Board of Directors Meeting Agenda

Date: October 17, 2019  
Time: 9:00 a.m.  
Location: SMUD Customer Service Center, Rubicon Room  
6301 S Street, Sacramento, CA
AGENDA

SACRAMENTO MUNICIPAL UTILITY DISTRICT
BOARD OF DIRECTORS MEETING
SMUD CUSTOMER SERVICE CENTER
RUBICON ROOM - 6301 S STREET
SACRAMENTO, CALIFORNIA

October 17, 2019 – 9:00 a.m.

Call to Order.
   a. Roll Call.

1. Approval of the Agenda.

2. Approval of the minutes of the meeting of September 19, 2019.

3. Committee Chair Reports.
   a. Committee Chair report of October 9, 2019, Policy Committee
   b. Committee Chair report of October 15, 2019, Finance and Audit Committee
      Present the Financial Statement for SMUD for the eight-month period ended August 31, 2019
   c. Committee Chair report of October 16, 2019, Energy Resources & Customer Services Committee

Item 10 was reviewed by the Policy Committee on September 11, 2019. Items 5 and 12 were reviewed by the Policy Committee on October 9, 2019. Items 6 through 9 and 11 were reviewed by the Finance and Audit Committee on October 15, 2019.

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

Consent Calendar:

4. Approve Board member compensation for service rendered at the request of the Board (pursuant to Resolution 18-12-15) for the period of September 16, 2019, through October 15, 2019.

5. Accept the monitoring report for Strategic Direction SD-6, Safety. Policy Committee 10/9. (Gary King)
6. Approve a Memorandum of Understanding between Sacramento Municipal Utility District and the SMUD Public Safety Officers’ Association for the period October 28, 2019, through December 31, 2022. Finance and Audit Committee 10/15. (Gary King)

7. Approve Contract Change No. 1 to Contract No. 4500117866 with Hot Line Construction, Inc. to increase the contract not-to-exceed amount by $1 million from $1 million to $2 million. Finance and Audit Committee 10/15. (Frankie McDermott)

8. a. Approve contract change to Contract No. 4500110473 with United Health Care Insurance Company approving medical insurance premium rates for the period January 1, 2020, through December 31, 2020; 2020 cost estimated at $36.1 million.

b. Approve contract change to Contract No. 4500043215 with Kaiser Permanente approving medical insurance premium rates and extending the contract by one year from January 1, 2020, through December 31, 2020; 2020 cost estimated at $26.1 million.

Finance and Audit Committee 10/15. (Gary King)

9. Authorize SMUD’s Accountant to defer recognition of revenue from sales proceeds of Low Carbon Fuel Standard (LCFS) credits as regulatory liabilities and then match revenue recognition to the related expense in the appropriate accounting period for rate-making purposes. Finance and Audit Committee 10/15. (Jennifer Davidson)

Discussion Calendar:

10. Adopt SMUD’s Wildfire Mitigation Plan. Policy Committee 9/11. (Laura Lewis)

11. Adopt the California Environmental Quality Act (CEQA) Initial Study and Final Mitigated Negative Declaration (MND) for the Pocket/Greenhaven 69kV Underground Cable Reliability Project; adopt the Mitigation Monitoring and Reporting Program; and approve the Project. Finance and Audit Committee 10/15. (Gary King)

12. a. Cast vote on Sacramento Local Agency Formation Commission (LAFCo) ballot regarding the election of a Special District Commissioner.

b. Cast vote on LAFCo ballot regarding the election of an Alternate Special District Commissioner.

Policy Committee 10/9. (Laura Lewis)
Public Comment:

13. Statements from visitors (non-agenda items).

Board and CEO Reports:

14. Directors' Reports.

15. President's Report.

   a. Resolution Honoring the Accomplishments and Legacy of Dr. William H. Lee
   b. Board Video re: SMUD’s Internship Program

Summary of Board Direction

Board Committee Meetings and Special Meetings of the Board of Directors held at the SMUD Customer Service Center, 6301 S Street, Sacramento

<table>
<thead>
<tr>
<th>Date</th>
<th>Committee and Special Meeting Details</th>
<th>Location</th>
<th>Time</th>
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<tbody>
<tr>
<td>October 15, 2019</td>
<td>Finance and Audit Committee and Special Board of Directors Meeting</td>
<td>Rubicon Room*</td>
<td>5:30 p.m.</td>
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<tr>
<td>October 16, 2019</td>
<td>Energy Resources &amp; Customer Services Committee and Special Board of Directors Meeting</td>
<td>Rubicon Room</td>
<td>5:30 p.m.</td>
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<tr>
<td>November 19, 2019</td>
<td>Finance and Audit Committee and Special Board of Directors Meeting</td>
<td>Rubicon Room</td>
<td>5:30 p.m.</td>
</tr>
<tr>
<td>November 20, 2019</td>
<td>Energy Resources &amp; Customer Services Committee and Special Board of Directors Meeting</td>
<td>Rubicon Room</td>
<td>5:30 p.m.</td>
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*The Rubicon Room is located on the first floor of SMUD Customer Service Center, 6301 S Street, Sacramento, CA
2020 Budget Review

November 6, 2019  SMUD 2020 Budget: 4-year Financial Forecast, Budget Overview, including Debt Service, Pay Schedule and Special Compensation and Corporate Services Business Unit 2020 Budget; Energy Operations 2020 Budget; Energy Delivery 2020 Budget; and CVFA, SCA, SPA, SFA, NCGA1, and NCEA 2020 Budgets  Rubicon Room*  5:00 p.m.

November 7, 2019  Customer and Community Services 2020 Budget; Technology 2020 Budget; Workforce Enterprise Services 2020 Budget  Rubicon Room  5:00 p.m.

*The Rubicon Room is located on the first floor of SMUD Customer Service Center, 6301 S Street, Sacramento, CA

Members of the public wishing to address the Board should complete a sign-up form available at the table outside of the meeting room. 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 call 916-732-7143 to arrange for inspection of the documents at the SMUD Customer Service Center, 6301 S Street, Sacramento, California.

NOTE: Accommodations are available for the disabled public. If you need a hearing assistance device or other aid, please call 916-732-7143 in advance of this Board Meeting.

Regular Meetings of the Board of Directors are held at the SMUD Customer Service Center, 6301 S Street, Sacramento

November 21, 2019  Rubicon Room  6:00 p.m.
The Board of Directors of the Sacramento Municipal Utility District met in regular session in the Rubicon Room of the SMUD Customer Service Center at 6301 S Street, Sacramento, at 6:00 p.m.

Roll Call:

Presiding: President Tamayo

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

Present also were Paul Lau, acting Chief Executive Officer and General Manager; Steven G. Lins, Deputy General Counsel and Assistant Secretary, and members of SMUD’s executive management; and SMUD employees and visitors.

Director Fishman relayed the environmental message.

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

President Tamayo called for the approval of the minutes of the meeting held August 15, 2019. Director Bui-Thompson moved for approval of the minutes, Vice President Kerth seconded, and the minutes were unanimously approved.

Director Bui-Thompson, Chair, presented the report on the Strategic Development Committee meeting held September 10, 2019.

Director Sanborn, Chair, presented the report on the Policy Committee meeting held on September 11, 2019.

Director Herber, Chair, presented the report on the Finance and Audit Committee meeting held on September 17, 2019.

Sandra Moorman, Controller, gave a presentation regarding SMUD’s financial statements through July 31, 2019. A copy of the slides used in her presentation is attached hereto.
Director Rose noted that the net position was up but the days cash on hand had been dropping slightly and asked why that occurred. Ms. Moorman explained that cash was used for many capital and O&M projects since SMUD had chosen not to borrow to cover the costs, and the cash balance had gone down as expected.

Director Rose, Chair, presented the report on the Energy Resources & Customer Services Committee meeting held on September 18, 2019.

President Tamayo then called for statements from the public regarding items on the agenda, but he had not received any cards.

President Tamayo then addressed the consent calendar consisting of Items 4 through 9. Director Fishman moved for approval of the consent calendar, Director Sanborn seconded, and Resolution Nos. 19-09-01 through 19-09-06 were unanimously approved.
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 August 16, 2019, through September 15, 2019.

Approved: September 19, 2019

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<th>DIRECTOR</th>
<th>AYE</th>
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RESOLUTION NO. 19-09-02

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

This Board accepts the monitoring report for Strategic Direction

SD-7, Environmental Leadership, substantially in the form set forth in

Attachment A hereto and made a part hereof.

Approved: September 19, 2019

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INTRODUCED: DIRECTOR FISHMAN
SECONDED: DIRECTOR SANBORN
TO: Board of Directors

FROM: Claire Rogers

SUBJECT: Audit Report No. 28007100
Board Monitoring Report; SD-07 Environmental Leadership

Audit and Quality Services (AQS) reviewed the SD-7 Environmental Leadership 2018 Annual Board Monitoring Report and performed the following:

- Reviewed the information presented in the report to determine the possible existence of material misstatements;
- Interviewed report contributors and verified the methodology used to prepare the monitoring report; and
- Validated the reasonableness of a selection of the report's statements and assertions.

During the course of the review, nothing came to AQS' attention that would suggest the report did not fairly represent the source data available at the time of the review.

CC:

Arlen Orchard
1. Background

Strategic Direction 7 (SD-7), Environmental Leadership states that:

Environmental leadership is a core value of SMUD. The Board is committed to environmental leadership through community engagement, continuous improvement in pollution prevention, carbon reduction, energy efficiency, and conservation. Therefore:

a) SMUD will conduct its business affairs and operations in a manner that reduces adverse environmental impacts, reduces pollution, and enhances resource conservation and stewardship.

b) SMUD will provide leadership in the reduction of the region’s total emissions of greenhouse gases through proactive programs in all SMUD activities and development and support of national, State, and regional climate change policies and initiatives.

c) SMUD will promote the efficient use of energy by its customer-owners.

d) SMUD will proactively engage its customer-owners and other stakeholders in meeting this directive.

2. Executive Summary

SMUD’s commitment to Environmental Leadership drives efforts to minimize impacts and encompass all aspects of our operations from the reduction of greenhouse gas emissions from our power plants, the electrification of our fleet, to the development of educational and energy efficiency programs that support the communities we serve. The purpose of this report is to highlight the various environmental leadership efforts that SMUD has accomplished and implemented during 2018.

**SMUD is compliant with the four tenets of SD-7 outcomes.** Our efforts around transportation electrification, environmental sustainability, renewable energy, stakeholder engagement, sustainable communities and greenhouse gas emission reductions are examples of our strong commitment to environmental leadership. These efforts include: supporting the development of electrical school buses, investing in new solar and wind generation, using new technologies to reduce sulfur hexafluoride emissions, and partnering with our community in the development of the Powerhouse Science Center, the California Mobility Center, and community SHINE grants. It was especially rewarding to be recognized by the Sacramento Environmental Commission (SEC) for our sulfur hexafluoride (SF₆) reduction efforts. Appendices A (Metric Summary Table), B (Examples of SMUD Efforts Supporting SD-7), C (2013-2018 SMUD GHG Emissions Trends), D (2018 SD-7 Pamphlet) and E (Sustainable Communities) further summarize some of SMUD’s achievements. Appendix F is a list of acronyms used in this report.
Additional Supporting Information

Workflow Integration Program
The Workflow Integration Program processed 496 planned overhead and underground electrical infrastructure projects. For 145 of these projects, prescribed avoidance and minimization measures reduced impacts on sensitive biological resources and decreased the risk of Notices of Violations (NOVs). Field crew job packets included descriptions of resources crews could encounter, requirements for preconstruction surveys, avoidance measures and the potential inclusion of biological or cultural monitors.

Greenhouse Gas (GHG) Emissions
SMUD continues to be a leader in addressing global climate change and is an active member of The Climate Registry (TCR). SMUD reports its third-party verified GHG emissions to the California Air Resources Board (CARB), TCR and the Carbon Disclosure Project (CDP) (2017 and 2019). Staff also reports SF₆ emissions and provides assistance in reporting GHG emissions from the Joint Power Authorities (JPAs) to the US Environmental Protection Agency (EPA) GHG reporting program.

For 2018, GHG emissions were approximately 2.05 million metric tons carbon dioxide equivalent (CO₂e). This is an increase of about 174 thousand metric tons from 2017 emissions, but reflects an overall downward trend over the past six years (Appendix C). Fluctuations in total emissions year-to-year are primarily attributed to hydroelectricity production and natural gas contract rates. Higher hydroelectricity production typically results in lower utilization of SMUD’s thermal power plants and lower GHG emissions. Over the past several years, SMUD’s efforts to procure power from zero and low emission sources (e.g., hydro, wind and solar) have resulted in a lower carbon footprint. SMUD burns biofuels at its thermal power plants to reduce its carbon compliance obligation and generated approximately 207 gigawatt hours (GWh) of power from biofuels in 2018. Bio-fuels emissions are typically considered “carbon-neutral” under several GHG reporting protocols including California’s Cap-and-Trade Regulation.

Sacramento Environmental Commission (SEC) Award for Sulfur Hexafluoride (SF₆) Reduction Efforts
As part of our daily operations, SMUD manages over 400 circuit breakers and switchgear containing SF₆ gas, a very potent GHG. We have consistently maintained SF₆ emissions well below CARB’s maximum limits through outstanding best management practices and emission reduction efforts. Considered an industry leader who helps educate other entities so they can minimize their emissions too, SMUD received an award for outstanding environmental leadership from the SEC.

Transportation Electrification
The number of electric vehicles (EVs) in our region exceeded 10,000 for the first time in 2018. We helped lay the groundwork for Sacramento being designated the first “Green City” by Electrify America and SMUD set a 2019 goal of 15% EVs for its own fleet. With support from SMUD’s Transportation Electrification Initiative, Twin Rivers School District’s fleet now includes 16 electric school buses. Furthering its reputation as a
national trail blazer, SMUD received a federal patent for an improved method of detecting residential EV chargers which will help educate owners about the benefits of off-peak charging. SMUD is taking a leadership role in the California Mobility Center which will make our region a hub for electric transportation research and development.

Sacramento Tree Foundation (STF) Sacramento Shade Program
In 2018, the STF distributed 9,147 trees and of those, 5,298 trees were identified as Community Shade trees. Tree canopy inequality is a regional concern and a priority for STF. They now track the percentage of trees planted in disadvantaged neighborhoods, and their NeighborWoods organizers engage with residents to better understand and address resident needs related to tree planting and care.

Integrated Vegetation Management (IVM) and Urban Forestry Plan
SMUD now uses Light Detecting and Ranging (LiDAR) technology combined with hyperspectral imagery to assess vegetation threats to transmission assets to enhance the efficiency and accuracy of our IVM Program. This technology improves our programmatic decisions to enhance public, employee, and contractor safety, and also supports compliance with regulatory requirements and reduces fire risk. Team members from Environmental Services, Facilities and Vegetation Management collaborated on the Urban Forestry Plan for the Headquarters (HQ) campus. The plan includes a complete landscape inventory of all trees, means and methods for tree maintenance and appropriate irrigation techniques. This plan will enable staff to leverage current industry best management practices to support of the long-term health and beauty of the HQ campus.

Herbicide Change
As part of our integrated pest management (IPM) program, Facilities phased out the use of Roundup® herbicide in September 2018 and is now using Finale® (glufosinate-ammonium) as needed.

Health Risk Assessments (HRAs)
Under the direction of the Sacramento Metropolitan Air Quality Management District (SMAQMD), three of SMUD’s JPA thermal power plants performed HRAs using 2016 data and the significantly more stringent evaluation criteria required by AB 2588-Air Toxics “Hot Spots” Reporting Program. This required the quantification of toxic air contaminant (TAC) emissions and evaluation for both cancer and non-cancer risk effects for neighboring areas. HRAs for the Carson Ice Plant, Procter and Gamble Cogeneration Plant and the Campbell Soup Cogeneration Plant indicate that each facility has a cancer risk below one in one million (lowest threshold), and that the chronic and acute hazard indices are well below one as well. As such, no further action or emission reduction plan is required for any of these plants.

Notices of Violation
SMUD and its JPA contractor, EthosEnergy, strive to be good corporate citizens and responsible environmental stewards that comply with all local, state and federal rules and regulations. Our goal is to have zero NOVs or similar citations that include civil and/or criminal penalties. In 2018, the JPA received one NOV from the SMAQMD at the
Cosumnes Power Plant (CPP) for an administrative permit violation related to emission reporting and SMAQMD assessed the final penalty in 2019. SMUD and EthosEnergy have taken the necessary actions to prevent a reoccurrence. The Board was previously informed of this NOV.

**Sustainability Series for SMUD Customers**
SMUD and Sacramento County’s Business Environmental Resource Center (BERC) collaborated on an eight-month Sustainability Series of classes to share sustainable business practices with commercial customers to help them improve efficiency, reduce costs and protect the planet. The sessions were well attended and another series is planned for next year.

**Environmental Sustainability at SMUD**
The SMUD Green Team focused on seven internal initiatives in 2018. They certified two facilities as Sustainable Businesses through BERC, drafted a Green Building Policy, completed four water audits, piloted SMUD’s Environmentally Sustainable Purchasing Program on 12 procurement actions, helped achieve our annual goal of reducing non-generation GHG emissions by 2%, shared green tips with staff, launched online sustainability training and helped increase our landfill diversion rate to 66% (our goal is 75% per our Environmental Sustainability Road Map).

**Rancho Seco Solar II**
SMUD completed the California Environmental Quality Act (CEQA) review for the Rancho Seco Solar II project which will generate in excess of 150 MW a year over a 35-year project term. We are leasing approximately 500 acres of land to a third party to build and operate the facility. Construction is scheduled to start in October 2019. This project supports California’s renewable energy and GHG emission goals, provides electricity for SMUD’s Solar Shares® program, optimizes the delivery of locally generated solar energy, minimizes environmental impacts and promotes consolidation of energy infrastructure.

**Mainline Valve 2 and Sepco Tee Projects**
To minimize interruption of pipeline operations and reduce emissions related to the work, SMUD combined two extensive gas pipeline maintenance projects. The Power Generation team lowered the gas pressure in the pipeline by various means so that the amount of methane released during the work was only 17% of what would have been released during a typical high-pressure blowdown event. The total GHG emission savings (i.e., avoided emissions) from these efforts is roughly equivalent to 4,400 metric tons of carbon dioxide (CO₂e). To put this in perspective, this is equivalent to removing about 960 vehicles off the road for one year.

**CPP Advanced Gas Path Project**
The SMUD Financing Authority made a significant capital investment to improve the operational efficiency of the Cosumnes Power Plant (CPP). The Advance Gas Path Project replaced existing turbine hardware with state-of-the art components, updated operating software, and included new carbon monoxide catalysts. The project increased generating capacity by 76 megawatts (MWs) without increasing GHG emissions or
installing a new turbine. This effort allowed SMUD to reduce yearly emission limits to reflect the new energy market, and CPP voluntarily reduced its maximum allowable permit limits for both criteria and toxic air pollutants.

Sustainable Communities
SMUD’s Sustainable Communities initiative focuses on the development of holistically sustainable neighborhoods. The goal of this effort is to ensure the advancement of prosperity in the Sacramento Region regardless of zip code or socio-economic status. To support the initiative, SMUD teams are working collaboratively internally and with community partners to improve equitable access to healthy neighborhood environments, energy efficiency programs and services, environmentally friendly transit modes including EVs, and energy-related workforce development and economic development prospects.

3. Challenges

SMUD continues to experience challenges with our federal, state and local regulators. Regulations continue to evolve, and some agencies are slow to issue permits due to a lack of resources, including a shortage of staffing. We expect delays to persist as many long-term agency employees retire and less experienced staff manage changing policies. Additionally, we are actively supporting EV integration in our fleet as well as our region, which is challenging as technology changes quickly and there are various stakeholders with different priorities.

In the past five years, we experienced three golden eagle mortalities at our Solano Wind Farm. SMUD is in the process of obtaining an incidental take permit from the U.S. Fish and Wildlife Service. Once the permit is issued, SMUD will be required to retrofit electric poles to avian-safe standards. For each eagle take over the five-year permit term, a stepwise mitigation strategy will be implemented that triggers additional mitigation requirements. We continue to expend considerable resources on numerous, complicated environmental remediation projects (e.g., Station E, HQ Rehabilitation, Kramer Carton, 59th Street). In some cases, evolving interpretations of the regulations by state and local regulators have significantly increased both the scope and cost of projects. Finally, at 30.33%, we met the City of Sacramento’s requirements for employee participation in alternative commute programs but fell short of our Board goal of 35%.

4. Recommendation
It is recommended that the Board accept the Monitoring Report for SD-7, Environmental Leadership.

5. Appendices
   A. Metric Summary Table
   B. Examples of SMUD Efforts Supporting SD-7
   D. SD-7 Pamphlet
   E. Sustainable Communities
### Appendix A

**Metric Summary Table**

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<tr>
<td>Total Greenhouse gas (or carbon) reductions from Customer Programs (in metric tons CO₂)¹</td>
<td>NA</td>
<td>70,674</td>
<td>NA</td>
<td>70,701</td>
<td>NA</td>
<td>62,369</td>
<td>NA</td>
<td>67,258</td>
<td>NA</td>
<td>43,709²</td>
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<td>Vehicle Replacement with Ultra Low Emission or Alternative Fuel Vehicles (% of vehicles replaced)</td>
<td>100%</td>
<td>100%</td>
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<td>Participants in Alternative Commute Programs (% of employees)³</td>
<td>35%</td>
<td>35%</td>
<td>35%</td>
<td>34%</td>
<td>35%</td>
<td>31%</td>
<td>35%</td>
<td>33%</td>
<td>35%</td>
<td>30.33%</td>
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¹Customer Energy Efficiency Programs include the following: Energy Efficiency Information and Education (Residential Advisory), Residential Energy Efficiency (Plug Load/Appliance Efficiency, Equipment Efficiency, Whole House Performance, Retail Lighting, Multi-Family Retrofit Efficiency) and Existing Commercial Energy Efficiency (Customized Efficiency Incentives, Express Energy Solutions, Complete Energy Solutions, Complete Savings by Design, Codes and Standards). Emission factor for fossil/gas fired power plant generation (632 pounds CO₂/MWh) used to calculate metric.

²Note: In 2018, these programs resulted in 152.6 GWh in energy savings. The emission factor used to calculate the 2018 CO₂ emissions is lower than factors used to calculate historic emissions. The current emission factor was updated to better represent SMUD’s power mix, which has increased in renewable energy resources in recent years.
Employee participation in vanpool, carpool, public transit, bicycle, walk to work or EV programs. SMUD’s goal of 35% participation exceeds the 30% goal set by the City of Sacramento. This continues to be a challenge even with the significant increase in the number of employees driving EVs, possibly due to retirements, changing demographics, our work-from-home program, and/or work schedule or location changes. SMUD’s Employee Commute Coordinator continues to deploy a comprehensive strategy to increase participation.

Appendix B
Examples of SMUD Efforts Supporting Strategic Direction 7 (SD-7)

<table>
<thead>
<tr>
<th>SD-7 Requirement</th>
<th>Supporting Efforts</th>
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<tr>
<td>a) SMUD will conduct its business affairs and operations in a manner that reduces adverse environmental impacts, reduces pollution, and enhances resource conservation and stewardship.</td>
<td>Station E; HQ Rehabilitation Project; Workflow Integration; GHG disclosure and reduction efforts; Joint Utility Group; HC Campus Master Plan; EC-OC Campus Master Plan; Climate Resiliency planning; Sacramento Environmental Commission Recognition Award for SF6 Best Management Practices; Health Risk Assessments (HRAs); Rancho Seco Solar II; Environmentally Sustainable Purchasing Program; Transportation Electrification; LiDAR and IVM; Urban Forestry Plan for HQ Campus; herbicide change; Sustainable Communities.</td>
</tr>
<tr>
<td>b) SMUD will provide leadership in the reduction of the region’s total emissions of greenhouse gases through proactive programs in all SMUD activities and development and support of national, state, and regional climate change policies and initiatives.</td>
<td>Third-party verified annual GHG reporting to the U.S. Environmental Protection Agency (EPA), California Air Resources Board, The Climate Registry and CDP; SD-9 (Resource Planning); Integrated Resource Plan (IRP); SD-10 (Research and Development); SD-11 (Public Power Business Model); partnership with Sacramento Tree Foundation (9147 trees distributed to customers in 2018 with over half being designated as Community Shade trees); Rancho Seco Solar II; MLV Sepco Tee project; CPP Advanced Gas Path project; Sacramento Environmental Commission Recognition Award for SF6 Best Management Practices; Environmentally Sustainable Purchasing Program; LiDar and IVM; Transportation Electrification; Building Electrification; Sustainable Communities.</td>
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<td>c) SMUD will promote the efficient use of energy by its customer-owners.</td>
<td>Greenergy®, SolarShares®, Energy Assistance Program Rate (EAPR), home electricity reports, SMUD app, incentives/rebates, loans, web tools, educational opportunities for customers; BERC Sustainability Series; SD-5 (Customer Relations); SD-13 (Economic Development); SD-15 (Outreach and Communication); Transportation Electrification; Sustainable Communities.</td>
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<td>d) SMUD will proactively engage its customer-owners and other stakeholders in meeting this directive.</td>
<td>SMUD exceeds state and federal requirements for public outreach for both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA); SMUD Green Team support of internal environmental sustainability program; SD-5</td>
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*SMUD electric sales are net of wholesale electricity.
**The 2018 GHG Emissions data for natural gas powered plants has been verified by an independent 3rd-party.
Appendix D
SD-7 Summary Pamphlet

Environmental Leadership
SMUD’s commitment to Environmental Leadership is clear. It is a core value that benefits our customers and communities. SMUD strives financially and administratively to be environmentally sustainable, and supports a sustainable future for our SMS 500 North Base.

Our efforts to conserve resources, ensure environmental sustainability, and provide education are examples of our strong commitment to environmental leadership. As such, we are especially proud to be recognized by the Sacramento Environmental Commission (SEC) for our exemplary environmental efforts.

Sustainable Communities
SMUD’s Sustainable Communities initiatives focus on the development of environmentally sustainable neighborhoods. The goal of this effort is to ensure the advancement of projects in the Sacramento Region regardless of socioeconomic status. To support this initiative, SMUD teams are working collaboratively with communities and local partners to improve equitable access to healthy neighborhood environments, energy-efficiency programs and services, environmentally friendly travel modes, including BRT, and energy-related urban development and economic development projects.

Workflow Integration Program (WIP)
The WIP program overhauls electrical infrastructure projects. For WIP, teams are working collaboratively with communities and local partners to improve equitable access to healthy neighborhood environments, energy-efficiency programs and services, environmentally friendly travel modes, including BRT, and energy-related urban development and economic development projects.
Appendix E

Sustainable Communities Deliverables and Accomplishments To-Date
Appendix F
List of Acronyms

BERC  Business Environmental Resource Center
CARB  California Air Resources Board
CDP   Carbon Disclosure Project
CEQA  California Environmental Quality Act
CO$_2$e Carbon Dioxide Equivalent
CPP   Cosumnes Power Plant
EAPR  Energy Assistance Program Rate
EC-OC East Campus Operational Center
EPA   Environmental Protection Agency
EVs   Electric Vehicles
GHG   Greenhouse Gas
GWh   Gigawatt Hour
HQ    Headquarters
HRA   Health Risk Assessment
IPM   Integrated Pest Management
IRP   Integrated Resource Plan
IVM   Integrated Vegetation Management
JPA   Joint Power Authority
LiDAR Light Detecting and Ranging
MW    Megawatt
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEPA</td>
<td>National Environmental Policy Act</td>
</tr>
<tr>
<td>NOV</td>
<td>Notice of Violation</td>
</tr>
<tr>
<td>SEC</td>
<td>Sacramento Environmental Commission</td>
</tr>
<tr>
<td>SF₆</td>
<td>Sulfur Hexafluoride</td>
</tr>
<tr>
<td>SFA</td>
<td>SMUD Financing Authority</td>
</tr>
<tr>
<td>SMAQMD</td>
<td>Sacramento Metropolitan Air Quality Management District</td>
</tr>
<tr>
<td>SMUD</td>
<td>Sacramento Municipal Utility District</td>
</tr>
<tr>
<td>STF</td>
<td>Sacramento Tree Foundation</td>
</tr>
<tr>
<td>TAC</td>
<td>Toxic Air Contaminant</td>
</tr>
<tr>
<td>TCR</td>
<td>The Climate Registry</td>
</tr>
</tbody>
</table>
RESOLUTION NO. 19-09-03

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

This Board accepts the monitoring report for Strategic Direction SD-9, Resource Planning, substantially in the form set forth in Attachment B hereto and made a part hereof.

Approved: September 19, 2019

<table>
<thead>
<tr>
<th>DIRECTOR</th>
<th>AYE</th>
<th>NO</th>
<th>ABSTAIN</th>
<th>ABSENT</th>
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<td>BUI-THOMPSON</td>
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<tr>
<td>SANBORN</td>
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<td></td>
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</tbody>
</table>
TO: Board of Directors  
FROM: Claire Rogers

SUBJECT: Audit Report No. 28007101  
Board Monitoring Report; SD-09: Resource Planning

Audit and Quality Services (AQS) reviewed the SD-09 Resource Planning 2019 Annual Board Monitoring Report and performed the following:

- Reviewed the information presented in the report to determine the possible existence of material misstatements;
- Interviewed report contributors and verified the methodology used to prepare the monitoring report; and
- Validated the reasonableness of a selection of the report's statements and assertions.

During the course of the review, nothing came to AQS' attention that would suggest the report did not fairly represent the source data available at the time of the review.

CC:

Arlen Orchard
1. Background

It is a core value of SMUD to provide its customer-owners with a sustainable power supply through the use of an integrated resource planning process. A sustainable power supply is defined as one that reduces SMUD’s net long-term greenhouse gas (GHG) emissions to serve retail customer load to Net Zero by 2040. Net Zero is achieved through investments in vehicle and building electrification, energy efficiency, clean distributed resources, RPS eligible renewables, large hydro, and biogas. SMUD shall assure reliability of the system, minimize environmental impacts on land, habitat, water quality, and air quality, and maintain a competitive position relative to other California electricity providers.

To guide SMUD in its resource evaluation and investment, the Board sets the following interim goal:

<table>
<thead>
<tr>
<th>Year</th>
<th>Net Greenhouse Gas Emissions (metric tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>2,318,000</td>
</tr>
<tr>
<td>2030</td>
<td>1,350,000</td>
</tr>
<tr>
<td>2040</td>
<td>Net Zero</td>
</tr>
<tr>
<td>2050</td>
<td>Net Zero</td>
</tr>
</tbody>
</table>

In keeping with this policy, SMUD shall also achieve the following:

a) SMUD’s goal is to achieve Energy Efficiency equal to 15% of retail load over the next 10-year period. On an annual basis, SMUD will achieve energy efficiency savings of 1.5% of the average annual retail energy sales over the three-year period ending with the current year.

To do this, SMUD will acquire as much cost effective and reliable energy efficiency as feasible through programs that optimize value across all customers. SMUD shall support additional energy efficiency acquisition by targeting one percent (1%) of retail revenues for above market costs associated with education, market transformation, and programs for hard to reach or higher cost customer segments. The market value of energy efficiency will include environmental attributes, local capacity value and other customer costs reduced by an efficiency measure.

b) Provide dependable renewable resources to meet 33% of SMUD’s retail sales by 2020, 44% by 2024, 52% by 2027, and 60% of its retail sales by 2030 and thereafter, excluding additional renewable energy acquired for certain customer programs.

c) In meeting GHG reduction goals, SMUD shall emphasize local and regional environmental benefits.

d) SMUD will continue exploring additional opportunities to accelerate and reduce carbon in our region beyond the GHG goals in this policy.

e) Promote cost effective, clean distributed generation through SMUD programs.
2. Executive Summary

SMUD’s IRP process informs long-term strategic development by the various business units within SMUD and efforts are made to balance reliability, environmental, financial, and customer objectives while achieving SD-9 goals in a reasonable and affordable way. The metrics in SD-9 help SMUD achieve sustainable future and monitor its carbon emission reductions. SMUD continues to invest in the development and implementation of new programs and projects to meet all future goals and objectives.

As this report demonstrates, in 2018, SMUD was in compliance on each of the goals for the year established in SD-9. A detailed list of compliance for interim GHG reduction goals, energy efficiency (EE) savings, demand response (DR), renewable energy supply, and local environmental benefit objectives are summarized within this report.

In 2018, SMUD’s normalized GHG emissions were 1.755 million metric tons (MMt), below our 2020 SD-9 goal of 2.318 MMt. Additionally, SMUD exceeded its EE goal of 146 GWh with 149 GWh saved. SMUD is also on track to meet its 2020 Renewables Portfolio Standard (RPS) target of satisfying 33% of retail sales with qualifying renewables. SMUD met its 2018 RPS target of 29% of retail sales with qualifying renewables and banked renewable energy credits.

3. Additional Supporting Information

A. Sustainable Power Supply; Emphasize Local and Regional Benefits

SMUD’s adjusted GHG footprint in 2018 was approximately 1.76 MMt. In 2018, an abundance of low-cost, low-carbon market power continued to be available, which presented SMUD with an opportunity to reduce our 2018 GHG emissions. SMUD has aggressively pursued these market purchases, when available. However, low-carbon market purchases may not be available over the long-term as other WECC-utilities strive to reduce their carbon footprint and water years fluctuate over time.

<table>
<thead>
<tr>
<th>Table 1: Carbon Footprint &amp; Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Source</strong></td>
</tr>
<tr>
<td>Net Generation and Power Purchases</td>
</tr>
<tr>
<td>Wholesale</td>
</tr>
<tr>
<td>SMUD Electric Sales, SMUD Usage and System Losses</td>
</tr>
<tr>
<td>Adjustment for Normal Load</td>
</tr>
<tr>
<td>Adjustment for Normal Wind and Hydro</td>
</tr>
<tr>
<td>REC Banking Adjustment</td>
</tr>
<tr>
<td>SMUD Normalized Total (estimate)</td>
</tr>
<tr>
<td>2020 Target</td>
</tr>
</tbody>
</table>

1 Emissions are based on SMUD’s internal accounting and represent best estimates available. The largest emission sources have been verified by an independent-third party. However, the smaller sources are under review and may be subject to change.
Emissions adjustments to the actual 2018 footprint include an increase to account for lower than expected energy usage by SMUD customers; a decrease to account for lower than expected hydro and wind production; and a decrease for using banked renewable energy credits (REC). In 2018, SMUD strategically utilized banked RECs to achieve RPS mandates prior to completion of several large renewable projects expected to come online in 2019. In previous years, SMUD procured more renewable energy than required and received credits for future use. These credits were saved or banked in accordance with RPS rules. Using these banked RECs lowers SMUD’s normalized emissions because any emissions impacts were realized at an earlier date. Table 1 summarizes actual emissions and adjustments to reflect normal weather conditions, expected energy usage, and the REC banking adjustment.

**Renewable Energy**

Our renewable energy strategy is built on fulfilling the requirements defined in the RPS as well as giving our customers a choice to reduce their emissions further through purchase of renewable energy products through our voluntary suite of programs. The following demonstrates our accomplishments through 2018 and goals for 2019.

### Table 2: SMUD’s Renewables Goals and Accomplishments

<table>
<thead>
<tr>
<th>Program</th>
<th>2018 Goal</th>
<th>2018 Accomplishments</th>
<th>2019 Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPS %</td>
<td>29%</td>
<td>29%</td>
<td>31%</td>
</tr>
<tr>
<td>RPS</td>
<td>2,862 GWh</td>
<td>2,862 GWh</td>
<td>3,300 (est.)</td>
</tr>
</tbody>
</table>

State law requires SMUD to procure renewable generation of at least 33% of retail sales by December 31, 2020 and 60% by 2030 as well as interim targets that must be achieved over compliance periods. SMUD’s 2018 interim RPS procurement target is 29% of retail sales, which is part of the third compliance period (2017-2020) used by the California Energy Commission for RPS tracking purposes. We achieved our interim RPS target for 2018 and are on track to meet the RPS requirement for Compliance Period 3. We achieved this target with 1,773 GWh of eligible generation plus 1,089 GWh of surplus RECs from previous years.

Renewable options are increasingly popular with our customers and we continue to be a national leader in offering our customers green pricing choices. Our voluntary green pricing program offerings include Greenergy and SolarShares.

SMUD’s Greenergy program continued to grow in 2018 to more than 71,000 participants and supplying 1,010 GWh to residential and commercial customers. This represents roughly 10% of SMUD’s retail sales in 2018 and the 23% year-over-year growth from 2017 to 2018 is one of the highest in the program’s history. The popularity of Greenergy continues to grow. We expect to redesign Greenergy to expand this program’s influence and appeal to our customers.

2018 was a transition year for SMUD’s SolarShares programs, as we closed the legacy Residential SolarShares offering and look to add a new residential SolarShares program. Our

---

2 Senate Bill 100 (De León, Chapter 312, Statutes of 2018) increased RPS targets to 44% by the end of 2024, 52% by the end of 2027, 60% by the end of 2030 and sets a statewide retail sales goal of 100% RPS eligible and zero-carbon resources by 2045.
Large Commercial SolarShares program exceeded program expectations under new agreements from 2017, delivering 264 GWhs to customers. The program has contracts with customers to deliver over 300 GWhs in 2019.

To continue progress in achieving our sustainability goals, staff continue to conduct procurement efforts and advance the technology field through research and development. By the end of 2018, SMUD has over 635 MW of new renewables in the pipeline for development to serve our customers. Additionally, we continued to fund research and development efforts and funding grant for clean energy and GHG reduction projects in 2018. A summary of these projects is included in Appendix B.

B. Meet Energy Efficiency Goals; Reduce Regional Carbon Emissions

Our demand-side programs help our customers manage energy use or generate their own energy through incentives, rate-design and communication. We are also working to increase the electrification of transportation and buildings in our service territory. As detailed in our 2018 IRP, we are focusing on building and transportation electrification to improve local air quality by fuel switching from fossil-fuel to clean low carbon electricity for those living in the Sacramento region.

Energy Efficiency and Building and Vehicle Electrification

The 2018 SD-9 goal was 145.6 GWh of energy savings from EE programs. SMUD’s EE savings exceeded this goal, saving over 149.1 GWh of energy in 2018. Table 4 summarizes energy savings from SMUD’s residential and commercial energy efficiency programs.

<table>
<thead>
<tr>
<th>Program Type</th>
<th>Energy Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information &amp; Education Savings</td>
<td>12.6</td>
</tr>
<tr>
<td>Existing Residential</td>
<td>30.2</td>
</tr>
<tr>
<td>Existing Commercial</td>
<td>59.7</td>
</tr>
<tr>
<td>Commercial New Construction</td>
<td>11.7</td>
</tr>
<tr>
<td>Codes &amp; Standards</td>
<td>35.0</td>
</tr>
<tr>
<td><strong>Total All Savings</strong></td>
<td><strong>149.1</strong></td>
</tr>
<tr>
<td><strong>SD-9 Goal</strong></td>
<td><strong>145.6</strong></td>
</tr>
</tbody>
</table>

The Energy Efficiency portfolio was expanded to include offerings for gas-to-electric conversions of residential water heating equipment, space heating equipment, and cooktops. Building electrification products are delivered through residential new construction, whole house retrofits, and prescriptive equipment rebates. These building electrification efforts yielded the equivalence of 2.16 GWh.

In 2018, SMUD’s Drive Electric program continued to promote adoption of plug-in electric vehicles through special rate offerings, public education and outreach, and collaboration with local auto dealers, the City of Sacramento and the local air quality management district. In 2018 SMUD approved 2,126 EV incentives through our Charge Free for Two Years program for the purchase or lease of a new PEV. At the end of 2018, we had 10,244 EVs registered within SMUD’s service territory including 8,959 residentially registered EVs and 4,132 residential accounts on our EV rate credit (midnight to 6 a.m. EV charging discount program).
C. Promote Cost Effective Clean Distributed Generation and Storage

SD-9 requires that SMUD develop programs to promote cost effective, clean distributed generation.

Demand response

Our demand response programs continue to provide a resource for Energy Trading & Contracts and Grid Operations to manage the grid for reliability or economic purposes. In 2018, two dispatchable commercial customer programs were used. Linde was dispatched one time and we realized a 6.58 MW load reduction. Commercial customers on our PowerDirect program were notified 8 times to curtail load and we realized an average load reduction of 0.86 MW to 4.21 MW across the duration of the event.

Our two commercial customers on the temperature dependent rate were notified five times during the summer and they provided a range of 7.35 and 13.20 MW of load reduction. While the Peak Corp (residential air conditional load management program) continues to provide about 61 MW of resource adequacy capacity, it remains as an operational resource to be used in case of an emergency. For more details, please see Appendix B.

Time of Day Rates

The transition began in September 2018, giving the majority of our customers more time on the lower priced non-summer seasonal rate. We have transitioned more than 541,000 eligible residential customers to the new TOD rate or alternative rate, ahead of the 2019 summer months. As of June 30, 2019, 99% of residential customers adopted the TOD rate, which is above our expectation of 96%. However, we expect this adoption rate to drop slightly as customers decide which rate works best for their situation over the summer months. The next step will be to transition solar customers and those who were on previous pilot TOD rates to the new TOD rate. See Appendix B for more details.

Clean Distributed Generation

Through the end of 2018, over 30 MW of customer sited solar PV was installed. Of these installations, less than 2 MW were provided an incentive from our closed SB1 incentive programs. In total, there are nearly 19,000 customer-sited PV installations in SMUD’s service territory representing 158 MW. As a result of our 2017 evaluation of energy storage as required by AB2514, SMUD set a distributed energy storage procurement target of 9 MW by the end of 2020. As of December 31, 2018, we had a total of 1.56 MW of customer-sited projects toward the goal: 0.47 MW in residential and 1.09 MW in commercial. An additional 0.59 MW have been installed through July 31, 2019.

4. Challenges

There were no notable challenges to meeting the goals in SD-9.

5. Recommendation

It is recommended that the Board accept the Monitoring Report for SD-9.
Appendix A – SD-9 History

SD-9 was established by SMUD’s Board in 2004, which provides direction for SMUD’s ongoing environmental leadership and the use of an IRP process to achieve these directives and balance environmental goals with financial and customer rate impacts, and reliability requirements. SMUD’s strategic directions have evolved as markets, policies and laws have changed. Most recently, in 2018, the Board updated our greenhouse gas reduction goals to include a 2040 Net Zero GHG goal, through expansion of renewables in our power supply as well as expanding our efforts in energy efficiency, and vehicle and building electrification. The following are the most significant updates to SD-9 since adopted in 2004.

In December 2008, the Board added sustainable power supply as the overall objective of the integrated resource planning process and set a GHG emissions target. Under SD-9, SMUD’s goal is the reduction of long-term GHG emissions for serving retail load from its current state to 10% of its 1990 GHG emission levels by 2050, more aggressive than California’s goal of 20% of 1990 emissions by 2050.

In 2009, Resolution 09-11-08 accelerated the RPS procurement target to 20% of SMUD’s annual retail sales by 2010 and adopted an RPS procurement target of 33% of retail sales by 2020. Subsequently in May 2011, Resolution 11-05-05 adopted a GHG reduction target of 2.3 MMt by 2020 to establish a trend toward our long-term GHG goals. In 2016, Resolution 16-10-14 refined carbon reduction, energy efficiency, and renewable power goals. These revisions set SMUD’s RPS procurement target to 50% of energy sales by 2030.

The latest revisions to SD-9 were adopted by the Board in 2018 through Resolution 18-10-11 as part of SMUD’s 2018 IRP. Under this resolution, the Board has set SMUD on a pathway to reduce carbon emissions regionally, equivalent to a net-zero emissions portfolio of energy and customer-side programs and measures to reduce our communities carbon footprint by 2040. The key SD9 policy updates include:

- Addition of a 2030 goal of 1.35 million MT GHG
- Addition of a Net Zero goal beginning in 2040 and beyond
- Addition of the 2030 60% RPS and the interim targets as specified in SB100
Appendix B – Detailed Project Descriptions

Table B-1 details accomplishments for various energy efficiency programs SMUD offers.

<table>
<thead>
<tr>
<th>Measures &amp; Projects</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Projects Completed Complete Energy Solutions</td>
<td>401</td>
</tr>
<tr>
<td>Commercial Projects Through Express Energy Solutions</td>
<td>741</td>
</tr>
<tr>
<td>Custom Commercial Projects Completed</td>
<td>118</td>
</tr>
<tr>
<td>New Efficient Commercial Buildings Constructed</td>
<td>28</td>
</tr>
<tr>
<td>Efficient Clothes Dryers Purchased</td>
<td>8</td>
</tr>
<tr>
<td>Efficient Refrigerators Purchased</td>
<td>614</td>
</tr>
<tr>
<td>Efficient Room Air Conditioners Purchased</td>
<td>65</td>
</tr>
<tr>
<td>Energy Star Smart Thermostats Purchased</td>
<td>7,406</td>
</tr>
<tr>
<td>Energy Star Products Purchased through RPP Retailers</td>
<td>17,129</td>
</tr>
<tr>
<td>Advanced Power Strips Installed</td>
<td>930</td>
</tr>
<tr>
<td>LED/CFL Bulbs Sold</td>
<td>142,290</td>
</tr>
<tr>
<td>LED/CFL Fixtures Sold</td>
<td>47,157</td>
</tr>
<tr>
<td>Old Refrigerators Recycled</td>
<td>6,343</td>
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<tr>
<td>Pool Pumps Purchased</td>
<td>1,678</td>
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<tr>
<td>Residential Heat Pump Water Heaters Installed</td>
<td>154</td>
</tr>
<tr>
<td>Residential HVAC Installations</td>
<td>3,781</td>
</tr>
<tr>
<td>Residential Retrofits Completed</td>
<td>1,206</td>
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<tr>
<td>Whole House Fans Purchased</td>
<td>978</td>
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</table>

Table B-2 details new renewable energy procurement activities.

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Type</th>
<th>MW</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grady</td>
<td>Wind</td>
<td>200</td>
<td>Online COD 2019</td>
</tr>
<tr>
<td>Great Valley Solar (Verde)</td>
<td>PV</td>
<td>60</td>
<td>Online COD 2018</td>
</tr>
<tr>
<td>NTUA Drew Solar</td>
<td>PV</td>
<td>100</td>
<td>Under Construction</td>
</tr>
<tr>
<td>Rancho Seco 2</td>
<td>PV</td>
<td>160</td>
<td>Under Construction</td>
</tr>
<tr>
<td>Solano 4</td>
<td>Wind</td>
<td>100</td>
<td>Planning</td>
</tr>
<tr>
<td>South Fork Powerhouse</td>
<td>Small Hydro</td>
<td>3</td>
<td>Under Construction</td>
</tr>
<tr>
<td>Wildflower</td>
<td>PV</td>
<td>13</td>
<td>Planning</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>636</td>
<td></td>
</tr>
</tbody>
</table>

We will also be deploying a grid-connected utility-scale battery storage project of 4 MW/8 MWh at the Hedge Solar Farm. The battery will be procured in 2020 and expected to be online in 2021.
Existing Demand Response Programs

The PowerDirect program (Commercial AutoDR) continues to be an operational resource to be used for reliability or economic purposes. A range of 0.86 MW to 4.21 MW was realized (average across the duration of the event) when it was used 8 times during the summer for price response. The program is planned to continue to grow by 2 MW in 2019.

SMUD has an ongoing contract with one of our largest industrial customers to provide reliable operational DR. In 2018, this customer provided 6.58 MW of load reduction one time during the year for price response. The two large industrial customers participate in SMUD’s Temperature Dependent Rate program. In 2018, this program was call on 5 days during the summer Together, these customers responded by curtailing between 7.35 MW and 13.20 MW, depending on the day.

SMUD’s Peak Corps Program (residential air conditioning load management) remains a resource to SMUD and can be used in emergency situations. Peak Corps adds value by contributing toward SMUD’s resource adequacy requirements. Typically, each summer, the program is “nick tested” by the grid operations staff to ensure the resource is working and to validate the load reduction potential. There was no test conducted in 2018. However, in 2016 (when the last test was conducted), 69 MW of load reduction was realized at 100% full shed (slightly higher than forecasted load reduction due to the higher outdoor temperature during the test).

The program will continue to decline by about 1 MW per year due to attrition. The PowerDirect program will continue to grow by adding between 2 MW and 3 MW by the end of 2019.

Table B-3: Available Demand Response Programs

<table>
<thead>
<tr>
<th>Dispatchable Programs</th>
<th>Expected Load Shed Range (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Air Conditioning Load Management (Peak Corps)</td>
<td></td>
</tr>
<tr>
<td>At participants maximum elected level of cycling (full cycling)</td>
<td>41</td>
</tr>
<tr>
<td>At 100% full shed (emergency shed)</td>
<td>61</td>
</tr>
<tr>
<td>Industrial Curtailment</td>
<td>6.5</td>
</tr>
<tr>
<td>PowerDirect (Commercial AutoDR)</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>67.5 - 87.5</strong></td>
</tr>
<tr>
<td>Non-Dispatchable Programs</td>
<td>Expected Load Shed Range (MW)</td>
</tr>
<tr>
<td>Temperature Dependent Rate</td>
<td></td>
</tr>
<tr>
<td>Air Products</td>
<td>0 - 9.0</td>
</tr>
<tr>
<td>Linde</td>
<td>0 - 6.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>0 - 15.5</strong></td>
</tr>
</tbody>
</table>

---

3 NERC WebDADs report
4 NERC WebDADs report
5 NERC WebDADs report
New Demand Response Program Offerings

SMUD is planning and developing several new demand response programs including a Residential Bring-Your-Own Device program and a NextGen 2-way A/C load control switch program. These programs are expected to be launched within the next several years.

Peak Load per Customer

SMUD’s projected normal weather peak load for 2018 is 4.76 kW per customer account. Load per customer is a metric used to monitor the effectiveness of SMUD’s efficiency and demand reduction programs. Historic load per customer data can be found in Table B-3.

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual</th>
<th>Normal Weather</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>4.80</td>
<td>4.86</td>
</tr>
<tr>
<td>2016</td>
<td>4.80</td>
<td>4.81</td>
</tr>
<tr>
<td>2017</td>
<td>5.07</td>
<td>4.77</td>
</tr>
<tr>
<td>2018</td>
<td>4.69</td>
<td>4.76</td>
</tr>
</tbody>
</table>

Grant Funded Clean Energy Projects

- The demonstration renewable natural gas production from the gasification of biomass was completed in Dec-2018 led by UC San Diego under a grant from the CEC. This project updated the mass and energy balances for a commercial-size project, provided insight on the levelized cost of energy, and identified pathways for future research to reduce these costs.

- Assessment of Scenarios and Decarbonization of Natural Gas – This is a strategic assessment of the long-term future of the natural gas system in California. The assessment will be based on scenarios that evaluate how RNG can decarbonize natural gas and assess the role of the natural gas system in achieving California’s greenhouse gas emission targets as well as the market implications, environmental impacts, biomethane technology development and deployment, and regulatory treatment of natural gas assets. Project completion is estimated for 2019.

Renewable Energy & Distributed Generation Studies

- Load Tap Changer (LTC) Transformer Driving Point Impedance (DPI) Study is continuing to evaluate SMUD’s LTC control system under several operational scenarios. This project is being completed by NREL in the last Quarter of 2019.

- Organic Waste Food Collection Program: Completed in first quarter of 2018, this project intended to develop and establish a food waste/organic waste collection system.

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6 The 2018 system peak hourly load of 2,944 MW was reached on Wednesday, July 25, 2018. The peak occurred on the third day over 100 degrees of a heat storm. The high and low temperatures were 107- and 64-degrees Fahrenheit, respectively, measured at the Sacramento City and Executive Airport weather stations. The forecast of SMUD’s system peak under extreme (1 in 5) weather conditions was 3,145 MW, which is higher than the observed peak demand.
program for all sectors in Sacramento County and use of the organic waste as feedstock at anaerobic digestion facilities for electricity generation or pipeline injection.

- **Gas Technology Institute-California RNG Production from Woody Biomass** – This GTI’s engineering design study of a conversion of existing biomass power plant to produce renewable natural gas (RNG) from wood wastes was completed in December 2018.

- **Small Modular Biomass Feasibility and Demo** - Completed in 2018, this project reviewed emerging biomass conversion systems using low moisture fuels. Costs, performance, and market characteristics were assessed.

- **Assessment of Biomass Smart Mechanisms** - This project was completed in December 2018 that assessed market-based incentive mechanisms for the expansion of sustainable biomass resources to energy in the SMUD service territory, providing framework and information for consideration in a potential POU Biomass Incentive program.

- **PRECISE Project** – Initiated in 2017, SMUD and National Renewable Energy Laboratory have signed an IP agreement to develop and field-deploy a streamlined process to preconfigure advanced inverters to mitigate the issues of high penetrations of solar PV on SMUD’s grid. Phase 1 of the project is estimated to be completed in Q3 of 2019. Phase 2 (as proposed) will deploy the PRECISE tool at SMUD in 2020-2021 timeframe.

- **Distributed PV Forecasting & Load Forecast Project** – Initiated in 2017 with the Electric Power Research Institute, this project will identify processes to better integrate distributed PV in load forecasts, understand impacts of distributed PV on loads, and improve integration of distributed PV into grid operations. Project completion is estimated for Fall 2019.

