

Board of Directors Meeting Agenda

Date: July 20, 2023

Time: 6:00 p.m.

Location: SMUD Headquarters Building, Auditorium
6201 S Street, Sacramento, California

•AMENDED AGENDA

•*Agenda Items 12 and 13 have been updated.*

**SACRAMENTO MUNICIPAL UTILITY DISTRICT
BOARD OF DIRECTORS MEETING
SMUD HEADQUARTERS BUILDING
AUDITORIUM – 6201 S STREET
SACRAMENTO, CALIFORNIA**

July 20, 2023 – 6:00 p.m.

Virtual Viewing or Attendance:

Live video streams (view-only) and indexed archives of meetings are available at:
http://smud.granicus.com/ViewPublisher.php?view_id=16

Zoom Webinar Link: [Join SMUD Board of Directors Meeting Here](#)

Webinar/Meeting ID: 160 799 8309

Passcode: 699929

Phone Dial-in Number: 1-669-254-5252 or 1-833-568-8864 (Toll Free)

Verbal Public Comment:

Members of the public may provide verbal public comment by:

- Registering in advance of a meeting by sending an email to PublicComment@smud.org, making sure to include the commenter's name, date of the meeting, and topic or agenda item for comment. Microphones will be enabled for virtual or telephonic attendees at the time public comment is called and when the commenter's name is announced.
- Completing a sign-up form at the table outside of the meeting room and giving it to SMUD Security.
- Using the "Raise Hand" feature in Zoom (or pressing *9 while dialed into the telephone/toll-free number) during the meeting at the time public comment is called. Microphones will be enabled for virtual or telephonic attendees when the commenter's name is announced.

Written Public Comment:

Members of the public may provide written public comment on a specific agenda item or on items not on the agenda (general public comment) by submitting comments via email to PublicComment@smud.org or by mailing or bringing physical copies to the meeting. Comments will not be read into the record but will be provided to the Board and placed into the record of the meeting if received within two hours after the meeting ends.

Call to Order.

a. Roll Call.

1. Approval of the Agenda.

Comments from the public are welcome when these agenda items are called.

Consent Calendar:

2. Approve Board member compensation for service rendered at the request of the Board (pursuant to Resolution 18-12-15) for the period of June 16, 2023, through June 30, 2023.
3. Approve Board member compensation for service rendered at the request of the Board (pursuant to Resolution 23-06-02) for the period of July 1, 2023, through July 15, 2023.
4. Approval of the minutes of the meeting of June 15, 2023.

* * * * *

Discussion Calendar:

5. Authorize the Chief Executive Officer and General Manager to award contracts to **Myers Power Products, Inc.** and **PSECO Electric** to manufacture and provide substation switchgears during the period of July 21, 2023, to July 21, 2028, with one optional two-year extension for a total aggregate contract not-to-exceed amount of \$35 million. (Frankie McDermott)

Presenter: Eric Poff

6. Authorize the Chief Executive Officer and General Manager to award a contract to **Burns & McDonnell Western Enterprises, Inc.** to provide Substation Engineering Design Services for the period from July 21, 2023, to December 31, 2026, for a not-to-exceed amount of \$4 million. (Frankie McDermott)

Presenter: Eric Poff

7. Approve Contract Change No. 1 to Contract No. 4500128563 with **WEG Transformers USA LLC** to increase the contract not-to-exceed amount for power transformers by \$12,768,991 from \$3,426,446 to \$16,195,437. (Frankie McDermott)

Presenter: Eric Poff

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Informational Items:

8. Provide the Board with SMUD's financial results from the five-month period ended May 31, 2023, and a summary of SMUD's current Power Supply Costs.

Presenter: Lisa Limcaco

9. Audit Reports: Greenergy Partner Plus Program Verification and Q2 2023 Status of Recommendations.

Presenter: Claire Rogers

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Public Comment:

10. Items not on the agenda.

Board and CEO Reports:

- 11. Directors' Reports.
- 12. President's Report.
 - a. ~~Video re: National Alliance on Mental Illness (NAMI) Walks~~
- 13. CEO's Report.
 - a. Board Video

Summary of Board Direction

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Board Committee Meetings and Special Meetings of the Board of Directors are held at the SMUD Headquarters Building, 6201 S Street, Sacramento

August 8, 2023	Strategic Development Committee and Special SMUD Board of Directors Meeting	Auditorium*	6:00 p.m.
August 9, 2023	Policy Committee and Special SMUD Board of Directors Meeting	Auditorium	6:00 p.m.
August 15, 2023	Finance and Audit Committee and Special SMUD Board of Directors Meeting	Auditorium	6:00 p.m.
August 15, 2023	Energy Resources & Customer Services Committee and Special SMUD Board of Directors Meeting	Auditorium	Immediately following the Finance and Audit Committee and Special SMUD Board of Directors Meeting scheduled to begin at 6:00 p.m.
August 30, 2023	Special SMUD Board of Directors Meeting (Public Rates Hearing)	Auditorium	6:00 p.m.

* * * * *

**The Auditorium is located in the lobby of the SMUD Headquarters Building, 6201 S Street, Sacramento, California.*

Regular Meetings of the Board of Directors are held at the SMUD Headquarters Building, 6201 S Street, Sacramento

August 17, 2023

Auditorium*

6:00 p.m.

**The Auditorium is located in the lobby of the SMUD Headquarters Building, 6201 S Street, Sacramento, California.*

Members of the public shall have up to three (3) minutes to provide public comment on items on the agenda or items not on the agenda, but within the jurisdiction of SMUD. The total time allotted to any individual speaker shall not exceed nine (9) minutes.

Members of the public wishing to inspect public documents related to agenda items may click on the Information Packet link for this meeting on the smud.org website or may call 1-916-732-7143 to arrange for inspection of the documents at the SMUD Headquarters Building, 6201 S Street, Sacramento, California.

ADA Accessibility Procedures: Upon request, SMUD will generally provide appropriate aids and services leading to effective communication for qualified persons with disabilities so that they can participate equally in this meeting. If you need a reasonable auxiliary aid or service for effective communication to participate, please email Toni.Stelling@smud.org, or contact by phone at 1-916-732-7143, no later than 48 hours before this meeting.

RESOLUTION NO. _____

**BE IT RESOLVED BY THE BOARD OF DIRECTORS
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

That this Board hereby approves Board member compensation for service rendered at the request of the Board (pursuant to Resolution 18-12-15) for the period of June 16, 2023, through June 30, 2023.

RESOLUTION NO. _____

**BE IT RESOLVED BY THE BOARD OF DIRECTORS
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

That this Board hereby approves Board member compensation for service rendered at the request of the Board (pursuant to Resolution 23-06-02) for the period of July 1, 2023, through July 15, 2023.

Sacramento, California

June 15, 2023

The Board of Directors of the Sacramento Municipal Utility District met in regular session simultaneously in the Auditorium of the SMUD Headquarters Building at 6201 S Street, Sacramento, and via virtual meeting (online) at 6:02 p.m.

Roll Call:

Presiding: President Sanborn

Present: Directors Rose, Bui-Thompson, Fishman, Herber, Kerth, and Tamayo

Present also were Paul Lau, Chief Executive Officer and General Manager; Laura Lewis, Chief Legal & Government Affairs Officer and General Counsel and Secretary, and members of SMUD's executive management; and SMUD employees and visitors.

Director Kerth shared the 2030 Clean Energy tip.

President Sanborn called for approval of the agenda. Director Fishman moved for approval of the agenda, Director Tamayo seconded, and the agenda was unanimously approved.

President Sanborn announced that a portion of the CEO Report would be given now.

Paul Lau, Chief Executive Officer and General Manager, reported on the following item:

- 1) **APPA Rodeo, LADWP & IBEW Lineman's Rodeo, and Light Up Navajo Nation Recognition**. I am pleased to recognize the SMUD lineworkers who participated in the American Public Power Association's Lineworkers Rodeo, the Los Angeles Department of Water & Power and IBEW Lineman's Rodeo and the team who spent two weeks bringing electricity to the Navajo Nation in Arizona. I will read the names of all the individuals we are recognizing tonight. Once we are done, we will have you all

come up to the front for a group photo. Some team members could not be here tonight, but I will still recognize them by name.

- First up, the APPA Lineworkers Rodeo. Congratulations to:
 - Journeyman Team of Justin Estes, Tanner Barnes and Matt Ramey for placing 2nd in the Overall in Journey and Vertical Pin and Insulator Change Out 4kV
 - Journeyman Team of Garrett McGhehey, Justin Hirschi, and Dwight Johnson for placing 3rd in the Hurtman Rescue
 - Apprentice Mason McNabb for placing 2nd in the written test.
 - Apprentice Richie Cancilla for placing 5th overall.
 - Apprentices Austin Boyd, Drew Wigington, Mike Blomstedt and Kyle Kaehler for participating, as well as judges Nathan Prince, Wesley Simmons, Ben Bassett, Tyler Dewitt, Chris Fukui, Richard Hall, Todd Prangley and Mike Munn.
- Next, the LADWP & IBEW Lineman's Rodeo, congratulations to:
 - Journeyman Team Justin Estes, Tanner Barnes and Keno Grigsby for placing 1st overall, Transformer Change Out, Speed Climb, Hurtman Rescue and placing 2nd in the Journeyman 34.5kV Insulator Change Out.
 - Apprentice Mason McNabb, for placing 3rd in the Obstacle Course.
 - Apprentice Richie Cancilla for placing 3rd in the Pole Climb Speed and 2nd in the Obstacle Course and Insulator Change Out.
 - Thank you again to Wes Simmons and Richard Hall for being judges.

- Finally, we recently sent a five-person line crew to work in rural Arizona for two weeks to help bring electricity to those who have never had it.
 - Thank you to foreman Keno Grigsby and lineworkers Tanner Barnes, Balberto Sanchez, Paul Duncan and Richard Malgieri. This crew joined crews from utilities in nine other states under the APPA's Light Up Navajo Nation initiative, which is in its 3rd year.
 - Our crews set approximately 180 poles, 30 of those poles energized three homes that did not have power. Thank you all for going above and beyond to help bring electricity to the communities of the Navajo Nation.

Director Bui-Thompson, Chair, presented the report on the Strategic Development Committee meeting held on June 6, 2023.

Director Tamayo, Chair, presented the report on the Policy Committee meeting held on June 7, 2023.

Director Kerth, Chair, presented the report on the Finance and Audit Committee meeting held on June 14, 2023.

Director Rose, Chair, presented the report on the Energy Resources & Customer Services Committee meeting held on June 14, 2023.

President Sanborn then called for public comment for items on the agenda, but none were forthcoming.

President Sanborn then addressed the consent calendar consisting of Items 3 through 10. Director Fishman moved for approval of the consent calendar, Director Tamayo seconded, and Resolution Nos. 23-06-01 through 23-06-07 were approved by a vote of 6-0, with Vice President Herber abstaining.

RESOLUTION NO. 23-06-01

**BE IT RESOLVED BY THE BOARD OF DIRECTORS
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

That this Board hereby approves Board member compensation for service rendered at the request of the Board (pursuant to Resolution 18-12-15) for the period of May 16, 2023, through June 15, 2023.

Approved: June 15, 2023

INTRODUCED: DIRECTOR FISHMAN				
SECONDED: DIRECTOR TAMAYO				
DIRECTOR	AYE	NO	ABSTAIN	ABSENT
SANBORN	X			
ROSE	X			
BUI-THOMPSON	X			
FISHMAN	X			
HERBER			X	
KERTH	X			
TAMAYO	X			

RESOLUTION NO. 23-06-02

**BE IT RESOLVED BY THE BOARD OF DIRECTORS
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

This Board approves the revisions to the **Governance Process GP-12, Board Compensation and Benefits**, substantially in the form as set forth in **Attachment A**.

Approved: June 15, 2023

INTRODUCED: DIRECTOR FISHMAN				
SECONDED: DIRECTOR TAMAYO				
DIRECTOR	AYE	NO	ABSTAIN	ABSENT
SANBORN	X			
ROSE	X			
BUI-THOMPSON	X			
FISHMAN	X			
HERBER			X	
KERTH	X			
TAMAYO	X			

**Attachment A
to Resolution No. 23-06-02**

SMUD BOARD POLICY	
Category: Governance Process	Title: Board Compensation and Benefits
Date of Adoption: December 19, 2002	Policy Number: GP-12
Revision Date: October 16, 2003	Resolution No. 02-12-14
Revision Date: December 2, 2004	Resolution No. 03-10-14
Revision Date: December 1, 2005	Resolution No. 04-12-03
Revision Date: May 17, 2007	Resolution No. 05-12-10
Revision Date: July 16, 2009	Resolution No. 07-05-08
Revision Date: September 18, 2014	Resolution No. 09-07-02
Revision Date: December 20, 2018	Resolution No. 14-09-07
Revision Date: December 12, 2019	Resolution No. 18-12-15
Revision Date: June 15, 2023	Resolution No. 19-12-05
Revision Date: June 15, 2023	Resolution No. 23-06-02

In keeping with the MUD Act, members of the Board of Directors are entitled to compensation for their service. Specifically:

- a) Each Board member may receive for each attendance at the meetings of the full Board, Board committee meetings, ad hoc committee meetings, publicly noticed SMUD workshops or meetings, other publicly noticed meetings where the Board member is representing the Board, state or federal legislative briefings or meetings where the Board member is representing the Board, meetings with SMUD customers or staff relating to SMUD business, community meetings or events where the Board member is representing SMUD, events where SMUD is being recognized, conferences and organized educational activities, the sum of \$317.00 per day of service. No director may receive compensation for more than ten (10) days in any one calendar month. Campaign and political meetings, events, and fundraisers are not compensable under this policy.
- b) Each Board member may also be reimbursed for expenses related to travel, meals, lodging and other actual and necessary expenses incurred in the performance of his or her official duties as described in subsection a).

Reimbursement shall be in accordance with Internal Revenue Service regulations as established in Publication 463, or any successor publication.

- c) Each Board member may be reimbursed for computer and other technology purchases, rentals, and refurbishments that will aid them in the performance of their duties pursuant to reimbursement policies applicable to executive and senior leaders.
- d) Compensation forms shall be completed by a Director and distributed by the Board office for review and approval prior to a Board meeting. The Board shall review and approve compensation and any request for technology reimbursement at each regular Board meeting. Board member compensation, along with any requests for technology reimbursement, shall be placed on the consent calendar at each regular Board meeting, unless a Board member requests that it be placed on the discussion calendar. Expense reimbursement forms and requests for expenditures for travel and training shall be completed by a Director and submitted to the Board President or Vice President for approval as appropriate.
- e) SMUD shall provide and contribute payment for health care benefits, equivalent to the contribution made to SMUD employees in the PAS employee group, to any Board member who elects such benefit, and additionally make an annual contribution payment of \$500 to a Flexible Spending Account.
- f) Subject to the applicable tax codes and IRS rules and regulations, and to the extent possible, SMUD shall direct payment to a SMUD defined contribution plan (either a 457(b) plan or a 401(k) plan) for each Director who elects to have such a benefit in the amount of 30% of compensation based on days of service. Directors who elect to receive this benefit must (1) have a SMUD defined contribution plan and (2) direct payment to the defined contribution plan of their choice at initial enrollment and then during (and only during) SMUD's open enrollment period for employee benefits.

Monitoring Method: Board Report
Frequency: Annual

RESOLUTION NO. 23-06-03

**BE IT RESOLVED BY THE BOARD OF DIRECTORS
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

This Board accepts the monitoring report for **Strategic Direction SD-4, Reliability**, substantially in the form set forth in **Attachment B** hereto and made a part hereof.

Approved: June 15, 2023

INTRODUCED: DIRECTOR FISHMAN				
SECONDED: DIRECTOR TAMAYO				
DIRECTOR	AYE	NO	ABSTAIN	ABSENT
SANBORN	X			
ROSE	X			
BUI-THOMPSON	X			
FISHMAN	X			
HERBER			X	
KERTH	X			
TAMAYO	X			

SACRAMENTO MUNICIPAL UTILITY DISTRICT

OFFICE MEMORANDUM

TO: Board of Directors

DATE: May 24, 2023

FROM: Claire Rogers *CR 5/24/23*

**SUBJECT: Audit Report No. 28007604
Board Monitoring Report; SD-04: Reliability**

Audit and Quality Services (AQS) received the SD-04 *Reliability* 2022 Annual Board Monitoring Report and performed the following:

- Selected a sample of statements and assertions in the report for review.
- Interviewed report contributors and verified the methodology used to prepare the statements in our sample.
- Validated the reasonableness of the statements in our sample based on the data or other support provided to us.

During the review, nothing came to AQS' attention that would suggest the items sampled within the SD Board Monitoring report did not fairly represent the source data available at the time of the review.

CC:

Paul Lau

Board Monitoring Report 2022

Strategic Direction

SD-4, Reliability



1) Background

Strategic Direction SD-4 Reliability states that:

Meeting customer energy requirements is a core value of SMUD.

Therefore:

- a) SMUD will assure all customer energy requirements are met. This will be accomplished through the use of: (i) its generation resources and purchase power portfolio 100 percent of the time; and (ii) its transmission assets to assure an overall availability of at least 99.99 percent.

- b) SMUD will achieve distribution system reliability by:

Limiting the average frequency of outage per customer per year to:

With major event: 0.99 – 1.33

Excluding major event: 0.85 – 1.14

Limiting the average duration of outages per customer per year to:

With major event: 67.5 – 93.3 minutes

Excluding major event: 49.7 – 68.7 minutes

Ensuring that no individual circuits exceed these targets for more than two consecutive years. For circuits that exceed these targets for two consecutive years, a remedial action plan will be issued and completed within eighteen months.

- c) SMUD will maintain the electric system in good repair and make the necessary upgrades to maintain load serving capability and meet regulatory standards.

2) Executive summary

Improving reliability is essential to meeting customer energy requirements and drives customer loyalty.

SMUD was in compliance for both generation and transmission availability. SMUD met all energy supply requirements 100% of the time through its generation resources and purchased power. At a peak load of 3,292 MW (which occurred on September 6),

42% of the generation was provided by internal resources and 58% was provided by purchased power. The transmission availability was at 100% for the year.

SMUD was in compliance for both SAIDI and SAIFI (excluding major events). Reliability targets including major events were met for SAIFI (1.28) and exceeded for SAIDI (175.8 minutes). The 2022 distribution system reliability performance is summarized in Table 1 below.

Table 1: 2022 Distribution System Reliability Performance

	With Major Events		Excluding Major Events	
	SD-4 Limit	2022 Results	SD-4 Limit	2022 Results
SAIFI	1.33	1.28	1.14	0.93
SAIDI (minutes)	93.3	175.8	68.7	53.7

Major events are defined as events caused by earthquake, fire, or storms of sufficient intensity which result in a state of emergency being declared by the government. Absent the declaration of a state of emergency, any other natural disaster may be excluded only if it affects more than 15% of the system facilities or 10% of the customers, whichever is less.

There are 763 distribution circuits of which 99.1%, or 756 circuits, met the SD-4 reliability criteria. Thirteen projects were issued to improve reliability, of which seven have been completed. The remaining six projects are on schedule to be completed within the eighteen-month requirement. These projects include primarily cable replacement, avian mitigation, TripSaver recloser installations and other work.

3) Additional supporting information

Generation

Hydro Generation Facilities

The availability rate for SMUD’s hydro generation system in 2022 was 90.72% and for the June 1st through September 30th period, hydro generation availability was 99.14%. SMUD’s Upper American River Project (UARP) hydro system generated 984,820 MWh. The budgeted generation was 1,302,861 MWh.

Gas Pipeline Operations

SMUD’s gas pipeline had a 100% availability rating in 2022 and provided a constant flow of gas to SMUD’s thermal generation facilities. All necessary maintenance activities

were successfully completed in accordance with our operations and maintenance plans and procedures.

Thermal Generation Facilities

The overall availability rate for SMUD's thermal generation facilities in 2022 was 67.04% and for the June 1st through September 30th period, thermal plant availability was 58.54%. SMUD's thermal generation facilities generated a net total of 2,860,926 MWh against the budgeted generation of 5,476,313 MWh.

The lower thermal plant availability was caused by extended outages at Cosumnes Power Plant. It started with an extensive 88 day planned outage to overhaul the steam turbine, one combustion turbine and several balance of plant items. This was followed by an eight-month unplanned outage to rebuild the stator on the steam turbine generator.

Transmission and Distribution

SMUD has approximately 488 miles of transmission lines and 10,734 miles of distribution lines including 69kV. Approximately 40% of the distribution lines are installed overhead and 60% are installed underground. The transmission system is predominately overhead except for 19 miles of underground lines located in the Carmichael and downtown areas.

Staff monitors circuit reliability regularly to assess circuits that could potentially exceed the reliability limits. Outage causes, trends, and reliability impacts are analyzed to identify corrective actions that will bring the reliability of these circuits within the acceptable range.

4) Challenges

SMUD's distribution system had excellent reliability for most of 2022. On the evening of New Year's Eve, the first of nine atmospheric river storms hit northern California. This single event created significant damage to the grid, affecting approximately 227,000 customers, a SAIDI contribution of 122.1 minutes, and a SAIFI contribution of 0.35 on December 31st alone. The unexpected storm brought over 60 mph wind gusts, with 48mph sustained winds, coupled with almost two inches of rain. With the already saturated the ground and heavy rains combined with high winds, over 1000¹ trees overs several days were uprooted all over Sacramento region and many trees fell onto SMUD's overhead lines. These types of tree related outages take longer to resolve

¹ <https://www.cpradio.org/articles/2023/01/12/why-did-so-many-trees-fall-in-sacramento-what-to-know-about-damage-to-citys-tree-canopy-amid-storms/#:~:text=%E2%80%9Cve%20been%20here%2032,fallen%20since%20New%20Years'%20Eve.>

since the trees must be removed from the tangled powerlines prior to the start of rebuilding the lines.

Drivers for Reliability Performance

The main drivers for the distribution system performance excluding major events, along with the mitigation measures for each, are summarized below.

Vehicle Accidents

The leading cause of outages in 2022 was vehicle accidents. Overall, there was a 14% increase in the number of vehicle accidents, with a 3% increase in SAIDI minutes and a 22% decrease in SAIFI, when comparing with 2021. Although there was an increase in the number of vehicle accidents, the significant decrease in SAIFI is attributed to reduced vehicle accidents that impacted our 69kV system. There were three fewer 69kV vehicle accidents in 2022 compared to 2021. Overall vehicle accidents can likely be attributed the return to pre-pandemic vehicle traffic on roadways.

One pole was relocated in 2022 as part of the Vehicle vs Asset program. Staff continues to monitor and analyze vehicle related outages for remediation as part of the Vehicle vs Asset program.

Equipment Failures

Equipment failures are associated with a wide variety of distribution line components, such as fuses, poles, wire hardware, broken connectors, broken jumpers, failed transformers, broken cutouts and more. Outages due to failed equipment continue to be evaluated to locate and address any systemic deficiencies.

Failed equipment was the second leading cause of outages in 2022. When compared to 2021, outages due to equipment failures increased by 2%. Many equipment failures were on the 12kV system. There was a decrease of equipment failures on the 69kV and 21kV systems, which helped reduce SAIDI and SAIFI by 8% and 21%, respectively.

Multiple inspection and maintenance programs are in place to identify and correct deficiencies before they result in failure. We have annual line patrols to detect obvious deficiencies. In addition, we perform detailed line inspections (DLI) every five years. During a DLI, the inspector examines every attachment on the pole and documents deficiencies found. The deficiencies are prioritized and repaired based upon pre-determined schedules.

Underground Cable Failures

In 2022, underground cable failures were the third leading cause of outages. However, outages due to cable failures decreased by 2% compared to 2021. Additionally, SAIDI and SAIFI decreased by 17% each. Improved performance in this area is primarily driven by continued targeted replacement of cable sections that have the greatest impact on reliability. In 2022, there was a 25% reduction in number of failures in mainline sections as compared to 2021, which has led to significant improvements in the SAIDI and SAIFI indices.

The cable injection program, which extends the life of age cable, resumed in 2022. Last year, we injected a total 80,201 circuit feet of cable and replaced 232,090 circuit feet. Our 2023 work plan calls for injecting 100,000 circuit feet of cable and replacing 240,000 circuit feet.

5) Recommendation

It is recommended that the Board accept the Monitoring Report for SD-4, Reliability.

6) Appendices

Appendix 1: Generation Supplementary Information

Hydro Generation Facilities

Major hydro generation maintenance and construction activities include:

- Recoating of the Ice House Gates per requirements from FERC Part 12D inspections
- Ice House and Union Valley Spillway subsurface investigations were completed as required by FERC Part 12D inspections
- Procured a contractor for the FERC Part 12D comprehensive assessment for 6 dams to be completed in 2023
- Investigation conducted on options for Pump Back Hydro Storage at Union Valley to Junction Reservoir
- Underground conduit from Jones Fork Intake to the Ice House Low Level Outlet in preparation for pulling at 4kV power line as part of fire risk mitigation
- Robbs Peak Transformer dissolved gas analysis (DGA) continuous monitoring installation completed
- Robbs Peak Transformer bushing replacement completed
- Loon Lake Transformer bushing replacement completed and oil processed
- Camino unit 1 controls upgrade completed
- Jaybird unit 2 controls pre-work completed

Gas Pipeline Operations

Capital improvements and major maintenance activities include:

- Line 700A Yolo Causeway erosion mitigation
- Winters M&R Station insulating gasket replacement
- Procter & Gamble M&R Station concrete pipe support replacement
- Line 700B 28th Street depth of cover verification
- Pipeline cyclic fatigue engineering study
- Carson M&R station CO2 digester (biofuel) gas piping analysis using guided wave ultrasonics inspection
- Pipeline class location study
- Line 700B inspection dig at Meadowview Road
- Line 700B cathodic protection monitoring station installations at Fruitridge Road and Stockton Boulevard, and Fruitridge Road and 66th Street
- Nineteen as-built drawing update projects

Thermal Generation Facilities

Major thermal generation maintenance and construction activities completed include:

Carson Power Plant:

- The plant completed a hot section Overhaul on the combustion turbine generator unit 1.

Procter & Gamble Power Plant:

- Replaced selective catalytic reduction (SCR) system catalyst

Campbell Power Plant & McClellan Power Plant:

- Completed initial Zero Carbon Plan Conditional Availability Study for both Campbell Power Plant & McClellan Power Plant.

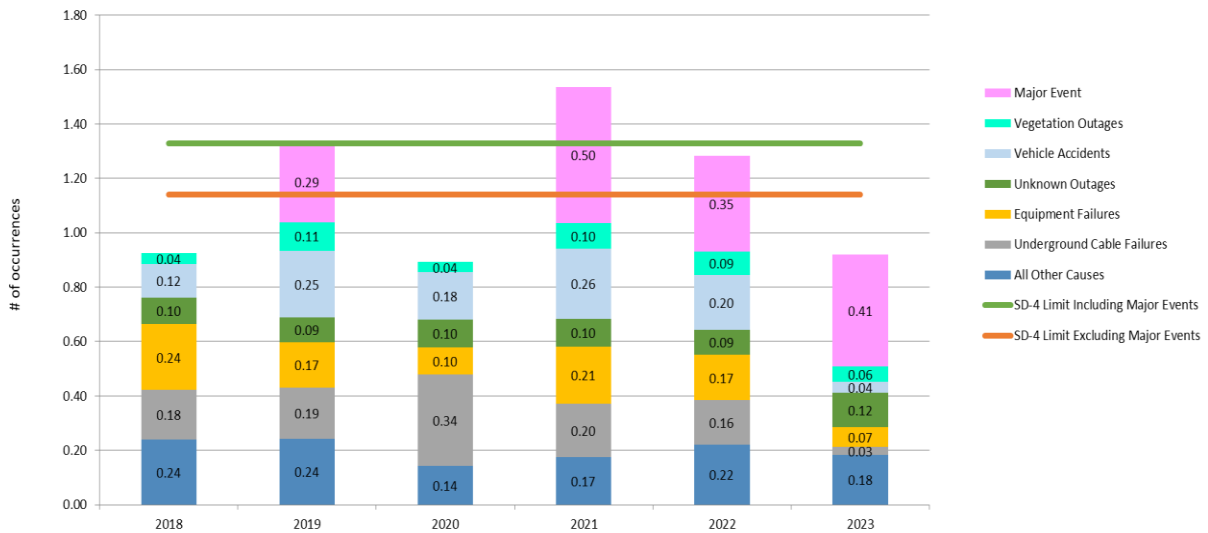
Cosumnes Power Plant:

- The plant completed an extensive overhaul, which lasted 88 days, including
 - Access Platform Improvements
 - DCS Control-Upgrade MK VIe & DCS Instrumentation
 - CT Rotor LTEs (CT3, CT2 w/Spare)
 - Steam Turbine – row L0 blade replacement
 - Steam Distribution-High Pressure Bypass Replacement
 - Maximum Allowable Working Pressure (MAWP) Increase
 - Unit 3 Hot Reheat Bypass Replacement
 - CT3 and CT2 Major Inspections
 - CT Hardware CA & Repair
 - LS2100/EX2100 Upgrade
 - Heat Recovery Steam Generator (HRSG) flash tanks replacement
 - Boiler Feed Water (BFW) pumps overhaul
- STG Generator Stator Repair

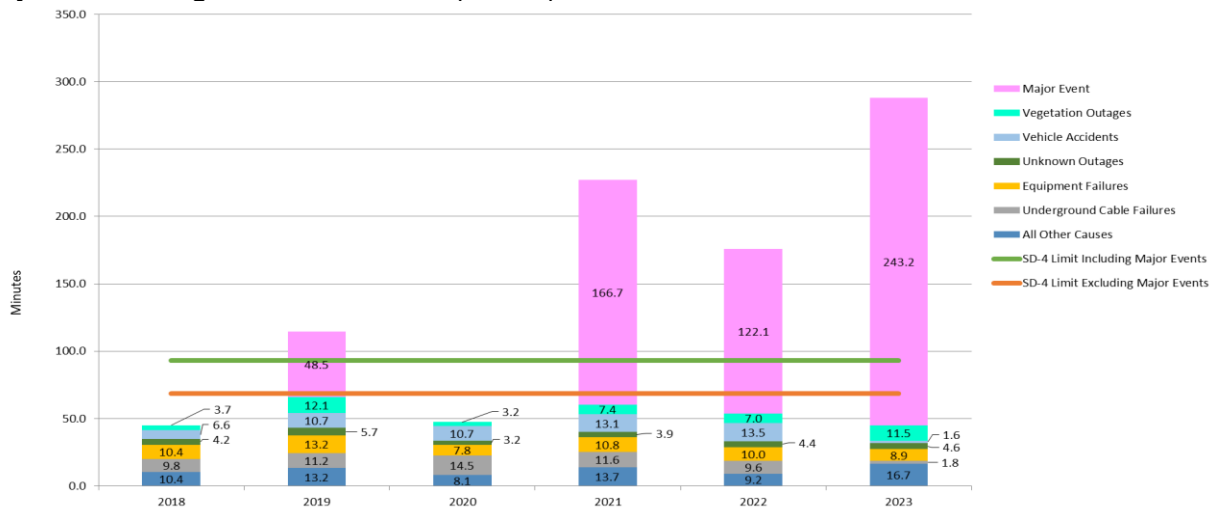
Appendix 2: Graphs

The graphs below provide a five-year comparison of the impacts of outage causes to the average frequency (SAIFI) and duration (SAIDI) of outages. 2023 SAIDI and SAIFI are year-to-date through Apr. 30, 2023.

