rate (3)	Extension Adder Amt	Unit Cost
[redacted]	Unit Cost for Trim	[redacted]					4%	[redacted]	$ 228
	Unit Cost for Removal						4%		$ 1,473
	T&E Cost for Trim						4%		$ 532
	T&E Cost for Removal						4%		$ 2,557
790,000									
790,000	Total Annual Trim + Remove								

		Baseline	Contract Extension Rate (3)	Extension Adder Amt	2023 Unit Cost	Escalation	2024-2028 Unit Cost
	Traffic Control	[redacted]			$ 27.88	0%	$ 27.88
For Distribution Only:	Environmental Coordinator				$ 5.18	0%	$ 5.18
	Customer Coordinator				$ 15.49	10%	$ 17.04
	Supplemental Support Staff				$ 1.52	10%	$ 1.67
	Customer Program Support				$ 22.19		$ 23.89

2. Cost Adder Calculation

	Adder Cost	Baseline Costs	
Roaming Adder	[redacted]	[redacted]	<--assume 8% of inventory is on roaming rates (based on historical and YTD) at $15 incremental cost
Env. Late Release Adder			<--2022 Projection is $20M -- divided by unit cost per -- add $50 premium incremental per late release
Specialized Equipment Adder			<--Based on annualized 2022 costs as of August 2022
Total Annual Trim + Remove Volume	790,000		<--Totals based on 2022 YTD + Forecasted
Distribution Only Adder Costs			
Traffic Control Adder	[redacted]	[redacted]	<--Based on annualized 2022 costs as of August 2022
Env. Monthly Coordinator Adder	[redacted]	[redacted]	<--Based on hourly rate and headcount
Customer Coordinator Adder			<--Based on annualized 2022 costs as of August 2022
Supplemental Support Adder			<--Based on annualized 2022 costs as of August 2022

Dist. Annual Trim + Remove Volume [redacted] <--Totals based on 2022 YTD + Forecasted

3. Baseline Unit Cost Calculation for Trimming (1)

Total Trim Volume	Vendor	Normal Time (2)	Premium Time (2)	% Volume	Weighted Costs
			95%	5%	
[redacted]					
766,648				100%	$ 212.13

* Partial year recorded total
1. 95% vs 5% Normal Time to Premium Time Unit utilizaiton
2. No deeper trim rate considerations applied

4. Baseline Unit Cost Calculation for Removal Unit Rates (1)

Removal Volume	Vendor	Wood	Palm	Skinning	Total	% Total	% of Total - Wood	% of Total - Palm	% of Total - Skinning	Wood Cost	Palm Cost	Skinning Cost	Unit Cost	Weighted Unit Costs
[redacted]														
766,648		9,941	9,396	5,766	25,103	100%								$ 1,409.40

* Partial year recorded total

5. Baseline Unit Cost Calculation for T&E Rates for Trimming (1)

Trim Volume	Vendor	% Total	Unit Cost	Weighted Unit Costs
[redacted]				
766,648		1		$ 507.80

6. Baseline Unit Cost Calculation for T&E Rates for Removals (1)

Removal Volume	Vendor	% Total	Unit Cost	Weighted Unit Costs
[redacted]				
25,103				$ 2,455.34

* Partial year recorded total

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Forecast O&M Expenses Workpaper for Weed Abatement

WP SCE-02, Vol. 10A
Forecast O&M Expenses Workpaper for Weed Abatement
Witness: Ohanian

Assumptions

Average cost per pass (1)	$1,021
Total Parcels in Inventory (2)	1,500
Unit Cost Escalation in 2024 (3)	10%

Weed Abatement Scope

Region	2022 Parcels	Percentage by Region (6)
Eastern	850	31%
Metro	1,250	45%
Northern	650	24%
Total	2,750	100%

Planned Parcel Passes Per Year (2023 - 2028) (5)		
1 pass	100%	1,500
2 pass	84%	1,260
3 pass	24%	360
4 pass	14%	210
Total		3,330

Forecast

Weed Abatement Volume - Parcels Passes Per Year	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**Normalized 2025**
Eastern	1,029	1,029	1,029	1,029	1,029	1,029	1,029
Metro	1,514	1,514	1,514	1,514	1,514	1,514	1,514
Northern	787	787	787	787	787	787	787
Total Parcel Passes	3,330	3,330	3,330	3,330	3,330	3,330	3,330
Weed Abatement Cost	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	
Eastern	$1,050,494	$1,155,544	$1,155,544	$1,155,544	$1,155,544	$1,155,544	1,155,544
Metro	$1,544,845	$1,699,329	$1,699,329	$1,699,329	$1,699,329	$1,699,329	1,699,329
Northern	$803,319	$883,651	$883,651	$883,651	$883,651	$883,651	883,651
TOTAL	$3,398,659	$3,738,524	$3,738,524	$3,738,524	$3,738,524	$3,738,524	3,738,524
Weed Abatement Sub-total	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	
Supporting Costs and Other Adj. (4)	$475,812	$523,393	$523,393	$523,393	$523,393	$523,393	$523,393
Compensation Changes & Other Adj.	$8,269	$440,272	$23,864	$23,864	$23,864	$23,864	23,864
Total Weed Abatement Forecast	**$3,882,740**	**$4,702,190**	**$4,285,781**	**$4,285,781**	**$4,285,781**	**$4,285,781**	**4,285,781**

Notes

(1) Average cost per pass of $1,021 in constant 2022 $ based on historical pricing.
(2) Parcels are generally assumed to be 5 acres.
(3) Market escalation of 10% in unit cost in 2024.
(4) Support activities include costs that cannot be directly charged to projects, including maintenance costs, overall support related costs, and cost of tools that cannot be directly charged.
(5) Parcel passes based on regrowth patterns, site conditions, and fire risk.
(6) Percentage allocation by region is based on 2022 weed abatement scope.

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Forecast O&M Expenses Workpaper for Fuel Management

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Forecast O&M Expenses Workpaper for Fuel Management
Witness: Ohanian

Fuel Management - Summary
Constant 2022 (000)

Activity	2023	2024	2025	2026	2027	2028	Total	Normalized 2025
Grazing	$ 480	$ 540	$ 690	$ 840	$ 990	$ 1,140	$ 4,680	$ 915
TGR	$ 75	$ 125	$ 175	$ 300	$ 400	$ 500	$ 1,575	$ 344
ROW Low Growth	$ 665	$ 808	$ 1,051	$ 1,294	$ 1,538	$ 1,781	$ 7,137	$ 1,416
Forestry Fuel Management	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 12,000	$ 2,000
Fuel Management Sub-Total	**$ 3,220**	**$ 3,473**	**$ 3,916**	**$ 4,434**	**$ 4,928**	**$ 5,421**	**$ 25,391**	**$ 4,675**
Supporting Costs and Other Adj.	$ 568	$ 613	$ 695	$ 786	$ 873	$ 960	$4,496	$ 829
Fuel Management Total	**$ 3,788**	**$ 4,086**	**$ 4,611**	**$ 5,221**	**$ 5,801**	**$ 6,381**	**$ 29,887**	**$ 5,503**

* Support activities include costs that cannot be directly charged to projects, including maintenance costs, overall support related costs, and cost of tools that cannot be directly charged.

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Forecast O&M Expenses Workpaper for Fuel Management
Witness: Ohanian

Grazing Forecast

Volume

80 acres in district 50 for 2023. Add 50 acres annually for program expansion into other areas after 2023

	2023 (1)	2024	2025	2026	2027	2028
Unit Counts	80	130	180	230	280	330

Unit Cost

Estimated cost of $3,000 per acre and includes costs for program support, vet costs, parcel prep, and other factors.

Cost Per Acre (2)	$ 3,000
Unit Cost Total	$ 3,000

Second pass costs

The first 80 acres gets two passes in 2023. In 2024 - 2028 only the incremental 50 acres gets a second pass.

2023	2024	2025	2026	2027	2028
$ 240,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000	$ 150,000

Total Costs

2023	2024	2025	2026	2027	2028
$ 480,000	$ 540,000	$ 690,000	$ 840,000	$ 990,000	$ 1,140,000

Notes

(1) The initial 80 acres is based on internal analysis of the potential scope within the Sierra National Forest
(2) Cost per acres is based on vendor rates from 2022.

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Forecast O&M Expenses Workpaper for Fuel Management
Witness: Ohanian

Tree Growth Regulator (TGR) Forecast

Volume

Based on trees treated during the 2022 pilot, doubled in 2023, then escalated by approximately 440 trees every year afterward

	2023	2024	2025	2026	2027	2028
Unit Counts	663	1,106	1,548	1,991	2,433	2,876

Unit Cost

Average Vendor Price	$ 113
Unit Cost Total	$ 113

Sub-Total

	2023	2024	2025	2026	2027	2028
Total	$ 74,919	$ 124,978	$ 174,924	$ 224,983	$ 274,929	$ 324,988

Other Factors

Re-treatment after 3 years (required to maintain growth regulation).

$ -	$ -	$ -	$ 74,919	$ 124,978	$ 174,924

Total Costs

	2023	2024	2025	2026	2027	2028
Forecast	$ 74,919	$ 124,978	$ 174,924	$ 299,902	$ 399,907	$ 499,912

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Forecast O&M Expenses Workpaper for Fuel Management
Witness: Ohanian

ROW Low Growth Forecast

Volume

Based on taking a portion of the weeed abatement volume for parcels that require more passes.
Add'l Acreage 2024-2028: 400

	2023	2024	2025	2026	2027	2028
Unit Counts	600	1,000	1,400	1,800	2,200	2,600

Unit Cost

Based on vendor estimates.

Cost Per Acre Per Pass (2)	$ 304
Unit Cost Total	$ 304

Other Factors

Costs of $500/acre for the initial clearing of parcels parcels prior to treatment. In 2024 - 2028 the cost is only applied to the incremental 400 acres.
Pre-emergent herbicide requires two applications annually

	2023	2024	2025	2026	2027	2028
Initial Clearing Costs	$ 300,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000	$ 200,000
1st pass for treatment	$ 182,400	$ 304,000	$ 425,600	$ 547,200	$ 668,800	$ 790,400
2nd pass for treatment	$ 182,400	$ 304,000	$ 425,600	$ 547,200	$ 668,800	$ 790,400

Total Costs

2023	2024	2025	2026	2027	2028
$ 664,800	$ 808,000	$ 1,051,200	$ 1,294,400	$ 1,537,600	$ 1,780,800

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Forecast O&M Expenses Workpaper for Fuel Management
Witness: Ohanian

Forestry Fuel Management

Volume

Estimate of 500 acres over the 6 year window based on Forestry partnerships and environmental approvals.

	2023	2024	2025	2026	2027	2028
Unit Counts (Acres)	50	100	100	100	100	50
Forestry Fuel Management Activities [1]						
Environmental Baseline (NEPA or Various Resources Survey)	40%	20%	20%	20%	20%	20%
Fuel/Debris Management Activities	30%	30%	30%	30%	30%	30%
Vegetation Thinning and Timber Harvesting	20%	40%	40%	40%	40%	40%
Invasive Species Control and Reestablishment of Native Species	5%	5%	5%	5%	5%	5%
Reforestation	5%	5%	5%	5%	5%	5%
Total Forecast	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Forestry Fuel Management Activities						
Environmental Baseline (NEPA or Various Resources Survey)	$800	$400	$400	$400	$400	$400
Fuel/Debris Management Activities	$600	$600	$600	$600	$600	$600
Vegetation Thinning and Timber Harvesting	$400	$800	$800	$800	$800	$800
Invasive Species Control and Reestablishment of Native Species	$100	$100	$100	$100	$100	$100
Reforestation	$100	$100	$100	$100	$100	$100
Total Forecast ($000) (Do Not Exceed Cost)[2]	**$2,000**	**$2,000**	**$2,000**	**$2,000**	**$2,000**	**$2,000**

[1] SCE estimates the above cost allocation between various forestry fuel management activities. Each forestry fuel management plan will be an independent agreement and may include any or all of the listed activities. Subject to change based on selected forestry sites and agency approval.

[2] SCE is currently partnering with agencies to develop forestry fuel management plans. The timing and size of each project remains unknown. SCE's forecast is based on a 'do not exceed' estimate of $2 million per year.

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Confidential - Forecast O&M Expenses Workpaper for Seasonal Patrols, Areas-of-Concern, and Emergent Work (Redacted)

WP SCE-02, Vol. 10A
Forecast O&M Expenses Workpaper for Seasonal Patrols, Areas-of-Concern, and Emergent Work
Witness: Ohanian
Public Version

Assumptions

Market Escalation for emergent work & AOC in 2024	10%
Market Escalation for prev maint HF and non-HF in 2025	8%
Market Escalation for prev maint HF in 2025	2%
Emergent work average trims per hour	[redacted]
Emergent work total number of hours	
Emergent work hourly contractor rate (1)	
Preve Maint HF vege P2 Hourly Contractor Rate in 2022	
AOC contractor hourly rate (1)	
Seasonal Patrols contractor hourly rate (1)	
Seasonal Patrols Total Number of Hours	

Volume of Work

Work Units

	2023	2024 (6)	2025	2026	2027	2028
Emergent Work (2)	26,000	26,000	26,000	26,000	26,000	26,000
Preve Maint Non-HF vege P2 (3)			4,000	4,000	4,000	4,000
Preve Maint HF vege P2 (4)			1,900	1,900	1,900	1,900
AOC (5)	22,000	22,000	22,000	22,000	22,000	22,000
Seasonal Patrols Mitigations	5,300	5,300	5,300	5,300	5,300	5,300
Seasonal Patrols (Inspections) Hours	37,600	37,600	37,600			

Unit Cost

Unit Cost by Work

	2023	2024	2025	2026	2027	2028
Emergent Work	$ 548	$ 603	$ 603	$ 603	$ 603	$ 603
Preve Maint Non-HF vege P2			$ 1,820	$ 1,872	$ 1,925	$ 1,981
Preve Maint HF vege P2			$ 1,951	$ 1,951	$ 1,951	$ 1,951
AOC Contractor Hourly Rate (1)	[redacted]					
Seasonal Patrols Mitigations						
Seasonal Patrols Inspections Contractor Hourly Rate (1)						

Forecast

Constant 2022 $	2023	2024 (6)	2025	2026	2027	2028	Normalized 2025
Emergent Work	$ 14,243,089	$ 15,667,398	$ 15,667,398	$ 15,667,398	$ 15,667,398	$ 15,667,398	$ 15,667,398
Preve Maint Non-HF vege P2			$ 7,281,852	$ 7,487,172	$ 7,700,427	$ 7,922,321	$ 7,597,943
Preve Maint HF vege P2			$ 3,706,083	$ 3,706,083	$ 3,706,083	$ 3,706,083	$ 3,706,083