- **Van Steyn Dairy Digester Comparison of Open & Closed Loops** – Initiated in 2017, this project modified the existing open loop manure flush system at Van Steyn Dairy Digester and install a closed loop system, while keeping all other variables constant. Monitoring of biogas production is expected to be completed by the end of 2019.

**Climate Change and Carbon Reduction Research Projects undertaken in 2018**

The Climate R&D program objective is to provide leadership on technical, economic, and policy issues associated with climate change and its impacts on SMUD and the region we serve. This work supports SMUD’s long-term IRP goals, assists SMUD operations to address climate vulnerabilities, and creates new opportunities for customers and community partners who support climate neutrality and regenerative projects with a net positive impact.

**Key Projects:**

- Validated the first-of-its-kind 2017 Land-Based Carbon Assessment against the California ARB’s new statewide land-cover inventory and began development of a proposal for a Carbon Farm Plan at the SMUD Solano Wind Farm.
• Completed the SMUD Living Future Project Accelerator to inspire more local participation in the International Living Future Institute’s all-electric Living Building and Community Challenges. Nine new projects in SMUD service territory are registered for varying levels of Living Future certification.

• Secured an American Public Power Association Demonstration of Energy & Efficiency Development (DEED) grant to help support a new natural refrigerant system at a local grocery store.

• Created a proposal to the Federal Emergency Management Administration Hazard Mitigation program to address projected heat health events in a disadvantaged North Sacramento neighborhood with dramatically expanded canopy cover, which will also expand urban carbon storage.

Building Electrification

SMUD’s residential new construction program completed 79 newly built all-electric homes, installation of 142 gas-to-electric heat pump water heaters in existing homes, 134 gas-to-electric heat pump HVAC systems in existing homes, 10 gas-to-electric induction cooktops in existing homes, and gas-to-electric system conversion in 88 existing multifamily units.

Vehicle Electrification

In 2016, SMUD launched a residential “Charge Free for a year” program, which was expanded in 2017 to “Charge Free for 2 years” by increasing the rebate to $599. In 2018, SMUD’s Drive Electric program continued to promote adoption of plug-in electric vehicles through special PEV rate offerings, participation in educational events, educational offerings through our website SMUD.org/PEV, and collaboration with local auto dealers and the local EV advocacy group Sac EV including its members such as City of Sacramento office of sustainability, SMAQMD, etc. SMUD’s coordination of a large-scale Ride-N-Drive event at the Sacramento International Auto Show resulted in test drives of plug-in electric vehicles and was one of the most exciting events of our PEV education efforts in 2018.

Other activities in 2018 include:

• SMUD contracted with Plug-In America to provide auto dealer sales and management staff training in consumer facing EV knowledge, as well as a commission offering to encourage EV sales. Nineteen dealers are participating in the program.

• SMUD’s outreach and education program facilitated six ride & drive events, as well as participation in several EV related events and presentations. This included a large-scale SMUD-coordinated Ride-N-Drive event at the Sacramento International Auto Show which was one of the most exciting events of our PEV education efforts in 2018.

• SMUD’s Workplace and Multi-family Charging Infrastructure program installed 103 projects.

• Assisted commercial customers in determining their EV suitability through a pilot with FleetCarma
• Working with Clipper Creek and eMotorWerks to evaluate different charging strategies at SMUD.

• Partnered with three school districts to support the electrification of 29 school buses in the SMUD service territory with the goal of reducing diesel exhaust in disadvantaged communities.

**Voluntary Renewable Energy Programs**

SMUD offers its customers two program offerings to voluntarily reduce GHG emissions and increase renewable energy procurement. The following is a summary of these program offerings.

Greenery is a voluntary green pricing program that gives customers the option to support renewable energy generation by paying a fixed monthly rate ($3 or $6) to match either 50% or 100% of their usage with renewable energy credits. When a customer enrolls in Greenery their usage is tracked according to their enrollment level. SMUD uses the proceeds from this program to purchase renewable power or renewable energy credits to supply participants from generators located within the western US. These purchases are in addition to our RPS requirements.

SMUD reached agreement with customers to deliver 149 MW of SolarShares to large commercial customers in 2017, equivalent to 323 GWh per year. This includes 115 MW that started delivering in 2017 and over 34 MW starting delivery in 2018 and 2019, and we are building programs to reach residential and small commercial customers next year.

In 2019, we will launch our developer SolarShares product and continue working on the residential re-launch with the Residential Mass Market product.

**Time of Day Rates**

In 2019, Time-of-Day rates (or TOD rate) became the standard residential rate. The TOD rate is designed to incentivize customers to shift electricity consumption to lower-cost times in the day and give them more flexibility to better manage their electricity use and bills. Staff expects this shift will reduce SMUD’s peak demand by 84 MW in 2019.

**Customer-side Solar Status**

As of mid-2016, SMUD has achieved our SB1 Program funding goals for residential and commercial installations. Currently, there are remaining SB1 funded projects still under development. On July 5, 2016, SMUD moved to a contractor stipend payment of $500 to assure the installation of PV production meter equipment. Although incentives have ended, residential and commercial solar systems are still being installed under our net-energy metering agreements. In 2018, nearly 30 MW of customer solar were installed in SMUD service territory under net-energy metering agreements. Table B-5 summarizes solar installation data through 2018.

In 2018, the CEC adopted new Title 24 Building Energy Efficiency Standards that, beginning in 2020, now requires solar on new homes, with some exceptions. These standards are expected to drive additional solar installations within SMUD’s service territory. We are also exploring options with the CEC to meet the requirement through the Community Solar
compliance alternative provided in the standards. With this alternative, SMUD would buy solar and provide it to new home customers over 20 years as a credit on their bills.

Table B-5: Installed Customer PV

<table>
<thead>
<tr>
<th></th>
<th>SB1</th>
<th>Residential NEM</th>
<th>Commercial NEM</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Installed Systems MW</td>
<td>Installed Systems MW</td>
<td>Installed Systems MW</td>
<td>Installed Systems MW</td>
</tr>
<tr>
<td>2018</td>
<td>12</td>
<td>1.5</td>
<td>4.541</td>
<td>20.2</td>
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<tr>
<td>Totals</td>
<td>14,636</td>
<td>128.6</td>
<td>10,017</td>
<td>44.6</td>
</tr>
</tbody>
</table>
RESOLUTION NO. 19-09-04

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

This Board accepts the monitoring report for Strategic Direction SD-10, Innovation, substantially in the form set forth in Attachment C hereto and made a part hereof.

Approved: September 19, 2019

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<th>AYE</th>
<th>NO</th>
<th>ABSTAIN</th>
<th>ABSENT</th>
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<td>SANBORN</td>
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SACRAMENTO MUNICIPAL UTILITY DISTRICT
OFFICE MEMORANDUM

TO: Board of Directors  DATE: September 4, 2019

FROM: Claire Rogers

SUBJECT: Audit Report No. 28007102
Board Monitoring Report; SD-10: Innovation

Audit and Quality Services (AQS) reviewed the SD-10 Innovation 2019 Annual Board Monitoring Report and performed the following:

- Reviewed the information presented in the report to determine the possible existence of material misstatements;
- Interviewed report contributors and verified the methodology used to prepare the monitoring report; and
- Validated the reasonableness of a selection of the report's statements and assertions.

During the course of the review, nothing came to AQS' attention that would suggest the report did not fairly represent the source data available at the time of the review.

CC:

Arlen Orchard
1. **Background**  
SD-10 States: Delivering innovative solutions, products and services to our customers is a core value. To assure our long-term competitiveness, SMUD shall invest in research and development projects that support its core and key values and integrate emerging technologies and new business models into SMUD’s customer offerings in a way that balances risk and opportunity and benefits our customers and community.

2. **Executive Summary**  
Distributed Energy Strategy (DES) pursued technologies, business models and customer offerings to expand the use of emerging technologies by our customers, while enhancing value to SMUD and our community as a whole. A number of foundational initiatives began this year, laying the groundwork for significant expansion in the near future. Many of the initiatives transitioned from Research and Development (R&D) pilots into customer programs, helping make innovation mainstream.

SMUD’s R&D portfolio addresses innovation and challenges in *electric transportation*, *energy efficiency*, *building electrification*, *energy storage*, *generation*, *grid evolution*, *climate change*, and *load flexibility/demand response*. The research provides insight into future planning as well as support the development of near-term technology solutions for SMUD customers and the grid. **Our conclusion is that SMUD is in compliance with SD-10 Innovation.**

<table>
<thead>
<tr>
<th>SD Requirement</th>
<th>Purpose</th>
<th>Outcome</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Implementation</td>
<td>Project distribution indicates breadth of portfolio diversity and prioritization of program areas.</td>
<td>50 active projects in 2019. 25 projects expected to be completed by September 2019.¹</td>
<td>Projects include primary and secondary research studies, field demonstrations and pilots.</td>
</tr>
<tr>
<td>Risk</td>
<td>Technology risk assesses ability to meet expected performance goals. Implementation risk assesses probability of deployment.</td>
<td>62% of projects are deemed low to medium-low technology risk. 52% are deemed low to medium-low implementation risk.</td>
<td>Potential risks are also managed by creating a diversified portfolio and partnering with other entities to distribute risk and mitigation.</td>
</tr>
<tr>
<td>Benefits</td>
<td>Research stage and timeframe benefits indicate the relevance of portfolio to address customer needs and strategic planning.</td>
<td>56% of projects are in stages 4-5². 98% are expected to provide benefits to SMUD or customers within 5 years.</td>
<td>Research stages 4-5 percentage is lower than 2018’s 60%, indicating slightly less focus on near term applications.</td>
</tr>
</tbody>
</table>

¹ Reporting metrics and achievements reflect 12-month period preceding report delivery.  
² Stage 1 - Preliminary Investigation, Stage 2 - Concept Definition/Lab scale, Stage 3 - Concept Development (Prototype/bench scale), Stage 4 - Technology Development and Verification (pilot scale; field testing), Stage 5 - Commercialization
3. Additional Supporting Information

Project Implementation
The Energy Strategy, Research and Development department (ESR&D), which oversees both DES and R&D, has the primary responsibility of meeting the objectives of SD-10 through seven strategy and research areas. All key 2019 activity is described below.

Electric Transportation (ET)
Electrification of transportation will improve air quality, reduce net greenhouse gas emissions, and reduce petroleum consumption to support energy security and sustainability, while creating new revenue streams for SMUD. This strategy is supported through investigation of mitigation of grid impacts due to charging, improvement of EV value through pricing signals and remote controls, and increased adoption of EVs.

Key Achievements:
- Developing new EV equity programs for low/moderate-income customers to bring EVs, charging infrastructure, and workforce and economic development.
- Developed program expanding Commercial EV activities to support fleets.
- Teaming with a CEC contractor on the State’s California Electric Vehicle Infrastructure Program to provide higher rebates for charging infrastructures.
- Demonstrated self-driving electric shuttle (Olli), developed by Local Motors. Olli utilized pre-programmed routes for Cal Expo events including the State Fair.
- Increased the amount of electric vehicle miles in Uber’s services and promoted EV adoption through Uber rider outreach and education.
- On-going consultation for commercial customers on electrification strategies for medium and heavy-duty fleets, including schools and Regional Transit.
- Validated technologies that minimize upfront capital cost of EV charging installations to reduce barriers to fleet and employee charging programs.

Energy Efficiency (EE) & Electric Buildings (EB)
This strategic objective is to optimize delivery costs by improving grid asset utilization through targeted, time specific, energy efficiency and building electrification and capturing program outcomes permanently in codes. ESR&D conducted investigations of emerging technologies and underutilized technologies for building decarbonization.

Key Achievements:
- Developed software tool that calculates hourly carbon impacts of customer efficiency and electrification programs and as a result, work towards a new overall program success metric based on carbon savings to better align with IRP.
• Confirmed energy, peak load, and customer bill savings from optimization of smart thermostats and heat pump water heaters on TOD rate.
• SMUD testing SkyCool radiative panels to monitor the energy use impact on the refrigeration system, seeks to confirm claims of 10% increase in efficiency.
• Assessing non-energy benefits of connected lighting systems and circadian lighting techniques with 35 families with children with Autism Spectrum Disorder.

**Energy Storage (ES)**
The strategic objective is to enable grid integration of storage to best capture grid value, incent adoption in areas which provide grid benefits, and develop business/ownership models to capture the most value for SMUD and customers. ESR&D seeks to determine emerging storage technologies commercial readiness, applications, benefits and costs; regulatory and environmental constraints and mitigation; and grid impacts.

Key Achievements:
• AB 2514 storage programs have achieved 2.02 MW of storage toward SMUD’s 9 MW CEC commitment.
• New programs include SMUD’s Central Plant thermal energy storage, residential and commercial behind the meter storage, StorageShares and a 4 MW utility-scale battery.
• Initiating smart charging demonstration to utilize energy storage, onsite solar, and high speed DCFC curtailment to mitigate distribution system impacts.

**Generation**
This program works to meet SMUD’s goals of maintaining system reliability, reducing revenue erosion, and reducing carbon emissions through strategic alignment of distributed energy resources. ESR&D pursues the creation and deployment of innovative grid integration solutions, including customer products and services, rate design recommendations and continuous improvement of related business processes.

Key Achievements:
• Developed Community SolarShares program to meet CEC Title 24 Community Solar option (new single-family homes to include rooftop PV starting 2020).
• The DER Planning Tool (Wattplan Grid) was used to generate its first residential and commercial customer solar PV adoption forecast.
• Developed the first-of-a-kind process with CARB to optimize Low Carbon Fuel Standard (LCFS) credits for electricity generated by dairy digesters system allocated to charge electric vehicles. ESR&D submitted applications for two dairy digesters under this new process.
• In partnership with NREL developed PRECISE, a planning and real-time operation platform that will significantly reduce interconnection time, optimize inverter settings, and reduce the need for grid infrastructure upgrades.
• Established blueprint to convert existing biomass power plant to produce renewable natural gas from wood wastes.
• Completed development of levelized cost of electricity tool for 11 technologies creating a transparent, easy to use planning tool for three ownership options.
• Developed a protocol that can account for a variety of ecosystem services that result from reduction in wildfire size and severity related to biomass gasification activities using forest thinnings as feedstock.
• Performed assessment of long-term future of natural gas system in California. Indicated a need to transition to electrification and away from natural gas.

**Grid Evolution (GE)**
This program optimizes grid benefits of distributed resources by advancing integration standards, coordinated automation leveraging smart grid technologies. Anticipated benefits include improved grid resiliency and reliability through reduced frequency and duration of outages, increased control of voltage, frequency, and overload conditions.

Key Achievements:
• Provided inputs into rulemaking for California Rule 21 Interconnection Tariff and Title 24 Building Energy Efficiency Standards.

**Climate Change**
This program objective is to provide leadership on technical, economic, and policy issues on climate change and impacts to SMUD territory. This supports SMUD’s IRP goals, assists operations to address climate vulnerabilities, and creates opportunities for customers and community partners who support climate neutrality and regenerative projects with a net positive impact.

Key Achievements:
• Completed SMUD Living Future Project Accelerator to inspire local participation in International Living Future Institute’s all-electric Living Building and Community Challenges. Nine projects in SMUD territory are registered for certification.
• Secured APPA Demonstration of Energy & Efficiency Development (DEED) grant to support new natural refrigerant system at a local grocery store.
- Proposed FEMA Hazard Mitigation program for projected heat health events in a disadvantaged North Sacramento area with dramatically expanded canopy is currently being considered for funding.
- Validated first-of-its-kind Land-Based Carbon Assessment against CARB’s new statewide land-cover inventory and began development of proposal for Carbon Farm Plan at the SMUD Solano Wind Farm.

**Load Flexibility/Demand Response**
By investing in strategies that enable cost-effective, reliable, and scalable flexible resource growth, SMUD will be able to serve future grid needs while delivering customer value. ESR&D supports this by determining functional, operational and market viability of flexible loads to better align supply and demand while giving customers’ options to manage their electric bills, improve air quality, and fight global warming.

Key Achievements:
- Integrated real time meters with Grid Rabbit energy management system at the Hyatt Regency hotel, allowing visibility to instantaneous demand and enhanced whole building load management
- SMUD updated the Siemens controls for SMUD’s central plant thermal energy storage system to test operation based on CaISO day ahead pricing.

**Summary**
In 2019 we’ve seen significant growth in electric vehicles and early successes with battery storage and building electrification, all initiating momentum towards SMUD’s IRP. Our diverse portfolio of projects will assist in maintaining long-term competitiveness and improve SMUD’s ability to deliver innovative products and services. The wide range of projects is designed to balance risk with potential environmental and economic benefits that will result in a more sustainable energy supply for the region while ensuring benefits to our community.

4. **Challenges**
Emerging technologies bring challenges with market uptake, including lack of awareness, implementing complementary technologies to maximize benefits, and managing the associated impacts to SMUD’s grid. ESR&D is working collaboratively across SMUD to proactively address these challenges. Also inherent to R&D projects are risks associated with technology maturity and legislative and regulatory changes, all of which are mitigated at the individual project as well as portfolio level.

5. **Recommendation:** It is recommended that the Board accept the Monitoring Report for SD SD-10 Innovation.
### APPENDIX

<table>
<thead>
<tr>
<th>Research Area</th>
<th>ID</th>
<th>Project Name</th>
<th>Project Description</th>
<th>Benefits</th>
<th>Start Date</th>
<th>End Date</th>
</tr>
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</table>
| Climate Change | 210 | Natural Refrigerant Demonstrations & Market Development | Project designed to leverage ARB funds if available through CA Greenhouse Gas Reduction Fund (GGRF) and establish a pilot research support fund for local implementation of natural refrigerant systems, to reduce GHG emissions. Project will support research and monitoring in conjunction with SMUD’s Custom Solutions program design and is an attempt to influence and expand the market for natural refrigerants. | 1. Help to stimulate and expand the market for natural refrigerants, driving down system cost.  
2. Significantly reduce local use of very potent high GWP greenhouse gasses  
3. Support our customers by helping them avoid the costly and inconvenient need for regular refrigerant changes due to tightening standards.  
4. Provides opportunity to study energy efficiency and performance of natural refrigerant systems in our climate. | 4/3/2017    | 3/30/2020 |
| Climate Change | 323 | SMUD Living Future Project Accelerator | This project was a collaboration with Arch Nexus, ILFI and SMUD staff to expand awareness of ILFI framework in the Sacramento region and accelerate Living Future projects.                                                                                                                                                                                                                                           | Expanded participation in ILFI helped drive down costs of advanced buildings, making them more common. Cultivated public interest to help to normalize all-electric homes. | 7/27/2017    | 11/9/2018 |
| Climate Change | 348 | EPRI GHG Measurement                  | The overall purpose of this Project with EPRI (Project Lead) was to measure GHG emissions, specifically CH4 and N2O emissions, from SMUD’s CPP. Stable isotopic measurement of the sampled GHG was also performed.                                                                                                                   | No significant gas leaks were found during the survey of CPP, confirming that this particular facility does not account for the gap between top down and bottom up estimates of GHG emissions. CPP emissions measured onsite with the EPRI combined tools methodology did not differ significantly from the CPP emissions calculated and reported by SMUD in the past. | 3/16/2018    | 9/6/2018  |
| Load Flexibility | 163 | Heat Pump Water Heater Scheduling   | Load shifting using controllable Heat Pump Water Heaters (HPWH). Scalability and load flexibility will be evaluated for both GE and Rheem brand controllable HPWH.                                                                                                                                                                                                                                      | Heat pump water heaters play an important part in SMUD’s IRP and Sacramento’s regional decarbonization plan. The IRP requires mass market conversion to HPWH. Each water heater technically offers up to 0.5 kW of flexible load, at volume this has the potential of contributing toward a significant fraction of the 500 MW flexible load goal in the IRP. | 6/1/2019     | 12/31/2020 |
| Load Flexibility | 325 | Smart Grid Billing Energy Storage Solution demo | SMUD’s Innovation Generator is in contract with Smart Grid Billing (SGB) to demonstrate the performance of SGB’s product GridRabbitTM, a real time load management and dispatchable load control EMS platform. SMUD contracted with SGB to purchase and install a 90 kW/126 kWh battery storage system and integrate with existing GridRabbit (TM) platform at Hyatt Regency Sacramento. | Project will assess:  
- Optimal size of a battery storage for shifting peak load.  
- Ideal size of distributed battery storage and load control solution to provide voltage support.  
- Impact of combining battery storage and energy management via smart devices.  
- Impact of combining battery storage and EV charging.  
- Feasibility of energy storage-related business cases. | 12/15/2016   | 12/31/2019 |

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3 This appendix includes projects that were active at any time during September 1, 2018 through August 31, 2019.
| Load Flexibility | Commercial TES Phase II | Modeling results show that modifying the SMUD's HQ TES system schedule optimizes operation compared to ISO wholesale pricing can be beneficial to cost to serve and operate. Commercial TES Phase II will pilot operation based on CAISO day-ahead pricing and assess value of offering an incentive for customers to modify their existing TES operation or install a new system. | Cost to serve and cost to operate will be reduced. A dynamic scheduling of TES systems will give SMUD an operational asset to dispatch as needed. | 12/1/2018 | 6/1/2020 |
| Generation | Van Steyn Dairy Digester Comparison of Open & Close Loops | Modifies existing open loop manure flush system at Van Steyn Dairy Digester and install a closed loop system. Evaluate impacts of changes to dairy manure system design for two years data. The resultant data will provide highly specific estimates of biogas generation potential and inform digester developers’ decisions on the tradeoffs between manure system improvements, digester sizing, and digester performance. | Improvement created by closed loop design will inform digesters developers for the tradeoffs between flush system improvements, digester size, and biogas production. Will inform proper size and configuration for future dairy digesters. Project is expected to yield an increase of 25% to 75% renewable energy generation at the Van Steyn digester, increasing the supply of renewable power to SMUD customers by an additional 150,000 to 450,000 kWh per year. | 11/27/2017 | 12/30/2019 |
| Generation | EPRI SHINES EPRI project that SMUD is participating in with the goals of developing a beneficial integration of solar photovoltaic generation, energy storage, load management, and advanced forecasting technique, with electric power delivery network through optimal control strategies at a minimized cost using a local DERMS controller interacting with a distribution system controller. | Potential outcomes include enhanced grid operations, increased PV deployments on circuits, smoothing of PV output, time shifting of solar generation, improved load profiles, reduced grid impacts and interconnection processing time and cost. The benefits may include more reliable and resilient electric power delivery network, increased penetration of renewable energy resources, and lower total cost of energy. | 6/9/2016 | 12/31/2019 |
| Generation | PV Carport Feasibility Study The focus of this feasibility study examined deployment value of EV charging with carport parking lot PV generation. | Inform SMUD’s strategies for regional electric transportation and distributed solar generation as well as SolarShares. | 4/20/2018 | 9/7/2018 |
| Generation | EPRI: Distribution Resource Integration and Value Estimation (DRIVE) Tool DRIVE enables planners to efficiently and effectively evaluate the technical impacts of DER on distribution systems. The DRIVE tool is a capacity evaluation application to determine the ability to host resources on distribution feeders without causing adverse impacts to power quality or reliability. | The DRIVE tool helps distribution planning engineers evaluate interconnection applications that include system-wide distribution planning and DER hosting capacity. It will improve visibility into feeder and substation-level capacity for accommodating DER. It will provide technical basis for cost benefit analysis, and provide starting point for analysis of energy, asset deferral, and mitigation. | 6/1/2017 | 5/31/2020 |
| Generation | Economic Assessment of a Biomass CHP Plant for Indoor Agriculture Evaluated the technical and economic feasibility of two biomass-fired combined heat and power cycles for potential near-term application to provide renewable energy to serve new indoor agriculture load. | Supports AB 1926 - businesses must recycle their organic waste after April 1, 2016. An increasing proportion of the commercial sector will be required to comply. Supports SB1383, requires a 75 percent reduction in organic waste disposal in landfills from 2014 levels by 2025. Supports GHG reduction & economic development by creating jobs. Results indicate that using the full amount of technically available urban forestry waste feedstock available in | 3/30/2018 | 12/31/2018 |
Sacramento County could support a ~10-MW BFB biomass plant, though at this small scale it is likely that the capital costs could be negatively impacted by economies of scale. Data are being used for consideration by SMUD planning and energy trading teams.

<table>
<thead>
<tr>
<th>Electric Transportation</th>
<th>193 Community Partner Medium and Heavy Duty EV's</th>
<th>SMUD partnered with SMAQMD, Elk Grove School District, Twin River School District and Sacramento Unified School District to deploy medium and heavy-duty electric vehicles in our service territory through the support of charging infrastructure. The project demonstrated the ability to use electricity as a transportation fuel for electric school buses.</th>
<th>6/1/2017</th>
<th>12/31/2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric Transportation</td>
<td>198 EV Suitability Assessment for Fleets</td>
<td>Provide assessment of business fit for EVs and cost estimates for installing charging infrastructure to fleet customers. The assessment will identify benefits and &quot;total cost of ownership&quot; of EVs compared to gasoline or diesel vehicles. The project will test if this information will influence fleet operators view of EVs positively and lead to the procurement of EVs for their fleet.</td>
<td>6/16/2017</td>
<td>12/31/2019</td>
</tr>
<tr>
<td>Electric Transportation</td>
<td>259 EPRI Open Vehicle Grid Integration Platform (Managed Charging)</td>
<td>SMUD is working with EPRI to examine different methods of communicating with EVs to enable visibility and control of EV charging for future EV load flexibility programs. In this phase there are 10 different sub-projects being implemented with various electric utility and vehicle OEM partners in 2018 and 2019.</td>
<td>7/1/2018</td>
<td>12/20/2019</td>
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<tr>
<td>Electric Transportation</td>
<td>267 EV DC Fast Charging Incentive</td>
<td>Developed an EV DC fast charging incentive for installations of DCFCs within SMUD's service territory. Offered to developers and property owners with the goal of reducing range anxiety and increasing public access to charging, current barriers to EV market adoption. Incentive has been sunsetted in lieu of an updated offer, but existing applications are currently in process and under construction.</td>
<td>2/6/2017</td>
<td>5/31/2020</td>
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<tr>
<td>Electric Transportation</td>
<td>317 EV Charging Strategies for Fleets and Workplaces</td>
<td>Investigates technical solutions for reducing the total cost to install EV charging. Conducts field tests on SMUD's campus to verify EVSE functionality under different conditions with a mix of EVs. Seeks case study information about field tests or installations conducted by others. Relevant research findings will be provided to SMUD's Customer Solutions Department and to fleet and workplace participants.</td>
<td>9/8/2017</td>
<td>12/31/2019</td>
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| Electric Transportation | 365 | EPRI PEV Preferences Research | This project will field a survey to identify how EV preferences impact customer EV adoption and use that data to construct a preference model that correlates customer characteristics and utility-provided options with other EV adoption factors. Ultimately, EPRI will prepare EV adoption forecasting models that simulates EV adoption forecasts in our market to facilitate segmentation and support effective targeted actions. | This project had two primary benefits:  
• It will provide SMUD with more specific customer input on which program options and features are of greatest value  
• The development of a PEV adoption model tailored to each funder's market factoring in utility-provided options | 2/4/2018 | 8/29/2019 |
| Electric Transportation | 378 | Uber-SMUD's EV Champion Initiative | SMUD and Uber provide incentives to Uber EV drivers to increase number of EV miles driven in SMUD region. SMUD staff will measure extent to which electric vehicle miles increase with incentive currently offered. SMUD will collect data on miles driven, ride patterns, EV charges, charge patterns and other data. | Increased amount of electric vehicles and electric vehicle miles in the Sacramento region, helping reduce greenhouse gas and local criteria pollutant emissions. It also helps incentivizes the use of local shared mobility, contributing to the reduction of vehicles on the road. | 6/19/2018 | 6/30/2020 |
| Electric Transportation | 398 | Olli Cal Expo Demonstration | Four-month deployment of self-driving electric shuttles at Cal Expo to test autonomous, electric vehicle technology to transport passengers on a campus setting. This project allowed SMUD to evaluate the technical performance and economic aspects of the technology. | Help mitigate GHG and pollutant emissions from the transportation sector and play a role in multi-mode mobility, disseminate the understanding and acceptance of electric transportation in Sacramento, and provide opportunities to increase electricity use during daytime hours. | 4/1/2019 | 7/28/2019 |
| Electric Transportation | 399 | Mobi EV and Gen Charger Loan Pilot Program | Test and understand the technical and economic viability and logistic application of mobile EV chargers and battery powered generators to support transportation electrification development and eliminate fossil fuel generators. | SMUD will acquire knowledge about the challenges and opportunities of using EV chargers and battery powered generators, which will help support the development of electric transportation and reduce GHG emissions and pollutants. | 3/1/2019 | 12/31/2019 |
| Energy Efficiency & Electric Buildings | 276 | Folsom Cordova Unified School District Circadian Lighting Project | Evaluated energy savings and health benefits (from improved sleep cycles) from installing tunable-white LED lighting systems in two classrooms and the homes of fifteen children with Autism Spectrum Disorder. The study also included one classroom with general education students (those without ASD). | Opportunities to develop new or enhance existing business relationships with residential and commercial customers. Technical performance, installation requirements, and potential benefits may be used to determine which technologies (if any) SMUD should support through our future energy efficiency and outreach programs. | 11/8/2016 | 11/30/2018 |
| Energy Efficiency & Electric Buildings | 281 | SkyCool Deep Space Radiant Cooling | Installed SkyCool Technologies radiative panels on a commercial customer site and monitor energy use to assess savings. Pilot installations have yielded efficiency increases of 10% and this project will serve to confirm those results. | Peak use of electricity is very costly particularly with inefficient conventional cooling systems. SkyCool can radiate to deep space heat from cooling and refrigeration systems even when the sun is shining intensely. | 7/16/2018 | 11/29/2019 |
| Energy Efficiency & Electric Buildings | 282 | Nexus E Water | Evaluated efficiency of the Nexus greywater heat recovery system in reducing energy and water consumption in a residential home while providing hot water heating. | Customers will save electricity and water. | 1/17/2017 | 12/31/2018 |
| Energy Efficiency & Electric Buildings | 307 | North Franklin Community Energy | SMUD is supporting customers in the North Franklin disadvantaged community to upgrade homes to highly efficient all-electric buildings with access to solar. SMUD will demonstrate feasibility of the upgrades with a small sample of single family, multifamily, and small business customers. Additional efforts in the neighborhood include support for increasing the availability of electrified transportation and promoting local economic prosperity. | This project will demonstrate a sustainable approach to enabling traditionally low-income customers in a disadvantaged community to participate in clean energy revolution and benefit from decarbonization of the building and transportation sectors. A well-developed package can levelize customer bills over course of the year, producing better predictability, comfort and health impacts without increasing annual customer energy bill. | 1/15/2019 | 12/20/2021 |
| Energy Efficiency & Electric Buildings | 310 | Vulcan Software Motor Corp. | Bench tested 3 hp and 5 hp Vulcan SMC electric motors for rating efficiency over a wide range of loads and rpms. | Promise of significant savings for the largest single consumer of electricity in the world, electric motors. | 7/12/2017 | 3/29/2019 |
| Energy Efficiency & Electric Buildings | 312 | Connected t-stats optimization | Pilot 1,000 customers with existing compatible thermostats and evaluate energy, demand and bill impacts of leveraging thermostat optimization services provided by Whisker Labs. Also perform evaluation of savings from Nest Seasonal Savings and Peak Shaver pilots (~2,100 customers each). | Resulted in energy and bill savings for participating customers, with respect to the coming TOD rate. Provides a low-cost platform for DR program recruitment and potentially increasing the Value for What You Pay metric for these customers. | 6/29/2017 | 6/28/2019 |
| Energy Efficiency & Electric Buildings | 318 | 88th Street Holdings HVAC System Evaluation | Test the viability and potential benefits of using the DesertAire and Aaon HVAC systems for commercial cannabis growers. Assessing effects on quality, quantity, grow time, energy, demand savings, and financial impact for the customer? | Provided SMUD with tools to help manage load growth and enhance business relationships with cannabis growers. This helped determine which technologies SMUD should support through energy efficiency programs. | 8/2/2017 | 12/17/2018 |
| Energy Efficiency & Electric Buildings | 377 | ASD Residential Lighting Project | Evaluated health benefits (i.e. improved sleep cycles) from installing circadian lighting systems in the homes of 30 families who have children with Autism Spectrum Disorder (ASD). The project team worked with local ASD support agencies to obtain participants and conduct outreach. Participating families receive a credit for $1,500 of qualifying circadian lighting products. | Installing circadian lighting systems is helping these families sleep better and increases nighttime safety. There are over 7,600 customers in Sacramento County with ASD. Based upon research findings SMUD can promote specific products through programs or SMUD Energy Store. | 6/1/2018 | 1/15/2020 |
| Energy Storage | 191 | AB 2514 Energy Storage Programs & Research | Commercial and residential customer-sited pilots to test business models for storage deployment. Programs include residential retrofit, residential new construction, commercial thermal energy storage, StorageShares, and the installation of a utility scale battery at the Power Academy at Hedge. | In addition to meeting the CEC target of 9MW in 2020, benefits include the ability to determine: what customer-utility joint residential storage use cases can be realized through identified tariff structures and customer program models that benefit both customer and utility; what organizational process and operational (communication & control) changes are necessary to capture value of storage by our energy traders and operators; and evaluate the split between customer and utility benefits. | 4/26/2018 | 12/31/2020 |
| Energy Storage | 353 | Integrated EV Charging with Storage and Solar PV | This project will research and allow SMUD to measure the effectiveness of energy storage in reducing grid impacts through demand reduction when combined with 175 kW DCFC, battery energy storage and solar. Test viability and performance of 2nd life batteries to determine if they are a cost-effective alternative to new lithium-ion energy storage systems. | Assess the value of integrating EV charging, battery storage and solar PV. Project will inform ways to manage and mitigate high demand loads associated with increases in high powered DC fast chargers. | 1/1/2019 | 12/1/2021 |
| Grid Evolution | 300 | 69kV Advanced Line Sensor Pilot | Evaluated leading 69kV fault indicator sensor products. Install viable sensors on the grid and reviewed performance. | Visibility for ADMS. SAIDI/SAIFI impact with faster fault location identification and system restoration. | 5/16/2017 | 9/30/2019 |
| Grid Evolution | 341 | Communication Architecture for Secure DER | This EPRI project leveraged expertise from utility members, the vendor community, and other industries to develop and demonstrate secure communication architectures to enable coordinated control of DER. | By advancing standardized interfaces SMUD can promote open innovation and competition amongst communications solutions providers to drive quality up and costs down. Influencing national standards, SMUD can economically and safely facilitate expanded adoption of DER and realize many grid benefits of highly interactive coordination between them. | 12/13/2017 | 7/30/2019 |
| Grid Evolution | 362 | Cap Bank Placement & Sizing re-think for a Modern Grid | Conduct economic impact analysis of cap bank sizing and placement with CVR and line loss reduction in mind. | Expected benefits include: -Deferral of capital expenditures: Lowered distribution voltage levels during peak periods to achieve demand reductions -Energy savings: Reducing voltage levels for longer periods to achieve electricity conservation -Greater operational flexibility and efficiency -Reducing energy losses in the electric distribution system | 8/1/2017 | 12/31/2018 |
| Grid Evolution | 385 | Online Transformer Monitoring | Installation and testing of Online Transformer Monitoring on two 230/69 kV substation transformers. | Enables SMUD to identify problems before they lead to unexpected transformer failure. Maintain an accurate Asset Health Index and better predict the asset's end of life. | 9/1/2018 | 6/1/2020 |
| Grid Evolution | 393 | 3M Spartan II Installation and testing of 3M Spartan II sensors on the 12kV underground & downtown network to evaluate if next generation of units are ready for commercialization. Spartan units were used to gain visibility on downtown network. | -Savings on the alternative which is to install SCADA.  
-Enhanced safety as the units monitor and alarm for hazardous gas accumulation in confined space.  
-Reduction in time for restoring service. | 11/5/2018 | 11/5/2021 |
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<td>Grid Evolution</td>
<td>397</td>
<td>Blockchain Local Energy Market Initiated project that aims to better coordinate Electric Vehicle (EV) charging and times of high PV generation using local grid conditions and blockchain based incentives.</td>
<td>SMUD Customers might benefit from savings on EV charging costs. Additional benefits may include increased revenues by: Avoiding local renewable curtailment to retain retail revenue and RECs, Provide alternative to NEM that encourages more equitable distribution of solar, BL-14 Revenue Sharing Agreement with portion of Omega Grid Sales returned to SMUD-Deferring infrastructure investments by incentivizing strategic load growth-Avoiding power quality issues, or thermal overloading-Reduced system losses by incentivizing load closer to generation</td>
<td>4/1/2019</td>
<td>9/1/2020</td>
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<td>Generation</td>
<td>133</td>
<td>Renewable Natural Gas from Gasification of Biomass Demo (UC San Diego) Helps decarbonize the thermal fleets by thermochemical conversion of woody biomass resources via gasification process creating producer gas which can be further converted to renewable natural gas (RNG), a pipeline-quality gas, by process of methanation (syngas conversion to methane). The current methanation process is expensive and the objective of this project is to demonstrate a pilot technology that will reduce the cost of methanation process.</td>
<td>Successful commercialization of Biomass-to-RNG technology will address many of existing challenges facing the state in realizing renewable energy goals. Successful R&amp;D will lead to cost competitive bioenergy projects that will drive down cost of renewables procurement. The biomass resource in California could replace 10-20% of current natural gas usage with RNG. Economic use of wood waste will reduce risk of catastrophic wildfires that impact the environment and utility infrastructure.</td>
<td>6/30/2015</td>
<td>11/30/2018</td>
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<td>Generation</td>
<td>229</td>
<td>Placer County Wildfire GHG Offset Protocol Developed a protocol that can account for a variety of ecosystem services that result from reduction in wildfire size and severity. An accepted GHG Offset protocol can provide a value-added product that can help reduce the costs of biomass gasification projects.</td>
<td>The benefit to SMUD is related to our Biomass gasification activities using forest thinnings as the feedstock. Savings in fire suppression costs and reduction of danger to the public. Protection and enhancement of critical Sierra Nevada forested watersheds around SMUD’s hydroelectric assets. Reduction of cost and protection of transmission and distribution infrastructure. Reduction of open burning, resulting in significant greenhouse gas reductions and net improvements in air quality. Providing employment (~4.9 jobs/megawatt) and economic improvement opportunities for local rural areas (for electricity generation projects)</td>
<td>6/30/2015</td>
<td>12/31/2018</td>
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<td>Generation</td>
<td>277</td>
<td>Assessment of Scenarios and Decarbonization of Natural Gas (E3) Performs strategic assessment of the long-term future of the natural gas system in California. The assessment is based on scenarios that evaluate the role of the natural gas system in achieving California’s GHG emission targets, implications on markets, environmental impacts including air quality, biogas technology development and deployment, and regulatory treatment of natural gas assets.</td>
<td>Long-term planning support for the natural gas sector that identify how the natural gas industry fits into California’s statutory energy policy goals including GHG emissions limits. Provide an understanding of the natural gas market dynamics in the long-term impacts of climate change. Provide performance information about different low-carbon strategies like biomethane.</td>
<td>8/1/2017</td>
<td>12/30/2019</td>
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| Generation | 320 | GTI-California RNG Production from Woody Biomass | Deep dive technical and economic study was performed in retrofitting an existing woody biomass power plant to produce renewable natural gas (RNG) that includes connection to natural gas pipeline system and production of RNG to meet the existing utility requirements for pipeline quality. The key elements of the assessment include:  
- Site-specific equipment layouts  
- Detailed cost estimates; CAPEX and OPEX (+/- 30%)  
- Lifecycle analysis quantifying RNG environmental benefits. | Informing the strategy for decarbonization SMUD's natural gas-fired power plants. Utilizing biomass to produce renewable natural gas or biomethane will extend the life of SMUD’s natural gas fired power plants. Eliminating almost all levels of criteria pollutants will provide an immediate benefit to local communities and reduction of local emissions. | 9/1/2017 | 12/30/2018 |
| Generation | 335 | EPRI Distributed PV Forecasting & Load Forecast Project | Understanding impacts of distributed PV on load forecasting, to improve integration of distributed PV into grid operations. This project will identify processes through technical reports and scripts for data analysis and performance to better integrate distributed PV in load forecasts. | This project will answer questions related to relationship between solar forecasting and load forecasting, including:  
- Data requirements to produce accurate forecasts with high distributed PV generation.  
- Determine how distributed PV changes load characteristics for different regions and customer profiles and the impacts on forecasting technologies and processes.  
- Determine what penetration of distributed PV impacts load forecasting technologies for different system and weather conditions. | 3/1/2018 | 12/31/2019 |
| Renewables Portfolio Standard | 287 | PRECISE Project | SMUD and National Renewable Energy Laboratory (NREL) developed and field-deploy a streamlined process to preconfigure advanced inverters. | The implementation of the PRECISE platform reduces engineering review time and costs due to increasing installations for residential and small commercial PVs on feeder circuits. The project has potential for possible revenue generation due to IP agreement between SMUD and NREL. | 8/28/2017 | 8/23/2019 |
| Renewables Portfolio Standard | 338 | LCOE Tool Development | The project developed a tool that will enable different groups throughout SMUD calculate the LCOE for a specific project. | SMUD was able to determine more accurately the potential future investments in any type of renewable projects. This project also aligns with SMUD's best business practices by having a go-to source that could be consistent throughout the organization and reliable when it comes to decision making. | 4/16/2018 | 12/28/2018 |
| Renewables Portfolio Standard | 380 | Solano Wind Shear Assessment | The focus of this project is to investigate the effects of wind shear at SMUD's Solano Wind farm based on the data that SMUD has been collecting. In addition, this assessment will provide recommendations on the selection of wind turbines for SMUD's upcoming Solano 4 project. | Provided technical recommendations that were included in the scope of the Solano 4 project. | 7/17/2018 | 6/30/2019 |
RESOLUTION NO. 19-09-05

WHEREAS, pursuant to Resolution No. 97-04-13 (Section 12), adopted April 17, 1997, this Board authorized the negotiation of customer-tailored contract rates using the unbundled rate components and marginal costs as a foundation, available to customers who meet specified criteria; and

WHEREAS, pursuant to Resolution No. 18-09-09 (Section 1), adopted September 20, 2018, this Board approved modifications to the Economic Development Rate (EDR) with the intent of attracting new businesses, expanding existing ones, and retaining at-risk businesses by offering discounted rates over a 10-year period; and

WHEREAS, pursuant to Resolution No. 19-06-13, adopted June 24, 2019, this Board approved rate increases for 2020 and 2021 that will result in an annual increase in energy costs for Messer LLC (Messer) of approximately $240,000 in 2020 and an additional increase of approximately $300,000 in 2021; and

WHEREAS, Messer has stated it may need to relocate outside of SMUD service territory due to the increased rates, which departure would result in a potential annual loss of $5.4 million in revenue to SMUD; and

WHEREAS, Messer meets the customer-tailored rate criteria specified in Resolution No. 97-04-13 and is grandfathered on the Temperature Dependent Pricing (GS-TDP) closed rate, which is not identified as eligible under the EDR tariff language; and

WHEREAS, staff recommends providing a 6% economic development discount to Messer for a term of 10 years, consistent with the spirit of the EDR policy and as a mitigation effort to retain Messer within SMUD territory to prevent adverse economic impact to the Disadvantaged Community in which Messer is located; and

WHEREAS, SMUD has negotiated a proposed Customer-Tailored Electric Service Agreement (Agreement) with Messer, containing a customer-tailored contract rate, which offers Messer the discounted rate; and
WHEREAS, the Agreement also includes a curtailment arrangement for 10 years that allows SMUD and Messer the ability to adjust the annual curtailment payment to align with the market value of wholesale energy; and

WHEREAS, the ability to curtail Messer load provides SMUD substantial benefit during peak hours, avoiding volatile wholesale market purchases and increased greenhouse gas (GHG) emissions; and

WHEREAS, staff has performed an analysis of the proposed Agreement and has determined that Messer will continue to pay above SMUD’s estimated marginal costs to serve throughout the term of the Agreement. NOW, THEREFORE,

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

Section 1. That the Chief Executive Officer and General Manager, or his designee, is hereby authorized to execute the 10-year Customer-Tailored Electric Service Agreement with Messer LLC substantially in the form of Attachment D hereto.

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 Agreement that, in his prudent judgment: (a) furthers the primary purposes of the contract; (b) are intended to provide a net benefit to SMUD; (c) continue to meet the criteria for customer-tailored contract rates; and (d) does not extend the term of the Agreement.

Approved: September 19, 2019

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INTRODUCED: DIRECTOR FISHMAN
SECONDED: DIRECTOR SANBORN
ELECTRIC SERVICES AGREEMENT
between
Messer LLC
and
SACRAMENTO MUNICIPAL UTILITY DISTRICT

This ELECTRIC SERVICES AGREEMENT ("Agreement") is entered into by and between Messer LLC ("Messer") and the SACRAMENTO MUNICIPAL UTILITY DISTRICT ("SMUD"), a California municipal utility district.

- RECITALS -

A. Messer is an existing business in SMUD’s service territory and is engaged in the production process of industrial gases.

B. SMUD is an electric utility engaged in the business of generation, transmission and distribution of electric power to customers principally in the greater Sacramento area.

C. SMUD through Board Resolution No. 97-04-13, effective June 1, 1997, provided for negotiated Customer Tailored Rates for commercial and industrial customers meeting specific criteria.

D. Messer is a SMUD customer with a single or aggregated load in excess of 499 kW each month for three (3) consecutive months, measured as the peak load in the year prior to the establishment of the rate.

E. Messer currently has an electric services agreement with SMUD (Contract No. K687) that provides for curtailment only and expires May 31, 2020.

F. The Parties desire to enter into this new ten-year Agreement for the purpose of describing the customer-tailored rate, terms and conditions associated with the provision of electric service to Messer’s facilities.

G. This new Agreement is for the purpose of providing electric rates adjustments to Messer under SMUD’s General Service Temperature-Dependent Pricing (GS TDP) GDT_99 Rate Schedule rate using curtailment and economic development discount provisions described hereunder.
H. For purposes of Internal Revenue Service regulations applicable to SMUD, this Agreement is considered a retail requirements contract.

- AGREEMENT -

The Parties agree as follows:

ARTICLE 1 – TERM, SCOPE AND SURVIVAL

1.1 Term. This Agreement shall be effective as of the date of last signature below ("Effective Date"), and will remain in effect until December 31st, 2030, subject to the following:

1.1.1 Curtailment: The existing curtailment Contract No. K687 will continue to remain in effect for Messer Account #101824 until its expiration date of May 31, 2020, at which time it will be replaced by the curtailment provisions of this Agreement effective June 1, 2020.

1.1.2 Economic Development Discount: This discount shall take effect January 1, 2020.

1.1.3 General Service Temperature-Dependent Pricing (GS-TDP) GDT_99 Rate Schedule: this rate shall remain in-effect unless the SMUD Board of Directors eliminates the rate.

1.2 Scope. During the Term, the terms and conditions of this Agreement shall apply to the Messer Account #101824.

1.3 Termination. In the event that Messer sells the Plant to another party or closes the Plant, during the term of this Agreement, the total dollar amount of the rate discounts already provided to Messer under the Curtailment provision shall be re-paid to SMUD. The re-payment amount shall not exceed the amount equal to the total credit amount received during the most recent preceding 12 months. An assignment pursuant to Section 5.4 of this Agreement shall not constitute a sale or closure of the Plant, and therefore no repayment is required. Messer under no circumstances is financially obligated to re-pay SMUD any rate discounts provided under Section 3.2 Economic Development Discount and the General Service Temperature-Dependent Pricing (GS-TDP) GDT_99 Rate Schedule.

ARTICLE 2 – CONTRACT DOCUMENTS

2.1 Documents Included. This Agreement consists of this document, Exhibit A (Definitions), Exhibit B (Curtailment Price), and the General Service Temperature-Dependent Pricing (GS-TDP) GDT_99 Rate Schedule, which are specifically incorporated herein and made a part hereof by this reference. If the SMUD Board of Directors eliminates the closed General Service Temperature-Dependent Pricing (GS-TDP) GDT_99 Rate Schedule at a future date, the
Contract Rate shall apply to the applicable rate schedule under which Messer takes service.

2.2 **Conflict with Exhibits.** In the event of a conflict between the terms of this document and the terms of any of the Exhibits, the terms of this document shall control.

2.3 **Entire Agreement.** This Agreement constitutes the entire understanding between Messer and SMUD as to the subject matter hereof and may not be modified except by mutual written agreement.

**ARTICLE 3 – CONTRACT RATE**

3.1 **Curtailment.** Under this Agreement, SMUD offers Messer a Contract Rate which provides a Curtailment Price to be negotiated between the parties as needed during the Term for an annual pricing structure according to Exhibit B (Curtailment Price). Messer agrees to participate in Curtailment Events, at no cost to SMUD, upon a SMUD Request during the Term, pursuant to the terms in Exhibit B and as follows:

(a) SMUD will provide Messer with notification of a Curtailment Event, (b) Messer must curtail at least the Curtailable Load of plant load within 10 minutes of the declared event notification of the Curtailment Event, (c) a Curtailment Event can be called Monday through Friday (No Weekends) during the year, (d) no more than 1 Curtailment Event per day, (e) no more than twelve (12) Curtailment Events per year as measured during the period of June 1 to the following May 31, (f) each Curtailment Event shall not exceed six (6) hours in duration, and (g) consecutive Curtailment Events are not to exceed two (2) consecutive calendar days in sequence. Electric load curtailment achieved through this Agreement shall not be eligible for compensation under any other SMUD program.

3.1.1 **Curtailment Event.** If SMUD, at its sole discretion, determines that a Curtailment Event is necessary, SMUD shall notify Messer by issuing a SMUD Request. Such SMUD Request shall be by telephone call via the number provided under 3.1.1.1 and followed by an e-mail notification to the addresses listed below. E-mail notifications are for informational purposes only and will not be used in lieu of telephone notifications. SMUD shall notify Messer of a SMUD Request at least ten (10) minutes prior to a Curtailment Event. The SMUD Request will request that Messer participate in a Curtailment Event and curtail the Curtailable Load. Messer shall comply with the SMUD Request for the time period specified in such request.
In addition, Messer agrees to confirm its participation in a Curtailment Event with SMUD’s representative at the time of receipt of the SMUD Request.

3.1.1.1 Notifications

**From SMUD to Messer for Curtailment Events**

(1) Telephone:
   a. Remote Operation Center: 877-553-3969

(2) e-mail:
   - poweralertroc@messer-us.com
   - Rocoutagenotificationsacramento@messer-us.com
   - steven.castracane@messer-us.com

**From Messer to SMUD for Planned and Unplanned Full and Partial Plant Outages**

(3) Telephone and Email:
   a. (same day or day of outage notice): Real Time Desk
      916-732-5177 or dayaheadtrading@smud.org
   b. (next day or more notice) Dennis Holcomb and Jeffrey Giannini
      Dennis Holcomb 916-732-5102 or Dennis.holcomb@smud.org
      Jeffrey Giannini 916-732-6078 or Jeffrey.Giannini@smud.org

3.1.1.2 Waiver of VAR Penalties. It is understood that upon start-up from following a Curtailment Event, Messer’s demand of KVARs from SMUD’s system could be abnormally high. This condition is temporary and is the direct result of Messer’s start-up procedures. SMUD’s rate schedule GS-TDP provides for power factor penalties. The Parties agree that any power factor penalties arising from startups from Curtailment Events will be waived.

3.1.2 Liquidated Damages. If Messer fails to curtail the Curtailable Load in compliance with a SMUD Request for a Curtailment Event, Messer understands that SMUD will incur additional costs. The Parties acknowledge that the measure of these additional costs is impossible to determine with certainty, and that the liquidated damages
amount set forth in this section are a reasonable estimate of such additional costs. Therefore, if Messer fails to curtail the Curtailable Load of electric load, Messer will pay to SMUD liquidated damages as specified in Exhibit B. Specifically, Messer’s compliance with a Curtailment Event shall be measured by the drop of Plant demand (kW) during the duration of the Curtailment Event. If Messer does not curtail at least the Curtailable Load for the failed Curtailment Event, liquidated damages, if any, will be billed to the Messer Account. Nothing in this Agreement shall limit the total aggregated amount of liquidated damages that may be assessed hereunder.

3.1.3 Measuring Curtailable Load. SMUD understands that Messer, in response to a SMUD Request, may begin to shut-down equipment incrementally in a ramp-down procedure prior to the Curtailment Event start-time. Therefore, SMUD will measure Linde’s curtailable load as a comparison from when the SMUD Request is received to the start-time of the Curtailment Event.

3.1.4 Notifications and Effect of Full or Partial Plant Outages. Messer shall notify SMUD of any planned full or partial Plant outages as soon as possible, but at least 24 hours in advance of any planned outage. Messer shall notify SMUD of any unplanned full or partial Plant outages as soon as possible.