Graph 1: Multi-Year Comparison
System Average Frequency Index (SAIFI)



Graph 2: Multi-Year Comparison
System Average Duration Index (SAIDI)



Appendix 3: Reliability Comparison

Table 3 below provides a comparison between SMUD's average distribution system performance compared to that of Pacific Gas and Electric's (PG&E)'s distribution

system. PG&E defines its distribution system as operating voltages less than 60kV and uses IEEE 1366 standards to define major event days, while SMUD includes the 69kV operating voltage as part of the distribution system and uses an alternate method to determine major event days. The information regarding PG&E’s system average performance was obtained from the 2020 reliability report posted on the California Public Utilities Commission (CPUC) website. PG&E’s 2021 or 2022 Reliability Reports are not posted on the CPUC website yet.

Table 3: Distribution System Reliability Comparison (excluding major events)

Year	SAIDI (minutes)		SAIFI	
	SMUD	PG&E	SMUD	PG&E
2018	44.7	90.7	0.80	0.84
2019	66.0	103.1	1.04	0.88
2020	47.6	111.2	0.90	0.93
2021	60.4	N/A	1.04	N/A
2022	53.7	N/A	0.93	N/A
Notes: 1. Listed SAIFI and SAIDI numbers are based on outages greater than 5 minutes (CPUC criteria).				

Appendix 4: Year-to-Date 2023 Reliability Update

Table 4: 2023 Year-to-Date Distribution System Reliability Performance

	Excluding Major Events			Including Major Events		
	SD-4 Limit	Jan.1 – Apr. 30, 2023	2023 YE Projection	SD-4 Limit	Jan.1 – Apr. 30, 2023	2023 YE Projection
SAIFI	1.14	0.51	1.15	1.33	0.92	1.75
SAIDI (minutes)	68.7	45.0	78.4	93.3	288.2	369.0

The year-end forecast exceeds the SD-4 limits primarily due to the impacts of the series of atmospheric river winter storms that occurred during the first quarter of 2023.

RESOLUTION NO. 23-06-04

**BE IT RESOLVED BY THE BOARD OF DIRECTORS
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

This Board approves the revisions to the **Board-Staff Linkage BL-8, Delegation to the Chief Executive Officer and General Manager with Respect to Procurement** substantially in the form as set forth in **Attachment C**.

Approved: June 15, 2023

INTRODUCED: DIRECTOR FISHMAN				
SECONDED: DIRECTOR TAMAYO				
DIRECTOR	AYE	NO	ABSTAIN	ABSENT
SANBORN	X			
ROSE	X			
BUI-THOMPSON	X			
FISHMAN	X			
HERBER			X	
KERTH	X			
TAMAYO	X			

**Attachment C
to Resolution No. 23-06-04**

SMUD BOARD POLICY	
<p>Category: Board-Staff Linkage</p>	<p>Title: Delegation to the Chief Executive Officer and General Manager with Respect to Procurement</p>
Date of Adoption: August 21, 2003	Policy Number: BL-8
Revision: October 16, 2003	Resolution No. 03-08-07
Revision: June 3, 2004	Resolution No. 03-10-14
Revision: October 16, 2008	Resolution No. 04-06-04
Revision: October 1, 2009	Resolution No. 08-10-09
Revision: October 1, 2009	Resolution No. 09-10-05
Revision: August 4, 2011	Resolution No. 11-08-04
Revision: November 17, 2011	Resolution No. 11-11-06
Revision: March 15, 2012	Resolution No. 11-11-06
Revision: August 21, 2014	Resolution No. 12-03-13
Revision: December 15, 2016	Resolution No. 14-08-03
Revision: July 16, 2020	Resolution No. 16-12-18
Revision: March 18, 2021	Resolution No. 20-07-05
Revision: June 15, 2023	Resolution No. 21-03-04
Revision: June 15, 2023	Resolution No. 23-06-04

The procurement of goods and services is an integral part of SMUD operations. SMUD's procurement activities shall take place in accordance with the following principles:

- a) **Competition:** SMUD's procurement activities shall be competitive whenever practical.
- b) **Direct Procurement:** Direct procurement may be utilized when it is in SMUD's best interest. Direct procurement is the purchase of goods or services without competition when multiple sources of supply are available.

- c) **Sole Source Procurement:** Sole source procurement shall be performed only in the case of emergency or when a competitive process would be an idle act.
- d) **Inclusiveness:** SMUD's procurement practices shall promote inclusiveness of the entire supplier community in its contracting opportunities.
- e) **Economic Development:** SMUD's procurement practices shall promote the economic development of the community we serve.
- f) **Environmental Procurement:** SMUD shall minimize the impact on the environment through its procurement practices. In making procurement decisions, staff shall consider the environmental impacts in assessing total cost and benefits.
- g) **Responsible Bidder:** SMUD shall only do business with reputable and responsible suppliers. A Responsible Bidder demonstrates trustworthiness, quality, capacity, financial capability, fair labor practices, and experience to satisfactorily perform SMUD work through the bidding and evaluation process. In addition, SMUD will determine Responsible Bidders by considering a supplier's social, environmental ethical, and safety accountability where applicable.
- h) **Supplier Code of Conduct:** SMUD shall set minimum expectations or standards for all suppliers to follow in the course of doing business with SMUD (in some cases by submitting data and reporting annually) including but not limited to, labor and human rights, environmental, social, governance (ESG), health and safety accountability, ethics and compliance, and diversity, equity, inclusion, and belonging practices.
- i) **Best Value Procurement:** SMUD may procure goods and services by the best value at the lowest cost methodology, where cost and other factors are used to obtain the maximum value while ensuring a fair and equitable process.
- j) **Leveraged Procurement Agreement (LPA):** SMUD may procure goods and services where another lead public agency or organization competitively procures the same goods or services under applicable state and federal laws to streamline procurement processes and leverage collective buying power of multiple agencies to achieve cost savings and other benefits to SMUD. Leveraged procurement agreements are generally referred to by other public agencies as "Cooperative Purchasing Agreements".
- k) **Strategic Alliances:** SMUD may enter into strategic alliance contracts for the procurement of goods or services. A Strategic Alliance is a competitively bid multi-year contract for goods and/or services in which the Supplier and SMUD work collaboratively over the life of the contract to improve quality, and to explore design and process improvements to reduce the cost of production, service delivery, and the total cost of ownership. These benefits are shared both by SMUD and the Supplier.
- l) **Supply Chain Risk:** SMUD's procurement activities shall identify, manage, and mitigate supply chain risks through a coordinated effort across the enterprise.

- m) **Protest Policy:** SMUD shall ensure that suppliers are afforded the opportunity to have their grievances heard through a fair protest process.
- n) **Delegation of Authority to the Chief Executive Officer and General Manager:** The Chief Executive Officer and General Manager is delegated authority to perform and approve the procurement activities in accordance with the below matrix. This delegation includes the authority to amend contracts for time extensions or other changes that create no additional cost to SMUD.

<u>Category</u>	<u>Amount*</u>
Competitive Awards:	
Operational Inventory	\$11 million
Non-inventory Materials	\$11 million
Construction and Maintenance Services	\$11 million
Information Technology	\$11 million
Professional and Consulting Services	\$3 million
Rents and Leases	\$1 million
Sole Source:	
All types except Maintenance/Licensing Fees	\$1.5 million
Maintenance/Licensing Fees	\$3 million or original approved amount
Direct Procurement:	
Materials/Supplies/Services	\$50k**
Government Entities	\$1 million
Nonprofit Entities (services/goods)	\$1 million
Emergency Procurements:	
All types	\$2 million
Nonprofit Entities:	
Memberships/Project Participation Agreement	\$3 million
Contingencies:	
Board Awarded Contracts	Up to 10% of contract Award

***The amounts for all categories except Direct Procurement Materials/Supplies/Services shall be adjusted automatically on an annual basis beginning Jan 1, 2024, consistent with the U.S. Bureau of Labor Statistics (BLS) published national consumer price index (CPI) per the Federal Reserve Bank of Minneapolis Average Annual CPI calculator.**

****The amount shall be adjusted automatically on an annual basis pursuant to the implicit price deflator as set forth in California Public Utilities Code section 12751, using the base year of 1997.**

Monitoring Method: GM Report
Frequency: Quarterly

RESOLUTION NO. 23-06-05

WHEREAS, Senate Bill 901 (2018) and Assembly Bill 1054 (2019) revised the California Public Utilities Code section 8387 (PUC § 8387) to require that before January 1, 2020, and annually thereafter, every publicly owned electric utility (POU) prepare a **Wildfire Mitigation Plan (WMP)**, present it in a noticed public meeting, and accept comments; and

WHEREAS, PUC § 8387 also requires that each POU update its plan annually and submit the update to the **California Wildfire Safety Advisory Board (WSAB)** by July 1 of each year; and

WHEREAS, PUC § 8387 also requires that at least once every three years, the plan submitted to the **WSAB** shall be a comprehensive revision of the plan; and

WHEREAS, PUC § 8387 states that the POU shall contract with a qualified independent evaluator experienced in assessing the safe operation of electrical infrastructure to review and assess the comprehensiveness of the POU's **WMP**, who shall issue a report and present the report at a public meeting; and

WHEREAS, by Resolution No. 19-10-09, adopted on October 17, 2019, this Board adopted SMUD's **WMP** and authorized the Chief Executive Officer and General Manager to make future changes to the SMUD **WMP** that further the primary purpose of the SMUD **WMP** and provide a net benefit to SMUD; and

WHEREAS, by Resolution No. 20-11-04, adopted on November 19, 2020, Resolution No. 21-06-02, adopted on June 17, 2021, and Resolution No. 22-05-05, adopted on May 19, 2022, this Board adopted annual updates to SMUD's **WMP** and authorized the Chief Executive Officer and General Manager to make future changes to the SMUD **WMP** that further the primary purpose of the SMUD **WMP** and provide a net benefit to SMUD; and

WHEREAS, in accordance with PUC § 8387, staff completed its triennial update of SMUD's **WMP**, conducted public outreach to solicit comments on the draft 2023-2025 **WMP** update, and contracted with **Guidehouse**, as the

Qualified Independent Evaluator, to assess the comprehensiveness of the 2023-2025 **WMP** update; and

WHEREAS, the draft 2023-2025 **WMP** was posted on smud.org/wildfiresafety and made available for public review and comment for over thirty days ending May 5, 2023; and

WHEREAS, SMUD received no public comment on the draft 2023-2025 **WMP** update; and

WHEREAS, **Guidehouse** completed its independent evaluation and issued its report dated May 30, 2023, concluding that the SMUD 2023-2025 **WMP** is comprehensive and meets all plan requirements set forth in PUC 8387(b); and

WHEREAS, the SMUD 2023-2025 **WMP** and independent evaluator's report prepared by **Guidehouse** were presented to the SMUD Board of Directors Energy Resources & Customer Services Committee at a duly noticed public meeting on June 14, 2023, at which meeting opportunity for public comment was provided; **NOW, THEREFORE**,

**BE IT RESOLVED BY THE BOARD OF DIRECTORS
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

Section 1. This Board adopts the SMUD 2023-2025 **Wildfire Mitigation Plan (WMP)** substantially in the form set forth in **Attachment D** hereto and made a part hereof.

Section 2. The Chief Executive Officer and General Manager, or his designee, is authorized to make future changes to the SMUD **WMP** that, in his prudent judgment: (a) further the primary purpose of the SMUD **WMP**; and (b) are intended to provide a net benefit to SMUD.

Approved: June 15, 2023

INTRODUCED: DIRECTOR FISHMAN				
SECONDED: DIRECTOR TAMAYO				
DIRECTOR	AYE	NO	ABSTAIN	ABSENT
SANBORN	X			
ROSE	X			
BUI-THOMPSON	X			
FISHMAN	X			
HERBER			X	
KERTH	X			
TAMAYO	X			

2023 - 2025

Wildfire Mitigation Plan

Powering forward.
Together.



TABLE OF CONTENTS

1	EXECUTIVE SUMMARY	1
2	INTRODUCTION.....	2
2.1	Utility overview and context.....	2
2.2	Policy statement.....	6
2.3	Purpose.....	6
2.4	Objectives.....	8
2.5	Accountability of the plan	9
2.6	WMP Adoption and submittal.....	11
3	OVERVIEW OF PREVENTIVE STRATEGIES AND PROGRAMS.....	13
4	RISK ANALYSIS AND RISK DRIVERS	15
4.1	Enterprise risk assessment.....	15
4.2	Enterprise safety and wildfire risk	16
4.3	Key risk impacts	18
4.4	Climate change	19
4.5	Tabletop exercise.....	19
4.6	Risk reduction efforts under the WMP	20
5	SMUD ASSETS FIRE THREAT OVERVIEW	22
5.1	CPUC high fire threat district (HFTD)	23
5.2	Fire threat assessment in SMUD service area	23
5.3	Fire threat assessment in UARP, Western Sierra Nevada Mountain range	25
5.4	CAL FIRE Fire Resource and Assessment Program (FRAP).....	26
6	WILDFIRE PREVENTION STRATEGY AND PROGRAM	27
6.1	Distribution grid operational practices	28
6.2	Transmission grid operational practices	29
6.3	Infrastructure inspections and maintenance	30
6.4	Vegetation management.....	32
6.5	Fire mitigation construction	33
6.6	Enhancement and mitigation projects.....	34
6.7	Pilot projects.....	35
6.8	Emerging Technologies	36
6.9	Workforce Training.....	36
7	RESPONSE GUIDELINES	37
7.1	Emergency Preparedness and Response	37
7.2	Public and agency communications for a potential wildfire	38
8	RESTORATION OF SERVICE	42
8.1	Steps to restoration of service.....	42
8.2	Reconstruction after a wildfire.....	42
9	PERFORMANCE METRICS AND MONITORING.....	44

9.1	Effectiveness of the WMP	44
9.2	Monitoring and auditing of the WMP	47
10	APPENDIX	50
10.1	Definitions.....	50
10.2	References.....	51
10.3	Acronym glossary.....	52
10.4	Reference for SMUD plans	55



TABLE OF TABLES

Table 1 Context Setting Information	3
Table 2 Plan compliance with Public Utilities Code 8387(b).....	7
Table 3 Accountability for the WMP components.	10
Table 4 Mitigation programs/activities.....	13
Table 5 Asset description.....	22
Table 6. Overview of SMUD’s T&D assets in CPUC HFTD tiers.....	22
Table 7 Activities that address wildfire risk factors	27
Table 8 Inspection Program Performance	45
Table 9 Grid Condition Findings	46
Table 10 Drivers of Ignitions	46
Table 11 System enhancement capital project performance.....	47
Table 12 Community Outreach Programs	47



TABLE OF FIGURES

Figure 1 Map of SMUD's service area	5
Figure 2 ERM 5-step process	15
Figure 3 SMUD's wildfire risk bow tie. Drivers and impacts are indicators that a risk event could occur, not a reflection of actual or threatened conditions.	16
Figure 4 SMUD's service area within CPUC Fire-Threat Map.....	24
Figure 5 CPUC Tier 2 and Tier 3 areas for SMUD's UARP.....	26
Figure 6 Standardized emergency management system (SEMS) emergency operations coordination	38
Figure 7 SMUD's Pole Clearing Area with respect to SMUD's service area boundary	55



1 Executive Summary

SMUD's Wildfire Mitigation Plan continues to build on our success implementing best practices and lessons learned from prior revisions and reflects the continued progress we made on risk reduction projects and programs.

SMUD's service area is outside of CPUC's High Fire Threat District's (HFTD) Tier 2 and Tier 3 areas. SMUD does own and operate transmission lines and hydro power plants located in Eldorado County, which is within HFTD Tier 2 and Tier 3. The bulk of SMUD's efforts are focused on reducing fuel around our facilities and the potential of ignitions to reduce ignition risk.

One project that was completed in 2022 designed to reduce ignition risk was the undergrounding of three miles of 4kV distribution lines in Tiers 2 and 3 that ran between hydro facilities. Several overhead spans remain, one of which was upgraded to tree-wire, and remaining spans underbuilt on 69kV structures over rocky terrain. Undergrounding the lines resulted in elimination of ignition risk from vegetation, animals and other objects contacting these lines.

Climate change has resulted in California experiencing some of the most severe drought conditions in the past few years. The lack of rain and snow enabled SMUD to achieve better than projected progress in the UARP fuels reduction project. Contracted tree crews covered significant ground in removing trees, shrubs, and thinning operations. The project aims to remove fuels below, and up to 200 feet from either side of the transmission lines in the UARP. This progress will allow SMUD to complete the project well ahead of schedule.

SMUD continues to search out new technologies aimed at reducing ignition risk. One example is the use of drone ariel photography that provided better than expected results. High-resolution aerial photography with desktop inspections helped identify many equipment issues which would not normally have been caught during normal visual inspections. A total of 465 transmission structures were photographed and inspected with this new technology. Repairs were promptly scheduled and performed as needed. This project reduced the risk of conductor, hardware and structure failure which could possibly result in ignition. Another new technology we leveraged is x-ray of conductor splices. The x-ray technology allowed SMUD to reinforce splices that showed internal corrosion, which would result in potential splice failure resulting in conductors falling to the ground. A total of seven splices were reinforced.

Although SMUD service territory is primarily in the CPUC Tier 1, SMUD has been installing Cal FIRE exempt arrestors, connectors, and fuses in the Pole Clearing Area (PCA). The project was extended due to impacts of COVID-19 and is on track for completion by 2025. SMUD was able to offset the costs of the project's final three years due to a FEMA grant, which is a big win for SMUD customers.

COVID-19 brought unanticipated challenges to mitigation efforts. Supply chain and contractor availability disruptions impacted every utility, including SMUD. Material delivery lead times increased dramatically for many items, resulting in delays to project completion. SMUD staff worked directly with vendors and suppliers to obtain materials and better handle lead times and priority deliveries. Progress was delayed but continues on revised schedules.

As part of the comprehensive review, SMUD staff performed a risk analysis using the bow-tie approach. The risk analysis included discussions of risk reductions due to project completions in the UARP and PCA. Impacts of climate change, drought and summer heat storms were also discussed.

The various programs and projects described in this WMP provide a comprehensive and innovative approach to SMUD's wildfire risk reduction.

2 Introduction

Over the last several years California has seen some of its most devastating and destructive wildfires. Climate change impacts, including warmer days and nights, longer heat events, drought, and changes in precipitation patterns, are recognized to be large contributing factors. The expansion of the wildland-urban interface, historical development patterns and land management practices are factors as well. These realities require utilities to develop a new way of thinking about wildfire mitigation planning.

In response, Senate Bill (SB) 901 authored by Senator Dodd, enacted in 2018. SB 901 requires all electric utilities to prepare a wildfire mitigation plan (WMP).

SB 901 amended Public Utilities Code (PUC) section 8387. Assembly Bill (AB) 1054 (Holden, 2019) further amended this statute. Section 8387 generally requires every publicly owned utility to construct, maintain and operate its electrical facilities to minimize the risk of wildfire posed by those facilities. As amended by SB 901 and AB 1054, section 8387 more specifically requires every publicly owned utility to prepare a WMP and update it annually, with a comprehensive revision of the WMP no less than every three years.

WMPs must include vegetation management (VM) programs, inspection and maintenance programs, protocols for deactivating automatic reclosers and for de-energizing power lines during severe weather conditions in high fire threat areas. The plan is required to identify priority customers, such as first responders and local agencies, health care providers, water and telecommunication facilities, groups that assist children, elderly, mobility impaired and other vulnerable populations and include communication programs for those customers. The plans need to describe how service will be restored after a wildfire and include processes for (i) measuring the performance of the plan, (ii) identifying and correcting any deficiencies in the plan and (iii) auditing implementation of the plan.

The Sacramento Municipal Utility District (SMUD) Board of Directors adopted the initial WMP on October 17, 2019. Updates were adopted annually. This is SMUD's comprehensive triennial update.

2.1 Utility overview and context

Table 1 provides summary information to highlight SMUD's unique characteristics impacting its low wildfire risk. This information changes minimally each year and is refreshed, at a minimum, with SMUD's triennial comprehensive WMP review.

Table 1 Context Setting Information

Utility Name	SMUD	
Service Territory Size	900 square miles	
Owned Assets	X Transmission X Distribution X Generation	
Number of Customers Served	Approximately 648,000 customer accounts	
Population Within Service Territory	Approximately 1.5 million people	
Customer Class Makeup	<i>Number of Accounts</i>	<i>Share of Total Load (MWh)</i>
Service Territory Location/Topography ¹	25.8% Agriculture 0.1% Barren/Other 0% Conifer Forest 0% Conifer Woodland 0% Desert 0.3% Hardwood Forest 3.9% Hardwood Woodland 29.5% Herbaceous 0.1% Shrub 37.9% Urban 2.3% Water	
Service Territory Wildland Urban Interface ² (based on total area)	6.3% Wildland Urban Interface; 9.1% Wildland Urban Intermix;	
Percent of Service Territory in CPUC High Fire Threat Districts (based on total area)	<input type="checkbox"/> Includes maps Tier 2: 0% Tier 3: 0% SMUD operates its Upper American River Project outside its territory within the High Fire Threat District	
Prevailing Wind Directions & Speeds by Season	<input type="checkbox"/> Includes maps CalFire provides the following description in its 2021 Strategic Fire Plan Amador-El Dorado Unit (AEU): “Fire weather for AEU is typically dominated by three general weather phenomena; the delta push influence, north wind events, and east foehn winds caused by high pressure development in the Great Basin. All three weather conditions cause potential increases in fire intensity and size. The delta influence is the most common and surfaces frequently throughout summer. Typically, high pressure systems will dominate Northern California in the summer months bringing extremely hot and dry conditions <i>over</i> much of the region. As these systems develop, they will tend to yield near the Delta and Sacramento areas bringing the marine influence to the Unit. This is generally considered a good thing for fire behavior; slightly cooler afternoon temperatures and increases in relative humidity. The downside is the strong winds that typically accompany these patterns can override any benefit that	

¹ This data is based on the California Department of Forestry and Fire Protection, California Multi-Source Vegetation Layer Map, depicting WHR13 Types (Wildlife Habitat Relationship classes grouped into 13 major land cover types) available at: <https://www.arcgis.com/home/item.html?id=b7ec5d68d8114b1fb2bfbf4665989eb3>.

² This data is based on the definitions and maps maintained by the United States Department of Agriculture, as most recently assembled in *The 2010 Wildland-Urban Interface of the Conterminous United States*, available at https://www.fs.fed.us/nrs/pubs/rmap/rmap_nrs8.pdf.

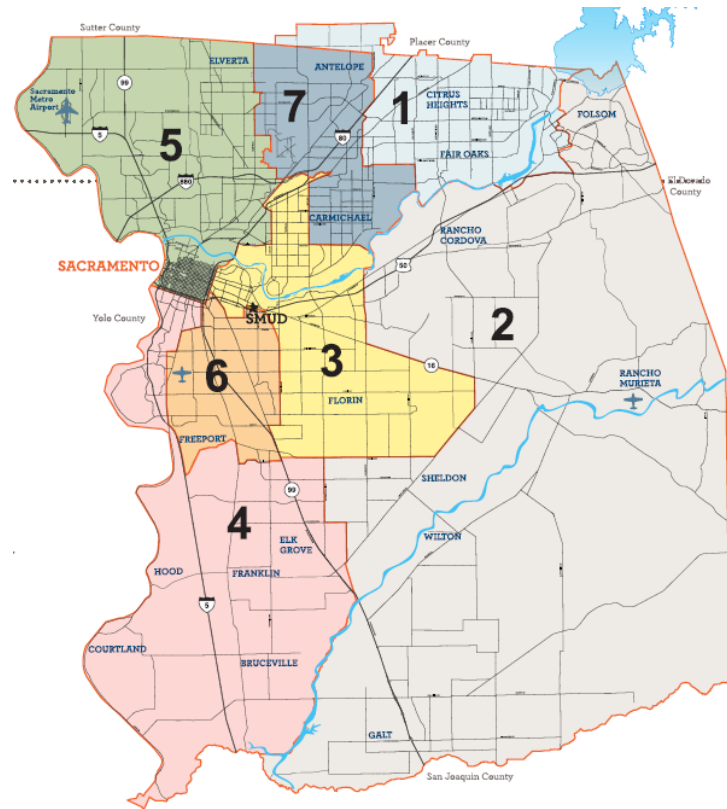
Utility Name	SMUD
Miles of Owned Lines Underground and/or Overhead	Overhead Dist: 3,868 miles Overhead Trans: 469 miles Underground Dist: 6,819.5 miles Underground Trans: 17.3 miles Explanatory Note 2 – Description of Unique Ownership Circumstances: None
Percent of Owned Lines in CPUC High Fire Threat Districts	<p style="text-align: center;"><i>Overhead Distribution Lines as % of Total Distribution System (Inside and Outside Service Territory)</i></p> <p style="text-align: center;"><i>Overhead Transmission Lines as % of Total Transmission System (Inside and Outside Service Territory)</i></p>
Customers have ever lost service due to an IOU PSPS event?	
Customers have ever been notified of a potential loss of service due to a forecasted IOU PSPS event?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Has developed protocols to pre emptively shut off electricity in response to elevated wildfire risks?	
Has previously pre emptively shut off electricity in response to elevated wildfire risk?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, then provide the following data for calendar year 2022: <i>Number of shut-off events: 0</i> <i>Customer Accounts that lost service for >10 minutes: N/A</i> <i>For prior response, average duration before service restored: N/A</i>

Note: Data reflects year-end 2022

2.1.1 SMUD profile

Headquartered in Sacramento, California, SMUD owns and operates an electric system that has provided retail electric service since 1946. SMUD generates, transmits, and distributes electricity within a 900-square-mile territory that includes the principal parts of Sacramento County, and a small adjoining portion of Placer County (see Figure 1).

Figure 1 Map of SMUD's service area



As a publicly owned utility, SMUD is governed by a seven-member popularly elected Board of Directors that determines policy and appoints the Chief Executive Officer and General Manager who is responsible for SMUD's overall management and operations. Today, SMUD's power supply is on average about 50 percent carbon free and SMUD has a goal to reach zero carbon in its electricity production by 2030. SMUD is one of the largest community-owned electric utilities in the nation, recognized internationally for its innovative energy efficiency programs and use of renewable power technologies.

SMUD owns, operates, and has ownership interests that are critical to maintaining the flow of power from generating facilities through the transmission lines to SMUD's service area. These assets are in the geographic areas of Sacramento, El Dorado, Solano, and Placer Counties.

2.1.2 The service area

SMUD is the primary electric distribution service provider within an area of approximately 900 square miles in central California, serving a population of approximately 1.5 million. The service area includes Sacramento, the State Capital, and the populous areas principally to the northeast and south of the City of Sacramento and the agricultural areas to the north and south.

2.1.3 The distribution and transmission system, Sacramento County

SMUD owns and operates a vertically integrated electric system that includes generation, transmission, and distribution facilities.

SMUD supplies power to its bulk power substations through 230 kilovolt (kV) and 115 kV transmission systems. This system transmits power from SMUD's generation plants and interconnects with Pacific Gas & Electric Company (PG&E) and the Western Area Power Administration (WAPA). Power is distributed throughout Sacramento County via a 69 kV sub-transmission system except for the city of Sacramento downtown area, which is served from the 115 kV transmission systems. The downtown area is served from 115/12 kV and 115/21 kV substations. The distribution system serving the remainder of SMUD's service territory is comprised of 69/12 kV and 69 kV substations with overhead and underground distribution circuits.

SMUD's record peak load of 3,299 MW occurred on July 24, 2006. Current and historical load statistics can be found at our website: <https://www.smud.org/en/Corporate/About-us/Company-Information/Reports-and-Statements>

2.1.4 The hydroelectric system in the UARP, Eldorado County

SMUD owns and operates ten hydroelectric powerhouses rated at approximately 700MW in the Western Sierra Nevada Mountain region. The hydroelectric system spans approximately 50 miles with the highest elevation reservoir at Loon Lake and descends the mountain range terminating at Chili Bar reservoir. Eight hydroelectric powerhouses are interconnected with dedicated 69kV and 230kV transmission lines. The most recent additions are two small hydroelectric powerhouses, which interconnect directly into PG&E's 12kV and 21kV local distribution systems. Approximately twenty linear miles of overhead 230kV transmission lines connect the hydroelectric system to SMUD's service area near Folsom.

The hydroelectric powerhouses are fed from the various man-made reservoirs in the area. A small dedicated 4kV distribution system serves various valve and gate control houses for the reservoirs, a ranger station, a lift chalet, and a communication station. The 4kV distribution system is approximately five circuit miles in length. The 4kV system is not interconnected with PG&E's distribution system that serves the area.

2.1.5 The wind power collector system in the Delta, Solano County

SMUD owns and operates a 358MW wind project, located in Solano County, known as The Solano Wind Project. The project consists of 162 wind turbine generators (WTG) spanning five miles southwest of Rio Vista. Energy from the project is collected at 21kV and 35kV and transmitted over a dedicated overhead and underground system to Russell substation. At Russell substation, the energy is stepped up to 230 kV and interconnected to PG&E's Birds Landing Switching Station.

2.2 Policy statement

SMUD's overarching goal is to provide safe, reliable, environmentally sustainable, and affordable electric service to its local community. To meet this goal, SMUD constructs, maintains, and operates its electric system in a manner that minimizes any risk of catastrophic wildfire posed by its electrical lines and equipment.