Arbora Savings (Emergent Work/P1) (7)	$ (421,010)	$ (561,347)	$ (561,347)	$ (561,347)	$ (561,347)	$ (561,347)	$ (561,347)
Arbora Savings (Prev Maint/Trouble Orders) (7)	$ (1,832,453)	$ (2,443,271)	$ (2,443,271)	$ (2,443,271)	$ (2,443,271)	$ (2,443,271)	$ (2,443,271)
Support Activities (11.45%) (8)	$ 1,372,812	$ 1,449,888	$ 2,708,007	$ 2,731,516	$ 2,755,934	$ 2,781,341	$ 2,744,199
Subtotal Emergent Work	$ 13,362,438	$ 14,112,668	$ 26,358,722	$ 26,587,551	$ 26,825,224	$ 27,072,524	$ 26,711,005
	$ 1,372,996	$ 1,381,373	$ 3,274,501	$ 3,302,259	$ 3,331,089	$ 3,361,086	$ 3,317,234
AOC	$ 4,860,570	$ 5,346,627	$ 5,346,627	$ 5,346,627	$ 5,346,627	$ 5,346,627	$ 5,346,627
Arbora Savings (AOC) (7)	$ (323,582)	$ (431,442)	$ (431,442)	$ (431,442)	$ (431,442)	$ (431,442)	$ (431,442)
Support Activities (14.4%) (8)	$ 653,326	$ 707,787	$ 707,787	$ 707,787	$ 707,787	$ 707,787	$ 707,787
Subtotal AOC	$ 5,190,315	$ 5,622,972	$ 5,622,972	$ 5,622,972	$ 5,622,972	$ 5,622,972	$ 5,622,972
	$ 818,110	$ 886,306	$ 886,306	$ 886,306	$ 886,306	$ 886,306	$ 886,306
Seasonal Patrols Mitigation (9)	$5,530,279	$6,083,307	$6,083,307	$6,083,307	$6,083,307	$6,083,307	$6,083,307
Seasonal Patrols Inspections	$4,286,400	$4,715,040	$4,715,040				$4,715,040
Arbora Savings (Seasonal Patrols) (6) (7)	$ (1,622,468)	$ (2,163,290)	$ (2,163,290)	$ (2,163,290)	$ (2,163,290)	$ (2,163,290)	-$2,163,290
Support Activities (14.4%) (8)	$1,179,966	$1,243,448	$1,243,448	$564,482	$564,482	$564,482	$734,224
Subtotal Seasonal Patrols	$9,374,178	$9,878,505	$9,878,505	$4,484,499	$4,484,499	$4,484,499	$5,833,000
	$1,250,435	$1,254,213	$1,254,213	$403,997	$403,997	$403,997	$616,551
Contractor Subtotal	$ 24,720,825	$ 26,213,022	$ 37,200,957	$ 32,691,236	$ 32,904,492	$ 33,126,385	$33,980,768
Support Activities (11.45%-14.4%) Subtotal (8)	$ 3,206,105	$ 3,401,123	$ 4,659,242	$ 4,003,785	$ 4,028,203	$ 4,053,610	$4,186,210
Compensation Changes & Other Adj.	$ 66,334	$ 104,041	$ 252,771	$ 252,771	$ 252,771	$ 252,771	$252,771
Total Forecast Seasonal Patrols, AOC, & Emergent Work (10)	**$ 27,993,264**	**$ 29,718,185**	**$ 42,112,969**	**$ 36,947,792**	**$ 37,185,465**	**$ 37,432,765**	**$ 38,419,748**

Notes

(1) Contractor hourly rate is based on historical average.
(2) Emergent work volume is based on historical data from January through May 2022
(3) Preve Maint Non-HF vege P2 volume is based on 2020-2021 historical
(4) Preve Maint HF vege P2 volume is based on historical data from January through August 2022
(5) AOC volume is based on 2022 historical data. This volume consists of 12,000 for Summer AOC and 10,000 for Fall AOC.
(6) Applies a 10% market escalation rate in 2024.
(7) Assumes 9 months of Arbora savings in 2023 and full year of savings thereafter.
(8) Emergent work support activities is 11.45% and AOC and Seasonal Patrols support activities is 14.4%. Support activities include costs that cannot be directly charged to projects, including maintenance costs, overall support related costs, and cost of tools that cannot be directly charged.
(9) Seasonal Patrols Mitigation is based on total hours worked and total costs for trims and removals. See Seasonal Patrols Support tab for more information.
(10) At the time of filing, the Test Year forecast is $49.588 million. SCE will file errata to align the RO model with the forecast in this workpaper.

Alternative Forecast, if full remote sensing is not authorized:

Constant 2022 $	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**Normalized 2025**
Seasonal Patrols Mitigation	$5,530,279	$6,083,307	$6,083,307	$6,083,307	$6,083,307	$6,083,307	$6,083,307
Seasonal Patrols Inspections	$4,286,400	$4,715,040	$4,715,040	$4,715,040	$4,715,040	$4,715,040	$4,715,040
Arbora Savings (Seasonal Patrols)	$ (1,622,468)	$ (2,163,290)	$ (2,163,290)	$ (2,163,290)	$ (2,163,290)	$ (2,163,290)	-$2,163,290

Support Activities (14.4%)		$1,179,966		$1,243,448		$1,243,448		$1,243,448		$1,243,448		$1,243,448
Subtotal Seasonal Patrols		$9,374,178		$9,878,505		$9,878,505		$9,878,505		$9,878,505		$9,878,505
Contractor Subtotal	$	24,720,825	$	26,213,022	$	37,200,957	$	37,406,276	$	37,619,532	$	37,841,425	$	37,517,048
Support Activities (11.45%-14.4%) Subtotal	$	3,206,105	$	3,401,123	$	4,659,242	$	4,682,751	$	4,707,169	$	4,732,575	$	4,695,434
Compensation Changes & Other Adj.	$	66,334	$	104,041	$	252,771	$	252,771	$	252,771	$	252,771		$252,771
Alternative Forecast Seasonal Patrols, AOC, & Emergent Work (1)	**$**	**27,993,264**	**$**	**29,718,185**	**$**	**42,112,969**	**$**	**42,341,798**	**$**	**42,579,471**	**$**	**42,826,771**	**$**	**42,465,252**

Alternative Forecast Note:
(1) At the time of filing, the Test Year forecast is $49.588 million. SCE will file errata to align the RO model with the forecast in this workpaper.

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Forecast O&M Expenses Workpaper for Seasonal Patrols, Areas-of-Concern, and Emergent Work
Witness: Ohanian
Public Version

Seasonal Patrols Mitigation Forecast

Seasonal Patrols Trim and Removal Volume

Patrol	Trim Units	Removal Units	Total Trim/Removal Units
Canyon Patrols	[redacted]		
Summar Readiness Patrols (SRVP)			
Operation Santa Ana (OPSA)			
Total			**5,300**

Seasonal Patrols Trim and Removal Cost

Trims

Patrol	Trim Hours (1)	Contractor Hourly Trim Rate (2)	Total Trim Cost
Canyon Patrols	[redacted]		$ 2,358,315
SRVP			$ 1,703,228
OPSA			$ 240,199
Total Trim Hours	**19,700**		**$ 4,301,741**

Removal

Patrols	Removal Hours (1)	Contractor Hourly Removal Rate (2)	Total Removal Costs
Canyon Patrols	[redacted]		$ 982,830
SRVP			$ 163,805
OPSA			$ 81,903
Total Removal Hours	**3,000**		**$ 1,228,538**

Patrols	Total Trim and Removal Cost
Canyon Patrols	$ 3,341,145
SRVP	$ 1,867,033
OPSA	$ 322,101
Total Costs	**$ 5,530,279**

Notes
(1) Mitigation hours assumes 4 hours per tree and removal assumes 8 hours per tree.
(2) Contractor hourly rate is based on historical average.

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Workpaper for the TRC Template

WP SCE-02, Vol. 10A
HTMP Tree Risk Calculator
Witness: Ohanian

Consequence (C)			
Description	Selection	Score	/Possible
Voltage Impact (VI)	2.4-21kV (distribution- covered conductor and bare wire)	6	/10
Fire Impact (FI)	Buildings or accessory structures nearby	4	/15
Tree Risk Index (TRI)	A	15	/15

Likelihood of Failure & Strike (LoFS)			
Description	Selection	Score	/Possible
Tree Species Risk Factor (RF)	Medium	3	/5
Tree Height Factor (THF)	1.1x-1.9x (top half will strike)	5	/10
Tree Lean and Direction Strike Potential	High	15	/15
Tree Defects (TD)		0	
Tree Defects (TD)		0	
Tree Defects (TD)		0	/20
Tree Defects (TD)		0	
Tree Defects (TD)		0	
Site Condition Attributes (SCA)		0	
Site Condition Attributes (SCA)		0	/10
Site Condition Attributes (SCA)		0	

Consequence (C)	25
Likelihood of Failure & Strike (LoFS)	23
Overall Risk Score	48

Tree Risk Mitigation Threshold											
1	11	21	31	41	51	61	71	81	91		
2	12	22	32	42	52	62	72	82	92		
3	13	23	33	43	53	63	73	83	93		
4	14	24	34	44	54	64	74	84	94		
5	15	25	35	45	55	65	75	85	95		
6	16	26	36	46	56	66	76	86	96		
7	17	27	37	47	57	67	77	87	97		
8	18	28	38	48	58	68	78	88	98		
9	19	29	39	49	59	69	79	89	99		
10	20	30	40	50	60	70	80	90	100		

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HTMP Tree Risk Calculator
Witness: Ohanian

Voltage Impact (VI)	Score	Max Score
Aerial or Hendrix cable	1	10
<2.4kV (service, secondary, guy wire)	3	
2.4-21kV (distribution- covered conductor and bare wire)	6	
33-66kV (subtransmission)	8	
115-220kV (transmission)	10	
500kV (transmission)	10	

Fire Impact (FI)	Score	15
Swamp, marsh, or bogland	1	
Residential or Agricultural irrigation	1	
Buildings or accessory structures nearby	4	
Forested/timber vegetation with cleared understory	8	
Grassland-dominated vegetation, with occasional to scattered trees	9	
Shrub-dominated vegetation (chapparal), with occasional to scattered trees	12	
Forested/timber vegetation with dense understory, heavy leaf litter or ladder fuels	15	

Tree Risk Index (TRI)	Score	15
A	15	
B	10	
C	5	
D	1	

Highest possible score = 40

Consequence Score (C)= (VI + FI + TRI)	

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HTMP Tree Risk Calculator
Witness: Ohanian

Tree Species Risk Factor (RF)	Score	Max Score 5
Low	1	
Medium	3	
High	5	

Tree Height Factor (THF)	Score	10
RCD-1.0x (top part may strike)	1	
1.1x-1.9x (top half will strike)	5	
2.0x+ (will strike at halfway or lower part of tree)	10	

Tree Lean & Direction Strike Potential (TL)	Score	15
Very Low	1	
Low	5	
Medium	10	
High	15	

Tree Defects (TD)	Score	20
Basal wound	2	
Bleeding/resinous	1	
Dead top	3	
Dieback of branches	4	
Epicormic sprouts	1	
Evidence of branch failure	4	
Fungal fruiting bodies	5	
Included Bark	8	
Live crown ratio <50%	4	
Major codominant top (within bottom half of tree)	8	
Major cracks	20	
Major pest infestation	15	
Major root defects (exposure or girdling)	20	
Major rot	20	
Minor codominant top (within top half of tree)	3	
Minor cracks	5	
Minor pest infestation	1	
Minor root defects (exposure or girdling)	2	
Minor rot	2	
Mistletoe (widespread)	3	
Moderate root defects (exposure or girdling)	10	
Moderate rot	10	
Poor trunk taper	2	
Seams/ribs	2	
Structurally unsound trunk	15	
Weak, unsound branch attachments/branch-bark ridge	8	

10

Site Condition Attributes (SCA)	Score
No Impact	0
High stand density with single species composition (monocultures)	1
Areas known to be affected by introduced tree pathogens (Bark Beetle)	2
Change in grade	3
Disturbance to landscape - natural or unnatural	4
Fire damage	5
Areas of recent clearing/thinning/logging/new edge	6
Soils prone to erosion	7
High winds	8

Highest possible score = 60

Tree Defects (TD) = SUM(CHOICEVALUES(TD)), where MAX = 20

Site Conditions (SCA) = SUM(CHOICEVALUES(SCA)), where MAX = 15

Selected Value (SV)= SUM (TD) + (SCA) + (TS) + (THF) + (TL)

Overall Score (OTC) = (SV) * (LOFS), where MAX = 60

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O&M Detail
for Wildfire Vegetation Management

2025 GRC Summary

(Constant 2022 $000)

Beginning of Workpapers for:

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation Management
Business Planning Element:	Wildfire Management
Activity:	Wildfire Vegetation Management
Witness:	T.Ohanian/K.Borngrebe

Cost Type	Recorded/Adj. 2022	Forecast 2025
Labor	259	236
Non-Labor	29,286	53,983
Other	0	0
Total	**29,545**	**54,219**

Due to rounding, totals may not tie to individual items.

Description of Activity:
This work comprises the end-to-end processes, including ground inspections and remote sensing, remediation activity, quality control, and environmental support activities, that focus on reducing ignition and therefore, wildfire risk by removing or trimming trees with the potential to strike electric lines and equipment. Remediation activities result in expenses for tree removal, tree mitigation, and property owner incentives.