To the extent that the Plant is already offline under a full outage, and stays offline at or below 500 kW for the duration of a Curtailment Event, the liquidated damages provision set forth in Section 3.1.2 above, shall not apply. If a Curtailment Event occurs during a Messer full Plant outage, then this shall not count against the twelve (12) Curtailment Event calls SMUD can request per year. If Messer is shown to be operating above 500 kW during a Curtailment Event through monitoring data, liquidated damages shall apply.

To the extent that the Plant is already offline under a partial outage, and stays offline at or below the Curtailable Load for the duration of a SMUD Curtailment Event, the liquidated damages provision set forth in Section 3.1.2 above, shall not apply. If a Curtailment Event occurs during a Messer partial Plant outage, then this shall not count against the twelve (12) Curtailment Events per year. If Messer is shown to be operating above the Curtailable Load during a Curtailment Event through monitoring data, liquidated damages shall apply.

3.1.5 Involuntary Curtailment Event

Events as set forth under Section II. Limitation of Liability of SMUD’s Rule and Regulation 14 that result in a shortage or insufficiency of
power supply (where no minimum 10 minute advance notice occurs) shall not count against the twelve (12) Curtailment Events under this Agreement.

3.2 **Economic Development Discount.** As part of the Contract Rate, a six percent (6%) discount shall apply to Messer’s General Service Temperature-Dependent Pricing (GS-TDP) GDT_99 rate as a form of economic development. Consistent with the EDR Rate Schedule, SMUD will apply the discount to the System Infrastructure Fixed Charge, Site Infrastructure Charge, TDP Summer Super-Peak Demand Charge, and all Summer and Winter electricity usage charges. In the event the SMUD Board changes the applicable rate components in the EDR Rate Schedule, the Parties shall amend this Agreement to reflect the same. In the event of changes to the General Service Temperature-Dependent Pricing (GS-TDP) GDT 99 Rate Schedule, or it is eliminated and replaced, the Parties shall amend the Agreement to reflect the same. The Plant is located in a disadvantaged community as designated under the California Office of Environmental Health and Hazard Assessment. If in the future the designation of disadvantaged community changes, the economic development discount to Messer shall remain in effect.

3.3 **Contribution.** The Contract Rate recovers the full contribution of estimated fixed costs, including applicable stranded costs, and the marginal cost of energy over the Term of this Agreement, consistent with SMUD rate assumptions used to establish current SMUD rates and SMUD Resolution No. 97-04-13, describing criteria for Customer Tailored Rates.

**ARTICLE 4 - EXCLUSIVITY**

During the Term, SMUD shall, as partial consideration hereunder, have the exclusive right to supply electricity to the Messer Account and Messer shall have the obligation to receive and purchase electricity exclusively from SMUD for the Messer Account. The only exception to this Article is in the case of Messer providing self-generation for all or a portion of its electrical requirements.

**ARTICLE 5 - MISCELLANEOUS**

5.1 **Status of Parties at Expiration.** At the expiration of this Agreement, Messer may receive electric service under any SMUD rate schedule(s) or contract for which it is eligible. This Agreement shall not be construed as limiting SMUD rate options available to Messer at the expiration of this Agreement. Conversely, this Agreement shall not be construed as creating a right in, or expectation of, Messer to receive electric service not available to other SMUD customers pursuant and subject to SMUD Rates, Rules and Regulations. Moreover, this Agreement shall not be construed as exempting Messer from any generally applicable charges, including without limitation minimum facilities charges for existing or future installed capacity.
5.2 **SMUD’s Rates, Rules and Regulations.** Except as to matters addressed in this Agreement or which may be reasonably inferred with reference to this Agreement, electric service provided to Messer shall be subject to all of SMUD’s Rates, Rules and Regulations, as amended from time to time.

5.2.1 **Priority.** In the event of any direct conflict between this Agreement and SMUD’s Rates, Rules and Regulations, the terms and provisions of this Agreement, as may be amended from time to time, shall control.

5.3 **Notices.** All notices, except for curtailment event requests as set forth in section 3.1.1.1. to be given or any document to be delivered by either Party to the other hereunder may be delivered in person or may be deposited in the United States mail, postage prepaid, or sent by overnight courier with receipt confirmation, or by facsimile, if such document is not a notice of default hereunder, with a confirming copy to be delivered by first-class mail, and addressed to SMUD or Messer at the following addresses:

- **If to SMUD:**
  - Sacramento Municipal Utility District
  - Erik Krause, Director, Retail Product Delivery & Sales
  - Mail Stop A102
  - 6301 S Street
  - Sacramento, CA 95817-1899
  - Telephone Number: (916) 732-7152
  - Facsimile Number: (916) 732-5229

- **If to Messer:**
  - Messer LLC
  - Steven Castracane, Manager – Energy & Regulatory Affairs
  - 200 Somerset Corporate Blvd, Suite 7000
  - Bridgewater, NJ 08807
  - Telephone Number: (908) 771-1132
  - Facsimile Number: (908) 508-5104

Either Party may, from time to time, by written notice to the other, designate a different address. Any notice or other document sent by mail shall be deemed delivered on the earlier of actual receipt or two (2) business days after mailing.

5.4 **Assignment.** Neither Party may assign this Agreement without the express written consent of the other Party.

5.5 **Severability.** If any provision of this Agreement becomes invalid or unenforceable by decision of a court of competent jurisdiction, or state or federal
statute, the remainder of this Agreement which can be given effect without the invalid provision shall continue in full force and shall not be impaired or invalidated.

**ARTICLE 6 - SIGNATURE**

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed by their duly authorized representatives as of the date set forth below.

**Messer**
Messer LLC

By: __________________________

Name: Steven Castracane

Title: Manager, Energy & Reg Affairs

Date: ________________

**SMUD**
Sacramento Municipal Utility District

By: __________________________

Name: Nicole Howard

Title: Chief Customer Officer

Date: ________________

Andrew Meditz
Counsel
Sacramento Municipal Utility District
Exhibit A
to the
Electric Services Agreement

- DEFINITIONS -

Words or phrases in this Agreement that are initially capitalized shall have the meaning stated below.

“Agreement” means this Electric Services Agreement between Messer and SMUD.

“Contract Rate” means the rate described in Section 3 and meeting the criteria of SMUD Resolution 97-04-03 for negotiated Customer Tailored Rates for large commercial and industrial customers.

“Curtailable Load” means 6,500 kW or another pre-defined amount that will be specified under Exhibit B., Section 1.2.

“Curtailment Event” means an event that results in a reduction of Messer’s electric load on SMUD’s system.

“Curtailment Price” means a certain cents per kWh reduction to the Summer Off-Peak Energy Charge under the General Service Temperature-Dependent Pricing (GS-TDP) GDT_99 rate, for the months of June, July, August, and September, which is identified in Exhibit B.

“Effective Date” means the start date described in 1.1 Term.

“Messer” means Messer LLC.

“Messer Account” means Messer’s electricity account #101824 with SMUD.

“Parties” means collectively Messer and SMUD.

“Party” means individually Messer or SMUD.

“Plant” means the manufacturing and support facilities, owned and operated by Messer and located at 5858 88th St. Sacramento, CA.

“SMUD” means the Sacramento Municipal Utility District, a California municipal utility district.

“SMUD Request” means at least a ten (10) minute advance notification to Messer that Messer is requested to participate in a Curtailment Event. This
request is separate and apart from a temperature notification under the GS-TDP GDT_99 rate.

“Term” means the period of time beginning on the Effective Date and ending on the expiration during which this Agreement shall be effective.
Exhibit B  
to the  
Electric Services Agreement  

- CURTAILMENT PRICE -

B.1 General

B.1.1. SMUD offers Messer a Curtailment Price which provides a reduction of ____________ cents per kWh ($__________/kWh) to the Summer Off-Peak Energy Charge under the General Service Temperature-Dependent Pricing (GS-TDP) GDT_99 rate, for the months of June, July, August, and September in year (s)_______________.

B.1.2 The Curtailable Load is _________kW.

B.1.3 Liquidated Damages are ___________($/kW/day). Messer will pay to SMUD non-prorated liquidated damages of ((_______ kW) X ($___________) per day)), (or $______________), for the failed Curtailment Event.

B.2. Effective Date

Upon issuance of a new Exhibit B, the Parties will insert a new effective date for this Exhibit B, which will replace the prior Exhibit B.

Month, Day, Year

B.3 Changes to Exhibit B.

The Parties, upon mutual agreement, may revise this Exhibit B as appropriate, and issue a new Exhibit B which shall then become part of the Agreement to reflect the applicable Curtailment Price. No formal amendment of the Agreement is required to update this Exhibit B.

Signature of Messer  
Date

Signature of SMUD  
Date
WHEREAS, in June 2019, SMUD issued Request for Proposal No. 190027.JM (RFP) for provision of civil construction services in downtown Sacramento in the road right-of-way in high pedestrian and vehicular traffic to repair or modify existing high voltage electrical facilities or build new high voltage electrical structures or facilities in downtown and other areas of Sacramento in a timely manner; 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 evaluation, Clark Bros., Inc. and Arrow Construction are hereby determined and declared to be the two highest evaluated responsive proposers for provision of civil construction services in downtown and other areas of Sacramento.

Section 2. The Chief Executive Officer and General Manager, or his designee, is authorized, on behalf of SMUD, to award contracts to Clark Bros., Inc. and Arrow Construction for provision of civil construction services in downtown and other areas of Sacramento for a three-year period from approximately September 23, 2019, to September 22, 2022, for a total not-to-exceed aggregate amount of $30,000,000.

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.

Approved: September 19, 2019

<table>
<thead>
<tr>
<th>DIRECTOR</th>
<th>AYE</th>
<th>NO</th>
<th>ABSTAIN</th>
<th>ABSENT</th>
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<tbody>
<tr>
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<td>BUI-THOMPSON</td>
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<tr>
<td>SANBORN</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
President Tamayo then called for statements from the public regarding items not on the agenda.

Stephen Green, President of Save the American River Association and a SMUD ratepayer, spoke in opposition to SMUD’s intent to transfer water to the City of Roseville.

Betsy Weiland from Save the American River Association spoke in opposition to transferring water to the City of Roseville and asked that the issue go back to the Water Forum to clarify any outstanding issues or feelings that the process had not been fully vetted. She invited the Board to attend Nature Fest at the Effie Yeaw Center and provided each Board member with a copy of *The State of Water* by Obi Kaufmann.

Director Rose asked why a transfer under specific conditions would be opposed.

Director Tamayo cautioned that the Board was limited by what it could discuss and advised that counsel had some information.

Mr. Lins stated the temporary water transfer had been through the review process by the full Water Forum Environmental Caucus in August 2017, and both SMUD and Roseville are signatories to the Water Forum Agreement. He stated Roseville intended to follow the modified flow management standard and that staff would obtain the speakers’ contact information so that appropriate staff could talk to them and Director Rose offline to see if their concerns could be addressed.

Lee Miller, a rooftop solar customer and Coordinator for Community Members for SMUD’s Future, stated she had e-mailed the group’s proposal to the Board last week and thanked Arlen Orchard, Chief Executive Officer and General Manager, for explaining the high level details of the community stakeholder group. She asked the Board to adopt the proposal and to use it to kickstart and plan the project.

Denise Spaeth, a citizen and member of Solar Alliance, asked the Board to partner with solar customers and not provide disincentives. She asked the Board to keep that at the forefront of their minds as they made decisions.
Ed Smeloff, Director of Energy System Integration at Vote Solar, spoke of a customer issue involving inability to interconnect to the grid because his system was too large. He asked the Board to take a look at the interconnection process during the stakeholder process, to think proactively, and to look at what other utilities do.

Director Herber asked that Executive staff consider the interconnection issue as they review solar, the benefit of solar, and SMUD’s policies around solar.

Patrick Dolby, representative of the Energy Sovereignty Project, spoke about a proof of concept regarding electrification of a home and where solar and batteries could go. He asked the Board to consider a stronger battery exemption and to look at the YouTube channel created by the group.

President Tamayo asked Mr. Dolby to leave his contact information and asked staff to provide information to Mr. Dolby on the stakeholder process.

Tom Meagher, a member of the public, spoke about the fixed charge for solar customers and energy conservation measures he implemented at his home that resulted in a drop in his SMUD bill.

Mr. Lau stated that SMUD has a home energy audit that customers can do themselves to help find ways to conserve energy.

Director Bui-Thompson stated SMUD provides a full weatherization program for low income customers where services are provided at no cost.

Director Fishman stated that SMUD has a standing commitment to reduce load by 1.5 percent through energy efficiency measures with our customers.

Ben Davis, Policy Associate for California Solar & Storage Association (CALSSA), thanked staff for getting the stakeholder group started. He spoke on some items the stakeholder group could focus on and suggested a second stakeholder group, or incorporate into the first group, to review things such as virtual power plants, virtual net metering, and functionality on inverters.

Mr. Lau stated that in addition to the Technical Advisory Group, there would be a community group that addresses policy and process issues and
stated some controls in place were to benefit customers due to the low penetration of solar in Sacramento.

Allen Escarda, representing Customers for SMUD’s Future, requested that any reports coming from the stakeholder groups have assumptions listed upfront. He asked that a monthly update be provided, and he stated he would like to see the benefits of solar be included rather than just as a loss of revenue.

President Tamayo asked Mr. Lau to describe the difference between the two stakeholder groups.

Mr. Lau stated that the Technical Advisory Group works with a consultant to examine the components and evaluate benefits versus the cost. He stated the community group is about the policy needed to enact the components and giving the opportunity for all stakeholders to be informed of what SMUD is doing and the chance to provide input.

Director Sanborn asked when the community group would start and how people will be told about it.

Jennifer Davidson, Chief Financial Officer, stated that staff was working with the Board to ensure they were aligned and then would share the plan with the public. She stated the first part was to have technical conversations about required components and the value of solar while the second group would be open to the public as SMUD talks about values and policy. She stated the technical group would be smaller in order to drive to an answer and drive the maximum amount of components to have the output of the value of the study. She stated there would be published assumptions, presentations, and notes, and when the community part is commenced, there will be open discussion about the value of the results of the evaluation and also the policy issues.

Director Sanborn suggested agendizing the item for every Board meeting as a way to keep the community updated and connected.

Director Bui-Thompson stated the Board should discuss since there are many important topics that are not able to be agendized, and there are
alternative channels to communicate the information to the public in efficient and productive ways.

President Tamayo stated there would need to be a mechanism to ensure the updates are ongoing but the Board would not be getting into a detailed discussion now.

Director Herber reported on her attendance at an event where Soroptimist International of Metropolitan Sacramento made a donation to the SMUD Building Leadership Talent team in support of its fundraising effort for the American River Parkway Foundation. She also reported on her participation in the Metro Chamber Study Mission to Indianapolis, Indiana.

Director Fishman reported on his attendance at the Clean Power Champion Awards at the Center for Energy Efficiency and Renewable Technologies (CEERT) where he was able to present an award to a colleague, Lorenzo Kristov.

Director Sanborn reported that she had provided a presentation to the Sierra Club Sacramento and that she had delivered the keynote for the Business Environmental Resource Center (BERC) Sustainable Business Awards ceremony where Nestle Waters North America received an energy conservation award for retrofitting their plant.

Director Rose acknowledged several solar advocates in the audience and thanked them for their attendance. He reported on his attendance at the Sacramento Area Congregations Together (Sacramento ACT) event called "Greening Black Churches: Why Climate Change Matters" that provided an interesting perspective on faith-based communities and their role in climate change action.

President Tamayo reported on his attendance and speaking engagement at the Sacramento Business Journal’s 2019 Sacramento Region Innovation Awards event.

Director Herber left the meeting at 7:13 p.m.

Paul Lau, acting Chief Executive Officer and General Manager, reported on the following items:
1) **SMUD Hits Milestone in Fleet Electrification.** We recently hit a milestone in our effort to electrify our transportation fleet by putting our last gas-powered sedan up for auction and adding 16 Chevy Bolts to our lineup. That brought the total number of electric and/or hybrid sedans in the SMUD fleet to 53. As we work to bring more mobility options and infrastructure to the Sacramento region, we are demonstrating through our own actions the ability for large fleets to make the transition to cleaner cars. We also added three electric service trucks to our fleet that allow for heat and air conditioning to run while the engine is turned off to reduce diesel emissions and noise. The electrification of the transportation sector is a key element of SMUD’s Integrated Resource Plan that will greatly reduce greenhouse gas emissions across the Sacramento region in the next 20 years. SMUD’s partnerships on the transportation front have already brought electric vehicles to underserved communities, electric school buses to local school districts, the installation of fast-charging stations, and more.

2) **First Summer on TOD Rate Coming to Close.** SMUD’s first summer on the new Time-of-Day Rate is drawing to a close. More than 535,000 customers have been moved to the new rate, giving them more flexibility to manage their electricity use and bills. Summer rates end on September 30th. Beginning October 1st, the non-summer rate kicks back in, meaning there will be only time periods. Peak hours will still be 5:00 p.m. to 8:00 p.m. Monday through Friday, but all other hours will be off-peak. That means the other 21 hours on weekdays, as well as all 24 hours on weekends on holidays, will have lower rates.

3) **Board Video.** Tonight’s Board video looks at the rehabilitated Headquarters building. Most of the Directors attended the ribbon-cutting ceremony we held in late August for the
rehabilitated Headquarters building. Since then, 139 employees have been moved into the building. A total of 370 employees will work in the Headquarters when the moving is completed.

The executive team is making the move on Monday.

President Tamayo thanked Facilities Project Director Doug Norwood, who was in attendance, and congratulated him, his team, and Chief Workforce Officer Gary King on a job well done.

No further business appearing, President Tamayo adjourned the meeting at 7:20 p.m.

Approved:

[Signatures]

President

Assistant Secretary
July 2019 Financial Highlights

- Change in net position – $59M over budget
- Sales to customers – on target
- Transfer to rate stabilization fund – $18M
- Total operating expenses – 11% under
- Sources of energy
  - Hydro – 56% higher
  - JPA – 19% lower
  - Net purchased power – 12% lower
# July 2019 Financial Results

## Change in Net Position

(Thousands of dollars)

<table>
<thead>
<tr>
<th></th>
<th>Actual</th>
<th>Budget</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total customer sales</td>
<td>$789,542</td>
<td>$783,103</td>
<td>$6,439</td>
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<tr>
<td>Other operating revenues</td>
<td>$23,555</td>
<td>$22,988</td>
<td>$567</td>
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<tr>
<td>Transfer to rate stabilization fund</td>
<td>$(18,384)</td>
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<td>$(18,384)</td>
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<tr>
<td><strong>Total operating revenues</strong></td>
<td><strong>$794,713</strong></td>
<td><strong>$806,091</strong></td>
<td><strong>$(11,378)</strong></td>
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<tr>
<td>Purchased power</td>
<td>$158,846</td>
<td>$148,790</td>
<td>$10,056</td>
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<tr>
<td>Production</td>
<td>$123,918</td>
<td>$158,677</td>
<td>$(34,759)</td>
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<td>Transmission and distribution</td>
<td>$93,939</td>
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<td>$4,749</td>
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<td>Other operating costs</td>
<td>$290,362</td>
<td>$350,251</td>
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<td><strong>Total operating expenses</strong></td>
<td><strong>$667,065</strong></td>
<td><strong>$746,908</strong></td>
<td><strong>$(79,843)</strong></td>
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<td><strong>Net operating income</strong></td>
<td><strong>$127,648</strong></td>
<td><strong>$59,183</strong></td>
<td><strong>$68,465</strong></td>
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<td>Total non-operating revenues</td>
<td>$14,558</td>
<td>$20,241</td>
<td>$(5,683)</td>
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<tr>
<td>Total non-operating expenses</td>
<td>$56,712</td>
<td>$53,352</td>
<td>$3,360</td>
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<tr>
<td><strong>Change in Net Position</strong></td>
<td><strong>$85,494</strong></td>
<td><strong>$26,072</strong></td>
<td><strong>$59,422</strong></td>
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</table>
2019 Financial Results
Energy Sources and Uses
YTD GWh

Hydro JPA & Other Net Purchased Pwr Customer Usage

0 1,000 2,000 3,000 4,000 5,000 6,000 7,000

Hydro JPA & Other Net Purchased Pwr Customer Usage

Actual Budget
Questions?
TO: Distribution

FROM: Ruth Yee / Sandra Moorman

SUBJECT: AUGUST 2019 CONSOLIDATED FINANCIAL RESULTS AND OPERATIONS DATA

We are attaching the consolidated financial and operating reports for the eight months of 2019. They include sales and generation statistics and other selected data.

SMUD’s year-to-date net position increased $145.5 million compared to a $67.7 million increase projected in the budget. We attribute the favorable variance ($77.8 million) to higher operating revenues and lower operating expenses, partially offset by lower non-operating revenue and higher interest expense.

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

1) budgeted electric revenues are based on the Forecast of Revenues by the Rates Department, adjusted for unbilled revenues; and

2) budgeted operating expenses reflect the 2019 Budget approved by the Board of Directors on December 20, 2018.

Change in Net Position Year To Date

![Graph showing change in net position year to date](image-url)
SMUD’s net position increased $145.5 million compared to a $67.7 million increase projected in the budget. We attribute the favorable variance ($77.8 million) to higher operating revenues and lower operating expenses, partially offset by lower non-operating revenue and higher interest expense.

Revenues from sales to customers were $961.1 million, which was $20.5 million (2.2 percent) higher than planned.
  - The variance was due to higher average customer rates per kilowatt-hour and higher customer usage.

Revenues transferred to the Hydro Rate Stabilization fund were $18.4 million.

Purchased power expense, net of surplus power sales, was $193.1 million, which was $25.7 million (15.3 percent) higher than planned.
  - Purchased power expense is the result of higher prices of $29.5 million, offset by lower quantities purchased of $3.8 million.

SMUD’s generation was lower by 34 GWh (0.7 percent).
  - JPA and Other generation was lower by 657 GWh (19.2 percent).
  - Hydro generation was higher by 623 GWh (49.7 percent).

Production operations cost, net of gas sales, was $111.0 million, which was $43.2 million (28.0 percent) lower than planned.
  - Fuel costs, net of gas sales, were $42.2 million lower due to lower fuel prices, fuel usage and ineffective gas hedges. Lower usage is primarily due to the SFA outage which occurred from January through early March. February market conditions allowed us to sell fuel at higher prices which resulted in gas sales that were higher than costs.

The “power margin”, or revenues less cost of purchased power, production operations cost, depletion of gas reserves and gas hedges included in investment expense was $661.1 million, which was $21.5 million (3.4 percent) higher than planned.

All other operating expenses were $473.5 million, which was $60.2 million (11.3 percent) lower than planned.
  - Administrative and general expenses were $36.5 million lower which includes non-cash OPEB amortization of $8.6 million.
  - Non-cash depreciation expense was $19.6 million lower, primarily a result of a depreciation study adjustment.

Other revenue, net was $20.2 million, which was $3.1 million (13.3 percent) lower than planned.
  - The variance was primarily due to the cancellation of the Colusa-Sutter Transmission Line Project (CoSu) which caused a $6.7 million write off, partially offset by higher unrealized holding gain of $4.1 million.

Interest expense was $64.7 million which was $3.2 million (5.2 percent) higher than planned.
  - Interest on long-term debt was $7.0 million higher than planned primarily due to unplanned NCEA bond expenses of $14.5 million, offset by non-cash bond amortization of $5.5 million and SMUD interest expense of $2.1 million.
  - Interest on commercial paper was $2.5 million lower than planned primarily due to lower interest expense.
SACRAMENTO MUNICIPAL UTILITY DISTRICT
CONSOLIDATED STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
For the Month Ended August 31, 2019
(thousands of dollars)

<table>
<thead>
<tr>
<th>OPERATING REVENUES</th>
<th>Actual</th>
<th>Budget (thousands of dollars)</th>
<th>Over (Under)</th>
<th>Percent of Increase (Decrease)</th>
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<tr>
<td>Sales to customers</td>
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<td>$157,509</td>
<td>$14,041</td>
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<td>(8,087)</td>
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<td>Public good revenue</td>
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<td>SB-1 revenue (deferral)/recognition, net</td>
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<td>408</td>
<td>(125)</td>
<td>(30.6)</td>
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<td>AB32 revenue (deferral)/recognition, net</td>
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<td>Other electric revenue</td>
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<td>Rate stabilization fund transfers</td>
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<td><strong>Total operating revenues</strong></td>
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<th>Budget (thousands of dollars)</th>
<th>Over (Under)</th>
<th>Percent of Increase (Decrease)</th>
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<tr>
<td>Operations</td>
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<td>Purchased power</td>
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<td>5,038</td>
<td>4,456</td>
<td>582</td>
<td>13.1</td>
</tr>
<tr>
<td>Customer service and information</td>
<td>4,937</td>
<td>5,356</td>
<td>(419)</td>
<td>(7.8)</td>
</tr>
<tr>
<td>Administrative and general</td>
<td>9,870</td>
<td>13,807</td>
<td>(3,937)</td>
<td>(28.5)</td>
</tr>
<tr>
<td>Public good</td>
<td>5,711</td>
<td>4,992</td>
<td>719</td>
<td>14.4</td>
</tr>
<tr>
<td><strong>Total operations</strong></td>
<td>$94,340</td>
<td>$93,594</td>
<td>746</td>
<td>0.8</td>
</tr>
<tr>
<td>Maintenance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production</td>
<td>1,908</td>
<td>4,077</td>
<td>(2,169)</td>
<td>(53.2)</td>
</tr>
<tr>
<td>Transmission and distribution</td>
<td>6,202</td>
<td>6,890</td>
<td>(688)</td>
<td>(10.0)</td>
</tr>
<tr>
<td><strong>Total maintenance</strong></td>
<td>$8,110</td>
<td>$10,967</td>
<td>(2,857)</td>
<td>(26.1)</td>
</tr>
<tr>
<td>Depreciation</td>
<td>15,562</td>
<td>17,948</td>
<td>(2,386)</td>
<td>(13.3)</td>
</tr>
<tr>
<td>Depletion</td>
<td>406</td>
<td>659</td>
<td>(253)</td>
<td>(38.4)</td>
</tr>
<tr>
<td>Amortization of regulatory asset</td>
<td>1,925</td>
<td>1,857</td>
<td>68</td>
<td>3.7</td>
</tr>
<tr>
<td><strong>Total operating expenses</strong></td>
<td>$120,343</td>
<td>$125,025</td>
<td>(4,682)</td>
<td>(3.7)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPERATING INCOME (LOSS)</th>
<th>Actual (thousands of dollars)</th>
<th>Budget (thousands of dollars)</th>
<th>Over (Under)</th>
<th>Percent of Increase (Decrease)</th>
</tr>
</thead>
<tbody>
<tr>
<td>62,390</td>
<td>46,786</td>
<td>15,604</td>
<td>33.4</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NON-OPERATING REVENUES AND EXPENSES</th>
<th>Actual (thousands of dollars)</th>
<th>Budget (thousands of dollars)</th>
<th>Over (Under)</th>
<th>Percent of Increase (Decrease)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other revenues/(expenses)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest income</td>
<td>1,388</td>
<td>1,207</td>
<td>181</td>
<td>15.0</td>
</tr>
<tr>
<td>Investment revenue (expense)</td>
<td>913</td>
<td>(79)</td>
<td>992</td>
<td>*</td>
</tr>
<tr>
<td>Other income (expense) - net</td>
<td>1,154</td>
<td>885</td>
<td>269</td>
<td>30.4</td>
</tr>
<tr>
<td>Unrealized holding gains (losses)</td>
<td>739</td>
<td>-</td>
<td>739</td>
<td>*</td>
</tr>
<tr>
<td>Revenue - CIAC</td>
<td>1,417</td>
<td>1,004</td>
<td>413</td>
<td>41.1</td>
</tr>
<tr>
<td><strong>Total other revenues (expenses)</strong></td>
<td>5,611</td>
<td>3,017</td>
<td>2,594</td>
<td>86.0</td>
</tr>
<tr>
<td>Interest charges</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest on long-term debt</td>
<td>8,583</td>
<td>7,778</td>
<td>805</td>
<td>10.3</td>
</tr>
<tr>
<td>Interest on commercial paper</td>
<td>133</td>
<td>808</td>
<td>(675)</td>
<td>(83.5)</td>
</tr>
<tr>
<td>AFUDC - borrowed funds</td>
<td>(682)</td>
<td>(368)</td>
<td>(314)</td>
<td>(85.3)</td>
</tr>
<tr>
<td><strong>Total interest charges</strong></td>
<td>8,034</td>
<td>8,218</td>
<td>(184)</td>
<td>(2.2)</td>
</tr>
<tr>
<td><strong>CHANGE IN NET POSITION</strong></td>
<td>$59,967</td>
<td>$41,585</td>
<td>$18,382</td>
<td>44.2 %</td>
</tr>
</tbody>
</table>

* Equals 1000% or greater.
### SACRAMENTO MUNICIPAL UTILITY DISTRICT

**CONSOLIDATED STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION**

**For the Eight Months Ended August 31, 2019**

*(thousands of dollars)*

<table>
<thead>
<tr>
<th>Category</th>
<th>Actual</th>
<th>Budget</th>
<th>Over/Under</th>
<th>Percent of Increase/Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OPERATING REVENUES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales to customers</td>
<td>$961,091</td>
<td>$940,612</td>
<td>$20,479</td>
<td>2.2 %</td>
</tr>
<tr>
<td>Sales of surplus power</td>
<td>27,972</td>
<td>46,599</td>
<td>(18,627)</td>
<td>(40.0)</td>
</tr>
<tr>
<td>Sales of surplus gas</td>
<td>85,700</td>
<td>-</td>
<td>85,700</td>
<td>*</td>
</tr>
<tr>
<td>Public good revenue</td>
<td>513</td>
<td>2,600</td>
<td>(2,087)</td>
<td>(80.3)</td>
</tr>
<tr>
<td>SB-1 revenue (deferral)/recognition, net</td>
<td>1,460</td>
<td>2,926</td>
<td>(1,466)</td>
<td>(50.1)</td>
</tr>
<tr>
<td>AB32 revenue (deferral)/recognition, net</td>
<td>1,566</td>
<td>-</td>
<td>1,566</td>
<td>*</td>
</tr>
<tr>
<td>Other electric revenue</td>
<td>24,680</td>
<td>20,347</td>
<td>4,333</td>
<td>21.3</td>
</tr>
<tr>
<td>Rate stabilization fund transfers</td>
<td>(18,384)</td>
<td>-</td>
<td>-18,384</td>
<td>-12.4</td>
</tr>
<tr>
<td><strong>Total operating revenues</strong></td>
<td>$1,084,598</td>
<td>$1,013,084</td>
<td>$71,514</td>
<td>7.1</td>
</tr>
</tbody>
</table>

| **OPERATING EXPENSES**                        |            |           |            |                              |
| Operations                                    |            |           |            |                              |
| Purchased power                               | 221,088    | 214,025   | 7,063      | 3.3                          |
| Production                                    | 196,732    | 154,182   | 42,550     | 27.6                         |
| Transmission and distribution                 | 55,484     | 55,981    | (497)      | (0.9)                        |
| Customer accounts                             | 37,121     | 36,283    | 838        | 2.3                          |
| Customer service and information              | 39,086     | 39,452    | (366)      | (0.9)                        |
| Administrative and general                    | 83,605     | 120,088   | (36,483)   | (30.4)                       |
| Public good                                   | 36,861     | 42,975    | (6,114)    | (14.2)                       |
| **Total operations**                          | $668,977   | $662,986  | $5,991     | 0.9                          |
| Maintenance                                   |            |           |            |                              |
| Production                                    | 34,584     | 35,781    | (1,197)    | (3.3)                        |
| Transmission and distribution                 | 51,541     | 47,069    | 4,472      | 9.5                          |
| **Total maintenance**                         | $86,125    | $82,850   | $3,275     | 4.0                          |
| Depreciation                                  | 121,170    | 140,781   | (19,611)   | (13.9)                       |
| Depletion                                     | 3,275      | 5,269     | (1,994)    | (37.8)                       |
| Amortization of regulatory asset              | 15,013     | 15,230    | (217)      | (1.4)                        |
| **Total operating expenses**                  | $894,560   | $907,116  | (12,556)   | (1.4)                        |

| **OPERATING INCOME (LOSS)**                   | $190,038   | $105,968  | $84,070    | 79.3                         |

| **NON-OPERATING REVENUES AND EXPENSES**        |            |           |            |                              |
| Other revenues/(expenses)                      |            |           |            |                              |
| Interest income                               | 11,062     | 9,657     | 1,405      | 14.5                         |
| Investment revenue (expense)                  | (3,216)    | (647)     | (2,569)    | (397.1)                      |
| Other income (expense) - net                  | (2,972)    | 6,424     | (9,396)    | (146.3)                      |
| Unrealized holding gains (losses)             | 4,093      | -         | 4,093      | *                            |
| Revenue - CIAC                                 | 11,202     | 7,823     | 3,379      | 43.2                         |
| **Total other revenues (expenses)**            | 20,169     | 23,257    | (3,088)    | (13.3)                       |

| Interest charges                              |            |           |            |                              |
| Interest on long-term debt                    | 65,650     | 58,683    | 6,967      | 11.9                         |
| Interest on commercial paper                  | 3,936      | 6,460     | (2,524)    | (39.1)                       |
| AFUDC - borrowed funds                        | (4,839)    | (3,575)   | (1,264)    | (35.4)                       |
| **Total interest charges**                    | 64,747     | 61,568    | 3,179      | 5.2                          |

| **CHANGE IN NET POSITION**                    | $145,460   | $67,657   | $77,803    | 115.0 %                      |

* Equals 1000% or greater.
SACRAMENTO MUNICIPAL UTILITY DISTRICT
CONSOLIDATED SOURCES AND USES OF ENERGY - COMPARED TO BUDGET
For the Period Ended August 31, 2019

Sources of Energy (GWh)

<table>
<thead>
<tr>
<th>Sources of Energy</th>
<th>Month</th>
<th>Increase (Decrease)</th>
<th>Year-to-Date</th>
<th>Increase (Decrease)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Actual</td>
<td>Budget</td>
<td>Percentage</td>
<td>Actual</td>
</tr>
<tr>
<td>Net Generated</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydro</td>
<td>193</td>
<td>177</td>
<td>9.0 %</td>
<td>1,877</td>
</tr>
<tr>
<td>Carson Ice (CVFA)</td>
<td>27</td>
<td>47</td>
<td>(42.6)</td>
<td>182</td>
</tr>
<tr>
<td>Procter &amp; Gamble (SCA)</td>
<td>67</td>
<td>99</td>
<td>(32.3)</td>
<td>478</td>
</tr>
<tr>
<td>Campbell Soup Project (SPA)</td>
<td>70</td>
<td>109</td>
<td>(35.8)</td>
<td>409</td>
</tr>
<tr>
<td>SMUD Financing Authority (SFA)</td>
<td>338</td>
<td>412</td>
<td>(18.0)</td>
<td>1,295</td>
</tr>
<tr>
<td>Other</td>
<td>75</td>
<td>93</td>
<td>(19.7)</td>
<td>409</td>
</tr>
<tr>
<td>Total net generation</td>
<td>770</td>
<td>937</td>
<td>(17.9)</td>
<td>4,650</td>
</tr>
</tbody>
</table>

Purchased Power less transmission losses:

<table>
<thead>
<tr>
<th>Purchased Power less transmission losses:</th>
<th>Month</th>
<th>Increase (Decrease)</th>
<th>Year-to-Date</th>
<th>Increase (Decrease)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avangrid</td>
<td>31</td>
<td>17</td>
<td>82.4</td>
<td>77</td>
</tr>
<tr>
<td>CalPine Sutter</td>
<td>73</td>
<td>49</td>
<td>49.0</td>
<td>577</td>
</tr>
<tr>
<td>Feed in Tariff</td>
<td>24</td>
<td>24</td>
<td>0.0</td>
<td>157</td>
</tr>
<tr>
<td>Kiefer - Greenergy</td>
<td>10</td>
<td>9</td>
<td>11.1</td>
<td>76</td>
</tr>
<tr>
<td>Patua</td>
<td>12</td>
<td>9</td>
<td>33.3</td>
<td>90</td>
</tr>
<tr>
<td>Simpson</td>
<td>31</td>
<td>30</td>
<td>3.3</td>
<td>197</td>
</tr>
<tr>
<td>WAPA</td>
<td>106</td>
<td>91</td>
<td>16.5</td>
<td>741</td>
</tr>
<tr>
<td>WSSP and other</td>
<td>256</td>
<td>69</td>
<td>271.0</td>
<td>1,489</td>
</tr>
<tr>
<td>Other long term power</td>
<td>96</td>
<td>90</td>
<td>6.5</td>
<td>393</td>
</tr>
<tr>
<td>Total net purchases</td>
<td>639</td>
<td>388</td>
<td>64.6</td>
<td>3,797</td>
</tr>
<tr>
<td>Total sources of energy</td>
<td>1,409</td>
<td>1,325</td>
<td>6.3</td>
<td>8,447</td>
</tr>
</tbody>
</table>

Uses of energy:

<table>
<thead>
<tr>
<th>Uses of energy</th>
<th>Month</th>
<th>Increase (Decrease)</th>
<th>Year-to-Date</th>
<th>Increase (Decrease)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMUD electric sales and usage</td>
<td>1,118</td>
<td>1,017</td>
<td>9.9</td>
<td>6,965</td>
</tr>
<tr>
<td>Surplus power sales</td>
<td>250</td>
<td>245</td>
<td>2.0</td>
<td>1,197</td>
</tr>
<tr>
<td>System losses</td>
<td>41</td>
<td>63</td>
<td>(34.9)</td>
<td>285</td>
</tr>
<tr>
<td>Total uses of energy</td>
<td>1,409</td>
<td>1,325</td>
<td>6.3 %</td>
<td>8,447</td>
</tr>
</tbody>
</table>

* Change equals 1000% or more.

Net generation is lower than budget for the eight-month period.

- Hydro generation is higher than planned (49.7 percent). Due to higher seasonal precipitation levels.
- JPA generation is lower than planned (19.9 percent). Primarily due to lower generation at SFA due to outages for major overhauls that spanned from January through the beginning of March, and lower generation at SPA, partially offset by higher generation at SCA.

Purchased power, less surplus power sales, is lower than plan (2.3 percent).

* Change equals 1000% or more.
SACRAMENTO MUNICIPAL UTILITY DISTRICT  
CONSOLIDATED STATEMENTS OF NET POSITION  
August 31, 2019 and 2018  
(thousands of dollars)

<table>
<thead>
<tr>
<th>ASSETS</th>
<th>SMUD</th>
<th>CVFA</th>
<th>SCA</th>
<th>SFA</th>
<th>SPA</th>
<th>NCEA</th>
<th>NCGA #1</th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELECTRIC UTILITY PLANT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plant in service, original cost</td>
<td>$ 5,168,495</td>
<td>$ 155,690</td>
<td>$ 197,578</td>
<td>$ 357,724</td>
<td>$ 204,870</td>
<td>-</td>
<td>-</td>
<td>$ 6,084,357</td>
<td>$ 5,982,178</td>
</tr>
<tr>
<td>Less accumulated depreciation</td>
<td>2,476,463</td>
<td>115,832</td>
<td>139,648</td>
<td>164,941</td>
<td>150,750</td>
<td>-</td>
<td>-</td>
<td>3,046,474</td>
<td>2,946,319</td>
</tr>
<tr>
<td>Plant in service - net</td>
<td>2,690,032</td>
<td>39,858</td>
<td>58,930</td>
<td>192,783</td>
<td>54,120</td>
<td>-</td>
<td>-</td>
<td>3,035,723</td>
<td>3,035,859</td>
</tr>
<tr>
<td>Construction in progress</td>
<td>524,990</td>
<td>-</td>
<td>-</td>
<td>32,207</td>
<td>3,351</td>
<td>-</td>
<td>-</td>
<td>560,548</td>
<td>408,445</td>
</tr>
<tr>
<td>Investment in Joint Power Agencies</td>
<td>286,342</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>286,342</td>
<td>2,660</td>
</tr>
<tr>
<td>Total electric utility plant - net</td>
<td>3,501,364</td>
<td>39,858</td>
<td>58,930</td>
<td>224,990</td>
<td>57,471</td>
<td>-</td>
<td>-</td>
<td>3,608,420</td>
<td>3,452,964</td>
</tr>
<tr>
<td>RESTRICTED ASSETS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue bond reserves</td>
<td>5,617</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5,617</td>
<td>6,432</td>
</tr>
<tr>
<td>Restricted for payment of debt service</td>
<td>10,470</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>10,470</td>
<td>11,229</td>
</tr>
<tr>
<td>JPA funds</td>
<td>-</td>
<td>952</td>
<td>1,162</td>
<td>2,458</td>
<td>-</td>
<td>-</td>
<td>10,491</td>
<td>4,009</td>
<td>19,072</td>
</tr>
<tr>
<td>Nuclear decommissioning trust fund</td>
<td>8,712</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>8,712</td>
<td>8,492</td>
</tr>
<tr>
<td>Rate stabilization fund</td>
<td>115,079</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>115,079</td>
<td>101,562</td>
</tr>
<tr>
<td>Other funds</td>
<td>18,479</td>
<td>(952)</td>
<td>(1,162)</td>
<td>(2,458)</td>
<td>-</td>
<td>-</td>
<td>3,073</td>
<td>3,389</td>
<td>24,941</td>
</tr>
<tr>
<td>Less current portion</td>
<td>19,026</td>
<td>(952)</td>
<td>(1,162)</td>
<td>(2,458)</td>
<td>-</td>
<td>(10,724)</td>
<td>(7,398)</td>
<td>(41,720)</td>
<td>(26,492)</td>
</tr>
<tr>
<td>Total restricted assets</td>
<td>139,331</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2,840</td>
<td>-</td>
<td>142,171</td>
</tr>
<tr>
<td>CURRENT ASSETS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash, cash equivalents and investments</td>
<td>441,731</td>
<td>13,393</td>
<td>17,948</td>
<td>7,241</td>
<td>9,034</td>
<td>-</td>
<td>-</td>
<td>489,347</td>
<td>478,955</td>
</tr>
<tr>
<td>Unrestricted - collateral obligation</td>
<td>110</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>110</td>
<td>160</td>
</tr>
<tr>
<td>Restricted</td>
<td>19,026</td>
<td>952</td>
<td>1,162</td>
<td>2,458</td>
<td>-</td>
<td>10,724</td>
<td>7,398</td>
<td>41,720</td>
<td>26,492</td>
</tr>
<tr>
<td>Accounts receivable - net</td>
<td>306,023</td>
<td>5,546</td>
<td>6,811</td>
<td>32,163</td>
<td>5,385</td>
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<td>113</td>
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<td>Regulatory costs to be recovered within one year</td>
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<td>40</td>
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<td>-</td>
<td>284</td>
<td>105</td>
<td>232,182</td>
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<td>6,414</td>
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<td>Prepaid gas to be delivered within one year</td>
<td>66,385</td>
<td>2,213</td>
<td>4,280</td>
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<td>4,688</td>
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<td>159,783</td>
<td>152,912</td>
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<td>8,911</td>
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<td>537,478</td>
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<td>Prepaid power and capacity</td>
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<td>24,268</td>
<td>21,738</td>
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<td>Other</td>
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<td>6</td>
<td>-</td>
<td>107</td>
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<td>60,322</td>
<td>54,778</td>
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<td>-</td>
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<td>TOTAL ASSETS</td>
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<td>$ 89,654</td>
<td>$ 277,023</td>
<td>$ 77,119</td>
<td>$ 557,075</td>
<td>$ 213,320</td>
<td>$ 6,424,525</td>
<td>$ 5,674,734</td>
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<td>DEFERRED OUTFLOWS OF RESOURCES</td>
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<td></td>
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<td></td>
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<tr>
<td>Accumulated decrease in fair value of hedging derivatives</td>
<td>90,056</td>
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<td>-</td>
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<td>100,323</td>
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<td>Deferred pension outflows</td>
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<td>Deferred OPEB outflows</td>
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<td>Unamortized bond losses</td>
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<td>55</td>
<td>170</td>
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<td>-</td>
<td>20,247</td>
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<td>TOTAL DEFERRED OUTFLOWS OF RESOURCES</td>
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<td>170</td>
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<td>201,811</td>
<td>271,364</td>
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<td>TOTAL ASSETS AND DEFERRED OUTFLOWS OF RESOURCES</td>
<td>$ 5,692,460</td>
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<td>$ 279,345</td>
<td>$ 77,119</td>
<td>$ 557,075</td>
<td>$ 213,320</td>
<td>$ 6,626,336</td>
<td>$ 5,946,098</td>
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</tbody>
</table>

*Numbers may not add across due to elimination entries not shown on this sheet.
### Liabilities and Net Assets

#### August 31, 2019 and 2018 (thousands of dollars)

#### Long-Term Debt - Net

<table>
<thead>
<tr>
<th></th>
<th>SMUD</th>
<th>CVFA</th>
<th>SCA</th>
<th>SFA</th>
<th>SPA</th>
<th>NCEA</th>
<th>NCGA #1</th>
<th>2019</th>
<th>2018</th>
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<tbody>
<tr>
<td>Total</td>
<td>$2,083,658</td>
<td>$38</td>
<td>$6,828</td>
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<td>$563,506</td>
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#### Current Liabilities

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<th>SPA</th>
<th>NCEA</th>
<th>NCGA #1</th>
<th>2019</th>
<th>2018</th>
</tr>
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<tbody>
<tr>
<td>Commercial paper notes</td>
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<td></td>
<td></td>
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<tr>
<td>Accounts payable</td>
<td>69,169</td>
<td>7,986</td>
<td>691</td>
<td>3,407</td>
<td>949</td>
<td>-</td>
<td>665</td>
<td>82,867</td>
<td>98,894</td>
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<td>Purchased power payable</td>
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<td>946</td>
<td>3,916</td>
<td>19,285</td>
<td>3,789</td>
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<td>-</td>
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<td>Credit support collateral obligation</td>
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<tr>
<td>Long-term debt due within one year</td>
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<td>6,295</td>
<td>8,710</td>
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<td>16,675</td>
<td>130,025</td>
<td>144,885</td>
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<td>Accrued decommissioning</td>
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<td>Interest payable</td>
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<td>3,625</td>
<td>759</td>
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<td>15,341</td>
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<td>Accrued salaries and compensated absences</td>
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<td>36,754</td>
<td>37,055</td>
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<td>Derivative financial instruments maturing within one year</td>
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<td>41,436</td>
<td>28,725</td>
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<td>Customer deposits</td>
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<td>23,151</td>
<td>22,954</td>
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<td>Other</td>
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<td>18</td>
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<td></td>
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<td>19,079</td>
<td>28,456</td>
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<td>3,625</td>
<td>21,489</td>
<td>407,992</td>
<td>712,955</td>
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#### Noncurrent Liabilities

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<th>NCEA</th>
<th>NCGA #1</th>
<th>2019</th>
<th>2018</th>
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<tbody>
<tr>
<td>Accrued decommissioning - net</td>
<td>154,774</td>
<td>11,719</td>
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<td>158,313</td>
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<td>Derivative financial instruments</td>
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<td>81,010</td>
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<td>Net pension liability</td>
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<td>515,800</td>
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<td>Net OPEB liability</td>
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<td>100,867</td>
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<td>Other</td>
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<td>84,795</td>
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#### Total Liabilities

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<th>SFA</th>
<th>SPA</th>
<th>NCEA</th>
<th>NCGA #1</th>
<th>2019</th>
<th>2018</th>
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<tbody>
<tr>
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<td>159,859</td>
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<td>567,131</td>
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#### Deferred Inflows of Resources

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<th>SCA</th>
<th>SFA</th>
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<th>NCEA</th>
<th>NCGA #1</th>
<th>2019</th>
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<tbody>
<tr>
<td>Accumulated increase in fair value of hedging derivatives</td>
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<td>Deferred pension inflows</td>
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<td>Regulatory credits</td>
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<td>Unamortized bond gains - other</td>
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#### Net Position

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<th>NCEA</th>
<th>NCGA #1</th>
<th>2019</th>
<th>2018</th>
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<tbody>
<tr>
<td>Balance at beginning of year</td>
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<td>68,983</td>
<td>85,895</td>
<td>73,293</td>
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<td>11,078</td>
<td>1,720,954</td>
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<td>Net increase (decrease) for the year</td>
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<td>(589)</td>
<td>2,998</td>
<td>33,591</td>
<td>(912)</td>
<td>(5,496)</td>
<td>(288)</td>
<td>145,460</td>
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<td>Member contributions (distributions) - net</td>
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<td>(894)</td>
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<td>28,725</td>
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<td>71,981</td>
<td>119,486</td>
<td>72,381</td>
<td>(10,056)</td>
<td>9,896</td>
<td>1,866,414</td>
<td>1,680,971</td>
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#### Total Liabilities, Deferred Inflows of Resources, and Net Position

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<th>CVFA</th>
<th>SCA</th>
<th>SFA</th>
<th>SPA</th>
<th>NCEA</th>
<th>NCGA #1</th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>$5,692,460</td>
<td>$62,514</td>
<td>$89,824</td>
<td>$279,345</td>
<td>$77,119</td>
<td>$557,075</td>
<td>$213,320</td>
<td>$6,626,336</td>
<td>$5,946,098</td>
</tr>
</tbody>
</table>

*Numbers may not add across due to elimination entries not shown on this sheet.*
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
September 16, 2019, through October 15, 2019.
TO

1. Gary King
2. Paul Lau
3. Nicole Howard
4. Jennifer Davidson
5. Claire Rodgers

FROM (IPR)
Patrick Durham

DEPARTMENT
Workforce Enterprise Services

Consent Calendar Y Yes
Requested Action: Accept the monitoring report for Strategic Direction SD-6, Safety.

No If no, schedule a dry run presentation.

Budgeted Y Yes
None

Mail Stop H201
Ext. 6327
Date Sent 09/20/2019

NARRATIVE:

Requested Action: Accept the monitoring report for Strategic Direction SD-6, Safety.

Summary: Report on the status of Strategic Direction 6 (SD-6) Safety, for safety performance from January through June 2019.

Board Policy: This report supports the SD-6 Core Value of Safety by providing a safety performance status.

(Number & Title)

Benefits: Provide the scheduled bi-annual monitoring report as requested by the Board of Directors and Executive Staff. The report provides an opportunity to make recommendations or policy revisions, as necessary.

Cost/Budgeted: None

Alternatives: Provide the Board monitoring report without a presentation.

Affected Parties: Board of Directors, Executive Staff

Coordination: Organization-wide

Presenter: Patrick Durham, Director of Environmental, Safety, and Real Estate Services

Additional Links:

SUBJECT
SD-6, Safety Board Monitoring Report

ITEM NO. (FOR LEGAL USE ONLY)
5

ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.
TO: Board of Directors

FROM: Claire Rogers

SUBJECT: Audit Report No. 28007090
Board Monitoring Report; SD-6: Safety

Audit and Quality Services (AQS) reviewed the SD-6 Safety 2019 Annual Board Monitoring Report and performed the following:

- Reviewed the information presented in the report to determine the possible existence of material misstatements;
- Interviewed report contributors and verified the methodology used to prepare the monitoring report; and
- Validated the reasonableness of a selection of the report’s statements and assertions.

During the course of the review, nothing came to AQS’ attention that would suggest the report did not fairly represent the source data available at the time of the review.

CC:

Arlen Orchard
1. **Background**

Creating a safe environment for employees and the public is a core value of SMUD.

Through continuous improvement, SMUD will be recognized as a leader in employee safety while also ensuring the safety of the public related to SMUD operations and facilities. This includes a comprehensive approach to monitoring organizational and public safety performance.

Therefore, SMUD will continue to improve safety results to:

**Workplace Safety**

a) Reduce SMUD’s injury severity rate to 1.4 by 2020, as measured by OSHA’s Days Away Restricted Time (DART), a rate that demonstrates strong safety performance.

b) Provide timely, quality health care for injured employees that aid their recovery while maintaining positive financial performance of the Workers’ Compensation program.

**Public Safety**

a) Track and report injuries to the public related to SMUD operations or facilities.

b) Implement measures to protect the public from injuries related to SMUD operations or facilities.

2. **Executive Summary**

SMUD is in compliance with the SD-6 direction and is in alignment with SMUD’s 5-year strategy of working toward a zero-incident culture. In 2019, SMUD is on track to meet its safety performance targets related to SD-6.

**Workplace Safety**

- During the first half of 2019, SMUD had five DART injuries. One of the five DART injuries resulted in Lost Time, the other four were Modified Duty cases. All five of DART injuries are field related injuries. Of the reported injuries, one was a soft tissue injury. The five DART injuries resulted in a DART rate of .47 This represents a continued decrease in injuries which is trending downward to meet our 2020 Target (See Appendix A).
Quality care of injured employees is measured through the Workers’ Compensation program’s performance, which is assessed annually by an independent actuary. Complete results will be provided in the fourth quarter report in 2020. However, SMUD continues to have a reduction in claims over the past three years, a reduction in injury frequency rates, and a reduction in indemnity benefits as presented below as of September 2019:

<table>
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<th></th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
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<tr>
<td>No. of Claims</td>
<td>168</td>
<td>150</td>
<td>118</td>
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<tr>
<td>Frequency rater per 100 employees</td>
<td>4.96</td>
<td>5.07</td>
<td>3.60</td>
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<tr>
<td>Indemnity benefits</td>
<td>29%</td>
<td>32%</td>
<td>21%</td>
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To better support the health and wellness of employees at work, Workers Compensation contracted with a new onsite medical services provider, Sacramento OMC to provide non-emergency on-site medical care for our employees who have suffered injuries or illness (caused by work) as well as employee/pre-employment related evaluations and testing. New services started in late September of 2019.