2.3 Purpose

This WMP describes the range of activities that SMUD is taking to mitigate and reduce the threat of powerline-ignited wildfires, including its various programs, policies, and procedures. This plan is subject to direct supervision by SMUD's Board of Directors and primary responsibility for its implementation resides with the Chief Operating Officer (COO).

This plan meets or exceeds the requirements of PUC section 8387 for publicly owned electric utilities to prepare a WMP. Table 2 references relevant sections in this document that address each PUC requirement.

Table 2 Plan compliance with Public Utilities Code 8387(b)

PUC 8387 Requirement	Description	Plan Section Number
b (2) (A)	An accounting of the responsibilities of persons responsible for executing the plan.	2.5
b (2) (B)	The objectives of the wildfire mitigation plan.	2.4
b (2) (C)	A description of the preventive strategies and programs to be adopted by the local publicly owned electric utility or electrical cooperative to minimize the risk of its electrical lines and equipment causing catastrophic wildfires, including consideration of dynamic climate change risks.	3
b (2) (D)	A description of the metrics the local publicly owned electric utility or electrical cooperative plans to use to evaluate the wildfire mitigation plan's performance and the assumptions that underlie the use of those metrics.	9.1
b (2) (E)	A discussion of how the application of previously identified metrics to previous wildfire mitigation plan performances has informed the wildfire mitigation plan.	9.1.1
b (2) (F)	Protocols for disabling reclosers and deenergizing portions of the electrical distribution system that consider the associated impacts on public safety, as well as protocols related to mitigating the public safety impacts of those protocols, including impacts on critical first responders and on health and communication infrastructure.	6.1.1, 7.2
b (2) (G)	Appropriate and feasible procedures for notifying a customer who may be impacted by the deenergizing of electrical lines. The procedures shall consider the need to notify, as a priority, critical first responders, health care facilities and operators of telecommunications infrastructure. The procedures shall direct notification to all public safety offices, critical first responders, health care facilities, and operators of telecommunications infrastructure with premises within the footprint of potential deenergization for a given event.	7.1, 7.2
b (2) (H)	Plans for vegetation management.	6.4
b (2) (I)	Plans for inspections of the local publicly owned electric utility's or electrical cooperative's electrical infrastructure.	6.3
b (2) (J)	A list that identifies, describes, and prioritizes all wildfire risks, and drivers for those risks, throughout the local publicly owned electric utility's or electrical cooperative's service territory. The list shall include, but not be limited to both of the following:	4.2
b (2) (J) (i)	Risks and risk drivers associated with design, construction, operation and maintenance of the local publicly owned electric utility's or electrical cooperative's equipment and facilities.	4.2
b (2) (J) (ii)	Particular risks and risk drivers associated with topographic and climatological risk factors throughout the different parts of the local publicly owned electric utility's or electrical cooperative's service territory.	5.2
b (2) (K)	Identification of any geographic area in the local publicly owned electric utility's or electrical cooperative's service territory that is a higher wildfire threat than is identified in a commission fire threat map, and identification of where the commission should expand a high fire threat district based on new information or changes to the environment.	5.2
b (2) (L)	A methodology for identifying and presenting enterprise-wide safety risk and wildfire-related risk.	4.2

PUC 8387 Requirement	Description	Plan Section Number
b (2) (M)	A statement of how the local publicly owned electric utility or electrical cooperative will restore service after a wildfire.	8
b (2) (N)	A description of the processes and procedures the local publicly owned electric utility or electrical cooperative shall use to do all of the following:	
b (2) (N) (i)	Monitor and audit the implementation of the wildfire mitigation plan.	9.2
b (2) (N) (ii)	Identify any deficiencies in the wildfire mitigation plan or its implementation and correct those deficiencies.	9.2.1
b (2) (N) (i5ii)	Monitor and audit the effectiveness of electrical line and equipment inspections, including inspections performed by contractors, that are carried out under the plan, other applicable statutes or commission rules.	9.1.1
b (3)	The local publicly owned electric utility or electrical cooperative shall present each wildfire mitigation plan in an appropriately noticed public meeting. The local publicly owned electric utility or electrical cooperative shall accept comments on its wildfire mitigation plan from the public, other local and state agencies and interested parties, and shall verify that the wildfire mitigation plan complies with all applicable rules, regulations, and standards as appropriate.	2.6.2
	The local publicly owned electric utility or electrical cooperative shall contract with a qualified independent evaluator with experience in assessing the safe operation of electrical infrastructure to review and assess the comprehensiveness of its wildfire mitigation plan. The independent evaluator shall issue a report that shall be made available on the internet web site of the local publicly owned electric utility or electrical cooperative and shall present the report at a public meeting of the local publicly owned electric utility's or electrical cooperative's governing board.	2.6.3

2.4 Objectives

The primary objectives of this WMP are to:

1. Minimize the probability that SMUD's transmission and distribution (T&D) system may be the origin or contributing source for the ignition of a wildfire;
2. Implement a wildfire mitigation plan that embraces safety, prevention, mitigation, and recovery as a central priority for SMUD; and
3. Create a WMP that is consistent with state law and objectives.

SMUD has evaluated prudent and cost-effective improvements to its physical assets, operations and training that will help meet these objectives.

The secondary objective of this WMP is to improve the resiliency of SMUD's line construction standards and practices. As part of developing this plan, SMUD assesses new industry practices and technologies that will reduce the likelihood of an interruption in service and improve restoration time in the event of a service interruption. In addition, SMUD reviews available fire investigation reports for fires throughout California to understand root causes that can be addressed.

This WMP outlines the actions SMUD is taking, including exploring new technologies, to reduce the risk of potential wildfire-causing ignitions associated with SMUD's electrical infrastructure, with the objective of enhancing public safety and improving grid reliability.

This WMP also outlines customer outreach and communication programs for customers that may be impacted in the unlikely event of a wildfire related de-energization. SMUD's long-standing and continued cooperation with local agencies are also outlined.

This WMP provides methodologies to measure the effectiveness of specific wildfire mitigation strategies and how those strategies measurably reduce the risk of catastrophic wildfire. Where a particular action, program component or protocol is determined to be unnecessary or ineffective, SMUD will assess whether a modification or replacement is merited. This plan will also help determine if more cost-effective measures would produce the same or improved results.

2.5 Accountability of the plan

SMUD's Chief Operating Officer has overall responsibility for the WMP. The Chief Operating Officer and Chief Customer Officer are responsible for executing the various components of the WMP.

2.5.1 SMUD operating unit responsibility specific to each component of the plan

Table 3 lists the Director with responsibility for the departments or workgroups that are accountable for the various components of SMUD's WMP. In each case the Director or the Director's designees will be responsible for the accuracy of, and for operations in accordance with, the specified component of the plan.

Table 3 Accountability for the WMP components.

Mitigation Activities	Responsible Department and Workgroup
Risk analysis	Director, Treasury Operations & Risk Management
Fire threat assessment in service area and UARP	Director, Distribution Planning & Operations
Wildfire prevention strategy and programs	
- Disable automatic reclosing - Planned de-energizations	Director, Transmission Planning & Operations, Director, Distribution Planning & Operations
	Director, Line Assets
- Substation visual inspections	Director, Substation, Telecom & Metering Assets
- Vegetation management - Pole clearing program	Director, Line Assets
Fire mitigation construction	
- Natural Ester-based fluid - Cal FIRE exempt equipment in PCA	Director, Distribution Planning & Operations
- Weather stations	Director, Transmission Planning & Operations
Enhancement projects	
Pilot projects	
- Light Detection and Ranging and Ortho Imagery	Director, Line Assets
Emergency preparedness	
- SMUD Emergency Operations Centers	Director, Facilities, Security & IPPS
- Public and agency communications for wildfires	Director, Customer Operations & Community Energy Services, Director, Customer Experience Delivery, Director, Corporate Communications

2.6 WMP Adoption and submittal

In 2019, SMUD conducted extensive stakeholder outreach during its preparation of the initial WMP. SMUD personnel met with local fire agencies and fire safe councils, Office of Emergency Services, and healthcare organizations. In addition, SMUD invited federal, state, and local agencies, representatives of utilities, telecommunication providers, and critical care customers to attend stakeholder outreach meetings where information regarding the preparation and contents of the WMP were provided.

From 2019 and annually thereafter, SMUD has and will continue to communicate with its community partners and stakeholders regarding its WMP reviews and updates. SMUD posts a public review draft of changes to the WMP on SMUD's website, smud.org/WildfireSafety. Notice of the public review draft is provided to the above stakeholders and published in local newspapers, including the Sacramento Bee and Mountain Democrat, on social media, and through electronic newsletter.

2.6.1 Public comment

A public review draft of changes to the WMP is posted on smud.org/WildfireSafety and made available to the public for comment for a period of at least 30 days after notification in local publications and social media. The public is provided instructions in how to submit comments on the posted web page.

Interested parties are also invited to comment on the plan at the time it is presented to SMUD's Board of Directors.

2.6.2 Board presentation

SMUD Board and Board Committee meetings are open and accessible to the public. Meeting notices and agendas are posted least 72 hours in advance at the SMUD office and on SMUD's website. Those who are unable to attend the meeting in-person can attend via zoom, livestream the meeting, or view a recording on SMUD's website. SMUD offers the opportunity for persons interested in wildfire related matters to sign up to receive notifications any time wildfire is being discussed at an upcoming Board or committee meeting at smud.org/WildfireSafety

Updates to the WMP are presented to and adopted by the Board at a noticed public meeting annually.

2.6.3 Independent evaluation

Although PUC 8387 does not require SMUD to retain a qualified independent evaluator (QIE) on an ongoing basis, we do as part of the comprehensive review process, and we find value in a review when substantial revisions to the WMP are made. In 2019 SMUD issued a public solicitation request, consistent with SMUD's procurement practices, to identify an experienced QIE to assess the comprehensiveness of SMUD's WMP. SMUD contracted with a QIE with experience in assessing the safe operation of electrical infrastructure. SMUD repeated this process in 2020 and again as part of its 2023 triennial comprehensive review and update process. SMUD also retained a QIE to assess its 2022 WMP.

Each QIE report was presented to SMUD's Board of Directors at a noticed public meeting and posted to SMUD's website along with the WMP. The reports concluded SMUD's WMP is comprehensive and meets statutory requirements as well as industry standard.

2.6.4 Wildfire Safety Advisory Board

Each year SMUD submits its WMP to the Wildfire Safety Advisory Board (WSAB). The WSAB reviews and provides comments and advisory opinion regarding the content and sufficiency of the WMP. SMUD will consider comments and opinions received by the WSAB in future documents. These advisory opinions can be found on their web page:

<https://energysafety.ca.gov/what-we-do/wildfire-safety-advisory-board/publications/>

2.6.5 *Budgeting WMP initiatives*

SMUD adopts its budget through open and public processes. WMP program commitments reflected in any given budget are impacted by many factors, including risk evaluations, system condition and requirements, emergency occurrences, economy, legislation, environment, and liability exposure. These commitments are consistently under evaluation, and program priorities can change if any of these factors shift.

3 Overview of preventive strategies and programs

This WMP addresses the preventive strategies and programs adopted by SMUD to minimize the risk of its electrical lines and equipment causing a catastrophic wildfire. The strategies and programs included in the WMP are evolving and are subject to change. As new technologies, practices and networks develop, and other environmental influences or risks are identified, changes to address them may be incorporated into future iterations of the WMP which is, in effect, a living document.

This WMP integrates and interfaces with various operating policies and asset management and engineering principles which are subject to change. As appropriate, the current versions of these documents are incorporated either as appendices to this WMP or by reference.

The following is a summary of SMUD’s programs and activities that support wildfire prevention and mitigation.

Table 4 Mitigation programs/activities

Design and construction
Ester-based insulating fluid in transformers
Cal FIRE exempt equipment in Pole Clearing Area (PCA)
Light Detection and Ranging (LiDAR) Ortho, Oblique Imagery
Increase overhead wire spacing to reduce wire to wire contact
Pole loading and placement
Transmission line rating remediation
Pole replacement and reinforcement
Wildfire resiliency design
Construction fire prevention program
Substation perimeter fencing
SCADA reclosers in PCA
Inspection and maintenance
Transmission line aerial patrols (helicopter)
Transmission line ground patrols
Transmission line infrared (IR) inspections (helicopter)
Transmission line splice and dead-end termination assessment program
Transmission and distribution wood pole intrusive inspections
Transmission and distribution vegetation right-of-way maintenance
Transmission and distribution annual subject pole clearing program
Distribution detailed line inspections
Distribution line patrols
69 kV and Pole Clearing Area 12 kV IR inspections (helicopter)
Visual inspections of distribution substations
LiDAR/Remote Sensing inspection of transmission for Vegetation Management
Inspection and maintenance programs for T&D lines and substations
IR inspection of energized overhead T&D facilities and equipment
Drive by of overhead distribution facilities and equipment
Detailed inspection of T&D facilities and equipment
Supplemental inspections of high fire risk areas
On-ground routine inspection
Operational practices
Disabling reclosing during fire season
Transmission and distribution system vegetation management maintenance patrols and work (tree pruning & removal) as needed for safety and reliability
Special work procedure for red flag warning (RFW)

De-energization protocols and notifications
Emergency Operations Planning: fire prevention plan
Hotwork procedures
Work procedures and training for persons working in locations and conditions of elevated fire risks
Safety and physical security protection teams
Increased staff for line and vegetation management crews in preparation of storm
Existing relationship with local government and fire safe councils
Transmission encroachment program
Provide liaison to county office of emergency services' (OES) during fire event
Leverage existing relationship with local government and fire departments
Targeted communications plan
Active environmental safety monitoring
SMUD's Emergency Operations Center partners with local emergency responders for coordination prior to and during an emergency
High fire threat district vegetation management inspection strategy (annual)
Inspecting trees with potential strike path to power lines
Expanded subject pole clearing
Expanded clearance distances at time of maintenance (Tier 2 & 3 in HFTD & PCA)
Patrol and pruning/Tree removal, Quality Control
Increased vegetation clearance at time of tree work

Situational/conditional awareness

Weather monitoring stations in targeted areas in the UARP
Coordinate and collaborate with Fire Safe Councils and County Office of Emergency Services throughout the year to prepare for RFW and high fire risk events
Contractor safety training and orientation for transmission and distribution vegetation management work
Monitor daily California Department of Forestry and Fire Protection website and active fires in California

Response and recovery

Critical event communications process and procedures

Emergency response plan
Field operations recovery procedures
Coordinate with neighboring entities

4 Risk analysis and risk drivers

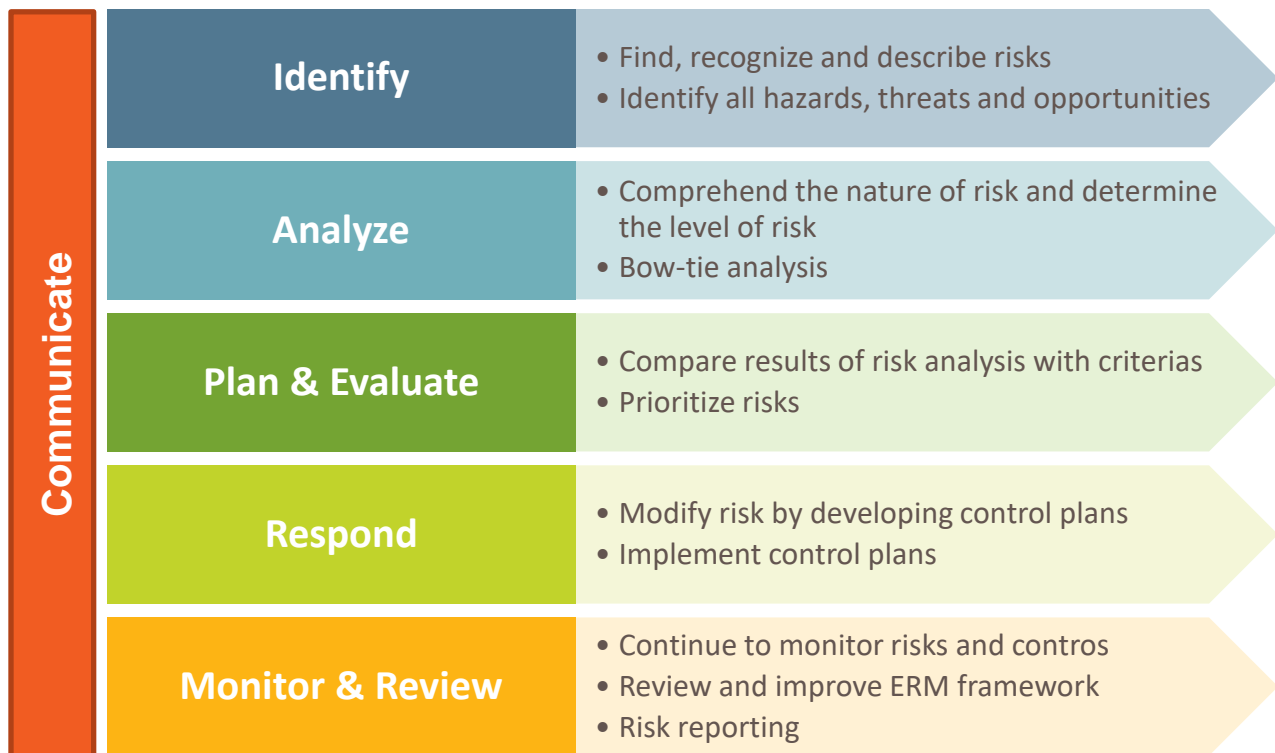
SMUD uses its existing ERM framework to identify and assess enterprise level risks. SMUD’s ERM framework takes into consideration both quantitative and qualitative factors to determine the level of inherent and residual risk levels for a particular risk. An inherent risk level refers to the risk before any mitigations or controls are in place while the residual risk level refers to the risk after all mitigations and effective controls are considered.

4.1 Enterprise risk assessment

The ERM framework has a strong governance structure stemming from SMUD’s Board of Director’s Strategic Direction and is overseen by an executive body, the Enterprise Risk Oversight Committee (EROC). The framework requires that all enterprise risks be owned by an Executive and managed at the Director level.

The ERM framework includes a 5-step process and is integrated with SMUD’s internal audit process to check for assurance of proper control implementation. The framework requires continuous communications and consultation throughout the life of the risk. The 5-step ERM process is shown in Figure 2 which describes the objective of each step.

Figure 2 ERM 5-step process



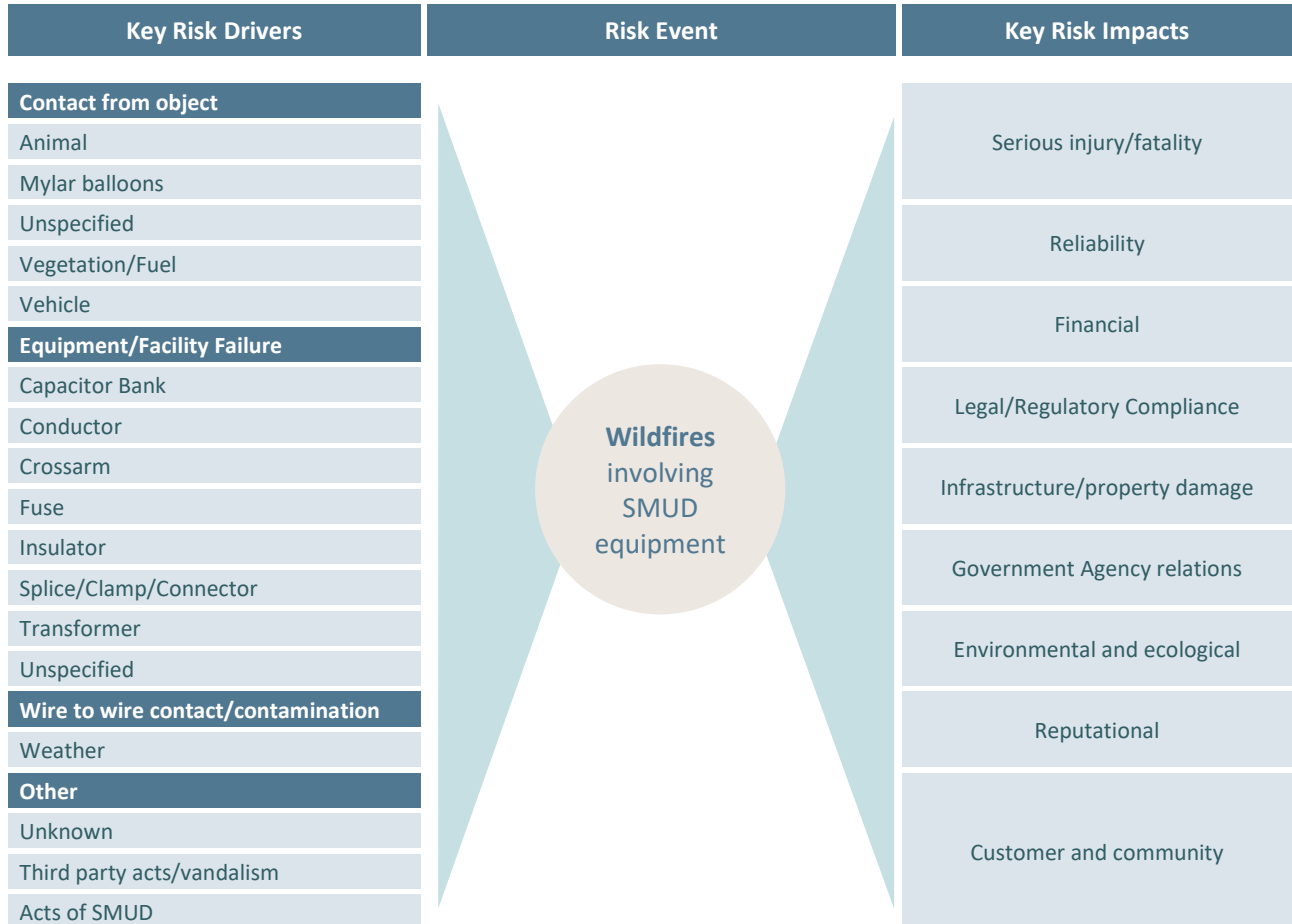
During a risk evaluation, the Director, manager, stakeholders, and subject matter experts (SMEs) are consulted. ERM staff gathers pertinent information to conduct the evaluation which includes a root cause analysis. Information gathered includes key risk drivers, key risk impacts, mitigations, processes, procedures, controls, and internal/external risk trend. SMUD uses a commonly accepted framework called the bow-tie method for its root-cause analysis. This method allows easy visualization of the relationship between the risk event, its drivers, and impacts, as well as preventive and mitigation activities. In addition, the method allows for a structured risk analysis where quantification is not possible or desired. SMUD’s ERM framework takes into consideration impacts to SMUD’s finances, legal, regulatory and compliance, operations, reputation, public safety, workforce, and environment.

4.2 Enterprise safety and wildfire risk

Following SMUD’s ERM assessment process, Subject Matter Experts (SMEs) were consulted in conducting a risk assessment for wildfires which could potentially involve SMUD equipment. The SMEs focused on potential causes of powerline sparks that could start a fire. The risk assessment was conducted to identify SMUD’s vulnerabilities, exposure to and impacts from a wildfire as well as to identify current controls and mitigations to prevent wildfire occurrence, likelihood, velocity, and impact.

Figure 3 provides the risk bow tie, which summarizes the assessment process.

Figure 3 SMUD's wildfire risk bow tie. Drivers and impacts are indicators that a risk event could occur, not a reflection of actual or threatened conditions.



4.2.1 Fire risk drivers

Powerline equipment is generally the same across all utilities where a small niche of manufacturers and suppliers are used to procure equipment for construction of facilities. Slight variances in design and construction may be expected between utilities. SMUD staff evaluated other utilities' fire causes and applied its own field experience to determine the potential risk drivers. Four categories were identified as potential for causing powerline sparks and ignitions:

- Contact from objects
- Equipment/facility failure
- Wire-to-wire contact/contamination
- Other

SMUD staff identified the following drivers associated with each category. These are discussed below but may not be limited to the following.

4.2.1.1 Contact from objects

Most overhead powerlines throughout the world are installed as bare wire on top of insulated poles and structures. Overhead powerlines are kept at a certain distance from the ground and from adjacent objects, based on the voltage level and applicable design criteria, to prevent contact and faults. However, with thousands of miles of overhead powerlines, contacts from objects are anticipated by utilities and can occur throughout the year.

Animals and highly conductive mylar balloons are some of the objects that can contact powerlines, resulting in possible sparks and arcs. While protection equipment such as circuit breakers, reclosers and fuses are installed to isolate the faults, there are time delays (within fractions of a second or seconds) associated with when the equipment senses the fault and proceeds to isolate (or "trip") the faulted section. The time delays are instant to the human, but not quite fast enough to prevent all sparks prior to tripping. Emitted sparks, molten metal or burnt foreign objects can fall on -- and potentially ignite -- any fuels underneath or near the powerline.

Vegetation such as trees, branches, palm fronds, etc., from inside and outside of powerline pathways can contact powerlines at any time, also resulting in possible sparks or arcs. Sometimes, the stress of contact is large enough to cause a connector or pole to fail, which will lead to wires falling and touching the ground. In some instances, the tree or branch may continue leaning on the powerline and continue sparking or catch on fire due to resulting sparks.

Additionally, vehicles contacting poles or supporting guy wires can damage or break the pole. The heavy, broken pole in turn can put too much stress on connectors or crossarms and cause wires to break and fall to the ground potentially emitting sparks and arcs.

4.2.1.2 Equipment failure

All man-made equipment fails at some point or another during its life. Failure modes can be discrete (internal) or destructive (materials ejected). Failure components such as hot line clamps, connectors and insulators can result in wire failure and cause the wire to fall to the ground. The energized conductors can emit sparks prior to breaker or fuse tripping/isolating. Transformers and capacitor banks can have internal shorts that can potentially be destructive and eject materials which could create a spark, leading to a fire.

4.2.1.3 Wire-to-wire contact/contamination

When two or more energized conductors contact each other, they will cause sparks and possible material to be ejected. There are many factors that could lead to such an occurrence. Any type of shaking of the pole or high winds may cause the powerlines to sway and touch. A shaking pole can be caused by vehicle contact or

livestock rubbing against a pole or supporting guy wires. Certain types of faults (shorts) down the line can cause powerlines to gallop (bounce and buck).

Contamination on insulators can create a path for electricity to flow. This unintended path can track and cause a fault. Typical causes are ash, dust, debris, and bird excrement on the insulator. These causes can usually be determined by burn marks along the insulator.

4.2.1.4 Other

SMUD's powerlines traverse through many parts of its service territory, including residential properties, along road rights-of-way (ROW), within business parking lots, etc.

Non-SMUD equipment and construction projects could be a possible cause of ignition. Even though property owners and contractors take precautions, their equipment can contact powerlines and cause sparking triggering fires in the vicinity. Although unintentional, these contacts may cause damage to powerlines, poles and supporting equipment which may cause sparks and trigger fires in the vicinity.

SMUD equipment can also be vandalized and damaged, which may cause sparks and fires.

SMUD takes pride in a properly trained and well-informed workforce. Crews perform switching, construction, and maintenance on facilities daily. However, the tools and vehicles they use can be sources of sparks or ignition. For example, driving a truck over dry grass/brush can cause the dry grass/brush to ignite. As such, SMUD trucks are equipped with fire suppression equipment and staff are properly trained to respond to an ignition and the use of the fire suppression equipment.

During Red Flag Warning (RFW) periods in the UARP, crews working in remote sites limit hotwork (such as welding, grinding, cutting etc.) to prevent an ignition. As a precaution, designated staff assigned as a fire-watch, may stay behind after work completion for up to thirty minutes to ensure a fire doesn't start after work crews leave a remote site. SMUD's VM contract crews have on-site fire suppression equipment, ex. fire rake, water backpack and shovels. On remote sites where a masticator is being used, crews have a 200 gallon or greater water tank on hand for fire suppression and perform a one-hour fire watch after work is complete.

4.3 Key risk impacts

If one of the risk drivers listed above were to occur, resulting in a fire ignition or wildfire incident, there could be many potential consequences. The worst-case scenarios could include:

- Personal injuries or fatalities to the public, employees, and contractors
- Damage to public and/or private property
- Damage and loss of SMUD owned facilities and assets
- Impacts to reliability and operations
- Damage claims and litigation costs, as well as fines from governing bodies
- Damage to SMUD's creditworthiness, or increases cost to borrow money or purchase insurance
- Environmental and ecological damage
- Damage to SMUD's reputation and loss of public confidence
- Customer and community impacts
- Financial

4.4 Climate change

The National Aeronautics and Space Administration (NASA) defines climate change as the change in the usual weather conditions and patterns found in a region.³ More specifically, it is a change in the average weather conditions such as temperature, rainfall, snow, ocean, and atmospheric circulation, or in the distribution of weather around the globe. According to NASA, scientists think that the Earth's temperature will keep increasing for the next 100 years. "This would cause more snow and ice to melt. Oceans would rise higher. Some places would get hotter. Other places might have colder winters with more snow. Some places might get more rain. Other places might get less rain."³

California has already been experiencing the impacts of climate change including prolonged droughts, increased coastal flooding and erosion and tree mortality. The state has also seen increased average temperatures, more extreme heat days, fewer cold nights, a lengthening of the growing season, shifts in the water cycle with less winter precipitation falling as snow and both snowmelt and rainwater running off sooner in the year. In addition to changes in average temperatures, sea level and precipitation patterns, the intensity of extreme weather events is also changing. More frequent extreme weather events and resulting hazards, such as heat waves, wildfires, droughts, and floods are expected.⁴

California's most recent, Fourth National Climate Assessment issued in November 2018 says that "climate change is expected to increase the frequency and intensity of wildfires," consistent with many expert predictions that climate change would increase the risk of large and severe wildfires, including a potential increase in the total area burned.⁴

Several climate-related factors have contributed to the increasing risk of wildfires. The severity of wildfires is generally a function of the condition of the combustible vegetation material involved, terrain or setting and weather conditions. Tree stress and mortality, including damage due to insect infestations such as the bark beetle exacerbate fire hazards creating a tinderbox, providing an environment for catastrophic fires. In addition, as air temperatures rise, forests and land are drying out, also increasing fire risks, and creating weather conditions ripe for fire ignition and expansion.