Forecast Methods - Summary of Results of Methods Studied

(Constant 2022 $000)

Exhibit: SCE-02 Grid Activities
Volume: 10A - Vegetation Management
Business Planning Element: Wildfire Management
Activity: Wildfire Vegetation Management
Witness: T.Ohanian/K.Borngrebe

Cost Type	Recorded/Adj.				
	2018	2019	2020	2021	2022
Labor	0	228	448	615	259
Non-Labor	6	19,272	59,460	36,886	29,286
Other	0	0	0	0	0
Total	**6**	**19,500**	**59,908**	**37,501**	**29,545**

Cost Type	Results of Linear Trending					
	3 Years: 2020 - 2022		4 Years: 2019 - 2022		5 Years: 2018 - 2022	
	$	r2*	$	r2*	$	r2*
Labor	62	0.28	504	0.03	762	0.38
Non-Labor	(18,471)	0.92	39,586	0.00	67,069	0.30
Other	0	0.00	0	0.00	0	0.00
Total	**(18,409)**	**N/A**	**40,090**	**N/A**	**67,831**	**N/A**

Cost Type	Results of Averaging							
	2 Years:		3 Years:		4 Years:		5 Years:	
	2021 - 2022	sd**	2020 - 2022	sd**	2019 - 2022	sd**	2018 - 2022	sd**
Labor	437	178	441	145	388	156	310	208
Non-Labor	33,086	3,800	41,877	12,814	36,226	14,797	28,982	19,623
Other	0	0	0	0	0	0	0	0
Total	**33,523**	**N/A**	**42,318**	**N/A**	**36,613**	**N/A**	**29,292**	**N/A**

Cost Type	Last Recorded Year		
	2023	2024	2025
Labor	259	259	259
Non-Labor	29,286	29,286	29,286
Other	0	0	0
Total	**29,545**	**29,545**	**29,545**

Cost Type	Itemized Forecast		
	2023	2024	2025
Labor	219	221	236
Non-Labor	45,894	59,037	54,360
Other	0	0	0
Total	**46,113**	**59,258**	**54,596**

** r2 = R Squared (Based on recorded years data)*

*** sd = standard deviation (Based on recorded years data)*

2025 GRC Selected Forecast Method

(Constant 2022 $000)

Exhibit: SCE-02 Grid Activities
Volume: 10A - Vegetation Management
Business Planning Element: Wildfire Management
Activity: Wildfire Vegetation Management
Witness: T.Ohanian/K.Borngrebe

Cost Type	Recorded/Adj.					Forecast			Selected Forecast		TY Forecast Incr/(Decr) from 2022
	2018	2019	2020	2021	2022	2023	2024	2025	Method	($000)	
Labor	0	228	448	615	259	219	221	236	Itemized	236	(23)
Non-Labor	6	19,272	59,460	36,886	29,286	45,894	59,037	53,983	Itemized	53,983	24,698
Other											
Total	**6**	**19,500**	**59,908**	**37,501**	**29,545**	**46,113**	**59,258**	**54,219**		**54,219**	**24,675**

Due to rounding, totals may not tie to individual items.

Analysis of Forecasting Methods

Itemized Forecast:
Itemized Forecast Method

Other Forecast Methods not Selected

Last Recorded Year:
In D.89-12-057, and subsequently in D.04-07-022, the CPUC stated that if recorded expenses have been relatively stable for three or more years, the last recorded year is an appropriate base estimate. For this activity the Last Recorded Year method does not account for the variables discussed in testimony to determine the 2025 Test Year forecast. Therefore, the Last Recorded Year method is not appropriate.

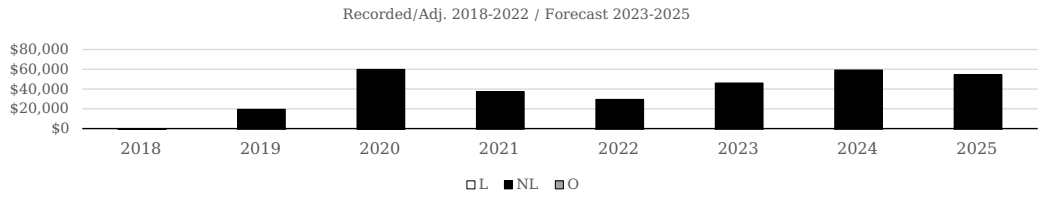
Linear Trending:
In D.89-12-057, and subsequently in D.04-07-022, the CPUC stated that if recorded expenses have been relatively stable for three or more years, the last recorded year is an appropriate base estimate. For this activity the Linear Trending method does not account for the variables discussed in testimony to determine the 2025 Test Year forecast. Therefore, the Linear Trending method is not appropriate.

Averaging:
In D.89-12-057, and subsequently in D.04-07-022, the CPUC stated that if recorded expenses have significant fluctuations from year to year, or expenses are influenced by external forces beyond the utility's control, an average of recorded-expenses is appropriate. For this activity the Averaging method does not account for the variables discussed in testimony to determine the 2025 Test Year forecast. Therefore, the Averaging method is not appropriate.

2025 GRC Year Over Year Variance

(Constant 2022 $000)

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation Management
Business Planning Element:	Wildfire Management
Activity:	Wildfire Vegetation Management
Witness:	T.Ohanian/K.Borngrebe



Cost Type		Recorded/Adj.					Forecast		
		2018	2019	2020	2021	2022	2023	2024	2025
Recorded / Forecast	Labor	0	228	448	615	259	219	221	236
	Non-Labor	6	19,272	59,460	36,886	29,286	45,894	59,037	54,360
	Other	0	0	0	0	0	0	0	0
	Total	**6**	**19,500**	**59,908**	**37,501**	**29,545**	**46,113**	**59,258**	**54,596**
Labor	Prior Year Total	0	228	448	615	259	219	221	
	Change	228	220	166	(356)	(40)	2	15	
	Total	**228**	**448**	**615**	**259**	**219**	**221**	**236**	
Non-Labor	Prior Year Total	6	19,272	59,460	36,886	29,286	45,894	59,037	
	Change	19,266	40,188	(22,574)	(7,600)	16,609	13,143	(4,677)	
	Total	**19,272**	**59,460**	**36,886**	**29,286**	**45,894**	**59,037**	**54,360**	
Other	Prior Year Total	0	0	0	0	0	0	0	
	Change	0	0	0	0	0	0	0	
	Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
Total Change	Prior Year Total	6	19,500	59,908	37,501	29,545	46,113	59,258	
	Change	19,495	40,408	(22,408)	(7,956)	16,569	13,145	(4,662)	
	Total	**19,500**	**59,908**	**37,501**	**29,545**	**46,113**	**59,258**	**54,596**	

Due to rounding, totals may not tie to individual items.

2025 GRC Forecast Commentary

(Constant 2022 $000)

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation Management
Business Planning Element:	Wildfire Management
Activity:	Wildfire Vegetation Management
Witness:	T.Ohanian/K.Borngrebe

Summary of Changes: See Testimony

Cost Type		Recorded/Adj.					Forecast		
		2018	2019	2020	2021	2022	2023	2024	2025
Recorded / Forecast	Labor	0	228	448	615	259	219	221	236
	Non-Labor	6	19,272	59,460	36,886	29,286	45,894	59,037	53,983
	Other	0	0	0	0	0	0	0	0
	Total	**6**	**19,500**	**59,908**	**37,501**	**29,545**	**46,113**	**59,258**	**54,219**

Due to rounding, totals may not tie to individual items.

Recorded (2018-2022)

See Testimony

Forecast (2023-2025)

See Testimony

WP SCE-02 Vol. 10A

Confidential - Forecast O&M Expenses Workpaper for Hazard Tree Management Program (HTMP) (Redacted)

WP SCE-02, Vol. 10A
Forecast O&M Expenses Workpaper for Hazard Tree Management Program (HTMP)
Witness: Ohanian

Summary of HTMP Forecast

Constant 2022 $	2023	2024	2025	2026	2027	2028	Normalized 2025 (2)
HTMP Removals	36,320,602	49,653,432	43,753,113	39,503,024	49,753,240	43,753,113	44,190,623
HTMP Trims (Mitigation)	224,444	311,510	275,539	248,886	313,166	275,539	278,283
HTMP Property Owner Incentives	88,616	122,993	107,433	97,789	125,121	111,775	110,529
Savings - Targeted Undergrounding (1)			(32,759)	(231,195)	(431,137)	(811,629)	(376,680)
TOTAL HTMP FORECAST	**36,633,662**	**50,087,935**	**44,103,327**	**39,618,504**	**49,760,390**	**43,328,798**	**44,202,755**

Notes

(1) SCE will file errata to incorporate Targeted Undergrounding savings in this workpaper into the RO model.

(2) In the RO model, SCE forecasts normalized O&M expenses of $44.579 million in the Test Year. This amount does not include the Targeted Underground savings shown in this workpaper.

(3) Minimal differences between the forecast and the RO Model are due to rounding.

WP SCE-02, Vol. 10A
Forecast O&M Expenses Workpaper for Hazard Tree Management Program (HTMP)
Witness: Ohanian
Public Version

HTMP Removals

Assumptions

Prescription Rate as % of HTMP Inspections	5%
Removal % of Mitigations (1)	89%
Trim % of Mitigations (1)	11%
Market rate increase in 2024	10%

1. HTMP Total Inspections/Mitigation Volume

	2023	2024	2025	2026	2027	2028	Total
Inspections	137,000	178,000	154,000	137,000	178,000	154,000	938,000
% Prescription	5%	5%	5%	5%	5%	5%	
Total Prescriptions	6,850	8,900	7,700	6,850	8,900	7,700	46,900
New Inventory	1,000	1,000	1,000	1,000	1,000	1,000	6,000
Total HTMP Mitigations (2)	7,850	9,900	8,700	7,850	9,900	8,700	52,900
Total HTMP Removals	6,987	8,811	7,743	6,987	8,811	7,743	47,081
allocation of total mitigations is 89%	89%	89%	89%	89%	89%	89%	89%
Total HTMP Trims	864	1,089	957	864	1,089	957	5,819
allocation of total mitigations is 11%	11%	11%	11%	11%	11%	11%	11%

2. HTMP Removal Unit Cost

2023 Unit Cost Calculation

a.		**% Split**	**Total Volume**		**Conifer/Non-Conifer % Split**	**Total Vol**	**Unit Rate**	**Total Cost**	**Weighted Unit Rate**
Base Costs	Unit Rate	82%	5,758	Conifer	45%	[redacted]			
				Non-Conifer	55%				
					100%				
							T&E Unit Rate		
	T&E Rate	18%	1,229						
		100%	6,987				Total Base Cost	[redacted]	

Portion of Blended Unit Rate from Base Costs $ 3,765

b.		**% Split**	**Total Volume**	**Unit Rate**	**Total Cost**	**Weighted Unit Rate**
Adder Components	Traffic Control	75%	5,240	[redacted]		
	Crane	10%	699			
				Total Adder Cost	[redacted]	

Portion of Blended Unit Rate from Adder Costs $ 769

c.			**Total Cost**	**Weighted Unit Rate**
Support Activities (3)	14.4%	**Sub-total of Base Cost + Adder Costs**		
		Total Support Activities Costs	[redacted]	

Portion of Blended Unit Rate $ 653

TOTAL BLENDED UNIT RATE (a+b+c) $ 5,187

Summary of Unit Cost
Constant 2022 $

	2023	2024	2025	2026	2027	2028	Test Yr Avg
Base	[redacted]						

Conifer	[redacted]						
Non-Conifer							
T&E							
10% Rate Increase (4)							
Traffic Control							
Crane Adder							
Support Activities							
Total Unit Cost	$ 5,187	$ 5,618	$ 5,618	$ 5,618	$ 5,618	$ 5,618	$ 5,618

3. HTMP Removal Forecast

	2023	2024	2025	2026	2027	2028	Normalized 2025
Unit Cost	$ 5,187	$ 5,618	$ 5,618	$ 5,618	$ 5,618	$ 5,618	5,618
Volume	6,987	8,811	7,743	6,987	8,811	7,743	7,821
Sub-total	$ 36,241,325	$ 49,501,047	$ 43,500,920	$ 39,250,830	$ 49,501,047	$ 43,500,920	$ 43,938,429
Compensation Changes & Other Adj.	$ 79,277	$ 152,386	$ 252,194	$ 252,194	$ 252,194	$ 252,194	252,194
Total Forecast	$ 36,320,602	$ 49,653,432	$ 43,753,113	$ 39,503,024	$ 49,753,240	$ 43,753,113	$ 44,190,623

4. Notes

(1) Removal and trim split is based on historical data
(2) SCE's historical average for annual HTMP mitigations is approximately 8,000.
(3) Support activities include costs that cannot be directly charged to projects, including maintenance costs, overall support related costs, and cost of tools that cannot be directly charged.
(4) SCE assumes a market rate increase of 10% in 2024.

WP SCE-02, Vol. 10A
Forecast O&M Expenses Workpaper for Hazard Tree Management Program (HTMP)
Witness: Ohanian
Public Version

HTMP Trims

Assumptions

Prescription Rate as % of HTMP Inspections	5%
Removal % of Mitigations (1)	89%
Trim % of Mitigations (1)	11%
Market rate increase in 2024	10%

1. HTMP Total Inspections/Mitigation Volume

	2023	2024	2025	2026	2027	2028	Total
Inspections	137,000	178,000	154,000	137,000	178,000	154,000	938,000
% Prescription	5%	5%	5%	5%	5%	5%	
Total Prescriptions	6,850	8,900	7,700	6,850	8,900	7,700	46,900
New Inventory	1,000	1,000	1,000	1,000	1,000	1,000	6,000
Total HTMP Mitigations	7,850	9,900	8,700	7,850	9,900	8,700	52,900
Total HTMP Removals	6,987	8,811	7,743	6,987	8,811	7,743	47,081
allocation of total mitigations is 89%	89%	89%	89%	89%	89%	89%	
Total HTMP Trims	864	1,089	957	864	1,089	957	5,819
allocation of total mitigations is 11%	11%	11%	11%	11%	11%	11%	

2. HTMP Trim Unit Cost

Trim Volume by Vendor

Vendor	Trims (Wood)	Trims (Palm Skirting)	TOTAL
[redacted]			
Total Production - Units	**1,246**	**34**	1,280

Unit Rate by Vendor

Vendor	Trims (Wood)	Trims (Palm Skirting)	
[redacted]			

Total Cost by Vendor (2)

Vendor	Trims (Wood)	Trims (Palm Skirting)	TOTAL
[redacted]			
Total Unit Cost by Vendor	**$ 247,116**	**$ 42,625**	**$ 289,741**

Weighted Unit Cost	**$198**	**$1,254**	**$227**

(Constant 2022 $)	2023	2024	2025	2026	2027	2028	Normalized 2025
Base	$ 227	$ 227	$ 227	$ 227	$ 227	$ 227	$ 227
10% Rate Increase (3)	$ -	$ 23	$ 23	$ 23	$ 23	$ 23	$ 23
Support Activity %	14.4%	14.4%	14.4%	14.4%	14.4%	14.4%	
Support Activities (4)	$ 33	$ 36	$ 36	$ 36	$ 36	$ 36	$ 36
Total Unit Cost	$ 259	$ 285	$ 285	$ 285	$ 285	$ 285	$ 285

3. HTMP Trim Forecast

(Constant 2022 $)	2023	2024	2025	2026	2027	2028	Normalized 2025
Unit Cost	$ 259	$ 285	$ 285	$ 285	$ 285	$ 285	285
Volume	864	1089	957	864	1089	957	967
Sub-total	$ 223,767	$ 310,423	$ 272,796	$ 246,143	$ 310,423	$ 272,796	$ 275,540
Compensation Changes & Other Adj.	$ 678	$ 1,087	$ 2,743	$ 2,743	$ 2,743	$ 2,743	$ 2,743
Total Forecast	$ 224,444	$ 311,510	$ 275,539	$ 248,886	$ 313,166	$ 275,539	$ 278,283

Notes

(1) SCE's historical average for annual HTMP mitigations is approximately 8,000.
(2) Total cost by vendor is based on historical data.
(3) SCE assumes a market rate increase of 10% in 2024.
(4) 14.4% of total O&M for Support Activities. Support activities include costs that cannot be directly charged to projects, including maintenance costs, overall support related costs, and cost of tools that cannot be directly charged.