**Public and Community Safety**

SMUD tracks public and community incidents in Safety Incident Tracking System (SITS) involving car-pole, electrical contact, dig-in incidents and injuries to the public that are related to SMUD’s operations or facilities. From January through June of 2019, there were 113 car-pole incidents reported. Of those 113, 2 resulted in possible fatalities with no claims being filed at this time. Four electrical contacts have been reported resulting in 1 injury, this incident is under attorney client privilege. Twenty-seven dig-ins have been reported with no injuries.

**3. Additional Supporting Information**

The new SD-6 Safety Direction became effective August 21, 2014. Our goal is to achieve the desired performance objectives by year-end 2020. A discussion concerning how to maintain and continue to lower SMUD’s incident rates are presented in the Challenge section of this report. This report summarizes the performance for the first half of 2019.

**Safety Leadership.** In 2019, SMUD hired a new Safety Manager to support Executive Leadership’s 5-year plan that emphasized zero incidents and injuries and a focus on a zero-accident safety culture. SMUD’s Chief Executive Officer (CEO) Arlen Orchard, re-emphasized the need to improve safety at SMUD with a greater focus of developing a” Safety for Life” culture at SMUD, reducing ergonomic risk and soft tissue injuries,
promoting public and contractor safety, and improving the analysis of injury and incident trends. These goals will be outlined in the updated Safety Road Map in 2019.

**Safety Management System.** SMUD’s new Safety Manager is partnering with IT to develop a Request for Proposal (RFP) for a safety management system. During the past two months, three vendors have presented demonstrations of the technology offerings. Safety and IT plan on developing the RFP by the end of the fourth quarter with a posting in early 2020. In addition, the Safety team is working to evaluate core safety competencies that address: roles and responsibilities, development of safety standards; training, field observations, job hazard analyses, contractor, and public safety development improvements.

**Safety Standards Development.** During the first half of 2019, Safety initiated the development of several new standards to assist in the improved safety of SMUD operations. These included Wildfire Smoke Hazards; Ozone hazards; Injury and Illness Prevention Program updates; Serious Injury and Illness Reporting; Near Miss reporting; and Mobile Equipment. As part of the standard development and review process, Safety developed a new tracking program to assist in the review and intake of standard comments from business units throughout SMUD.

**Supervisor-Employee Interactions.** Safety staff updated and strengthened its supervisor-employee interaction quality program. Improvements included data governance definitions for Supervisor-Employee Interactions, Safety Contacts, Field and Office visits. Emphasis is placed on field visits for work with the highest hazard potential. For office personnel, an emphasis is placed on observing personnel pertaining to ergonomic risk, and slip/trip/fall hazards in walking areas, etc. For the first half of 2019, Supervisor-Employee 7,893 interactions were complete that resulted in a percentage observed of 150%.

**Near Miss Reporting.** Leadership continues to support and encourage near miss reporting. The process improvements that were initiated in SMUD’s Safety Incident Tracking System (SITS), provide a method to more effectively track and implement near miss reporting and public incident tracking. The goal of this process is to identify opportunities for learning before injuries and accidents occur. During the first six months of 2019, SMUD reported and investigated 36 near misses through SITS.

**Community and Public Safety.** Focused efforts are continuing to reduce public risk related to vehicle incidents with SMUD assets, such as utility poles and pad-mount transformers. A Joint Labor Management Safety Subcommittee team was formed to identify and evaluate options to mitigate risk such as the removal or relocation of poles, pole redesign, addition of pole barriers (Raptor®), and/or adding improved pole visibility strips. Through June of 2019, one pole has been relocated to minimize the potential for a crash and one pole barrier has been installed. An investigation of a major crash into a pole with a Raptor® pole barrier that occurred in February, provided evidence that the Raptor® reduced the severity of injury.
With electrical contacts being a prime area of concern, SMUD continues its customer and contractor education as a key incident prevention component. This year SMUD’s new efforts include completion and launch of a new training program on Electrical Hazards for Firefighters. This e-learning course was tailored to emergency responders to meet their training needs.

Additionally, SMUD has held seven public safety outreach sessions through the end of June this year. A recent training event with the Department of Water Resources focused on overhead electrical and dig-in hazards, consequences and contact prevention.

**Contractor Safety.** A contractor safety pilot program, ISN, is an online contractor prequalification program that is used in the evaluation of our contractor’s safety record and program. The pilot is focused on SMUD contractors in Power Generation and Environmental Services that perform high risk work, such as high voltage work, working at heights, confined spaces, excavations, etc.

SMUD started the pilot using the 37 SMUD contractors and we have grown the number of SMUD contractors in the pilot to 50 contractors. We are continuing to network and benchmark with the other utilities, who are using ISN as part of their contractor safety program to further enhance SMUD’s process. As part of the second phase of the pilot we have been validating our prequalification criteria and processes. The prequalification criteria focuses on Contractor Fatality History, OSHA Citation History, DART and Total Recordable Incident Rates (TRIR), Insurance Experience Ratio, Safety Culture Questions, and Safety Program Review during this period we are adjusting the weighting for some of these areas to put more emphasis on more critical safety items as a result raising the bar on safety performance of our contractors.

In addition, Safety is working with Procurement during the pilot and we have updated SMUD’s contract language as it relates to contractor safety requirements, developed a site safety evaluation and inspection process, and tested a contractor onboarding program.

**Safely Conducted Observations Reduce Common Hazards (SCORCH).** For 2019, SCORCH team members conducted 2,870 Office and Professional interactions whereas the SCORCH Field groups employee interactions were 1,270. These interactions resulted in the removal of 6 barriers to safety. In addition, this year the SCORCH team held two Safety in Action Mini-Conferences. Some of the topics at the conference included: SIF at Home, The Bystander Effect, Active Shooter, World Class Safety, and Distracted Driving and the Myth of Multi-Tasking. SCORCH partnered with Safety and held nine Driver’s Rodeo events where employees participated in vehicle inspections, blind spot demonstrations, backing courses and scales and ergo station activities. SCORCH trained 74 new observers. SCORCH had hands on informational booths at the Bring Your Child to Work Day, SMUD’S Safety Day, SMUD Day, Wellness’ Summer Fitness Festival, and at the Safety in Action Conference.
4. **Challenges**

**Incidents and Injuries.** The highest-frequency injury type during the first half of 2019 continued to be soft tissue injuries from field and office employees. To address this concern, there is a continued focus on the implementation of quality Supervisor-Employee interactions and SMUD’s near miss and corrective action tracking processes to proactively identify and correct workplace hazards and remove safety barriers. In addition, during Q1 and Q2, Safety continued to initiate field ergonomic programs in the UARP that provide individualized physical assessments, guided instruction on self-care, and injury prevention for field employees. In addition, Safety re-established SMUD’s Field Ergonomics committee in working toward the expansion of activities to Grid Assets. Other efforts include work by Grid Assets Joint Labor Management Subcommittee (JLMSC) to improve the capture and review of incident corrective actions.

**Data Management.** Improving the quality, automation, and use of safety data is an ongoing challenge. Efforts are underway with SMUD’s IT staff to select a Safety management System to automate the generation of data and so that Safety can trend recorded incidents using data analytics. In addition, Safety expanded its dashboard reporting and real-time DART, OSHA Recordable, and Preventable Vehicle Accident (PVA) reporting.

**Zero Accident Culture.** As presented in this report, SMUD continues to work toward a reduction in all incidents. To date, this reduction has been achieved by SMUD leadership and employees working together to build trust and create effective JLMSC Teams, SCORCH (behavior-based) Committees, Safety for Life efforts, and program development that imbeds safety into core and project work. The challenge for Safety and the organization are the efforts to continue working towards a zero-accident rate. In 2019, new efforts continue to focus on more leading safety indicators, which include greater emphasis on reductions of soft tissue injuries, revised safety standards, updated roles and responsibilities, root cause analysis of potentially serious incidents, contractor safety; and implementation of Serious Incident and Fatality reduction efforts.

5. **Recommendation**

SMUD is committed to becoming a recognized leader in safety. Both SMUD’s leadership team and employees recognize that to achieve success we must integrate safety into all that we do. It is recommended that the Board accept the Monitoring Report for SD-6.

6. **Appendices - Business Segment Safety Program Improvement Initiatives**

**Grid Assets (GA).** In July 2019, Grid Assets Leadership announced a focused approach of its Joint Labor Management Safety Committee, to encourage field staff input and participation. On August 21, 2019, Line Division held its first Monthly Joint Labor Management Safety Committee, with representatives from Field, Supervision,
Union and Safety in attendance. This is in addition to the Quarterly Business Segment Joint Labor Management Safety Committee. In 2019, Grid Assets continued the expanded corrective action review and held additional Foremen’s and Supervisor’s TapRooT® trainings in efforts to identify causal factors, root causes; and reduce workplace hazards and the potential for repeat incidents.

In addition, Safety continues to work with the SMUD Power Academy to review internal and external safety training programs. Staff is assisting in e-learning courses through the digitization of several training programs to support online and remote safety training in conjunction with onsite crew training.

Energy Supply/Power Generation (ES). The UARP underwent a VPP inspection in June of 2019. The follow-up to complete the inspection will occur in September of 2019. The Gas Pipeline Operations (GPO) submitted their VPP application and is attempting to schedule their inspection for the fourth Quarter of 2019. In addition to the VPP application and inspection process, Safety continued to develop and advance the contractor safety program with advanced in contractor pre-qualification, onboarding, and inspection. To reduce the number of Soft Tissue injuries within the department a new program titled “Functional Movement Screening” was implemented that involves screening employee’s strength and mobility, then tailoring a stretch and strengthen plan for the individual employee to help reduce their injury potential.

Customer & Community Services (CCS). The Customer Operations Leadership Team safety efforts have continued to emphasize leadership involvement, and employee engagement. Leadership has demonstrated visible involvement through written and verbal communications, as well as through regular supervisory inspections and observations to identify and reinforce the importance of smart set-up of workstations, as well as safe ergonomic behaviors. In addition, Safety worked with CCS and Security in developing new safety guidelines for customer service staff in managing an improved customer/employee emergency response program for the building. During the second half of the year, Safety will be working with CCS and Security on a SMUD-wide situational awareness program.

Workforce Enterprise Services (WES). Workforce Enterprise Services continued efforts to identify and update procedures, and/or work practices for areas of high-risk work. These efforts have been consistently applied through the fleet, warehouse, and facility operations. Other injury prevention efforts have included updating of ergonomic training to address methodologies for self-help for employees to maintain strength, mobility, and conditioning. In addition, the Environmental Services team is also participating in the beta testing of the contractor safety pre-qualification program.

Driver Safety. Safety partnering with SCORCH hosted several Driving Rodeos in May, June, July, and August of this year. The objective of the rodeos is to reinforce safe SMITH driving principles and reduce SMUD’s Preventable Vehicle Accidents (PVAs). Safety Rodeo stations included vehicle inspection, blind spot demonstration, backing and parallel parking courses, as well as vehicle weight checks and a driver ergo station.
that included the inspection and/or replacement of vehicle fire extinguishers and first aid kits.

In addition, Safety has developed a 3-year plan for developing a comprehensive Driver Safety Program. This program leverages the use of GPS data, evaluates the use of front and back vehicle drive cameras, driver ergonomics, driver training, and driver safety trending (best practices and opportunities).

Safety for Life. Safety Day was on May 4th at East Campus Operations Center (EC-OC). The day was filled with fun and educational booths all geared towards “Safety at Work, Home, and Play.” Impact Teen Driver participated in the event and showed a documentary about distracted driving and the impact it can have on all those involved. Participants learned about the electrical safety board and what to do in the event of a downed wire. There were also vendors such as United Healthcare, Sac Zoo, Safe Kids, Effie Yaw Nature Center, and Savvy Fit, just to name a few. Safety continues to promote Safety for Life and completed a Family CPR/First Aid training session on February 2, 2019 and has another scheduled in November of this year along with two Self-defense courses.

Safety Support. SMUD Safety Services and Roebbelen Construction (RC) have been collaborating to improve their health and safety processes during the Headquarters’ rehabilitation process. As the construction project is finishing up, SMUD Safety has conducted Polychlorinated biphenyls (PCBs) and Volatile Organic Compound air sampling, worked with Environmental Services in completing a PCB risk assessment, is supporting and reviewing a PCB Close Out report that will be sent to the U.S. Environmental Protection Agency, and is conducting joint safety assessments with RC to ensure that work practices are being performed properly. In addition, Safety is developing an ergonomic checklist and pamphlet for employees returning to the Headquarters building.

Wellness. Employee health and wellness continues to be a priority for SMUD. We foster and promote wellness through a holistic approach that recognizes all areas of employee health and well-being including physical, financial, emotional, spiritual and social wellness. SMUD’s Health Assessment Program (HAP) helps employees understand their health risk factors and is designed to improve their health, well-being and productivity. It also provides employees the opportunity to identify baseline health benchmarks and establish realistic wellness goals for ongoing health and vitality. We reward them for making healthy lifestyle choices and give them the tools to improve their overall well-being. Additionally, our expanded Functional Movement Screening program has provided our Wellness staff the ability to work directly with employees to address movement patterns that lead to soft tissue injuries and then develop individualized programs to help mitigate these muscular imbalances.
Appendix A

DART Count and OSHA Recordable/Years

![Graph showing DART Count and OSHA Recordable/Years from 2004 to 2019. The graph displays the number of DARTs and recordables for each year, with a peak in 2005 and a decrease in later years.](chart)
RESOLUTION NO. __________________

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

This Board accepts the monitoring report for Strategic Direction SD-6, Safety, substantially in the form set forth in Attachment _____ hereto and made a part hereof.
TO
1. Laurie Rodriguez
2. Jennifer Davidson
3. Gary King
4. Stephen Clemons
5. Legal
6. 7. 8. 9. 10. CEO & General Manager

Consent Calendar | Yes | No | If no, schedule a dry run presentation. | Yes | No
---|---|---|---|---|---
FROM (IPR) DEPARTMENT | Budgeted | Yes | No (If no, explain in Cost/Budgeted section.) | MAIL STOP | EXT. | DATE SENT
Cheryl Elia | Human Resources, Diversity & Inclusion Department | | | B251 | 7076 | 10/04/19

NARRATIVE:

Requested Action: Approve a Memorandum of Understanding between the Sacramento Municipal Utility District and the SMUD Public Safety Officers’ Association for the period October 28, 2019, through December 31, 2022.

Summary: SMUD and PSOA reached Tentative Agreement on September 26, 2019, to establish an MOU that expires on December 31, 2022. Key aspects of the three-year agreement, which PSOA members ratified on October 3, 2019, are below:

- 3-year contract (through 2022)
- Total compensation package designed to continue to attract and retain
- Wage alignment of bargaining unit positions
- Increased cost sharing of healthcare and pension benefits

Board Policy: SD-2, Competitive Rates; SD-8, Employee Relations

Benefits: This agreement represents a total compensation package that has reasonable risk and cost sharing by both parties. The agreement successfully meets SMUD’s financial targets while maintaining competitive pay for PSOA employees, safety in the workplace, employee engagement, and positive labor-management relations.

Cost/Budgeted: Staff expects the cost of the agreement to be at or below budget projections.

Alternatives: Re-open negotiations with PSOA.

Affected Parties: All work areas with PSOA-represented employees and Human Resources, Diversity & Inclusion, Employee Relations

Coordination: Human Resources, Diversity & Inclusion, Employee Relations

Presenter: Chery Elia, Manager, Employee Relations

Additional Links:

SUBJECT: Approve Memorandum of Understanding between SMUD and PSOA

ITEM NO. (FOR LEGAL USE ONLY) 6
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PREAMBLE

Pursuant to the requirements of Government Code Section 3500, et seq., representatives of the Sacramento Municipal Utility District, hereinafter referred to as “SMUD”, and the SMUD Public Safety Officers’ Association, hereinafter referred to as “the PSOA”, have met and conferred in good faith with the purpose of promoting harmonious labor relations and establishing and maintaining appropriate wages, hours, and other terms and conditions of employment.

SMUD recognizes the PSOA as the exclusive representative of all employees of SMUD who are assigned to representation Unit 3, as defined in Board Resolution Number 19-05-06. (A list of Unit 3 Classifications appears in Appendix B.) The provisions of this Agreement hereinafter set forth shall apply to those employees of SMUD for whom the PSOA is the established representative.
ARTICLE 1

DEFINITIONS

1. AGREEMENT

The terms Agreement and MOU are used interchangeably.

2. TYPES OF EMPLOYEES

A. Civil Service Employee
   1) A full-time employee hired pursuant to SMUD Civil Service Rules.
   2) A part-time employee hired prior to July 1, 1991.

B. Non-Civil Service
   1) A part-time employee regularly scheduled to work twenty (20) or more hours and less than forty (40) hours per week (including overtime).
   2) A casual employee as defined by SMUD Civil Service Rules.
   3) A person hired under the Student Employment Program.
   4) A rehired CalPERS annuitant.
   5) A Limited Term Employee.

C. Full-Time Employee

A Civil Service or Non-Civil Service employee regularly scheduled to work eighty (80) hours in a pay period.

D. Part-Time Employee

A Civil Service or Non-Civil Service employee regularly scheduled to work less than eighty (80) hours in a pay period (including overtime).

E. Limited Term Employee

1) The term “limited term employee” shall have the same meaning as set forth in Public Utilities Code §12055 regardless of how such employees are hired, appointed, or assigned to classifications, positions, or assignments and without regard to title or terminology.

2) As defined in the Civil Service Rules, a Limited Term employee is a person hired or appointed by SMUD to perform the job duties of a job classification for a defined time period of not more than two (2) years’ duration. Limited Term appointments may be extended for up to two (2) additional years.

3) Such employees are immediately covered by this Agreement if the term of appointment is for at least six (6) months or if an initial appointment of less than six (6) months is extended beyond six (6) months.
4) Limited term employees are “at will” and serve at the pleasure of SMUD. They are not covered by SMUD’s Positive Discipline policies, they are not entitled to file grievances over disciplinary actions, and they may be terminated with or without reason or with or without just cause at any time and without notice.

F. Shift Employee

The employee's regular work schedule is the day or night shift.

3. OVERTIME DEFINITIONS

A. Change in Shift

The employee is permanently or temporarily transferred to a new work schedule or shift that will last one workweek or more.

B. Early Call-In

The employee is called to work early and works into their regular work hours.

C. Emergency Call-Out

The employee is called to work on their regular workday to perform emergency work that does not extend into their regular work hours, or the employee is called to perform emergency work on their day off.

D. Emergency Work

Overtime work which has not been prearranged. Assignment is not made in accordance with SOAP 24 procedures.

E. Extended Work Schedule

The employee is required to work beyond their regular work hours.

F. Prearranged Overtime

The employee is notified before leaving work on a workday to work overtime, and they are given at least 8 hours off before the reporting time. Assignment is made in accordance with SOAP 24 procedures.

4. SHIFT DEFINITIONS

A. Day Shift

Work periods regularly scheduled to begin between the hours of 0700 and 1900.

B. Night Shift

Work periods regularly scheduled to begin between the hours of 1900 and 0700.

5. TERM

The term of this Agreement: October 28, 2019, through December 31, 2022.
ARTICLE 2
ORGANIZATION SECURITY

1. DUES/FEES
   A. Payroll Deductions
      SMUD will deduct the amounts requested by the PSOA from the wages of Unit 3 employees who authorize monthly payroll deductions for membership dues, fees, general assessments, and/or payments for any membership benefit programs sponsored by the PSOA, and remit the total amount of such deductions to the PSOA on a monthly basis subject to the following:

      1) SMUD will implement the requested payroll deduction as soon as possible, but not later than 30 days, after the PSOA provides to SMUD a certified list of employees from whom to deduct the dues and the amount to be deducted.
      2) In general, SMUD will continue making the requested deductions until the PSOA notifies SMUD that an employee no longer authorizes deductions or the employee begins an unpaid leave of absence lasting more than 30 calendar days.
      3) SMUD will direct employees to make requests to change or cancel deductions with the PSOA.

   B. Responsibilities
      1) The PSOA shall maintain procedures in accordance with applicable statutes, any decisions by a court of competent jurisdiction, and any other applicable legal authority regarding the collection of dues and fees.
      2) Hold Harmless: The PSOA agrees to indemnify and hold SMUD harmless against any and all liability including, but not limited to, such items as wages, damages, awards, fines, court costs, and attorney fees that may arise by reason of or the result of the operation of this section.
      3) SMUD shall provide the PSOA with a Dues/Fees Deduction Report for Unit 3 employees at the end of each pay cycle.
      5) SMUD shall provide Employee Rosters for Unit 3 employees (Full-Time, Part-Time and Limited-Term) monthly at the pay cycle when union dues/fees are deducted.
      6) SMUD shall notify the PSOA of an employee’s return to paid status within ten (10) working days following an unpaid leave of absence in excess of thirty (30) days so the PSOA may resume collection of PSOA dues/fees.

2. PSOA RELEASE TIME
   A. Officers and Directors
      Once each calendar year during the month of March, the PSOA shall provide SMUD with a list of the PSOA Officers and Directors. In meeting both the organizational
business needs and the employee representation obligations of the PSOA, the PSOA may allocate release time and PSOA duties among these key individuals.

1) SMUD shall make arrangements to accommodate requests from PSOA Officers and Directors for a reasonable amount of time off from their regular assignments to attend scheduled meetings with SMUD management, participate in SMUD projects, and represent bargaining unit employees. Such time off is subject to prior notice and approval of the immediate supervisor of the individual making the request.

2) A PSOA representative’s time spent conducting PSOA business should be charged to the appropriate Work Order Number. PSOA representatives will be paid for approved leave to act as an official or representative of the union. All leave will be paid for from the PSOA Leave Bank or through PSOA leave set forth in Section 4 of this Article.

B. PSOA Leave Bank

SMUD and the PSOA agree to establish an PSOA Leave benefit and create an PSOA Leave Bank to support it.

1) PSOA Leave is paid leave that may be utilized by PSOA members to conduct PSOA business and/or to attend seminars, conferences, conventions, or other meetings at the local, state and national level. A PSOA member who is designated by the PSOA President or, in the President’s absence, the Vice President, may take PSOA Leave subject to the advance approval of the employee’s immediate supervisor.

2) To establish and maintain the PSOA Leave Bank, a Unit 3 employee may contribute some or all of the employee’s accumulated personal leave to the PSOA subject to the following conditions:

a) A Unit 3 employee may contribute to the PSOA Leave Bank in one (1) hour increments consisting of one (1) or more hours;

b) When donated, leave shall be credited to the PSOA Leave Bank at the current hourly rate of the donating employee;

c) When used, the PSOA Leave Bank shall be debited at the current hourly rate of the employee using the leave;

d) The PSOA Leave Bank account shall be designated by SMUD and PSOA leave taken shall be charged to the appropriate Work Order Number.

e) Donations to the leave bank may not be revoked by the donating party, nor may they be cashed out by the PSOA or its officers or representatives in any way other than described in subsection B of this Article.

Meetings called by SMUD and “meet and confer” meetings will not count against the PSOA Leave Bank for the President and Vice President, or his/her Executive Board designee. Additional PSOA members may attend “meet and confer” meetings on PSOA leave or their own time as set forth in Subsection 4 of this Article.

Each employee recognized by SMUD as a member of the duly elected or appointed PSOA Negotiating Committee, who attends with SMUD’s permission an Association-
Management contract negotiation meeting will receive PSOA leave time as set forth in below in Section 4 of this Article.

3. USE OF SMUD FACILITIES

A. Bulletin Boards

The PSOA shall be provided a reasonable amount of bulletin board space in specifically designated areas for posting organization bulletins. The PSOA shall be responsible for removing out-of-date materials, but SMUD reserves the right to remove out-of-date, inappropriate, or prohibited material.

1) The PSOA shall provide up to five (5) bulletin boards to be installed by SMUD at mutually agreeable locations.

B. Inter-Office Mail

The PSOA shall be allowed to use SMUD’s inter-office mail to communicate with PSOA represented employees. PSOA mail shall be pre-sorted by mail stop.

C. Internal Email

The PSOA shall only be allowed to use SMUD’s internal email system to communicate with PSOA represented employees as follows:

1) The PSOA President and Vice President are the only PSOA members authorized to use SMUD's internal email systems (e.g., Outlook) to send no-reply notices to the PSOA membership.

2) Email notices shall not contain any confidential information and shall be in the nature of announcements regarding PSOA activities (i.e. PSOA membership meetings, PSOA election results, PSOA meeting minutes and reports, PSOA social events, and PSOA member participation at community events).

3) No-reply email notices of any other nature must have approval of the SMUD Employee Relations Manager prior to distribution.

4) Copies of the no-reply notices shall be sent to the SMUD Employee Relations Manager at the time of distribution to the PSOA membership.

5) A maximum of 52 no-reply notices may be sent to the PSOA membership per calendar year, with the understanding that this allowance for PSOA no-reply email notices is an exception to “acceptable use” under SMUD’s Electronic Information Policy (AP 05.02.04). This agreement does not preclude compliance with all other provisions of this SMUD policy.
D. Use of Meeting Rooms/Access to Work Locations

1) SMUD shall make conference rooms available to the PSOA, subject only to SMUD’s established procedures for the reservation and use of such facilities by SMUD’s internal organizational units.

2) PSOA representatives shall be granted reasonable access to work locations to engage in those activities necessary to the representation of employees assigned to Unit 3.

4. PSOA BUSINESS LEAVE

SMUD and the PSOA agree to establish a PSOA Leave Benefit in addition to the PSOA Leave Bank.

A. PSOA Leave is leave that may be utilized by PSOA members to conduct PSOA business and/or to attend training, seminars, conferences, conventions, or other meetings at the local, state and national level.

B. Requests for PSOA Leave shall be made at least two (2) weeks in advance and shall be directed to the Manager, Employee Relations, unless otherwise agreed to between SMUD and the PSOA. Such requests shall be made by the PSOA President, or in the President’s absence, the Vice President.

C. In an emergency, the Manager, Employee Relations shall have the authority to cancel scheduled PSOA Leave.

D. The PSOA shall be reimbursed for any reasonable documented expenses and/or loss of money resulting from SMUD’s canceling scheduled PSOA leave, provided the PSOA informs SMUD of the pending loss at the time the PSOA is requested to cancel the leave.

E. Employees utilizing PSOA Leave shall remain on SMUD’s payroll and shall continue to receive CalPERS contributions and service credit. Employees on PSOA Leave shall suffer no loss of compensation, benefits, or loss of seniority.

F. The PSOA shall reimburse SMUD for the employee’s salary at the then current activity rate for their position while the employee is on PSOA Leave. The PSOA shall provide such reimbursement within thirty (30) calendar days following receipt of invoice. Failure to make payment in full within forty-five (45) calendar days allows SMUD to seek recovery of the payment owed and relieves SMUD of any obligations to withhold funds pursuant to Section 1 of this Article until SMUD is paid in full. SMUD will not be responsible for any retroactive deductions should it not withhold any regularly scheduled dues payments as a result of this provision.

G. The PSOA agrees to indemnify and hold SMUD harmless against any and all liability for loss, damage, cost or expense which SMUD may incur by reason of bodily injury, including death, to any person or persons or by reason of damage to or destruction of property, including the loss of use thereof, arising out of or in any way connected with the program described herein, whether or not due in whole or in part to any act, omission or negligence of SMUD, active or passive, excepting only such injury, loss or liability as may result from the criminal or willful misconduct of SMUD, its agents or employees, other than employees participating in this program.
1) Workers’ Compensation. Unless performing duties for SMUD, employees on PSOA Business Leave shall not be eligible for Workers’ Compensation benefits arising out of an injury occurring during the leave from SMUD.

2) Notice and Defense of Claims. In the event any claim or demand is made or suit or action is filed against SMUD alleging liability for which the PSOA shall indemnify and hold harmless SMUD under this Section, SMUD shall promptly notify the PSOA thereof, and the PSOA shall bear all costs and expenses, including legal fees, to settle, compromise or defend the same in such manner as it, in its sole discretion, deems necessary or prudent.

3) Insurance Representation. The PSOA agrees to carry the amount of self-insurance or comprehensive liability insurance, including contractual liability coverage, covering the indemnification and defense obligations set forth herein, subject to such types and amounts of self-insurance, retentions, or deductibles as are consistent with good business practices in the industry.

5. **PSOA ACCESS TO NEW EMPLOYEE ORIENTATIONS**

SMUD shall notify the PSOA of the time and location of all new employee orientation (NEO) meetings at least ten (10) working days prior to the meeting, unless an urgent and unforeseeable need for an orientation meeting precludes SMUD from providing such notice. If ten (10) working days advance notice cannot be provided, SMUD shall provide as much advance notice as possible. The PSOA shall be afforded thirty (30) minutes during the NEO to present information about the PSOA to new PSOA employees.
ARTICLE 3

HOURS OF WORK

1. BASIC WORK WEEK

Full-time employees are regularly scheduled to work forty (40) hours per work week. Part-time employees are regularly scheduled to work less than forty (40) hours per work week (including overtime). Employees may be required to work overtime to meet the needs of SMUD.

A. Normal Work Schedule
   The work week shall begin at 0000 hours on Saturday and end the following Friday at 2359 hours.

B. 12-Hour Shift (Day)
   The work week shall begin at 1500 hours on Wednesday and end the following Wednesday at 1459 hours.

C. 12-Hour Shift (Night)
   The work week shall begin at 0300 hours on Thursday and end the following Thursday at 0259 hours.

2. WORK SCHEDULES

A. Normal Work Schedule
   The normal work schedule shall be five (5) consecutive eight (8) hour work days, Monday through Friday, with a paid meal period approximately midway through the work day.

B. 12-Hour Shift
   All shift employees assigned to a 12-hour work schedule shall have their workweek adjusted so that their workweek changes after the first 4 hours of the first shift on their regularly scheduled 4-day work schedule. A normal schedule shall consist of 3 consecutive days of 12-hour shifts followed by 4 days off and then 4 consecutive days of 12-hour shifts followed by 3 days off.

C. Change in Work Schedule
   Hours of work may be changed by mutual agreement of SMUD and the particular employees involved. Security Operations management may deny a schedule change—especially if the change will create overtime obligations. Nothing in SMUD policy prohibits an employee from being assigned to work outside of his/her work schedule or from being transferred from one schedule to another, provided the employee is paid in accordance with SMUD’s applicable overtime policies.
3. **MEAL PERIODS**

Employees shall receive a 30-minute meal period approximately midway through their regular workday for each 8-hours worked on a shift or special assignment, etc. Except as provided in Section 4.B.3) of this Article, meal periods shall be paid.

Employees on a shift shall attempt to stagger their meal periods beginning at 45 minutes before the midway point of their shift and ending 45 minutes after the midway point of their shift in order to remain available to answer calls for service and respond to emergencies. Employees on shift shall remain in uniform and monitor their handheld or vehicle radio traffic during their meal period and remain able to respond to calls for service as necessary. Efforts shall be made to avoid interrupting an employee’s meal period unless it is necessary to meet operational needs. Calling employees back from their meal period shall not be the normal practice.

4. **SHIFTS AND START TIMES**

A. Shifts are as follows:

1) **Day Shift**

   Regularly scheduled between the hours of 0700 hours and 1900 hours.
   
   a) Day Shift TEAM A 0700-1900 Hours, Sun/Mon/Tue/Alt Wednesdays
   b) Day Shift TEAM B 0700-1900 Hours, Alt Wednesdays/Thurs/Fri/Sat

2) **Night Shift**

   Regularly scheduled between the hours of 1900 hours and 0700 hours.
   
   a) Night Shift TEAM A 1900-0700 Hours, Sun/Mon/Tue/Alt Wednesdays
   b) Night Shift TEAM B 1900-0700 Hours, Alt Wednesdays/Thurs/Fri/Sat

B. SMUD may establish different shifts when necessary to meet the operational needs of SMUD as follows:

1) **Rotating Shift**

   Requires assigned employees to rotate between two (2) or more shifts.

2) **Emergency Relief Shift**

   Requires assigned employees to be available for emergency relief duty in rotating shifts on any day of the week without advance notice.
   
   a) Employees assigned to an emergency relief shift normally have a minimum of twelve (12) hours off between shifts.
   
   b) When employees are required to report for duty without twelve (12) hours off between shifts, they shall be paid at the applicable overtime rate for any time worked within the twelve (12) hour period following the end of their preceding work shift.
3) Special Shift
A work period consisting of an eight (8), nine (9), ten (10) or twelve (12) hour work day during which employees are permitted to eat a meal on SMUD time.

4) Dead Space
The time between the end of any additional duty and the beginning of their shift or the end of the employee’s shift and the beginning of any additional duty. This time is compensable up to but not exceeding 2 hours, as there is not enough “Dead Space” time between for the employee to have adequate time off to attend to any personal matters. If the time between the beginning or end of additional duty and the beginning or end of their shift is greater than 2 hours, then this time will not be compensated.

a) Employees present during compensated “Dead Space” will make immediate contact with the on-duty SOS to receive a work assignment. All compensated “Dead Space” work assignments must be documented accordingly on employee time sheets.

b) If the “Dead Space” is over the 1-hour threshold and a vacancy exists in the current work schedule due to elimination of posting per the PPC, the Security Operations Supervisor may hold over the employee to fill this vacancy bringing on-duty personnel to the minimum requirement as established by the PPC.

C. Change in Shifts and/or Start Times

1) Shifts and/or start times shall be established consistent with the normal operation of a division or department and shall not be changed arbitrarily.

2) Subject to applicable overtime policies, shifts and/or start times may be changed as deemed necessary by SMUD for reasons including, but not limited to:
   a) Provide better service to customers or other work units;
   b) Stagger working hours to alleviate traffic congestion;
   c) Reflect seasonal changes in daylight hours or temperature conditions;
   d) Provide extended coverage for maintenance testing and operating activities; or
   e) Reflect the desires of employees in a work unit, with supervisory approval.

3) If an employee’s work shift and/or start time is changed by SMUD for five (5) days or more, the employee shall be given at least twenty-four (24) hours advance notification. In addition, the employee shall have a minimum of twelve (12) hours off between the shifts and/or start time and shall not be required to work more than forty (40) hours at the straight-time rate of pay.

a) If SMUD does not provide an employee with at least twenty-four (24) hours’ notice or twelve (12) hours off between shifts and/or start time changes, the employee shall receive the applicable overtime rate for those hours worked on the first day of the change that encroach upon either the twenty-four (24) hour notice or the twelve (12) hour off requirements, whichever is greater.

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b) Overtime and rest period provisions shall apply to the employee’s new shift and/or start time.

4) Shift and/or start time changes of less than five (5) days worked (including Saturday, Sunday, and holidays) are not considered an official change in shift and/or start time. Employees shall be compensated at the applicable overtime rate for all hours worked other than their regular work hours for each work day when the change in shift and/or start time is directed by SMUD.

5) When employees who have been reassigned pursuant to Section 4.C.3) and 4.C.4) of this Article are returned to their regularly scheduled work shift and/or start time, they shall be paid at the straight-time rate of pay for work performed during their normal work hours subject to the following:

a) When employees return to their regular work shift and/or start time, they are entitled to a minimum of twelve (12) hours off between shifts.

b) If employees do not get the twelve (12) hours off, they shall be paid the applicable overtime rate for any time worked within the twelve (12) hour period following the end of their preceding work shift.

5. SHIFT BIDS

Employees shall sign up for shifts and assignments based on seniority within their current classification, not department or SMUD seniority. Classification seniority will be determined based upon most recent date hired into the classification. Shift assignments shall be bid annually in November. Ties in seniority will be broken by date and time the application is received for the classification. New shift assignments shall take effect in the pay period including January 1 of the following year.
ARTICLE 4
WAGES

1. PAY PERIODS/PAYDAYS
   A. Pay Periods
      The pay period is fourteen (14) consecutive days beginning at 0000 hours on Saturday
      and ending at 2359 hours on Friday.
   B. Pay Days
      Employees shall be paid on the Friday following the close of the pay period. Paychecks
      normally are distributed on the Thursday preceding payday and dated payday Friday. If
      Thursday is a holiday, paychecks shall be distributed on the preceding Wednesday and
      shall be dated for the Friday of that week. If payday is a holiday, paychecks shall be
      dated and distributed on the preceding Thursday.

2. ENTRY RATES – NEW EMPLOYEES
   A. New employees normally are placed at the first step or entry-level rate of pay for their
      classification.
   B. Employees who possess exceptional qualifications may be placed at a starting rate that is
      above the first step for their classification, subject to approval by SMUD. The following
      items shall be evaluated when considering an employee for a higher entry-level rate of
      pay:
         1) The quality and quantity of the employee’s relative work experience.
         2) The wage level and qualifications of other SMUD employees in the same
            classification.
         3) The wage demands of the new employee.
         4) The availability of other qualified applicants.

3. MERIT INCREASES
   Employees within a classification with established pay steps shall be eligible for merit
   increases at specified intervals until they reach the top of their pay grade. Merit increases are
   granted for effective job performance, as reflected in a completed performance evaluation.
   A. Eligibility
      1) Permanent and limited-term full-time employees assigned to a classification with
         established pay steps shall be considered for merit at 6-month intervals.
         For all newly hired full-time employees with a 12-month probationary period, their
         first merit increase will be after 12 months and thereafter, at six-month intervals. This
         change will not affect current employees transferring into new classifications.
      2) Part-time employees regularly scheduled to work twenty (20) or more hours and less
         than forty (40) hours in a week (including overtime), assigned to a classification with
established pay steps shall be considered for merit increases for each 1,040 hours worked.

3) Probationary Period – Absences during the probationary period may extend an employee’s merit increase eligibility date. If an employee’s probationary period is extended, the employee’s merit increase eligibility date also shall be extended by the same amount of time.

4) Leaves of Absence without Pay – A leave of absence without pay in excess of thirty (30) days (except military leave) may extend an employee’s merit increase eligibility date.

B. Temporary Appointments

Employees who are temporarily appointed to a higher classification shall be eligible for merit increases as follows:

1) Employees who are temporarily appointed to a higher or different classification shall continue to earn merit increases as though continuously assigned to their permanent classification.

2) Employees who are assigned to a higher classification through a temporary timecard upgrade shall not accrue time toward a merit increase in the higher classification.

3) Employees who are temporarily appointed to a higher classification by an ESN or comparable document for more than six (6) consecutive months shall accrue time toward a merit increase in their higher classification.

C. Granting Merit Increases

1) A one-step merit increase shall be effective and initiated automatically on the first day of the pay period that includes the merit increase due date unless SMUD withholds the increase in accordance with Section 4.D of this Article.

2) SMUD may grant merit increases of two (2) or more steps to an employee based on exceptional job performance. If an employee is granted a merit increase of two (2) or more steps, the additional merit increase shall be effective the first day of the pay period that includes the merit increase due date.

D. Withholding Merit Increases

1) An employee’s merit increase may be withheld for documented unsatisfactory progress or job performance, as reflected in a completed performance evaluation. The supervisor must discuss the withholding of the merit increase with the employee at least ten (10) calendar days prior to the date the merit increase was due.

2) Once SMUD has determined the employee has corrected unsatisfactory progress or job performance, the employee shall be granted the withheld merit increase. Normally, an employee shall not be reconsidered for a merit increase for at least six (6) months.

3) When an employee is granted the withheld merit increase, the effective date of the merit increase shall establish the eligibility date for the next merit increase.

4) SMUD’s denial of a merit increase is subject to the grievance procedure contained in Article 20 of this Agreement.
4. WAGE ADJUSTMENTS

A. Effective the pay period that includes January 1, 2020:

1) For Security Operations Officers, SMUD shall provide a wage increase of 4.25%.

2) For Security Operations Supervisors, SMUD shall provide a wage increase of 3.25%.

3) For Security Operations Dispatchers, in lieu of a wage increase SMUD shall provide a lump sum payment (not reportable as pensionable income to CalPERS) to each eligible Security Operations Dispatcher equal to 6% of each employee’s annual base pay as of December 31, 2019, payable on January 24, 2020. Unit 3 employees are only eligible to receive this lump sum payment if they were active status by December 31, 2019, and they continue in active status in the pay period that ends January 17, 2020. Retired Annuitants are not eligible to receive the lump sum payment. Lump sum payments will not be included in wages for the purposes of calculating holiday pay, workers’ compensation premiums, Federal Unemployment Tax Act taxes, and overtime. Additionally, SMUD will withhold all required Federal, State, and local taxes from lump sum payments.

B. Effective the pay period that includes January 1, 2021:

1) For Security Operations Officers, SMUD shall provide a wage increase of 4.25%.

2) For Security Operations Supervisors, SMUD shall provide a wage increase of 3.25%.

3) For Security Operations Dispatchers, in lieu of a wage increase SMUD shall provide a lump sum payment (not reportable as pensionable income to CalPERS) to each eligible Security Operations Dispatcher equal to 4% of each employee’s annual base pay as of December 31, 2020, payable on the pay date for the second pay period of 2021. Unit 3 employees are only eligible to receive this lump sum payment if they were active status by December 31, 2020, and they continue in active status in the second pay period of 2021. Retired Annuitants are not eligible to receive the lump sum payment. Lump sum payments will not be included in wages for the purposes of calculating holiday pay, workers’ compensation premiums, Federal Unemployment Tax Act taxes, and overtime. Additionally, SMUD will withhold all required Federal, State, and local taxes from lump sum payments.

C. Effective the pay period that includes January 1, 2022:

1) For Security Operations Officers, SMUD shall provide a wage increase of 3.75%.

2) For Security Operations Supervisors, SMUD shall provide a wage increase of 3%.

3) For Security Operations Dispatchers, SMUD shall provide a wage increase of 3%.
5. FUTURE SALARY SURVEYS

SMUD and the PSOA shall seek to agree on a list of public agencies and like positions to be contained in Appendix C shall be used for Classification and Pay Studies of Unit 3 positions conducted during the term of this Agreement.
ARTICLE 5
OVERTIME

1. DEFINITION

A. Overtime

Overtime is time worked in excess of 40 hours in a work week or time worked on a holiday. Overtime work requires prior approval from the Security Operations Manager or designee.

1) Scheduled Overtime – Knowledge of an overtime need by the supervisor four (4) hours or more in advance constitutes “scheduled overtime.” Assignment will be made in accordance with SOAP 24 procedure.

2) Unscheduled Overtime – When notification is less than four hours in advance of the scheduled shift, either for emergency or operational necessity (to maintain minimum staffing levels). Overtime will be assigned as-needed, not in accordance with SOAP 24 procedure.

2. COMPENSATION FOR OVERTIME

Overtime shall be compensated at time and one half (1.5x) the regular rate of pay for the number of hours worked but shall be compensated for no less than four (4) hours of overtime.

3. DISTRIBUTION OF OVERTIME

Any employee may be required to work overtime to meet the needs of SMUD. A willingness to work overtime when requested is a condition of employment. When permitted by the work situation, overtime shall be distributed as equally as possible subject to the following:

A. Overtime is first allocated to qualified volunteers within the appropriate classification assigned to the applicable work group/division. In the absence of qualified volunteers, the supervisor may either:

1) Assign employees within the applicable work group/division using reverse classification seniority. The next assigned overtime assignment will go to the next employee up on the seniority list. Employees shall not be assigned another overtime assignment until the seniority list has been exhausted.

2) Seek other qualified volunteers from an alternate unit 3 classification. In this case, the employee working in another classification within the work group/division shall be compensated based on their current ESN rate of pay.

B. An overtime tracking list shall be used to track overtime opportunities, including overtime assigned using reverse classification seniority. This list shall be reset to zero (0) opportunities on the first day of each quarter of the year.
1) An unscheduled event is considered a SMUD Security Operations staffing emergency when circumstances require Security Operations staffing at levels beyond routinely scheduled shifts for fixed posts or mobile patrols and the overtime worked will count as an opportunity on the Overtime Tracking List.

2) Overtime worked for such events as Board of Director protective service details, Community Engagement, or other events where selected personnel have volunteered for those duties will not be considered as an overtime opportunity on the Overtime Tracking List.

C. Overtime shall first be offered to the those in the appropriate classification on the opposite shift where the overtime opportunity is available.

For example, if there is an overtime opportunity on First Shift A (“Days A”), then employees assigned to First Shift B (“Days B”) shall be offered overtime first. The employee with the fewest opportunities shall be offered the overtime first. If no employee accepts the overtime, then the opportunity shall be offered to the employee in the same classification with the fewest overtime opportunities per the overtime tracking list, regardless of their shift assignment. If declined the opportunity shall then move to the employee with the next fewest opportunities.

4. ELIGIBILITY

A. Employees are entitled to overtime compensation as follows:

1) Employees are eligible for additional compensation for overtime when they exceed forty (40) hours in a workweek or work on a holiday.

2) Preapproved personal leave (approved at least 2 weeks in advance of requested leave dates) will be counted as hours worked for the calculation of overtime within an employee’s work week.

5. MINIMUM OVERTIME GUARANTEES

A. Emergency Call-Out – When employees are called for an emergency, their work time will begin at the time they are contacted. For the purpose of this provision, concurrent calls or successive calls without a break in work are considered a single call.

1) Employees who are called for an emergency shall be paid at the overtime rate for the actual overtime hours worked or receive a minimum of two (2) hours overtime compensation, whichever is greater.

2) If the call-out extends into the employee’s regular work hours, the employee shall only be paid at the overtime rate for the actual overtime hours worked.

B. Prearranged Overtime (Overtime Worked on a Non-Scheduled Work Day) – Employees who report for prearranged overtime shall be paid a minimum of two (2) hours overtime compensation whether or not they are actually needed. Employees asked to report for
prearranged overtime who are subsequently canceled prior to reporting with less than 2 hours’ notice shall receive the minimum of two (2) hours overtime compensation.

C. Early Call-In – Employees who are called into work early shall be paid at the overtime rate for the actual hours worked during the early call-in.

D. Hold Over – Employees who voluntarily hold over shall be paid at the overtime rate for the actual hours worked during the hold over.

6. MAXIMUM OVERTIME ALLOWED

Employees normally are not allowed to work more than eighteen (18) consecutive hours or any combination of eighteen (18) hours within a 24-hour period, except in circumstances involving public safety or welfare. When SMUD authorizes work in excess of the above-described maximums, SMUD shall ensure that an employee is capable of working in a safe manner.

7. REST PERIODS

A. Employees who work extended overtime shall be entitled to minimum rest periods as follows:

1) Normal (5/8-Hour) Work Schedule – Employees who work eight (8) or more hours of overtime during the sixteen (16) hours preceding their regularly scheduled work hours are entitled to a rest period of eight (8) consecutive hours.

3) 12-Hour Work Schedule – Employees who work overtime beyond their regularly scheduled 12-hour shift shall be allowed a rest period of no less than six (6) hours except in an emergency call-out situation.

B. The rest period begins when the employee is released from duty. Employees shall be compensated during designated rest periods as follows:

1) If any part of the rest period falls within the employee’s regular work hours, they shall be paid for those hours at the straight-time rate of pay.

2) If a rest period cannot be provided when due or an employee is required to report to work prior to the end of their rest period, the employee shall be paid at the overtime rate of pay until the rest period is provided.

C. When an employee’s rest period ends during their regular work hours, they may report for work at any time during their regular work hours or may report to work on their next regular work day, subject to SMUD approval. Any time off taken after the employee’s rest period ends shall be charged to either personal leave or leave without pay.
ARTICLE 6
WAGE PREMIUMS

1. SHIFT DIFFERENTIAL
   A. Eligibility
      Full-time employees who work the night or relief/rotating shift shall be entitled to a shift
differential wage premium.
   B. Shift Differential Wage Premiums
      1) Night Shift
         Employees who are assigned to work the night shift shall receive a shift differential
         wage premium equal to 8% of their base hourly rate of pay. Shift differential shall be
         paid for all hours worked occurring between the hours of 1900 to 0700.
      2) When an employee who is receiving a shift differential wage premium works
         overtime, the overtime rate of pay also shall be applied to their shift differential wage
         premium.

2. TEMPORARY UPGRADES
   SMUD agrees to timecard upgrade a Unit 3 employee when such an employee is directed to
   assume duties and responsibilities of a higher classification commencing immediately upon
   assignment.
   Assignments to higher classifications exceeding fourteen (14) calendar days from the first
day of the assignment require a temporary upgrade action (e.g., ESN, HR Express). Except
   as provided in Article 14, Section 5 (Training Assignments) of this Agreement, employees
   shall be paid subject to the following:
   A. When an employee receives a temporary timecard upgrade to another Unit 3
classification, such employee shall be paid at the first step within the higher classification
   that provides a minimum of 2.5% above their current ESN rate of pay.
   B. When an employee receives a temporary timecard upgrade to an exempt classification,
such employee shall be paid at the first step within the higher classification that provides
   a minimum of 5.0% above their current ESN rate of pay.

3. INSTRUCTOR / TRAINING OFFICER INCENTIVE
   SMUD will provide Unit 3 employees who possess the required certification to receive an 8%
differential while performing the relevant training/instructor duties.
4. NOTIFICATION OF INCENTIVE PROGRAMS

SMUD shall notify PSOA of all rewards, recognition and incentive programs proposed after ratification of this MOU and shall meet and confer prior to implementation of new programs, revisions to existing programs, and/or any discussion with Unit 3 employees. All rewards recognition and incentive program payments shall comply with the provisions of 29 C.F.R. § 778.331.
ARTICLE 7
HOLIDAYS

1. AUTHORIZED HOLIDAYS
   A. Regular Holidays
      SMUD guarantees eligible employees the following nine (9) Regular Holidays: New Year's Day (January 1); Martin Luther King, Jr. Day (the third Monday in January); President’s Day (the third Monday in February); Memorial Day (the last Monday in May); Independence Day (July 4); Labor Day (the first Monday in September); Thanksgiving Day (the last Thursday in November); the Friday after Thanksgiving; and Christmas Day (December 25).
   B. Floating Holidays
      In addition, Full-Time employees with six (6) or more months of continuous service shall receive floating holidays according to the following schedule: May 1, July 1, September 1, and November 1. Each floating holiday is administered as eight (8) additional hours of personal leave for Full-Time employees and may be carried over from year to year in the same manner and with the same limits as accumulated personal leave.
      SMUD shall approve the use of a floating holiday, or a day of personal leave for any Unit 3 employee who has served in the armed forces of the United States, or their allies, and who wishes to observe the (November 11) Veteran’s Day Holiday.
   C. Special Holidays (Christmas Eve - New Year’s Eve)
      SMUD may, if minimum staffing levels are met, authorize additional time off for eligible employees on either Christmas Eve or New Year’s Eve. Such time off shall be designated as a Special Holiday. Any Special Holiday time off will be granted based upon classification seniority and the operational needs of Security Operations.
   D. Holidays Observed
      When a SMUD observed holiday falls on a Saturday, SMUD shall observe the holiday on the preceding Friday. When a holiday falls on a Sunday, SMUD shall observe the holiday on the following Monday.

2. HOLIDAY PAY
   A. Eligibility
      1) Full-Time Employees must be in a paid status for the entire work day immediately prior to or immediately following a holiday to be eligible for holiday pay.
   B. Regular Holiday Pay
      1) When a holiday falls on an employee's regularly scheduled workday, the employee will be given the day off and will be compensated for the number of hours the employee is regularly scheduled to work on that day. When a holiday is observed on
an employee's regular day off, the employee is credited with 8 hours of personal leave.

2) When an employee is assigned to an Alternate Work Schedule and a regular holiday falls on their regularly scheduled work day, the employee shall be given the day off and shall be compensated for the number of hours (8, or 12) they were regularly scheduled to work. If the holiday is observed on an employee's alternate day off, the employee shall be credited with eight (8) hours of personal leave.

3) Employees who work on a holiday shall be paid at the overtime rate of pay for the hours worked in addition to holiday pay as specified above.

C. Special Holiday Pay (Christmas Eve - New Year’s Eve)

1) When an employee is required to work on Christmas Eve, they shall be given an equivalent amount of time off on New Year's Eve.

2) If an employee cannot be granted time off on either Christmas Eve or New Year’s Eve, they shall be given an additional amount of straight-time pay equal to the number of hours off granted to other employees.

3) In lieu of additional Special Holiday Pay, an employee may choose to be credited with the equivalent amount of personal leave.

4) If the day designated as a Special Holiday falls on an employee’s alternate day off, the employee shall be credited with an equivalent amount of personal leave.
ARTICLE 8

BENEFITS

1. ELIGIBILITY

A. Full-Time Unit 3 employees are eligible to participate in health and welfare benefit plans provided by SMUD. Specifically excluded are:
   1) Casual employees scheduled to work less than twenty (20) hours per week.
   2) Student Employment Program participants.
   3) Rehired CalPERS Annuitants.
   4) Contract employees.

B. Limited Term Employees

Limited-term, full-time employees in Unit 2 are given the opportunity to participate in SMUD’s flexible benefits program to enroll in the following benefit plans: medical, dental, vision, and life insurance. This program allows the employee to choose which benefits they want for the calendar year.