Fire season in much of California has historically extended from early spring through the late fall, due to the dry and hot nature of these months. As a result of the extreme weather conditions and other impacts from climate change as well as the increase in population density and development in the wildland-urban interface (WUI), there's a growing need for year-round fire prevention and preparedness. SMUD's service territory is predominantly developed land, shrubland and grassland, while our Upper American River Project traverses heavily forested areas. These varying land cover types will experience differing climate impacts and, as a result, have unique wildfire mitigation requirements.

4.5 Tabletop exercise

SMUD regularly conducts tabletop exercises (TTXs) to test, analyze and enhance the current level of SMUD's internal and external coordination and expertise in responding to potential wildfire threats related to SMUD's utility system facilities. The TTXs are used to enhance general internal awareness, test SMUD standard emergency operating plans and procedures in the wildfire context, invite collaboration with our public safety partners and community partners, and provide an opportunity to rehearse emergency practices in a simulated environment. The TTX's operational objectives are developed to evaluate SMUD's core response capabilities in three specific areas: (1) wildfire preparedness/mitigation, (2) emergency notification and response, and (3) short-term recovery operations and procedures.

SMUD utilizes the Homeland Security Exercise and Evaluation Program (HSEEP) principles for its exercise program management, exercise design, development, evaluation, and improvement planning processes.

³ Source: <https://www.nasa.gov/audience/forstudents/k-4/stories/nasa-knows/what-is-climate-change-k4.html>

⁴ California's Fourth Climate Change Assessment, January 16, 2019. <http://www.climateassessment.ca.gov/state/>

Each exercise program provides for analysis of data collected during the exercise as well as feedback obtained from relevant stakeholders to inform improvement planning.

SMUD hosts annual TTXs with internal and external stakeholders, including local fire, law enforcement and emergency services serving communities within the exercise design scenario. Strengths in the following areas have been identified: relationships with local emergency response agencies, coordination between the SMUD EOC and local agencies, information-sharing, and clarity of SMUD's response procedures and WMP. Where appropriate, recommendations for further collaboration and information sharing processes are developed.

4.6 Risk reduction efforts under the WMP

Since the adoption of its initial WMP, SMUD has initiated multiple projects to directly reduce the risk of ignitions from SMUD owned powerlines in the UARP and PCA. Three of those projects concluded in 2021 and 2022. The conclusion of these projects resulted in direct ignition risk reduction in Tier 2 and Tier 3 of HFTD areas. The remaining three risk reduction projects are more than halfway completed.

Working with its contractors SMUD completed a project in 2020 to allow remote de-energization of four 4kV circuits that were overhead at the time. The remote capability allowed Power System Operators to de-energize any or all four circuits during high fire threat weather conditions during fire season. The remote de-energization capability reduced the risk of ignitions in Tier 2 and Tier 3 of HFTD during high fire threat weather conditions. This project addressed risks related to the 4kV circuits while SMUD undertook its project to underground the lines.

After evaluating alternatives, SMUD committed to underground approximately three miles of 4kV lines in Tier 2 and Tier 3 of HFTD in the UARP. This undergrounding project was completed by summer of 2022. Seven hundred feet of bare 4kV overhead conductor remains in the HFTD, all of which is over rocky terrain underbuilt on 60 feet to 80 feet tall 69kV structures, and one span of tree conductor crossing over a river. The risk of ignitions in Tier 2 and Tier 3 of HFTD areas from 4kV distribution lines has been virtually eliminated by undergrounding the three overhead circuits.

SMUD also piloted the use of large drones to take high-resolution images of all transmission structures in the UARP. This pilot project concluded in 2021. The drone allowed taking photos of various powerline components on the entire structure, including the foundations, insulators, hardware, crossarms, and the static line on top. Photographs of the components were taken from various angles and elevations, allowing an almost 360-degree view of the individual components. The high-resolution images were analyzed off-site by third-party desktop inspectors. Deficiencies such as loose or missing palnuts (locknuts), loose nuts, loose or missing cotter pins, chipped/contaminated insulators, bent/damaged cross members, gunshot damage, and others were noted. SMUD staff reviewed and prioritized the deficiencies for field corrections. The most severe deficiencies were corrected immediately, or within six months. Other less severe deficiencies were scheduled for correction based on SMUD's normal repair timeframe. Most of the deficiencies found were items SMUD tower patrolmen normally find during annual visual inspections. However, some deficiencies would not have been discoverable without this technology. This pilot project provided very good feedback to tower patrolmen to focus on certain items during their inspections. This project also documented minimal wear and overall excellent condition of SMUD's UARP transmission lines that are over sixty years old. This project allowed SMUD to reduce the risk of ignition in Tier 2 and Tier 3 of HFTD areas due to hardware failure or worn components.

The Vegetation Management team has a six-year project to remove select incompatible trees, shrubs, and other vegetation within the transmission line corridor plus 200 feet on either side. The fuels reduction project comprises of mastication via use of ground-based equipment (tractors, feller bunchers, skidders, and chainsaws) to fell and extract trees up to 30 inches in diameter breast height or up to 20 inches diameter breast height in wildlife protected activity center; herbicide application on shrubs and invasives in previously masticated areas; and hand thinning and piling in rocky terrain and where slopes exceed 35%, and to protect

sensitive resources such as stream environment zones, archaeological sites, and critical habitat for threatened and endangered species. Mechanical treatments open the forest canopy, increase sunlight, and so increase the productivity and diversity of plants on the forest floor. Mechanical treatment reduces the risk of crown fires by extracting small to intermediate-size trees which carry fire into the forest canopy. Mastication will be used primarily to implement the ladder fuel treatment prescription, targeting woody shrubs and small-diameter trees, leaving a mixed species composition of 80-100 trees per acre. Mastication of shrubs and small trees (up to 11 inches diameter at breast height) will reduce the density of understory fuels and non-commercially sized trees, increasing heterogeneity in stand structure. Mastication converts ladder fuels to surface fuels and enhances decomposition of biomass, allowing prescribed fire to be implemented with greater ease and control by reducing the amount of oxygen within the fuel structure. Reducing fuels in this manner can allow for broader conditions under which prescribed fire may be applied while accounting for a range of ecological features and attributes, such as animal and bird diversity and soil chemical composition. Implementation of hand thinning is informed by design criteria accounting for and minimizing impacts to forest vegetation, soils, and wildlife. This effort began in 2020 and is expected to continue to 2023.

5 SMUD assets fire threat overview

SMUD provides electricity to its customers via substations and T&D line assets. Table 5 provides a high-level description of SMUD’s T&D assets.

Table 5 Asset description

Asset Category	Asset Description
Transmission line assets	Assets include conductor and transmission structures operating at or above 115 kV (lines that are tied to generation are considered transmission regardless of operating voltage).
Distribution line assets	Assets include overhead conductor, underground cabling, transformers, voltage regulators, capacitors, switches, line protective devices and street lighting operating at less than 69 kV (all 69 kV lines not tied to generation are considered distribution).
	Assets include major equipment such as power transformers, voltage regulators, capacitors, reactors, protective devices, relays, open-air

Table 6 provides an overview of SMUD’s T&D assets in CPUC High Fire Threat District (HFTD) tiers by circuit mile and percentage of total.

Table 6. Overview of SMUD’s T&D assets in CPUC HFTD tiers

Asset	Total	Outside HFTD		Tier 2		Tier 3	
	Circuit miles	Circuit miles	%	Circuit miles	%	Circuit miles	%
Total OH transmission	470	326	69%	89	19%	55	12%
12 & 21 kV (Generation tie lines)	<1	<1	0	0	0	<1	<1%
69 kV	38	7	18%	31	81%	0	0%
115 kV	51	51	100%	0	0%	0	0%
230 kV	381	268	70%	58	15%	55	14%
Total OH distribution	3868	3867	100%	<1	<1%	0	0
Total OH T&D circuit-miles	4338	4194	97%	89	2%	55	1%
	Total No.	Outside HFTD		Tier 2		Tier 3	
Total load serving substations	243	243	100%	0	0%	0	0%

Notes:

- All Tier 2 and Tier 3 facilities are in the UARP area, outside of SMUD’s electric service area.
- Values rounded to nearest mile

5.1 CPUC high fire threat district (HFTD)

SMUD directly participated in the development of the CPUC's Fire-Threat Map⁵, which defines a statewide high fire threat district (HFTD). SMUD has incorporated the HFTD map into its construction, inspection, maintenance, repair, and clearance practices, where applicable.

In the HFTD map development process, SMUD served as a territory lead, and worked with utility staff and local fire and government officials to identify whether any areas within SMUD's service territory are at an elevated or extreme risk of powerline ignited wildfire. It was determined through that process and affirmed by both a peer review and a team of independent nationwide experts led by the California Department of Forestry and Fire Protection (CAL FIRE), that SMUD's service area is properly situated outside the HFTD. Outside of its service area SMUD's UARP facilities are situated within both Tier 2 and Tier 3 of the HFTD. Based on these processes, the existing environment and current information, SMUD believes that the HFTD map appropriately identifies the level of wildfire risk within SMUD's service territory and UARP. SMUD will continue to evaluate factors that may indicate the CPUC should expand the HFTD to include additional areas.

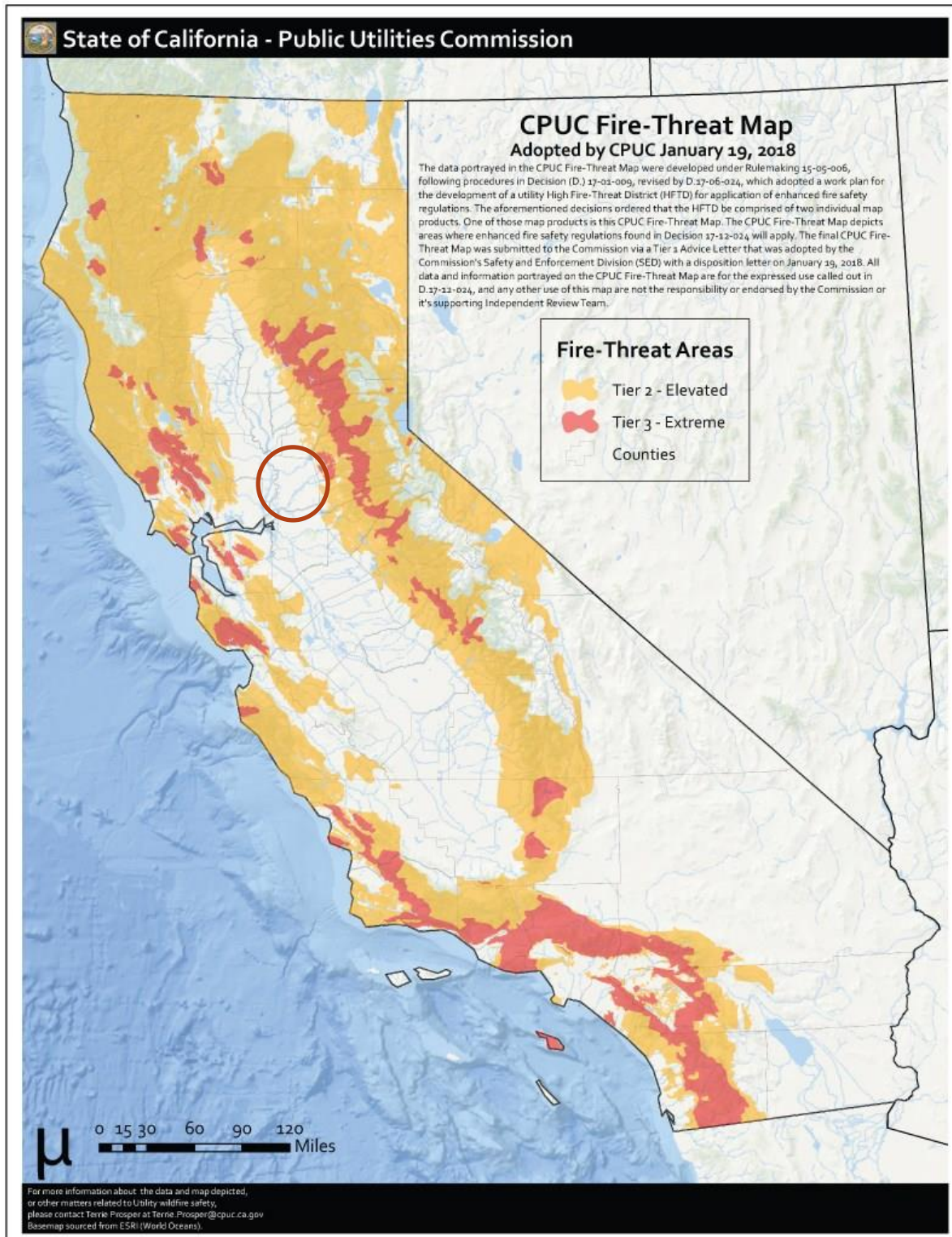
5.2 Fire threat assessment in SMUD service area

SMUD has never experienced a catastrophic wildfire involving its facilities. SMUD's service area in Sacramento County has a much lower wildfire risk profile than other areas in the State that have suffered destructive wildfires in recent years. When ignition events occur, they have historically been limited in scope. This is largely due to SMUD's more urban environment, flatter accessible terrain, low grasslands and other fuel sources outside forested areas and fewer wind events.

The CPUC Fire-Threat map identifies Tier 3, extreme fire risk, Tier 2, elevated fire risk, and areas outside of the HFTD. Figure 4 depicts the CPUC Fire-Threat Map and SMUD's service area location within the map.

⁵ Adopted by CPUC Decision 1-12-024.

Figure 4 SMUD’s service area within CPUC Fire-Threat Map



SMUD’s assets are located both within HFTD areas (including Tier 2 and 3) and areas not deemed within the HFTD (referred to as non-tier or outside HFTD in this document). Approximately 25% of SMUD’s overhead circuit-miles of wires are located within the HFTD, with approximately 10% located within Tier 3 (“Extreme Fire Threat”). None of SMUD’s distribution substations are located within the HFTD.

5.3 Fire threat assessment in UARP, Western Sierra Nevada Mountain range

SMUD's greatest fire threat risk is in the Western Sierra Nevada Mountain range, where the hydroelectric project known as the "UARP" is located. The project's powerhouses and switchyards are interconnected via multiple 69kV and 230kV transmission lines which traverse through the mountain range through CPUC's HFTD Tier 2 and Tier 3 designated areas. All 230kV circuits and three 69kV circuits are constructed with lattice steel towers between 100 feet and 150 feet tall. One 69kV circuit is constructed with three-to-five pole wooden structures between 60 feet and 80 feet tall.

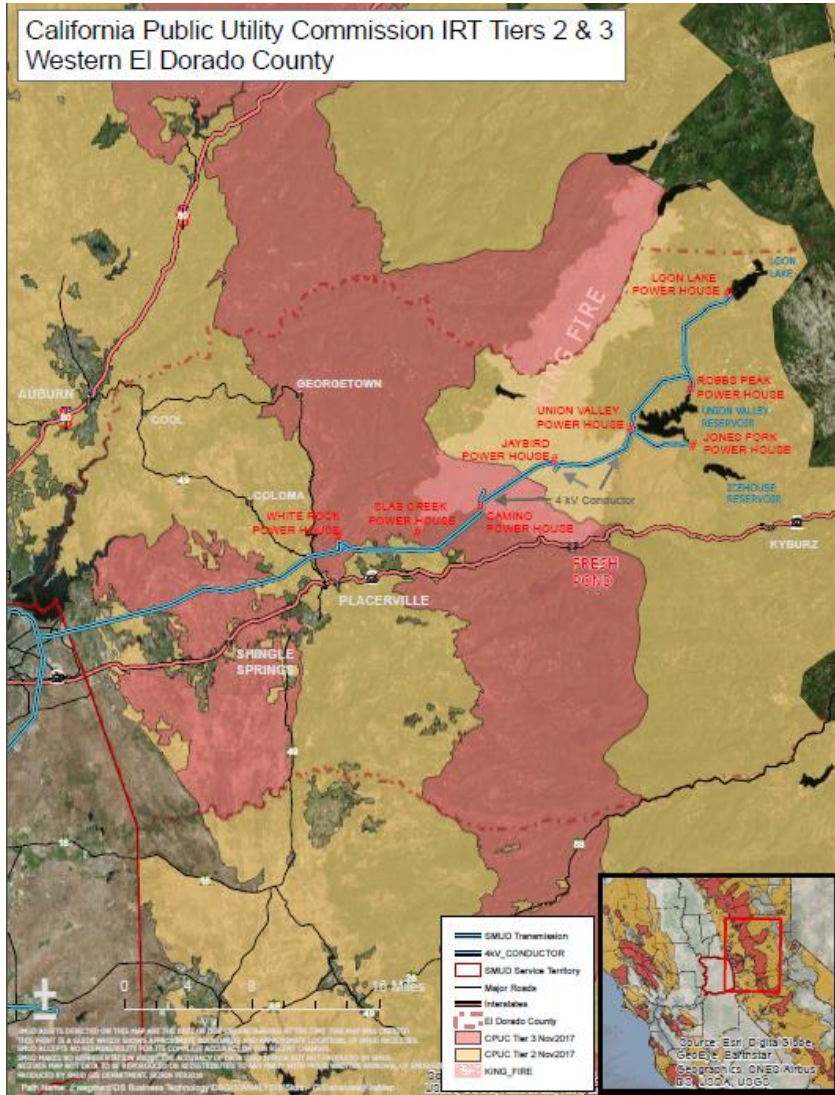
SMUD's UARP is in highly susceptible area to wildfires specifically due to the regional climate that facilitates regular drought conditions, the natural plant communities that produce excess fuel, and the natural and anthropogenic ignition sources. Within the UARP, vegetation adjacent to electrical infrastructure (powerhouses, transmission lines, switchyards, etc.) is a source of fuel. Extended periods of warm temperatures could increase fuels and the possibility of wildfires. Greater numbers of diseased and dead trees also increase this possibility.

The most notable recent wildfires are the Caldor Fire in 2021, King Fire in 2014, Freds Fire in 2004, and Cleveland Fire in 1992. The Caldor fire in 2021 did not impact SMUD's transmission lines and powerhouses. The King fire impacted approximately 20 miles of SMUD transmission lines in 2014. Historically, areas above 5,000 feet were less likely to see a major fire (between Robbs Peak and Loon Lake), with one major fire, Bottle Hill, in 1917 near Gerle Creek Reservoir. Several large fires have periodically burned in the lower elevation canyon areas near White Rock Powerhouse, the most recent being the Chili Bar Fire in 1979. Although the King Fire did not substantially damage hydroelectric infrastructure, it did do major damage to the forest and watersheds around the UARP. According to the U.S. Forest Service in El Dorado County, it is unlikely for any treatments or post fire timber harvesting to be conducted in the steep canyons where much of the hydroelectric infrastructure is located. SMUD's transmission line Right-Of-Ways acted as fire breaks to help stop the spread of the King fire.

Operation of SMUD's facilities in the UARP have never been associated with the ignition of a wildfire. The King and Caldor Fires demonstrate the high risk of fire in the terrain through which SMUD transmission lines traverse. Continuing drought and climate change continues to exacerbate this risk.

Figure 5 shows the UARP area where all SMUD's Tier 2 and Tier 3 assets are located.

Figure 5 CPUC Tier 2 and Tier 3 areas for SMUD's UARP



5.4 CAL FIRE Fire Resource and Assessment Program (FRAP)

CAL FIRE publishes multiple maps related to fire threat throughout the state. SMUD refers to the Fire Hazard Severity Zone (FHSZ)⁶ map for many years to inform and plan maintenance activities. In November 2022, CAL FIRE published a new State Responsibility Area (SRA) FHSZ map⁷ for public review and comment. This map is expected to be finalized in 2023. Additionally, CAL FIRE will publish a new map depicting FHSZ for Local Responsibility Area (LRA) and Federal Responsibility Area (FRA). The new map depicts slight changes in fire hazard severity in the PCA SMUD will incorporate information from the new and future FHSZ maps into SMUD's mitigation programs as needed.

Although SMUD takes CAL FIRE's FHSZ mapping into consideration as part of its wildfire mitigation planning, SMUD's Wildfire Mitigation Plan references the CPUC Fire Threat Map that focuses on the risk of utility associated wildfires⁸.

⁶ <https://egis.fire.ca.gov/FHSZ/>

⁷ <https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/wildfire-preparedness/fire-hazard-severity-zones/>

⁸ https://www.cafirefoundation.org/cms/assets/uploads/2020/05/CPUC_Fire-Threat_Map_final.pdf

6 Wildfire prevention strategy and program

SMUD has a robust set of measures to address potential wildfire risks. The WMP will incorporate existing efforts and identify the process moving forward to supplement them where a need is identified.

SMUD regularly coordinates with local fire agencies and other first response agencies. It also participates with emergency operations activities in its system areas. SMUD has robust Vegetation Management (VM) programs with accelerated and targeted VM work (pruning & removal) cycles and are using enhanced technologies including LiDAR and Ortho Imagery (these technologies can help identify diseased trees and trees that are a risk to SMUD facilities). It also has robust inspection and maintenance programs that include traditional aerial patrols with helicopters, IR inspections using helicopters (which can detect heat from power equipment before an event occurs) and regular ground inspections of all facilities (including core testing of the wood poles).

SMUD has explored potential system improvements in certain locations such as the use of non-sparking equipment in key areas (e.g., use of CAL FIRE exempt fuses), replacing wood poles with steel or ductile iron in certain cases and the use of covered conductor alternatives.

SMUD has protocols for disabling automatic reclosing and for de-energizing lines for public safety. Some conditions that factor into these protocols include: RFW, forecasted temperatures above 100°F, winds exceeding design standards and low humidity. It also has an Outage Communications Plan that addresses potential de-energization events. SMUD will include targeted messaging for affected areas that will set expectations and identify support resources. Table 7 describes activities that address SMUD’s key wildfire risk factors.

Table 7 Activities that address wildfire risk factors

Risk factor	Activity
Fuel	Vegetation management Fuels reduction Use of LiDAR and Ortho Imagery
Equipment/facility failure	Routine maintenance Focused design and construction standards to reduce ignition sources (e.g., use of non-expulsion fuses and arrestors, replacement of wood poles, undergrounding and other options) Transmission and distribution line detailed inspections and annual patrol No reclosing during fire season Intrusive pole testing and pole replacement De-energization of lines during certain conditions
Contact from object(s)	Animal/bird guards Raptor construction (increased line spacing) Increased vegetation clearances (at time of work)
Wire to wire contact	Weather station and monitoring
Other	SMUD worker/contractor education on fire ignition sources from normal work activities

6.1 Distribution grid operational practices

6.1.1 Disabling reclosing during fire season

SMUD has procedures for the operation of reclosers. For the purposes of those procedures, fire season is defined as:

- May 1 to October 1, or
- RFW in effect for areas inside or immediately surrounding the PCA

SMUD disables automatic reclosing on certain substation and line reclosers that extend into the PCA. In some cases, the line reclosers are completely bypassed with fuses if automatic reclosing cannot be disabled. On circuits where line reclosers are bypassed, the fuses provide protection to the end of the line. Due to climate change, the dry summer season is extending further into the year. Reclosing will remain disabled until the first major rain event in the service territory. See Figure 7 for graphic of the PCA.

6.1.2 Planned de-energization during fire season

During fire season, SMUD has elected to take certain measures to mitigate the risk of wildfires in the PCA, that could potentially migrate to the HFTD areas. When weather conditions that precede wildfires are forecasted and a wildfire threat is imminent, SMUD's Distribution System Operations (DSO) personnel have the authority to de-energize select distribution circuits in the PCA. DSO personnel will use individual or multiple de-energization triggers listed below, as well as power system knowledge and potential community impacts, to make de-energization decisions. This decision requires a balancing of all these factors as well as a knowledge of the area and operation of the power system. No single trigger is determinative. DSO relies on weather data from various sources, including Wunderground.com and SMUD's internal Energy Management System.

Triggers for de-energization of PCA circuits:

- Imminent fire danger
- Customer or community impacts
- A RFW declaration by National Weather Service in effect for areas inside or immediately surrounding the PCA
- Critically dry vegetation that could serve as fuel for a wildfire
- Low humidity levels
- Temperatures over 100°F
- Winds projected beyond 12kV design criteria (56 mph)
- Mandatory fire orders in effect (as directed by any Agency Incident Commander)
- On-the-ground, real-time observation from SMUD or other agency field staff

SMUD's DSO personnel have the authority to de-energize portions of the distribution grid during emergency conditions when requested by local law enforcement or fire officials. These requests are handled individually, and don't fall under PUC 8387 requirements.

6.2 Transmission grid operational practices

6.2.1 *Disabling reclosing*

All Valley 115 kV, 230 kV and UARP 69 kV, 230 kV transmission auto reclosers are disabled and will remain disabled to mitigate wildfire risks. The disabling of reclosing follows fire season described in 6.1.1

6.2.2 *Planned de-energization during fire season*

SMUD's Power System Operators (PSO) have the authority to de-energize portions or all the Valley and UARP transmission line(s) for safety, reliability, conditions beyond design criteria, threat of wildfires and during emergency conditions when requested by local law enforcement or fire officials. Per existing protocols, planned de-energizations are coordinated with interconnected agencies.

During active fire season as declared by CAL FIRE the PSO is authorized to de-energize portions or all the Valley and UARP transmission line(s) when there is imminent fire danger, mandatory fire orders are in effect, and/or the transmission system is experiencing conditions beyond design criteria. The PSO will take a combination of many factors into consideration when implementing de-energization procedures, which include the triggers listed below, as well as power system knowledge and potential community impacts. De-energization decisions require a balancing of all these factors as well as a knowledge of the area and operation of the power system. No single element is determinative.

- Extreme fire danger threat levels, as classified by the National Fire Danger Rating System
- A RFW declaration by the National Weather Service
- Low humidity levels lower than what is required for a RFW
- Sustained winds exceeding design standards
- Site-specific conditions such as temperature, terrain, and local climate
- Critically dry vegetation that could serve as fuel for a wildfire
- On-the-ground, real-time observation from SMUD or other agency field staff

The PSO utilizes various operational and situational awareness tools to determine when de-energization is appropriate. The tools are listed below:

- Weather data telemetered into SMUD's Energy Management System, such as wind speed, wind direction, air temperature, barometric pressure and relative humidity
- US Forest Service – Wildland Fire Assessment System, <https://www.wfas.net/>
- CAL FIRE Incidents Information, <https://www.fire.ca.gov/incidents>
- CAL FIRE California Statewide Fire Map: <https://www.fire.ca.gov/incidents/>
- National Weather Service: <https://www.weather.gov/>
- Indji Watch real time operational tool
- Geographic Information System (GIS) based tools
- ALERTWildfire: <http://www.alertwildfire.org/tahoe/index.html>
- NOAA/National Weather Service Storm Prediction Center: <https://www.spc.noaa.gov/>
- National Significant Wildland and Fire Potential Outlook, <https://www.predictiveservices.nifc.gov/outlooks/outlooks.htm>

6.3 Infrastructure inspections and maintenance

SMUD performs a multitude of time-based inspections on its T&D facilities. A description of the inspections is summarized in the following sections.

6.3.1 Transmission line inspections

SMUD's transmission lines are grouped in two inspection areas. UARP region includes all lines east of Folsom going up to the hydroelectric facilities in the Sierra. The Valley region comprises of all transmission lines in SMUD's service territory.

6.3.1.1 Aerial patrols (helicopter)

SMUD uses helicopters to perform aerial inspections of transmission lines. During these patrols, line inspectors inspect the condition of line structures and attachments, any structural problems and safety hazards, damage to insulators, vibration dampers, hardware, conductors, static shield wires, optical ground wires, signs of hot spots, potential vegetation concerns and tower identification signs (aerial signs).

Aerial patrols are performed twice a year on all lines in the UARP and once a year in the Valley.

6.3.1.2 Ground patrols

Line inspectors use a combination of walking and driving when conducting ground patrols. They visit transmission tower sites to make detailed visual inspections and on occasion they complete IR inspections. The line inspectors utilize binoculars to detect any damage to above ground components. Line inspectors may climb towers identified with severe corrosion or deformation to determine the corrective action required.

Ground patrols are performed annually on all lines in the UARP, and every two years on all lines in the Valley.

6.3.1.3 IR inspections (helicopter)

The line inspectors use IR cameras to inspect transmission lines as part of one of the helicopter patrols. An IR camera is used to identify "hot spots" on current carrying components of the transmission line. Hot spots could be an indication of loose connections that may fail. The images are saved, and written reports are prepared, which document the conditions found. The documentation identifies the location, problem found, date and time of the IR inspection. When the thermographer identifies abnormal conditions, these are reported for investigation and correction as necessary. Items identified are reported and scheduled for correction.

IR inspections are performed annually on all lines in the UARP, and every two years in the Valley.

6.3.1.4 Wood pole intrusive inspections

Intrusive inspections require sample material be taken for analysis, and/or using more sophisticated diagnostic tools beyond visual inspections or instrument reading. Wood poles are subjected to an intrusive inspection to determine and identify problems such as rot and decay. The inspection is performed using a calibrated drill bit that records the resistance and pressure required to drill a fixed diameter hole to a measured depth. The results are produced as a graph on a depth scale which is used to find voids and decay within the pole.

SMUD intrusively inspects wood poles at a minimum cycle of 10 years and a maximum cycle of 14 years.

6.3.1.5 Vegetation right-of-way maintenance

Both line inspectors and VM planners visually inspect the T&D ROW for encroachments, access road conditions and safety hazards. Two traditional helicopter patrols are also conducted annually by certified arborists or registered professional foresters to specifically inspect for vegetation issues that could threaten SMUD facilities. The VM ROW maintenance program's approach is to remove and prune vegetation in the

ROW of incompatible species and to maintain low-growing native and diverse plant communities that are compatible with electrical facilities by using Integrated Vegetation Management (IVM) Wire Zone-Border Zone Management which is the industry standard. This is a long-term approach which supports system reliability through reclaiming the ROW and managing for future workload. This approach allows for ongoing monitoring of vegetation corridors to prevent encroachment into the minimum vegetation clearance distance (MVCD) and ensures SMUD facilities meet or exceed state laws and industry standards.

Traditional (boots on the ground) vegetation ROW inspections are performed annually on all transmission, and distribution lines in the UARP, and regularly one to three years on T&D lines in the Valley.