WP SCE-02, Vol. 10A
Forecast O&M Expenses Workpaper for Hazard Tree Management Program (HTMP)
Witness: Ohanian
Public Version

HTMP Property Owner Incentives

Constant 2022 $	2022	2023	2024	2025	2026	2027	2028	Normalized 2025
HTMP Tree Removal Volume (1)	7,425	6,987	8,811	7,743	6,987	8,811	7,743	7,821
Customer Refusal Rate (2)	15%	7%	7%	7%	7%	7%	7%	7%
Prop Owner Incentive Volume	1,114	489	617	542	489	617	542	547
Unit Cost (3)	$156	$158	$173	$173	$175	$177	$180	$176
Sub-total Prop Owner Incentive Costs	$173,419	$77,198	$106,709	$93,910	$85,480	$109,371	$97,705	$96,617
Support Activity %	14.4%	14.4%	14.4%	14.4%	14.4%	14.4%	14.4%	14.4%
Support Activities (4)	$24,972	$11,116	$15,366	$13,523	$12,309	$15,749	$14,070	$13,913
Compensation Changes & Other Adj.		$301	$917	$0	$0	$0	$0	$0
Total Forecast (5)	$198,392	$88,616	$122,993	$107,433	$97,789	$125,121	$111,775	$110,529

Notes
(1) See tab "Forecast_HTMP Removals" for number of tree removals as a percentage of total HTMP mitigations.
(2) Customer refusal rate is based on analysis of historical vegetation management data.
(3) Unit costs are based on SCE's Customer Incentive Program Cost Modeling analysis and includes support activity costs
(4) 14.4% of total O&M for Support Activities. Support activities include costs that cannot be directly charged to projects, including maintenance costs, overall support related costs, and cost of tools that cannot be directly charged
(5) Minimal differences in the forecast and the RO Model are due to rounding.

WP SCE-02 Vol. 10A

O&M Detail for Dead, Dying and Diseased Tree Removal

2025 GRC Summary

(Constant 2022 $000)

Beginning of Workpapers for:

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation Management
Business Planning Element:	Various
Activity:	Dead, Dying and Diseased Tree Removal
Witness:	T.Ohanian/K.Borngrebe

Cost Type	Recorded/Adj. 2022	Forecast 2025
Labor	1,816	66
Non-Labor	27,187	35,002
Other	0	0
Total	**29,003**	**35,067**

Due to rounding, totals may not tie to individual items.

Description of Activity:
This work comprises inspection and mitigation activity that focus on the response to the epidemic of dead and dying trees brought on by climate change, years of drought, and bark beetle infestation.

Forecast Methods - Summary of Results of Methods Studied

(Constant 2022 $000)

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation Management
Business Planning Element:	Various
Activity:	Dead, Dying and Diseased Tree Removal
Witness:	T.Ohanian/K.Borngrebe

Cost Type	Recorded/Adj.				
	2018	2019	2020	2021	2022
Labor	4,615	2,173	2,616	1,222	1,816
Non-Labor	41,225	37,271	41,672	17,367	27,187
Other	0	0	0	0	0
Total	**45,841**	**39,444**	**44,288**	**18,589**	**29,003**

Cost Type	Results of Linear Trending					
	3 Years: 2020 - 2022		4 Years: 2019 - 2022		5 Years: 2018 - 2022	
	$	r2*	$	r2*	$	r2*
Labor	285	0.33	848	0.29	(786)	0.64
Non-Labor	(229)	0.35	6,323	0.42	8,954	0.52
Other	0	0.00	0	0.00	0	0.00
Total	**55**	**N/A**	**7,171**	**N/A**	**8,167**	**N/A**

Cost Type	Results of Averaging							
	2 Years:		3 Years:		4 Years:		5 Years:	
	2021 - 2022	sd**	2020 - 2022	sd**	2019 - 2022	sd**	2018 - 2022	sd**
Labor	1,519	297	1,885	571	1,957	510	2,488	1,157
Non-Labor	22,277	4,910	28,742	9,983	30,874	9,402	32,945	9,373
Other	0	0	0	0	0	0	0	0
Total	**23,796**	**N/A**	**30,627**	**N/A**	**32,831**	**N/A**	**35,433**	**N/A**

Cost Type	Last Recorded Year		
	2023	2024	2025
Labor	1,816	1,816	1,816
Non-Labor	27,187	27,187	27,187
Other	0	0	0
Total	**29,003**	**29,003**	**29,003**

Cost Type	Itemized Forecast		
	2023	2024	2025
Labor	61	63	66
Non-Labor	28,315	31,332	35,002
Other	0	0	0
Total	**28,377**	**31,395**	**35,067**

** r2 = R Squared (Based on recorded years data)*

*** sd = standard deviation (Based on recorded years data)*

2025 GRC Selected Forecast Method

(Constant 2022 $000)

Exhibit: SCE-02 Grid Activities
Volume: 10A - Vegetation Management
Business Planning Element: Various
Activity: Dead, Dying and Diseased Tree Removal
Witness: T.Ohanian/K.Borngrebe

Cost Type	Recorded/Adj.					Forecast			Selected Forecast		TY Forecast Incr/(Decr) from 2022
	2018	2019	2020	2021	2022	2023	2024	2025	Method	($000)	
Labor	4,615	2,173	2,616	1,222	1,816	61	63	66	Itemized	66	(1,751)
Non-Labor	41,225	37,271	41,672	17,367	27,187	28,315	31,332	35,002	Itemized	35,002	7,815
Other											
Total	**45,841**	**39,444**	**44,288**	**18,589**	**29,003**	**28,377**	**31,395**	**35,067**		**35,067**	**6,065**

Due to rounding, totals may not tie to individual items.

Analysis of Forecasting Methods

Itemized Forecast:
Itemized Forecast Method

Other Forecast Methods not Selected

Last Recorded Year:
In D.89-12-057, and subsequently in D.04-07-022, the CPUC stated that if recorded expenses have been relatively stable for three or more years, the last recorded year is an appropriate base estimate. For this activity the Last Recorded Year method does not account for the variables discussed in testimony to determine the 2025 Test Year forecast. Therefore, the Last Recorded Year method is not appropriate.

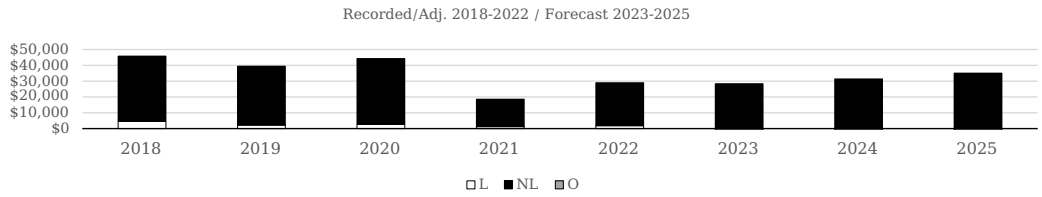
Linear Trending:
In D.89-12-057, and subsequently in D.04-07-022, the CPUC stated that if recorded expenses have been relatively stable for three or more years, the last recorded year is an appropriate base estimate. For this activity the Linear Trending method does not account for the variables discussed in testimony to determine the 2025 Test Year forecast. Therefore, the Linear Trending method is not appropriate.

Averaging:
In D.89-12-057, and subsequently in D.04-07-022, the CPUC stated that if recorded expenses have significant fluctuations from year to year, or expenses are influenced by external forces beyond the utility's control, an average of recorded-expenses is appropriate. For this activity the Averaging method does not account for the variables discussed in testimony to determine the 2025 Test Year forecast. Therefore, the Averaging method is not appropriate.

2025 GRC Year Over Year Variance

(Constant 2022 $000)

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation Management
Business Planning Element:	Various
Activity:	Dead, Dying and Diseased Tree Removal
Witness:	T.Ohanian/K.Borngrebe



Cost Type		Recorded/Adj.					Forecast		
		2018	2019	2020	2021	2022	2023	2024	2025
Recorded / Forecast	Labor	4,615	2,173	2,616	1,222	1,816	61	63	66
	Non-Labor	41,225	37,271	41,672	17,367	27,187	28,315	31,332	35,002
	Other	0	0	0	0	0	0	0	0
	Total	**45,841**	**39,444**	**44,288**	**18,589**	**29,003**	**28,377**	**31,395**	**35,067**
Labor	Prior Year Total	4,615	2,173	2,616	1,222	1,816	61	63	
	Change	(2,443)	443	(1,394)	595	(1,755)	1	3	
	Total	**2,173**	**2,616**	**1,222**	**1,816**	**61**	**63**	**66**	
Non-Labor	Prior Year Total	41,225	37,271	41,672	17,367	27,187	28,315	31,332	
	Change	(3,954)	4,401	(24,305)	9,820	1,129	3,017	3,670	
	Total	**37,271**	**41,672**	**17,367**	**27,187**	**28,315**	**31,332**	**35,002**	
Other	Prior Year Total	0	0	0	0	0	0	0	
	Change	0	0	0	0	0	0	0	
	Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
Total Change	Prior Year Total	45,841	39,444	44,288	18,589	29,003	28,377	31,395	
	Change	(6,397)	4,845	(25,700)	10,414	(626)	3,018	3,673	
	Total	**39,444**	**44,288**	**18,589**	**29,003**	**28,377**	**31,395**	**35,067**	

Due to rounding, totals may not tie to individual items.

2025 GRC Forecast Commentary

(Constant 2022 $000)

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation Management
Business Planning Element:	Various
Activity:	Dead, Dying and Diseased Tree Removal
Witness:	T.Ohanian/K.Borngrebe

Summary of Changes: See Testimony

Cost Type		Recorded/Adj.					Forecast		
		2018	2019	2020	2021	2022	2023	2024	2025
Recorded / Forecast	Labor	4,615	2,173	2,616	1,222	1,816	61	63	66
	Non-Labor	41,225	37,271	41,672	17,367	27,187	28,315	31,332	35,002
	Other	0	0	0	0	0	0	0	0
	Total	**45,841**	**39,444**	**44,288**	**18,589**	**29,003**	**28,377**	**31,395**	**35,067**

Due to rounding, totals may not tie to individual items.

Recorded (2018-2022)

See Testimony

Forecast (2023-2025)

See Testimony

WP SCE-02 Vol. 10A

Confidential - Forecast O&M Expenses Workpaper for Dead, Dying and Diseased Tree Removal (Redacted)

WP SCE-02, Vol. 10A
Forecast O&M Expenses Workpaper for Dead and Dying Tree Removal Program
Witness: Ohanian
Public Version

Assumptions

Medium Diameter at Breast Height (DBH) Split	90%
Large Diameter at Breast Height (DBH) Split	10%
Conifer split	75%
Non-conifer split	25%
Crane % allocation	10%
Traffic control % allocation	50%
Market rate increase in 2024	10%

1. Mitigation Volume (1) 8,300

2. Unit Cost

SPECIES	DBH	Tree Felling	Buck & Slash	Chip & Haul	Sub-Total	Log Disposal	Total
Conifer (2)	<20"						
Conifer	Medium 21" to 34"						
Conifer	Large >35"						
Non-Conifer (2)	<20"						
Non-Conifer	Medium 21" to 34"						
Non-Conifer	Large >35"						

1. Base Costs

a. Removal Costs

Removal Volume	DBH % Split			Conifer/Non-Conifer % Split		Unit Cost
8,300	90%	Medium	Conifer Removal Cost	75%	Conifer Removal Cost	
	10%	Large	Non-Conifer Removal Cost	25%	Non-Conifer Removal Cost	
					Total	

b. Disposal Costs

Disposal Volume	DBH % Split			Conifer/Non-Conifer % Split		Unit Cost
8,300	90%	Medium	Conifer Disposal Costs	75%	Conifer Disposal Cost	
	10%	Large	Non-Conifer Disposal Cost	25%	Non-Conifer Disposal Cost	
					Total	

2. Crane Adder

Volume			Conifer/Non-Conifer % Split		Unit Cost
8,300	Crane %	10%	75%	Conifer	
	Crane Cost		25%	Non-Conifer	
				Total	

3. Traffic Control

Volume			Conifer/Non-Conifer % Split		Unit Cost
8,300	Traffic Control %	50%	75%	Conifer	
	Traffic Control Cost		25%	Non-Conifer	
				Total	

4. Support Activities (4) (Removal+ Disposal+Crane Adder+Traffic Control)*14.4 % for Support Activities

Support Activities	14.4%	Conifer	
		Non-Conifer	
		Total	

Unit Cost Summary

(Constant 2022 $)	2023	2024	2025	2026	2027	2028	2025 Normalized
Base Costs	[redacted]						
Removals							
Disposals							
10% Rate Increase (3)							
Crane Adder							
Traffic Control							
Support Activities							
Unit Cost	$ 2,978	$ 3,212	$ 3,212	$ 3,212	$ 3,212	$ 3,212	$ 3,212

3. Dead & Dying Tree Removal Forecast

(Constant 2022 $)	2023	2024	2025	2026	2027	2028	2025 Normalized
Unit Cost	$ 2,978	$ 3,212	$ 3,212	$ 3,212	$ 3,212	$ 3,212	$ 3,212
Volume (5)	8,300	8,600	8,900	9,200	9,500	9,800	9,350
Sub-Total	$ 24,720,512	$ 27,622,410	$ 28,585,983	$ 29,549,555	$ 30,513,128	$ 31,476,700	$ 30,031,341
Compensation Changes & Other Adj.	54,077	85,034	172,396	172,396	172,396	172,396	172,396
Total Forecast	$ 24,774,589	$ 27,707,444	$ 28,758,379	$ 29,721,951	$ 30,685,524	$ 31,649,096	$ 30,203,738

Notes

(1) 2023 mitigation volume is based on 2020-2022 average (2022 count was annualized).
(2) Small DBH is not included in this forecast since it is a small population of the total HTMP removal volume.
(3) SCE assumes a market rate increase of 10% in 2024, affecting 2024 through 2028 unit cost.
(4) Support activities include costs that cannot be directly charged to projects, including maintenance costs, overall support related costs, and cost of tools that cannot be directly charged.
(5) SCE forecasts an additional 300 trees annually starting in 2024 through 2028.