1) SMUD issues flex credits that give the employee purchasing power to “pay for” the benefits of their choice. Limited-Term employees receive 75% of the flex credits allotted to Full-Time employees. If the employee chooses benefits costing more than the flex credits provided by SMUD, the employee shall pay the difference through payroll deductions. The payments for most flexible benefits are made on a pre-tax basis, so the employee can save on taxes.

2) If an employee is already covered and chooses not to enroll in SMUD-provided medical, dental, and/or vision plans, they can “opt out” of coverage and SMUD shall give the employee cash in exchange for the flex credits. Credits are paid to the employee on a monthly basis in the form of cash. Such payments are taxable income.

C. Domestic Partner Coverage

Employees in registered, same-sex domestic partnerships or domestic partnerships in which the employee and/or partner are over age 62 (“domestic partnership”) are eligible to enroll their domestic partner and their eligible dependent children for medical coverage as described below:

1) SMUD’s contribution for all employees and retirees with registered domestic partners and their dependents shall be the same as all current benefit contribution formulas for employees and retirees that currently cover dependents.

2) The employee contribution shall be the same as current employees that add dependents. Employees participating in the Flexible Benefits Plan may have their contributions for registered domestic partners and dependent children deducted on an “after-tax” basis subject to all applicable federal and state statutes and Internal Revenue Code requirements.
3) All participants and eligible dependents must meet the same eligibility requirements as other eligible participants and dependents as stipulated in SMUD’s policies and in accordance with SMUD’s health plan contracts.

D. Eligible employees who retire are entitled to enroll in the medical and dental benefit programs at the time of their retirement.

2. HEALTH INSURANCE PLANS

A. SMUD will provide the following medical plan options to all eligible Unit 3 employees:
   1) High Premium HMO
   2) Low Premium HMO
   3) High Deductible Health Plan (HDHP) with Health Savings Account (HSA)
   4) PPO Medical Plan (closed to new enrollees)

Employees should refer to the PSOA Benefits Guide Book each year for the specific dollar amounts for medical co-pays under the High and Low Premium HMO Plans.

B. Employee Medical Insurance Plan Premium Contributions

1) Effective January 1, 2020, Unit 3 employees enrolled in SMUD medical plans will contribute a premium cost share as follows:

<table>
<thead>
<tr>
<th></th>
<th>Kaiser High</th>
<th>Kaiser Low</th>
<th>UHC HMO High</th>
<th>UHC HMO Low</th>
<th>UHC HDHP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Employee Only</strong></td>
<td>11%</td>
<td>9%</td>
<td>12%</td>
<td>9%</td>
<td>6%</td>
</tr>
<tr>
<td><strong>Employee + 1</strong></td>
<td>12%</td>
<td>10%</td>
<td>13%</td>
<td>10%</td>
<td>6%</td>
</tr>
<tr>
<td><strong>Employee + Family</strong></td>
<td>13%</td>
<td>11%</td>
<td>14%</td>
<td>11%</td>
<td>6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Kaiser High</th>
<th>Kaiser Low</th>
<th>UHC HMO High</th>
<th>UHC HMO Low</th>
<th>UHC HDHP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Employee Only</strong></td>
<td>33%</td>
<td>32%</td>
<td>34%</td>
<td>32%</td>
<td>30%</td>
</tr>
<tr>
<td><strong>Employee + 1</strong></td>
<td>34%</td>
<td>33%</td>
<td>35%</td>
<td>33%</td>
<td>30%</td>
</tr>
<tr>
<td><strong>Employee + Family</strong></td>
<td>35%</td>
<td>34%</td>
<td>36%</td>
<td>34%</td>
<td>30%</td>
</tr>
</tbody>
</table>
2) Effective January 1, 2021, Unit 3 employees enrolled in SMUD medical plans will contribute a premium cost share as follows:

<table>
<thead>
<tr>
<th></th>
<th>Kaiser High</th>
<th>Kaiser Low</th>
<th>UHC HMO High</th>
<th>UHC HMO Low</th>
<th>UHC HDHP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Employee Only</strong></td>
<td>12%</td>
<td>10%</td>
<td>13%</td>
<td>10%</td>
<td>7%</td>
</tr>
<tr>
<td><strong>Employee + 1</strong></td>
<td>13%</td>
<td>11%</td>
<td>14%</td>
<td>11%</td>
<td>7%</td>
</tr>
<tr>
<td><strong>Employee + Family</strong></td>
<td>14%</td>
<td>12%</td>
<td>15%</td>
<td>12%</td>
<td>7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Kaiser High</th>
<th>Kaiser Low</th>
<th>UHC HMO High</th>
<th>UHC HMO Low</th>
<th>UHC HDHP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Employee Only</strong></td>
<td>34%</td>
<td>33%</td>
<td>35%</td>
<td>33%</td>
<td>31%</td>
</tr>
<tr>
<td><strong>Employee + 1</strong></td>
<td>35%</td>
<td>34%</td>
<td>36%</td>
<td>34%</td>
<td>31%</td>
</tr>
<tr>
<td><strong>Employee + Family</strong></td>
<td>36%</td>
<td>35%</td>
<td>37%</td>
<td>35%</td>
<td>31%</td>
</tr>
</tbody>
</table>

3) Effective January 1, 2022, Unit 3 employees enrolled in SMUD medical plans will contribute a premium cost share as follows:

<table>
<thead>
<tr>
<th></th>
<th>Kaiser High</th>
<th>Kaiser Low</th>
<th>UHC HMO High</th>
<th>UHC HMO Low</th>
<th>UHC HDHP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Employee Only</strong></td>
<td>13%</td>
<td>11%</td>
<td>14%</td>
<td>11%</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Employee + 1</strong></td>
<td>14%</td>
<td>12%</td>
<td>15%</td>
<td>12%</td>
<td>8%</td>
</tr>
<tr>
<td><strong>Employee + Family</strong></td>
<td>15%</td>
<td>13%</td>
<td>16%</td>
<td>13%</td>
<td>8%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Kaiser High</th>
<th>Kaiser Low</th>
<th>UHC HMO High</th>
<th>UHC HMO Low</th>
<th>UHC HDHP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Employee Only</strong></td>
<td>35%</td>
<td>34%</td>
<td>36%</td>
<td>34%</td>
<td>32%</td>
</tr>
<tr>
<td><strong>Employee + 1</strong></td>
<td>36%</td>
<td>35%</td>
<td>37%</td>
<td>35%</td>
<td>32%</td>
</tr>
<tr>
<td><strong>Employee + Family</strong></td>
<td>37%</td>
<td>36%</td>
<td>38%</td>
<td>36%</td>
<td>32%</td>
</tr>
</tbody>
</table>
C. SMUD will provide Unit 3 employees enrolled in the HDHP medical plan with an annual contribution of $1200 (employee only) or $2,400 (employee with covered dependent{s}) to a Health Savings Account (HSA) on January 1 of each year.

SMUD will pay any administrative fees attributed to the HSA while employed at SMUD. The annual contribution amount to the HSA will be front loaded and employees will be allowed to contribute pre-tax dollars each year up to the IRS-allowed maximum for the term of this MOU.

Unit 3 employees enrolled in the HDHP Plan will also be enrolled in Accident and Critical Illness Insurance Plans. Premiums for these plans will be paid by SMUD.

D. All Unit 3 employee premium contributions shall be as pre-tax payroll deductions.

E. Employees who participate in SMUD’s Health Assessment Program (HAP) and fulfill the program requirements will pay $5 less per month for their medical insurance. All employees will be granted time, while on duty, to participate in the health assessment portion of the program. This time must be scheduled in advance, with supervisory approval. Additional HAP requirements must be completed on the employee’s own time.

F. These contributions shall not change during the life of the contract unless the parties mutually agree to do so in writing.

G. PSOA shall participate in a Health Care Advisory Committee to assist SMUD in evaluating its health care plan options in the market.

H. Agreement to Meet and Confer: Either SMUD or PSOA may request to meet and confer regarding health care coverage during the term of this agreement as needed.

I. Retiree Medical Plan Contributions

Employees who are eligible to retire from SMUD with the equivalent of five (5) years of continuous SMUD service immediately prior to their retirement shall be eligible to participate in SMUD-sponsored medical plans and shall be entitled to SMUD premium contributions as described below.

SMUD’s percentage of contribution toward the medical insurance premiums in effect at the time of retirement shall remain constant throughout retirement for all tiers of retiree medical benefits. Every January 1, SMUD will recalculate the dollar amount of their contribution to reflect any changes in the medical premium rates.

**TIER 1**

For employees hired prior to January 1, 1993, SMUD shall contribute one hundred percent (100%) of the retiree-only portion of the monthly premium for all SMUD-sponsored medical insurance plans.
For all dependent(s) covered under the retiree’s plan, SMUD shall contribute 90% of the percentage it contributes for the retiree’s medical insurance premium when the retiree selects one of the two (2) lowest cost health insurance plans or 85% of the percentage it contributes for the retiree’s medical insurance premium when the retiree selects any other SMUD-sponsored health plans.

**TIER 2**

For employees hired on or after January 1, 1993, and before January 1, 2007, with continuous SMUD service and who retire from SMUD, SMUD shall contribute up to one hundred percent (100%) of the retiree-only portion of the monthly premium for all SMUD-sponsored medical insurance plans according to the Tier 2 schedule.

For all dependent(s) covered under the retiree’s plan, SMUD shall contribute 90% of the percentage it contributes for the retiree’s medical insurance premium (based on the Tier schedule) when the retiree selects one of the two (2) lowest cost health insurance plans or 85% of the percentage it contributes for the retiree’s medical insurance premium (based on the Tier schedule) when the retiree selects any other SMUD-sponsored health plans.

Tier 2 retirees shall receive SMUD-provided medical insurance premium contributions according to the following schedule:

<table>
<thead>
<tr>
<th>Retiree’s Years of Continuous SMUD Service</th>
<th>Percent (%) of SMUD Contribution for Retiree</th>
<th>Percent (%) of SMUD Contribution for Dependent(s) for 2 lowest cost plans</th>
<th>Percent (%) of SMUD Contribution for Dependent(s) for all other SMUD-sponsored plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 10</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>50</td>
<td>45</td>
<td>42.5</td>
</tr>
<tr>
<td>11</td>
<td>55</td>
<td>49.5</td>
<td>46.75</td>
</tr>
<tr>
<td>12</td>
<td>60</td>
<td>54</td>
<td>51</td>
</tr>
<tr>
<td>13</td>
<td>65</td>
<td>58.5</td>
<td>55.25</td>
</tr>
<tr>
<td>14</td>
<td>70</td>
<td>63</td>
<td>59.5</td>
</tr>
<tr>
<td>15</td>
<td>75</td>
<td>67.5</td>
<td>63.75</td>
</tr>
<tr>
<td>16</td>
<td>80</td>
<td>72</td>
<td>68</td>
</tr>
<tr>
<td>17</td>
<td>85</td>
<td>76.5</td>
<td>72.25</td>
</tr>
<tr>
<td>18</td>
<td>90</td>
<td>81</td>
<td>76.5</td>
</tr>
<tr>
<td>19</td>
<td>95</td>
<td>85.5</td>
<td>80.75</td>
</tr>
<tr>
<td>20</td>
<td>100</td>
<td>90</td>
<td>85</td>
</tr>
</tbody>
</table>

**TIER 3**

For employees hired on or after January 1, 2007, and before January 1, 2018, with continuous SMUD service and who retire from SMUD prior to the age at which they are Medicare-eligible or age 65, SMUD shall contribute up to seventy-five percent (75%) of the retiree-only portion of the monthly medical insurance premium for all SMUD-sponsored medical insurance plans according to the Tier 3 schedule.
For employees hired on or after January 1, 2006, and before January 1, 2018, with 25 years or more of continuous SMUD service, who retire after the age at which they reach Medicare eligibility or age 65, SMUD shall contribute 100% of the retiree-only portion of the monthly medical insurance premium for all SMUD-sponsored Medicare Advantage health plans.

For all dependent(s) covered under the retiree’s plan, SMUD shall contribute 90% of the percentage it contributes for the retiree’s medical insurance premium (based on the Tier schedule) when the retiree selects one of the two (2) lowest cost health insurance plans or 85% of the percentage it contributes for the retiree’s medical insurance premium (based on the Tier schedule) when the retiree selects any other SMUD-sponsored health plans.

Tier 3 retirees shall receive SMUD-provided medical insurance premium contributions according to the following schedule:

<table>
<thead>
<tr>
<th>Retiree’s Years of Continuous SMUD Service</th>
<th>Percent (%) of SMUD Contribution for Retiree</th>
<th>Percent (%) of SMUD Contribution for Dependent(s) for 2 lowest cost plans</th>
<th>Percent (%) of SMUD Contribution for Dependent(s) for all other SMUD-sponsored plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 10</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>25</td>
<td>22.5</td>
<td>21.25</td>
</tr>
<tr>
<td>11</td>
<td>27.5</td>
<td>24.75</td>
<td>23.38</td>
</tr>
<tr>
<td>12</td>
<td>30</td>
<td>27</td>
<td>25.5</td>
</tr>
<tr>
<td>13</td>
<td>32.5</td>
<td>29.25</td>
<td>27.63</td>
</tr>
<tr>
<td>14</td>
<td>35</td>
<td>31.5</td>
<td>29.75</td>
</tr>
<tr>
<td>15</td>
<td>37.5</td>
<td>33.75</td>
<td>31.88</td>
</tr>
<tr>
<td>16</td>
<td>40</td>
<td>36</td>
<td>34</td>
</tr>
<tr>
<td>17</td>
<td>42.5</td>
<td>38.25</td>
<td>36.13</td>
</tr>
<tr>
<td>18</td>
<td>45</td>
<td>40.5</td>
<td>38.25</td>
</tr>
<tr>
<td>19</td>
<td>47.5</td>
<td>42.75</td>
<td>40.38</td>
</tr>
<tr>
<td>20</td>
<td>50</td>
<td>45</td>
<td>42.5</td>
</tr>
<tr>
<td>21</td>
<td>55</td>
<td>49.5</td>
<td>46.75</td>
</tr>
<tr>
<td>22</td>
<td>60</td>
<td>54</td>
<td>51</td>
</tr>
<tr>
<td>23</td>
<td>65</td>
<td>58.5</td>
<td>55.25</td>
</tr>
<tr>
<td>24</td>
<td>70</td>
<td>63</td>
<td>59.5</td>
</tr>
<tr>
<td>25</td>
<td>75</td>
<td>67.5</td>
<td>63.75</td>
</tr>
</tbody>
</table>

**TIER 4**

For employees hired on or after January 1, 2018, with continuous SMUD service and who retire from SMUD, SMUD shall contribute up to fifty percent (50%) of the retiree-only portion of the medical insurance premium for all SMUD-sponsored medical insurance plans according to the Tier 4 schedule.

For all dependent(s) covered under the retiree’s plan, SMUD shall contribute 90% of the percentage it contributes for the retiree’s medical insurance premium (based on the Tier
schedule) when the retiree selects one of the two (2) lowest cost health insurance plans or 85% of the percentage it contributes for the retiree’s medical insurance premium (based on the Tier schedule) when the retiree selects any for all other SMUD-sponsored health plans.

Tier 4 retirees shall receive SMUD-provided retiree medical insurance premium contributions according to the following schedule:

<table>
<thead>
<tr>
<th>Retiree’s Years of Continuous SMUD Service</th>
<th>Percent (%) of SMUD Contribution for Retiree</th>
<th>Percent (%) of SMUD Contribution for Dependent(s) for 2 lowest cost plans</th>
<th>Percent (%) of SMUD Contribution for Dependent(s) for all other SMUD-sponsored plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 15</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>15</td>
<td>25</td>
<td>22.5</td>
<td>21.25</td>
</tr>
<tr>
<td>16</td>
<td>27.5</td>
<td>24.75</td>
<td>23.38</td>
</tr>
<tr>
<td>17</td>
<td>30</td>
<td>27</td>
<td>25.5</td>
</tr>
<tr>
<td>18</td>
<td>32.5</td>
<td>29.25</td>
<td>27.63</td>
</tr>
<tr>
<td>19</td>
<td>35</td>
<td>31.5</td>
<td>29.75</td>
</tr>
<tr>
<td>20</td>
<td>37.5</td>
<td>33.75</td>
<td>31.88</td>
</tr>
<tr>
<td>21</td>
<td>40</td>
<td>36</td>
<td>34</td>
</tr>
<tr>
<td>22</td>
<td>42.5</td>
<td>38.25</td>
<td>36.13</td>
</tr>
<tr>
<td>23</td>
<td>45</td>
<td>40.5</td>
<td>38.25</td>
</tr>
<tr>
<td>24</td>
<td>47.5</td>
<td>42.75</td>
<td>40.38</td>
</tr>
<tr>
<td>25</td>
<td>50</td>
<td>45</td>
<td>42.5</td>
</tr>
</tbody>
</table>

J. DENTAL PLANS

1) SMUD shall provide dental and orthodontic coverage and services to eligible employees and their dependents pursuant to the provisions of the SMUD Employee Dental Plan.

2) Eligible Unit 3 employees have the ability to select a buy-up plan with the additional cost being borne by the employee.

3) Employee Dental Insurance Plan Premium Contributions:

<table>
<thead>
<tr>
<th></th>
<th>Full Time Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Traditional</td>
</tr>
<tr>
<td>Employee Only</td>
<td>0%</td>
</tr>
<tr>
<td>Employee + Family</td>
<td>0%</td>
</tr>
<tr>
<td>Calendar Year</td>
<td>$1,500 Per Person</td>
</tr>
</tbody>
</table>
4) SMUD contributions for retirees:

Employees who are eligible to retire from SMUD with the equivalent of five (5) years of continuous SMUD service immediately prior to their retirement shall be entitled to participate in the retiree dental program at SMUD’s expense.

K. VISION PLANS

1) SMUD shall provide vision coverage to eligible employees and their dependents pursuant to SMUD’s existing contract with Vision Service Plan.

2) Eligible Unit 3 employees have the ability select a buy-up plan with the additional cost being borne by the employee.

3) Employee Vision Insurance Plan Premium Contributions:

<table>
<thead>
<tr>
<th>Full Time Employees</th>
<th>Traditional</th>
<th>High Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee Only</td>
<td>0%</td>
<td>50%</td>
</tr>
<tr>
<td>Employee + 1</td>
<td>N/A</td>
<td>61%</td>
</tr>
<tr>
<td>Employee + Family</td>
<td>0%</td>
<td>70%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Limited-Term and Part Time Employees</th>
<th>Traditional</th>
<th>High Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee Only</td>
<td>25%</td>
<td>62%</td>
</tr>
<tr>
<td>Employee + 1</td>
<td>N/A</td>
<td>71%</td>
</tr>
<tr>
<td>Employee + Family</td>
<td>25%</td>
<td>77%</td>
</tr>
</tbody>
</table>
L. OPT OUT (WAIVE) COVERAGE

1) Employees who elect not to enroll (opt out) in medical, dental, and vision because they have coverage through some other benefit plan will receive cash in exchange for the benefits as follows:

<table>
<thead>
<tr>
<th>Benefit Plan</th>
<th>Regular Full-Time</th>
<th>Limited-Term and Part-Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opt Out (Waive) Medical*</td>
<td>$200</td>
<td>$150</td>
</tr>
<tr>
<td>Opt Out (Waive) Dental*</td>
<td>$15</td>
<td>$11</td>
</tr>
<tr>
<td>Opt Out (Waive) Vision*</td>
<td>$5</td>
<td>$4</td>
</tr>
</tbody>
</table>

* SMUD employees who are covered as dependents under a SMUD plan are not eligible to receive opt-out credit(s).

2) Credits are paid monthly. This credit reported as taxable income.

3. LIFE INSURANCE PLAN

A. SMUD shall provide life insurance coverage to eligible employees as follows:

1) SMUD shall contribute 100% of the premium cost for life insurance coverage equal to the annual base pay rounded up to the nearest $5,000 for each Full-Time employee.

2) Employee life insurance coverage is based on the amount of an employee’s annual base pay (rounded to the nearest $5,000) effective September 30 of the previous year. SMUD pays the full cost of life insurance premiums for coverage up to one time (1x) annual base pay. Employees can purchase additional coverage with the cost for this additional coverage entirely borne by the employee. This additional coverage is subject to the carrier’s qualifications, limitations, and restrictions. Employees can choose additional coverage of either one time (1x), two times (2x), or three times (3x) their annual base pay for a total of four times (4x) their annual base pay up to the maximum coverage limit.

B. Subject to the carrier’s qualifications, limitations, and restrictions, eligible employees may purchase life insurance coverage for their dependents as follows:

1) Employees can elect coverage for their spouse of $25,000 or up to 50% of the amount they have chosen through the employee life insurance plan.

2) Employees can elect coverage for their eligible dependent children in the amount of: $2,500, $5,000, $7,500 or $10,000.

4. LONG-TERM DISABILITY PLAN

A. SMUD shall provide Long-Term Disability coverage to eligible employees pursuant to the provisions of SMUD’s Long-Term Disability Plan.

1) SMUD shall pay 100% of the cost for the basic Long-Term Disability Plan for each eligible Unit 3 employee.
2) Eligible employees may purchase additional long-term disability coverage pursuant to the provisions of SMUD’s Long-Term Disability Plan.

5. SHORT-TERM DISABILITY INSURANCE

SMUD shall provide short-term disability coverage to eligible employees pursuant to the provisions of SMUD’s Short-Term Disability Insurance Plan. The employee shall pay 100% of the cost of short-term disability coverage.

6. FLEXIBLE SPENDING ACCOUNTS

Employees enrolled in the dependent care reimbursement account and/or health care reimbursement account shall be charged a monthly administration fee as determined by the plan administrator.

7. EXTENDED COMPENSATION

SMUD may offer extended compensation to supplement temporary disability from an on-the-job accident. It is an advance against any permanent disability benefits employees may receive. Employees may be eligible for extended compensation benefits on the first workday of absence after the day of the job-related injury or illness. Additionally, any Extended Compensation paid over and above the amount of Permanent Disability awarded shall also be reimbursed to SMUD.

8. DEFERRED COMPENSATION PLANS

A. SMUD shall make an IRC Section 401(k) Savings Plan and a Section 457(b) Deferred Compensation Plan available to eligible employees. Participation in the Deferred Compensation Plans shall be voluntary and the participants pay all program costs.

B. Deferred Compensation Direct Contributions

SMUD will contribute employer funds to your 401(k) account of up to $2,000 per year divided into monthly installments. You must be a regular full-time, limited term, or part-time employee, with an active account as of the day of distribution, in order to be eligible to receive contribution funds.

9. OTHER FRINGE BENEFITS

A. SMUD currently offers other benefits such as Employee Assistance Program, Employee Development Program, Health and Wellness programs, Wellness Center, Personal Computer Purchase Plan, Ride Share Program, Parking, Child Care Center and Child Care Tuition Assistance. Some of these programs are fully sponsored by SMUD, and others are supported and paid for by employees.

B. Unit 3 employee membership in SMUD’s Wellness Center will be provided at no cost.
10. RETIREMENT

A. SMUD has contracted with CalPERS to provide retirement benefits for eligible employees. The following retirement benefits are provided in accordance with SMUD’s contract with CalPERS and applicable law:

1) Employees hired by SMUD prior to January 1, 2013, and those otherwise defined as “classic members” by CalPERS shall receive the 2% @ 55 local miscellaneous retirement benefit formula with the 36 consecutive month final compensation period.

   a) Employees receiving this pension benefit formula shall contribute 5.25% of their pensionable wages to CalPERS as the employee share of the benefit cost through December 31, 2021.

   b) Effective January 1, 2022, employees shall contribute 7% of their pensionable wages to CalPERS as the employee share of the benefit cost.

2) Employees hired by SMUD on or after January 1, 2013 and defined as “new members” by CalPERS shall receive the 2% @ 62 local miscellaneous retirement benefit formula with the 36 consecutive month final compensation period. Employees receiving this pension benefit formula contribute 50% of the normal cost of the benefit as determined by CalPERS.

3) Supplemental Benefits:

   a) Credit for Unused Sick Leave pursuant to Government Code Section 20965.

   b) Military Service Credits as Public Service pursuant to Government Code Section 21024.

   c) Post Retirement Survivor Allowance pursuant to Government Codes Sections 21624, 21626, and 21628, as applicable.

   d) Annual Cost-of-Living Allowance pursuant to Government Code Section 21335.

   e) $500 Retired Death Benefit pursuant to Government Code Section 21620.

   f) Purchasing Power Protection Account pursuant to Government Code Section 21337.

   g) Public Service Credit pursuant to Government Code Section 21023.5.

4) EPMC reported as Compensation pursuant to Government Code Section 20636 applies only to employees hired prior to January 1, 2013.

5) SMUD shall adopt and apply the IRS Section 414h2 and/or any other administrative or regulatory procedure or standard necessary to ensure that the employees’ contributions to their PERS retirement plan are treated as pre-tax payroll deductions.
ARTICLE 9

TRAVEL AND OTHER REIMBURSEMENTS

1. TRAVEL TIME AND EXPENSES

A. Travel Expenses
   SMUD shall reimburse employees for all reasonable expenses that have been incurred while traveling on authorized SMUD business pursuant to SMUD’s travel policies, Business Travel (AP 03.02.03) and Business Travel Procedures (MP 03.02.03.100).

B. Travel Time
   A. All travel time that occurs during an employee’s normal work hours, including normal work hours on an employee’s regular days off (e.g., Saturday, Sunday, Alternate Day Off), will be compensated as hours worked and will be counted toward applicable overtime.
   B. Employees who ask to drive when public transportation (i.e., plane, train, bus, etc.) is available will only be compensated for travel time during normal work hours up to the same amount the employee would have been compensated had the employee used public transportation. Employees who must drive themselves are considered to be working and should be compensated as such.
   C. In addition to travel time to and from an airport, train station or port of entry, employees will be compensated for pre-travel waiting time for no more than one (1) hour prior to the employee’s scheduled departure time.
   D. When an employee travels between two or more time zones, the time zone associated with the point of departure will be used to determine whether the travel falls within normal work hours.
   E. Employees who are approved to extend or alter travel arrangements to incorporate personal time/leave will not be paid for any travel time or expenses during the personal time/leave period. Employees are responsible for all additional travel expenses that result from the incorporation of personal time/leave. Paid leave hours used by an employee to extend or alter travel arrangements for personal reasons will not count as hours worked for purposes of overtime during a workweek in which the employee receives compensation for travel time.

2. PROFESSIONAL CERTIFICATION / LICENSE FEES

A. Except as provided below, employees who are required by SMUD to maintain a professional certification and/or license shall be reimbursed 100% of their costs associated with maintaining such certificate or license.

B. SMUD shall pay 100% of the employee’s initial license fee and all renewal fees for employees who are required to maintain a commercial driver’s license, except that portion which is attributable to the Class C driver’s license.

3. ORGANIZATIONAL MEMBERSHIP FEES

SMUD shall pay 100% of the membership fee for any employee required to maintain membership in a professional organization.
4. BUSINESS MEETING EXPENSES
Employees who are required to attend any meetings as SMUD’s representative shall be reimbursed their out-of-pocket expenses associated with attending such meeting.

5. COMMUNICATION EXPENSES
Employees shall be reimbursed for all costs associated with business-related communications including, but not limited to, telephone calls, faxes, mailing, and shipping.

6. MISCELLANEOUS EXPENSES
Employees shall be reimbursed for other miscellaneous business expenses subject to the approval of SMUD.

7. PERSONAL TOOLS
If an employee is required to provide some or all of the tools needed to perform their job duties, SMUD shall replace such tools when they are worn, lost, or stolen under certain circumstances in accordance with established SMUD procedures.

8. RELOCATION EXPENSES
SMUD may reimburse existing employees for relocation expenses under certain circumstances consistent with established SMUD policy, Relocation Expenses (AP 05.03.03).

9. EDUCATIONAL ASSISTANCE
SMUD and PSOA agree that Unit 3 employees shall be covered by SMUD policies, Education Assistance and Tuition Reimbursement (AP 04.03.02 and MP 04.03.02.100), relating to financial assistance for education and training expenses, including the financial assistance and educational expense reimbursement amounts specified therein.
ARTICLE 10
SICK LEAVE

1. ELIGIBILITY

Unit 3 employees who do not accrue annual leave may utilize sick leave in accordance with SMUD’s Sick Leave Policy AP 04.05.15.

2. SICK LEAVE USAGE

A. Sick leave may be authorized for the following reasons:
   1) The illness or injury of the employee;
   2) The need to see a health care provider or counselor;
   3) To care for an ill or injured family or household member;
   4) To supplement Workers’ Compensation payments;
   5) Under certain circumstances sick leave balances may be exhausted pending approval of a disability retirement.

B. Sick leave may be taken in fifteen (15) minute increments. Employees requesting to use sick leave must notify their supervisor in advance, if possible, but in all cases prior to the employee’s authorized starting time on each day the employee will be absent. An employee who is unable to give advance notice, due to emergency circumstances, shall make notification as early as possible. When unable to speak directly to their supervisor, the employee shall leave a callback telephone number on the supervisor’s voicemail where the employee can be located.

C. When a full day of sick leave is taken, it shall be charged according to the employee’s work schedule (8 or 12 hours) and shall be paid at the employee’s current ESN rate of pay.

D. If an employee becomes ill while on personal leave, they may request that the annual leave be changed to sick leave.

E. If an employee is off sick on a workday and it is a holiday, they shall receive holiday pay. The absence shall not be charged to the employee’s sick leave.

F. Employees shall be permitted to use sick leave during any illness that meets the definition of a disability pursuant to SMUD’s Long-Term Disability Plan. If the employee is not precluded by their disability from performing other work and SMUD has made a limited duty assignment available to the employee, they shall not be permitted to use sick leave.
3. MEDICAL VERIFICATION / RELEASE
   A. Employees may be required to provide medical verification of illnesses and or injuries when requested to do so by SMUD, in accordance with SMUD’s Sick Leave Policy (AP 04.05.15).
   B. Employees who are off work for more than five (5) consecutive work days due to an illness and/or injury may be required to provide a medical release indicating that they may return to work safely.
      1) If the employee received medical treatment for their injury or illness, their health care provider must complete the medical release.
      2) If the employee has not received medical treatment for their illness or injury, SMUD’s Medical Clinic staff may complete the medical release.
   C. An employee’s request to use accumulated sick leave credits may be denied if they do not provide a medical verification of illness and/or a medical release when required to do so by SMUD. In such cases, the employee’s absence may be charged as unauthorized leave without pay and the employee may be subject to disciplinary action.

4. REINSTATEMENT OF SICK LEAVE
   A. Employees who are reinstated following a layoff shall have their sick leave balance restored pursuant to Civil Service Rules.
   B. Employees who resign and are rehired to a civil service position within six (6) months of initial separation shall have 50% of their sick leave balance reinstated provided they had five (5) years or more of continuous SMUD employment.

5. SICK LEAVE UPON RETIREMENT
   SMUD shall continue to contract with CalPERS to allow unused sick leave to be credited toward years of service for retirement pursuant to Government Code Section 20965.
ARTICLE 11
PERSONAL LEAVE PROGRAM

1. INTRODUCTION
   A. Personal Leave is to be used to meet an employee’s need for any approved personal time off.
   B. SMUD must approve all requests for personal leave in advance of the time the leave is taken. Unapproved absences may be charged as unauthorized leave without pay.

2. ELIGIBILITY
   A. All Unit 3 employees except the following are eligible to accrue personal leave:
      1) Part-time employees scheduled to work less than twenty (20) hours per week.
      2) Student Employment Program participants.
      3) Rehired CalPERS Annuitants.
      4) Contract employees.

3. ACCRUAL OF PERSONAL LEAVE CREDITS
   You begin accruing personal leave upon employment with SMUD, and this leave is earned based on straight-time hours worked (including paid leave such as personal, holiday or sick leave). Employees must work 173.33 straight-time hours to accrue personal leave. Straight-time accruals can include regular paid leave such as annual, holiday, jury duty, bereavement or sick leave.

   Newly hired regular full-time employees will have 40 hours of leave accrued upon hire and can earn a balance of 80 hours throughout the 1st year.

   Newly hired limited-term employees will have 40 hours of leave accrued upon hire and can earn a balance of 20 hours throughout the 1st year. Leave must be taken in no less than 1-hour increments.

   Personal Leave will be accrued as follows:

<table>
<thead>
<tr>
<th>Years of Service*</th>
<th>Regular Full-Time / Part-Time</th>
<th>Limited-Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 through 14 years</td>
<td>10 hours per month</td>
<td>5 hours per month</td>
</tr>
<tr>
<td></td>
<td>120 hours per payroll year</td>
<td>60 hours per payroll year</td>
</tr>
<tr>
<td>15 through 22 years</td>
<td>13 hours, 20 minutes per month</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>160 hours per payroll year</td>
<td></td>
</tr>
<tr>
<td>23 through 29 years</td>
<td>16 hours, 40 minutes per month</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>200 hours per payroll year</td>
<td></td>
</tr>
<tr>
<td>30+ years</td>
<td>20 hours per month</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>240 hours per payroll year</td>
<td></td>
</tr>
</tbody>
</table>

   * Every 10th year anniversary, employees will be credited with 40 hours of personal leave.
4. **MAXIMUM ACCUMULATION OF PERSONAL LEAVE**

Employees do not have to use all personal leave each calendar year. However, the maximum number of personal leave hours which can be carried over into the new payroll year may not exceed 480 hours. Excess personal leave hours are paid in a lump sum in the first quarter of the following year at the employee’s current ESN rate of pay.

5. **USE OF PERSONAL LEAVE**

A. Employees may use their personal leave as soon as it is earned and posted to the employee’s leave account balance.

B. Employees will be charged the number of hours, in no less than 15-minute increments, for all personal leave taken during a regularly scheduled work day.

C. Employees who are off work for a full work day on personal leave shall be charged the number of hours they are regularly scheduled to work on the day the personal leave is used.

D. Employees may be required to provide medical verification of illnesses and/or injuries when requested to do so by SMUD.

6. **SCHEDULING**

A. Except when operational needs require otherwise, employees shall be entitled to use their accrued personal leave at the time of their choice.

B. Employees shall provide advance notice when requesting leave and should communicate to their manager, as appropriate, to ensure the request is understood. Management shall provide approvals/denials in a timely manner.

C. Unless compelled by law or SMUD policy, management will approve or disapprove a request for leave after considering the following:

   1) The nature of the request;
   2) The operational needs of the business unit;
   3) Whether the employee has sufficient paid leave to cover the entire absence;
   4) The number of previous leave requests from the employee;
   5) The preferences and seniority of other employees requesting the same time off.

E. Reliability is a valued trait, and attendance issues will be resolved on a case-by-case basis using SMUD’s Positive Discipline program.

7. **CANCELLATION OF PERSONAL LEAVE**

A. In an emergency, employees may be asked to forego all or a part of their scheduled personal leave. Employees who are already on personal leave may be requested to report for duty.

B. Employees shall be reimbursed for any documented expenses and/or loss of money resulting from SMUD’s action pursuant to Section 7.A of this Article, provided the employee informs SMUD of the pending loss at the time the employee is requested to either cancel or reschedule their personal leave.
8. PERSONAL LEAVE SELL-BACK

A. You can elect to voluntarily sell back personal leave each year. The amount of leave you may sell back is limited to the amount of leave you accrue in the calendar year.

B. Personal leave payments are included in the employee’s designated paycheck and taxes are applicable. If you fail to specify when you would like your sell back money, all funds are added to your last paycheck of the year. You may elect to sell all your personal leave provided you leave 80 hours in your leave bank and you’ve taken 40 consecutive hours off in the prior year.

C. Personal Leave Sell-Back Requests: An employee may elect to apportion the amount of sell back between the paychecks for pay periods 13 and 25, limited to the amount of Personal Leave accrued in that year at the time of the payout.

D. An employee may request a hardship withdrawal payment of accrued leave at any time when an unforeseen hardship arises and payment is needed to cover such expenses. Hardship withdrawals are only allowed for the reasons specified in the hardship distribution rules for SMUD’s 457(b) plan as well as other similar hardships approved by SMUD.

E. All personal leave payments are computed at the straight-time rate of pay for the employee’s ESN classification at the time personal leave is paid.

9. PAYMENT FOR UNUSED PERSONAL LEAVE

A. Separation of Employment

1) When an employee separates from SMUD employment for any reason, they shall be paid for any accumulated personal leave at their current ESN rate of pay.

2) Employees who are separating from SMUD employment for any reason other than retirement may not use their accumulated personal leave immediately prior to the effective date of their separation. The employee shall receive cash compensation pursuant to Section 9.A.1) of this Article.

B. Retirement

If employees are retiring, they may take a lump-sum payment for their personal leave. Employees may choose to take personal leave prior to the effective date of their retirement if: they have the equivalent of 5 years of full-time uninterrupted service with SMUD, and they have been a member of the Public Employees Retirement System (PERS) for at least 5 years, and they are at least 50 years of age.
ARTICLE 12
TIME OFF

1. INTRODUCTION
Where current SMUD policy and/or the provisions of this Agreement provide a greater benefit than is required by State and/or Federal law or regulation, SMUD shall provide the greater benefit.

2. TIME OFF WITH PAY
A. Eligibility: All Unit 3 employees except the following are eligible for paid time off:
   1) Part-time employees scheduled to work less than twenty (20) hours per week.
   2) Student Employment Program participants.
   3) Rehired CalPERS Annuitants.
   4) Contract employees.
B. Bereavement Leave
   Bereavement Leave will be administered in accordance with the applicable Management Procedure (MP 04.05.03.100). Bereavement leave is not granted automatically. The employee’s supervisor shall consider the following factors when approving requests for bereavement leave: the relationship of the deceased to the employee, the employee’s responsibility for making arrangements, and the date and place of the services.
C. Voting Leave
   SMUD shall allow eligible employees, as defined in Section 2.A of this Article, a maximum of two (2) hours paid time off to vote in any statewide general election, in accordance with State law and SMUD Voting Leave Policy (MP 04.05.12.100).
D. Jury Duty and Court Appearances
   1) SMUD shall allow eligible employees time off with pay to report for jury duty or to respond to a subpoena. Employees who are involved in a court case as a plaintiff, defendant or expert witness, in a matter unrelated to official SMUD business, may be required to use personal leave.
   2) Employees summoned for jury duty or subpoenaed as a witness shall notify SMUD promptly by providing a copy of the summons or subpoena.
   3) Effects on Work Hours
      a) Employees whose jury duty or court appearance is the length of their scheduled workday or more shall be excused from work for their entire workday.
      b) Employees whose jury duty or court appearance is less than the length of their scheduled workday must notify SMUD and may be required to work the remaining portion of their workday.
c) Employees whose jury duty or court appearance of eight (8) or more hours occurs during the sixteen (16) hours preceding their regular workday, or starts during the eight (8) hours after the end of their regular workday, employees shall be entitled to an eight and one-half (8.5) hour rest period.

d) Time of Jury Duty: Jury duty occurring at times other than an employee’s regular work hours does not typically excuse them from working their normal shift. Employees may be excused only if the jury duty required their service for 8 hours during the 16 hours immediately preceding their regular shift. This does not, however, in any way authorize payment of overtime in the event employees actually decide to work.

e) 12-Hour Shift: Jury duty will result in the employee being rescheduled to an 8-hour day shift; Monday through Friday, while on jury duty with the employee guaranteed a 40-hour workweek. If released from jury duty prior to the end of the workweek, the employee will be returned to their regularly scheduled shift in alignment with applicable rest periods.

E. Professional Leave

1) Upon recommendation and the approval of SMUD, eligible employees may be granted up to ten (10) working days of paid time off to participate in the activities of a professional organization.

2) Employees who hold a major office in a recognized professional association may be granted paid time off for travel required in the performance of their duties on behalf of such organization. Such paid time off normally shall not exceed ten (10) working days in a calendar year.

3) SMUD shall reimburse such employees for travel or other expenses incurred on behalf of such organizations when SMUD determines that it receives a direct benefit from these activities.

F. Community Service Leave

1) Eligible employees may, at SMUD’s discretion, be authorized paid time off to perform charitable, emergency assistance, or other community service work of interest to SMUD.

2) Employees granted such time off, may be reimbursed for travel expenses they incur if the activity directly benefits SMUD.

3. TIME OFF WITHOUT PAY

A. Eligibility

All employees are eligible for time off without pay.

B. Personal Time Off

1) Requests for leaves of absence without pay shall be approved when required by law and may be approved at SMUD’s discretion when not required by law. SMUD shall consider the following factors when approving requests for non-required leave: the merits and the nature of the request, the length of time being requested, and the impact that the employee’s absence will have on SMUD.
2) Employees may take up to forty (40) hours of leave without pay per payroll year without first exhausting their personal leave balances. When using this option in conjunction with paid personal leave, paid personal leave must be taken first.

3) Except as provided in Section 3.B.2) of this Article, leave without pay for personal reasons require that employees first use all of their accrued personal leave.

4) Except in cases of emergency, requests for personal time off without pay must be made reasonably well in advance of the dates requested.

C. Medical Leave

Employees must exhaust all of their sick and personal leave before going on an unpaid medical leave of absence unless the employee is applying for Short Term Disability (STD) or Long Term Disability (LTD) benefits. Employees have the option of keeping no more than eighty (80) hours of personal leave or using it all before STD or LTD benefits begin. Employees should refer to the current SMUD STD/LTD plans or contact Human Resources, Diversity & Inclusion (HR, D&I).

4. EFFECTS OF LEAVE WITHOUT PAY ON SMUD BENEFITS

A. Leave Without Pay for Personal or Medical Reasons

1) Extended Leave Without Pay – Employees who are in an unpaid status for thirty (30) consecutive days or more shall not earn personal leave during their absence.

2) Intermittent Leave Without Pay – Employees who are in an unpaid status intermittently during the payroll year shall not earn personal leave accrual for each cumulative total of eighty (80) hours of unpaid leave.

3) Leave without pay, taken pursuant to Section 3.B.2) of this Article, shall not have any impact on the accrual of personal leave.

B. Workers’ Compensation

Employees who are on unpaid authorized leave relating to an approved Workers’ Compensation claim shall continue accruing personal leave.

C. Insurance Benefits

1) Non-Medical Leave – Employees on an approved unpaid leave of absence may continue to participate in SMUD’s health, life insurance, vision and dental plans. SMUD and the employee shall each pay their share of each premium under the provisions of this Agreement for up to three (3) months. After three (3) months, the employee must pay the full premium if they wish to maintain coverage.

2) Medical Leave – Employees on an approved unpaid medical leave of absence may continue to participate in SMUD’s health, life insurance, vision and dental plans. SMUD and the employee shall each pay their share of each premium under the provisions of this Agreement, until the employee either returns to work or separates from SMUD employment.

D. CalPERS and Social Security Contributions

The employee or SMUD shall not make CalPERS and Social Security contributions when an employee is on an unpaid leave of absence.
ARTICLE 13
TRANSFERS / PROMOTIONS

1. INTRODUCTION

Qualified employees may move from one position to another in either the same or in a different classification subject to the Transfer/Promotion Process or by demotion.

2. TRANSFER / PROMOTION PROCESS

In accordance with current Civil Service Rules, when SMUD decides to fill a vacant Civil Service position in a PSOA classification, the vacant position will be posted except when making involuntary demotions and other special circumstances deemed necessary by SMUD. SMUD will continue its practice of establishing eligibility lists of qualified applicants using the existing “Open” and “Continuously Open” processes. SMUD may post and fill positions using the long established “Transfer/Promotion” hiring process.

When a permanent civil service vacancy is to be filled through the Transfer/Promotion Process, it shall be posted subject to the following:

A. Posting / Eligibility

1) The Transfer/Promotion Job Announcement shall be posted for a minimum of ten (10) working days.

2) The Transfer/Eligible Job Announcement for an PSOA position shall be posted for a minimum of five (5) working days.

3) Eligibility for transfer/promotion opportunities shall be determined pursuant to the Civil Service Rules.

   An eligibility list may or may not be established from a transfer/promotion exam process. If an eligibility list is established, it shall be maintained by Human Resources, Diversity & Inclusion and governed by the Civil Service Rule provision pertaining to eligibility lists.

B. Appointment

1) Following completion of the selection process the hiring department may offer the position to a certified candidate pursuant to Civil Service Rules.

2) Transfer/promotions normally will be effective at the beginning of a payroll period.

   a) The effective date of a promotion shall be no later than the beginning of the first payroll period following the employee’s two (2) weeks’ notice to their supervisor. The actual release date shall be mutually agreed upon by the affected Department Managers.

   b) The release date of a transfer employee shall be determined by the hiring supervisor and the employee’s current supervisor but should be no later than four (4) weeks following the date that the transferred employee was offered the position.

3) A promoted employee’s salary shall be increased as follows:
a) Unless stated otherwise in this Agreement, employees who are promoted to a Unit 3 classification shall be placed at the first pay step that provides a minimum of a 2.5% pay increase.

b) Unless stated otherwise in this Agreement, a Unit 3 employee who is temporarily promoted to a PAS classification shall be placed at the wage that provides a minimum of a 5% pay increase and shall retain their existing Unit 3 benefits.

c) Promoted employees may be considered for placement at a pay step higher than that provided in Sections 2.B.3)a) and 2.B.3)b) of this Article, based on their qualifications and experience, subject to the recommendation and approval of SMUD.

d) A promotional salary increase shall be in addition to any scheduled merit increase that would have been received by the employee within three (3) months from the date of their promotion.

e) An employee’s promotional increase shall be based upon the pay step held within their permanent classification.

3. TRANSFERS / PROMOTIONS

A. Except as otherwise provided by the provisions of this MOU, promotions and/or transfers shall be administered in accordance with the Civil Service Rules.

B. When vacancies are to be filled and a reinstatement list does not exist, SMUD agrees to consider existing eligible lists in the following order of priority:

1) Integrated Disability Management (IDM) Placement List
2) Transfer/Eligible or Transfer/Promotion Lists
3) Voluntary Demotion List
4) Rehire
5) Open List

SMUD reserves the right to make the final selection based upon the best qualified candidate.

C. Whenever eligibility lists are abolished, SMUD shall provide written notification to the PSOA of the cancellation of the list(s). This is to ensure the PSOA is aware of the list(s) cancellation and can answer or counsel employees as appropriate.

4. MEDICAL TRANSFERS/ASSIGNMENTS

SMUD may transfer or reassign employees for medical reasons.

A. SMUD shall comply with State and Federal laws when accommodating/transferring employees with qualifying illnesses/injuries.

B. SMUD may transfer or reassign employees for medical reasons based on State and Federal laws which govern accommodations/transfers for employees with qualifying illnesses/injuries.
5. TRAINING ASSIGNMENTS

A. Training assignments are for cross-training purposes. They allow SMUD and employees an opportunity to maximize their potential without a change in their permanent classification. Employees, who have completed their probationary period, may be assigned to temporary training in another classification subject to the following:

1) Training assignments shall be made on a voluntary basis only.

2) Training assignments must be approved in advance by SMUD pursuant to established procedures.

3) Training assignments normally are not to exceed six (6) months. They may be extended for one additional six (6) month period when in the best interests of both the employee and SMUD.

4) The employee’s ESN classification and pay level shall remain unchanged during the training assignment when a bona fide training program is provided.

6. DEMOTIONS

A. An employee may move to a position or classification with a lower pay range or rate of pay.

1) A demotion may be voluntary or involuntary and is made to a position whose duties the employee is qualified to perform.

2) When Federal, State, or local regulations require an employee to obtain and maintain special qualifications and the employee is unable to obtain or maintain them, the employee may be transferred or demoted.

7. POSITION PROBATION

A. A promoted employee and/or an employee who is transferring or being reassigned into another classification shall be required to complete a position probationary period pursuant to Civil Service Rules.

B. Employees who are transferred or reassigned pursuant to the Civil Service Rules to a new position within their current classification shall not be required to complete another position probationary period.

C. A demoted employee shall not be required to serve another probationary period if they have previously completed probation in that classification.

D. Employees who are reallocated to a higher or lower classification pursuant to the Civil Service Rules shall not be required to serve a new probationary period.
ARTICLE 14
PERFORMANCE EVALUATIONS

1. INTRODUCTION
Employee performance shall be periodically evaluated and documented.

2. PERFORMANCE EVALUATION SCHEDULE
   A. During Probation
      1) Six-Month Probation – Employees in classifications requiring a six (6) month
         probationary period shall be evaluated at the end of the third (3rd) and fifth (5th)
         month.
      2) Twelve-Month Probation – Employees in classifications requiring a twelve (12)
         month probationary period pursuant to the MUD Act shall be evaluated at the end
         of the fifth (5th) and the eleventh (11th) month.
      3) Supervisors may formally evaluate an employee’s performance at more frequent
         intervals.
   B. Following Probation
      1) Employees who are not at the top of their pay range shall be evaluated at the time
         they are eligible for a merit pay increase.
      2) Employees who are at the top of their pay range shall be evaluated annually.
      3) SMUD may formally evaluate an employee’s performance at more frequent
         intervals.
   C. Upon Separation
      Employees may be evaluated at the time they separate from SMUD employment.
      Employees with less than satisfactory performance at the time of separation normally
      are not eligible for rehire.

3. EMPLOYEE RIGHT TO REBUTTAL
In the event an employee disagrees with their performance evaluation, they may submit a
rebuttal to the Human Resources, Diversity & Inclusion to be included in their personnel
file.
ARTICLE 15
POSITIVE DISCIPLINE

1. INTRODUCTION
Unit 3 Civil Service Employees who have completed their initial SMUD probationary period are subject to the provisions of SMUD’s Positive Discipline Program contained in the SMUD Positive Discipline Policy (AP 05.02.09).

2. RELATIONSHIP TO SUBSTANCE ABUSE TESTING AND REHABILITATION PROGRAM
SMUD’s Substance Abuse Testing and Rehabilitation Program is a stand-alone program and violations shall not be subject to the provisions of this Article.

3. RELATIONSHIP TO DISCRIMINATION/HARASSMENT POLICIES
The SMUD Nondiscrimination, Anti-Harassment and Non-Retaliation Policy (AP 05.01.01) is a stand-alone program and violations shall not be subject to the provisions of this Article.

4. DISCIPLINE FOR CAUSE
Unit 3 employees only may be disciplined “for cause” as set forth in Civil Service Rules and Section 12162 of the MUD Act.

5. DISCIPLINE NOTICES
SMUD shall concurrently notify the PSOA of all discipline issued to Unit 3 employees.
ARTICLE 16

REDUCTIONS IN FORCE

It is the intent of SMUD to minimize the number of layoffs if a reduction in force becomes necessary. If layoffs do become necessary, they shall be implemented pursuant to the Civil Service Rules.
ARTICLE 17

AUTOMATIC RESIGNATION

1. AUTOMATIC RESIGNATION

An unauthorized leave of absence, whether voluntary or involuntary, for five (5) consecutive workdays, is considered an automatic resignation from SMUD service, effective the day after the fifth consecutive workday of unauthorized leave. SMUD shall notify the employee, in writing, of this determination. Such notice shall be mailed by certified mail to the employee’s last known address. A copy of this notice shall be provided to the PSOA simultaneously.

2. RETURN FOLLOWING AUTOMATIC RESIGNATION

Employees may request to return from automatic resignation in writing to SMUD. Requests for return must be made within ten (10) working days following SMUD’s mailing of a notice acknowledging the employee’s resignation. Upon receipt of the employee’s request, SMUD shall notify the PSOA, in writing, of an employee’s request to return from automatic resignation, and shall evaluate the request and may rescind the resignation.
ARTICLE 18

GRIEVANCE PROCEDURE

1. DEFINITIONS
   A. Grievance: A dispute that involves the interpretation or application of this Agreement, a disciplinary action taken against a Unit 3 employee, or the application of a SMUD rule or policy. An objection to the terms and provisions of a rule, policy, or memorandum of understanding is not considered a grievance. However, an objection to the way a rule, policy, or memorandum of understanding is applied in a particular situation would be considered a grievance.
   B. Grievant: A Unit 3 employee or PSOA.
      Non-civil service employees shall not be entitled to file grievances over disciplinary actions.
   C. Date of occurrence: The day the event that is the subject of the grievance occurred, or the date when the grievant reasonably should have been aware of the occurrence of the event that is the subject of the grievance.
   D. Receipt Date: The earlier of the following:
      1) The date the PSOA President and Manager, Employee Relations are e-mailed a copy of the grievance, response, or decision. The hard copy is to be sent via interoffice mail or postal service on the same day.
      2) The date the hard copy grievance, response, or decision is received by the PSOA or SMUD.

2. APPLICATION
   A. A grievance may be filed by a Unit 3 employee or by PSOA. By mutual agreement between SMUD and PSOA, concurrent grievances alleging violations of the same provisions may be consolidated into a single grievance.
   B. PSOA may file a grievance directly at Step 2. SMUD and PSOA also may mutually waive any step of the grievance procedure. Such waivers shall be in writing and apply only to the specific grievance for which they are granted.
   C. A grievance appealing termination or other discipline involving the loss of property interests shall be filed directly at Step 3.
   D. All disputes described in Section 1.A of this Article shall be resolved through the use of these grievance procedures.