6.3.1.6 Splice assessment program

This program is designed to assess the integrity of transmission conductor splices. The technology employed by a contractor uses an x-ray machine that encompasses a splice and takes an x-ray image of the splice. Inspectors then evaluate the image to determine the internal condition of the splice. This allows staff to identify splices that are potentially close to failure. A special type of in-line splice connector corrector is installed to strengthen the splice when needed.

6.3.1.7 Aerial photography via UAV with desktop review

SMUD has a new program that uses large drones to capture high-resolution photos of transmission structures. The photos are reviewed separately offline by the contractor and SMUD's trained personnel. The high-resolution photos allow the reviewer to zoom-in and identify deficiencies that are not possible to identify during traditional inspection methods. The reviewer can identify loose or degrading hardware including cotter keys, improper splice installation, loose fiber optic or ground wire attachments, stressed/chipped/tracked insulators, foundation problems, bullets lodged in conductors, etc. The photos are taken from multiple angles and elevations allowing in-depth review and confirmation of deficiencies. Identified deficiencies are scheduled for correction as needed.

Aerial photography with desktop review will be performed once for all structures, and a cycle will be established after.

6.3.2 Distribution line inspections

SMUD performs various inspections on distribution lines to ensure safety, reliability, and consistency with standards in California Public Utility Commission (CPUC) General Order (GO) 95, GO 128 and GO 165.

6.3.2.1 Detailed line inspections

Line inspectors use a combination of walking and driving when conducting detailed line inspections (DLIs). They visit each SMUD pole to make detailed visual inspections. The line inspectors utilize binoculars to detect damage to above ground components attached to the pole. The inspectors look for broken or loose hardware; mechanical damage to any component; condition of guy wires and anchors; condition of insulators and conductors; condition of disconnects and fuse holders; condition of risers and conduits; condition of transformers, reclosers and cap banks. Ground conductors, moldings, signs, and other minor hardware is also inspected. Similar inspections are performed on pad-mounted equipment and equipment installed below grade in vaults or building basements. Identified deficiencies are scheduled for correction as needed.

DLIs are performed every five years on all overhead distribution equipment and pad-mounted equipment, and every three years on underground equipment.

6.3.2.2 Line patrols

Line patrollers patrol their designated service area and track their progress with a GIS enabled visualization tool. The use of the tool ensures that all devices within SMUD's service territory are patrolled. The patrollers

are looking for obvious signs of defects, structural damages, broken hardware, sagging lines and vegetation clearance issues. Identified deficiencies are scheduled for correction as needed.

Line patrols are performed annually on all distribution lines and equipment.

6.3.2.3 69 kV and Pole Clearing Area 12 kV IR inspections (helicopter)

SMUD performs helicopter IR inspections on 69 kV circuits in the Valley and 12 kV circuits within the PCA. See section 6.3.1.3 for additional description.

69 kV and PCA 12 kV IR inspections are performed every other year in the Valley.

6.3.2.4 Wood pole intrusive inspections

Distribution wood pole intrusive inspections follow the same criteria as transmission wood poles intrusive inspections. See section 6.3.1.4.

6.3.2.5 Annual pole clearing program

The pole clearing program is an annual requirement to clear vegetation around poles in the PCA that have certain CAL FIRE non-exempt equipment on them. This program follows California Public Resource Code 4292. The code calls for clearing vegetation within a 10-foot radius of a pole or tower on which non-exempt equipment is attached, unless such pole or tower meets certain criteria that makes it exempt from the clearance requirements. SMUD contracts this activity out for completion prior to May 15th of each year.

6.3.3 Distribution substation inspections

SMUD performs various inspections on substations to ensure safety and reliability. SMUD inspections meet or exceed standards in CPUC GO 174.

6.3.3.1 Visual inspections

Substation inspectors visit each SMUD substation to visually inspect the facility and all equipment within. The inspectors look for broken or loose hardware; vandalism or damage to any equipment; oil or gas leaks; perimeter fence security; condition of the buss, insulators, and other hardware; condition of the control house; conditions of the poles/structures and lines exiting the substation; condition of the disconnects and fuses for signs of damage and connectivity. Deficiencies are noted and scheduled for correction as needed.

Visual inspections are performed at least 10 times per year.

6.4 Vegetation management

SMUD's VM program is responsible for the patrol, work plans and quality control (QC) audits of the actual tree work for the transmission and distribution system in the Valley, as well as the transmission and distribution system in the UARP. These activities are performed year-round to maintain compliance with applicable Federal Facilities Design, Connections and Maintenance (FAC) 003-5 and State regulations, including Public Resources Codes section 4292 and 4293; and incorporate the standards in CPUC GO 95 Rule 35.

6.4.1 Distribution system vegetation management

SMUD performs routine traditional vegetation maintenance, such as pruning and removal, on a time-based interval. This interval consists of one, two, and three-year ground-based field patrols. The field patrols are ground based inspections of tree and conductor clearances and hazard tree identification. The results of the patrols are targeted areas for vegetation pruning or removal.

SMUD hires contracted Line Clearance Qualified tree contractors to complete the identified annual vegetation work (pruning and removal) needed to ensure public safety and electric reliability as well as reduce wildfire risk in SMUD's service territory. During the tree work, the contractor aims to achieve up to 15 feet of

clearance in local responsibility areas within SMUD's Service Area and 30+ feet of clearance in the HFTD (Tiers 2 and 3) at time of tree work, unless otherwise directed by SMUD VM staff. The contractor also clears vegetation from SMUD's secondary voltage, service drops and pole climbing space on an as needed basis. SMUD's contractors follow American National Standards Institute (ANSI) A300 concepts and utility directional pruning, which supports proper pruning/tree health while achieving and maximizing the work cycle.

6.4.2 Transmission system vegetation management

SMUD VM planners perform traditional annual ground-based field patrols to ensure compliance with state and federal regulatory requirements (Public Resource Code 4293) and alignment with standards in CPUC GO 95 Rule 35 and FAC 003-5. The field patrols are traditional, ground-based inspections of tree and conductor clearances and hazard tree identification. The results of the patrols are targeted areas for vegetation pruning or removal. Additionally, SMUD completes two annual aerial patrols in El Dorado County to address the ongoing challenge of tree mortality due to drought and various insect vectors.

SMUD hires contracted Line Clearance Qualified tree contractors to complete the identified annual vegetation work (pruning and removal) needed to ensure public safety and electric reliability as well as reduce wildfire risk.

During the tree work, the contractor follows the planner's prescription (scope of work) to achieve the desired safety clearance. SMUD's contractors follow ANSI A300 concepts and utility directional pruning, which supports proper pruning/tree health while achieving and maximizing the pruning cycle. Additionally, SMUD's transmission VM program aligns with ANSI A300 Part 7 IVM standard.

6.5 Fire mitigation construction

6.5.1 Ester-based insulating fluid in transformers

Natural ester-based insulating fluids are derived from renewable vegetable oils – providing improved fire safety, transformer life/load ability and environmental benefits that are superior to mineral oil and unsurpassed by any other dielectric coolant. SMUD began purchasing and installing pad mounted and pole mounted transformers with ester-based fluid in 2004. All new distribution transformers installed since 2004 and moving forward contain ester based insulating fluid. This includes replacements for old transformers and new installations.

6.5.2 Non-expulsion equipment in PCA

SMUD has identified additional targeted wildfire mitigation measures for the PCA. A capital program is in place and scheduled to replace all expulsion type equipment. SMUD may have to replace poles, lines or equipment as ongoing activities. For this reason, SMUD crews will also install non-expulsion equipment (CAL FIRE exempt equipment) as part of any construction activity in the PCA.

6.5.3 Weather stations

SMUD has 14 weather stations within its service territory and UARP, eight are in the Sacramento Metropolitan area and six in the UARP. Of the six in the UARP, four weather stations are positioned on towers located within the HFTD to support SMUD's de-energization procedures. Data from weather stations installed in SMUD's service territory and UARP assist in the real-time monitoring of weather conditions for situational awareness and to help inform implementation of mitigation measures such as de-energization of transmission lines.

6.5.4 Covered conductor and Ductile Iron poles

A new generator tie line was required to interconnect a new small hydro generator to PG&E's distribution system in the UARP. This opportunity was used to pilot the installation of covered conductor installed on ductile iron poles. This line is the first of its kind in SMUD's experience and has provided valuable information

to SMUD engineering and construction staff. This information can be used to identify other potential locations for use of covered conductor solutions.

6.6 Enhancement and mitigation projects

SMUD forecasts and plans for upcoming work several years in advance. This planning process allows adequate level of staffing and funding for needed projects. This section identifies the specific upcoming projects that help reduce SMUD's wildfire risk.

6.6.1 *Install non-expulsion devices in PCA*

Start date: 2020

Expected completion: 2025

This project targets SMUD's PCA to reduce the risk of fire ignitions by installing non-expulsion equipment (CAL FIRE exempt equipment⁹). Existing overhead fuses and fuse holders will be replaced with non-expulsion type fuses. Existing arresters will be replaced with new arrestors that have arc protection. In addition, the connectors used to attach the devices to conductors will be replaced with Cal FIRE exempt wedge-type connectors.

6.6.2 *Replace #6 Copper conductors in PCA*

Start Date: 2021

Expected Completion: 2023

This project targets SMUD's PCA for removal of #6 copper conductors and replacement with heavier gauge aluminum. The project was proposed in conjunction with Eagle Take Permit mitigation work to reduce avian contacts issued in connection with the expansion of SMUD's Wind Farm in Solano County. The mitigation activity involves re-framing approximately 185 poles to increase overhead conductor spacing.

6.6.3 *UARP 4kV UG conversion*

Start Date: 2020

Completed: 2022

After performing a feasibility study of alternatives, SMUD decided to remove the 4kV bare wire lines in the UARP and install underground infrastructure. Two of the shorter lines were undergrounded in 2020 and 2021. Construction was completed on the longest of the three lines in summer of 2022.

6.6.4 *UARP Fuels Reduction*

Start Date: 2019

Expected Completion: 2023

This project is designed to help protect the UARP transmission lines and strengthen the fire break value it provides. The project area includes the entire length of SMUD's UARP transmission line within the existing right-of-way corridor plus approximately 200 feet on each side. Project treatments are designed to increase the area of forest lands treated for fuels reduction and prescribed fire and contribute to the longer-term restoration of the Crystal Basin forested landscape. Implementation measures will reduce the density of surface and ladder fuels by mechanical thinning, mastication, and hand crew work as part of a larger suite of silvicultural prescriptions that restore mixed conifer composition, health, and vigor. The project seeks to establish conditions that allow for a mosaic of multiple age class forest stands, variation in tree size, density,

⁹ Additional Information: <https://osfm.fire.ca.gov/media/8482/fppguidepdf126.pdf>

and species composition through treatments that retain the largest trees while establishing conditions that allow for safe and efficient fire suppression, especially around private inholdings of Sierra foothill communities.

6.6.5 Install SCADA reclosers in PCA

Start Date: 2024

Expected Completion: 2026

The existing 12kV feeders serving PCA customers are non-SCADA. This project will install SCADA enabled reclosers on feeders that serves SMUD's PCA customers. The SCADA reclosers will provide distribution operators visibility to the circuits and ability to operate the recloser remotely, including remotely disabling the reclosing function. The SCADA enabled reclosers will have modern microprocessor-based controllers, which will provide SMUD engineers the flexibility of fast-trip settings during fire season, and normal settings for improved reliability during storm season. Visibility to circuit's measured values will provide distribution operators the ability to remotely de-energize the circuit(s) when conditions warrant or when requested by emergency response personnel.

6.7 Pilot projects

Pilot projects are initiated to explore technologies and practices that are new to SMUD. These projects are intended for SMUD staff to evaluate the effectiveness and benefits of the technologies or practices. The pilot must prove successful to implement the technology or practice. Some of the factors considered at the conclusion of a pilot are proven risk reductions, material and installation costs, ease and efficiency of installations and overall effectiveness of the technology. Based on the results of the pilots, SMUD may elect to integrate the technologies or practices into its various ongoing maintenance programs. Current pilot projects are described below.

6.7.1 VM Aerial LiDAR,¹⁰ ortho and oblique imagery

Start Date: 2017

Expected Completion: As needed

SMUD contracted with an external vendor to utilize LiDAR and remote sensing to supplement or enhance traditional "boots on the ground" vegetation patrols. Both LiDAR and Ortho imagery is obtained from rotary and fixed wing aircraft. The technology measures vegetation clearance distances from the conductor in both "as flown" and modeled conditions. Modeling is taking all the engineering calculations for maximum load and wind ratings to calculate clearance distances in "full operating range of the respective facility." Ortho Imagery is used to provide a more accurate and pre-mature visibility of vegetation in decline that may not yet be visible to the human eye.

The vendor captured LiDAR data along the transmission corridors in the UARP, as well as the portions of Sacramento County designated as CAL FIRE's State Responsibility Area (SRA) for both T&D circuits. The LiDAR detections are categorized by priority. As soon as SMUD VM receives notification, SMUD VM field checks within 2-3 business days, and most within the same day data is received). Urgent and future potential conflicts are field checked and tree work prescribed as needed within 2-4 weeks of obtaining the data. Additionally, longer range detection conflicts are prioritized and incorporated into routine annual patrols

¹⁰ Additional Information: <https://www.neonscience.org/lidar-basics>

(Transmission & SRA Distribution). These are reviewed by SMUD VM planners during annual patrols and tree work prescribed as required.

6.8 Emerging Technologies

SMUD recognizes that numerous emerging technologies are developing and may play a role in building the resiliency of the system. SMUD will continue to monitor available technologies in future WMPs.

6.9 Workforce Training

SMUD has work rules and complementary training programs for its workforce to help reduce the likelihood of the ignition of wildfires. In summary:

SMUD Line workers complete a 4-year apprenticeship with over 7,500 hours of on-the-job training, in-class, hands-on, and eLearning training. Beyond the carefully documented and tracked on-the-job training Line worker Apprentices also participate in 2 weeks of Initial Field Training, a 24 week Cold / Hot School, and annual safety / regulatory bundled training. All training programs include a mix of classroom and hands-on training. Each Apprentice is held accountable to their training and progress is measured through a step test system that includes a written and hands-on / practical test every six months.

In addition, all new SMUD Line workers receive a 1.5-hour hands-on Fire Safety training during Initial Field Training. This training consists of 30 minutes classroom training that covers hazards, hot work near power poles and off-road activities, red flag warnings, preparedness, fire extinguishers, and more. The training also includes about 60 minutes of hands-on training using fire extinguishers. In addition, all SMUD Line workers receive a 30–60-minute Fire Safety training every two years. This training includes classroom and hands-on training. SMUD also offers a 30-minute Fire Safety eLearning module that can be offered when the hands-on training is not feasible.

For work occurring in the UARP, all employees and contractors receive wildfire prevention, mitigation, and response training prior to the start of work. This includes compliance requirements for SMUD's Hot Work Standard and Eldorado National Forest's Project Activity Level fire prevention and mitigation measures.

7 Response Guidelines

7.1 Emergency Preparedness and Response

As a publicly owned utility, SMUD has planning, communication, and coordination obligations pursuant to the California Standardized Emergency Management System (SEMS) Regulations adopted in accordance with Government Code section 8607. The SEMS Regulations specify roles, responsibilities, and structures of communications at five different levels: field response, local government, operational area, regional and state. SMUD has adopted SEMS and other local, state, and federal emergency management doctrine into its comprehensive Emergency Operations Plan (EOP). The EOP identifies wildfire as a major risk in accordance with this Wildfire Mitigation Plan. Pursuant to this structure, SMUD regularly coordinates and communicates with the relevant safety agencies as well as other relevant local and state agencies, as a peer partner.

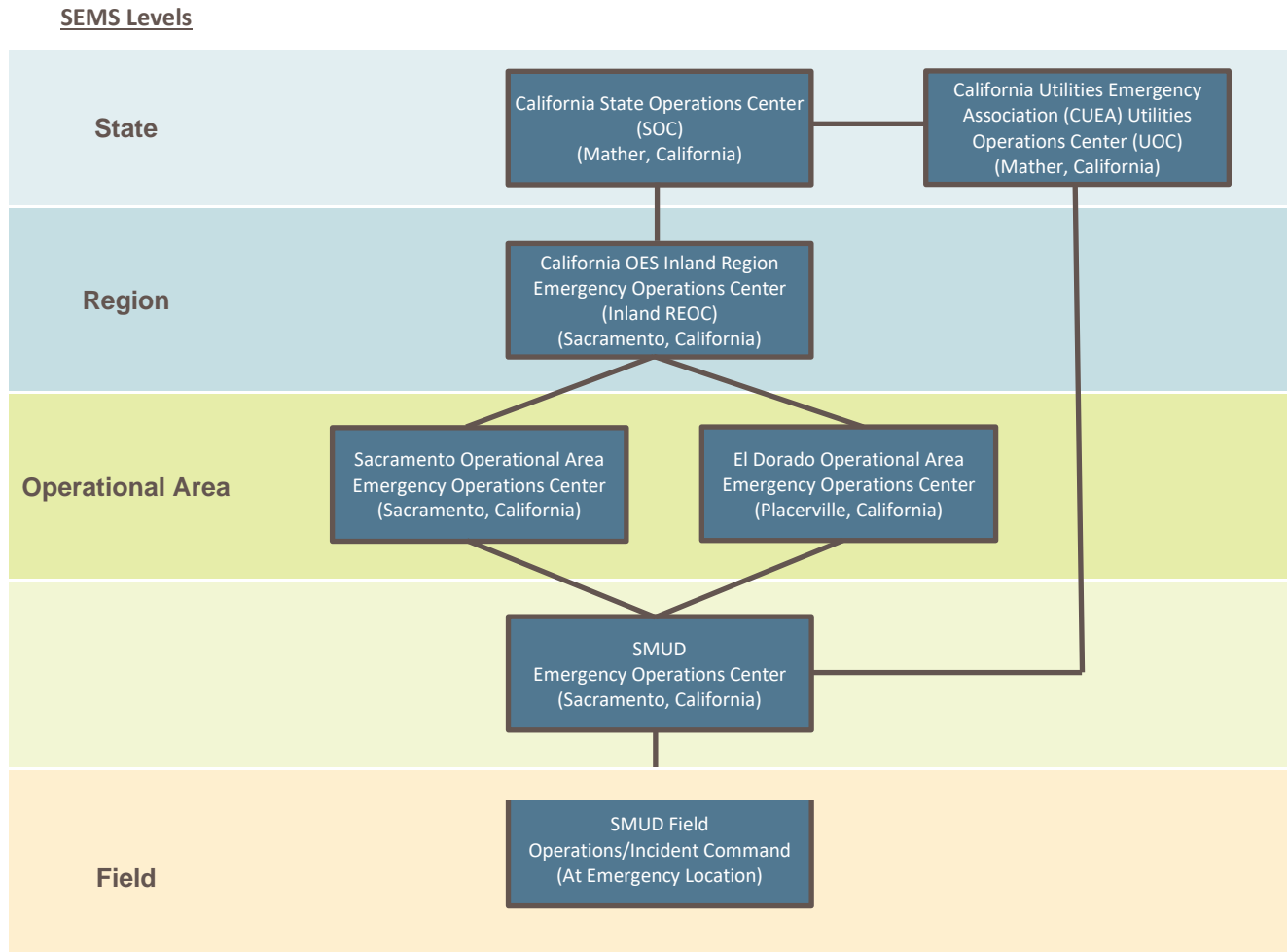
SMUD interacts with emergency response agencies on a peer-to-peer relationship. As part of SMUD's response to a storm, fire, rotating outage, black start events, etc., SMUD collaborates with the local Office of Emergency Services (OES) and provides an agency representative (liaison) to the county (and/or city) Emergency Operations Centers (EOC) to ensure appropriate communication and coordination. Our two primary coordination points for wildfire-related coordination are Sacramento County OES and El Dorado County Sheriff's Office OES (for the UARP region). Additionally, SMUD maintains good relationships with Yolo (gas pipeline), Placer (service territory and UARP), Solano (Wind Farm) and Yuba (Camp Far West) counties.

Upon notification of potential proactive de-energizations or rotating outage events due to wildfire concerns, Emergency Preparedness (EP) staff will coordinate with the appropriate County OES to ensure that all first and emergency response organizations are notified of the de-energization and estimated restoration time (if known). In addition, during a highly localized event, EP Staff will directly notify first and emergency responder jurisdictions of the de-energization/outage.

SMUD EP staff also invite counties to send agency representatives into SMUD's EOC. These representatives can include personnel from the following organizations: City of Sacramento Fire Department, Sacramento Metropolitan Fire District, City of Folsom Fire Department, local cities, Sacramento County OES, the National Weather Service, and other local critical infrastructure agencies, ensuring coordination for our service territory.

Additionally, SMUD EP staff serve as SMUD's utility representatives when requested by the California Governor's OES (CalOES) at the California State Operations Center (SOC) for the California Utilities Emergency Association (CUEA), providing a direct link for critical infrastructure coordination to the SOC.

Figure 6 Standardized emergency management system (SEMS) emergency operations coordination



7.2 Public and agency communications for a potential wildfire

Public safety is a guiding principle at SMUD. De-energizing powerlines may be the safest approach and makes sense if the risk of a wildfire starting and spreading is severe. While SMUD’s WMP activities are designed to mitigate wildfire danger, in instances of high fire threat conditions, interruption of electrical service by de-energizing powerlines may be necessary as a last resort. SMUD proactively communicates with customers and key stakeholders through multiple channels about preparing for potential power outages, and the power restoration process. SMUD recognizes that many entities and individuals are particularly vulnerable during extended power outages and makes every effort to provide up-to-date information to these populations prior to, during and after an event.

This proactive communication is utilized for:

- 1) A wildfire threat to localized circuits within the SMUD service territory that results in localized de-energization.
- 2) A wildfire threat to SMUD’s UARP hydroelectric generation and transmission system that results in a de-energization event causing a capacity/energy shortage (rotating outages).

- 3) A wildfire threat to a major shared transmission line(s) that impacts the statewide grid or parts of it and creates a resource shortage for the utilities, including SMUD, that rely on the resources the line(s) provides.

SMUD has implemented an opt-in program on smud.org that allows for vulnerable populations to receive additional information or notifications in the unlikely event of a wildfire in SMUD service territory.

Among SMUD's vulnerable customers are those enrolled in the Medical Equipment Discount Rate program (MED rate). These customers rely on specialized medical equipment. SMUD also has a Vulnerable Customer program which allows customers to self-identify as vulnerable for concerns not covered by our MED Rate. SMUD has more than 11,300 customers who rely on specialized medical equipment and who are enrolled in the MED rate program or enrolled in our Vulnerable customer program. SMUD will send these customers an email or letter each year to remind them of the risk of wildfire danger, to have an emergency back-up plan if an outage occurs and refer them to www.smud.org/WildfireSafety for more information.

All SMUD customers can visit the smud.org/wildfiresafety webpage where they'll be able to find:

- Wildfire mitigation plan
- Information on how SMUD mitigates fire risk
- Emergency preparedness tips guide (7 languages)
- Links to additional resources
- Video on wildfire mitigation efforts
- Rotating outage map and periodic event updates
- Frequently Asked Questions on the de-energization process

[Smud.org/WildfireSafety](https://smud.org/WildfireSafety) provides access to information about SMUD's effort in wildfire planning and prevention (including an archive of this and prior WMPs), how to identify fire risk in areas where SMUD maintains electric facilities, a video on our wildfire mitigation efforts, emergency planning and preparation (in six different languages) and SMUD's de-energization protocols.

SMUD also proactively communicates before potential emergency events about our efforts to prepare for and reduce wildfire risk.

In advance of peak wildfire season, SMUD conducts ongoing communications about how to prepare for emergencies in the event of a wildfire, natural disaster, or major outage. The communications include:

- Letters and emails to MED Rate, Senior ID and vulnerable customers, with preparation checklists.
- Outdoor billboards
- Digital monitors in our customer lobby
- Bill inserts
- Reminders on SMUD.org homepage encouraging customers to update contact information
- Customer newsletters (print and email) on safety tips, preparation.

SMUD's public information specialists will provide ongoing updates on multiple platforms, including social media, to provide customers and the community with up-to-date information about an emergency or potential emergency.

SMUD's government affairs representatives will reach out to the executive staff of local governments, elected officials, SMUD's state delegation, federal and tribe representatives and appropriate agency staff to provide initial contact and ongoing communications by email and phone with messages for their constituents.

In the time leading up to a potential or imminent de-energization event or emergency, SMUD makes every effort to maintain contact with customers it believes may be impacted and keep the media, local agencies and the public aware of the number of customers affected and SMUD's activities and restoration efforts.

Key stakeholders and public safety partners, including potentially impacted federal, state, and local elected officials, City and County executive staff, tribe representatives and first responders are also contacted via a variety of channels. SMUD has specific personnel assigned to elected officials and agencies, and to critical customers including water and telecommunications utilities potentially affected by de-energized powerlines.

7.2.1 Event communications

Whenever possible, SMUD will provide potentially impacted customers with notice before implementing any de-energization action, using all available channels to reach customers and other stakeholders with outage information. Sudden onset of emergency conditions could impact SMUD's ability to provide advanced notice to customers.

SMUD sends automated pre-recorded phone calls to customers in the impacted areas/neighborhoods advising when the outage is called and directs them to smud.org/outages for up-to-date information. SMUD.org is updated with features to further enhance customer communications before and during de-energization events.

The SMUD Contact Center's Interactive Voice Response (IVR) will have real-time recorded information informing each group of customers that may be impacted before the de-energizations begin. Messages will be customized and updated as needed for each specific event.

7.2.2 Public safety partners, government agencies, tribes, and critical infrastructure providers

De-energization is a last resort to maintain public and customer safety during extreme fire risk conditions. If extreme fire danger resulted in de-energization or planned rotating outages, SMUD will provide proactive communications to alert key stakeholders and essential service providers and provide as much notice as possible to minimize the impact on our customers and community.

The following customer categories are considered essential and/or critical service providers:

- Jurisdictions providing essential fire, police and prison services
- Government agencies essential to national defense
- Hospitals, assisted living and skilled nursing facilities
- Communication utilities, as they relate to public health, welfare and security, including telephone utilities
- Radio and television broadcasting stations used for broadcasting emergency messages, instruction, and other public information related to the electric curtailment emergency
- Water and sewage treatment utilities identified as necessary for services such as firefighting

SMUD interacts regularly with executive staffs, elected officials, other government representatives and key critical infrastructure customers to keep them updated on its wildfire mitigation efforts. SMUD also works closely with staff members in various departments of regional and local governments, public utilities, nonprofits and other service providers on collaborative strategies and partnership opportunities.

Examples of SMUD's communication and engagement initiatives include:

- Regular in-person briefings with federal, state, and local elected officials and key staff on wildfire risk mitigation and other utility-related issues with comprehensive "leave-behind" materials.
- Meetings with regional and local government staff and elected officials focused on individual districts, communities and neighborhoods and mitigation opportunities.

- Regular in-person and/or digital communication with critical facilities and key customers through SMUD Strategic Account Advisors.
- Interagency projects, collaborative staff training efforts and regular communication with first responders and essential service providers.
- Cross-SMUD participation with the El Dorado County Wildfire Mitigation Stakeholder Group and at other El Dorado County government, public and community meetings.
- Ongoing communication, collaboration and support for local Fire Safe Councils and other fire prevention agencies and nonprofits.

8 Restoration of service

If a transmission or distribution line has been de-energized in anticipation of a wildfire threat, SMUD troubleshooters or patrollers must perform multiple steps prior to re-energization. In an event of a wildfire where distribution poles or transmission structures were burned, additional steps must be taken to rebuild the lines.

8.1 Steps to restoration of service

SMUD work crews must take several important steps prior to restoring electrical service after a de-energization event.

- **Patrol.** SMUD crews patrol the line to look for vegetation in lines and any obvious damage that may prevent safe energization. Depending on the length of the lines, and number of circuits, the patrols can take a several hours to days to complete.
- **Repair.** During patrol, crews look for potential damage to the lines and poles. Where equipment damage is found, additional crews are dispatched with new materials to repair or replace damaged equipment. In some cases, VM crews may be called in to help clear an area of downed trees or branches that have fallen into the power lines while it was de-energized.
- **Test.** Once the lines and poles are safe to operate, crews test the infrastructure by closing the fuse, or breaker to re-energize the line segment.
- **Restore.** Power is restored and the outage communication system provides notification of power restoration to customers.

8.2 Reconstruction after a wildfire

When infrastructure is damaged during a wildfire event, a lot of work is required to plan and execute the rebuilding effort. After local police and fire officials have given SMUD clearance, SMUD work crews can proceed with the assessment and rebuilding effort.

- **Assessment.** SMUD crews must patrol each line segment to determine the extent of damage that has occurred. The patrol involves assessing equipment damage, access issues, any cleanup/debris removal issues and determining personal protective equipment requirements for the crews. SMUD works with the local agency in charge of the fire to access impacted areas as soon as the area is deemed safe by fire officials. During this phase the VM team assesses vegetation damaged by the wildfire that could impact SMUD's facilities.
- **Planning.** After the initial assessment, SMUD supervisors, managers and engineers meet to plan the restoration. The team will work with system operations to prioritize the restoration efforts, targeting the circuits that serve the most critical infrastructure needs.
- **Mobilize.** Based on the size and complexity of the rebuild/restoration efforts, SMUD will coordinate the crews and material needs internally if possible. Mutual aid and contractors may be used on an "as needed" basis to provide additional support. VM crews will begin clearing the ROW and any dangerous trees that pose a threat to the restoration crews. SMUD maintains a critical material vendor list and has contracts it can draw on for labor and material needs; though in an instance of widespread catastrophic damage, necessary materials and labor could experience shortages that may delay work.
- **Rebuild.** The rebuild effort lead by SMUD will commence as soon as areas become safe and accessible. The lines will be rebuilt with a mix of temporary and/or permanent structures as determined during planning. The initial efforts will be to get the lines up and restore the damaged circuits. Depending on the extent of damage, demolition may be performed concurrently or after crews start installing new facilities. SMUD will incorporate new materials and technologies as indicated and available.

- **Restore.** SMUD, mutual aid, or contract crews will restore electric services to our customers as soon as possible after the wildfire. Depending on the extent of damages, customers may have to perform repairs on their facilities and pass inspections by local agencies prior to having full electric service restored. These are coordinated on an as needed basis.