WP SCE-02 Vol. 10A

Confidential - Forecast O&M Expenses
Workpaper for Structure Brushing (Redacted)

WP SCE-02, Vol. 10A
Structure Brushing Forecast
2023-2028
Public Version

All dollar amounts are in Constant 2022 dollars

(1) Structure Brushing - Compliance and Expanded Scope

Unit Cost (weighted avg zone/vendor)

Work Category	2023	2024	2025	2026	2027	2028
Compliance (ED, EZ & ET Pole) No Catalina	$71.58	$71.58	$71.58	$71.58	$71.58	$71.58
Compliance Towers (ET-Tower)	$78.26	$78.26	$78.26	$78.26	$78.26	$78.26
Catalina Compliance	$108.15	$108.15	$108.15	$108.15	$108.15	$108.15
Expanded (ED, EZ & ET Pole) No Catalina	$63.58	$63.58	$63.58	$63.58	$63.58	$63.58
Expanded Towers (ET-Tower)	$61.39	$61.39	$61.39	$61.39	$61.39	$61.39
Catalina Expanded	-	-	-	-	-	-

Volume

Work Category	2023	2024	2025	2026	2027	2028	Total
Compliance (ED, EZ & ET Pole) No Catalina	102,154	102,154	102,154	102,154	102,154	102,154	**612,924**
Compliance Towers (ET-Tower)	884	884	884	884	884	884	**5,304**
Catalina Compliance	559	559	559	559	559	559	**3,354**
Compliance Volume Total	103,597	103,597	103,597	103,597	103,597	103,597	**621,582**
Expanded (ED, EZ & ET Pole) No Catalina	135,234	135,234	135,234	135,234	135,234	135,234	**811,404**
Expanded Towers (ET-Tower)	63	63	63	63	63	63	**378**
Catalina Expanded	-	-	-	-	-	-	-
Expanded Volume Total	135,297	135,297	135,297	135,297	135,297	135,297	**811,782**
Volume Total	238,894	238,894	238,894	238,894	238,894	238,894	**1,433,364**

Total Structure Brushing Forecast

Work Category	2023	2024	2025	2026	2027	2028	Total
Compliance (ED, EZ & ET Pole) No Catalina	$ 7,311,954	$ 7,311,954	$ 7,311,954	$ 7,311,954	$ 7,311,954	$ 7,311,954	**$ 43,871,727**
Compliance Towers (ET-Tower)	$ 69,181	$ 69,181	$ 69,181	$ 69,181	$ 69,181	$ 69,181	**$ 415,086**
Catalina Compliance	$ 60,456	$ 60,456	$ 60,456	$ 60,456	$ 60,456	$ 60,456	**$ 362,735**
Compliance Total	$7,441,591	$7,441,591	$7,441,591	$7,441,591	$7,441,591	$7,441,591	**$44,649,548**
Expanded (ED, EZ & ET Pole) No Catalina	$ 8,598,798	$ 8,598,798	$ 8,598,798	$ 8,598,798	$ 8,598,798	$ 8,598,798	**$ 51,592,785**
Expanded Towers (ET-Tower)	$ 3,868	$ 3,868	$ 3,868	$ 3,868	$ 3,868	$ 3,868	**$ 23,206**
Catalina Expanded	$ -	$ -	$ -	$ -	$ -	$ -	**$ -**
Expanded Total	$ 8,602,665	$ 8,602,665	$ 8,602,665	$ 8,602,665	$ 8,602,665	$ 8,602,665	**$ 51,615,992**
Total Structure Brushing Forecast	$16,044,257	$16,044,257	$16,044,257	$16,044,257	$16,044,257	$16,044,257	**$96,265,540**

(2) Additional Factors

(2a) Catalina Total 2022 Pass Through Costs	2023	2024	2025	2026	2027	2028	Total
Catalina Total 2022 Pass Through Costs	$17,500	$17,500	$17,500	$17,500	$17,500	$17,500	**$105,000**

(2b) Airlift Compliance Structures (inaccessible by foot)

Unit Cost

Min. HEC Cost (3 hours helicopter ONLY)	$4,500	Per Air Ops: minimum rate 3 hrs
Estimated 2-Man Qualified Crew Cost	$2,000	Per Transmission ROW BC Tree Rate
	$6,500	

Percent requiring air lift 0.60% Based on 2022 data

Volume (based on multiplying 0.60% by work categories in (1))

Work Category	2023	2024	2025	2026	2027	2028	Total
Compliance (ED, EZ & ET Pole)	613	613	613	613	613	613	**3,678**
Catalina Compliance	3	3	3	3	3	3	**20**
Compliance (ET-Tower)	5	5	5	5	5	5	**32**
Total	622	622	622	622	622	622	**3,729**

Airlift Forecast	2023	2024	2025	2026	2027	2028	Total
Total Airlift Forecast	$4,040,283	$4,040,283	$4,040,283	$4,040,283	$4,040,283	$4,040,283	**$24,241,698**

(2c) Tree Crew Costs

Unit Cost (weighted avg zone/vendor)	2023	2024	2025	2026	2027	2028
Compliance (ED, EZ & ET Pole)	$226	$227	$227	$227	$227	$227
Compliance Towers (ET-Tower)	$309	$261	$261	$261	$261	$261

Percent requiring Tree Crews
3.10%

The total volume for work categories in (1) is multiplied by 3.1%:

Work Category	2023	2024	2025	2026	2027	2028	Total
Compliance (ED, EZ & ET Pole)	3,168	513	513	513	513	513	5,732
Compliance Towers (ET-Tower)	29	9	9	9	9	9	74
Total Tree Crew Volume	3,197	522	522	522	522	522	5,806

Tree Crew Forecast

Work Category	2023	2024	2025	2026	2027	2028	Total
Compliance (ED, EZ & ET Pole)	$717,184	$116,441	$116,441	$116,441	$116,441	$116,441	$1,299,389
Compliance Towers (ET-Tower)	$9,108	$2,348	$2,348	$2,348	$2,348	$2,348	$20,846
Total Tree Crew Forecast	$726,292	$118,789	$118,789	$118,789	$118,789	$118,789	$1,320,235

(2d) Market-Related Escalation

	2023	2024	2025	2026	2027	2028	Total
Escalation Rate	0%	10%	10%	10%	10%	10%	
Escalation Forecast	$ -	$ 2,082,833	$ 2,230,366	$ 2,245,119	$ 2,246,595	$ 2,246,742	$ 11,051,656
Sub-Total Forecast (1 + 2a + 2b + 2c + 2d)	$ 20,828,331	$ 22,303,661	$ 22,451,194	$ 22,465,948	$ 22,467,423	$ 22,467,571	$ 132,984,128

(4) Bulk Forecast - Transmission Structures >= 220kV

Bulk Compliance Structures	2023	2024	2025	2026	2027	2028	Total
Unit Cost	$ 81	$ 89	$ 89	$ 89	$ 89	$ 89	
Volume	0	2,938	2,938	2,938	2,938	2,938	**14,690**
Bulk Compliance Structure Forecast	$ -	$ 260,451	$ 260,451	$ 260,451	$ 260,451	$ 260,451	**$ 1,302,254**
Airlift Compliance Bulk Towers (inaccessible by foot)							
Unit Cost	$ 6,500	$ 7,150	$ 7,150	$ 7,150	$ 7,150	$ 7,150	
Volume	0	18	18	18	18	18	**90**
Airlift Compliance Bulk Towers Forecast	$ -	$ 128,700	$ 128,700	$ 128,700	$ 128,700	$ 128,700	**$ 643,500**
Tree Crew Required Compliance Bulk Towers							
Est. Number of Crews Needed	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	
Unit Cost	$ 290	$ 319	$ 319	$ 319	$ 319	$ 319	
Volume	0	2,938	2,938	2,938	2,938	2,938	**14,690**
Airlift Compliance Bulk Towers Forecast	$ -	$ 4,679	$ 4,679	$ 4,679	$ 4,679	$ 4,679	**$ 23,395**
Total Bulk Forecast	$ -	$ 393,830	$ 393,830	$ 393,830	$ 393,830	$ 393,830	**$ 1,969,149**

(5) Workpaper Forecast

	2023	2024	2025	2026	2027	2028	Normalized 2025 (2)
Targeted Undergrounding Savings (1)	$ -	$ -	$ (43,435)	$ (221,085)	$ (589,220)	$ (1,100,070)	**$ (488,453)**
Total Forecast (1 + 2a + 2b + 2c + 2d + 4)	$ 20,828,331	$ 22,697,491	$ 22,801,589	$ 22,638,692	$ 22,272,033	$ 21,761,330	**$ 22,368,411**
Supporting Costs and Other Adj.(3)	$ 2,999,280	$ 3,268,439	$ 3,283,429	$ 3,259,972	$ 3,207,173	$ 3,133,632	**$ 3,221,051**
Compensation Changes & Other Adj.	$ 31,802	$ 47,411	$ 125,682	$ 134,386	$ 185,709	$ 259,103	**$ 176,220**
Total	$ 23,859,413	$ 26,013,341	$ 26,210,700	$ 26,033,050	$ 25,664,915	$ 25,154,065	**$ 25,765,682**

(6) Notes

(1) SCE will file errata to incorporate Targeted Undergrounding savings into the RO Model.

(2) In the RO Model, SCE forecasts $26.254 million in the Test Year. This amount does not include Targeted Undergrounding savings shown in this workpaper. SCE will file errata to include these savings.

(3) Support activities include costs that cannot be directly charged to projects, including maintenance costs, overall support related costs, and cost of tools that cannot be directly charged.

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Forecast O&M Expenses Supplemental Workpaper for Structure Brushing
Witness: Ohanian
Public Version

		Total Units											
	2023	238,894											
	Zone	1	2	3	4	5	6	7	8	9	10	11	Avg
Compliance													
Compliance (ED, EZ & ET Pole) No Catalina	102,154												
2022-23 Compliance Completed Unit Rate ID 1	71.58												
$	7,311,954.45												
Expanded	Zone	1	2	3	4	5	6	7	8	9	10	11	Avg
Expanded (ED, EZ & ET Pole) No Catalina	135,234												
2022-23 Expanded Completed Unit Rate ID 2	63.58												
$	8,598,797.52												
Subtransmission Towers	Zone	1	2	3	4	5	6	7	8	9	10	11	Avg
Compliance Towers (ET-Tower)	884												
2022-23 Compliance Completed Unit Rate ID 1	78.26												
$	69,181.03												
		1	2	3	4	5	6	7	8	9	10	11	Avg
Expanded Towers (ET-Tower)	63												
2022-23 Expanded Completed Unit Rate ID 2	61.39												
$	3,867.74												
Catalina	Zone		1	2	3	4	5	6	7	8	9	10	11	Avg
Catalina Compliance	559												
2022-23 Compliance Completed Unit Rate ID 1	108.15												
$	60,455.85												
Catalina Expanded	-												
2022-23 Expanded Completed Unit Rate ID 2	-												
$													
Catalina Total Units	559												
Catalina Total Unit Rates $	60,455.85												

WP SCE-02 Vol. 10A

Workpaper on Climate-Informed Vegetation Management for Sub-transmission Assets

Workpaper Title: Climate-Informed Vegetation Management for Sub-transmission Assets

SCE filed its first Climate Adaptation Vulnerability Assessment (CAVA) on May 13, 2022 as required by Decision 20-08-046. D.20-08-046 required utilities to study climate risks to their assets, operations, and services and to address identified climate vulnerabilities in the following GRC cycle.[1] In the CAVA, wildfire was studied as a climate variable of concern alongside temperature, sea level rise, precipitation, and cascading events. All variables of concern were evaluated for 2030, 2050, and 2070, in line with the CPUC's request to evaluate climate impacts at intermediate and long-term timeframes. Importantly, CAVA studied the risks wildfires pose to utility infrastructure and operations, as opposed to the risks from ignitions associated with utility equipment. Of particular concern was burn activity that could threaten assets, operations, and services by damaging equipment and therefore lead to customer outages. In the context of wildfire impacts on the sub-transmission system, CAVA identified locations where sub-transmission assets would be exposed to projected high burn activity and, in the event of an outage, would require tripping load to prevent thermally overloaded lines ("At-Risk").[2] CAVA identified structure brushing as one potential adaptation strategy to limit the probability of fires damaging high-risk sub-transmission structures.[3]

In this GRC, SCE is prioritizing addressing the identified near-term risks related to the 2030 wildfire burn projections. It is prudent to begin operationalizing activities to mitigate climate risks for 2030 in this GRC cycle for two main reasons: (1) the impacts of climate change are already being felt, and impacts projected for 2030 may be experienced sooner; and (2) addressing climate-informed risks may require additional resource ramp-up leading up to 2030, necessitating early coordination across SCE's operational and capital planning practices.

The At-Risk sub-transmission structures identified in CAVA have been cross-referenced with the structures identified for brushing in the 2023 WMP compliance and expanded scopes. The proposed scope for CAVA is therefore incremental to the structures otherwise identified for brushing activities; the additional scope proposed here is intended to adapt to higher burn activity that may damage assets and lead to outages.

Table 1 shows the number of incremental structures in each sub-transmission area selected for structure brushing under CAVA.

[1] See SCE-01 Vol.2 for more on the CAVA and a list of climate-informed proposals included in this GRC filing.
[2] See Climate Change Vulnerability Assessment Pursuant to Decision 20-08-046, Section IV.D.2, pp. 108-118 for the analysis of wildfire impacts on sub-transmission infrastructure.
[3] See Climate Change Vulnerability Assessment Pursuant to Decision 20-08-046, Section IV.D.2, p.117.