3. TIME LIMITS
   A. The time limits contained in this Grievance Procedure are mandatory and failure to meet the time limits shall result in forfeiture of the grievance by the party not meeting the time limit requirements.
   B. SMUD and PSOA may, by mutual agreement in writing, extend time limits for a specified period of time.
C. Any time limit contained in this Grievance Procedure may be recessed or delayed by the mutual agreement of the parties for the purposes of convening a Fact Finding Committee, as described in Section 8.A of this Article.

D. A grievance must be filed or advanced by 1700 hours on the last eligible working day within the time limits outlined in each step of the grievance procedure under Section 6 of this Article. For example, if filing at Step 1 of the grievance procedure, the grievance must be filed by 1700 hours on the 20\(^{th}\) working day. If not resolved at Step 1 of the grievance procedure, the grievance must be advanced by 1700 hours on the 15\(^{th}\) working day, so on and so forth.

E. Timelines for notice commences on the first day following receipt.

4. REPRESENTATION

A. Grievants are entitled to be represented throughout the Grievance Procedure by the representative(s) of their choice. However, PSOA shall have the right to have its representative(s) present at any step of the grievance process. This right to individual representation does not include the right to take the matter to arbitration, unless the PSOA agrees to do so.

B. Unit 3 employees who are grievants, representatives, or witnesses shall be given time off with pay during their regular work hours to attend hearings. Unit 3 employees shall be reimbursed for personal expenses (excluding legal fees) incurred in connection with such hearings.

C. Unit 3 employees who are grievants, representatives, or witnesses in a formal grievance proceeding shall be paid overtime when requested to appear at proceedings outside their regular work hours.

5. INFORMAL RESOLUTION

Unit 3 employees and/or the PSOA may attempt to resolve workplace issues informally.

6. GRIEVANCE PROCEDURE

A formal grievance shall be submitted on the SMUD and PSOA Grievance Form using the following procedure:

A. Step 1 – Security Operations Manager

1) A completed PSOA Grievance Form must be filed with the Security Operations Manager within twenty (20) working days following the date of occurrence.

2) Immediately upon receipt of the grievance, the Security Operations Manager shall contact Labor Relations to obtain or verify the grievance control number and to forward a copy of the grievance.

3) If the grievance was filed exclusively by a Unit 3 employee, upon receipt of the grievance, the Labor Relations Department shall forward a copy of the grievance to the PSOA.

4) Within ten (10) working days following the date the grievance was filed, the Security Operations Manager shall schedule a Step 1 meeting for a mutually agreeable date and time.
5) The Step 1 meeting may be attended by the grievant, the grievant’s representative(s), the grievant’s immediate supervisor, and any other involved supervisors/managers.

6) Within ten (10) working days following the Step 1 meeting, the Security Operations Manager shall provide the grievant, Labor Relations, and PSOA a written response setting forth the basis for their decision regarding the grievance, including all supporting documentation.

7) If the grievant or PSOA is not satisfied with the Security Operations Manager’s decision, PSOA may advance the grievance to Step 2.

B. Step 2 – Manager, Employee Relations

1) If the grievance is not resolved at Step 1, PSOA may advance the written grievance, including all supporting documentation, to the Manager, Employee Relations, within fifteen (15) working days of receipt of the Security Operations Manager’s response.

2) Within ten (10) working days following receipt of the grievance, the Manager, Employee Relations shall schedule a Step 2 meeting for a mutually agreeable date and time where the grievance shall be discussed between the PSOA representative(s) and the Manager, Employee Relations.

3) Within ten (10) working days of the conclusion of the Step 2 meeting, the Manager, Employee Relations shall provide PSOA a written response setting forth the basis for their decision regarding the grievance, including all supporting documentation.

C. Step 3 – Grievance Review Committee

1) If the grievance is not resolved at Step 2, PSOA may advance the written grievance, including all supporting documentation, to the Grievance Review Committee, pursuant to Section 7.B of this Article, within ten (10) working days of receipt of the Manager, Employee Relations response.

2) When a grievance is advanced to this level, the Grievance Review Committee shall convene a meeting as soon as possible and no later than 30 calendar days after the grievance is received. Labor Relations shall take responsibility for arranging meeting locations and notifying members.

3) If the Grievance Review Committee reaches a unanimous agreement regarding the resolution of the grievance, it shall issue a written decision, signed by each member of the committee, within ten (10) working days of the conclusion of the Grievance Review Committee meeting. The unanimous agreement of the Grievance Review Committee shall be final and binding on the parties.

4) If the Grievance Review Committee is unable to reach a unanimous agreement, it shall notify the parties in writing within five (5) working days of the conclusion of the Grievance Review Committee meeting.

D. Step 4 – Arbitration

1) If the Grievance Review Committee does not reach a unanimous agreement, PSOA may submit the grievance to binding arbitration by serving written notice on SMUD within fifteen (15) working days following receipt of the Grievance Review Committee’s notification.
2) The parties shall jointly request a list of seven (7) labor arbitrators from the American Arbitration Association (AAA). Within fifteen (15) calendar days from the receipt of the list from AAA, the parties shall select an arbitrator by the process of alternately striking names from such list.

3) The Arbitrator’s authority shall be limited to the resolution of the grievance before them including, but not limited to, a determination that the grievance either has or has not raised a grievable issue and therefore is or is not arbitrable. In so doing, the Arbitrator shall have no authority to alter, change, detract from or add to the provisions of this Agreement, the provisions governing labor relations between SMUD and its employees, and/or the MUD Act.

4) The decision of the Arbitrator shall be final and binding on the parties.

5) The fees and expenses of the Arbitrator and the Court Reporter, if one is utilized, shall be shared equally by SMUD and PSOA.

7. GRIEVANCE COMMITTEES
   A. Fact-Finding Committee
      1) The Fact-Finding Committee shall be comprised of one (1) person appointed by SMUD and one (1) person appointed by the grievant or PSOA, whichever is appropriate.
      2) The parties shall determine the amount of time that will be allotted for the completion of the investigation and shall communicate same to the Committee at the time of their appointment.
      3) The Committee shall conduct an independent investigation of the grievance and shall prepare an objective report of their findings in writing to the parties within ten (10) working days following the completion of their investigation.
      4) The Fact-Finding Committee shall not make recommendations regarding the resolution of the grievance.
   B. Grievance Review Committee
      1) The Grievance Review Committee shall be comprised of six (6) members: the Manager, Employee Relations, and two (2) representatives appointed by SMUD; and the PSOA President and two (2) representatives appointed by PSOA. At least one (1) of PSOA representatives shall be a member of the PSOA Board of Directors and at least one (1) of the SMUD representatives shall be an Executive or equivalent.
      2) The established procedural guidelines for the conduct of Grievance Review Committee hearings may be updated periodically, as needed, by mutual agreement of the parties.
      3) The Grievance Review Committee may render findings only by the unanimous vote of its members. Such unanimous findings are final and binding on the parties.

8. DISCRIMINATION/HARASSMENT/RETLIATION COMPLAINTS
   A. Whenever a Unit 3 employee is the subject of a complaint that alleges a violation of the SMUD Nondiscrimination, Anti-Harassment and Non-Retaliation Policy (AP 05.01.01), SMUD’s Fair Employment Office shall initiate an investigation, explore all reasonable
leads and, within reason, interview all persons identified as having information likely to influence the eventual outcome of the investigation. PSOA shall be advised of the initiation of such an investigation.

B. The Unit 3 employee who is the subject of the investigation shall be entitled to representation during all phases of the investigatory process.

C. A written confidential report will be prepared upon investigation completion. SMUD shall determine whether or not discipline is appropriate. If no discipline is imposed, the case shall be closed and the report shall be filed with the Fair Employment Office. The report shall be held in the strictest confidence to ensure and protect the privacy of the individuals involved.

D. If discipline is imposed and PSOA chooses to appeal the discipline using the grievance procedure, the grievance shall be filed initially at Step 3.

9. GRIEVANCE SETTLEMENT

The parties to a grievance may agree to a negotiated settlement of the grievance at any step of the grievance procedure.

10. GRIEVANCE RESOLUTION

No grievance may be resolved inconsistent with the provisions of this Agreement.
ARTICLE 19
MISCELLANEOUS

1. UNIFORMS AND WORK CLOTHING
   Uniforms and work clothing shall be issued in accordance with SOAP 005.

2. CONTRACTING OUT
   SMUD shall not contract for any work normally performed by classifications assigned to Unit 3 if such contracting is intended to reduce or has the effect of reducing the regular work force by attrition, demotion, displacement or lay off. Further, prior to any reduction in force of PSOA represented employees, affected Unit 3 employees meeting the minimum qualifications of the job being contracted out shall be offered any bargaining unit work being performed by contractors. These assignments shall be of a temporary nature. All current Civil Service Rules concerning bumping and selection shall apply to Civil Service employees.

   For the purpose of this Agreement, contracting out occurs when a Unit 3 position is filled temporarily by a non-PSOA represented employee or by an outside contractor for any reason. SMUD agrees to notify the PSOA in each instance of its intent to contract or renew a contract of PSOA bargaining unit work.

3. NO STRIKES/NO LOCKOUTS
   During the term of this Agreement, SMUD agrees that there shall be no lockout. The PSOA agrees that there shall be no authorized, concerted failure to report to work, cessation or interruption of work, slowdown, strike (including sympathy strikes), boycott, or any type of organized or concerted interference with SMUD's business. Should any employee or group of employees commit any such acts in violation of this provision, the PSOA agrees that it shall notify such employee(s) of their obligation pursuant to this Section and shall publicly discourage such acts.

4. TECHNOLOGICAL CHANGES
   SMUD shall continue to provide PSOA with as much advance notice as practical of any technological changes that may have an impact on Unit 3 employees. In such circumstances, SMUD and PSOA shall meet and confer in an attempt to reach a mutual agreement regarding appropriate solutions. If the parties are unable to reach agreement, the matter shall be resolved pursuant to Article 20, Full Understanding/Non-Nullification, of this Agreement.

5. MODIFIED / LIGHT DUTY PROGRAM
   Employees who are partially disabled due to an industrial illness or injury and cannot perform the full range of their regularly assigned duties may be provided limited duty work consistent with the employee’s medical restrictions. SMUD shall make a reasonable effort to identify and provide the employee with a limited duty assignment. An employee so assigned shall continue to receive their base rate of pay when performing limited duty work. Unit 3 employees have priority when assigning Unit 3 limited duty work.
6. **SENIORITY**

Except as provided elsewhere in this Agreement or any side letter agreement between SMUD and PSOA, whenever seniority is used to make workplace decisions, such decisions shall be based upon SMUD seniority defined as an employee’s total years of continuous SMUD employment. It includes temporary and part-time employment as long as the employment has been continuous.

7. **DONATION OF LEAVE**

SMUD and PSOA agree that SMUD’s Donation of Leave Program shall be administered in accordance with the Donation of Leave Policy.
1. FULL UNDERSTANDING

A. This Agreement sets forth the entire understanding of the parties regarding the matters contained herein, and any other prior or existing understanding or Agreement by the parties, whether formal or informal, regarding such matters are hereby superseded. Except as provided in this Agreement, it is agreed and understood that all benefits and working conditions provided by this Agreement shall remain unchanged during the term of this Agreement, unless expressly modified by mutual agreement through the meet and confer process.

B. With regard to terms and conditions of employment not expressly covered by this Agreement, the parties recognize that during the term of this Agreement it may be necessary or desirable for SMUD to make changes on matters within the scope of representation. If and when SMUD finds it necessary to make such changes, it shall notify PSOA at least thirty (30) calendar days prior to the proposed implementation. At the request of PSOA the parties shall meet and confer in a good faith effort to reach agreement over such matters that fall within the scope of representation.

If the parties are unable to reach agreement, the matter shall be resolved through the use of MED(iation)-ARB(itration). Agreements or decisions resulting from this process shall be binding on the parties.

2. CHANGE OF LAW AND NON-NULLIFICATION

If any provision of this Agreement, or the application of such provision(s), should be found invalid by any decree of a court of competent jurisdiction or by the reason of any existing or subsequently enacted legislation, or applicable administrative regulations (e.g. CalPERS), all other provisions of this Agreement shall remain in full force and effect. In such event, the parties shall meet and confer in good faith within thirty (30) calendar days in an attempt to develop a replacement for the provision(s) found to be invalid.
APPENDIX A

LIST OF UNIT 3 REPRESENTED JOB CLASSIFICATIONS
This list may not be all-inclusive and is subject to change by mutual agreement.

Security Operations Dispatcher
Security Officer I
Security Officer II
Security Specialist
Security Operations Supervisor
APPENDIX B

LIST OF AGENCIES/COMPANIES TO BE SURVEYED

(For Classification and Pay Studies of Unit 3 positions during the term of this Agreement)

1. TBD
APPENDIX C

LIST OF SUPPLEMENTAL SIDE LETTER AGREEMENTS

The parties have agreed that the following Side Letter Agreements (SLAs) shall remain in effect for the term of this MOU or until such time as the provisions or term of the individual SLA are satisfied:

Dated: ____________________

**Public Safety Officers’ Association**

By: ______________________

Jerry Camous
Chief Negotiator

**PSOA Team Members:**

Philip Webster
Roy Todd
Albert Mendoza

**Sacramento Municipal Utility District**

By: ______________________

Cheryl Elia
Chief Negotiator

**SMUD Team Members:**

Koral Brooks
Charles Alford
Michael Meeks

Approved as to form:

Laura Lewis
General Counsel

Approved:

Arlen Orchard
General Manager & CEO

-65-
October 4, 2019
LR 19-015

Jerry Camous, Chief Negotiator
Philip Webster, President, PSOA

Subject: Side Letter Agreement: 2019 Salary Range with Step Increases for the Security Operations Supervisors as Hourly Employees

As an item of discussion and tentative agreement at the bargaining table to establish the first Memorandum of Understanding between SMUD and the PSOA, we agreed to establish salary steps for the 2019 Salary Range of Security Operations Supervisors as hourly employees, effective October 28, 2019, as reflected in the table below:

<table>
<thead>
<tr>
<th>Current 2019 Salary Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
</tr>
<tr>
<td>$5798</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2019 Salary Range with Steps, effective October 28, 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
</tr>
<tr>
<td>$6300</td>
</tr>
<tr>
<td>2.50%</td>
</tr>
</tbody>
</table>

We also discussed and agreed that any of the Security Operations Supervisors who are currently moving through the range will be moved to the salary step that is closest to their current pay without a decrease to what they are currently being paid.

If this reflects your understanding of the agreement, please so indicate by signing in the space provided below.

Sincerely,

Cheryl Elia
Manager, Employee Relations

Agreed:

__________________________________________  __________________________
Jerry Camous  Date
Chief Negotiator, PSOA

__________________________________________  __________________________
Philip Webster  Date
President, PSOA
RESOLUTION NO. ______________

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

That this Board hereby approves a Memorandum of

Understanding between the Sacramento Municipal Utility District and the

SMUD Public Safety Officers’ Association for the period October 28, 2019,
through December 31, 2022, substantially in the form set forth in Attachment

_____ hereto and made a part hereof.
**BOARD AGENDA ITEM**

**STAFFING SUMMARY SHEET**

**Committee Meeting & Date**
Finance & Audit Committee
October 15, 2019

**Board Meeting Date**
October 17, 2019

<table>
<thead>
<tr>
<th>TO</th>
<th>TO</th>
</tr>
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<tbody>
<tr>
<td>1. Alan Sparks</td>
<td>6. Jennifer Davidson</td>
</tr>
<tr>
<td>2. Casey Fallon</td>
<td>7. Gary King</td>
</tr>
<tr>
<td>3. Todd Prangley</td>
<td>8. Stephen Clemons</td>
</tr>
<tr>
<td>4. Attila Miszti</td>
<td>9. Legal</td>
</tr>
<tr>
<td>5. Frankie McDermott</td>
<td>10. CEO &amp; General Manager</td>
</tr>
</tbody>
</table>

**Consent Calendar** | x | Yes | **No if no, schedule a dry run presentation.** | x | Yes | **Budgeted** | x | Yes | **No (If no, explain in Cost/Budgeted section.)** |
| **FROM (IPR)** | **DEPARTMENT** | **MAIL STOP** | **EXT.** | **DATE SENT** |
| Jesse Mays | | EA404 | 5744 | 10/2/19 |

**Requested Action:** Approve Contract Change No. 01 to Contract No. 4500117866 with HOT LINE CONSTRUCTION, INC. to increase the contract not-to-exceed amount by $1,000,000, from $1,000,000 to $2,000,000.

**Summary:** This contract was awarded on a Direct Procurement Emergency basis to HOT LINE CONSTRUCTION, INC. in August 2019. The original contract was awarded for the period from August 30, 2019 to December 30, 2019 for a not-to-exceed amount of $1,000,000. This Contract Change No. 01 is needed to continue operations support for Line Assets Project Work. SMUD has been adversely affected by PG&E’s effort to inspect and repair all their facilities in the Tier 3 and Tier 2 fire zone areas prior to the 2019 fire season. Reports are signaling that this work is expected to continue throughout 2019. This, in combination with PG&E’s fire hardening programs has placed a tremendous pull on available labor resources i.e., journey linemen. As a result, SMUD’s Line Assets contract work force has left to perform work for PG&E.

As a direct response to the climate cultivated by PG&E, Line Assets is strategically realigning its 2019 workload. Line Assets is requesting additional funds to continue the emergency contract with HOT LINE CONSTRUCTION, INC. to support Line Assets project work. This will allow the business unit flexibility in its realignment efforts.

Currently, the contract balance is approximately $258,000.

**Comments:** Hot Line is not a SEED vendor and does not have any SEED subcontractors designated under this contract.

**Board Policy:** BL-8; Delegation to the GM with respect to Procurement; SD-4; Reliability. SD-7;

**Benefits:** Provides SMUD with a qualified contractor to support SMUD’s line assets project work.

**Cost/Budgeted:** $2,000,000; Budgeted for 2019 by Grid Assets, Line Assets

**Alternatives:** SMUD linemen could self-perform the pole replacement work until the labor demand decreases.

**Affected Parties:** Grid Assets, Supply Chain Services, and Contractor.

**Coordination:** Grid Assets – Mike Munn, and Supply Chain Services.
**Subject:** Contract Change No. 1 to Hot Line Construction Contract 4500117866

| ITEM NO. (FOR LEGAL USE ONLY) | 7 |

*Items submitted after deadline will be postponed until next meeting.*
WHEREAS, an increase in demand for line asset labor was caused by Pacific Gas and Electric Company’s effort to inspect and repair all of their facilities in Tier 3 and Tier 2 fire zone areas prior to the 2019 fire season, which resulted in SMUD’s line asset contract workforce leaving to perform that work; and

WHEREAS, in August 2019, a contract was awarded via an emergency direct procurement to Hot Line Construction, Inc. to provide line assets project work for the period August 30, 2019, through December 30, 2019, in an amount not to exceed $1,000,000; and

WHEREAS, SMUD is strategically realigning its 2019 workload based on the line assets contract labor reduction and needs to continue the emergency contract in order to allow the business unit flexibility in its realignment efforts; NOW, THEREFORE,

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

Section 1. This Board hereby authorizes the Chief Executive Officer and General Manager, or his delegate, to execute Change Order No. 1 to Contract No. 4500117866 with Hot Line Construction, Inc. to increase the contract not-to-exceed amount by $1,000,000 from $1,000,000 to $2,000,000.

Section 2. The Chief Executive Officer and General Manager, or his delegate, 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 amounts and applicable contingencies.
**Requested Action:**

a. Approve contract change to Contract No. 4500110473 with United Health Care Insurance Company ("United HealthCare") approving medical insurance premium rates for the period of January 1, 2020 through December 31, 2020. The total estimated cost for 2020, based on the current enrollment population, is $36.1 million; and

b. Approve contract change to Contract 4500043215 with Kaiser Permanente approving medical insurance premium rates and extending the contract by one year from January 1, 2020 through December 31, 2020. The total estimated cost for 2020, based on the current enrollment population, is $26.1 million.

**Summary:**

United HealthCare presented SMUD with a renewal increase for the 2020 plan year of 2.65% for our active employee and pre-65 retiree medical plans. The 2.65% increase was attributed to the Health Insurance Tax (HIT) imposed on our plans as part of the Affordable Care Act. United HealthCare also presented SMUD with a renewal increase of 9.50% for our post-65 Medicare retiree plan. Based on these rates and current enrollment, the total cost for 2020 medical benefit plans is projected at $36.1 million.

Kaiser Permanente presented SMUD with renewal increases for the 2020 plan year of 2.52% for our active employee and pre-65 retiree medical plans and 2.50% for our post-65 Medicare retiree plan. Based on these rates and current enrollment, the total cost for 2020 medical benefit plans is projected at $26.1 million.

These actions will allow SMUD to provide medical benefit plans for the year 2020 to approximately 8,500 employees, retirees, and eligible dependents enrolled in United HealthCare and Kaiser Permanente medical plans in the most cost-effective manner.

Note: The estimated costs above will vary based on 2020 employee/retiree Open Enrollment selections and SMUD population.

**Board Policy:**

SD-3 Access to Credit Markets. SMUD staff negotiated best price and terms with medical providers in consideration of the long-term revenue requirements, debt, and financial risk to SMUD.

SD-8 Employee Relations. Providing medical benefits to employees supports SMUD’s goal of an inclusive workplace that engages and inspires employees to commit to SMUD’s purpose, vision, and values.

**Benefits:**

Provide quality medical benefits to eligible SMUD employees, retirees and eligible dependents.

**Cost/Budgeted:**

Assuming current enrollment, SMUD’s share of cost is projected at $55.0 million (after employee/retiree contributions).

**Alternatives:**

Not accept the proposed rate increases; consider other alternatives to meet SMUD obligations.
Affected Parties: All eligible SMUD employees, retirees and eligible dependents participating in SMUD’s medical benefit plans.

Coordination: Human Resources, Diversity & Inclusion, Supply Chain Services, United HealthCare and Kaiser Permanente.

Presenter: Jason Shibata

Additional Links:

SUBJECT  * Approve medical premiums and extend contract with United HealthCare and Kaiser Permanente for the period of Jan. 1, 2020 to Dec. 31, 2020

ITEM NO. (FOR LEGAL USE ONLY) 8a

ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.
## 2020 Active Employees Medical Rates

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<th>Retiree + Family</th>
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<td>875.26</td>
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</table>
RESOLUTION NO. ______________

WHEREAS, by Resolution No. 18-07-03, adopted July 19, 2018, this Board authorized a contract with United Health Care Insurance Company (United HealthCare) to provide administration of SMUD’s medical benefits for an initial three-year period from January 1, 2019, to December 31, 2021, to SMUD employees, retirees and eligible dependents; and

WHEREAS, it would be in SMUD’s best interest to approve the 2020 premiums through December 31, 2020, because of their distinctive services and relatively lower cost compared to other health plans; NOW, THEREFORE,

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

Section 1. The Chief Executive Officer and General Manager, or his designee, is authorized, on behalf of the SMUD, to approve 2020 medical insurance rates with United Health Care Insurance Company, for the period January 1, 2020, through December 31, 2020; 2020 cost estimated at $36.1 million pursuant to the premiums set forth in Attachment ____ 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 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 amounts and applicable contingencies.
## BOARD AGENDA ITEM
### STAFFING SUMMARY SHEET

#### Committee Meeting & Date
Finance & Audit – October 15, 2019

#### Board Meeting Date
October 17, 2019

### TO TO

| 1. | Thomas Dempsey |
| 2. | Casey Fallon |
| 3. | Laurie Rodriguez |
| 4. |  |
| 5. |  |
| 6. | Gary King |
| 7. | Jennifer Davidson |
| 8. | Stephen Clemons |
| 9. | Legal |
| 10. | CEO & General Manager |

### Consent Calendar

<table>
<thead>
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<th>Yes</th>
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<th>Budgeted</th>
<th>X</th>
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<th>No (If no, explain in Cost/Budgeted section)</th>
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<td>Andrew McDermott</td>
<td>Supply Chain Services</td>
<td>EA404</td>
<td>6383</td>
<td>09/18/2019</td>
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### NARRATIVE:

**Requested Action:**

a. Approve contract change to Contract No. 4500110473 with United Health Care Insurance Company ("United HealthCare") approving medical insurance premium rates for the period of January 1, 2020 through December 31, 2020. The total estimated cost for 2020, based on the current enrollment population, is $36.1 million; and

b. Approve contract change to Contract 4500043215 with Kaiser Permanente approving medical insurance premium rates and extending the contract by one year from January 1, 2020 through December 31, 2020. The total estimated cost for 2020, based on the current enrollment population, is $26.1 million.

**Summary:**

United HealthCare presented SMUD with a renewal increase for the 2020 plan year of 2.65% for our active employee and pre-65 retiree medical plans. The 2.65% increase was attributed to the Health Insurance Tax (HIT) imposed on our plans as part of the Affordable Care Act. United HealthCare also presented SMUD with a renewal increase of 9.50% for our post-65 Medicare retiree plan. Based on these rates and current enrollment, the total cost for 2020 medical benefit plans is projected at $36.1 million.

Kaiser Permanente presented SMUD with renewal increases for the 2020 plan year of 2.52% for our active employee and pre-65 retiree medical plans and 2.50% for our post-65 Medicare retiree plan. Based on these rates and current enrollment, the total cost for 2020 medical benefit plans is projected at $26.1 million.

These actions will allow SMUD to provide medical benefit plans for the year 2020 to approximately 8,500 employees, retirees, and eligible dependents enrolled in United HealthCare and Kaiser Permanente medical plans in the most cost-effective manner.

Note: The estimated costs above will vary based on 2020 employee/retiree Open Enrollment selections and SMUD population.

**Board Policy:**

SD-3 Access to Credit Markets. SMUD staff negotiated best price and terms with medical providers in consideration of the long-term revenue requirements, debt, and financial risk to SMUD.

SD-8 Employee Relations. Providing medical benefits to employees supports SMUD’s goal of an inclusive workplace that engages and inspires employees to commit to SMUD’s purpose, vision, and values.

**Benefits:**

Provide quality medical benefits to eligible SMUD employees, retirees and eligible dependents.

**Cost/Budgeted:**

Assuming current enrollment, SMUD’s share of cost is projected at $55.0 million (after employee/retiree contributions).

**Alternatives:**

Not accept the proposed rate increases; consider other alternatives to meet SMUD obligations.
Affected Parties: All eligible SMUD employees, retirees and eligible dependents participating in SMUD’s medical benefit plans.

Coordination: Human Resources, Diversity & Inclusion, Supply Chain Services, United HealthCare and Kaiser Permanente.

Presenter: Jason Shibata

Additional Links:

SUBJECT
* Approve medical premiums and extend contract with United HealthCare and Kaiser Permanente for the period of Jan. 1, 2020 to Dec. 31, 2020

ITEM NO. (FOR LEGAL USE ONLY) 8b

ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.
# 2020 Active Employees Medical Rates

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<tr>
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<tbody>
<tr>
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<td>United Healthcare HMO – High Plan</td>
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<td>United Healthcare HMO – Low Plan</td>
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<td>United Healthcare PPO Plan</td>
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# 2020 Retiree Medical Rates

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<tr>
<th>Carrier</th>
<th>Retiree Only</th>
<th>Retiree + 1</th>
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<th>Retiree</th>
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<td>United Healthcare PPO – Out Of CA</td>
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</table>
WHEREAS, by Resolution No. 11-09-03, adopted September 1, 2011, this Board authorized a contract with **Kaiser Permanente (Kaiser)** to provide medical benefits for the year 2012 to SMUD employees, retirees and eligible dependents; and

WHEREAS, by Resolution No. 12-09-03, adopted September 6, 2012, this Board authorized an extension of the **Kaiser** contract to provide medical benefits for the year 2013 to SMUD employees, retirees and eligible dependents; and

WHEREAS, by Resolution No. 13-09-04, adopted September 5, 2013, this Board authorized an extension of the **Kaiser** contract to provide medical benefits for the year 2014 to SMUD employees, retirees and eligible dependents; and

WHEREAS, by Resolution No. 14-08-09, adopted August 21, 2014, this Board authorized an extension of the **Kaiser** contract to provide medical benefits for the year 2015 to SMUD employees, retirees and eligible dependents; and

WHEREAS, by Resolution No. 15-09-04, adopted September 3, 2015, this Board authorized an extension of the **Kaiser** contract to provide medical benefits for the year 2016 to SMUD employees, retirees and eligible dependents; and

WHEREAS, by Resolution No. 16-10-03, adopted October 6, 2016, this Board authorized an extension of the **Kaiser** contract to provide medical benefits for the year 2017 to SMUD employees, retirees and eligible dependents; and

WHEREAS, by Resolution No. 17-09-04, adopted September 21, 2017, this Board authorized an extension of the **Kaiser** contract to provide medical benefits for the year 2018 to SMUD employees, retirees and eligible dependents; and
WHEREAS, by Resolution No. 18-07-04, adopted July 19, 2018, this Board authorized an extension of the Kaiser contract to provide medical benefits for the year 2019 to SMUD employees, retirees and eligible dependents; and

WHEREAS, it would be in SMUD’s best interest to extend the medical benefit contract with Kaiser and approve the 2020 premiums through December 31, 2020, because of their distinctive services and relatively lower cost compared to other health plans; NOW, THEREFORE,

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

Section 1. The Chief Executive Officer and General Manager, or his designee, is authorized, on behalf of the SMUD, to approve 2020 medical insurance rates and extend Contract No. 4500043215 with Kaiser Permanente by one year, for the period January 1, 2020, through December 31, 2020; 2020 cost estimated at $26.1 million pursuant to the premiums set forth in Attachment ____ 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 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 amounts and applicable contingencies.
TO

1. Jennifer Davidson
2. Gary King
3. Stephen Clemons
4.
5.
6. Legal
7.
8.
9.
10. CEO & General Manager

Consent Calendar | x | Yes | No | If no, schedule a dry run presentation. | Budgeted | x | Yes | No | (If no, explain in Cost/Budgeted section.)
---|---|---|---|---|---|---|---|---|---|
FROM (IPR) | DEPARTMENT | MAIL STOP | EXT. | DATE SENT |
Sandra Moorman | Accounting | K109 | 6957 | 9/20/19 |

NARRATIVE:

**Requested Action:** Authorize SMUD’s Accountant to defer recognition of revenue from sales proceeds of Low Carbon Fuel Standard (LCFS) credits as regulatory liabilities and then match revenue recognition to the related expense. This authorization will allow the Accountant to defer and recognize LCFS revenue in the appropriate accounting period for rate making purposes.

**Summary:** SMUD receives LCFS credits from the California Air Resources Board (CARB) based on kwh sales and deemed credits for Electric Vehicle (EV) customers, and then SMUD monetizes the credits through a sales transaction. CARB requires that LCFS sales proceeds be spent in a way to benefit current or future EV drivers in California. Therefore, SMUD must spend the LCFS sales proceeds. The timing of SMUD LCFS program expenses will not match the timing of the LCFS credit sales revenue. If SMUD were to recognize the LCFS sales revenue upon the sales transaction, the revenue would be recognized in one period and the matching expenses could be recognized in a different period. The LCFS program expenses will be recognized in the period incurred. Pursuant to Governmental Accounting Standards Board (GASB) codification section Re10 Regulated Operations, staff is recommending that the Board authorize the Accountant to defer LCFS revenue as a regulatory liability. This deferral will allow for appropriate matching of revenue with expense recognition for rate making purposes.

**Board Policy:** Access to credit markets SD-3. Allows SMUD to match revenues with expenses in matching time periods.

**Benefits:** This accounting treatment will more accurately reflect SMUD’s results of operations.

**Cost/Budgeted:** N/A

**Alternatives:** Recognize as revenue is received. This could result in revenue not matching with program expenses creating a situation where revenue may not match in the appropriate accounting period for rate making purposes.

**Affected Parties:** Accounting, Budget, Energy Strategy Research & Development, Advanced Energy Solutions, Energy Trading & Contracts

**Coordination:** Accounting, Budget, Energy Strategy Research & Development, Advanced Energy Solutions, Energy Trading & Contracts

**Presenter:** Kathy Ketchum

**Additional Links:**

**SUBJECT**

DEFERRAL OF LCFS REVENUES
WHEREAS, SMUD receives Low Carbon Fuel Standard (LCFS) credits from the California Air Resources Board (CARB) based on kwh sales and deemed credits for Electric Vehicle (EV) customers; and

WHEREAS, SMUD then monetizes the credits through a sales transaction; and

WHEREAS, CARB requires that LCFS sales proceeds be spent in a way to benefit current or future EV drivers in California and thus SMUD must spend the LCFS sales proceeds; and

WHEREAS, if SMUD were to recognize the LCFS sales revenue upon the sales transaction, the revenue would be recognized in one period and the matching expenses could be recognized in a different period; and

WHEREAS, the LCFS program expenses will be recognized in the period incurred; and

WHEREAS, normal accounting practices would be to recognize the revenues and expenses in the accounting period incurred; and

WHEREAS, pursuant to Governmental Accounting Standards Board (GASB) codification section Re10 Regulated Operations, for rate-making purposes, it would be appropriate to match the expenses with the revenues so that the revenue is recognized in the same period in which the amount is expended and will, therefore, more accurately reflect revenues and expenses in the same period; NOW,

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

That this Board authorizes SMUD’s Accountant to defer recognition of revenue from sales proceeds of Low Carbon Fuel Standard (LCFS) credits as regulatory liabilities and then match revenue recognition to the related expenses and to defer and recognize LCFS revenue in the appropriate accounting period for rate-making purposes.
Adopt SMUD’s Wildfire Mitigation Plan.

SMUD staff has completed SMUD’s WMP, conducted public outreach to solicit comment on the draft WMP, and contracted with Navigant Consulting, Inc. to assess the WMP.

There is no budgetary impact for this request. The programs outlined in the WMP are budgeted in separate processes by the sponsoring departments.

California law requires the WMP and evaluator’s report to be presented to the Board in a noticed public meeting.

Adopting a WMP is in alignment with Strategic Direction SD-4, Reliability, that SMUD will maintain the electric system in good repair, and SD-6, that SMUD will implement measures to protect the public from injuries related to SMUD operations or facilities. Additionally, this item is consistent with Strategic Direction SD-15, Outreach and Communication, that SMUD will ensure all groups are aware of SMUD’s major decisions and programs. This item is consistent with SD-17, Enterprise Risk Management, in maintaining an integrated enterprise risk management process.

NARRATIVE:

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1. Introduction

Over the last few years California has seen some of its most devastating and destructive wildfires. Climate change is recognized as a contributing factor (long hot spells, low moisture, etc.). This is the new (ab)normal, requiring a new way of thinking about wildfire mitigation planning.

In response, Senate Bill (SB) 901 authored by Senator Dodd, was enacted in 2018. SB901 requires every electric utility to prepare a wildfire mitigation plan (WMP).

SB 901 amended Public Utilities Code (PUC) section 8387. 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 section 8387 more specifically requires every publicly owned utility to prepare and present a WMP to its governing body by January 1, 2020, and annually thereafter.

The WMP must include vegetation management (VM) programs, inspection and maintenance programs, protocols for deactivating automatic reclosers and for de-energizing power lines in severe weather conditions. The plans are 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 measures, (ii) identifying and correcting any deficiencies in the plan and (iii) auditing implementation of the plan.

This document outlines SMUD’s activities in accordance with these requirements.
SMUD

As one of the largest publicly owned, locally governed, electric utilities in California, SMUD serves over 600,000 customers in its 900 square mile service area in the Sacramento County area, and operates a federally licensed hydroelectric project in El Dorado County known as the Upper American River Project (UARP). Based on a mutual agreement with PG&E, SMUD serves five PG&E customers from its UARP facilities, and thirteen PG&E customers in Northern San Joaquin County.

SMUD’s service area has a much lower wildfire risk profile than other areas in the State that have suffered destructive wildfires in recent years. This is largely due to its more urban environment, flatter terrain, grasslands and other fuel sources outside forested areas and fewer wind events. Even in the UARP area SMUD is fortunate to have a lower risk environment.

1.1 Policy statement

SMUD’s overarching goal is to provide safe, reliable and economic electric service to its local community. In order to meet this goal, SMUD constructs, maintains and operates its electrical lines and equipment in a manner that minimizes any risk of wildfire posed by its electrical lines and equipment.

1.2 Purpose

This WMP describes the range of activities that SMUD is taking to mitigate the threat of power-line 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 Grid Strategy and Operations Officer.

This plan meets or exceeds the requirements of PUC section 8387 for publicly owned electric utilities to prepare a WMP by January 1, 2020, and annually thereafter. Reference Table 1 below for plan compliance and corresponding sections.
Table 1. Plan compliance with Public Utilities Code 8387(b)

<table>
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<tr>
<td>b (2) (A)</td>
<td>An accounting of the responsibilities of persons responsible for executing the plan.</td>
<td>9.1.1</td>
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<tr>
<td>b (2) (B)</td>
<td>The objectives of the wildfire mitigation plan.</td>
<td>1.3</td>
</tr>
<tr>
<td>b (2) (C)</td>
<td>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.</td>
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<tr>
<td>b (2) (D)</td>
<td>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.</td>
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<td>b (2) (E)</td>
<td>A discussion of how the application of previously identified metrics to previous wildfire mitigation plan performances has informed the wildfire mitigation plan.</td>
<td>9.2.1</td>
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<td>b (2) (F)</td>
<td>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.</td>
<td>6.1.1, 7.2</td>
</tr>
<tr>
<td>b (2) (G)</td>
<td>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.</td>
<td>7.1, 7.2</td>
</tr>
<tr>
<td>b (2) (H)</td>
<td>Plans for vegetation management.</td>
<td>6.4</td>
</tr>
<tr>
<td>b (2) (I)</td>
<td>Plans for inspections of the local publicly owned electric utility’s or electrical cooperative’s electrical infrastructure.</td>
<td>6.3</td>
</tr>
<tr>
<td>b (2) (J)</td>
<td>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:</td>
<td>4.3</td>
</tr>
<tr>
<td>b (2) (J) (i)</td>
<td>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.</td>
<td>4.3</td>
</tr>
<tr>
<td>b (2) (J) (ii)</td>
<td>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.</td>
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### 1. Introduction

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<th>Plan Section Number</th>
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<tr>
<td>b (2) (K)</td>
<td>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.</td>
<td>5.1</td>
</tr>
<tr>
<td>b (2) (L)</td>
<td>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.</td>
<td>4.3</td>
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<tr>
<td>b (2) (M)</td>
<td>A statement of how the local publicly owned electric utility or electrical cooperative will restore service after a wildfire.</td>
<td>8</td>
</tr>
<tr>
<td>b (2) (N)</td>
<td>A description of the processes and procedures the local publicly owned electric utility or electrical cooperative shall use to do all of the following:</td>
<td></td>
</tr>
<tr>
<td>b (2) (N) (i)</td>
<td>Monitor and audit the implementation of the wildfire mitigation plan.</td>
<td>9.4</td>
</tr>
<tr>
<td>b (2) (N) (ii)</td>
<td>Identify any deficiencies in the wildfire mitigation plan or its implementation and correct those deficiencies.</td>
<td>9.4.2</td>
</tr>
<tr>
<td>b (2) (N) (iii)</td>
<td>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.</td>
<td>9.3.1</td>
</tr>
<tr>
<td>b (3)</td>
<td>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.</td>
<td>10</td>
</tr>
<tr>
<td>C</td>
<td>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.</td>
<td>10</td>
</tr>
</tbody>
</table>
1.3 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 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 the prudent and cost-effective improvements to its physical assets, operations and training that can help to meet these objectives.

The secondary objective of this WMP is to improve the resiliency of SMUD’s line standards and construction. As part of developing this plan, SMUD assesses new industry practices and technologies that will reduce the likelihood of an interruption (outage frequency) in service and improve the restoration (outage duration) of service. 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 to reduce the risk of potential wildfire-causing ignitions associated with SMUD’s electrical infrastructure. This plan outlines the activities and programs that SMUD has put in place to enhance public safety, improve grid reliability and explore new technologies to help reduce overall wildfire ignition risk.

This WMP also addresses 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 discussed and outlined.

This WMP also 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. SMUD

2.1 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 operating area
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. 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.

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 located in the geographic areas of Sacramento, El Dorado, Solano and Placer counties.

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

SMUD’s electric system supplies power to a population of approximately 1.5 million with a total annual retail load of approximately 10,233 million kilowatt hours (kWh) for the year ended December 31, 2018\(^1\). As the capital of the nation’s most populous state, Sacramento benefits from the historically stabilizing influence of a large government sector. Sacramento is home to the State government headquarters, the Sacramento County seat, the City government and various special districts that combine to make government the largest single employment sector in the Sacramento area. Information technology, transportation, education and health services, leisure and hospitality, and construction serve as the other major sectors of employment and industry in the area.

SMUD’s highest peak load in 2018 was 2,944 megawatts (MW), occurring July 25, 2018. SMUD’s record peak load of 3,299 MW occurred on July 24, 2006, its’ second highest peak load occurred on August 28, 2017 recorded at 3,157 MW\(^2\).

2.3 The electric system
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 (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’s 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.

2.4 Purpose and vision
SMUD’s Board of Directors has established the following mission and vision statements: “SMUD’s purpose is to enhance the quality of life for our customers and community through creative energy solutions. SMUD’s vision is to be the trusted partner with their customers and community, providing innovative solutions to ensure energy affordability and reliability, improve the environment, reduce our region’s carbon footprint and enhance the vitality of our community.”\(^3\)

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\(^1\) SMUD Consolidated Financial Information and Statistics, December 31, 2018, pg. 4, Electric Sales Statistics.
2.5 Goal and objectives

For more than seventy years, SMUD has provided safe, reliable and affordable electricity, excellent customer service, community value, innovation and environmental leadership to its customers.

The Board has adopted a set of Strategic Directions (SD) with related metrics, which it considers essential in the continued success of the organization and its service to its customers. These include safety, reliability, competitive rates, enterprise risk management (ERM), access to credit markets, customer relations, environmental leadership and resource planning. SMUD’s Board SDs are used as a guide in the decisions made about SMUD’s policies and operations. The Board continually reviews and refines these guidelines to make sure it meets its customer’s energy needs both now and in the future.

Some of the general elements in SMUD’s business strategy are:

- Safe and reliable energy and environmental protection: Developing and maintaining a sustainable and reliable power supply to meet peak demand growth consistent with state mandates for renewable energy and reduced carbon emissions.
- Customer and community services: Working closely with customers to provide the information, tools and incentives to assist them to more efficiently manage energy use, which will contribute to meeting greenhouse gas (GHG) emission targets and managing peak demand requirements.
- Long term financial stability: Managing price, volumetric and credit risks associated with energy and natural gas procurement and SMUD’s finances to meet funding needs and maintain fair and reasonable energy rates.
- Workforce planning & development: Attracting, developing and retaining an inclusive, skilled and engaged workforce that reflects SMUD’s values and is committed to achieving SMUD’s mission.
- Operational independence and local control: Retaining local decision-making authority and operational independence.
- Community and Collaboration: Collaborating regionally to attract new businesses and grow existing business to diversify and strengthen the Sacramento economy.
- Long-term infrastructure investment: Maintain and improve SMUD’s infrastructure in a cost-effective manner to ensure sustainable delivery of reliable energy and address economic and environmental concerns.
- Risk management: Maintain an ERM program designed to act as an early warning system to monitor changes in, and the emergence of, risks that could impact SMUD’s business objectives.

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 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 themselves subject to change. As appropriate, the current version of documents are incorporated either as appendices to this WMP or by reference.

Table 2 is a summary of SMUD’s programs and activities that support wildfire prevention and mitigation.
### 3. Overview of preventive strategies and programs

#### Table 2. Mitigation programs/activities

<table>
<thead>
<tr>
<th><strong>Design and construction</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ester-based insulating fluid (EnvironTemp FR3(^3)) in transformers</td>
</tr>
<tr>
<td>Non-expulsion equipment in Pole Clearing Area (PCA) and UARP 4kV</td>
</tr>
<tr>
<td>Light Detection and Ranging (LiDAR) Ortho, Oblique and Hyper Spectral Imagery</td>
</tr>
<tr>
<td>Potential installation of fire monitoring cameras on towers in the UARP transmission corridor</td>
</tr>
<tr>
<td>Increase overhead wire spacing to reduce wire to wire contact</td>
</tr>
<tr>
<td>Pole loading and placement</td>
</tr>
<tr>
<td>Transmission line rating remediation</td>
</tr>
<tr>
<td>Pole replacement and reinforcement</td>
</tr>
<tr>
<td>Wildfire resiliency design</td>
</tr>
<tr>
<td>Construction fire prevention program</td>
</tr>
<tr>
<td>Substation perimeter fencing</td>
</tr>
<tr>
<td>UARP 4kV circuit breaker upgrade</td>
</tr>
<tr>
<td>UARP 4kV bare wire replacement</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Inspection and maintenance</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission line aerial patrols (helicopter)</td>
</tr>
<tr>
<td>Transmission line ground patrols</td>
</tr>
<tr>
<td>Transmission line infrared (IR) inspections (helicopter)</td>
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<tr>
<td>Transmission line splice assessment program</td>
</tr>
<tr>
<td>Transmission and distribution wood pole intrusive inspections</td>
</tr>
<tr>
<td>Transmission and distribution vegetation right-of-way maintenance</td>
</tr>
<tr>
<td>Transmission and distribution annual pole clearing program</td>
</tr>
<tr>
<td>Distribution detailed line inspections</td>
</tr>
<tr>
<td>Distribution line patrols</td>
</tr>
<tr>
<td>69 kV and Pole Clearing Area 12 kV IR inspections (helicopter)</td>
</tr>
<tr>
<td>Visual inspections of distribution substations</td>
</tr>
<tr>
<td>LiDAR inspection of transmission</td>
</tr>
<tr>
<td>Inspection and maintenance programs for T&amp;D lines and substations</td>
</tr>
<tr>
<td>IR inspection of energized overhead T&amp;D facilities and equipment</td>
</tr>
<tr>
<td>Drive by of overhead distribution facilities and equipment</td>
</tr>
<tr>
<td>Detailed inspection of T&amp;D facilities and equipment</td>
</tr>
<tr>
<td>Supplemental inspections of high fire risk areas</td>
</tr>
<tr>
<td>On-ground routine inspection</td>
</tr>
</tbody>
</table>

5 Additional information: https://www.cargill.com/bioindustrial/envirotemp/fr3
3. Overview of preventive strategies and programs

**Operational practices**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disabling reclosing during fire season</td>
<td></td>
</tr>
<tr>
<td>Transmission and distribution system vegetation management</td>
<td></td>
</tr>
<tr>
<td>Special work procedure for red flag warning (RFW)</td>
<td></td>
</tr>
<tr>
<td>De-energization notifications</td>
<td></td>
</tr>
<tr>
<td>Emergency Operations Planning: fire prevention plan</td>
<td></td>
</tr>
<tr>
<td>Hotworks procedures</td>
<td></td>
</tr>
<tr>
<td>Work procedures and training for persons working in locations and conditions of elevated fire risks</td>
<td></td>
</tr>
<tr>
<td>Safety and physical security protection teams</td>
<td></td>
</tr>
<tr>
<td>Increased staff for line and vegetation management crews in preparation of storm</td>
<td></td>
</tr>
<tr>
<td>Existing relationship with local government and fire safe councils</td>
<td></td>
</tr>
<tr>
<td>Transmission encroachment program</td>
<td></td>
</tr>
<tr>
<td>Provide liaison to county office of emergency services’ (OES) during fire event</td>
<td></td>
</tr>
<tr>
<td>Leverage existing relationship with local government and fire departments</td>
<td></td>
</tr>
<tr>
<td>Targeted communications plan</td>
<td></td>
</tr>
<tr>
<td>Active environmental safety monitoring</td>
<td></td>
</tr>
<tr>
<td>SMUD’s Emergency Operations Center partners with local emergency responders for coordination prior to and during an emergency</td>
<td></td>
</tr>
<tr>
<td>High fire threat district vegetation management inspection strategy</td>
<td></td>
</tr>
<tr>
<td>Inspecting trees with potential strike path to power lines</td>
<td></td>
</tr>
<tr>
<td>Expanded pole clearing</td>
<td></td>
</tr>
<tr>
<td>Expanded clearance distances at time of maintenance</td>
<td></td>
</tr>
<tr>
<td>Patrol and pruning, quality assurance</td>
<td></td>
</tr>
<tr>
<td>Increased vegetation clearance</td>
<td></td>
</tr>
</tbody>
</table>
### 3. Overview of preventive strategies and programs

#### Situational/conditional awareness
- Weather monitoring stations in targeted areas in the UARP
- Potential installation of cameras in key locations
- 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
- Monitors daily California Department of Forestry and Fire Protection website and active fires in California
- Shade Tree Program
- On-site personnel at specific periods

#### Response and recovery
- Planned de-energization during fire season
- Critical event communications process and procedures
- Strategy for minimizing public safety risk
- Emergency response plan
- Field operations recovery procedures
- California Independent System Operation (CAISO) coordination
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 levels of 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 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 is 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 below. Figure 3 describes the objective of each step.
4. Risk analysis and risk drivers

Figure 2. SMUD's enterprise risk management process

Figure 3. ERM 5-step process

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify</td>
<td>Find, recognize and describe risks, Identify all hazards, threat and opportunities</td>
</tr>
<tr>
<td>Analyze</td>
<td>Comprehend the nature of risk and determine the level of risk, Bow-tie analysis</td>
</tr>
<tr>
<td>Plan &amp; Evaluate</td>
<td>Compare results of risk analysis with criterias, Prioritize risks</td>
</tr>
<tr>
<td>Respond</td>
<td>Modify risk by developing control plans, Implement control plans</td>
</tr>
<tr>
<td>Monitor &amp; Review</td>
<td>Continue to monitor risks and controls, Review and improve ERM framework, Risk reporting</td>
</tr>
</tbody>
</table>
4. Risk analysis and risk drivers

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 used 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 also 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 and workforce.

4.2 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.\(^6\) 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.”\(^7\)

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. Extreme weather events and resulting hazards, such as heat waves, wildfires, droughts and floods are already being expected.\(^8\)

California’s 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.\(^9\) A number of 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 has historically extended from early spring through the late fall, due to the dry and hot nature of these months in SMUD’s geographic region. As a result of the increase in population density, development in the wildland-urban interface (WUI) and extreme weather conditions, there’s a growing need for year-round fire prevention and preparedness.

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\(^7\) Source: https://www.nasa.gov/audience/forstudents/k-4/stories/nasa-knows/what-is-climate-change-k4.html

\(^8\) California’s Fourth Climate Change Assessment, January 16, 2019. http://www.climateassessment.ca.gov/state/

4. Risk analysis and risk drivers

4.3 Enterprise safety and wildfire risk

Following SMUD’s ERM assessment process, SMEs were consulted in conducting a bow-tie analysis for wildfires which could potentially involve SMUD equipment. The SMEs focused on potential causes of powerline sparks that could start a fire. The bow-tie analysis 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, velocity and impact.

Figure 4 provides the risk bow tie, which summarizes the assessment process.

Figure 4. 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.

<table>
<thead>
<tr>
<th>Key Risk Drivers</th>
<th>Triggering Event</th>
<th>Key Risk Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact from object</td>
<td>Wildfires</td>
<td>Serious Injury/Fatality</td>
</tr>
<tr>
<td>• Animal</td>
<td>involving</td>
<td>Reliability</td>
</tr>
<tr>
<td>• Mylar Balloons</td>
<td>SMUD equipment</td>
<td>Financial</td>
</tr>
<tr>
<td>• Unspecified</td>
<td></td>
<td>Compliance</td>
</tr>
<tr>
<td>• Vegetation</td>
<td></td>
<td>Infrastructure/Property Damage</td>
</tr>
<tr>
<td>• Vehicle</td>
<td></td>
<td>Local Agency</td>
</tr>
<tr>
<td>Equipment/Facility Failure</td>
<td></td>
<td>Environmental and Ecological</td>
</tr>
<tr>
<td>• Capacitor Bank</td>
<td></td>
<td>Reputational</td>
</tr>
<tr>
<td>• Conductor</td>
<td></td>
<td>Customer and Community</td>
</tr>
<tr>
<td>• Crossarm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Fuse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Insulator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Splice/Clamp/Connector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Transformer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Unspecified</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wire to Wire Contact/Contamination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Weather</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Wildfires</td>
<td></td>
</tr>
<tr>
<td>• Unknown</td>
<td>involving</td>
<td></td>
</tr>
<tr>
<td>• Third Party Acts/Vandalism</td>
<td>SMUD equipment</td>
<td></td>
</tr>
<tr>
<td>• Acts of SMUD</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. Risk analysis and risk drivers

4.3.1 Fire risk drivers

Powerline equipment is generally the same across all utilities; 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.

4.3.1.1 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 come into contact with powerlines which can cause 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 come into contact with powerlines at any time which can also cause 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. Risk analysis and risk drivers

4.3.1.2 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.

4.3.1.3 Wire-to-wire contact/contamination
When two or more energized conductors come into contact with 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.

4.3.1.4 Other
SMUD's powerlines traverse through many parts of its service territory which include 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 come into contact with powerlines and cause sparking trigger 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 in the use of the fire suppression equipment.

During RFW periods in the UARP, crews working in remote sites limit hot-work (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. In particular, 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.
4.4 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 ability to borrow money or purchase insurance
- Environmental and ecological damage
- Damage to SMUD’s reputation and loss of public confidence
- Customer and community impacts
- Bankruptcy

SMUD recognizes the impacts that wildfires can have on the company, community and local economy.