9 Performance metrics and monitoring

This section identifies SMUD's management responsibilities for overseeing this WMP and includes the operating departments and teams responsible for carrying out the various activities described in the previous chapters. This section also identifies the metrics which are used to monitor and audit the effectiveness of this WMP.

9.1 Effectiveness of the WMP

In the initial WMP, SMUD staff identified metrics that met the criteria of PUC 8387. These identified metrics were general in nature. Since those initial metric criteria were identified, the wildfire planning process has continued to develop, and SMUD has received independent evaluation of its WMP. In response to the industry's maturing understanding of wildfire metrics and recommendations received, SMUD undertook a multi-step effort to identify new metrics that can better gauge the success of its many programs and mitigation activities outlined in the WMP.

The first step in this multi-step effort was to assess, identify and establish useful metrics that best measure the activities related to minimizing the probability that SMUD's transmission and distribution system may be the origin or contributing source for the ignition of a wildfire. Metrics identified in this section are measures of quantitative assessment that will be used for assessing, comparing, and tracking performance of the programs and efforts identified in this WMP. This step was completed and reflected in the metrics identified in this WMP.

The second step is to define the benchmarks associated with the metrics. The purpose of these benchmarks is to establish criteria to measure performance of the various activities. Some activities can be measured with specific units of work that are forecasted at the beginning of a year, such as quantities of inspected units etc. Progress towards these forecasted units would indicate on- or off-track completion cadence, which can be adjusted as needed during the year. Other metrics are identified to count uncontrollable units that indicate performance of the grid, such as outage event counts or number of corrective action findings. Development of these benchmarks will require several years of data to determine trendlines and averages. Data collection for the new metrics began in 2021. Following existing practices, SMUD anticipates five years of data will be required to establish the benchmarks, with a target period in 2026.

The third and final step is to determine or define the percentage reduction targets against the benchmarks. Percent reductions against benchmarks would need to be realistic, and not easily achievable. SMUD anticipates the initial benchmarks would require fine adjustments periodically to ensure continued effort towards risk reduction activities. These benchmarks and adjustments will be reflected in SMUD's annual WMP updates.

9.1.1 Metrics and assumptions for measuring WMP performance

SMUD will track the following metrics to measure the performance of this WMP, and its effectiveness in reducing catastrophic wildfire. These new set of metrics are more granular and targeted towards specific maintenance activities that can more closely be tied to performance of the WMP.

Work is identified in annual work plans authorized on an executive level, and work that remains incomplete will be flagged in future work plans. Work may be field-verified and open work notifications are regularly reviewed to allow management to prioritize work in accordance with current risks. SMUD's target is always to complete 100 percent of the work within the initially scheduled time frame. However, emergencies or other unforeseen contingencies can occur that require material and labor resources to be otherwise assigned. In this instance delayed work will be prioritized in following time periods. All work is completed within time periods to allow for the safe and reliable operation of the electric system in accordance with applicable requirements and industry standards.

The Inspection Program Performance metrics shown in Table 8 are based on inspection activities for targeted areas. These are key performance indicators (KPI) based metrics, with specific targets for completion within a year.

Table 8 Inspection Program Performance

Inspection Program Performance (KPI)	Target
Number of poles inspected from DLI, Distribution, PCA	≥95%
Number of structures inspected from Patrol, Transmission, PCA	≥95%
Number of structures inspected from Patrol, Transmission, HFTD Tier 3	≥95%
Percentage of circuit miles inspected for vegetation compliance, Distribution, HFTD Tier 2	≥95%
Percentage of circuit miles inspected for vegetation compliance, Transmission, PCA	≥95%
Percentage of circuit miles inspected for vegetation compliance, Transmission, HFTD Tier 3	≥95%
Number of aerial Flight Patrols, Visual, UARP	2
Number of aerial Flight Patrols, Infrared, UARP	1
Number of aerial Flight Patrols, 12kV, Infrared, PCA	1
VM Quality Control for Transmission, UARP	≥95%
Number of trees trimmed or removed, normal activities, UARP	≥95%

9.1.2 Outcome Metrics

Two sets of outcome metrics were identified that measure performance of the grid. These metrics replace the more general “ignition events” identified in previous WMPs, which couldn’t directly be tied to risk categories. The outcome metrics shown in Table 9 are consistent with GO95 Rule 18¹¹ repair priority levels.

Table 9 Grid Condition Findings

Grid Condition Findings (Non KPI)
Number of GO95 Rule 18 Level 1 findings, Distribution, PCA
Number of GO95 Rule 18 Level 1 findings, Distribution, HFTD Tier 2
Number of GO95 Rule 18 Level 1 findings, Distribution, HFTD Tier 3
Number of GO95 Rule 18 Level 1 findings, Transmission, PCA
Number of GO95 Rule 18 Level 1 findings, Transmission, HFTD Tier 2
Number of GO95 Rule 18 Level 1 findings, Transmission, HFTD Tier 3
Number of GO95 Rule 18 Level 2 findings, Distribution, PCA
Number of GO95 Rule 18 Level 2 findings, Distribution, HFTD Tier 2
Number of GO95 Rule 18 Level 2 findings, Distribution, HFTD Tier 3
Number of GO95 Rule 18 Level 2 findings, Transmission, PCA
Number of GO95 Rule 18 Level 2 findings, Transmission, HFTD Tier 2
Number of GO95 Rule 18 Level 2 findings, Transmission, HFTD Tier 3
Number of GO95 Rule 18 Level 3 findings, Distribution, PCA
Number of GO95 Rule 18 Level 3 findings, Distribution, HFTD Tier 2
Number of GO95 Rule 18 Level 3 findings, Distribution, HFTD Tier 3
Number of GO95 Rule 18 Level 3 findings, Transmission, PCA
Number of GO95 Rule 18 Level 3 findings, Transmission, HFTD Tier 2
Number of GO95 Rule 18 Level 3 findings, Transmission, HFTD Tier 3

The second set of outcome metrics are a measure of the ignition drivers during fire season, shown in Table 10.

Table 10 Drivers of Ignitions

Drivers of Ignitions, fire season only (Non KPI)
Number of wire downs, inside PCA
Number of Overhead Outage Events caused by animals, inside PCA
Number of Overhead Outage Events caused by foreign material, inside PCA
Number of Overhead Outage Events caused by Vegetation - Tree Preventable, inside PCA
Number of Overhead Outage Events caused by Vegetation - Tree Non-Preventable, inside PCA

¹¹ <https://ia.cpuc.ca.gov/gos/Resmajor/DesNo09-08-029/GO95/DesNo09-08-029-Rule%2018.htm>.

9.1.3 Enhancement Projects

Once a project or program is approved, it is planned for execution based on the upcoming year’s work schedule. The targets listed here for the approved projects are monitored via milestone achievements.

Table 11 System enhancement capital project performance

Project (KPI)	Target
Number of poles completed, PCA, Hardware Replacement	>=95%
Circuit feet completed, PCA, #6CU Reconductor	>=95%
Units of trees pruned or removed, Wildfire Mitigation Vegetation Management work, UARP	>=95%
Number of SCADA reclosers installed, PCA	>=95%

9.1.4 Community Outreach Measures

SMUD reaches out to customers, local communities, and government agencies for multiple programs. Metrics were developed specific to wildfire mitigation efforts and communication. The various type of community outreach measures is shown in Table 12.

Table 12 Community Outreach Programs

Community Outreach Programs (non KPI)
Number of contacts with Federal, State and Local Govt offices, specific to wildfire or de-energization related contacts
Number of mailers sent to customers related to Wildfire Mitigation Activities, Email, MED rate
Number of mailers sent to customers related to Wildfire Mitigation Activities, Email, Senior ID
Number of mailers sent to customers related to Wildfire Mitigation Activities, Direct Mail, MED rate
Number of mailers sent to customers related to Wildfire Mitigation Activities, Direct Mail, Customer Connection

9.2 Monitoring and auditing of the WMP

The WMP will be reviewed annually. This annual review will align with SMUD’s existing business planning process. This review will include an assessment of the WMP programs and performance. SMUD’s business planning process includes budgeting and strategic planning for a 3-5-year planning horizon.

9.2.1 Identify deficiencies in the WMP

At any point in time when deficiencies are identified, the COO or their delegates are responsible for correcting the deficiencies.

9.2.2 Written processes and procedures

The operational areas conduct their work according to written processes and procedures. Processes and procedures are developed with contributions by specific teams and updated when a need arises. Having written processes and procedures provides for consistency in the execution of programs and activities while enabling employee safety.

9.2.3 Monitor and audit the effectiveness of inspections

SMUD has existing quality control processes embedded into its existing general practice. However, for certain programs, there is a formal quality control process. The following depicts a few of these programs.

9.2.3.1 Distribution system inspections

SMUD's maintenance planning group manages T&D line and substation assets. A key component in managing assets is the development of comprehensive inspection and maintenance programs. The maintenance planning group develops inspection and maintenance programs driven by the need to ensure the safe operation of T&D line and substation facilities, reduce risk of power-related wildfire, meet federal and state regulatory requirements, achieve reliability performance within mandated limits and optimize capital and operations & maintenance (O&M) investments. In addition, this group regularly monitors inspection and corrective maintenance records, as well as diagnostic test results to adjust maintenance plans and develop new programs. SMUD uses best industry practices in developing its maintenance plans.

SMUD's inspection and maintenance programs focus on the following objectives:

- Ensure employee and public safety
- Minimize risk of wildfire posed by power lines and equipment
- Maintain regulatory and SMUD policy compliance
- Improve the availability and reliability of the system
- Employ industry best practices
- Extend the useful life of equipment
- Minimize the total cost of equipment ownership

The maintenance planning group develops and issues annual inspection work plans during the last quarter of the current year for the following year, which are maintained in SMUD's Enterprise Asset Management (EAM) system.

SMUD's Grid Assets Department is responsible for performing the inspections and corrective maintenance. When deficiencies in SMUD facilities are identified, corrective maintenance notifications are created in SAP. The priority for corrective maintenance is to remove safety hazards immediately and repair deficiencies according to the type of deficiency, severity and HFTD tiers. Inspection notifications are monitored throughout the year to ensure timely completion via regular internal reports using SAP data. Enterprise applications are used to deploy, visualize, and validate work based on business rules. These applications provide the visibility and monitoring of work required to make informed decisions and to achieve compliance with our inspection and maintenance programs.

9.2.3.2 Vegetation management (VM)

SMUD's vegetation pruning/removal activities are performed by contractors. The contractors are quality audited by SMUD (VM) personnel. Distribution system related work and contractors are field audited and approximately 7% of the tree work (pruning and removal) is reviewed. This quality assurance (QA) effort is tracked to monitor program effectiveness and overall tree work performance. For transmission, SMUD VM staff perform a quality control (QC) audit of 100% of the transmission system related maintenance work performed by the contractor. For both T&D QC efforts all deficiencies are reissued to the contractor management team and corrective action is required.

9.2.4 Internal audit

SMUD's internal audit department, known as Audit and Quality Services (AQS) provides independent, objective assurance and consulting services to the Board of Directors and management designed to add value and improve SMUD's operations. The AQS mission is to enhance and protect organizational value by providing risk-based and objective assurance advice and insight.

The work of AQS provides reasonable assurance regarding the achievement of objectives in the following areas:

- Adherence to plans, policies and procedures

- Compliance with applicable laws and regulations
- Effectiveness and application of administrative and financial controls
- Effectiveness and efficiency of operations
- Reliability of data
- Safeguarding assets
- Accuracy of the SD monitoring reports

As part of AQS' process to develop its annual audit plan, AQS considers all enterprise risks and performs audits over a selection of processes across electric T&D as well as substation assets on a periodic basis.

10 Appendix

This section contains supporting information to the document.

10.1 Definitions

Distribution System Operations (DSO): SMUD's DSO personnel is responsible for directing the safe and reliable operation of SMUD's distribution system while operating within current policies and procedures during normal and emergency situations. Distribution system operators prepare, check, and administer the execution of safe and reliable switching procedures. DSO will monitor and maintain equipment loading levels to prevent damage to equipment. This group is also responsible for updating outage information timely and accurately so that information can be provided to internal and external customers.

*Fire Hazard*¹²: "Hazard" is based on the physical conditions that give a likelihood that an area will burn over a 30 to 50-year period without considering modifications such as fuel reduction efforts.

*Fire Risk*¹: "Risk" is the potential damage a fire can do to the area under existing conditions, including any modifications such as defensible space, irrigation and sprinklers and ignition resistant building construction which can reduce fire risk. Risk considers the susceptibility of what is being protected.

Hardening: Modifications to electric infrastructure to reduce the likelihood of ignition and improve the survivability of electrical assets.

*High Fire Threat District (HFTD)*¹³: The HFTD identifies areas of elevated and extreme fire risk related to electric utility facilities. These areas are reflected in a map adopted by the CPUC after an extensive public process. It is a composite of two maps:

1. Tier 1 High Hazard Zones (HHZs) on the U.S. Forest Service - CAL FIRE joint map of Tree Mortality HHZs ("Tree Mortality HHZ Map"). Tier 1 HHZs are zones in direct proximity to communities, roads, and utility lines and are a direct threat to public safety.
2. Tier 2 and Tier 3 fire-threat areas on the CPUC Fire-Threat Map. Tier 2 fire-threat areas depict areas where there is an elevated risk (including likelihood and potential impacts on people and property) from utility associated wildfires. Tier 3 fire-threat areas depict areas where there is an extreme risk (including likelihood and potential impacts on people and property) from utility associated wildfires.

Pole Clearing Area (PCA): SMUD defined area where poles with non-exempt equipment have annual vegetation clearing and/or pruning within a 10-foot radius in compliance with PRC 4292 prior to the start of fire season, currently May 1 of each year. The custom defined PCA boundary includes SRA boundary and adjacent areas with similar vegetation, and portions of a Local Responsibility Area (LRA) in the southern part of Sacramento County. This boundary area exceeds the current SRA boundary due to similar vegetation and risk of ignition. Overhead electrical facilities crossing into and within the boundary of the PCA fall under special operating conditions and fall under enhanced maintenance programs.

Power System Operations (PSO): SMUD's PSO personnel analyze, direct, monitor, control and/or operate SMUD's gas pipelines and electric generation and transmission systems and associated facilities in a safe, reliable, and efficient manner during routine and emergency situations. This position has the responsibility and authority to support and implement real-time actions.

*Red Flag Warning (RFW)*¹⁴: A term used by fire-weather forecasters to call attention to limited weather conditions of particular importance that may result in extreme burning conditions. It is issued when it is an on-

¹² Source: http://www.fire.ca.gov/fire_protection/downloads/siege/2007/Overview_Glossary.pdf

¹³ Source: <http://www.cpuc.ca.gov/FireThreatMaps/>

¹⁴ Source: <https://w1.weather.gov/glossary/index.php?word=red+flag+warning>

going event, or the fire weather forecaster has a high degree of confidence that Red Flag criteria will occur within 24 hours of issuance. Red Flag criteria occurs whenever a geographical area has been in a dry spell for a week or two, or for a shorter period, if before spring green-up or after fall color, and the National Fire Danger Rating System (NFDRS) is high to extreme and the following forecast weather parameters are forecasted to be met:

- A sustained wind average 15 mph or greater
- Relative humidity less than or equal to 25 percent; and
- A temperature of greater than 75 degrees F

In some states, dry lightning and unstable air are criteria. A Fire Weather Watch may be issued prior to the RFW.

*State Responsibility Area (SRA)*¹: “The California Board of Forestry and Fire Protection classify areas in which the primary financial responsibility for preventing and suppressing fires is that of the state. California Department of Forestry (CDF) has SRA responsibility for the protection of over 31 million acres of California’s privately-owned wildlands.”

Transmission and Distribution (T&D): At SMUD, for line maintenance purposes, the transmission system includes 230 kV, 115 kV, and dedicated 12 kV, 21 kV and 69 kV lines tying generation facilities to bulk or transmission substations. The distribution system includes 69 kV, 21 kV, 12 kV, and 4 kV lines serving distribution substations and customers.

*Wildfire*¹⁵: An unplanned, unwanted fire in an area in which development is essentially non-existent, except for roads, railroads, powerlines, and similar transportation facilities and structures, if any, are widely scattered (“wildland”), including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to put the fire out.

10.2 References

- CPUC Fire Threat Map, https://www.cafirefoundation.org/cms/assets/uploads/2020/05/CPUC_Fire-Threat_Map_final.pdf
- Public Utilities Code, Chapter 6. Wildfire Mitigation [8387], http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=8387&lawCode=PUC
- County Maps of Fire Hazard Severity Zones in SRA, <https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/>
- General Order 95¹⁶ contains rules for the design, construction, maintenance, inspection, repair, and replacement of overhead utility lines. <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M209/K464/209464026.pdf>
- General Order 165¹⁶, Inspection Requirements for Electric Distribution and Transmission Facilities. <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M209/K552/209552704.pdf>
- General Order 166¹⁶, Standards for Operation, Reliability and Safety During Emergencies and Disasters <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M209/K451/209451792.pdf>
- General Order 174¹⁶, Rules for Electric Utility Substations <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M031/K879/31879476.PDF>
- Power Line Fire Prevention Field Guide <https://osfm.fire.ca.gov/divisions/wildfire-planning-engineering/wildfire-prevention-engineering/prevention-field-guides/>

¹⁵ Source: <https://www.nwcf.gov/term/glossary/wildfire>

¹⁶ SMUD is not subject to CPUC jurisdiction, but has developed design standards, and maintenance programs that meet or exceed the standards in GO 95, GO 128, GO 165, GO 166, and GO 174.

10.3 Acronym glossary

AAM (After-Action Meeting)

AAR (After-Action Report)

AB (Assembly Bill)

AEU (Amador-El Dorado Unit)

AI (Artificial Intelligence)

ANSI (American National Standards Institute)

AQS (Audit and Quality Services)

CAISO (California Independent System Operator)

CAL FIRE (California Department of Forestry and Fire Protection)

CalOES (California Governor's Office of Emergency Services)

CDF (California Department of Forestry)

COO (Chief Operating Officer)

CPUC (California Public Utilities Commission)

CUEA (California Utilities Emergency Association)

DLI (Detailed Line Inspections)

DSO (Distribution System Operations)

EAM (Enterprise Asset Management)

EOC (Emergency Operations Center)

EOP (Emergency Operations Plan)

EP (Emergency Preparedness)

ERM (Enterprise Risk Management)

EROC (Enterprise Risk Oversight Committee)

FAC (Facilities Design, Connections and Maintenance)

FHSZ (Fire Hazard Severity Zone)

FRAP (Fire Resource and Assessment Program)

GHG (Greenhouse gas)

GIS (Geographic Information System)

GO (General Order)

HFTD (High Fire Threat Districts)

HHZ (High Hazard Zone)

HSEEP (Homeland Security Exercise and Evaluation Program)

ID (Identification)

IOU (Investor-owned Utility)

IP (Improvement Plan)

IR (Infrared)

IVM (Integrated Vegetation Management)

IVR (Interactive Voice Response)

kV (Kilovolt)

kWH (Kilowatt Hours)

LIDAR (Light Detection and Ranging)

LRA (Local Responsible Area)

MED (Medical Equipment Discount)

MVCD (minimum vegetation clearance distance)

MW (Mega Watts)

NASA (National Aeronautics and Space Administration)

NFDRS (National Fire Danger Rating System)

O&M (Operations & Maintenance)

OES (Office of Emergency Services')

PCA (Pole Clearing Area)

PG&E (Pacific Gas & Electric)

PRC (Public Resources Code)

PSO (Power System Operations)

PSPS (Public Safety Power Shutoff)

PUC (Public Utilities Code)

QA (Quality Assurance)

QC (Quality Control)

QIE (Qualified Independent Evaluator)

RFW (Red Flag Warning)

ROW (rights-of-way)

SAP (Systems Applications and Products)

SB (Senate Bill)

SD (Strategic Direction)

SEMS (Standardized Emergency Management System)

SME (Subject Matter Expert)

SOC (State Operations Center)

SRA (State Responsibility Area)

T&D (Transmission and Distribution)

TTX (Tabletop Exercise)

UARP (Upper American River Project)

VM (Vegetation Management)

WAPA (Western Area Power Administration)

WMP (Wildfire Mitigation Plan)

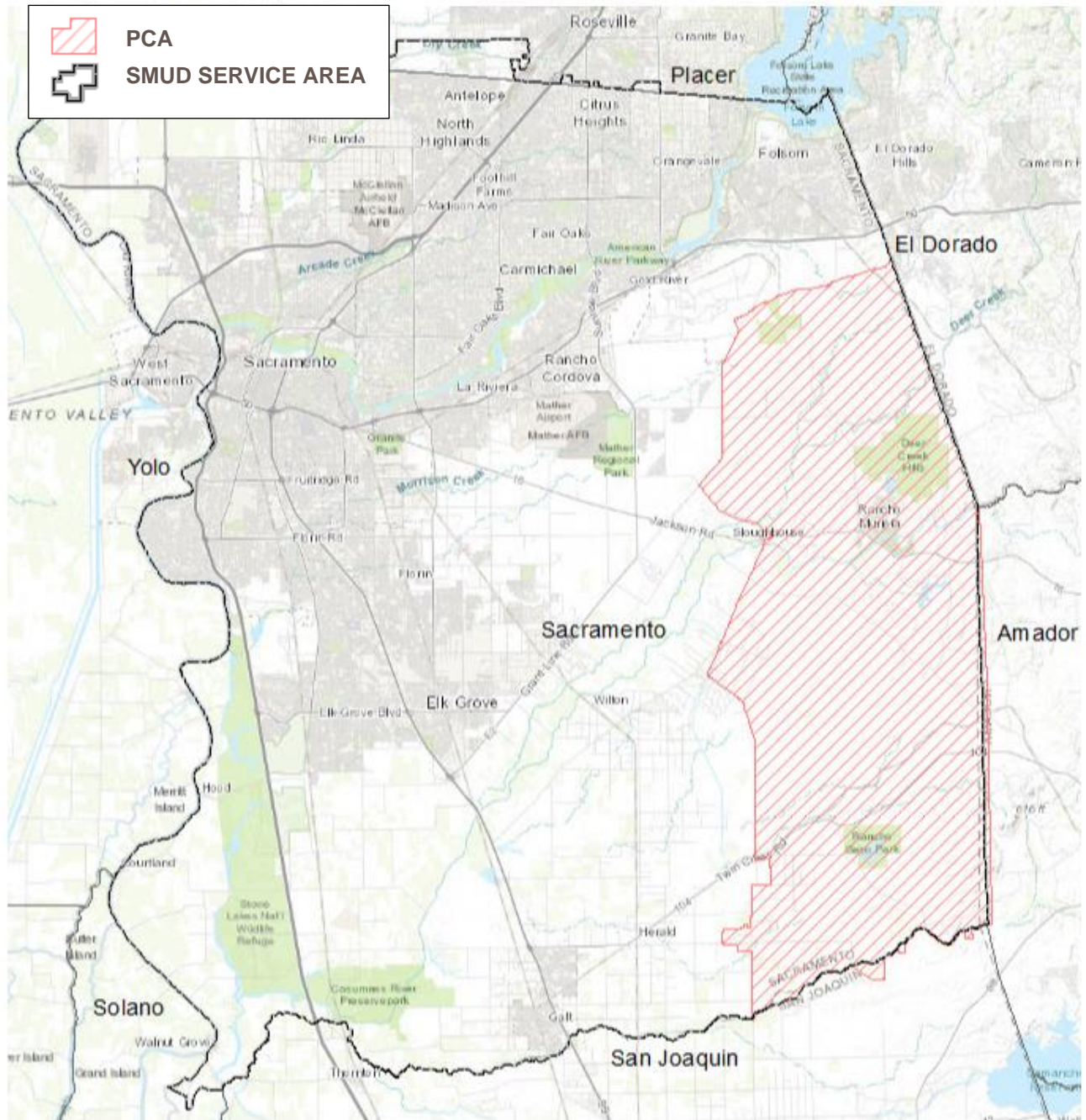
WSAB (Wildfire Safety Advisory Board)

WUI (Wildland-Urban Interface)

10.4 Reference for SMUD plans

10.4.1 SMUD's Pole Clearing Area Map

Figure 7 SMUD's Pole Clearing Area with respect to SMUD's service area boundary



RESOLUTION NO. 23-06-06

WHEREAS, the Chief Executive Officer and General Manager filed with this Board the **Chief Executive Officer and General Manager's Report and Recommendation on Rates and Services – Volumes 1 and 2 (CEO & GM Report)** dated June 15, 2023; and

WHEREAS, section 14403 of the Public Utilities Code requires that within ninety (90) days after the **CEO & GM Report** is filed, this Board shall hold a public hearing on said **CEO & GM Report**; **NOW, THEREFORE,**

BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:

A public hearing date of August 30, 2023, is hereby scheduled to consider the **Chief Executive Officer and General Manager's Report and Recommendation on Rates and Services – Volumes 1 and 2 (CEO & GM Report)** dated June 15, 2023.

Approved: June 15, 2023

INTRODUCED: DIRECTOR FISHMAN				
SECONDED: DIRECTOR TAMAYO				
DIRECTOR	AYE	NO	ABSTAIN	ABSENT
SANBORN	X			
ROSE	X			
BUI-THOMPSON	X			
FISHMAN	X			
HERBER			X	
KERTH	X			
TAMAYO	X			

RESOLUTION NO. 23-06-07

WHEREAS, by Resolution No. 19-01-03, adopted on January 17, 2019, this Board authorized the Chief Executive Officer and General Manager to award Contract No. 4600001232 to **Pennsylvania Transformer Technology, Inc. (Pennsylvania Contract)** and Contract No. 4600001231 to **Siemens Industry, Inc. c/o Geo E Honn Company Inc. (Siemens Contract)** for provision of distribution substation transformers for a four-year term from approximately January 23, 2019, to January 16, 2023, for a total aggregate contract not-to-exceed amount of \$32,400,000; and

WHEREAS, Contract Change 1 to the **Siemens Contract** modified the General Conditions by adding Section 5.23 to clarify ownership of programs, designs, and drawings; and

WHEREAS, Contract Change 2 to the **Siemens Contract** was a novation from **Siemens Industry, Inc.** to **Siemens Energy, Inc.** wherein the **Siemens Contract** was closed and replaced by Contract No. 4600001382 with **Siemens Energy, Inc. (Updated Siemens Contract)**; and

WHEREAS, Contract Change 1 to the **Updated Siemens Contract** exercised the optional one-year extension to change the expiration date from January 16, 2023, to January 16, 2024; and

WHEREAS, Contract Change 1 to the **Pennsylvania Contract** exercised the optional one-year extension to change the expiration date from January 16, 2023, to January 16, 2024; and

WHEREAS, staff has initiated a solicitation process for successor contracts and anticipates new contracts to be in place by the end of 2023, but due to the current lead times for distribution substation transformers, orders must be placed now to ensure on-time delivery for anticipated construction; and

WHEREAS, increasing the aggregate contract not-to-exceed amount for distribution substation transformers will ensure continuity of necessary work as the new contracts are put in place; **NOW, THEREFORE**,

**BE IT RESOLVED BY THE BOARD OF DIRECTORS
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

Section 1. That this Board hereby authorizes the Chief Executive Officer and General Manager, or his designee, to increase the aggregate contract not-to-exceed amount for distribution substation transformers by \$6 million, from \$32.4 million to \$38.4 million for Contract No. 4600001232 with **Pennsylvania Transformer Technology, Inc.** and Contract No. 4600001382 with **Siemens Energy, Inc.**

Section 2. The Chief Executive Officer and General Manager, or his designee, is authorized to make future changes to the terms and conditions of the contracts that, in his prudent judgment: (a) further the primary purpose of the contracts; (b) are intended to provide a net benefit to SMUD; and (c) do not exceed the authorized contract amounts and applicable contingencies.

Approved: June 15, 2023

INTRODUCED: DIRECTOR FISHMAN				
SECONDED: DIRECTOR TAMAYO				
DIRECTOR	AYE	NO	ABSTAIN	ABSENT
SANBORN	X			
ROSE	X			
BUI-THOMPSON	X			
FISHMAN	X			
HERBER			X	
KERTH	X			
TAMAYO	X			

President Sanborn then turned to Discussion Calendar Item 11, to approve an increase to reimbursable technology expenses for local agency executives.

Laurie Rodriguez, Director of People Services & Strategies gave a presentation on Item 11. A copy of the slides used in her presentation is attached to these minutes.

No public comment was forthcoming on Discussion Calendar Item 11.

There being no discussion, Director Kerth moved for approval of Discussion Calendar Item 11, Director Fishman seconded, and Resolution No. 23-06-08 was unanimously approved.

RESOLUTION NO. 23-06-08

WHEREAS, employees who are permitted to use personal devices to conduct SMUD business can receive technology allowances and reimbursements of expenses incurred related to the use of their personal devices instead of SMUD-issued equipment; and

WHEREAS, SMUD's current policy allows reimbursement of technology-related expenditures with proof-of-purchase for eligible employees including local agency executives for, among other things, purchase of a cell phone device in the amount of \$300 every 36 months or \$200 every 24 months; and

WHEREAS, staff recommends an update to these limits for eligible employees including local agency executives to allow for \$400 reimbursement every 24 months for the purchase of a cell phone; and

WHEREAS, staff further recommends the addition of cell phones to eligible devices for which eligible employees including local agency executives may seek reimbursement up to \$1,000 every 24 months; and

WHEREAS, eligible employees including local agency executives may only seek reimbursement up to \$1,000 every 24 months for reimbursement of a cell phone purchase; **NOW, THEREFORE**,

**BE IT RESOLVED BY THE BOARD OF DIRECTORS
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

Section 1. This Board approves an increase to reimbursable technology expenses for eligible employees including local agency executives to \$400 every 24 months for cell phone reimbursement.

Section 2. This Board further approves the addition of cell phones to eligible devices for which local agency executives may alternatively

seek reimbursement in the amount of \$1,000 every 24 months instead of \$400 every 24 months.

Approved: June 15, 2023

INTRODUCED: DIRECTOR KERTH				
SECONDED: DIRECTOR FISHMAN				
DIRECTOR	AYE	NO	ABSTAIN	ABSENT
SANBORN	X			
ROSE	X			
BUI-THOMPSON	X			
FISHMAN	X			
HERBER	X			
KERTH	X			
TAMAYO	X			

President Sanborn then called for statements from the public regarding items not on the agenda, but no public comment was forthcoming.