Table 1. Incremental Sub-Transmission Structures in the CAVA Structure Brushing Scope

System	N incremental structures
Moorpark	117
Santa Clara	12
Saugus	28
Valley (North)	44
Valley (Mid)	0
Valley (South)	5
Victor	3
Total	**209**

The Structure Brushing Program's compliance and expanded scopes are intended to mitigate the risk of ignition, while the additional scope proposed pursuant to CAVA is intended to adapt SCE's resiliency to higher burn activity as a result of climate change. The structures proposed as incremental scope are located in geographic proximity to the existing scope in the Structure Brushing Program. Protecting these incremental assets via structure brushing should make them less likely to experience damage in the event of a wildfire in the area and help to minimize customer outages from thermal overloads on the sub-transmission system.

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Forecast O&M Expenses Workpaper for Structure Brushing of CAVA Structures

CAVA Forecast

Assumptions:

•Year 1 (2025): Make a reasonable attempt to access, inspect and clear (if needed) 209 CAVA structures with a tree crew at $570 per structure.
•Years 2-4 (2026-2028):
•Make a reasonable attempt* to access, inspect and clear (if needed) 97% of the 209 CAVA structures with a structure brushing crew at $70 per structure. [203 x $70 = $14,210]
•Make a reasonable attempt* to access, inspect and clear (if needed) 3% of the 209 CAVA structures with a tree crew at $570 per structure. [6 x $570 =$3,420]
•Total for years 2-4: ~$17,630 annually

Structure Brushing	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**Total**
Unit Cost	$ 70	$ 70	$ 77	$ 77	$ 77	$ 77	
Volume	0	0	0	203	203	203	**609**
Structure Forecast	$ -	$ -	$ -	$ 15,631	$ 15,631	$ 15,631	**$ 46,893**

Tree Crew	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**Total**
							Normalized
Unit Cost	$ 570	$ 570	$ 627	$ 627	$ 627	$ 627	**627**
Volume	0	0	209	6	6	6	**57**
Tree Crew Forecast	$ -	$ -	$ 131,043	$ 3,762	$ 3,762	$ 3,762	**$ 142,329**
							Normalized
Total CAVA Forecast	$ -	$ -	$ 131,043	$ 19,393	$ 19,393	$ 19,393	**$ 47,306**

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Forecast O&M Expenses Workpaper for Quality Control

WP SCE-02, Vol. 10A
Forecast O&M Expenses Workpaper for Vegetation Management Quality Control
Witness: Ohanian

1. Assumptions

% Distribution	**66.7%**
% Transmission	**33.3%**
Headcount increase in 2024 (1)	**10%**
Unit Cost Escalation from 2024 to 2025 (2)	**10%**

2. Forecast

Constant 2022 $000	2023	2024	2025	2026	2027	2028	Normalized 2025
QC Inspectors							
# of Inspectors	44	48	48	48	48	48	48
Unit Cost	$ 0.0857	$ 0.0857	$ 0.0943	$ 0.0943	$ 0.0943	$ 0.0943	$ 0.0943
Annual Hours	2,080	2,080	2,080	2,080	2,080	2,080	2,080
Total Cost	$7,846	$8,631	$9,494	$9,494	$9,494	$9,494	$9,494
Area Supervisors							
# of Supervisors	7	8	8	8	8	8	8
Unit Cost	$ 0.0934	$ 0.0934	$ 0.1027	$ 0.1027	$ 0.1027	$ 0.1027	$ 0.1027
Annual Hours	2,080	2,080	2,080	2,080	2,080	2,080	2,080
Total Cost	$1,360	$1,496	$1,645	$1,645	$1,645	$1,645	$1,645
Total Contractor Costs	$9,206	$10,126	$11,139	$11,139	$11,139	$11,139	$11,139
Supporting Costs and Other Adj. (3)	$1,289	$1,418	$1,559	$1,559	$1,559	$1,559	$1,559
Compensation Changes & Other Adj.	$337	$310	$20	$20	$20	$20	$20
Total QC Forecast	$10,832	$11,854	$12,718	$12,718	$12,718	$12,718	$12,718
Breakdown between Distribution and Transmission							
Distribution QC	*$7,221*	*$7,903*	*$8,479*	*$8,479*	*$8,479*	*$8,479*	*$8,479*
Transmission QC	*$3,611*	*$3,951*	*$4,239*	*$4,239*	*$4,239*	*$4,239*	*$4,239*

3. Notes

(1) 10% increase in headcount for 2024 due to the need for more oversight of a larger number of vendors and additional structure brushing work
(2) 10% increase in rates for 2025 due to labor market pressures.
(3) Support activities include costs that cannot be directly charged to projects, including maintenance costs, overall support related costs, and cost of tools that cannot be directly charged.

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Recorded O&M Expenses Workpaper for Environmental Support of Vegetation Management Programs

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Recorded O&M Expenses Workpaper for Environmental Support of Vegetation Management Programs
Witness: Borngrebe

		2022 Constant				
Program	**Type**	**2018**	**2019**	**2020**	**2021**	**2022**
Routine Line Clearing	Labor	$ 37,128	$ 89,278	$ 258,465	$ 33,583	$ 651,098
Routine Line Clearing	Non-Labor	$ 659,916	$ 611,432	$ 6,247,574	$ 19,213,942	$ 26,889,759
Weed Abatement	Labor	$ 11,208	$ -	$ -	$ -	$ 16,397
Weed Abatement	Non-Labor	$ 287,886	$ 190,577	$ 196,035	$ 492,744	$ 879,622
Structure Brushing	Labor	$ -	$ -	$ 17,784	$ 49,518	$ 70,251
Structure Brushing	Non-Labor	$ -	$ -	$ 1,762,944	$ 4,476,534	$ 5,302,847
Dead and Dying Tree Removal	Labor	$ 26,440	$ 8,824	$ 9,857	$ 1,544	$ 28,236
Dead and Dying Tree Removal	Non-Labor	$ 4,443,711	$ 4,216,777	$ 3,093,629	$ 2,624,465	$ 4,570,723
HTMP	Labor	$ -	$ 40,390	$ 46,843	$ 36,479	$ 43,052
HTMP	Non-Labor	$ -	$ 1,429,815	$ 3,117,229	$ 1,734,726	$ 2,760,756
Total		**$ 5,466,289**	**$ 6,587,092**	**$ 14,750,361**	**$ 28,663,537**	**$ 41,212,742**

Program	**2018**	**2019**	**2020**	**2021**	**2022**
Routine Line Clearing	$ 697,044	$ 700,709	$ 6,506,039	$ 19,247,525	$ 27,540,857
Weed Abatement	$ 299,094	$ 190,577	$ 196,035	$ 492,744	$ 896,019
Structure Brushing	$ -	$ -	$ 1,780,728	$ 4,526,053	$ 5,373,099
Dead and Dying Tree Removal	$ 4,470,151	$ 4,225,600	$ 3,103,487	$ 2,626,009	$ 4,598,959
HTMP	$ -	$ 1,470,205	$ 3,164,072	$ 1,771,205	$ 2,803,808
Total	**$ 5,466,289**	**$ 6,587,092**	**$ 14,750,361**	**$ 28,663,537**	**$ 41,212,742**

All	**2018**	**2019**	**2020**	**2021**	**2022**
Labor	$ 74,776	$ 138,491	$ 332,950	$ 121,125	$ 809,035
Non-Labor	$ 5,391,513	$ 6,448,600	$ 14,417,411	$ 28,542,412	$ 40,403,707
Total	**$ 5,466,289**	**$ 6,587,092**	**$ 14,750,361**	**$ 28,663,537**	**$ 41,212,742**

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Witness: Borngrebe

			2022 Constant
Program	**Type**	**Labor/Non-Labor**	**2022**
Routine Line Clearing	Sub-work Activity Environmental Support	Labor	651,098
Routine Line Clearing	Sub-work Activity Environmental Support	Non-Labor	26,889,759
Total			**27,540,857**

Program	**Type**	**Labor/Non-Labor**	**2022**
Weed Abatement	GRC Activity Environmental Programs	Labor	16,397
Weed Abatement	GRC Activity Environmental Programs	Non-Labor	879,622
Total			**896,019**

Program	**Type**	**Labor/Non-Labor**	**2022**
Structure Brushing	Sub-work Activity Environmental Support - Structure Brushing	Labor	70,251
Structure Brushing	Sub-work Activity Environmental Support - Structure Brushing	Non-Labor	5,302,847
Total			**5,373,099**

Program	**Type**	**Labor/Non-Labor**	**2022**
Dead and Dying Tree Removal	Sub-work Activity Environmental Support - Drought	Labor	28,236
Dead and Dying Tree Removal	Sub-work Activity Environmental Support - Drought	Non-Labor	4,570,723
Total			**4,598,959**

Program	**Type**	**Labor/Non-Labor**	**2022**
HTMP	Sub-work Activity Environmental Support - HTMP	Labor	43,052
HTMP	Sub-work Activity Environmental Support - HTMP	Non-Labor	2,760,756
Total			**2,803,808**

All Programs	**2022**
Labor	$ 809,035
Non-Labor	$ 40,403,707
Total	**$ 41,212,742**

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Witness: Borngrebe

Index	2018	2019	2020	2021
Labor	1.11	1.08	1.07	1.04
Distribution Non-Labor	1.31	1.28	1.28	1.16
Transmission Non-Labor	1.21	1.18	1.18	1.11

2022 Constant dollars are derived from nominal dollars utilizing above escalation factors for labor and non-labor costs

		2022 Constant								2022 Constant			
Veg Management Program	**Internal Order**	**2018 L**	**2019 L**	**2020 L**	**2021 L**	**2018 NL**	**2019 NL**	**2020 NL**	**2021 NL**	**2018**	**2019**	**2020**	**2021**
Routine Line Clearing	424794	$ 37,128	$ 89,278	$ 211,568	$ -	$ 659,916	$ 611,432	$ 262,615	$ -	$ 697,044	$ 700,709	$ 474,183	$ -
Routine Line Clearing	625281	$ -	$ -	$ -	$ -	$ -	$ -	$ 851,746	$ -	$ -	$ -	$ 851,746	$ -
Routine Line Clearing	344590	$ -	$ -	$ 26,823	$ -	$ -	$ -	$ 4,023,711	$ -	$ -	$ -	$ 4,050,534	$ -
Routine Line Clearing	344591	$ -	$ -	$ 20,074	$ -	$ -	$ -	$ 1,109,503	$ -	$ -	$ -	$ 1,129,576	$ -
Routine Line Clearing	438559	$ -	$ -	$ -	$ 14,213	$ -	$ -	$ -	$ 1,641,308	$ -	$ -	$ -	$ 1,655,520
Routine Line Clearing	438580	$ -	$ -	$ -	$ 12,206	$ -	$ -	$ -	$ 439,092	$ -	$ -	$ -	$ 451,298
Routine Line Clearing	438581	$ -	$ -	$ -	$ 6,359	$ -	$ -	$ -	$10,971,916	$ -	$ -	$ -	$ 10,978,275
Routine Line Clearing	438582	$ -	$ -	$ -	$ 805	$ -	$ -	$ -	$ 6,161,627	$ -	$ -	$ -	$ 6,162,432
Routine Line Clearing Total		**$ 37,128**	**$ 89,278**	**$ 258,465**	**$ 33,583**	**$ 659,916**	**$ 611,432**	**$ 6,247,574**	**$19,213,942**	**$ 697,044**	**$ 700,709**	**$ 6,506,039**	**$ 19,247,525**
Weed Abatement	424796	$ 11,208	$ -	$ -	$ -	$ 287,886	$ 190,577	$ 196,035	$ 492,744	$ 299,094	$ 190,577	$ 196,035	$ 492,744
Weed Abatement Total		**$ 11,208**	**$ -**	**$ -**	**$ -**	**$ 287,886**	**$ 190,577**	**$ 196,035**	**$ 492,744**	**$ 299,094**	**$ 190,577**	**$ 196,035**	**$ 492,744**
Structure Brushing	345666	$ -	$ -	$ 3,058	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,058	$ -
Structure Brushing	345667	$ -	$ -	$ 12,025	$ -	$ -	$ -	$ 144,689	$ -	$ -	$ -	$ 156,714	$ -
Structure Brushing	345668	$ -	$ -	$ 2,702	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,702	$ -
Structure Brushing	434886	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,618,255	$ -	$ -	$ -	$ 1,618,255	$ -
Structure Brushing	626286	$ -	$ -	$ -	$ 1,346	$ -	$ -	$ -	$ 367,320	$ -	$ -	$ -	$ 368,665
Structure Brushing	626290	$ -	$ -	$ -	$ 19,984	$ -	$ -	$ -	$ 931,204	$ -	$ -	$ -	$ 951,189
Structure Brushing	625788	$ -	$ -	$ -	$ 28,188	$ -	$ -	$ -	$ 3,178,010	$ -	$ -	$ -	$ 3,206,199
Structure Brushing Total		**$ -**	**$ -**	**$ 17,784**	**$ 49,518**	**$ -**	**$ -**	**$ 1,762,944**	**$ 4,476,534**	**$ -**	**$ -**	**$ 1,780,728**	**$ 4,526,053**
HTMP	342808	$ -	$ 40,390	$ 46,843	$ 36,479	$ -	$ 1,429,815	$ 3,117,229	$ 1,734,726	$ -	$ 1,470,205	$ 3,164,072	$ 1,771,205
HTMP Total		**$ -**	**$ 40,390**	**$ 46,843**	**$ 36,479**	**$ -**	**$ 1,429,815**	**$ 3,117,229**	**$ 1,734,726**	**$ -**	**$ 1,470,205**	**$ 3,164,072**	**$ 1,771,205**
Dead and Dying Tree Removal	331975	$ 14,280	$ 8,079	$ 9,857	$ 1,544	$ 2,247,269	$ 4,139,237	$ 3,093,629	$ 2,624,465	$ 2,261,549	$ 4,147,316	$ 3,103,487	$ 2,626,009
Dead and Dying Tree Removal	331980	$ -	$ -	$ -	$ -	$ 0	$ 5,071	$ -	$ -	$ 0	$ 5,071	$ -	$ -
Dead and Dying Tree Removal	331967	$ -	$ -	$ -	$ -	$ 26,061	$ -	$ -	$ -	$ 26,061	$ -	$ -	$ -
Dead and Dying Tree Removal	331969	$ -	$ -	$ -	$ -	$ 59,315	$ -	$ -	$ -	$ 59,315	$ -	$ -	$ -
Dead and Dying Tree Removal	331977	$ 999	$ -	$ -	$ -	$ 154,946	$ 1,495	$ -	$ -	$ 155,944	$ 1,495	$ -	$ -
Dead and Dying Tree Removal	331963	$ -	$ -	$ -	$ -	$ 121,271	$ 6,241	$ -	$ -	$ 121,271	$ 6,241	$ -	$ -
Dead and Dying Tree Removal	331970	$ 0	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0	$ -	$ -	$ -
Dead and Dying Tree Removal	331974	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dead and Dying Tree Removal	331971	$ -	$ -	$ -	$ -	$ 21,026	$ -	$ -	$ -	$ 21,026	$ -	$ -	$ -
Dead and Dying Tree Removal	331973	$ -	$ 372	$ -	$ -	$ 108,415	$ 5,071	$ -	$ -	$ 108,415	$ 5,443	$ -	$ -
Dead and Dying Tree Removal	331972	$ 4,739	$ 186	$ -	$ -	$ 679,924	$ 32,166	$ -	$ -	$ 684,663	$ 32,352	$ -	$ -
Dead and Dying Tree Removal	331976	$ -	$ -	$ -	$ -	$ 36,195	$ -	$ -	$ -	$ 36,195	$ -	$ -	$ -
Dead and Dying Tree Removal	331968	$ 4,235	$ 186	$ -	$ -	$ 479,090	$ 3,853	$ -	$ -	$ 483,326	$ 4,039	$ -	$ -
Dead and Dying Tree Removal	331978	$ 137	$ -	$ -	$ -	$ 102,821	$ 7,489	$ -	$ -	$ 102,958	$ 7,489	$ -	$ -
Dead and Dying Tree Removal	331979	$ 537	$ -	$ -	$ -	$ 59,290	$ 2,860	$ -	$ -	$ 59,827	$ 2,860	$ -	$ -
Dead and Dying Tree Removal	331965	$ 1,513	$ -	$ -	$ -	$ 348,087	$ 13,294	$ -	$ -	$ 349,600	$ 13,294	$ -	$ -
Dead and Dying Tree Removal Total		**$ 26,440**	**$ 8,824**	**$ 9,857**	**$ 1,544**	**$ 4,443,711**	**$ 4,216,777**	**$ 3,093,629**	**$ 2,624,465**	**$ 4,470,151**	**$ 4,225,600**	**$ 3,103,487**	**$ 2,626,009**
Total		**$ 74,776**	**$ 138,491**	**$ 332,950**	**$ 121,125**	**$ 5,391,513**	**$ 6,448,600**	**$ 14,417,411**	**$ 28,542,412**	**$ 5,466,289**	**$ 6,587,092**	**$ 14,750,361**	**$ 28,663,537**