4.5 Table top exercise (TTX)

SMUD conducted a table top exercise (TTX) to test, analyze and enhance the current level of SMUD’s internal coordination and expertise in responding to a potential wildfire threat to SMUD’s facilities El Dorado County that could result in potential impacts to SMUD customers. The TTX was used to enhance general internal awareness, test SMUD standard emergency operating plans and procedures in the wildfire context and provide an opportunity to rehearse emergency practices in a simulated environment. The TTX’s operational objectives were 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 operations recovery procedures.

The TTX concluded SMUD possesses a requisite amount of experience, ability, knowledge and skill sets to adequately deal with this level of fire emergency/fire related outage. Additionally, SMUD departments have well established procedures and processes in place that provide the organization the ability to effectively respond and recover from a wildfire event, such as the one during this exercise.
5. SMUD’s asset overview

SMUD provides electricity to its customers via substations and T&D line assets. Table 3 depicts a high-level description of SMUD’s T&D assets.

Table 3. Asset description

<table>
<thead>
<tr>
<th>Asset Classification</th>
<th>Asset Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission line assets</td>
<td>Assets include conductor, transmission structures and switches operating at or above 69 kV (only 69 kV lines that tied to generation are considered transmission).</td>
</tr>
<tr>
<td>Distribution line assets</td>
<td>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).</td>
</tr>
<tr>
<td>Substation assets</td>
<td>Assets include major equipment such as power transformers, voltage regulators, capacitors, reactors, protective devices, relays, open-air structures, switchgear and control houses.</td>
</tr>
</tbody>
</table>
5.1 Fire threat assessment in SMUD service territory

5.1.1 CPUC high fire threat district (HFTD)
SMUD directly participated in the development of the CPUC’s Fire-Threat Map\(^\text{10}\), 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.

Figure 5. SMUD’s territory within CPUC Fire-Threat

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, including approximately 3 miles of 4kV power lines 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.

The CPUC Fire-Threat map identifies Tier 3, extreme fire risk, Tier 2, elevated fire risk, and areas outside of the HFTD. Figure 5 depicts the CPUC Fire-Threat Map and SMUD’s location within the map.

\(^\text{10}\) Adopted by CPUC Decision 1-12-024.
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 one quarter of SMUD’s 468 overhead line-miles are located within the HFTD; of that

approximately 10% are located within Tier 3, that are deemed “Extreme Fire Threat.” None of SMUD’s 236 substations are located within the HFTD. Table 4 shows the breakdown of SMUD’s T&D assets by HFTD tiers.

Table 4. Overview of SMUD’s T&D assets in CPUC tiers

<table>
<thead>
<tr>
<th>Asset</th>
<th>Total</th>
<th>Outside HFTD</th>
<th>Tier 2</th>
<th>Tier 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Circuit-miles</td>
<td>Circuit-miles</td>
<td>%</td>
<td>Circuit-miles</td>
</tr>
<tr>
<td>Total OH transmission</td>
<td>468.1</td>
<td>335.2</td>
<td>72%</td>
<td>82</td>
</tr>
<tr>
<td>69 kV transmission lines</td>
<td>37.8</td>
<td>6.9</td>
<td>18%</td>
<td>30.9</td>
</tr>
<tr>
<td>115 kV transmission lines</td>
<td>47.0</td>
<td>47.0</td>
<td>100%</td>
<td>0</td>
</tr>
<tr>
<td>230 kV transmission lines</td>
<td>382.5</td>
<td>280.5</td>
<td>73%</td>
<td>51.5</td>
</tr>
<tr>
<td>Total OH distribution</td>
<td>3871</td>
<td>3868</td>
<td>100%</td>
<td>1.9</td>
</tr>
<tr>
<td>Total OH circuit-miles</td>
<td>4339</td>
<td>4203</td>
<td>97%</td>
<td>84</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total load serving substations</th>
<th>Total No.</th>
<th>Outside HFTD</th>
<th>Tier 2</th>
<th>Tier 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Circuit-miles</td>
<td>Circuit-miles</td>
<td>%</td>
<td>Circuit-miles</td>
</tr>
<tr>
<td>Total load serving substations</td>
<td>236</td>
<td>236</td>
<td>100%</td>
<td>0</td>
</tr>
</tbody>
</table>

Note: All Tier 2 and Tier 3 facilities are located in the UARP area, outside of SMUD’s electric service territory.
5. SMUD’s asset overview

Figure 6 below shows the UARP area where all of SMUD’s Tier 2 and Tier 3 assets reside.

**Figure 6. CPUC Tier 2 and Tier 3 areas for SMUD’s UARP**

5.1.2 CAL FIRE Fire Resource and Assessment Program (FRAP) California Statewide Fire Map

California law requires CAL FIRE to identify areas in the State based on the severity of the fire hazard that is expected to prevail there.\(^\text{11}\) These areas or “Fire Hazard Severity Zones” are based on factors such as fuel (material that can burn), slope and the expected chance of burning. “CAL FIRE-FRAP has developed a rating of wildland fire threat based on the combination of potential fire behavior (fuel rank) and expected fire frequency (fire rotation) to create a 4-class index for risk assessment. Areas that do not support wildland fuels (e.g., open water, agricultural lands, etc.) are omitted from the calculation. Most large urbanized areas receive a moderate fire threat classification to account for fires carried by ornamental vegetation and flammable structures.”\(^\text{12}\)

This map considers all ignition risks, not just utility related ignitions. A portion of SMUD’s service territory, measured in acreage, is within areas that CAL FIRE assess as exhibiting moderate-to-very-high fire risk; 40.6% is in moderate risk areas and less than 1% in high or very high-risk areas.

Although SMUD takes the CAL FIRE FRAP map Fire Hazard Severity Zones into consideration as part of its wildfire mitigation planning, SMUD’s Wildfire Mitigation Plan references the CPUC Fire Threat Map which focuses on the risk of utility associated wildfires\(^\text{13}\).

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\(^{13}\) www.cpuc.ca.gov/firethreatmaps, July 19, 2019.
6. Wildfire prevention strategy and programs

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 VM programs with accelerated VM trimming cycles and are using enhanced technologies including LiDAR and Hyper-Spectral Imagery (these technologies can help identify diseased trees and trees that are a risk to SMUD lines). It also has robust inspection and maintenance programs that include 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 is exploring potential system improvements such as the use of non-sparking equipment in key areas (e.g., use of CAL FIRE exempt fuses), replacing wood poles with steel in certain cases and the use of covered conductor alternatives. SMUD has protocols for disabling automatic reclosers and for de-energizing lines to protect public safety (some conditions that factor into these protocols include: RFW, forecasted temperatures above 100°F, winds exceeding design standards, low humidity). It also has an Outage Communications Plan that will be enhanced to address potential de-energization events (SMUD will include targeted messaging for affected areas that will set expectations and identify support resources). See the table 5 for activities that address key wildfire risk factors.
6. Wildfire prevention strategy and programs

Table 5. Activities that address wildfire risk factors

<table>
<thead>
<tr>
<th>Activity</th>
<th>Risk Factor</th>
</tr>
</thead>
</table>
| Fuel                      | • Vegetation management  
                           • Fuels reduction  
                           • Piloting use of LiDAR and Hyper-Spectral Imagery                          |
| Equipment/facility failure| • Routine maintenance  
                           • Focused design and construction standards to reduce ignition sources  
                           • Transmission and distribution line detailed inspections and annual patrol  
                           • No reclosing during fire season  
                           • Non-expulsion fuses and arrestors  
                           • 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                                                  |
| Wire to wire contact      | • Weather station and monitoring                                           |
| Other                     | • SMUD worker/contractor education on fire ignition sources from normal work activities  
                           • Fire watch 30 minutes after work completion in high risk areas                  |

6.1 Distribution grid operational practices

6.1.1 Disabling reclosing during fire season

SMUD has adopted 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. See Figure 8 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 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 element 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
- RFW 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 police or local fire officials. These are handled individually, and don’t fall under SB901 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.

6.2.2 Planned de-energization during fire season

SMUD’s Power System Operators (PSO) have the authority to de-energize portions or all of 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.

During active fire season as declared by CAL FIRE the PSO is authorized to de-energize portions or all of 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. 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, relative humidity
- CAL FIRE Incidents Information, http://cdfdata.fire.ca.gov/incidents/incidents_stateevents
- CAL FIRE California Statewide Fire Map, http://www.fire.ca.gov/general/firemaps
- Indji Watch real time operational tool
- Geographic Information System (GIS) based tools
6. Wildfire prevention strategy and programs

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 hydro-electric facilities in the Sierras. 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, vegetation growth 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. Wildfire prevention strategy and programs

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. An annual helicopter patrol is also conducted to specifically inspect for vegetation issues that could threaten SMUD facilities. The VM ROW maintenance program’s approach is to clear the ROW of incompatible species and to maintain low-growing 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 also ensures SMUD facilities meet or exceed state laws and industry standards.

Vegetation ROW inspections are performed annually on all transmission, 69 kV, and 4 kV 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 used by an outside 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.

6.3.2 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 any 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.

DLIs are performed every five years on all overhead distribution equipment and pad-mounted equipment, and every three years on underground equipment.
6. Wildfire prevention strategy and programs

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. Any anomalies found are addressed based on severity of the defect.

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 that have certain CAL FIRE non-exempt equipment on it in the PCA. This program is in compliance with 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.

Visual inspections are performed 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 T&D system in the Valley, as well as the Transmission system in the UARP. These activities are performed year-round in order to remain in compliance with applicable Federal Facilities Design, Connections and Maintenance (FAC) 003-4 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 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 tree crews 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 12 feet of clearance, 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
6. Wildfire prevention strategy and programs

contractors follow American National Standards Institute (ANSI) A300 concepts and utility directional pruning, which supports proper pruning/tree health while achieving and maximizing the pruning cycle.

6.4.2 Transmission system vegetation management
SMUD VM planners perform 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 003-4. 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. Additionally, SMUD completes annual aerial patrols to address the ongoing challenge of tree mortality due to drought and various insect vectors.

SMUD hires contracted tree crews 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 follows the planner’s prescription to achieve the desired 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 (Envirotemp FR3\textsuperscript{14}) in transformers
Envirotemp FR3 fluid is a natural ester 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 FR3 fluid in 2004. All new distribution transformers installed since 2004 and moving forward contain FR3 fluid. This includes replacements for old transformers and new installations.

6.5.2 Non-expulsion equipment in PCA and UARP 4kV
SMUD has identified additional targeted wildfire mitigation measures for the PCA and the UARP 4kV lines. A capital program is in place and scheduled for overall replacement of expulsion type equipment. SMUD may have to replace poles, lines, or equipment as ongoing activities. For this reason, SMUD crews will install non-expulsion equipment (CAL FIRE exempt equipment) if any construction activity occurs in the PCA or on the UARP 4kV lines.

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 new weather stations were installed in 2018 and 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.

6.6 System enhancement capital 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
Projected Start Date: 2020
Expected Completion: 2022

This project will target SMUD’s PCA to reduce the risk of fire ignitions by installing non-expulsion equipment (CAL FIRE exempt equipment\textsuperscript{15}). Existing overhead fuses and fuse holders will be replaced with non-expulsion type fuses. Existing arresters will be replaced with new arresters that have arc protection.

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{14} Additional Information: https://www.cargill.com/bioindustrial/envirotemp/fr3
\item \textsuperscript{15} Additional Information: https://osfm.fire.ca.gov/media/8482/fppguidepdf126.pdf
\end{itemize}
\end{footnotesize}
6. Wildfire prevention strategy and programs

6.6.2 Upgrade UARP 4kV breakers for remote operability
Projected Start Date: 2020
Expected Completion: 2020

This project targets SMUD’s 4kV distribution system in the UARP to reduce the risk of fire ignitions. The 4kV circuit breakers will be upgraded to allow PSO to remotely de-energize the lines during high fire threat conditions. The upgrade will also bring back breaker status to PSO to provide confirmation of breaker open or close status.

6.6.3 Install non-expulsion devices in UARP 4kV system
Projected Start Date: 2019
Expected Completion: 2020

This project targets SMUD’s 4kV distribution system in the UARP to reduce the risk of fire ignitions by installing non-expulsion equipment (CAL FIRE exempt equipment16). 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.

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. Based on the results of the pilots, SMUD may elect to integrate the technologies or practices into its various ongoing maintenance programs. The description of these projects follow.

6.7.1 LiDAR17 ortho, oblique and hyper spectral imagery
Start Date: 2017
Expected Completion: 2022

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 Hyperspectral 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 a “worse-case scenario”. The Hyperspectral and Ortho Imagery is used to pinpoint tree speciation and supports detecting tree health or condition that may not yet be visible to the naked 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, and Urgent Critical Detections (as soon as SMUD VM receives notification, SMUD VM field checks within 1 business day, most within same day data is received), Urgent and Future Potential conflicts are field checked and tree work prescribed as needed within 2-3 week of obtaining the data. Additionally, longer range detection conflicts are prioritized and incorporated into routine annual patrols (Transmission & SRA Distribution). These are reviewed by SMUD VM Planners during annual patrols and tree work prescribed as required.

16 Additional Information: https://osfm.fire.ca.gov/media/8482/fppguidepdf126.pdf
17 Additional Information: https://www.neonscience.org/lidar-basics
6.7.2 Install fire monitoring cameras on towers in UARP transmission corridor

Projected Start Date: 2020
Expected Completion: 2022

Fire monitoring cameras are a new technology tool that could be used to detect fire. An alarm is sent in real-time through a communications network to operators when the camera detects a fire in its field of vision. Operators can then verify and respond accordingly to prevent or reduce fire risks. SMUD’s UARP transmission corridor travels through some remote locations of the Sierra Nevada mountain range where cell networks may not be available. SMUD will pilot the use of these cameras to see how it may help reduce SMUD’s wildfire risk. The pilot project is in the early stages of development and project milestones have not been outlined.

6.7.3 Feasibility study of 4kV lines in UARP

Projected Start Date: 2019
Expected Completion: 2020

SMUD is evaluating the feasibility of various options for reconstruction of the UARP 4kV bare wire overhead lines. This evaluation will include options to re-conductor the lines with covered conductor, to re-conductor the lines with spacer cables, and to underground lines along the roadways as replacement of the overhead lines. This evaluation will be the basis for identifying one or potentially more projects for replacing the existing bare wires. We anticipate selecting an approach and initiating a construction project in 2020.

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.
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 OES 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 (see figure 7). 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 our emergency response agencies on a peer-to-peer relationship as SMUD’s version of OES. As part of our response to a storm, fire, rotating outage, black start events, etc., we collaborate with the local OES and provide an agency representative (liaison) to the county (and/or city) Emergency Operations Centers (EOC) to ensure good communication and coordination. Our two primary coordination points 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 County OES (service territory and UARP), Solano (wind farm) and Yuba (Camp Far West) counties.

For typical winter storms and emergency events, SMUD Emergency Preparedness staff contact the local OES and establish themselves as the duty officer for coordination. They also invite them to send agency representatives into SMUD’s EOC. These representatives can include: City of Sacramento Assistant Fire Chief, Sac Metro Fire Battalion Chief, Folsom Fire Battalion Chief, local cities, Sacramento County Office of Emergency Services, the National Weather Service and other local critical infrastructure agencies, ensuring coordination for our service territory.

SMUD has employees who serve as utility representatives when needed at the State Operations Center for the California Utilities Emergency Association (CUEA), which provides a direct link for critical infrastructure coordination to the California State Operations Center.
Figure 7. 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. Shutting off power 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, one mitigation measure could result in an interruption of electrical service. SMUD proactively communicates to customers and key stakeholders through multiple channels about preparing for potential curtailments, 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’s Contact Center, Strategic Account Advisors, Media Services, social media and smud.org will provide ongoing and available resources for communication and education for the overall customer base. Additionally, SMUD launched a webpage, smud.org/WildfireSafety, that provides information about SMUD’s effort on wildfire planning and prevention, how to identify fire risk in areas where SMUD maintains electric facilities, emergency planning and preparation 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 fire season, SMUD will conduct ongoing education communication about how to prepare for emergencies in the event of a wildfire, natural disaster or major outage.

SMUD’s Public Information Specialists will provide ongoing mass media communication via traditional news media channels and via Facebook and Twitter to provide customers and the community with information about an emergency or potential emergency. SMUD will use established standard outbound communications channels for unplanned outages.

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

Customers will be directed to the smud.org/WildfireSafety webpage for information where they’ll be able to find:

- Wildfire Policy and Procedure brochure
- Information on how SMUD mitigates fire risk
- Emergency preparedness tips guide
- Links to additional resources
- Rotating outage map and periodic event updates
- Frequently Asked Questions on the shutoff process

In the time leading up to a potential or imminent safety shutoff, SMUD does its best to establish or maintain contact with customers it believes may be impacted (via the various channels mentioned above) 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, federal, state and local elected officials, City and County executive staff and first responders are also contacted via a variety of channels and personnel. SMUD has specific personnel assigned to elected officials and agencies, and to critical customers including water and telecommunications utilities, potentially affected by a shutoff.
7. Response guidelines

7.2.1 Event communications

SMUD’s goal is to provide as much advance notice as possible of a public safety power shutoff. SMUD will communicate with customers and key stakeholders in advance of an event, whenever possible. SMUD will make every effort to communicate directly and indirectly to all impacted customers but timelines may vary depending on severity and urgency of the circumstances.

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 conditions could impact its 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 direct them to smud.org/outages for up-to-date information. Smud.org has been updated with features to further enhance customer communications before and during de-energization events.

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

Among SMUD’s vulnerable customers are those enrolled in the Medical Equipment Discount Rate program (MED rate). These customers rely on specialized medical equipment which are certified by a qualified health professional. A qualified health professional certifies the equipment in use at the home is essential to keep these customers healthy. Currently, SMUD has approximately 9,200 customers who rely on specialized medical equipment and who are enrolled in the MED rate 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 smud.org/WildfireSafety for more information.
7. Response guidelines

7.2.2 Government agencies and essential service 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 and critical customers like governments, agencies, utilities, healthcare and communications accounts to 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 and functional agencies 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 staff of local governments and agencies, local elected officials, its state delegation, its federal representatives and key critical facilities 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, functional agencies, public utilities, nonprofits and other service providers on collaborative strategies and partnership opportunities.

Examples of SMUD’s communication and engagement with elected officials, government agencies and commercial customers 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 additional 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 demonstrate compliance with this WMP.

9.1 Accountability of the plan

SMUD’s Chief Grid Strategy and Operations Officer has overall responsibility for the WMP. The Chief Energy Delivery Officer and Chief Customer Officers are responsible for executing the various components of the WMP.

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

Table 6 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.
9. Performance metrics and monitoring

Table 6. Accountability for the WMP components.

<table>
<thead>
<tr>
<th>Mitigation Activities</th>
<th>Responsible Department and Workgroup</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk analysis</td>
<td>Director, Treasury &amp; Risk Management</td>
</tr>
<tr>
<td>Fire threat assessment in service territory</td>
<td>Director, Distribution Operations &amp; Maintenance</td>
</tr>
<tr>
<td><strong>Wildfire prevention strategy and programs</strong></td>
<td></td>
</tr>
<tr>
<td>• Disable reclosers</td>
<td>Director, Grid Operations (Transmission); Director, Distribution Operations &amp; Maintenance</td>
</tr>
<tr>
<td>• Planned de-energizations</td>
<td></td>
</tr>
<tr>
<td>• T&amp;D line patrols</td>
<td>Director, Line Assets</td>
</tr>
<tr>
<td>• Aerial patrols</td>
<td></td>
</tr>
<tr>
<td>• 69kV &amp; Transmission line IR inspections</td>
<td></td>
</tr>
<tr>
<td>• Wood pole intrusive inspection</td>
<td></td>
</tr>
<tr>
<td>• Splice assessment</td>
<td></td>
</tr>
<tr>
<td>• Detailed line inspections</td>
<td></td>
</tr>
<tr>
<td>• Substation visual inspections</td>
<td>Director, Substation Assets</td>
</tr>
<tr>
<td>• Vegetation management</td>
<td>Director, Line Assets</td>
</tr>
<tr>
<td>• Pole clearing program</td>
<td></td>
</tr>
<tr>
<td><strong>Fire mitigation construction</strong></td>
<td></td>
</tr>
<tr>
<td>• FR3 fluid</td>
<td>Director, Distribution Operations &amp; Maintenance</td>
</tr>
<tr>
<td>• Non-expulsion equipment</td>
<td></td>
</tr>
<tr>
<td>• Weather stations</td>
<td>Director, Grid Operations (Transmission); Director, Distribution Operations &amp; Maintenance</td>
</tr>
<tr>
<td><strong>System enhancement capital projects</strong></td>
<td></td>
</tr>
<tr>
<td>• Install non-expulsion equipment in Pole Clearing Area</td>
<td>Director, Distribution Operations &amp; Maintenance; Director, Line Assets</td>
</tr>
<tr>
<td>• Feasibility study of 4kV lines in Upper American River Project area</td>
<td>Director, Line Assets</td>
</tr>
<tr>
<td><strong>Pilot projects</strong></td>
<td></td>
</tr>
<tr>
<td>• Light Detection and Ranging and Hyper-Spectral Imagery</td>
<td>Director, Line Assets</td>
</tr>
<tr>
<td>• Fire monitoring cameras</td>
<td>Director, Grid Operations (Transmission); Director, Distribution Operations &amp; Maintenance</td>
</tr>
<tr>
<td><strong>Emergency preparedness</strong></td>
<td></td>
</tr>
<tr>
<td>• SMUD Emergency Operations Centers</td>
<td>Director, Facilities &amp; Security Operations</td>
</tr>
<tr>
<td>• Public and agency communications for wildfires</td>
<td>Director, Customer Care; Director, Retail Product Delivery &amp; Sales; Director, Marketing &amp; Corporate Communications</td>
</tr>
</tbody>
</table>
9. Performance metrics and monitoring

9.2 Metrics

This section provides the metrics used to measure the performance of the WMP and outlined programs.

9.2.1 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 wildfires (see table 7). As industry risk metric standards continue to develop, SMUD will identify additional metrics to measure the reduction of wildfire risk in future plans.

SMUD is implementing a new system to track ignition events. The new system is modifying current processes to capture more detailed information related to wildfire risks. It is expected to be online by the end of 2019.

In the initial years, SMUD anticipates that there will be relatively limited data gathered through these metrics. However, as the data collection history becomes more robust, SMUD will be able to identify areas of its operations that are disproportionately impacted. SMUD will then evaluate potential improvements in future updates to this WMP.

Table 7. Metrics

<table>
<thead>
<tr>
<th>Specific metric</th>
<th>Indicator</th>
<th>Measure of effectiveness</th>
<th>Bounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire down events caused by SMUD equipment failure</td>
<td>Count of events</td>
<td>No material increase</td>
<td>Fire season (May 1 thru October 31)</td>
</tr>
<tr>
<td>Ignition events</td>
<td>Count of events</td>
<td>No material increase</td>
<td></td>
</tr>
</tbody>
</table>
## 9. Performance metrics and monitoring

Table 8. Programmatic targets

<table>
<thead>
<tr>
<th>Program</th>
<th>Target</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution Line Inspections</td>
<td>≥95%</td>
<td>Perform all detailed line inspections within the compliance period set in General Order (GO) 95/165 by the end of the year. The inspections must be completed within the specified time intervals set for each inspection type. See section 6.4.1 for a detailed description of the program.</td>
</tr>
<tr>
<td>Distribution Wood Pole Intrusive Tests</td>
<td>≥95%</td>
<td>Perform all wood pole intrusive tests scheduled for the year. SMUD's goal is to perform wood pole tests within 10 years of installation, and 10 years thereafter. SMUD is on its fourth year of a re-baseline program to get all poles on the 10-year schedule. See section 6.3.2 for a detailed description of the program.</td>
</tr>
<tr>
<td>Distribution Annual Line Patrol</td>
<td>≥95%</td>
<td>Perform all annual distribution line patrols within the compliance period set in GO 95/165. See section 6.4.2 for a detailed description of the program.</td>
</tr>
<tr>
<td>Annual Pole Clearing Program</td>
<td>≥95%</td>
<td>Complete all vegetation clearing activities within the Pole Clearing Area (PCA) prior to the beginning of fire season of each year. See section 6.3.2.5 for a detailed description of the program.</td>
</tr>
<tr>
<td>Transmission Structure Patrols</td>
<td>≥95%</td>
<td>There are three inspection regions for transmission structure patrols. The UARP region is patrolled every year, and the Valley regions are patrolled every other year. The goal is to perform all scheduled patrols prior to the end of the year. See section 6.3.1.2 for a detailed description of the program.</td>
</tr>
<tr>
<td>Transmission Aerial Patrols (Helicopter)</td>
<td>≥95%</td>
<td>Aerial patrols are performed twice a year in the UARP, and once a year in the Valley (in permissible areas). The goal is to perform all scheduled patrols prior to the end of the year. See section 6.3.1.1 for a detailed description of the program.</td>
</tr>
<tr>
<td>Transmission IR Patrols (Helicopter)</td>
<td>≥95%</td>
<td>IR patrols are performed once a year in the UARP, and every other year in the Valley (in permissible areas). The goal is to perform all scheduled patrols prior to the end of the year. See section 6.3.1.3 for a detailed description of the program.</td>
</tr>
<tr>
<td>69 kV IR Helicopter Patrols</td>
<td>≥95%</td>
<td>IR patrols on the 69 kV in the Valley are performed every other year (in permissible areas). The goal is to perform all scheduled patrols prior to the end of the year. See section 6.4.3 for a detailed description of the program.</td>
</tr>
<tr>
<td>Pole Clearing Area</td>
<td>≥95%</td>
<td>SMUD will continue to annually manage the PCA to ensure compliance with PRC 4292 to prevent ignition and propagation of fire caused by SMUD electric overhead assets.</td>
</tr>
<tr>
<td>Distribution Vegetation Pruning/Clearing</td>
<td>≥95%</td>
<td>SMUD will continue to annually patrol and complete respective tree work to insure compliance with PRC 4293 to prevent ignition and propagation of fire caused by SMUD electric overhead assets.</td>
</tr>
<tr>
<td>Transmission Vegetation Pruning/Clearing</td>
<td>≥95%</td>
<td>SMUD will continue to annually patrol and complete respective tree work to insure compliance with PRC 4293 and NERC FAC-003-4 to prevent ignition and propagation of fire caused by SMUD electric overhead assets.</td>
</tr>
</tbody>
</table>
9. Performance metrics and monitoring

9.3.2 System enhancement capital project targets

Once a capital project is approved, it is planned for execution based on the upcoming year’s work schedule. The targets in table 9, for the approved project are monitored via milestone achievements.

Table 9. System enhancement capital project targets

<table>
<thead>
<tr>
<th>Program</th>
<th>Target</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Install non-expulsion devices in PCA</td>
<td>25% - 35% per year</td>
<td>This is a three-year project. Work performed for this project will be coordinated with other line work in the area for increased efficiency. The goal is 100% completion over the three-year period.</td>
</tr>
</tbody>
</table>

9.4 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.

9.4.1 Accountability

SMUD’s Chief Grid Strategy and Operations and Chief Energy Delivery Officers (collectively referred to as Chiefs) will be responsible for monitoring and auditing the targets specified in the WMP to confirm that the objectives of the WMP are met.

9.4.2 Identify deficiencies in the WMP

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

9.4.3 Written processes and procedures

The operational areas conduct their work according to written processes and procedures. Having written processes and procedures provides for consistency in the execution of programs and activities.

9.4.4 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.

9.4.4.1 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.

**9.4.4.2 Vegetation management (VM)**

SMUD’s vegetation clearing/pruning 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 work performed by the contractor. For both T&D QA efforts all deficiencies are reissued to the contractor management team and corrective action is required.

**9.4.5 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.
10. Independent evaluation, public comment and board presentation

SMUD conducted extensive stakeholder outreach during its preparation of the WMP. SMUD personnel met with local fire agencies and safe councils, OES 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. A draft of the WMP was posted on SMUD’s website, SMUD.org/WildfireSafety and made available for public comment for more than thirty days. Notice of the public review draft was provided to the above stakeholders and published in local newspapers, including the Sacramento Bee, on social media, and through electronic newsletter. Interested parties were also invited to comment on the plan at the time it was presented to SMUD’s Board of Directors in a noticed public meeting.

10.1 Public comment

A draft copy of the WMP was made available to the public for comment from May 3, 2019 through June 21, 2019. A summary of comments received can be found in Table 9. SMUD Board and Board Committee meetings are open and accessible to the public. Meeting notices and agendas are posted, at a minimum, 72 hours in advance at the SMUD office and on SMUD’s website. Those who are unable to attend the meeting in-person can 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.

10.2 Board presentation

The WMP will be posted on SMUD’s website and be presented to the Board at a noticed public meeting in Fall 2019.

10.3 Independent evaluation

SMUD issued a public request for information, consistent with SMUD’s current procurement practice, to identify the best qualified independent evaluator to assess the comprehensiveness of SMUD’s WMP. SMUD contracted with a qualified independent evaluator with experience in assessing the safe operation of electrical infrastructure. The independent evaluator’s report will be posted to SMUD’s website and presented to SMUD’s Board of Directors at a noticed public meeting.

10.4 California Wildfire Safety Advisory Board

On or before July 1, 2020, SMUD will submit the WMP to the California Wildfire Safety Advisory Board (CWSAB). The CWSAB will review and provide comments and advisory opinions regarding the content and sufficiency of the WMP. SMUD will consider comments and opinions received by the CWSAB in future plans.
11. Appendix

This section contains supporting information to the document.

11.1 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: “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: “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): 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.

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19 Source: http://www.cpuc.ca.gov/FireThreatMaps/
Red Flag Warning (RFW)\(^{20}\): 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-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 69 kV lines tied to generation facilities. The distribution system includes 69 kV lines not tied to generation facilities and 21 kV, 12 kV, and 4 kV lines.

Wildfire\(^{21}\): 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.

11.2 References

- Public Utilities Code, Chapter 6. Wildfire Mitigation [8387], http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=8387&lawCode=PUC
- General Order 95\(^{22}\) 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 165\(^{22}\), Inspection Requirements for Electric Distribution and Transmission Facilities. http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M209/K552/209552704.pdf
- General Order 166\(^{22}\), Standards for Operation, Reliability and Safety During Emergencies and Disasters http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M209/K451/209451792.pdf
- General Order 174\(^{22}\), Rules for Electric Utility Substations http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M031/K879/31879476.PDF

\(^{20}\) Source: https://w1.weather.gov/glossary/index.php?word=Red%20Flag%20Warning

\(^{21}\) Source: https://www.nwcg.gov/glossary/a-z#Wildfire, July 19, 2019.

\(^{22}\) SMUD is not subject to CPUC jurisdiction, but has developed design standards, and maintenance programs that meet or exceed the regulations in GO 95, GO 128, GO 165, GO 166, and GO 174.
11.3 Acronym glossary

ANSI (American National Standards Institute)  
AQS (Audit and Quality Services)  
CAISO (California Independent System Operation)  
CAL FIRE (California Department of Forestry and Fire Protection)  
CPUC (California Public Utilities Commission)  
CUEA (California Utilities Emergency Association)  
DLI (Detailed Line Inspections)  
DSO (Distribution System Operations)  
EAM (Enterprise Asset Management)  
ERM (Enterprise Risk Management)  
EROC (Enterprise Risk Oversight Committee)  
FAC (Facilities Design, Connections and Maintenance)  
FRAP (Fire Resource and Assessment Program)  
GHG (Greenhouse gas)  
GIS (Geographic Information System)  
GO (General Order)  
HFTD (High Fire Threat Districts)  
IR (Infrared)  
IVM (Integrated Vegetation Management)  
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)  
O&M (Operations & Maintenance)  
EOC (Emergency Operations Centers)  
OES (Office of Emergency Services')  
PCA (Pole Clearing Area)  
PG&E (Pacific Gas & Electric)  
PSO (Power System Operations)  
PUC (Public Utilities Code)  
QA (Quality Assurance)  
QC (Quality Control)  
RFW (Red Flag Warning)  
ROW (rights-of-way)  
SB (Senate Bill)  
SD (Strategic Direction)  
SEMS (Standardized Emergency Management System)  
SME (Subject Matter Expert)  
SRA (State Responsibility Area)  
T&D (Transmission and Distribution)  
TTX (Table Top Exercise)  
UARP (Upper American River Project)  
VM (Vegetation Management)  
WAPA (Western Area Power Administration)  
WMP (Wildfire Mitigation Plan)  
WUI (Wildland-Urban Interface)
11.4  Reference for SMUD plans

11.4.1  SMUD’s Pole Clearing Area Map

*Figure 8.* SMUD’s Pole Clearing Area with respect to Sacramento County boundary
Wildfire Mitigation Plan Independent Evaluation

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DISCLAIMER

This report was prepared by Navigant Consulting, Inc. (Navigant) for the Sacramento Municipal Utility District. The work presented in this report represents Navigant’s professional judgment based on the information available at the time this report was prepared. Navigant is not responsible for the reader’s use of, or reliance upon, the report, nor any decisions based on the report. NAVIGANT MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESSED OR IMPLIED. Readers of the report are advised that they assume all liabilities incurred by them, or third parties, as a result of their reliance on the report, or the data, information, findings and opinions contained in the report.
EXECUTIVE SUMMARY

The Sacramento Municipal Utility District (SMUD) contracted with Navigant Consulting, Inc. (Navigant) to engage in an independent evaluation of its Wildfire Mitigation Plan (Plan or WMP). This independent evaluation report (Report) describes the technical review and evaluation provided by Navigant. Navigant performed this evaluation in August 2019 and completed the Report on September 3, 2019. Navigant’s project team reviewed detailed information related to the Plan, conducted a field visit that included SMUD’s overhead electric facilities within Tier 2 and Tier 3 of the High Fire Threat District (HFTD), and assessed SMUD’s procedures related to the Plan.

The Plan was prepared as a response to Senate Bill (SB) 901, which was signed into law on September 21, 2018. SB 901 resulted in a number of provisions and directives, among which includes the requirement for electric utilities to prepare and adopt Plans within 2019 and revise and update the Plan annually thereafter. Additional statutory requirements are listed in Public Utilities Code (PUC) Sections 8386 and 8387 each addressing investor-owned and publicly-owned utilities (POUs), respectively.

Navigant evaluated the Plan based on the statutory requirements of PUC Section 8387 as it relates to POUs. This PUC Section was amended on July 12, 2019 as a result of California’s Assembly Bill (AB) 1054 being signed into law. The POUs are now subject to the guidance provided by the California Wildfire Safety Advisory Board\(^1\) and mandatory cyclical reviews. The required elements for a WMP have not been modified by this new legislation. This Report meets SMUD’s requirements under PUC Section 8387(c), which mandate an independent evaluation of SMUD’s Plan. The Report was developed to satisfy the statutory requirement for public review. This Report underlies the required evaluation by the Board of Directors at a public meeting, scheduled for October 17, 2019. The Report includes the following:

- Background of the legislative history requiring WMPs and their independent evaluations
- Approach and methodology evaluating the Plan’s comprehensiveness
- SMUD’s Plan elements and levelized comparisons to identified industry practices
- An evaluation of the Plan’s presented metrics to assess the effectiveness of the overall Plan
- Compliance with SB 901 WMP elements and directives
- Determinations and results

Based on relevant experience in grid hardening and resiliency, natural disaster response, prior experience in WMP development, and active tracking of wildfire legislative and regulatory proceedings Navigant has concluded that SMUD’s WMP is comprehensive.

\(^1\) Due for implementation in 2020.
1. BACKGROUND

In recent years, the state of California has seen an increase of utility equipment-involved, catastrophic wildfires resulting in a collaborative push to ensure safe operations of electric utility equipment and deepened investments in wildfire mitigation efforts. This concern, however, is not only on the shoulders of the electric utilities. The state has also demonstrated ongoing activities including conducting thought leadership workshops resulting in legislation that supports customer catastrophe recovery and strengthens governmental and regulatory oversight of prevention implementation activities, utility Wildfire Mitigation Plans (WMPs or Plans), and proper dispersal of state funds to wildfire victims.

The unique geographic profile of California, impacts of climate change, including continued dry conditions, high winds, and elevated heat index risk from global rising temperatures have led to elongated fire seasons. Emerging from a seven-year drought, the state is now experiencing increased levels of vegetation fuel due to subsequent wet winters and hotter summers. This increasingly abundant dry vegetation is the leading driver of wildfire. The levels of dry vegetation fuel have been supplemented by a destructive bark beetle infestation that continues to impact the health of the state’s forested areas, further increasing fire risk. These fuel-rich environments, intensified climatological conditions with high wind gusts, and natural electrical infrastructure risks together produce the conditions conducive to potential wildfire ignition. The three attributes that provide optimal conditions for a fire ignition are illustrated through the graphic in Figure 1.

![Figure 1: Fire Triangle](https://example.com/fire_triangle.png)

Disastrous wildfire threat is a well-known and shared priority among electric utilities. California has historically experienced fire incidents due to a variety of factors with a recent spike in utility-involved incidents since the 2015 wildfire season.\(^2\) The resulting cost of a spark igniting a fire due to electrical equipment has demonstrated grave financial and livelihood impacts. In an effort to minimize future devastating occurrences through risk-driven wildfire prevention, electric utilities, including cooperatives, were mandated, by Senate Bill (SB) 901 (Senator Bill Dodd, 2018), to prepare and annually adopt a WMP before January 1, 2020. This effort is foundational to the state’s prioritized goals in minimizing the potential of devastating fires in future years.

1.1 SB 901 – Wildfire Mitigation Plans

On September 21, 2018, Governor Jerry Brown signed SB 901 into law. The bill directed electrical utilities to annually prepare WMPs that include several mitigation and response elements in each utility’s

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strategies, protocols, and programs. Each electric utility is to prepare and adopt a comprehensive WMP before January 1, 2020. The utility requirements are presented in Public Utilities Code (PUC) Sections 8386 and 8387, addressing investor-owned utilities (IOUs) and publicly-owned utilities (POUs), respectively. Details relating to POU requirements are discussed in Section 2 of this evaluation report (Report).

1.1.1 AB 1054 Statutory Modifications

On July 12, 2019, Governor Gavin Newsom signed Assembly Bill (AB) 1054 into law. This bill was developed with the consideration of the Governor’s Strike Force effort to develop prioritized strategies to help the state achieve its decarbonization goals. AB 1054 aims to mitigate the intensity of wildfire impacts through several initiatives that are separate from those actions required of electric utilities. SB 901 directed the Office of Planning and Research to establish a Commission on Catastrophic Wildfire Cost Recovery (SB 901 Commission) with the goal of addressing utility wildfire liability, cost responsibility and victim support, and issues with insurance availability and affordability. On June 18, 2019, the SB 901 Commission presented to the state Legislature, findings and recommendations on the discovery items discussed at public workshops over the course of several months. This, in part with Governor Newsom’s Wildfire Reform Package, resulted in legislation that culminated in the provisions listed in AB 1054.

AB 1054 included directives to establish the Wildfire Safety Division at the California Public Utilities Commission (CPUC) and the state’s Wildfire Safety Advisory Board. POUs will provide future WMPs by July 1st of each year starting in 2020 for review by and recommendations from the Wildfire Safety Advisory Board. No less than every three years, POUs are required to comprehensively update their WMPs. This change is included in this evaluation as a reference for future requirements.

1.2 Sacramento Municipal Utility District Plan Preparation

SMUD is a community-owned municipal utility district serving electricity to over 600,000 customers within Sacramento County. SMUD maintains approximately 3,900 miles of overhead (OH) distribution and 470 miles of transmission circuits within its 900-square-mile service territory and within the Upper American River Project (UARP). As a POU, SMUD provides not-for-profit electric service that aims to enhance customers’ and the community’s quality of life through innovative energy solutions. SMUD actions and decisions are governed by an elected Board of Directors (Board), each of whom represent one of seven Wards, a geographic area within the territory.

SMUD has prepared its first WMP pursuant to SB 901 directives. The Plan aims to address each of the required elements presented by PUC Section 8387, which is applicable only to POUs and electric cooperatives, and ultimately reduces risk exposure to utility-involved wildfire events through Plan execution and metric tracking. SMUD posted its draft Plan in May of 2019 for public review. Comments received have been addressed in the final version of SMUD’s WMP. SMUD reserves the ability to modify the Plan until the Board meeting presentation planned for October 2019.

1.2.1 Independent Evaluation Services

PUC Section 8387(c) directs POUs to procure services for an independent evaluation (IE) of the comprehensiveness of the WMP. In January 2020, upon commencement of the California Wildfire Safety Advisory Board, guidelines and further details related to the scope and timelines of future IEs will be discussed and reviewed. The legislation in its present³ form mandates that POUs procure IE services from entities experienced in assessing the safe operations of electrical equipment.

³ The CPUC has just begun its investigation to develop a list of recognized independent evaluators by March of 2021.
SMUD sought out IE services to assess the comprehensiveness of its WMP pursuant to PUC Section 8387(c) prior to presenting the final WMP to the Board. This Report presents the results of Navigant’s WMP IE. The following section describes the methodology in executing this evaluation.

### 1.3 Independent Evaluation Qualifications

The provisions of PUC Section 8387 state that the independent evaluator shall be experienced in “assessing the safe operation of electrical infrastructure” and will perform an assessment to determine the comprehensiveness of the Plan. Emergent practices will materialize as evolving legislative action continues to shape wildfire mitigation and safety efforts. Understanding this, Navigant performed a comparison of the wildfire mitigation investments exemplified by other utilities throughout California as well as relied on the team’s experience in working directly with utilities to develop their WMPs and data collection practices along with prior experience related to grid hardening and electric safety assessments.

SMUD has moved to contract with a qualified independent evaluator within 2019. While the IOUs are not yet subject to this requirement until a later date, several POUs and joint action agencies have opted into contracting for this service prior to the approval and implementation of their first WMP iteration. SMUD contracted Navigant Consulting, Inc. (Navigant) in July of 2019 to undertake an assessment of its Plan based on Navigant’s prior experience with grid-hardening and WMPs, with an emphasis on electrical equipment, public, and personnel safety.

**Navigant Identification of Qualifications**

Navigant has provided IE services throughout the United States. Navigant’s grid-related IE projects include storm hardening, wildfire mitigation, resiliency assessments, advanced technology suitability, among others. Our approach includes an evaluation of data considered, suitability of tracking metrics – both frequency and trends analysis - and an evaluation of key performance indicators. Navigant assessed the efficacy of tools for creating sufficient awareness and for effectiveness of understanding overall WMP’s intended and actual impacts. Navigant also leveraged experience developing “Metrics and Benefits Reporting Plans” to gauge cost-effectiveness of activities and alignment of plans to intentions. Navigant deeply understands SMUD’s community-owned business practices relative to IOUs, though experience from developing WMPs for two IOUs and continued tracking of related CPUC dockets intended to refine strategies that carry an effective Plan.

Navigant has continued to track proceedings and pending legislation surrounding utility wildfire risk. Our team remains active with WMP engagements across all jurisdictions. As part of maintaining high acumen of prudent mitigation strategies, Navigant participates in forums focused on innovative wildfire mitigation strategies—further expanding our industry knowledge. Navigant provides thought leadership and advisory services related to WMP and other resiliency innovative technologies to the California Energy Commission and has supported their system hardening and fire prevention efforts since 2008. Additionally, Navigant’s reach into grid resiliency and disaster-related hardening extends across the United States including island grids, such as Puerto Rico, recovering from recent, weather-related catastrophes.

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4 It is recognized that this requirement does not yet include a clear definition of comprehensiveness.

5 Navigant provided technical services to Liberty Utilities (CalPeco Electric) and Bear Valley Electric Service (BVES) immediately prior to and within the 2019 calendar year. The services resulted in support of the development and filing of their respective WMPs to the CPUC on February 6, 2019. Navigant continued to support BVES in development of their Data Collection for WMP report, filed on July 30, 2019. Additionally, one member of the core team supported some aspects of the WMP development for the Transmission Agency of Northern California but has modified this role for removed engagement and established an ethical wall to allow a transparent, prudent evaluation process for SMUD.
2. EVALUATION SCOPE & APPROACH

At the time of this IE, the guidelines and requirements were not available to POUs regarding the structure or determination of comprehensiveness pursuant to PUC Section 8387(c). Navigant undertook this assessment based on industry standard practices, demonstrated global fire mitigation practices, and a levelized gap analysis of those strategies compared to the specific risk drivers and potential exposure to SMUD. This is the first iteration of the Plan. With anticipated updates and future revisions, Navigant primarily addressed the required mitigation areas and procedural approach in implementing the Plan.

2.1 Evaluation Parameters

In accordance with the statutory requirement, this evaluation reached a favorable determination of the comprehensiveness of SMUD’s WMP. Parameters and evaluation areas have not been established by the state or the CPUC for POUs and IOUs, respectively. In lieu of this formalized directive, Navigant’s assessment was formed from relevant experience in grid hardening and reliability, natural disaster response, prior experience in WMP development, and active tracking of wildfire legislative and regulatory proceedings. Figure 2 represents the attributes comprising the methodology and approach of the evaluation.

![Figure 2: Contributing Factors to Evaluate the Plan](image)

2.1.1 Provisional Requirements

The requirement for electric utilities and corporations to develop WMPs emerged from the directives of SB 901 and associated statutory modifications. With respect to POUs, the nested subsections under PUC Section 8387(b)(2) outline the required elements to be included in the Plan. See Table 1 for the complete statutory compliance list.
### Wildfire Mitigation Plan Independent Evaluation

#### Table 1: POU Requirements for the WMP

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Each local publicly owned electric utility and electrical cooperative</td>
<td>shall construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of wildfire posed by those electrical lines and equipment.</td>
</tr>
<tr>
<td>(b) (1) The local publicly owned electric utility or electrical cooperative</td>
<td>shall, before January 1, 2020, prepare a wildfire mitigation plan. After January 1, 2020, a local publicly owned electric utility or electrical cooperative shall prepare a wildfire mitigation plan annually and shall submit the plan to the California Wildfire Safety Advisory Board on or before July 1 of that calendar year. Each local publicly owned electric utility and electrical cooperative shall update its plan annually and submit the update to the California Wildfire Safety Advisory Board by July 1 of each year. At least once every three years, the submission shall be a comprehensive revision of the plan.</td>
</tr>
<tr>
<td>(2) The wildfire mitigation plan shall consider as necessary, at minimum,</td>
<td>all of the following:</td>
</tr>
<tr>
<td>(A) An accounting of the responsibilities of persons responsible for</td>
<td>executing the plan.</td>
</tr>
<tr>
<td>(B) The objectives of the wildfire mitigation plan.</td>
<td></td>
</tr>
<tr>
<td>(C) A description of the preventive strategies and programs to be adopted</td>
<td>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.</td>
</tr>
<tr>
<td>(D) A description of the metrics the local publicly owned electric utility</td>
<td>or electrical cooperative plans to use to evaluate the wildfire mitigation plan’s performance and the assumptions that underlie the use of those metrics.</td>
</tr>
<tr>
<td>(E) A discussion of how the application of previously identified metrics to</td>
<td>previous wildfire mitigation plan performances has informed the wildfire mitigation plan.</td>
</tr>
<tr>
<td>(F) Protocols for disabling reclosers and deenergizing portions of the</td>
<td>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.</td>
</tr>
<tr>
<td>(G) Appropriate and feasible procedures for notifying a customer who may be</td>
<td>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.</td>
</tr>
<tr>
<td>(H) Plans for vegetation management.</td>
<td></td>
</tr>
<tr>
<td>(I) Plans for inspections of the local publicly owned electric utility’s</td>
<td>or electrical cooperative’s electrical infrastructure.</td>
</tr>
<tr>
<td>(J) A list that identifies, describes, and prioritizes all wildfire risks,</td>
<td>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:</td>
</tr>
<tr>
<td>(i) Risks and risk drivers associated with design, construction, operation,</td>
<td>and maintenance of the local publicly owned electric utility’s or electrical cooperative’s equipment and facilities.</td>
</tr>
<tr>
<td>(ii) Particular risks and risk drivers associated with topographic and</td>
<td>climatological risk factors throughout the different parts of the local publicly owned electric utility’s or electrical cooperative’s service territory.</td>
</tr>
<tr>
<td>(K) Identification of any geographic area in the local publicly owned</td>
<td>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.</td>
</tr>
<tr>
<td>(L) A methodology for identifying and presenting enterprise wide safety risk</td>
<td>and wildfire-related risk.</td>
</tr>
<tr>
<td>(M) A statement of how the local publicly owned electric utility or</td>
<td>electrical cooperative will restore service after a wildfire.</td>
</tr>
</tbody>
</table>
A description of the processes and procedures the local publicly owned electric utility or electrical cooperative shall use to do all of the following:

(i) Monitor and audit the implementation of the wildfire mitigation plan.

(ii) Identify any deficiencies in the wildfire mitigation plan or its implementation, and correct those deficiencies.

(iii) 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.

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 website 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.

2.1.2 Industry Knowledge and Regulatory Proceedings

The state’s priority towards abating future catastrophic wildfire events has been demonstrated through aggressive measures, directing utilities to enhance their protocols for fire prevention and response. That collection of information is presented in a comprehensive WMP. While POUs are directed to develop this Plan prior to January 1, 2020, Navigant recognizes that California utilities subject to CPUC jurisdiction have filed their respective Plans on February 6, 2019. Navigant has tracked docketed proceedings and maintains a presence in state activities and workshops surrounding wildfire prevention. Understanding that SMUD is not subject to CPUC regulations, the insight gained from this related experience is leveraged in assessing SMUD’s Plan relative to its risk profile and industry position.

2.2 Evaluation Approach

To perform an assessment of the comprehensiveness of the Plan, Navigant used the following described approach.

2.2.1 Statutory Compliance

Navigant sought to determine compliance with the provisional requirements laid out in PUC Section 8387 as modified by SB 901. The Plan’s alignment with the statutory requirement is presented in Appendix A. The evaluation of the Plan’s elements associated with the IOU’s common framework facilitated the assessment of the Plan’s comprehensiveness. SMUD’s mitigation measures are not required to exceed the statutory requirements. The IE process revealed an understanding of SMUD’s WMP relative to other utilities and as compared to industry standards and practices.

2.2.2 Industry Wildfire Mitigation Practices Comparison

Accepted practices for wildfire mitigation have been discussed and presented at thought leadership events, such as the Wildfire Technology Innovation Summit, held on March 20-21, 2019. Additionally, Plans approved by the CPUC have garnered significant insight from the industry at large. Navigant’s understanding of an effective Plan draws on comparisons from existing WMPs and industry practices and is summarized according to business practice categories described in Figure 3.
Expertise in these critical elements facilitated Navigant's review of the comprehensiveness of SMUD’s WMP. While not all of these strategies are present in or applicable to SMUD’s Plan, Navigant’s understanding of collected utility strategies demonstrated throughout the state are summarized below:

- **Inspection and maintenance of distribution transmission and substation assets** including conducting system patrols and ground inspections, using technological inspection tools, managing predictive and electrical preventative maintenance, and conducting vegetation inspections and management, vulnerability detection such as Light Detection and Ranging (LiDAR) inspection; and geospatial and topography identification, geographic information system (GIS) mapping data. A key component is identifying collected data elements through each program and understand how that data is used and shared to improve utility practices.

- **Vegetation management** that includes routine preventative vegetation maintenance; corrective vegetation management and off-cycle tree work; emergency vegetation clearance, prioritized for portions of the service territory the lie in high hazard zones, quality control processes; and resource protection plan, including animal and avian mitigation programs.

- **System hardening** that includes pole replacement, non-expulsion equipment, advanced fuses, tree attachment removal, less flammable transformer oil, covered wire and wire wrap, and undergrounding where cost beneficial.

- **Operational practices** including communications and mustering plans under varying degrees of wildfire risk. Plans to deactivate automatic reclosers, de-energization of “at risk” area powerlines based on type of facility (overhead bare conductons, high voltage, etc.), tree and vegetation density, available dry fuel, and other factors that make certain locations vulnerable to wildfire risk.

- **Situational awareness** including obtaining information from devices and sensors on actual system, weather and other wildfire conductivity conditions, two-way communication with agencies and key personnel. Programs such as online feeds and websites such as the National Fire Danger Rating System. Situational awareness should help achieve a shared understanding of actual conditions and serve to improve collaborative planning and decision making.

- **De-Energization actions** that are triggered and prioritized by forecasted extreme fire weather conditions; imminent extreme fire weather conditions; validated extreme fire weather conditions; and plans for re-energization when weather subsides to safe levels. Manual or automatic capabilities exist for implementation.
• **Advanced Technologies** including Distribution Fault Anticipation technology, tree growth regulators, pulse control fault interrupters, oblique and hyper-spectral imagery; advanced transformer fluids; advanced LiDAR, and advanced SCADA, to reduce electrical ignition while also helping to mitigate power outages and equipment damage.