President Sanborn then turned to Directors' Reports.

Director Rose reported on his attendance at the Fair Oaks Chamber's Taste of Fair Oaks event and the Twin Rivers District School Bus Yard Ribbon Cutting. He then reported on his participation in the Sacramento Local Agency Formation Commission (LAFCo) Special District Advisory Committee meeting, a CleanStart Meetup, and the Pride Parade. He then reported on his attendance at the 36th Electric Vehicle Symposium & Exposition (EVS36). He ended his report by reporting on his attendance at the Citrus Height Chamber of Commerce's Best of Citrus Heights Awards where SMUD won the Best Utility category.

Director Bui-Thompson reported that she had been traveling last month and wanted to take a moment to acknowledge the hard work that had gone into the Solar Regatta. She then reported on her attendance at the Women Who Mean Business Alumni Reception and stated she wanted to acknowledge that Chief Zero Carbon Officer Lora Anguay would be receiving the award this year. She reported on her speaking engagement for Government Day at Leadership Sacramento's incoming class. She then reported on her presentation with Sierra Donor Services for SMUD's employee resource group Groups Reaching Across International Networks (GRAIN) where she was able to share her and her husband's story on organ donation. She stated that the Asian American and Pacific Islander (AAPI) is the least represented in the donor community, and she hoped more people would sign up for Donate Life California.

Director Fishman reported on Director Kerth's invitation to him to speak to the Del Paso Boulevard Property Business Owners Improvement District about SMUD's program on energy efficiency for businesses. He also reported on his attendance at the Twin Rivers District School Bus Yard Ribbon Cutting as well as EVS36. He ended by reporting on his attendance at the High Speed Electric Charging Hub Grand Opening & Ribbon Cutting at Sacramento Regional Transit's (SacRT's) Power Inn light rail station.

Vice President Herber reported on her speaking engagement at the SMUD/Northern California Construction Training (NCCT) Electrician Training Pre-Apprenticeship class as well as her attendance at the High Speed Electric Charging Hub Grand Opening & Ribbon Cutting. She reported on her visit to Sacramento Manor, a senior housing unit where SMUD had completed a project to change gas appliances to electric as well as her attendance at the Black Chamber of Commerce's Young Leaders graduation event. She ended by reporting on the successful Go Green Happy Hour hosted by the Curtis Park Neighborhood Association and Curtis Park Electric Stars.

Director Kerth reported on his attendance at the Twin Rivers District School Bus Yard Ribbon Cutting and noted he was a graduate of Grant District, which had become Twin Rivers District. He then reported on his attendance at the High Speed Electric Charging Hub Grand Opening & Ribbon Cutting. He ended by thanking Director Fishman for speaking to the Del Paso Boulevard Property Business Owners Improvement District, of which he is a Board member.

Director Tamayo reported on his attendance at the Colonial Manor Tree Mulching event, as well as the honor of giving SMUD recognition at the 2023 Filipino Fiesta. He stated he also had the great honor of announcing the winner of the My Sister's House Law Enforcement Officer of the Year, Lt. Lai Lai Bui of the Sacramento Police Department. He reported on his attendance at the Oak Park Farmer's Market that had re-opened after being closed for several years due to COVID and noted that there was also an electric vehicle test-drive event there where he was able to drive the electric F150. He reported on his attendance at EVS36 where he had the opportunity to speak to representatives from TEPCO, the Tokyo electric utility. He finished his report by thanking President Sanborn for her hard work in bringing the public and private agencies together with respect to the High Speed Electric Charging Hub.

President Sanborn reported on her speaking engagement at the Sacramento Splash Youth Environmental Leadership Camp and her participation in the Spring Gala and Art Auction fundraising event for the Effie Yeaw Nature Center. She reported that she had spoken at SMUD's first Regional

Development Work Summit. She then reported on her attendance at the SMUD Giving Monday eWaste Recycling Event as well as the Sacramento Manor Ribbon Cutting. She finished by reporting on her attendance at the High Speed Electric Charging Hub Grand Opening & Ribbon Cutting and thanked Treasurer Fiona Ma for contacting her about a company that wanted to do business that ultimately started the wheels turning. She stated her belief that Sacramento would soon become the electric vehicle (EV) mobility hub.

Paul Lau, Chief Executive Officer and General Manager, continued to the CEO Report and reported on the following items:

2) PRIDE Month. I would like to start tonight's report by recognizing June as PRIDE Month. As a couple of Board members have mentioned, SMUD has been active this month in PRIDE Month celebrations at this year's parade and other events. I am proud to lead this organization that values inclusivity and embraces diversity. As we celebrate PRIDE Month, I want to thank our PRIDE@SMUD Employee Resource Group and their Allies. They are doing great work to foster inclusion, equality and equity for our LGBTIQ+ employees, which is so important to all of us. I recognize there is much more work to do to create communities that are truly inclusive and equitable. Celebrating PRIDE Month allows us to promote acceptance, equality and awareness of the issues the LGBTIQ+ community faces every single day.

3) Juneteenth. Juneteenth is also coming up next Monday. It commemorates the freedom finally granted to more than 250,000 enslaved black people in Texas in 1865. The need to share the rich and often painful history of people of color in this country is critical. By honoring this history with occasions like Juneteenth, we remember the millions who were enslaved. And we remind ourselves that when any member of our community suffers, we all suffer. A shout out to our SMUD Board

members, leaders and staff who are representing SMUD at Juneteenth events in our community this week and throughout the weekend.

- 4) **Electrification Projects.** Thank you to our Board of Directors who were able to join us in celebrating two exciting electrification projects in our region – Sacramento Manor’s all-electric, multi-family retrofit project and the Power Inn Light Rail Station’s all-new High-Speed Charging Hub. Both projects are leading the way in California – one is showing how public/private partnership can really bring electrification and improve the lives of 270 senior families in our region. And, I think one of the things we are especially proud of is that as part of this project, we are able to keep two-thirds of those homes as low income. One of the greatest fears that we have when we do projects like this is the people that we want to benefit are actually priced out of the market, so our partnership with the Sacramento Housing and Redevelopment Agency was absolutely instrumental in how we worked together on this. Thank you to President Sanborn and Vice President Herber who were both there to talk to residents and to help explain how the heating system was converted to a centralized system to enable the removal of all the gas piping. And, of course, I think you heard how exciting it was for our Power Inn Charging Hub, which took two years and might seem like a long time for many people, but for public/private agencies, this is breakneck speed.
- 5) **Revenue and Refunding Bonds.** I am also excited to share some great financial news. SMUD had a very successful offering of revenue and refunding bonds earlier this month. So far, this resulted in selling \$361 million of bonds to investors. We expect the last series to be offered soon, which will increase the total amount of bonds SMUD will have sold to \$493 million.

These results include selling \$200 million of our first-ever Climate Certified Green Bonds, which had \$786 million in orders. This tells you what a huge demand there is in the market for the Green Bonds that we are selling. These transactions will result in \$92 million of cash flow savings over the next 18 years, which we will be able to use to help keep our rates affordable.

6) 36th Electric Vehicle Symposium & Exposition (EVS36).

SMUD was proud to be one of the lead sponsors of the EVS36 this week, bringing thousands of climate leaders from all over the world to Sacramento. We had 2,400 in attendance, and I am told that 60% were from other countries and 20% from out of state. SMUD Board President Heidi Sanborn, Chief Operating Officer Frankie McDermott, and I were all honored to speak. Some of the recent hosts of this conference included Japan, Oslo and Brussels, which demonstrates the magnitude of this conference. It was so important to see Sacramento alongside those world-class cities at the forefront of the clean energy transition.

7) Awards. In the awards space, some great kudos to share: I was pleasantly surprised to hear from Director Rose that SMUD had won the Best Utility award from the Citrus Heights Chamber of Commerce. As Director Bui-Thompson mentioned, congratulations to Lora Anguay who will receive the *Sacramento Business Journal's* Women Who Mean Business award for her groundbreaking work as our Chief Carbon Zero Officer. Congrats to Lora! I was also recently recognized by the Clean Energy States Alliance with their Clean Energy Champion award! This is testimony to the great work the Board and staff do day-in and day-out. I think the nice thing about getting

recognition like this is that we are getting attention nationally and internationally that our work is being recognized.

- 8) **Board Video.** Tonight's video is about the great work we are doing through our Community Impact Plan and the importance of bringing clean energy and electrification solutions to our customers where they are at. Thank you to our Board Members who have already participated in some of our community walks, and there is much more to come.

There were no items for the Summary of Board Direction.

President Sanborn stated that SMUD has lost an employee, and she took a moment to honor him. She stated that Don Nguyen was a Senior Enterprise Architect in the Information Technology (IT) Department who joined SMUD in 2005 and had passed away suddenly the day before. She extended the Board's condolences to his family and thanked him for his service.

Vice President Herber stated she also wanted to take a moment to acknowledge and pay tribute to Buzz Haughton and Sam Catalano, who had been married for 40 years prior to Buzz's passing on April 20, 2023. She stated that Buzz and Sam were very active in the LGBTQ community and were known as part of the foundation and rock for helping non-profits get off the ground, helping LGBTQ candidates get elected, providing scholarships to LGBTQ students, as well as a myriad of other contributions. She stated that Buzz would be missed and that Sam would be held close for the years to come.

No further business appearing, President Sanborn adjourned the meeting in memory of Don Nguyen and Buzz Haughton at 7:09 p.m.

Approved:

President

Secretary

Exhibit to Agenda Item #11

Approve increase to reimbursable technology expenses for local agency executives.

Board of Directors Meeting

Thursday, June 15, 2023, scheduled to begin at 6:00 p.m.

SMUD Headquarters Building, Auditorium

Why Approval for Local Agency Executives

- California Government Code section 3511.1(d) defines a “local agency executive” in pertinent part as either of the following:
 - 1) The chief executive officer, a deputy chief executive officer, or an assistant chief executive officer of the local agency.
 - 2) The head of a department of a local agency.
- Fringe benefits provided solely to local agency executives are to be approved by the Board (not on consent calendar) pursuant to Gov. C. § 54953(c).

Proposed Change

Current policy allows Senior Leadership up to \$1,000 reimbursement every 24 months for tablet or laptop purchase.

Proposed changes effective July 1, 2023 include:

- Expanding the \$1,000 of reimbursement for Senior Leadership for tablets and laptops to include cell phones.
- Senior Leadership cannot avail themselves of reimbursement for cell phone purchase under the Professional Administrative Supervisory/Management benefit of \$400 every 24 months if they have been reimbursed for a cell phone under the Senior Leadership benefit.

Action Request

Approve changes in the Technology Allowance Policy related to local agency executives.

SSS No. SCS 23-148

BOARD AGENDA ITEM

STAFFING SUMMARY SHEET

Committee Meeting & Date N/A
Board Meeting Date July 20, 2023

TO	TO
1. Robert Adams	6.
2. Casey Fallon	7.
3. Eric Poff	8.
4. Frankie McDermott	9. Legal
5. Jennifer Davidson	10. CEO & General Manager

Consent Calendar		Yes	X	No <i>If no, schedule a dry run presentation.</i>	Budgeted	X	Yes	No <i>(If no, explain in Cost/Budgeted section.)</i>
FROM (IPR) Jesse Mays				DEPARTMENT Procurement				MAIL STOP EA404 EXT. 5744 DATE SENT 6/28/2023

NARRATIVE:

Requested Action: Authorize the Chief Executive Officer and General Manager to award contracts to Myers Power Products, Inc. (Myers) and PSECO Electric (PESCO) to manufacture and provide substation switchgears during the period of July 21, 2023, to July 21, 2028, with one optional two-year extension for a total aggregate contract not-to-exceed amount of \$35 million.

Summary: Request for Proposals (RFP) No. Doc3860182214 was issued in February 2023 to solicit proposals to establish strategic alliance agreements with one or more substation switchgear suppliers for a five-year period with one optional two-year extension. The not-to-exceed aggregate amount includes funding for the orders over the next five years. The optional two-year extension will account for project or manufacturing delays. A Pre-Proposal Conference was held on March 1, 2023, where 20 participants attended. In March 2023, SMUD received five proposals that were evaluated in accordance with the advertised criteria. Of the five proposals received, three were responsive. SMUD initiated and continues to negotiate with Myers and PSECO for best pricing and terms and conditions although the pricing from Myers and PSECO were the lowest out of the five proposals received. SMUD is requesting approval to award contracts to the two highest evaluated responsive proposers, Myers and PSECO, for an aggregate not-to-exceed amount of \$35,000,000 upon successful completion of negotiations. The current result of the solicitation is shown below.

Recommendation: Award to Highest Evaluated Responsive Proposers

Award to:

Myers Power Products, Inc.
2950 E. Philadelphia Street
Ontario, CA 91761

PSECO Electric
4420 Melrose Ave.
Montreal, QC, H2A 2S6

<u>Proposers Notified by Procurement:</u>	5
<u>Proposers Downloaded:</u>	23
<u>Pre-Proposal Conference Attendance:</u>	20
<u>Proposals Received:</u>	5

Responsive Proposals Received	P/F	10 Points SEED	50 Points Technical	40 Points Pricing	Total Score	Overall Rank	Proposal Amount	Evaluated Proposal Amount	Proposed Award Amount
Myers Power Products, Inc.	Passed	-	41.67	39.92	81.58	1	\$34,451,042	\$34,451,042	NTE \$35,000,000, Aggregate of all Task Authorizations
PSECO Electric	Passed	10.00	21.67	40.00	71.67	2	\$34,627,845	\$34,377,845	
Eaton Corporate	Passed	-	18.83	27.43	46.27	3	\$50,125,504	\$50,125,504	

Non-Responsive Proposals Received	Proposal Amount
Siemens Industry, Inc.	\$40,694,277
JST Power Equipment Inc.	\$15,711,988

Comments: Siemens Industry, Inc. was non-responsive because they took exception to SMUD's technical specifications. JST Power Equipment, Inc. was deemed non-responsive because they did not submit a complete proposal.

Supplier Diversity Program:

The highest responsive Proposer, Myers, is self-performing 100% of the work. The second ranked Proposer, PSECO, is self-performing 20% of the work and subcontracting 20% of the work to Supplier Education and Economic Development (SEED) qualified vendors, and 60% to a non-SEED vendor.

Board Policy: Board-Staff Linkage BL-8, Delegation to the Chief Executive Officer and General Manager with Respect to Procurement; Strategic Direction SD 4, Reliability
(Number & Title)

Benefits: Award of this contract will provide SMUD with two qualified vendors to provide substation switchgear over the next 5 to 7 years.

Cost/Budgeted: \$35,000,000; Budgeted for 2023 through 2030 by Energy Delivery & Operations.

Alternatives: Only award a contract to Myers. Having a secondary supplier in PSECO diversifies SMUD's spend in this category and mitigates the risk of interruption to supply.

Affected Parties: Energy Delivery & Operations, Supply Chain Services, and Contractor.

Coordination: Energy Delivery & Operations, and Supply Chain Services.

Presenter: Eric Poff, Director of Substation, Telecommunications & Metering Assets

Additional Links:

SUBJECT

Contract Award - Substation Switchgear

ITEM NO. (FOR LEGAL USE ONLY)

5

ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.

RESOLUTION NO. _____

WHEREAS, in February 2023, SMUD issued Request for Proposal No. Doc3860182214 (RFP) to solicit qualified firms to manufacture and provide substation switchgears; and

WHEREAS, five proposals submitted in response to the RFP were evaluated; **NOW, THEREFORE**,

**BE IT RESOLVED BY THE BOARD OF DIRECTORS
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

Section 1. As a result of such examination, **Myers Power Products, Inc.** and **PSECO Electric** are hereby determined and declared to be the two highest evaluated responsive proposers to manufacture and provide substation switchgears.

Section 2. The Chief Executive Officer and General Manager, or his designee, is authorized, on behalf of SMUD, to award contracts to **Myers Power Products, Inc.** and **PSECO Electric** to manufacture and provide substation switchgears during the period of July 21, 2023, to July 21, 2028, with one optional two-year extension for a total aggregate contract not-to-exceed amount of \$35,000,000.

Section 3. The Chief Executive Officer and General Manager, or his designee, is authorized to make future changes to the terms and conditions of the contracts that, in his prudent judgment: (a) further the primary purpose of the contracts; (b) are intended to provide a net benefit to SMUD; and (c) do not exceed the authorized contract amounts and applicable contingencies.

SSS No. SCS 23-068

BOARD AGENDA ITEM

STAFFING SUMMARY SHEET

Committee Meeting & Date N/A
Board Meeting Date July 20, 2023

TO	TO
1. Robert Adams	6.
2. Casey Fallon	7.
3. Eric Poff	8.
4. Frankie McDermott	9. Legal
5. Jennifer Davidson	10. CEO & General Manager

Consent Calendar		Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	<i>If no, schedule a dry run presentation.</i>	Budgeted	<input type="checkbox"/>	Yes	<input type="checkbox"/>	<i>If no, explain in Cost/Budgeted section.</i>
FROM (IPR) Daniel Manfredi						DEPARTMENT Substation Design					MAIL STOP EA404 EXT. 6283 DATE SENT 6/28/2023

NARRATIVE:

Requested Action: Authorize the Chief Executive Officer and General Manager to award a contract to Burns & McDonnell Western Enterprises, Inc. to provide Substation Engineering Design Services for the period from July 21, 2023, to December 31, 2026, for a not-to-exceed amount of \$4 million.

Summary: Request for Proposal No. SCS-23-063 (RFP) was issued in March 2023 to four professional engineering firms currently under contract with SMUD for Substation Design. SMUD plans to build the El Rio (ELR) substation to replace the existing Elverta Substation on the adjacent property and a portion of the existing substation site. ELR will include a 230kV breaker and a half bus configuration with bus connection to the existing Western Area Power Administration (WAPA) facility to the west. SMUD needs to have the engineering design package completed for the project site within a 12-month period so that construction can begin in 2025.

A pre-proposal conference was held on April 4, 2023, of which all four engineering consulting firms attended. On May 5, 2023, three proposals were received and evaluated in accordance with the advertised criteria.

Recommendation: Award to the Highest Evaluated Responsive Proposer.

Award to:

Burns & McDonnell Western Enterprises, Inc.
140 S. State College Blvd., Suite 100
Brea, CA 92821

<u>Suppliers Notified by Procurement:</u>	4
<u>Suppliers Intended to Bid:</u>	4
<u>Pre-Proposal Conference Attendance:</u>	4
<u>Bids/Proposals Received:</u>	3

Responsive Proposals Received	SEED Points	Technical Points	Price Points	Total Score	Rank	Proposal Amount	SEED Credit	Evaluated Proposal Amount	Proposed Award Amount
	10	60	30	100					
Burns & McDonnell	10.00	52.20	18.45	80.65	1	\$3,809,972.87	\$113,634.80	\$3,696,338.07	\$4,000,000
Sargent & Lundy Engineers	-	48.00	30.00	78.00	2	\$2,272,696.00		\$2,272,696.00	
Black & Veatch Corporation	10.00	44.40	15.50	69.90	3	\$4,512,582.00	\$113,634.80	\$4,398,947.20	

Comments:

The contracts include non-standard SMUD contract terms. SMUD staff including Risk and Legal will be negotiating the non-standard terms that are listed in the following sections below:

Section 9, Section 10 A, Section 12 D, E, Section 13 A, B, Section 14, Section 19 A, Section 23 Insurance Appendix- BAL and E&O Language Edits. NDA- 4

Supplier Diversity Program:

Burns & McDonnell is not a Supplier Education and Economic Development (SEED) prime vendor and has committed 20% of SEED subcontracting.

Board Policy: Board-Staff Linkage BL-8, Delegation to the Chief Executive Officer and General Manager with Respect to Procurement; Strategic Direction SD-7, Environmental Leadership; Strategic Direction SD-10, Innovation; Strategic Direction SD-13, Economic Development Policy.
(Number & Title)

Benefits: The modernization of Elverta Substation is key to enabling large scale renewables to connect to the bulk and sub-transmission system supporting SMUD’s 2030 Zero Carbon Plan. ELR will provide interconnection points for a total of 500 MW for zero carbon power generation.

Cost/Budgeted: \$4M; Budgeted for 2023-2036 by Substation Design.

Alternatives: Alternative 1) Break up the scope of services and solicit contracts for the individual categories of service. This option would require additional SMUD resources to manage the contracts. Alternative 2) SMUD could hire internally specialized engineering resources to perform the work in-house. Due to current staffing shortages nation-wide, this option would likely not materialize in the time and effort needed to onboard internal resources.

Affected Parties: Substation Design, Supply Chain Services, and Contractor

Coordination: Substation Design and Supply Chain Services

Presenter: Eric Poff, Director of Substation, Telecommunications & Metering Assets

Additional Links:

SUBJECT

Contract Award - Engineering Design Services for El Rio Substation

ITEM NO. (FOR LEGAL USE ONLY)

6

ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.

RESOLUTION NO. _____

WHEREAS, in March 2023, SMUD issued Request for Proposal No. SCS-23-063 (RFP) to solicit qualified firms to provide substation engineering design services; and

WHEREAS, three proposals submitted in response to the RFP were evaluated; **NOW, THEREFORE**,

**BE IT RESOLVED BY THE BOARD OF DIRECTORS
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

Section 1. As a result of such examination, **Burns & McDonnell Western Enterprises, Inc.** is hereby determined and declared to be the highest evaluated responsive proposer to provide substation engineering design services.

Section 2. The Chief Executive Officer and General Manager, or his designee, is authorized, on behalf of SMUD, to award a contract to **Burns & McDonnell Western Enterprises, Inc.** to provide substation engineering design services for the period from July 21, 2023, to December 31, 2026, for a not-to-exceed amount of \$4,000,000.

Section 3. The Chief Executive Officer and General Manager, or his designee, is authorized to make future changes to the terms and conditions of the contract that, in his prudent judgment: (a) further the primary purpose of the contract; (b) are intended to provide a net benefit to SMUD; and (c) do not exceed the authorized contract amount and applicable contingencies.

SSS No. SCS 23-126

BOARD AGENDA ITEM

STAFFING SUMMARY SHEET

Committee Meeting & Date N/A
Board Meeting Date July 20, 2023

TO	TO
1. Robert Adams	6.
2. Casey Fallon	7.
3. Eric Poff	8.
4. Frankie McDermott	9. Legal
5. Jennifer Davidson	10. CEO & General Manager

Consent Calendar		Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>	<i>If no, schedule a dry run presentation.</i>	Budgeted	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No <i>(If no, explain in Cost/Budgeted section.)</i>		
FROM (IPR) Jesse Mays						DEPARTMENT Procurement					MAIL STOP EA404	EXT. 5744	DATE SENT 6/28/2023

NARRATIVE:

Requested Action: Approve Contract Change No. 01 to Contract No. 4500128563 with WEG Transformers USA LLC (WEG) to increase the contract not-to-exceed amount for power transformers by \$12,768,991 from \$3,426,446 to \$16,195,437.

Summary: This Contract was awarded on a competitive basis to WEG in July 2021. Bid Request No. 2567834447 was issued in October 2020 to solicit qualified manufacturers to supply a 224MVA Power Transformer in support of SMUD’s Substation Engineering team. SMUD received seven proposals. A Notification of Intent to Award (NOITA) was posted in February 2021 with two responsive Bidders, SPX Transformers Solutions (SPX) and WEG, with SPX listed as the lowest responsive Bidder. When the contract with SPX was being finalized SPX took exception to several of SMUD’s standard terms and conditions. SPX and SMUD tried to negotiate contract terms but were unable to come to an agreement. A revised NOITA was posted in July 2021 showing SPX as non-responsive and WEG as the lowest responsive Bidder. While WEG did not have the lowest pricing for power transformers their pricing was in the competitive range, and they were the only supplier who was able to meet SMUD’s technical requirements, commercial terms and required delivery date.

This Contract Change No. 01 requests approval to increase the contract not-to-exceed amount by \$12,768,991 from \$3,426,446 to \$16,195,437 for the addition of one 224MVA Power Transformer and one 250MVA Power Transformer. Market research indicates the cost of power transformers has increased by 24% since the original contract was bid in July 2021. In addition, the specification for these transformers requires the impedance to be dropped by 2.3%, which is a significant drop. To achieve this, amongst other initiative design changes, requires additional copper and core steel be built into the units. The additional material and engineering combined with the market conditions justify the increased costs of the power transformers.

Currently, the contract balance is approximately \$0.

Contract Actions	Amount	Cumulative Total	Description
Original Contract	\$ 3,426,446	\$ 3,426,446	
Pending Change No. 01	\$ 12,768,991	\$ 16,195,437	Add two Power Transformers

Board Policy: Board-Staff Linkage BL-8, Delegation to the Chief Executive Officer and General Manager with Respect to Procurement; Procurement; Strategic Direction SD-4, Reliability

Benefits: The increased funding will allow SMUD to order distribution substation transformers to meet the construction schedule.

Cost/Budgeted: \$12,768,991; Budgeted through 2025 by Energy Delivery & Operations.

Alternatives: Wait to order the power transformers until the new contracts are put into place in ~December 2023 and delay the substation construction projects by ~8-9 months.

Affected Parties: Energy Delivery & Operations, Supply Chain Services, and Contractor.

Coordination: Energy Delivery & Operations and Supply Chain Services.

Presenter: Eric Poff, Director of Substation, Telecommunications & Metering Assets

Additional Links:

SUBJECT

Approve Contract Change for Additional Power Transformers

ITEM NO. (FOR LEGAL USE ONLY)

7

ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.

RESOLUTION NO. _____

WHEREAS, Contract No. 4500128563 with **WEG Transformers USA LLC (WEG)** was awarded on a competitive basis in July 2021 for the supply of one 224 MVA Power Transformer in support of SMUD's Substation Engineering team for the total amount of \$3,426,446 excluding sales tax; and

WHEREAS, since the start of the contract, market research indicates the cost of power transformers has increased by 24% since Contract No. 4500128563 was executed in July 2021; and

WHEREAS, specifications for the transformers in current construction requires the impedance to be dropped by 2.3%, which is a significant drop that will require, in conjunction with other initiative design changes, additional copper and core steel to be built into the power transformers; and

WHEREAS, increasing the contract amount will allow SMUD to move forward without delay and significant costs while securing distribution substation transformers to meet the construction schedule until new contracts are finalized in approximately December 2023; **NOW, THEREFORE**,

**BE IT RESOLVED BY THE BOARD OF DIRECTORS
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:**

Section 1. That this Board hereby authorizes the Chief Executive Officer and General Manager, or his designee, to increase the contract not-to-exceed amount for power transformers by \$12,768,991, from \$3,426,446 to \$16,195,437, for Contract No. 4500128563 with **WEG Transformers USA LLC**.

Section 2. The Chief Executive Officer and General Manager, or his designee, is authorized to make future changes to the terms and conditions of the contract that, in his prudent judgment: (a) further the primary purpose of the contract; (b) are intended to provide a net benefit to SMUD; and (c) do not exceed the authorized contract amount and applicable contingencies.

SSS No.
CFO 22-021

BOARD AGENDA ITEM

STAFFING SUMMARY SHEET

Committee Meeting & Date N/A
Board Meeting Date July 20, 2023

TO	TO
1. Jennifer Davidson	6.
2. Lora Anguay	7.
3. Scott Martin	8.
4. Jose Bodipo-Memba	9. Legal
5.	10. CEO & General Manager

Consent Calendar		Yes		No <i>If no, schedule a dry run presentation.</i>	Budgeted		Yes		No <i>(If no, explain in Cost/Budgeted section.)</i>
FROM (IPR) Lisa Limcaco				DEPARTMENT Accounting	MAIL STOP B352		EXT. 7045		DATE SENT 12/27/2022

NARRATIVE:

Requested Action: Provide the Board with SMUD’s financial results for the year-to-date period and a summary of SMUD’s current Power Supply Costs.

Summary: Staff will present SMUD’s financial results for the year-to-date period and a summary of SMUD’s current Power Supply Costs to the Board of Directors.

Board Policy: GP-3, Board Job Description
(Number & Title)

Benefits: Provide Board members with information regarding SMUD’s financial position and SMUD’s current power supply costs.

Cost/Budgeted: N/A

Alternatives: N/A

Affected Parties: Accounting and SMUD

Coordination: Accounting

Presenter: Lisa Limcaco

Additional Links:

SUBJECT SMUD’s Financial Results & Power Supply Costs	ITEM NO. <i>(FOR LEGAL USE ONLY)</i> 8
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ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.

**SACRAMENTO MUNICIPAL UTILITY DISTRICT
OFFICE MEMORANDUM**

TO: Distribution

DATE: June 30, 2023

ACC 23-019

FROM: Kathy Ketchum / Lisa Limcaco

SUBJECT: **MAY 2023 FINANCIAL RESULTS AND OPERATIONS DATA**

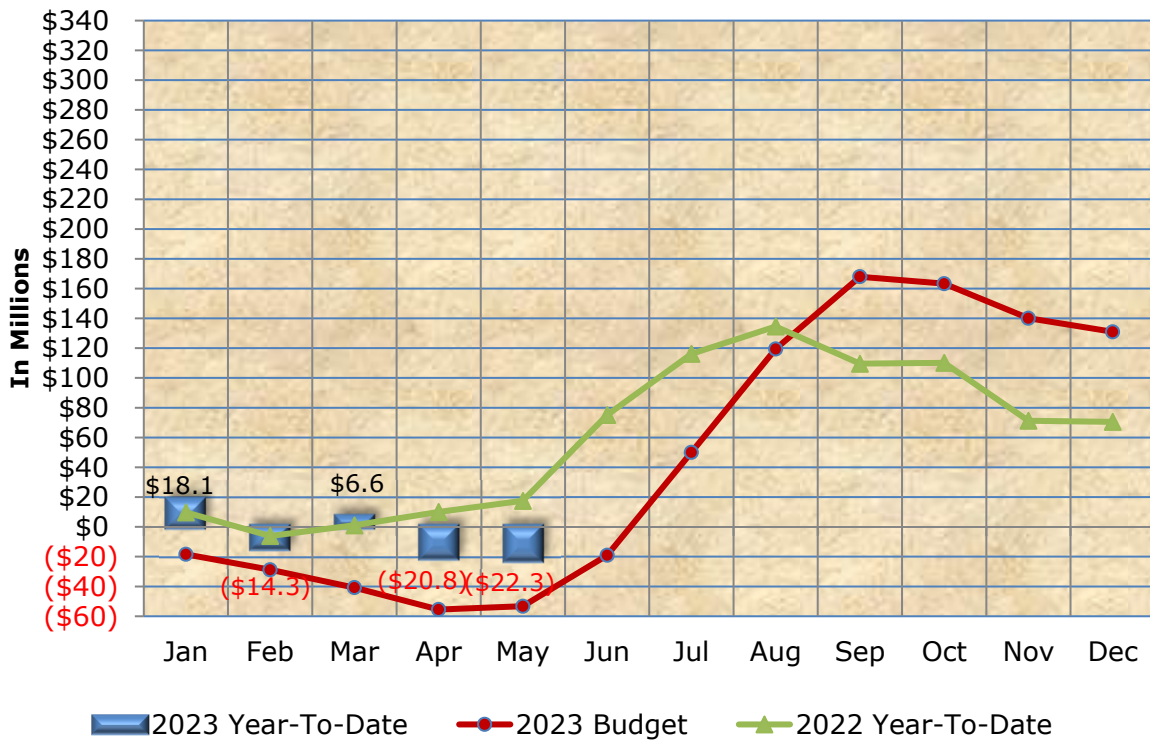
We are attaching the financial and operating reports for the five months of 2023. They include sales and generation statistics and other selected data.