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Forecast O&M Expenses Workpaper for Environmental Support of Vegetation Management Programs

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Forecast O&M Expenses Workpaper for Environmental Support of Vegetation Management Programs
Witness: Borngrebe

2022 Constant

Program	Labor/Non-Labor	2022	2023	2024	2025
Routine Line Clearing	Labor	$ 651,098	$ 356,896	$ 358,068	$ 369,872
Routine Line Clearing	Non-Labor	$ 26,889,759	$ 26,732,674	$ 31,184,146	$ 32,551,270
Weed Abatement	Labor	$ 16,397	$ -	$ -	$ -
Weed Abatement	Non-Labor	$ 879,622	$ 1,176,471	$ 1,176,471	$ 1,176,471
Structure Brushing	Labor	$ 70,251	$ 140,229	$ 141,300	$ 149,499
Structure Brushing	Non-Labor	$ 5,302,847	$ 4,842,964	$ 4,451,086	$ 5,527,579
Dead and Dying Tree Removal	Labor	$ 28,236	$ 61,383	$ 62,734	$ 65,649
Dead and Dying Tree Removal	Non-Labor	$ 4,570,723	$ 3,540,609	$ 3,624,426	$ 4,797,965
HTMP	Labor	$ 43,052	$ 77,566	$ 78,159	$ 82,693
HTMP	Non-Labor	$ 2,760,756	$ 4,418,647	$ 4,499,718	$ 4,257,500
Total		**$ 41,212,742**	**$ 41,347,439**	**$ 45,576,107**	**$ 48,978,497**

Program	2022	2023	2024	2025
Routine Line Clearing	$ 27,540,857	$ 27,089,570	$ 31,542,214	$ 32,921,142
Weed Abatement	$ 896,019	$ 1,176,471	$ 1,176,471	$ 1,176,471
Structure Brushing	$ 5,373,099	$ 4,983,193	$ 4,592,386	$ 5,677,078
Dead and Dying Tree Removal	$ 4,598,959	$ 3,601,992	$ 3,687,160	$ 4,863,614
HTMP	$ 2,803,808	$ 4,496,213	$ 4,577,877	$ 4,340,193
Total	**$ 41,212,742**	**$ 41,347,439**	**$ 45,576,107**	**$ 48,978,497**

All Programs	2022	2023	2024	2025
Labor	$ 809,035	$ 636,075	$ 640,261	$ 667,712
Non-Labor	$ 40,403,707	$ 40,711,364	$ 44,935,847	$ 48,310,785
Total	**$ 41,212,742**	**$ 41,347,439**	**$ 45,576,107**	**$ 48,978,497**

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Witness: Borngrebe

			2022 Constant			
Program	**Type**	**Labor/Non-Labor**	**2022**	**2023**	**2024**	**2025**
Routine Line Clearing	Sub-work Activity Environmental Support	Labor	651,098	356,896	358,068	369,872
Routine Line Clearing	Sub-work Activity Environmental Support	Non-Labor	26,889,759	26,732,674	31,184,146	32,551,270
Total			**27,540,857**	**27,089,570**	**31,542,214**	**32,921,142**

Program	**Type**	**Labor/Non-Labor**	**2022**	**2023**	**2024**	**2025**
Weed Abatement	GRC Activity Environmental Programs	Labor	16,397	-	-	-
Weed Abatement	GRC Activity Environmental Programs	Non-Labor	879,622	1,176,471	1,176,471	-
Weed Abatement	Sub-work Activity Environmental Support	Non-Labor	-	-	-	1,176,471
Total			**896,019**	**1,176,471**	**1,176,471**	**1,176,471**

Program	**Type**	**Labor/Non-Labor**	**2022**	**2023**	**2024**	**2025**
Structure Brushing	Sub-work Activity Environmental Support - Structure Brushing	Labor	70,251	140,229	141,300	149,499
Structure Brushing	Sub-work Activity Environmental Support - Structure Brushing	Non-Labor	5,302,847	4,842,964	4,451,086	5,527,579
Total			**5,373,099**	**4,983,193**	**4,592,386**	**5,677,078**

Program	**Type**	**Labor/Non-Labor**	**2022**	**2023**	**2024**	**2025**
Dead and Dying Tree Removal	Sub-work Activity Environmental Support - Drought	Labor	28,236	61,383	62,734	65,649
Dead and Dying Tree Removal	Sub-work Activity Environmental Support - Drought	Non-Labor	4,570,723	3,540,609	3,624,426	4,797,965
Total			**4,598,959**	**3,601,992**	**3,687,160**	**4,863,614**

Program	**Type**	**Labor/Non-Labor**	**2022**	**2023**	**2024**	**2025**
HTMP	Sub-work Activity Environmental Support - HTMP	Labor	43,052	77,566	78,159	82,693
HTMP	Sub-work Activity Environmental Support - HTMP	Non-Labor	2,760,756	4,418,647	4,499,718	4,257,500
Total			**2,803,808**	**4,496,213**	**4,577,877**	**4,340,193**

All Programs	**2022**	**2023**	**2024**	**2025**
Labor	$ 809,035	$ 636,075	$ 640,261	$ 667,712
Non-Labor	$ 40,403,707	$ 40,711,364	$ 44,935,847	$ 48,310,785
Total	**$ 41,212,742**	**$ 41,347,439**	**$ 45,576,107**	**$ 48,978,497**

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Witness: Borngrebe

Routine Line Clearing	2022 Volume	2022 Unit	2022 Actuals	2023 Forecast	2024 Forecast*	2025 Forecast	2025 Forecast Methodology	2025 Forecast (Adjustments)
Desktop Reviews	136836	Work Point	$ 4,110,341	$ 4,110,341	$ 4,110,341	$ 4,110,341	LRY	No adjustments
Surveys	68107	Work Point	$11,660,750	$11,660,750	$11,660,750	$11,660,750	LRY	No adjustments
Monitoring	19559	Work Point	$ 6,103,948	$ 6,103,948	$ 6,103,948	$ 6,103,948	LRY	No adjustments
Trouble Orders (i.e., P1s), Add-Ons	20781	Work Point	$ 2,280,376	$ 2,280,376	$ 2,280,376	$ 2,280,376	LRY	No adjustments
District 50 Field Support	6895	Work Point	$ 1,800,467	$ 1,800,467	$ 1,800,467	$ 1,800,467	LRY	No adjustments
Wetlands, Coastal, ESA Layer Analysis			$ 838,525	$ 838,525	$ 838,525	$ 838,525	LRY	No adjustments
Agency/Permit Fees			$ 149,676	$ 149,676	$ 149,676	$ 149,676	LRY	No adjustments
Support Activities			$ 596,776	$ 145,487	$ 302,531	$ 323,560	LRY + Adj	Miscellaneous costs for support activities
Waters Mitigation (1)			$ -	$ -	$ 2,745,600	$ 5,016,000	LRY + Adj	Includes 13.2 acres at $380,000 per acre
Western Joshua Tree Mitigation (2)			$ -	$ -	$ 1,550,000	$ 637,500	LRY + Adj	Includes 255 trees at $2,500 per tree
Routine Line Clearing Total	**252178**		**$27,540,859**	**$27,089,570**	**$31,542,214**	**$32,921,143**		

*2024 forecast is based on earlier analysis for waters and WJT migation. 2025 forecast is based on updated analysis for waters and WJT mitigation.

2025 Forecast Assumptions for Routine Line Clearing

Compensatory mitigation involves mitigation actions taken to offset-adverse impacts to species, wetlands, streams, and other aquatic resources authorized by permits issued by the environmental agencies.

(1) Waters Mitigation: CDFW generally requires mitigation for trees removals

VM's volume of tree removals is estimated at 5% of total trims and removals (approximately 800,000) performed each year.

Based on ESD's 2022 analysis of tree removals with permit holds, ESD estimates ≈ 7% of tree removals are in jurisdictional waters (approximately 3000 trees)

ESD reviewed historical range of water credits to estimate waters credits at $380,000 per acre

ESD estimated 0.0022 acre (100 square feet) as the approximate area surrounding the tree removal. Assume compensatory mitigation multiplier of 2X for each tree removal

Calculation = 3000 trees * 0.0022 acres = 6.6 acres * 2 (mitigation multiplier) = 13.2 acres * $380,000 waters credit per acre = $5,016,000

(2) Western Joshua Tree Mitigation:

Assume 250 trees will be trimmed and 5 trees will be felled per year. Estimate 255 trees annually at $2500 per tree

Calculation = 255 trees * $2,500 per tree = $637,500

Weed Abatement	2022 Volume	2022 Unit	2022 Actuals	2023 Forecast	2024 Forecast	2025 Forecast	2025 Forecast Methodology	2025 Forecast (Adjustments)
Desktop Reviews (1)	1916	Parcel	$ 143,280	$ 186,264	$ 186,264	$ 186,264	LRY + Adj	Includes an adder to 2022 recorded spend
Surveys (1)	697	Parcel	$ 355,623	$ 462,310	$ 462,310	$ 462,310	LRY + Adj	Includes an adder to 2022 recorded spend
Monitoring (1)	1734	Parcel	$ 378,633	$ 492,223	$ 492,223	$ 492,223	LRY + Adj	Includes an adder to 2022 recorded spend
Support Activities			$ 18,483	$ 35,674	$ 35,674	$ 35,674	LRY + Adj	Miscellaneous costs for support activities
Weed Abatement Total	**4347**		**$ 896,019**	**$ 1,176,471**	**$ 1,176,471**	**$ 1,176,471**		

Forecast Assumptions for Weed Abatement

(1) ESD included an adder to 2022 recorded spend due to weed abatement costs trending higher in the second half of 2022 (≈ $80K per month)

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Overall, ESD is seeing an increase in the number of parcels requiring field activities due to additional ESA layer enhancements and other support
ESD estimated ≈ $100K per month for Weed Abatement Support for Years 2023, 2024, and 2025

Structure Brushing	2022 Volume	2022 Unit	2022 Actuals	2023 Forecast*	2024 Forecast*	2025 Forecast	2025 Forecast Methodology	2025 Forecast (Adjustments)
Desktop Reviews	146151	Structure	$ 2,331,378	$ 1,865,102	$ 1,865,102	$ 2,331,378	LRY	No adjustments
Field Support (Surveys, Monitoring)	19353	Structure	$ 2,513,859	$ 2,011,087	$ 2,011,087	$ 2,513,859	LRY	No adjustments
Restoration Support			$ 145,878	$ 145,878	$ 145,878	$ 145,878	LRY	No adjustments
Compensatory Mitigation			$ -	$ 445,846	$ -	$ -	LRY	No adjustments
Agency Fees, Permit Fees, etc.			$ 13,526	$ 13,526	$ 13,526	$ 13,526	LRY	No adjustments
Support Activities			$ 368,458	$ 501,754	$ 556,792	$ 672,436	LRY + Adj	Miscellaneous costs for support activities
Structure Brushing Total	**165504**		**$ 5,373,099**	**$ 4,983,194**	**$ 4,592,386**	**$ 5,677,077**		

*2023 and 2024 forecast are based on earlier analysis which included a lower volume of reviews and field support. 2025 forecast is based on 2022 actuals

Dead and Dying	2022 Volume	2022 Unit	2022 Actuals	2023 Forecast*	2024 Forecast*	2025 Forecast	2025 Forecast Methodology	2025 Forecast (Adjustments)
Desktop Reviews	5250	Tree	$ 742,311	$ 742,311	$ 742,311	$ 742,311	LRY	No adjustments
Field Support (Surveys, Monitoring)	5037	Tree	$ 2,521,511	$ 2,521,511	$ 2,521,511	$ 2,521,511	LRY	No adjustments
District 50 Field Support	945	Tree	$ 1,063,397	$ -	$ -	$ 1,063,397	LRY	No adjustments
Agency Fees, Permit Fees, etc.			$ 5,780	$ 5,780	$ 5,780	$ 5,780	LRY	No adjustments
Support Activities			$ 265,960	$ 332,390	$ 417,558	$ 530,615	LRY + Adj	Miscellaneous costs for support activities
Dead and Dying Total	**11232**		**$ 4,598,959**	**$ 3,601,992**	**$ 3,687,160**	**$ 4,863,614**		

*2023 and 2024 forecast are based on earlier analysis which excluded costs for District 50 field support. 2025 forecast is based on 2022 actuals.

HTMP	2022 Volume	2022 Unit	2022 Actuals	2023 Forecast*	2024 Forecast*	2025 Forecast	2025 Forecast Methodology	2025 Forecast (Adjustments)
Desktop Reviews	2672	Tree	$ 886,987	$ 1,020,035	$ 1,020,035	$ 886,987	LRY	No adjustment
Field Support (Surveys, Monitoring)	2080	Tree	$ 1,694,390	$ 1,948,549	$ 1,948,549	$ 1,694,390	LRY	No adjustment
Cultural Resource Surveys (1)			$ -	$ 1,171,998	$ 1,171,998	$ 1,171,998	LRY + Adj	Includes costs to perform cultural surveys
Support Activities			$ 222,431	$ 355,632	$ 437,296	$ 586,818	LRY + Adj	Miscellaneous costs for support activities
Totals	**4752**		**$ 2,803,808**	**$ 4,496,213**	**$ 4,577,877**	**$ 4,340,193**		

*2023 and 2024 forecast are based on earlier analysis which included an adder for costs (e.g., Wetlands and Construction Stormwater reviews). 2025 forecast is based on 2022 actuals

2025 Forecast Assumptions for HTMP

(1) ESD included costs for upfront programmatic cultural resource surveys, as opposed to performing surveys on a project by project basis

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O&M Detail for Wildfire Mitigation and Vegetation Management Technology Solutions

2025 GRC Summary

(Constant 2022 $000)

Beginning of Workpapers for:

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation Management
Business Planning Element:	Wildfire Management
Activity:	Wildfire Mitigation and Vegetation Management Technology Solutions
Witness:	Evangeline Torres

Cost Type	Recorded/Adj. 2022	Forecast 2025
Labor	386	0
Non-Labor	2,900	3,731
Other	0	0
Total	**3,286**	**3,731**

Due to rounding, totals may not tie to individual items.

Description of Activity:
Technology solutions supporting Vegetation Management and various Wildfire Mitigation programs.

Forecast Methods - Summary of Results of Methods Studied

(Constant 2022 $000)

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation Management
Business Planning Element:	Wildfire Management
Activity:	Wildfire Mitigation and Vegetation Management Technology Solutions
Witness:	Evangeline Torres

Cost Type	Recorded/Adj.				
	2018	2019	2020	2021	2022
Labor	0	0	3	8	386
Non-Labor	0	0	1,159	658	2,900
Other	0	0	0	0	0
Total	**0**	**0**	**1,162**	**666**	**3,286**

Cost Type	Results of Linear Trending					
	3 Years: 2020 - 2022		4 Years: 2019 - 2022		5 Years: 2018 - 2022	
	$	r2*	$	r2*	$	r2*
Labor	899	0.76	622	0.62	469	0.52
Non-Labor	5,054	0.55	4,869	0.73	4,173	0.73
Other	0	0.00	0	0.00	0	0.00
Total	**5,953**	**N/A**	**5,492**	**N/A**	**4,642**	**N/A**

Cost Type	Results of Averaging							
	2 Years:		3 Years:		4 Years:		5 Years:	
	2021 - 2022	sd**	2020 - 2022	sd**	2019 - 2022	sd**	2018 - 2022	sd**
Labor	197	189	132	180	99	166	79	153
Non-Labor	1,779	1,121	1,573	961	1,179	1,075	944	1,071
Other	0	0	0	0	0	0	0	0
Total	**1,976**	**N/A**	**1,705**	**N/A**	**1,279**	**N/A**	**1,023**	**N/A**

Cost Type	Last Recorded Year		
	2023	2024	2025
Labor	386	386	386
Non-Labor	2,900	2,900	2,900
Other	0	0	0
Total	**3,286**	**3,286**	**3,286**

Cost Type	Itemized Forecast		
	2023	2024	2025
Labor	0	0	0
Non-Labor	3,726	3,845	3,731
Other	0	0	0
Total	**3,726**	**3,845**	**3,731**

** r2 = R Squared (Based on recorded years data)*

*** sd = standard deviation (Based on recorded years data)*

2025 GRC Selected Forecast Method

(Constant 2022 $000)

Exhibit:	SCE-02 Grid Activities
Volume:	10 A- Vegetation Management
Business Planning Element:	Wildfire Management
Activity:	Wildfire Mitigation and Vegetation Management Technology Solutions
Witness:	Evangeline Torres

Cost Type	Recorded/Adj.					Forecast			Selected Forecast		TY Forecast Incr/(Decr) from 2022
	2018	2019	2020	2021	2022	2023	2024	2025	Method	($000)	
Labor			3	8	386				Itemized		
Non-Labor			1,159	658	2,900	3,726	3,845	3,731	Itemized	3,731	831
Other											
Total	**0**	**0**	**1,162**	**666**	**3,286**	**3,726**	**3,845**	**3,731**		**3,731**	**831**

Due to rounding, totals may not tie to individual items.

Analysis of Forecasting Methods

Itemized Forecast:
Itemized Forecast Method

Other Forecast Methods not Selected

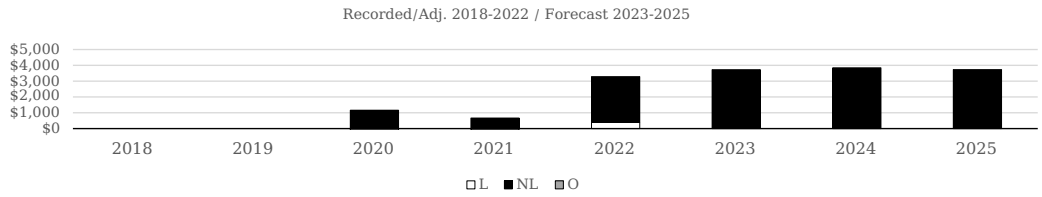
Last Recorded Year:
In D.89-12-057, and subsequently in D.04-07-022, the CPUC stated that if recorded expenses have been relatively stable for three or more years, the last recorded year is an appropriate base estimate. For this activity the Last Recorded Year method does not account for the variables discussed in testimony to determine the 2025 Test Year forecast. Therefore, the Last Recorded Year method is not appropriate.

Linear Trending:
In D.89-12-057, and subsequently in D.04-07-022, the CPUC stated that if recorded expenses have been relatively stable for three or more years, the last recorded year is an appropriate base estimate. For this activity the Linear Trending method does not account for the variables discussed in testimony to determine the 2025 Test Year forecast. Therefore, the Linear Trending method is not appropriate.

2025 GRC Year Over Year Variance

(Constant 2022 $000)

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation Management
Business Planning Element:	Wildfire Management
Activity:	Wildfire Mitigation and Vegetation Management Technology Solutions
Witness:	Evangeline Torres



Cost Type		Recorded/Adj.					Forecast		
		2018	2019	2020	2021	2022	2023	2024	2025
Recorded / Forecast	Labor	0	0	3	8	386	0	0	0
	Non-Labor	0	0	1,159	658	2,900	3,726	3,845	3,731
	Other	0	0	0	0	0	0	0	0
	Total	**0**	**0**	**1,162**	**666**	**3,286**	**3,726**	**3,845**	**3,731**
Labor	Prior Year Total	0	0	3	8	386	0	0	
	Change	0	3	5	378	(386)	0	0	
	Total	**0**	**3**	**8**	**386**	**0**	**0**	**0**	
Non-Labor	Prior Year Total	0	0	1,159	658	2,900	3,726	3,845	
	Change	0	1,159	(501)	2,242	826	119	(114)	
	Total	**0**	**1,159**	**658**	**2,900**	**3,726**	**3,845**	**3,731**	
Other	Prior Year Total	0	0	0	0	0	0	0	
	Change	0	0	0	0	0	0	0	
	Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
Total Change	Prior Year Total	0	0	1,162	666	3,286	3,726	3,845	
	Change	0	1,162	(496)	2,620	440	119	(114)	
	Total	**0**	**1,162**	**666**	**3,286**	**3,726**	**3,845**	**3,731**	

Due to rounding, totals may not tie to individual items.

2025 GRC Forecast Commentary

(Constant 2022 $000)

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation Management
Business Planning Element:	Wildfire Management
Activity:	Wildfire Mitigation and Vegetation Management Technology Solutions
Witness:	Evangeline Torres

Summary of Changes: See Testimony

Cost Type		Recorded/Adj.					Forecast		
		2018	2019	2020	2021	2022	2023	2024	2025
Recorded / Forecast	Labor	0	0	3	8	386	0	0	0
	Non-Labor	0	0	1,159	658	2,900	3,726	3,845	3,731
	Other	0	0	0	0	0	0	0	0
	Total	**0**	**0**	**1,162**	**666**	**3,286**	**3,726**	**3,845**	**3,731**

Due to rounding, totals may not tie to individual items.

Recorded (2018-2022)

See Testimony

Forecast (2023-2025)

See Testimony

WP SCE-02 Vol. 10A

Forecast O&M Expenses and Capital Expenditures Workpaper for Technology Solutions

WP SCE-02, Vol. 10A
Forecast Capital Expenditures and O&M Expenses Workpaper for Vegetation Management Technology Solutions
Witness: Torres

Business Planning Group: Resiliency
Business Planning Element: Wildfire Management
GRC Activity Wildfire Mitigation and Vegetation Management Technology Solutions
Project: Arbora
CIT: CIT00WMCS822406

Nominal $000

Cost Estimation Sheet

Cost Type	Funding	Recorded 2018	Recorded 2019	Recorded 2020	Recorded 2021	Recorded 2022	2023	2024	2025	2026	2027	2028	Forecast Project Cost (2023-2028)
Capital:													
SCE Labor	Capital	-	-	337	151	227	83	87	78	152	84	87	571
Vendor Contract	Capital	-	3,517	10,670	9,643	4,385	2,501	2,639	2,341	2,364	2,546	2,638	15,029
Software License COTS	Capital	-	-	4,829	1,084	891	-	-	-	-	-	-	-
Hardware and Data Center (App, DB, SAN,VM)	Capital	-	-	310	24	1,569	-	-	-	2,218	-	-	2,218
Other	Capital	-	702	-	104	52	19	20	18	35	19	20	131
Total Capital:		**-**	**4,219**	**16,147**	**11,005**	**7,124**	**2,603**	**2,747**	**2,437**	**4,769**	**2,649**	**2,746**	**17,950**

Basis for Capital Forecast: SCE labor represents the anticipated internal labor costs for the development and management of additional capabilities for the Vegetation Management Technology Solutions activities. Vendor Contract is the anticipated vendor development labor, support resources, and Salesforce platform specialists. Hardware costs include the anticipated iPads, associated parts, and set up fees for field users.

Constant 2022 $000

Forecast Methodology: LRY + Adjustment

O&M:													Normalized 2025 Forecast
Vendor Contract	O&M	-	-	-	180	2,823	3,200	3,302	3,400	3,412	2,879	3,127	3,204
Software/Hardware/Data Center License Incl. SaaS/Cloud	O&M	-	-	-	486	463	525	542	558	560	473	513	526
Other	O&M	-	-	1,162	-	-	-	-	-	-	-	-	-
Total O&M:		**-**	**-**	**1,162**	**666**	**3,286**	**3,726**	**3,845**	**3,958**	**3,973**	**3,351**	**3,641**	**3,731**

Basis for O&M Forecast: Vendor Contract is the anticipated operational maintenance and support includng the labor costs related to the ongoing maintenance of the technology solutions, code maintenance, break/fix support, and maintaining the integration with systems and applications. Software is the anticipated licensing costs for Salesforce, Lemur, and Youreka.

WP SCE-02 Vol. 10A

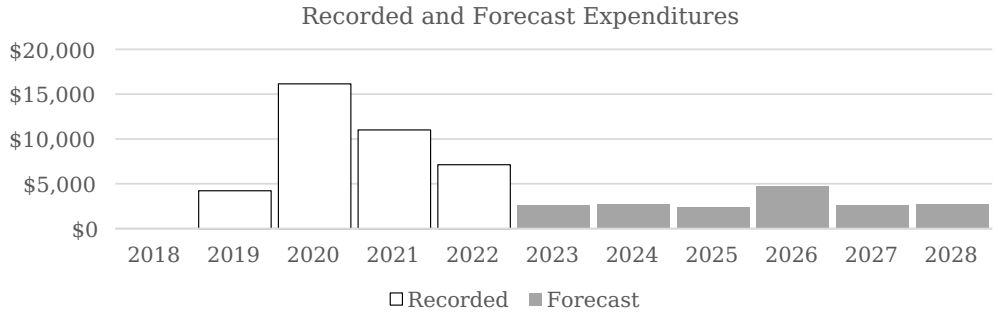
Capital Detail by WBS Element for Technology Solutions

Southern California Edison - Capital Workpapers
Capital Workpapers Summary
SUMMARY BY GRC Volume
(Nominal $000)

Exhibit: SCE-02 Grid Activities
Volume: 10A - Vegetation Management

	Recorded Capital Expenditures					Forecast Capital Expenditures					
Description	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Recorded and Forecast Expenditures		4,219	16,147	11,005	7,125	2,603	2,747	2,437	4,769	2,649	2,746
Total Expenditures					**38,495**						**17,950**

Due to rounding, totals may not tie to individual items.



	Forecast Capital Expenditures						
GRC Activity	2023	2024	2025	2026	2027	2028	6 yr Total
Wildfire Mitigation and Vegetation Management Technology Solutions	2,603	2,747	2,437	4,769	2,649	2,746	17,950
GRC Total	2,603	2,747	2,437	4,769	2,649	2,746	17,950

Southern California Edison
2025 GRC Capital Workpapers

Exhibit:	SCE-02 Grid Activities
Volume:	10A - Vegetation Management
Business Plan Group:	Resiliency
Business Plan Element:	Wildfire Management
GRC Activity:	Wildfire Mitigation and Vegetation Management Technology Solutions

1. Witness:	Evangeline Torres
2. Asset type:	5YR SWA
3. In-Service date:	12\1\9999
4. RO Model ID:	479
5. Pin:	8224
6. CWBS Element:	CIT00WMCS822406
CWBS Description:	Veg Management Long-Term- WMPMA
7. SRIIM Eligible:	No

Cost Estimates - Nominal ($000)

2025 GRC - Capital Expenditures Forecast

Year	2023	2024	2025	2026	2027	2028
SCE$	2,603	2,747	2,437	4,769	2,649	2,746

2023 - 2028 Total
17,950

Due to rounding, totals may not tie to individual items.