The change in net position is a decrease of \$22.3 million compared to a budgeted decrease of \$53.3 million, resulting in a favorable variance of \$31.0 million.

We prepared these statements on the accrual basis of accounting, and they conform to generally accepted accounting principles. The bases for the budget amounts are:

- 1) Budgeted electric revenues are based on the Forecast of Revenues by the Pricing Department, adjusted for unbilled revenues; and
- 2) Budgeted operating expenses reflect the 2023 Budget approved by the Board of Directors on December 8, 2022.

Change in Net Position Year To Date



**SACRAMENTO MUNICIPAL UTILITY DISTRICT
EXECUTIVE SUMMARY
For the Five Months Ended May 31, 2023**

Net Position

- The change in net position is a decrease of \$22.3 million compared to a budgeted decrease of \$53.3 million, resulting in a favorable variance of \$31.0 million.

Revenues

- Revenues from sales to customers were \$554.5 million, which was \$3.5 million higher than planned. The increase is primarily due to:
 - Higher residential sales of \$6.3 million primarily due to higher customer usage.
 - Lower provision for uncollectible accounts of \$3.7 million.
 - Offset by lower commercial customer revenues of \$6.5 million primarily due to lower customer usage.
- Revenues under the California Global Warming Solutions Act (Assembly Bill [AB] – 32) were \$11.6 million. This is due to carbon allowances sold through the state sanctioned quarterly auctions.
- Non-cash revenues transferred to the rate stabilization fund were \$78.2 million, of which \$65.4 million was for the annual Hydro Generation Adjustment, \$11.6 million was for AB-32 and \$1.2 million was for LCFS. AB-32 and LCFS funds are deferred until SMUD has qualified program expenses (projects that reduce carbon emissions or electric vehicle programs) to recognize revenue.
- Non-cash revenues transferred from the rate stabilization fund were \$33.1 million, of which \$27.7 million was for revenue recognized for AB-32, \$3.0 million was for revenue recognized from LCFS electric vehicle programs expenses and \$2.4 was for revenue recognized for the Community Impact Plan.
- Other electric revenues were higher by \$7.0 million primarily due to higher Procter & Gamble Power Plant steam sales than planned.

Commodities, Purchased Power and Production

- SMUD's generation was higher by 523 GWh (22.5 percent); JPA and other generation was higher by 37 GWh (2.6 percent); and Hydro generation was higher by 486 GWh (55.4 percent).
- Purchased power expense of \$172.3 million, less surplus power sales of \$85.1 million, was \$87.2 million, which was \$51.1 million lower than planned. Overall, load was lower than planned and hydro generation was higher than planned due to higher precipitation levels and inflows from snow melt resulting in lower commodity costs. In addition, surplus power is being sold at a lower price than plan due to below average temperatures and abundant hydro generation driving market prices down.
- Production operations cost of \$151.2 million, less surplus gas sales of \$59.5 million, is \$91.7 million, which is \$20.8 million higher than planned.
 - Fuel costs of \$98.2 million less surplus gas sales of \$59.5 million, was \$38.7 million, which was \$15.3 million higher than planned. This is primarily due to higher fuel prices and fuel usage.
- The "power margin", or sales to customers less cost of purchased power, production operations costs and gas hedges included in investment revenue was \$376.6 million, which was \$34.8 million higher than planned. The power margin as a percentage of sales to customers was 67.9 percent, which was 5.9 percent higher than planned. This is due to higher precipitation levels leading to higher hydro generation.

Other Operating Expenses

- All other operating expenses were \$400.1 million, which was \$9.0 million higher than planned.
 - Customer Service and Information expenses were down \$2.7 million primarily due to supply chain issues causing equipment delivery delays and, in turn, charger installation delays in the NextGen program and delays in the launch of the Partner+ program in Storage Virtual Power Plant.
 - Administrative & General expenses were down \$5.5 million primarily due to a difference in accounting and budgeting for the other postemployment benefits (OPEB) normal cost.
 - Public Good expenses were down \$4.0 million primarily due to Research and Development project delays in Electric Transportation, Grid Evolution and Power Generation Research, fewer projects than planned in complete energy solutions, and lower rebate activity across residential and commercial programs.
 - Production – maintenance expenses were \$3.2 million lower than planned primarily due to supply chain issues for planned major maintenance at the Procter & Gamble Power Plant.

- Transmission and distribution maintenance expenses were \$17.2 million higher than planned. This is primarily due to higher costs related to storm response.
- Non-cash depreciation and amortization is higher by \$8.0 million primarily due to unplanned amortization of lease assets.

Non-operating Revenues and Expenses

- Other revenue, net, was \$41.5 million higher than planned primarily due to gain on sale of the Solano property of \$27.3 million, higher interest income, the reversal of an accrual for Clean Air Act Fees of \$2.0 million, contributions in aid of construction and higher investment revenue due to natural gas hedging activities.

SACRAMENTO MUNICIPAL UTILITY DISTRICT
STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
For the Month Ended May 31, 2023
(thousands of dollars)

	Actual	Budget	Over (Under)	Percent of Increase (Decrease)
OPERATING REVENUES				
Sales to customers	\$ 113,501	\$ 116,031	\$ (2,530)	(2.2) %
Sales of surplus power	6,790	17,151	(10,361)	(60.4)
Sales of surplus gas	4,165	-	4,165	*
SB-1 revenue (deferral)/recognition, net	26	-	26	*
AB32 revenue	6,066	-	6,066	*
Other electric revenue	4,071	2,725	1,346	49.4
Revenue to rate stabilization fund	(6,066)	-	(6,066)	*
Revenue from rate stabilization fund	812	2,878	(2,066)	(71.8)
Total operating revenues	129,365	138,785	(9,420)	(6.8)
OPERATING EXPENSES				
Operations				
Purchased power	26,265	36,865	(10,600)	(28.8)
Production	18,216	15,101	3,115	20.6
Transmission and distribution	7,121	7,046	75	1.1
Customer accounts	5,382	4,620	762	16.5
Customer service and information	6,647	6,760	(113)	(1.7)
Administrative and general	17,657	16,161	1,496	9.3
Public good	5,912	6,172	(260)	(4.2)
Total operations	87,200	92,725	(5,525)	(6.0)
Maintenance				
Production	2,545	3,299	(754)	(22.9)
Transmission and distribution	10,884	11,256	(372)	(3.3)
Total maintenance	13,429	14,555	(1,126)	(7.7)
Depreciation and amortization				
Depreciation and amortization	21,627	20,230	1,397	6.9
Amortization of regulatory asset	3,105	3,445	(340)	(9.9)
Total depreciation and amortization	24,732	23,675	1,057	4.5
Total operating expenses	125,361	130,955	(5,594)	(4.3)
OPERATING INCOME	4,004	7,830	(3,826)	(48.9)
NON-OPERATING REVENUES AND EXPENSES				
Other revenues/(expenses)				
Interest income	2,886	1,087	1,799	165.5
Investment revenue (expense)	(75)	(53)	(22)	(41.5)
Other income (expense) - net	240	757	(517)	(68.3)
Unrealized holding gains (losses)	(1,515)	-	(1,515)	*
Revenue - CIAC	1,593	1,248	345	27.6
Total other revenues	3,129	3,039	90	3.0
Interest charges				
Interest on long-term debt	7,972	8,086	(114)	(1.4)
Interest on commercial paper	737	605	132	21.8
Total interest charges	8,709	8,691	18	0.2
CHANGE IN NET POSITION	\$ (1,576)	\$ 2,178	\$ (3,754)	(172.4) %

* Equals 1000% or greater.

SACRAMENTO MUNICIPAL UTILITY DISTRICT
STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
For the Five Months Ended May 31, 2023
(thousands of dollars)

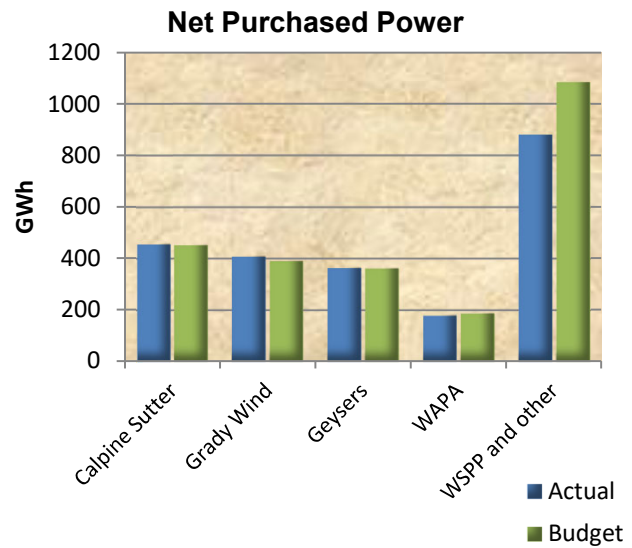
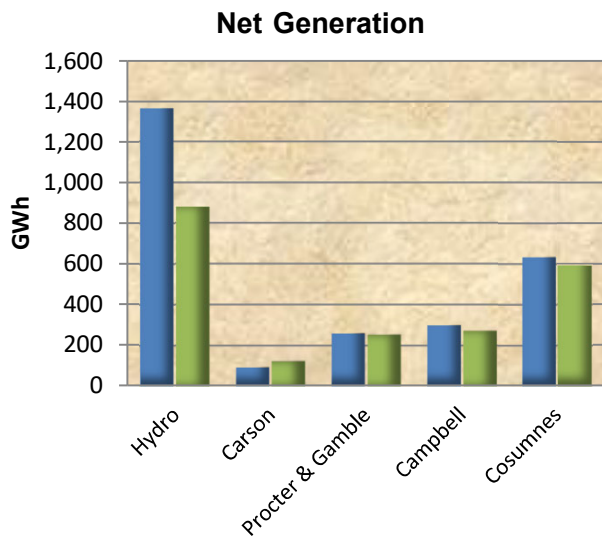
	Actual	Budget	Over (Under)	Percent of Increase (Decrease)
OPERATING REVENUES				
Sales to customers	\$ 554,469	\$ 550,994	\$ 3,475	0.6 %
Sales of surplus power	85,082	90,640	(5,558)	(6.1)
Sales of surplus gas	59,476	-	59,476	*
SB-1 revenue (deferral)/recognition, net	27	-	27	*
AB32 revenue	11,636	-	11,636	*
LCFS revenue	1,053	-	1,053	*
Other electric revenue	21,021	14,060	6,961	49.5
Revenue to rate stabilization fund	(78,186)	-	(78,186)	*
Revenue from rate stabilization fund	33,109	9,950	23,159	232.8
Total operating revenues	687,687	665,644	22,043	3.3
OPERATING EXPENSES				
Operations				
Purchased power	172,334	229,004	(56,670)	(24.7)
Production	151,155	70,831	80,324	113.4
Transmission and distribution	35,652	36,016	(364)	(1.0)
Customer accounts	24,006	22,903	1,103	4.8
Customer service and information	30,142	32,795	(2,653)	(8.1)
Administrative and general	83,414	88,937	(5,523)	(6.2)
Public good	22,809	26,823	(4,014)	(15.0)
Total operations	519,512	507,309	12,203	2.4
Maintenance				
Production	15,329	18,499	(3,170)	(17.1)
Transmission and distribution	64,777	47,535	17,242	36.3
Total maintenance	80,106	66,034	14,072	21.3
Depreciation and amortization				
Depreciation and amortization	108,410	100,423	7,987	8.0
Amortization of regulatory asset	15,597	17,223	(1,626)	(9.4)
Total depreciation and amortization	124,007	117,646	6,361	5.4
Total operating expenses	723,625	690,989	32,636	4.7
OPERATING INCOME (LOSS)	(35,938)	(25,345)	(10,593)	(41.8)
NON-OPERATING REVENUES AND EXPENSES				
Other revenues/(expenses)				
Interest income	13,098	5,364	7,734	144.2
Investment revenue (expense)	1,090	(263)	1,353	514.4
Other income (expense) - net	33,403	3,142	30,261	963.1
Unrealized holding gains (losses)	477	-	477	*
Revenue - CIAC	7,913	6,244	1,669	26.7
Total other revenues	55,981	14,487	41,494	286.4
Interest charges				
Interest on long-term debt	39,753	40,425	(672)	(1.7)
Interest on commercial paper	2,625	2,008	617	30.7
Total interest charges	42,378	42,433	(55)	(0.1)
CHANGE IN NET POSITION	\$ (22,335)	\$ (53,291)	\$ 30,956	58.1 %

* Equals 1000% or greater.

**SACRAMENTO MUNICIPAL UTILITY DISTRICT
SOURCES AND USES OF ENERGY - COMPARED TO BUDGET
For the Period Ended May 31, 2023**

Sources of Energy (GWh)	Month		Increase (Decrease) Percentage	Year to Date		Increase (Decrease) Percentage
	Actual	Budget		Actual	Budget	
Net Generated						
Hydro	338	251	34.7	1,364	878	55.4
Carson Power Plant	-	5	(100.0)	92	123	(25.2)
Procter & Gamble Power Plant	39	28	39.3	258	252	2.4
Campbell Power Plant	2	-	*	297	271	9.6
Cosumnes Power Plant	179	164	9.1	633	590	7.3
Other	62	71	(12.7)	204	211	(3.3)
Total net generation	620	519	19.5	2,848	2,325	22.5
Purchased Power less transmission losses:						
CalEnergy	201	19	957.9	269	92	192.4
Calpine Sutter	25	43	(41.9)	455	451	0.9
Drew Solar	33	33	0.0	122	124	(1.6)
Feed in Tariff	23	25	(8.0)	80	85	(5.9)
Geysers	75	74	1.4	363	362	0.3
Grady Wind	72	82	(12.2)	408	391	4.3
Rancho Seco PV II	21	30	(30.0)	72	111	(35.1)
WAPA	112	76	47.4	179	188	(4.8)
WSPP and other	137	218	(37.2)	881	1,084	(18.7)
Other long term power	50	66	(24.2)	212	258	(17.8)
Total net purchases	749	666	12.5	3,041	3,146	(3.3)
Total sources of energy	1,369	1,185	15.5	5,889	5,471	7.6
Uses of energy:						
SMUD electric sales and usage	785	815	(3.7)	3,862	3,921	(1.5)
Surplus power sales	569	327	74.0	1,897	1,330	42.6
System losses	15	43	(65.1)	130	220	(40.9)
Total uses of energy	1,369	1,185	15.5 %	5,889	5,471	7.6 %

* Change equals 1000% or more.



Net generation is higher than planned for the five-month period.

- Hydro generation is higher than planned (55.4 percent).
- JPA generation is higher than planned (3.6 percent).

Purchased power, less surplus power sales, is lower than plan (37 percent).

SACRAMENTO MUNICIPAL UTILITY DISTRICT
STATEMENTS OF NET POSITION
May 31, 2023 and 2022
(thousands of dollars)

ASSETS

						<u>Total</u>	
	SMUD	SFA	NCEA	NCGA #1	Intercompany Eliminations	2023	2022
ELECTRIC UTILITY PLANT							
Plant in service, original cost	\$ 6,172,838	\$ 963,380	\$ -	\$ -	\$ (4,578)	\$ 7,131,640	\$ 6,857,350
Less accumulated depreciation	2,905,860	692,297	-	-	(651)	3,597,506	3,422,245
Plant in service - net	3,266,978	271,083	-	-	(3,927)	3,534,134	3,435,105
Construction work in progress	402,534	30,349	-	-	-	432,883	446,041
Investment in Joint Power Agencies	315,507	-	-	-	(282,837)	32,670	27,037
Total electric utility plant - net	3,985,019	301,432	-	-	(286,764)	3,999,687	3,908,183
RESTRICTED ASSETS							
Revenue bond reserves	2,004	-	-	-	-	2,004	2,931
Restricted for payment of debt service	114,368	-	-	-	-	114,368	107,403
JPA funds	-	7,265	18,175	22,498	-	47,938	48,852
Nuclear decommissioning trust fund	9,143	-	-	-	-	9,143	8,876
Rate stabilization fund	201,093	-	-	-	-	201,093	174,137
Net pension asset	-	-	-	-	-	-	35,738
Net OPEB asset	-	-	-	-	-	-	57,532
Other funds	33,196	-	3,061	1	-	36,258	30,353
Due (to) from unrestricted funds (decommissioning)	(6,684)	-	-	-	-	(6,684)	(6,684)
Due (to) from restricted funds (decommissioning)	6,684	-	-	-	-	6,684	6,684
Less current portion	(126,005)	(7,265)	(21,236)	(22,499)	-	(177,005)	(171,682)
Total restricted assets	233,799	-	-	-	-	233,799	294,140
CURRENT ASSETS							
Cash, cash equivalents and investments							
Unrestricted	430,977	54,431	-	-	-	485,408	588,195
Restricted	126,005	7,265	21,236	22,499	-	177,005	171,682
Accounts receivable - net	248,905	29,638	-	2,445	(51,666)	229,322	205,964
Lease receivable	824	-	-	-	(209)	615	360
Energy efficiency loans due within one year	139	-	-	-	-	139	201
Interest receivable	5,215	174	-	21	-	5,410	1,222
Lease Interest Receivable	68	-	-	-	(21)	47	66
Regulatory costs to be recovered within one year	61,647	104	-	105	-	61,856	35,461
Derivative financial instruments maturing within in one year	17,895	-	-	-	-	17,895	134,755
Inventories	111,824	17,484	-	-	-	129,308	106,455
Prepaid gas to be delivered within one year	-	-	4,827	26,567	-	31,394	27,463
Prepayments and other	27,838	12,404	15	16	-	40,273	23,511
Total current assets	1,031,337	121,500	26,078	51,653	(51,896)	1,178,672	1,295,335
NONCURRENT ASSETS							
Regulatory costs for future recovery							
Decommissioning	74,051	-	-	-	-	74,051	74,058
Pension	467,885	-	-	-	-	467,885	333,450
OPEB	296,989	-	-	-	-	296,989	275,688
Bond Issues	-	635	-	323	-	958	1,168
Derivative financial instruments	1,218	-	-	-	-	1,218	1,845
Derivative financial instruments	55,869	-	-	-	-	55,869	123,145
Prepaid gas	-	-	522,799	100,845	-	623,644	655,037
Prepaid power and capacity	86	-	-	-	-	86	294
Lease receivable	21,450	-	-	-	(3,742)	17,708	17,162
Energy efficiency loans - net	582	-	-	-	-	582	807
Other	80,500	13	-	48	-	80,561	74,125
Total noncurrent assets	998,630	648	522,799	101,216	(3,742)	1,619,551	1,556,779
TOTAL ASSETS	\$ 6,248,785	\$ 423,580	\$ 548,877	\$ 152,869	\$ (342,402)	\$ 7,031,709	\$ 7,054,437
DEFERRED OUTFLOWS OF RESOURCES							
Accumulated decrease in fair value of hedging derivatives	60,523	-	-	-	-	60,523	14,174
Deferred pension outflows	138,164	-	-	-	-	138,164	63,723
Deferred OPEB outflows	43,356	-	-	-	-	43,356	23,357
Deferred ARO outflows	-	1,779	-	-	-	1,779	1,590
Unamortized bond losses - other	6,398	1,073	-	-	-	7,471	10,943
TOTAL DEFERRED OUTFLOWS OF RESOURCES	248,441	2,852	-	-	-	251,293	113,787
TOTAL ASSETS AND DEFERRED OUTFLOWS OF RESOURCES	\$ 6,497,226	\$ 426,432	\$ 548,877	\$ 152,869	\$ (342,402)	\$ 7,283,002	\$ 7,168,224

SACRAMENTO MUNICIPAL UTILITY DISTRICT
STATEMENTS OF NET POSITION
May 31, 2023 and 2022
(thousands of dollars)

LIABILITIES AND NET ASSETS

	Total						
	SMUD	SFA	NCEA	NCGA #1	Intercompany Eliminations	2023	2022
LONG-TERM DEBT - NET	\$ 2,111,528	\$ 94,768	\$ 542,520	\$ 120,070	\$ -	\$ 2,868,886	3,064,239
CURRENT LIABILITIES							
Commercial paper notes	200,000	-	-	-	-	200,000	-
Accounts payable	96,367	10,683	-	30	-	107,080	115,706
Purchased power payable	70,961	22,924	-	-	(51,666)	42,219	45,614
Credit support collateral obligation	14,862	-	-	1	-	14,863	11,514
Long-term debt due within one year	111,165	1,845	2,320	22,865	-	138,195	132,150
Accrued decommissioning	7,549	-	-	-	-	7,549	6,889
Interest payable	25,382	1,869	9,064	995	-	37,310	38,561
Interest Accrued Liability	12	30	-	-	(21)	21	30
Accrued salaries and compensated absences	50,341	-	-	-	-	50,341	47,252
Derivative financial instruments maturing within one year	43,603	-	-	-	-	43,603	12,439
Customer deposits	1,798	-	-	-	-	1,798	1,317
Lease Liability	15,530	289	-	-	(209)	15,610	26,061
Other	50,074	-	-	-	-	50,074	44,268
Total current liabilities	687,644	37,640	11,384	23,891	(51,896)	708,663	481,801
NONCURRENT LIABILITIES							
Accrued decommissioning - net	76,510	9,756	-	-	-	86,266	85,271
Derivative financial instruments	19,599	-	-	-	-	19,599	5,874
Net pension liability	235,451	-	-	-	-	235,451	-
Net OPEB liability	6,753	-	-	-	-	6,753	-
Lease Liability	4,700	5,170	-	-	(3,742)	6,128	30,530
Other	84,940	-	209	-	-	85,149	83,394
Total noncurrent liabilities	427,953	14,926	209	-	(3,742)	439,346	205,069
TOTAL LIABILITIES	3,227,125	147,334	554,113	143,961	(55,638)	4,016,895	3,751,109
DEFERRED INFLOWS OF RESOURCES							
Accumulated increase in fair value of hedging derivatives	73,614	-	-	-	-	73,614	254,167
Deferred pension inflows	17,536	-	-	-	-	17,536	205,563
Deferred OPEB inflows	33,732	-	-	-	-	33,732	81,708
Deferred Lease inflows	21,771	-	-	-	(3,927)	17,844	17,373
Regulatory credits	751,719	-	-	-	-	751,719	532,504
Unamortized bond gains - other	18,964	-	-	-	-	18,964	8,638
Unearned revenue	8,193	37	-	-	-	8,230	3,377
TOTAL DEFERRED INFLOWS OF RESOURCES	925,529	37	-	-	(3,927)	921,639	1,103,330
NET POSITION							
Balance at beginning of year	2,377,719	267,457	(4,610)	8,989	(282,752)	2,366,803	2,296,261
Net increase (decrease) for the year	(33,147)	11,604	(666)	(126)	-	(22,335)	17,524
Member contributions (distributions) - net	-	-	40	45	(85)	-	-
TOTAL NET POSITION	2,344,572	279,061	(5,236)	8,908	(282,837)	2,344,468	2,313,785
TOTAL LIABILITIES, DEFERRED INFLOWS OF RESOURCES AND NET POSITION	\$ 6,497,226	\$ 426,432	\$ 548,877	\$ 152,869	\$ (342,402)	\$ 7,283,002	\$ 7,168,224

SACRAMENTO MUNICIPAL UTILITY DISTRICT
STATEMENTS OF CASH FLOWS
For the Period Ended May 31, 2023
(thousands of dollars)

	Month	Year to Date
CASH FLOWS FROM OPERATING ACTIVITIES		
Receipts from customers	\$ 119,570	\$ 591,311
Receipts from surplus power and gas sales	14,402	176,256
Other receipts	11,753	61,133
Payments to employees - payroll and other	(27,348)	(157,440)
Payments for wholesale power and gas purchases	(23,820)	(328,149)
Payments to vendors/others	(49,773)	(292,473)
Net cash provided by operating activities	44,784	50,638
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES		
Interest on debt	-	(13,952)
Net cash used in noncapital financing activities	-	(13,952)
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES		
Construction expenditures	(34,078)	(131,862)
Proceeds from land sales	-	45,000
Contributions in aid of construction	1,434	7,610
Issuance of commercial paper	-	50,000
Other receipts	4,626	4,626
Interest on debt	(13,527)	(56,465)
Lease and other payments	(2,201)	(11,537)
Cash received from leases	28	428
Net cash used in capital and related financing activities	(43,718)	(92,200)
CASH FLOWS FROM INVESTING ACTIVITIES		
Sales and maturities of securities	44,201	240,909
Purchases of securities	(81,193)	(310,574)
Interest and dividends received	2,294	12,498
Investment revenue/expenses - net	(87)	1,080
Net cash used in investing activities	(34,785)	(56,087)
Net decrease in cash and cash equivalents	(33,719)	(111,601)
Cash and cash equivalents at the beginning of the month and year	311,956	389,838
Cash and cash equivalents at May 31, 2023	\$ 278,237	\$ 278,237
Cash and cash equivalents included in:		
Unrestricted cash and cash equivalents	\$ 226,586	\$ 226,586
Restricted and designated cash and cash equivalents	40,811	40,811
Restricted and designated assets (a component of the total of \$233,799 at May 31, 2023)	10,840	10,840
Cash and cash equivalents at May 31, 2023	\$ 278,237	\$ 278,237

SSS No. AQS 2023-6

BOARD AGENDA ITEM

STAFFING SUMMARY SHEET

Committee Meeting & Date N/A
Board Meeting Date July 20, 2023

TO	TO
1. Jennifer Davidson	6.
2. Lora Anguay	7.
3. Brandy Bolden	8.
4. Scott Martin	9. Legal
5.	10. CEO & General Manager

Consent Calendar		Yes	<input checked="" type="checkbox"/>	No <i>If no, schedule a dry run presentation.</i>	Budgeted	<input checked="" type="checkbox"/>	Yes	No <i>(If no, explain in Cost/Budgeted section.)</i>
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FROM (IPR) Claire Rogers	DEPARTMENT Audit and Quality Services	MAIL STOP ME-2	EXT. 7122	DATE SENT 7/6/23
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NARRATIVE:

Requested Action: Informational agenda item to provide Board Members with the opportunity to ask questions and/or discuss recent reports issued by Audit and Quality Services.

Summary: Reports Issued by Audit and Quality Services:

<u>Title</u>	<u>Report Number</u>
• Greenergy Partner Plus Annual Verification	28007625
• Status of Recommendations Report for Q2 2023	N/A

Board Policy: Board-Staff Linkage, Board-Internal Auditor Relationship (BL-3)
(Number & Title)

Benefits: n/a

Cost/Budgeted: n/a

Alternatives: n/a

Affected Parties: Board, Internal Auditor

Coordination: n/a

Presenter: Claire Rogers, Director, Audit & Quality Services

Additional Links

SUBJECT Reports Issued by Audit and Quality Services	ITEM NO. (FOR LEGAL USE ONLY) <b style="font-size: 1.2em; color: blue;">9
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ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.

SACRAMENTO MUNICIPAL UTILITY DISTRICT

OFFICE MEMORANDUM

TO: Board of Directors

DATE: June 27, 2023
Audit Report #28007625

FROM: Claire Rogers

SUBJECT: Greenergy Partner Plus Program Verification — Agreed-Upon Procedures

Audit and Quality Services (AQS) has performed the procedures enumerated below, which were agreed to by SMUD and the Center for Resource Solutions (CRS), to verify SMUD's compliance with annual reporting requirements of the CRS' Greenergy Partner Plus Program Verification for the year ended December 31, 2022. SMUD's management is responsible for compliance with the annual reporting requirements of the CRS' Greenergy Partner Plus Program Verification.

The sufficiency of these procedures is solely the responsibility of the specified users of the report. Consequently, we make no representation regarding the sufficiency of the procedures described below either for the purpose for which this report has been requested or for any other purpose.

The procedures include, but are not limited to:

- Validation and recalculation of Partner Plus retail sales;
- Validation and recalculation of Partner Plus Product resource supply, or renewable energy credits (RECs), retired in the Western Electric Coordinating Council (WECC) WREGIS tracking system database;
- Validation and recalculation of Partner Plus Product Content Labels.

Based on the Verification Audit Protocol for Greenergy Partner Plus Program Verification and the results of the Agreed-Upon Procedures, AQS asserts that SMUD has no exceptions with regard to its compliance of the verification reporting requirements put forth in the Verification Audit Protocol.

The agreed-upon procedures engagement was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. AQS was not engaged to and did not conduct an examination or review, the objective of which would be the expression of an opinion or conclusion, respectively, on SMUD's compliance to the annual reporting requirements of the CRS' Greenergy Partner Plus Program Verification. Accordingly, we do not express such an opinion or conclusion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to SMUD and CRS.

SACRAMENTO MUNICIPAL UTILITY DISTRICT

OFFICE MEMORANDUM

TO: Board of Directors

DATE: July 6, 2023

FROM: Claire Rogers

**SUBJECT: QUARTERLY REPORT ON THE STATUS OF RECOMMENDATIONS AS OF
JUNE 30, 2023**

We are pleased to inform you that all outstanding recommendations have been implemented, and there is no Status of Recommendations report for the Second Quarter of 2023. Two open items were closed during the reporting period and were reviewed to assure implementation in accordance with the management response.

If you need further information or wish to discuss any aspect of the report, please contact me at 732-7122, or Claire.Rogers@smud.org.