• **Emergency Preparedness, Outreach and Response communications** before, during, and after emergencies including but not limited to engaging with key stakeholders that include critical facilities and served customers; local governments, critical agencies such as California Department of Forestry and Fire Protection (CAL FIRE), local law enforcement agencies and other first responders, hospitals, local emergency planning committees, other utility providers, California Independent System Operator, and the utility’s respective Board. Coordination agreements such as Mutual Assistance should be leveraged. Community outreach plan should inform and engage first responders, local leaders, land managers, business owners and others.

• **Customer support programs** including financial assistance and support for low-income customers; billing adjustments; deposit waivers; extended payment plans; suspension of disconnection and non-payment fees; repair processing and timing; access to utility representatives; and access to outage reporting and emergency communications. Consideration of languages in addition to English. Identification of 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.

### 2.2.3 Value Determination of Plan Metrics

Metrics for tracking the Plan’s progress intend to allow the utility to refresh information as trends become clearer. Based upon the discussion included in the CPUC’s Phase 2 of the SB 901 proceeding docket, interests in metric development and underlying data collection are beginning to take shape. While these determinations do not directly influence the public power sector, insight has been leveraged to employ effective metrics.⁶

### 2.2.4 Data Requests & Facilities Tour

Navigant submitted requests for additional data throughout the IE. This information supported an understanding of the procedures and details behind the mitigation measures. The items supportive of this evaluation included distribution and transmission powerlines within the HFTDs, auto-reclosing settings and recloser protocols, non-expulsion fuse device replacements for traditional fuses, and detailed understanding of proposed metrics and Plan accountability. The data received, in part with the Plan’s elements, facilitated the determination of the Plan’s comprehensiveness, later described in Section 6.

**Field Visit**

On August 27, 2019, SMUD conducted a field tour with their technical and vegetation management staff. Additional practices for managing the right-of-way (ROW) and clearance areas were discussed with examples of the work typically performed. The facilities and electrical equipment viewed included:

- 4 kilovolt (kV) powerline
- 60 kV sub-transmission powerline
- Adjacent substation
- 230 kV transmission powerline

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⁶ CPUC Order Instituting Rulemaking to Implement Electric Utility Wildfire Mitigation Plans Pursuant to SB 901 (2018) (Rulemaking 18-10-007) [https://apps.cpuc.ca.gov/apex/?p=401-56:0::NO:RP,57,RIR,P5_PROCEEDING_SELECT;R1810007](https://apps.cpuc.ca.gov/apex/?p=401-56:0::NO:RP,57,RIR,P5_PROCEEDING_SELECT;R1810007).
Photos taken of subject electrical equipment within the HFRD area field visit are represented below.

60kV wood pole design with 4kV attachment

60kV wood pole design with 4kV riser pole for undergrounded segment of the line

Adjacent substation origin of illustrated powerlines
3. SMUD WMP PLAN ELEMENTS

Navigant reviewed the Plan elements and determined whether the activities supported the intention to deploy an effective WMP. This determination incorporated individual elements as well as underlying data sources that further described data collection methodologies and implementation procedures to ensure measures are carried out and also tracked. This understanding also informs internal reviews and subsequent updates for future Plan iterations.

Navigant found that SMUD’s WMP satisfied the statutory requirements of PUC Section 8387. In this section we will review the WMP’s elements and their purpose relative to the development and successful execution of the WMP. A table comparing each subsection of PUC Section 8387 to the significant sections of the WMP can be found in Appendix A.

3.1 Objectives and Overview of Preventative Strategies and Programs

<table>
<thead>
<tr>
<th>PUC Section 8387</th>
</tr>
</thead>
<tbody>
<tr>
<td>(B) The objectives of the wildfire mitigation plan.</td>
</tr>
<tr>
<td>(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.</td>
</tr>
</tbody>
</table>

3.1.1 Risk Assessment & Drivers

<table>
<thead>
<tr>
<th>PUC Section 8387</th>
</tr>
</thead>
<tbody>
<tr>
<td>(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:</td>
</tr>
<tr>
<td>(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.</td>
</tr>
<tr>
<td>(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.</td>
</tr>
<tr>
<td>(L) A methodology for identifying and presenting enterprise-wide safety risk and wildfire-related risk.</td>
</tr>
</tbody>
</table>

Section 4 of SMUD’s WMP lays out the risk analysis and risk drivers that guide the development of SMUD’s wildfire prevention practices. The section begins with a review of SMUD’s enterprise-wide risk assessment (ERM) framework. SMUD’s ERM is used throughout the organization to assess risk and response and is strongly supported by governance structures.

The plan also reviews the impact of climate change on wildfire risk. In particular, the necessity for year-round preparedness as the region moves away from an annual wildfire season to continual risk. SMUD utilized an accepted risk assessment strategy that provides an illustrative depiction of risk drivers and associated risk impacts through a Bow-Tie Analysis framework. SMUD consulted with its subject matter experts to complete the analysis which produced a list of key risk drivers and impacts.
3.1.2 Asset Overview & Service Territory

PUC Section 8387

(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.

The WMP lays out the SMUD controls assets in both outside and within the Tier 2 and 3 HFTD areas. Table 2 summarizes the percentage of OH transmission and distribution lines, and load serving substations in HFTD subject areas.

Table 2: Powerline Asset Distribution

<table>
<thead>
<tr>
<th>Asset</th>
<th>Outside HFTD</th>
<th>Tier 2</th>
<th>Tier 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total OH transmission</td>
<td>72%</td>
<td>18%</td>
<td>11%</td>
</tr>
<tr>
<td>Total OH distribution</td>
<td>99.92%</td>
<td>0.05%</td>
<td>0.03%</td>
</tr>
<tr>
<td>Total load serving substations</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Based on a mutual agreement with Pacific Gas & Electric (PG&E) SMUD serves five non-residential PG&E customers from its UARP facilities, and thirteen PG&E customers in Northern San Joaquin County. None of the customers in Northern San Joaquin County are in Tier 2 or 3 of the HFTD.

3.1.2.1 Upper American River Project

SMUD operates a federally licensed hydroelectric project in El Dorado County known as the UARP. The entirety of SMUD’s assets in Tier 2 and 3 HFTD areas are part of the UARP.

There are transmission structures in the UARP that are not accessible by vehicle. These must be reached on foot during annual inspections. There are also transmission structures that are only accessible with a 4x4 side-by-side (ex: Polaris).

The 3.1 miles of overhead 4kV distribution wires in Tier 2 and Tier 3 areas use bare wire construction.

3.1.3 Wildfire Prevention Strategies

PUC Section 8387

(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.

(H) Plans for vegetation management.

---

3.1.3.1 Disabling Reclosers

While disabling reclosing on substation breakers and pole top reclosers does not fully eliminate ignition events, it reduces the number of potential ignitions (sparks). An ignition can still occur during the initial faulted condition, but disabling the reclosing function reduces the risk of more ignitions after the initial fault occurs. The substation breaker and pole top recloser are critical protective devices used in reducing the risk of ignition. While disabling reclosing on substation breakers and pole top reclosers does not eliminate ignition events, it does reduce the number of potential ignitions.

All of SMUD’s 115 kV, 230 kV and UARP 69 kV, 230 kV transmission auto-reclosers are disabled during wildfire season as defined as May 1st to October 1st. In places where the style of reclosers, located within the PCA does not have the ability to disable reclosing, SMUD installs fuses in-line (in-series) with the recloser. These fuses will blow during the initial fault, eliminating an additional ignition condition.

The circuit breakers supplying power in the UARP 4kV area do not have reclosing functionality. These 4kV breakers are being upgraded to provide remote indication (SCADA) capability.

For SCADA-enabled substations and reclosers, reclosing is disabled remotely. For non-SCADA substations and reclosers, reclosing is disabled manually at the controller or relay.

3.1.3.2 De-Energization Protocols

SMUD’s Power System Operators (PSOs) have the authority to de-energize portions or all of 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.

Distribution System Operations can de-energize SCADA substations by remotely opening the circuit breaker for the respective feeder. For non-SCADA substations, a troubleshooter is sent to open the breaker manually from the substation location.

Section 7.2 of the Plan describes public and agency communications for a potential wildfire through the use of the California Governor’s Office of Emergency Services’ (Cal OES) Standardized Emergency Management System (SEMS) framework for its “Incident Command Structure.”

3.1.3.3 Vegetation Management

Routine maintenance including pruning and removal on time-based intervals of one, two and three-year ground-based field patrols for distribution and transmission assets.

There are 1242 locations in the annual pole clearing program, all within the Pole Clearing Area (PCA). The PCA is a 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 1st of each year.

---

### 3.1.3.4 Infrastructure Inspections

#### Table 3: SMUD Transmission Inspection Practice

<table>
<thead>
<tr>
<th>Transmission Inspection Program</th>
<th>UARP</th>
<th>Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerial patrols (helicopter)</td>
<td>Twice a year</td>
<td>Annually</td>
</tr>
<tr>
<td>Ground patrols</td>
<td>Annually</td>
<td>Bi-annually</td>
</tr>
<tr>
<td>IR inspections (helicopter)</td>
<td>Annually</td>
<td>Bi-annually</td>
</tr>
<tr>
<td>Wood pole intrusive inspections</td>
<td>Minimum cycle of 10 years and a maximum cycle of 14 years</td>
<td></td>
</tr>
<tr>
<td>Vegetation ROW maintenance</td>
<td>Annually</td>
<td>1-3 years</td>
</tr>
<tr>
<td>Splice assessment program</td>
<td>On-going inspection program</td>
<td>On-going inspection program</td>
</tr>
</tbody>
</table>

#### Table 4: SMUD Distribution Inspection Program

<table>
<thead>
<tr>
<th>Distribution Inspection Program</th>
<th>Overhead and pad mounted equipment</th>
<th>Underground equipment</th>
<th>Substations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detailed line inspections</td>
<td>Every 5 years</td>
<td>Every 3 years</td>
<td>n/a</td>
</tr>
<tr>
<td>Line patrols</td>
<td>Annually</td>
<td>Annually</td>
<td>n/a</td>
</tr>
<tr>
<td>69kV and PCA 12kV IR inspections (helicopter)</td>
<td>Bi-annually</td>
<td>Bi-annually</td>
<td>n/a</td>
</tr>
<tr>
<td>Wood pole intrusive inspections</td>
<td>Minimum cycle of 10 years and a maximum cycle of 14 years</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>Annual pole clearing program</td>
<td>Annually, completed prior to May 15th</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>Visual substation inspections</td>
<td>n/a</td>
<td>n/a</td>
<td>10 times per year</td>
</tr>
</tbody>
</table>
3.1.4 Response & Restoration

PUC Section 8387

(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.

(M) A statement of how the local publicly owned electric utility or electrical cooperative will restore service after a wildfire.

3.1.4.1 Prior to Event

- Contact Center, Strategic Account Advisors, Media Services, social media, and smud.org will provide ongoing and available resources for communication and education for the overall customer base
- smud.org/WildfireSafety provides information about SMUD’s efforts on wildfire prevention and management
- Ongoing education communication on how to prepare for emergencies prior to peak fire season
- Public Information Specialists will provide ongoing mass media communication via traditional news media channels and via Facebook and Twitter to provide customers and the community with information about an emergency or potential emergency
- Government Affairs Representatives will reach out to the executive staff of local governments, elected officials, SMUD’s state delegation, federal representatives and appropriate agency staff to provide initial contact and ongoing communications by email and phone with messages for their constituents

3.1.4.2 Event Communication

Public:

- SMUD sends automated pre-recorded phone calls to customers in the impacted areas/neighborhoods advising when the outage is called and direct them to smud.org/outages for up-to-date information
- Contact Center IVR (Interactive Voice Response) will have real-time recorded information informing each group of customers that may be impacted before the rotating outages begin
- SMUD will send customers enrolled in the Medical Equipment Discount Rate program 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 smud.org/WildfireSafety for more information

3.1.4.3 Essential Stakeholder Engagement and Restoration

SMUD will provide proactive communications to alert key stakeholder and essential and critical customers which are identified in the Plan. Limited details are provided as to what the proactive communications will be or how they may go beyond the public communications protocols referenced above. The
understanding is that similar procedures will take place in a prioritized sequence of events with prioritized communication and notification needs.

Section 8 of the Plan details SMUD’s steps to restore service following de-energization of a transmission or distribution line and additional reconstruction steps that must be taken following destruction of structures during a wildfire event. Customers are notified of restoration of power by the outage communication system.

3.1.5 Metrics & Plan Monitoring

<table>
<thead>
<tr>
<th>PUC Section 8387</th>
</tr>
</thead>
</table>

(A) An accounting of the responsibilities of persons responsible for executing the plan.

(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.

I A discussion of how the application of previously identified metrics to previous wildfire mitigation plan performances has informed the wildfire mitigation plan.

(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:

(i) Monitor and audit the implementation of the wildfire mitigation plan.

(ii) Identify any deficiencies in the wildfire mitigation plan or its implementation, and correct those deficiencies.

(iii) 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.

3.1.5.1 Metrics & Programmatic Targets

<table>
<thead>
<tr>
<th>Table 5: SMUD Proposed Metrics</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Specific metric</th>
<th>Indicator</th>
<th>Measure of effectiveness</th>
<th>Bounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire down events caused by SMUD equipment failure</td>
<td>Count of events</td>
<td>No material increase</td>
<td>Fire season (May 1 through October 1)</td>
</tr>
<tr>
<td>Ignition events</td>
<td>Count of events</td>
<td>No material increase</td>
<td></td>
</tr>
</tbody>
</table>
Table 6: Programmatic Targets

<table>
<thead>
<tr>
<th>Performance / Programmatic Targets</th>
<th>Details</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance Programs</td>
<td>• Distribution Line Inspections</td>
<td>≥ 95%</td>
</tr>
<tr>
<td></td>
<td>• Distribution Wood Pole Intrusive Tests</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Distribution Annual Line Patrol</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Annual Pole Clearing Program</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Transmission Structure Patrols</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Transmission Aerial Patrols (Helicopter)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Transmission IR Patrols (Helicopter)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 69 kV IR Helicopter Patrols</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Pole Clearing Area</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Distribution Vegetation Pruning/Clearing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Transmission Vegetation Pruning/Clearing</td>
<td></td>
</tr>
<tr>
<td>System Enhancement Capital Project</td>
<td>Install non-expulsion devices in PCA</td>
<td>25 – 35% per year (3-year project)</td>
</tr>
</tbody>
</table>
### 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. | • 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 |

#### 3.1.5.3 Annual review

The WMP will be reviewed annually in alignment with SMUD’s existing business planning process. The review will include assessments of the WMP’s programs and performance.
4. INDUSTRY PRACTICES COMPARISON

In consideration of industry-accepted and demonstrated mitigation measures, Navigant provided a comparison against approved California utility Plans where comparable to SMUD’s service territory, risk profile, and equipment within the HFTD Tier 2 and 3 areas. The complete comparison matrix with supporting information is provided in Appendix B. Highlighted strategies for effective wildfire mitigation are represented in Table 8; three items have been recommended for detailed discussion of the applicability and efficacy of the proposed strategy.

Covered Conductors

Covered conductors are any conductors (wires) protected by layers of insulation, so the conductors are protected against inadvertent contacts. These wires are designed to withstand inadvertent contact with vegetation and/or other debris without starting a fire.

Throughout California and in many areas of the country, the use of bare overhead wire has been the standard. Bare wire has demonstrated a high-level of reliability in adverse weather conditions such as lightening conditions.

In higher risk areas (Tier 2 and Tier 3) SMUD is determining an approach to replace the UARP 4kV bare wire with covered conductors. SMUD expects several months to complete engineering, followed by replacement of the bare wire with covered wire in 2020. This is appropriate and consistent with other WMPs within the state.

Disabling Reclosing Operations

Disabling reclosing refers to the ability to turn off the functionality of substation breakers and reclosers to attempt to isolate fault conditions and re-energize (turn back on) areas of the electric grid. Traditionally, electrical circuits were designed to automatically open and close to detect and isolate faults. In many cases, the relays would make two or three attempts to isolate a fault condition. Each potential attempt could cause an electrical spark, which could be a source of ignition. Disabling reclosing significantly reduces the number of potential ignition sources.

SMUD has a program in place to turn off or disable reclosing for all distribution lines and transmission lines for their PCA, Tier 2 and Tier 3 areas. This disabling occurs during its wildfire season, which SMUD determines to be May 1 to October 1 of each year.

For SCADA-enabled substations and reclosers, reclosing is disabled remotely. For non-SCADA substations and reclosers, reclosing is disabled manually at the controller or relay panel. In places where the style of reclosers does not have the ability to disable reclosing, SMUD installs fuses in-line (in-series) with the recloser. These fuses will blow during the initial fault, eliminating an addition ignition condition.

SMUD’s approach to disabling reclosing is appropriate and consistent with the practices of other utilities.

Non-Expulsive Fuse Devices

Fuses (Fusing) refer to protective devices that defend the distribution system from faulted or damaged lines and equipment. Historically, SMUD, other utilities in California, and utilities across the country have used conventional fuses to protect powerlines. These conventional fuses, when operated, expel hot particles and gases, which can start fires. In order to mitigate the potential for fire ignitions, SMUD proposes to replace conventional fuses with non-expulsive type fuses.

SMUD plans to replace all expulsive fuses with non-expulsive fuses in the PCA over three years as well as within Tier 2 and 3 over a two-year period starting in 2020. This is consistent with the practices being performed by the other utilities in the state.
4.1 Mitigation Strategies Assessment

The following describes the scoring determinations of the benchmarking practice. Navigant weighed strategies that have been demonstrated globally as well as from those proposed by state utilities. As expressed in Figure 4, this benchmarking practice supports efforts to determine the Plan’s comprehensiveness when investigating the mitigation measures proposed in SMUD’s WMP. This assessment is designed to confirm prudent measures as proposed by SMUD and did not result in any material findings that would result in non-compliance or lack of comprehensive Plan elements.

Figure 4: Determinations for Benchmarking

The selected strategies represented in Table 8 include both statutory requirements that exist as industry standards for POUs as well as accepted industry practices within the state.

Table 8: Industry Practice Comparison Matrix

<table>
<thead>
<tr>
<th>Identified Practice Strategy</th>
<th>SMUD Applicability</th>
<th>Determination</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Situational Awareness / Weather Conditions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investing or investigating in opportunities to procure weather</td>
<td>Especially in High Fire-Threat Districts (HFTDs) weather stations would allow SMUD</td>
<td>SMUD has adequate coverage of this mitigation measure across its Tier 2 and 3</td>
</tr>
<tr>
<td>stations for instantaneous weather condition reporting</td>
<td>personnel to have access to real-time monitoring of these areas</td>
<td>areas and has included additional weather stations in the HFTD as well as</td>
</tr>
<tr>
<td></td>
<td></td>
<td>within its service territory, which has less risk exposure</td>
</tr>
<tr>
<td>Instantaneous weather conditions web-based portal and GIS data sharing capabilities; weather monitoring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With the added weather stations along with existing ones, SMUD should have the ability to capture and interpret the information sent in real-time for operations that warrant mitigation measures.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Four new weather stations were installed in 2018 within the UARP region to support HFTD situational awareness. The inclusion of additional weather stations compared to the low risk environment of SMUD’s service territory and facilities results in a determination of meeting the identified practice strategies.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cameras with night vision mode capability atop of electrical structures</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMUD has facilities within HFTDs that would benefit from additional visibility into the regions with greatest threat of ignition or fire spread</td>
</tr>
<tr>
<td>SMUD will be considering the procurement of pole-top cameras for better visibility as mentioned in Table 2 of the Plan as a pilot project.</td>
</tr>
</tbody>
</table>

**System Hardening / Design & Construction**

<table>
<thead>
<tr>
<th>Replacing bare wires with covered conductors</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMUD has applicable powerlines within HFTDs that would benefit from additional hardening such as covered wire replacement for existing, legacy bare wire</td>
</tr>
<tr>
<td>SMUD is performing the engineering analysis to determine the strategy to place bare wire in Tier 2 and Tier 3 areas. Once the strategy is determined, SMUD proposes to begin bare wire replacement in 2020.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>New or planned electrical lines (distribution and transmission) that are designed to withstand working loads under the stress above design standards to address high wind speeds</th>
</tr>
</thead>
<tbody>
<tr>
<td>New line construction standards are taken into consideration in accordance with GO95.</td>
</tr>
<tr>
<td>As SMUD’s develops capital infrastructure plans it assures compliance with GO95</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Steel or composite poles swapped out for wood poles, at minimum, within HFTDs or fireproofing wooden poles (fire resistant material coating)</th>
</tr>
</thead>
<tbody>
<tr>
<td>While pole remediation activities exist, such as additional clearing, coring to test structural integrity, and coating mechanisms, when new poles are considered for high fire severity zones, more resilient designs should be a consideration.</td>
</tr>
<tr>
<td>The Plan states that steel poles will be considered as replacement activities warrant the activity. This aligns with the identified strategy.</td>
</tr>
</tbody>
</table>
### Pole loading assessment and remediation

SMUD must comply with PRC 4292 for pole clearing activities for vegetation risk and should also maintain awareness of the decay and structural integrity of aged or impacted poles within the service territory and UARP region.

SMUD complies with state requirements as well as meets the practice standard for pole loading and remediation. While depicted in Table 2, SMUD should expand the descriptions within the Plan to provide an understanding of these practices.

### Expulsion fuse device change out to current-limiting (non-expulsive) fuses

SMUD's PCA and inclusive high fire threat areas would benefit from the replacement of traditional fuses with ones that minimize sparks and arcs.

SMUD plans to replace non-expulsion equipment, including arrestors with arc protection.

### Tree attachment removals

SMUD does not have any tree attachments for which to consider.

This mitigation strategy does not apply to SMUD's existing equipment.

### Vegetation Management

### Routine vegetation inspections in accordance with: Public Resources Code (PRC) 4292 & 4393, FAC 003-4, General Order (GO) 95 Rule 35 and Appendix E, and ANSI A300

PRC 4293 and 4293; FAC 004-4; GO 95 is required by the CPUC for investor owned utilities, however, many if not all community owned utilities leverage this as a guideline or applied standard.

SMUD meets requirements and industry practice standards with the inclusion of expanded clearances, additional quality checks, and increased staff availability for at-risk events.
<table>
<thead>
<tr>
<th><strong>LiDAR Technology for vegetation management inspections</strong></th>
<th>LiDAR is demonstrated as an effective tool for transmission level inspection of dense vegetation within the corridor and adjacent to the easement area.</th>
<th>SMUD will be performing a pilot project to explore employing LiDAR imagery techniques to applicable distribution lines. LiDAR will continue to be used on transmission lines.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hazardous tree/vegetation identification and removal protocols and programs</strong></td>
<td>Within SMUD’s service territory and particularly within the high fire risk areas, impact trees could pose a greater potential to catch on fire or contribute to fire spread. Addressing, through identification and surveying, as well as implementing remediation activities will result in further wildfire risk reduction.</td>
<td>SMUD routinely identifies potentially at-risk vegetation, including dead/dying, invasive, and leaning trees, to better manage fuels levels and ignition potential.</td>
</tr>
<tr>
<td><strong>Off-Cycle / Call-in vegetation removal or corrective work, especially during the fire season</strong></td>
<td>Off-cycle inspections can occur from notifications from a variety of sources, such as adjacent land owners, agricultural entities, and customers as well as first responders. These occurrences could result in utility field patrols and responses to prioritized risk events.</td>
<td>As a priority, repair personnel investigate reports of vegetation on wires. SMUD performs off-cycle vegetation management work when warranted, outside of scheduled inspection and work-related practices. This is in line with industry standards.</td>
</tr>
</tbody>
</table>

**Emergency Response & Recovery**

<table>
<thead>
<tr>
<th>Notify critical facilities and public safety partners, which may include first responders, incident origin law enforcement, acute health care facilities, essential service providers, related governing local and state agencies, adjacent jurisdictions, vulnerable populations, and the Independent System Operator (ISO) (for transmission level de-energization).</th>
<th>Notification practices targeting key stakeholders are crucial during emergency events such as storms and wildfires. While SMUD typically experiences the former, this same practice should be implemented in preparation for fire risk.</th>
<th>SMUD's Plan confirms communication efforts with critical facilities.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMUD should leverage the SEMS framework in designing emergency response protocols. A designated team or group of individuals should have the ability to relay information and make informed decisions during emergency response events.</td>
<td>SMUD ensures, through the Plan, that communication lines are clearly determined in sequencing the required events and notification process when an emergency event is activated. SMUD's reach with vested stakeholders in the Sacramento region positions the utility as having the ability to develop strong relationships with the listed entities.</td>
<td></td>
</tr>
<tr>
<td><strong>Coordination with stakeholder agencies/entities with routine meetings to discuss emergency preparedness needs and areas of improvement, etc.</strong></td>
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<td>---</td>
<td></td>
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<tr>
<td>SMUD is uniquely positioned as a BANC representative and state capitol electric service provider, allowing greater breadth of collaboration avenues.</td>
<td></td>
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</tr>
<tr>
<td>SMUD meets the practice strategies as being an integral entity in ensuring key interested stakeholders are engaged to help develop collaborative strategies as well as keep the customer base and key contacts informed on the Plan's efforts and successes. SMUD has been an integral entity in assisting in determining the fire hazard zones with joint efforts of state agencies.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>De-Energization &amp; Recloser Operations</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Disabling reclosers through blocking reclosing operations (distribution level) in HFTDs during the fire season and/or during Red Flag Warnings issued by the National Weather Service (or as fire risk potential designates)</td>
</tr>
<tr>
<td>Reclosing operations should be defined within the Plan as per statute. Operational best practices align with having settings that align with fire potential weather conditions to prevent potential ignition</td>
</tr>
<tr>
<td>SMUD provides its protocols for recloser operations as it relates to wildfire. No new high-speed clearing is proposed to be installed. SMUD describes blocking or disabling reclosing operations.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Internal Operations and Inspection Practices</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground patrol as well as aerial inspection practices</td>
</tr>
<tr>
<td>Ground patrols are a required strategy in ensuring safe and reliable delivery of electricity. When access concerns arise, aerial inspections provide better coverage in surveying and inspecting electrical equipment throughout the utility service territory</td>
</tr>
<tr>
<td>SMUD adequately performs ground and aerial patrols, through detailed protocols within the Plan</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Wildfire Infrastructure Protection Teams</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>An internal team to prepare and protect physical aspects of the electric system as well as ensure effective mitigation measures are carried out would be a prudent activity to pursue</td>
</tr>
<tr>
<td>SMUD plans to utilize internal teams targeting risk mitigation, meeting the best practice effort</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Infrared corona scanning and high definition imagery technology for inspection practices along with visual inspections</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrared is an accepted practice that enables better awareness of the utility's equipment</td>
</tr>
<tr>
<td>This practice is provided, through detailed procedures, within the Plan</td>
</tr>
</tbody>
</table>
5. METRICS EVALUATION

This section provides an overview of the assessment of presented metrics in SMUD’s WMP. The metrics are intended to result in measurable, tracked results illustrating the efficacy of the Plan through to successful implementation. Tracking these metrics leads to meaningful information that will inform appropriate revisions and updates to the Plan in future years. There are no set standards for metric development as they remain unique to a utility’s approach in fire prevention and Plan execution.

The statutory requirements for the inclusion of metrics are found in PUC Section 8387(b)(2)(D) and (E) where utilities are directed to present these metrics and address how prior metrics impact the proposed metrics for the next version of the Plan. The 2019 WMP serves as SMUD’s first version, providing no previous metrics with which to compare. This evaluation addressed the current metrics, as they exist in the final version of the WMP. The list of metrics is presented in the table below.

Table 9: SMUD WMP Metrics (2019)

<table>
<thead>
<tr>
<th>Specific Metric</th>
<th>Indicator</th>
<th>Measure of Effectiveness</th>
<th>Bounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire down events caused by SMUD equipment failure</td>
<td>Count of events</td>
<td>No material increase</td>
<td>Fire season (May 1 through October 1)</td>
</tr>
<tr>
<td>Ignition events</td>
<td>Count of events</td>
<td>No material increase</td>
<td></td>
</tr>
</tbody>
</table>

5.1 Assessment of Metrics

Throughout the evaluation process SMUD proposed metrics to better represent measurable indicators that would lead to an effective determination of and reduction of risk. The Plan provides programmatic targets for mitigation measures, which will be tracked and leveraged to shape future metrics to understand the Plan’s effectiveness. Two identified key performance indicators in Table 9 represent SMUD’s approach to track fire ignitions related to electrical infrastructure. The underlying assumptions suggest that monitoring the frequency and cause of ignition events at different risk seasons of the year will shape the direction of mitigation strategies as this information is collected and analyzed.

The proposed metrics meet the statutory requirements and will assist in providing insight on the effectiveness of the Plan in future years.
6. RESULTS & DISCUSSION

Navigant concluded this assessment on September 3, 2019. Over the course of reviewing SMUD’s WMP and supporting documentation, Navigant captured takeaways and findings that align the Plan with state laws and effective wildfire measure demonstration. SMUD’s Plan appropriately responds to each of the required elements of PUC Section 8387, which is detailed in Appendix A. The following describes the assessment and resulting findings of the Plan’s proposed and established mitigation measures as it applies to safe, reliable operation of all electric infrastructure and wildfire prevention and response.

Report Conclusions

After internal review of the latest version of the WMP and associated data collection products, Navigant concludes this Report with the following:

1. SMUD’s WMP aligns appropriately with PUC Section 8387 and includes all required elements.\(^9\)

2. SMUD’s Plan is determined to be comprehensive as described through the support documentation of this Report.

\(^9\) Following acceptance of this Report, SMUD will post the Report and results online for public view. The Report is scheduled for presentation to the Board at a public meeting on or around October 17, 2019. Accomplishing these follow-up tasks will meet all required statutory provisions up until presenting the final WMP to the Board.
### APPENDIX A. STATUTORY COMPLIANCE MATRIX

<table>
<thead>
<tr>
<th>Required Statutory Element</th>
<th>Plan Section Reference(s)</th>
<th>SMUD Plan Elements (Summarized)</th>
<th>Meets Section Elements (Determination)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Each local publicly owned electric utility and electrical cooperative shall construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of wildfire posed by those electrical lines and equipment.</td>
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<td></td>
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<tr>
<td>(b) (1) The local publicly owned electric utility or electrical cooperative shall, before January 1, 2020, prepare a wildfire mitigation plan. After January 1, 2020, a local publicly owned electric utility or electrical cooperative shall prepare a wildfire mitigation plan annually and shall submit the plan to the California Wildfire Safety Advisory Board on or before July 1 of that calendar year. Each local publicly owned electric utility and electrical cooperative shall update its plan annually and submit the update to the California Wildfire Safety Advisory Board by July 1 of each year. At least once every three years, the submission shall be a comprehensive revision of the plan.</td>
<td></td>
<td></td>
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<tr>
<td>(2) The wildfire mitigation plan shall consider as necessary, at minimum, all of the following:</td>
<td></td>
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</tr>
</tbody>
</table>
| (A) An accounting of the responsibilities of persons responsible for executing the plan. | 9.1.1 | • Chief Grid Strategy and Operations Officer oversees the overall WMP  
• Chief Energy Delivery Officer and Chief Customer Officers are responsible for executing the Plan  
• Table 6 lists out Mitigation Activities and Responsible Operating Units | Yes |
| (B) The objectives of the wildfire mitigation plan. | 1.3 | Primary Objectives:  
1. Minimize risk probability of SMUD’s transmission and distribution system being an origin or contributing source for a wildfire ignition  
2. Implement a WMP that embraces safety, prevention, mitigation, and recovery as a central priority for SMUD  
3. Create a WMP that is consistent with state law and objectives | Yes |
| (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 | Table 2 includes the list of mitigation strategies and programs. These cover the following areas:  
- Design and construction  
- Inspection and maintenance  
- Operational practices  
- Situational/Conditional awareness  
- Response and recovery | Yes |
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<tbody>
<tr>
<td>(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.</td>
<td>9.3.1</td>
<td>Table 7 lists out the specified metrics SMUD plans to track</td>
<td>Yes</td>
</tr>
<tr>
<td>(E) A discussion of how the application of previously identified metrics to previous wildfire mitigation plan performances has informed the wildfire mitigation plan.</td>
<td>9.2.1</td>
<td>As this is the first iteration of the WMP, there are no metrics to compare against.</td>
<td>Yes</td>
</tr>
</tbody>
</table>
| (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 | Fire season is defined as:  
- May 1 to October 1, or  
- Red Flag Warning (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. | Yes |
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.

Procedures for proactive communication due to a wildfire threat to:
1) SMUD service territory localized circuits that results in de-energization.
2) SMUD’s UARP hydroelectric generation and transmission system that results in a de-energization event and resulting rolling outages.
3) a shared transmission line that impacts the grid at large, resulting in a resource shortage for the utilities, including SMUD, that rely on the line

• SMUD’s Contact Center, social media, and website will provide ongoing notifications and available resources for communicating outage events and de-energization decisions as well as educational resources on wildfire safety.
• Public Safety Power Shutoff (PSPS) events will be alerted to affected stakeholders as early as possible, which includes:
  - potentially impacted customers
  - media, local agencies, first responders, elected officials
  - critical customers, which includes water and telecommunications utilities that may be impacted

Event Communications
• Whenever possible, provide potentially impacted customers with notice before a PSPS event, using available channels
  • Interactive Voice Response functions for real-time recorded information
  • sending out automated, pre-recorded calls to potentially impacted customers
• Customers enrolled in the Medical Equipment Discount Rate program will receive annual letters/emails to remind them of their unique risk of wildfire danger and to have a back-up plan if an outage occurs
• Essential/Critical Services contacted:
  - agencies providing essential fire, police and prison services
  - Government agencies essential to national defense
  - Hospitals, assisted living, and skilled nursing facilities
  - Communication utilities and

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<table>
<thead>
<tr>
<th>Telephone utilities</th>
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<tbody>
<tr>
<td>- and television broadcasting stations used for broadcasting emergency messages, instruction, and other public information related to the electric curtailment emergency</td>
</tr>
<tr>
<td>- Water and sewage treatment utilities identified as necessary for services such as firefighting</td>
</tr>
<tr>
<td>Section</td>
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<td>---------</td>
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<tr>
<td>(H)</td>
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</tbody>
</table>
| 6.4     | Compliance Standards:  
- FAC-003-4  
- PRC Section 4292 and 4293  
- CPUC GO 95 Rule 35 (required for IOUs, generally accepted practices by POUs)  
**Distribution System Vegetation Management**  
- Routine vegetation maintenance: pruning and removal, time-based intervals  
- Third-party contracting support for annual vegetation work identification  
**Transmission System Vegetation Management**  
- Ground-based field patrols  
- Annual aerial patrols  
- Third-party contracting support for annual vegetation work identification  
| Yes | |
| (I)     | Plans for inspections of the local publicly owned electric utility’s or electrical cooperative’s electrical infrastructure. |
| 6.3     | **Transmission Line Inspections**  
- Aerial patrols (via helicopter)  
- Ground patrols  
- IR camera inspections (via helicopter)  
- Wood pole intrusive inspections  
- Vegetation right-of-way maintenance  
- Splice assessment program  
**Distribution Line Inspections**  
- Detailed line inspections  
- Line patrols  
- 69 kV and Pole Clearing Area 12 kV IR inspections (via helicopter)  
- Wood pole intrusive inspections  
- Annual pole clearing program  
- Distribution substation inspections  
- Visual inspections  
| Yes | |
| (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:  
- Electrical equipment contacts from objects  
- Equipment / Facility failures  
- Wire to wire contact / contamination  
- Third-party acts / vandalism  
- Acts of SMUD  
- Unknown factors  
**Figure 4** presents a Bow-Tie risk assessment diagram that displays risk drivers  
| Yes |
(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.

4.2, 5.1

Acknowledged climate change reports and reference material to indicate the need for mitigation efforts based upon increased climate risk in California.

SMUD’s service territory is outside the HFTD, with its URAP facilities within Tier 2 and Tier 3 designations. Table 4 lists the circuit assets related to distribution and transmission and which segments (in circuit-miles) exist in HFTDs. Figure 6 illustrates the UARP facilities within the Tier 2 and Tier 3 designations.

(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.

5.1

SMUD actively participated in the development of the Commission’s Fire-Threat Map and has incorporated the High Fire-Threat District map into its construction, inspection, maintenance, repair, and clearance practices, when applicable.

- Affirmed through the map development process that SMUD’s service area is outside the HFTD
- Upper American River Project facilities properly identified based on Tier category
- SMUD does not recommend changes, and will continue to evaluate factors that may indicate the Commission should expand the HFTD to include additional areas

(L) A methodology for identifying and presenting enterprise wide safety risk and wildfire-related risk.

4.1, 4.3

Enterprise Risk Management framework

1. Identify
2. Analyze
3. Plan and Evaluate
4. Respond
5. Monitor

Figure 4 illustrates the risk drivers that trigger a risk event and the associated consequences/key risk impacts that can result from the incident.
| (M) A statement of how the local publicly owned electric utility or electrical cooperative will restore service after a wildfire. | 8 | 1. Patrol the line to check for vegetation near the lines or clear damage that may prevent safe reenergization  
2. Repair any identified damage of the utility’s electrical equipment. Vegetation management crews may also be called out.  
3. Test the lines by closing the fuse or breaker to reenergize the line segment.  
4. Restore power safely with the outage communication system providing notification of power restoration to the affected customers. | Yes |
| (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: | | | |
| (i) Monitor and audit the implementation of the wildfire mitigation plan. | 9.4 | SMUD’s Chief Grid Strategy and Operations and Chief Energy Delivery Officers (Chiefs) will be responsible for monitoring and auditing the targets specified in the WMP to confirm that the objectives of the WMP are met. | Yes |
| (ii) Identify any deficiencies in the wildfire mitigation plan or its implementation, and correct those deficiencies. | 9.4 | At any point that deficiencies are identified, the Chiefs or their designees will be responsible for correcting those deficiencies. Since this is the first iteration of the WMP, there are no comparisons to make for this version. | Yes |
| (iii) 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. | 9.3.1 | Table 8 displays the metrics for the programmatic targets of SMUD’s inspection and maintenance programs. | Yes |
| (3) The local publicly owned electric utility or electrical cooperative shall, on or before January 1, 2020, and not less than annually thereafter, present its 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. | 10 | SMUD will present its WMP to the Board at a public meeting in the final months of 2019. | Yes |
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 website 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.

| 10 | SMUD contracted with Navigant Consulting, Inc. to perform an independent evaluation of its WMP. Qualifications are described in Section 1. | Yes |
### APPENDIX B. INDUSTRY PRACTICE STRATEGY COMPARISON MATRIX

<table>
<thead>
<tr>
<th>Identified Practice Strategy</th>
<th>Mitigation Rationale</th>
<th>SMUD Applicability</th>
<th>Plan Elements</th>
<th>Determination</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Situational Awareness / Weather Conditions</strong></td>
<td></td>
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<tr>
<td>Investing or investigating in opportunities to procure weather stations for instantaneous weather condition reporting</td>
<td>Having access to internal mechanisms to track fire conditions (high wind, dry conditions, high heat), will aid in responding to and preventing potential fires by enacting related protocols during fire watch conditions</td>
<td>Especially in High Fire-Threat Districts (HFTDs) weather stations would allow SMUD personnel to have access to real-time monitoring of these areas</td>
<td>SMUD has 14 weather stations within its service territory and the Upper American River Project (UARP): - 8 are in the Sacramento metropolitan area - 6 are in the UARP region</td>
<td>SMUD has adequate coverage of this mitigation measure across its Tier 2 and 3 areas and has included additional weather stations in the HFTD as well as within its service territory, which has less risk exposure</td>
</tr>
<tr>
<td>Instantaneous weather conditions web-based portal and GIS data sharing capabilities; weather monitoring</td>
<td>Real-time, weather update tracking allows deepened awareness of the conditions that may lead to a spark or ignition. The weather station servers are able to capture and record several weather and meteorological attributes, allowing forecasting scenarios and learning experiences from high-risk events. The presentation and visualization of this data through GIS monitoring applications will assist future risk models and fire prevention planning</td>
<td>With the added weather stations along with existing ones, SMUD should have the ability to capture and interpret the information sent in real-time for operations that warrant mitigation measures.</td>
<td>SMUD leverages instantaneous data collection from weather station servers to influence decision-making needs for mitigation efforts</td>
<td>Four new weather stations were installed in 2018 within the UARP region to support HFTD situational awareness. The inclusion of additional weather stations compared to the low risk environment of SMUD's service territory and facilities results in a determination of meeting the identified strategy.</td>
</tr>
<tr>
<td>Identified Practice Strategy</td>
<td>Mitigation Rationale</td>
<td>SMUD Applicability</td>
<td>Plan Elements</td>
<td>Determination</td>
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<tr>
<td>Cameras with night vision mode capability atop of electrical structures</td>
<td>Visual inspections can be enhanced through the use of cameras with high definition and night vision capabilities. This measure improves response times in addressing risk incidents and de-energization.</td>
<td>SMUD has facilities within HFTDs that would benefit from additional visibility into the regions with greatest threat of ignition or fire spread.</td>
<td>SMUD is evaluating the potential to install fire monitoring cameras on towers within the UARP Transmission Corridor to mitigate fire risk.</td>
<td>SMUD will be considering the procurement of pole-top cameras for better visibility as mentioned in Table 2 of the Plan as a pilot project.</td>
</tr>
</tbody>
</table>

### System Hardening / Design & Construction

<table>
<thead>
<tr>
<th>Practice Strategy</th>
<th>Mitigation Rationale</th>
<th>SMUD Applicability</th>
<th>Plan Elements</th>
<th>Determination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replacing bare wires with covered conductors</td>
<td>Covered wire is a well-demonstrated prevention method to sparks / ignitions during severe weather conditions. Several utilities are employing pilot programs of covered wire replacement of distribution lines, prioritizing High Fire-Threat Districts for implementation.</td>
<td>SMUD has applicable powerlines within HFTDs that would benefit from additional hardening such as covered wire replacement for existing, legacy bare wire.</td>
<td>SMUD is evaluating the potential to harden 3.1 miles of circuit lines within Tier 2 and 3 high fire threat areas to further reduce equipment risk.</td>
<td>SMUD is performing the engineering analysis to determine the strategy to place bare wire in Tier 2 and Tier 3 areas. Once the strategy is determined, SMUD proposes to begin bare wire replacement in 2020.</td>
</tr>
<tr>
<td>New or planned electrical lines (distribution and transmission) that are designed to withstand working loads under the stress above design standards to address high wind speeds</td>
<td>As new capital infrastructure plans are developed, it would be prudent to consider resilient design standards that can withstand sustained winds and gusts that occur during Red Flag Warning periods.</td>
<td>New line construction standards are taken into consideration in accordance with GO95.</td>
<td>As new capital infrastructure is planned, SMUD will perform construction in accordance with GO95.</td>
<td>As SMUD's develops capital infrastructure plans it assures compliance with GO95.</td>
</tr>
</tbody>
</table>
## Identified Practice Strategy

### Pole loading assessment and remediation

- **Mitigation Rationale**: Carry out programs that address pole loading issues and inspections that would result in remediation to infrastructure.

- **SMUD Applicability**: SMUD must comply with PRC 4292 for pole clearing activities for vegetation risk and should also maintain awareness of the decay and structural integrity of aged or impacted poles within the service territory and UARP region.

- **Plan Elements**: SMUD performs:
  - Intrusive core testing of wood poles (10 year cycle with maximum cycle of 14 years)
  - Visual inspections
  - Detailed Line inspections every five years on overhead equipment, including poles
  - PRC 4292 compliance vegetation clearing around poles (annual) within Pole Clearing Area (PCA)
  - Pole loading assessments
  - Replacing poles with steel, where/when applicable

- **Determination**: SMUD complies with state requirements as well as meets the practice standard for pole loading and remediation. While depicted in Table 2, SMUD should expand the descriptions within the Plan to provide an understanding of these practices.

### Expulsion fuse device change out to current-limiting (non-expulsive) fuses

- **Mitigation Rationale**: Traditional fuses pose a fire risk due to the ignited material that can be expelled. Best practices for mitigating this risk is to change out these fuses with non-expulsive fuses.

- **SMUD Applicability**: SMUD’s PCA and inclusive high fire threat areas would benefit from the replacement of traditional fuses with ones that minimize sparks and arcs.

- **Plan Elements**: SMUD plans to replace non-expulsion equipment (fuses and arrestors) within the Pole Clearing Area (PCA) (CAL Fire exempt fuses) and tier 2 and tier 3 with non-expulsive type fuses.

- **Determination**: SMUD plans to replace non-expulsion equipment, including arrestors with arc protection.
## Identified Practice Strategy

<table>
<thead>
<tr>
<th>Identified Practice Strategy</th>
<th>Mitigation Rationale</th>
<th>SMUD Applicability</th>
<th>Plan Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tree attachment removals</td>
<td>This practice involves the removal of electrical infrastructure fastened to trees for infrastructural support but can be a source of ignition. The removal of these legacy devices, in many instances, can significantly reduce electrical spark risk.</td>
<td>SMUD does not have any tree attachments for which to consider</td>
<td>SMUD does not have any tree attachments for which to consider</td>
</tr>
</tbody>
</table>

### Vegetation Management

| Routine vegetation inspections in accordance with: Public Resources Code (PRC) 4292 & 4393, FAC 003-4, General Order (GO) 95 Rule 35 and Appendix E, and ANSI A300 | State and federal compliance for vegetation management and inspection, as well as California Public Utilities Commission GO 95, which is accepted as industry standard amongst all utilities. (Community and investor owned). | PRC 4293 and 4293; FAC 004-4; GO 95 is required by the CPUC for investor owned utilities, however, many if not all community owned utilities leverage this as a guideline or applied standard. | SMUD ensures all state laws and mandates are met as well as enacting a HFTD vegetation management inspection strategy. SMUD will employ the following vegetation management strategies: - HFTD vegetation inspection strategy - increased staff for line and vegetation management crews in preparation of storms/weather events - increased vegetation clearances - Quality assurance accountability for inspection and mitigation activities - Adequate training for safety and vegetation management work for T&D lines - Fuels reduction work |

### Determination

- This mitigation strategy does not apply to SMUD's existing equipment.
## Identified Practice Strategy

### LiDAR Technology for vegetation management inspections

- **Mitigation Rationale**: Where foot patrols or normal helicopter patrols are insufficient to evaluate the right-of-way (ROW) clearance, utilities use LiDAR technology to identify trees along the ROW border that can potentially contact with lines during high wind events.

- **SMUD Applicability**: LiDAR is demonstrated as an effective tool for transmission level inspection of dense vegetation within the corridor and adjacent to the easement area.

- **Plan Elements**: SMUD applies LiDAR imaging technology on transmission line infrastructure and is proposing plans to employ the same strategy for distribution lines.

- **Determination**: SMUD will be performing a pilot project to explore employing LiDAR imagery techniques to applicable distribution lines. LiDAR will continue to be used on transmission lines.

### Hazardous tree/vegetation identification and removal protocols and programs

- **Mitigation Rationale**: Recording and tagging trees that pose risks to adjacent electrical equipment or are dead/dying are considered prudent efforts for vegetation management practices.

- **SMUD Applicability**: Within SMUD’s service territory and particularly within the high fire risk areas, impact trees could pose a greater potential to catch on fire or contribute to fire spread. Addressing, through identification and surveying, as well as implementing remediation activities will result in further wildfire risk reduction.

- **Plan Elements**: SMUD’s vegetation management ROW maintenance program identifies incompatible species to maintain low-growing flora through wire zone-bore zone management practices.

- **Determination**: SMUD routinely identifies potentially at-risk vegetation, including dead/dying, invasive, and leaning trees, to better manage fuels levels and ignition potential.

### Off-Cycle / Call-in vegetation removal or corrective work, especially during the fire season

- **Mitigation Rationale**: Off-cycle practices of vegetation inspection and management.

- **SMUD Applicability**: Off-cycle inspections can occur from notifications from a variety of sources, such as adjacent land owners, agricultural entities, and customers as well as first responders. These occurrences could result in utility field patrols and responses to prioritized risk events.

- **Plan Elements**: SMUD performs corrective work when call-in notifications are made and verified as 1) SMUD’s electrical equipment and 2) a fire risk or public safety issue.

- **Determination**: As a priority, repair personnel investigate reports of vegetation on wires. SMUD performs off-cycle vegetation management work when warranted, outside of scheduled inspection and work-related practices. This is in line with industry standards.
### Emergency Response & Recovery

<table>
<thead>
<tr>
<th>Identified Practice Strategy</th>
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<th>SMUD Applicability</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Notify critical facilities and public safety partners, which may include first responders, incident origin law enforcement, acute health care facilities, essential service providers, related governing local and state agencies, adjacent jurisdictions, vulnerable populations, and the Independent System Operator (ISO) (for transmission level de-energization).</td>
<td>Following a sequence of events in contacting public safety partners and impacted community facilities will enable quicker response in reacting to an emergency event (such as a wildfire or de-energization). Utilities should describe their processes to notify critical facilities as it applies to their service territory and impacted communities as well as grid operators.</td>
<td>Notification practices targeting key stakeholders are crucial during emergency events such as storms and wildfires. While SMUD typically experiences the former, this same practice should be implemented in preparation for fire risk.</td>
<td>SMUD identifies that notification procedures include informing customers and critical facilities during emergency events.</td>
<td>SMUD's Plan confirms communication efforts with critical facilities.</td>
</tr>
<tr>
<td>Incident Command Team / Emergency Operations frameworks in the event a de-energization event or wildfire incident occurs</td>
<td>Using the State Emergency Management System (SEMS) framework, which is determined on the Federal Emergency Management Agency (FEMA) structure for incident command protocols will ensure prepared and adequately trained staff to respond in effective communication manners as well as respond to risk events in a sequence of effective procedures.</td>
<td>SMUD should leverage the SEMS framework in designing emergency response protocols. A designated team or group of individuals should have the ability to relay information and make informed decisions during emergency response events.</td>
<td>SMUD will provide liaison to county office of emergency services (OES) during fire incidents. SMUD has two primary coordination points and maintains relationships with Placer, Solano, and Yuba counties. Several representatives are listed as being part of the EOC structure. SMUD applies the SEMS framework for its incident command structure.</td>
<td>SMUD ensures, through the Plan, that communication lines are clearly determined in sequencing the required events and notification process when an emergency event is activated. SMUD's reach with vested stakeholders in the Sacramento region positions the utility as having the ability to develop strong relationships with the listed entities.</td>
</tr>
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### Identified Practice Strategy

<table>
<thead>
<tr>
<th>Identified Practice Strategy</th>
<th>Mitigation Rationale</th>
<th>SMUD Applicability</th>
<th>Plan Elements</th>
<th>Determination</th>
</tr>
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<tbody>
<tr>
<td>Coordination with stakeholder agencies/entities with routine meetings to discuss emergency preparedness needs and areas of improvement, etc.</td>
<td>Communicating with vested stakeholders during wildfire mitigation activities, PSPS events, and general strategy development will help drive efforts to better align with the risk profile of the utility's service and asset territory. These efforts should occur throughout the year and wildfire mitigation plan planning process</td>
<td>SMUD is uniquely positioned as a BANC representative and state capital electric service provider, allowing greater breadth of collaboration avenues.</td>
<td>SMUD interacts with executive staff of local governments and agencies, local officials, state delegates, federal representatives and critical facilities to keep them updated on wildfire mitigation efforts. SMUD additionally works with local governing jurisdictions, public utilities, nonprofits and other services to help develop partnerships and strategy opportunities to further mitigate wildfire risk</td>
<td>SMUD meets the practice strategies as being an integral entity in ensuring key interested stakeholders are engaged to help develop collaborative strategies as well as keep the customer base and key contacts informed on the Plan's efforts and successes. SMUD has been an integral entity in assisting in determining the fire hazard zones with joint efforts of state agencies.</td>
</tr>
</tbody>
</table>

### De-Energization & Recloser Operations

| Disabling reclosers through blocking reclosing operations (distribution level) in HFTDs during the fire season and/or during Red Flag Warnings issued by the National Weather Service (or as fire risk potential designates) | Disabling reclosing reduces the number of potential ignition events during a fault condition | Reclosing operations should be defined within the Plan as per statute. Operational best practices align with having settings that align with fire potential weather conditions to prevent potential ignition | SMUD adopted procedures for the operation of its reclosers during its determined fire season and when RFW are issued within and immediately surrounding the PCA | SMUD provides its protocols for recloser operations as it relates to wildfire. No new high-speed clearing is proposed to be installed. SMUD describes blocking or disabling reclosing operations. |
### Identified Practice Strategy

#### Ground patrol as well as aerial inspection practices

Routine ground patrols are implicit practices in equipment and vegetation inspection protocols. Increasing the frequency, especially in HFTDs, presents as effective preventative measures and ensures the integrity of electrical equipment. Aerial inspections, by way of helicopters, will lead to greater coverage of the service territory and areas adjacent to required clearances.

**Mitigation Rationale**

Ground patrols are a required strategy in ensuring safe and reliable delivery of electricity. When access concerns arise, aerial inspections provide better coverage in surveying and inspecting electrical equipment throughout the utility service territory.

**SMUD Applicability**

Aerial inspections of transmission lines through helicopters in order to inspect the condition of line structures and attachments. These are performed twice a year within the UARP area and once within the Sacramento Valley.

**Plan Elements**

SMUD adequately performs ground and aerial patrols, through detailed protocols within the Plan.

**Determination**

- SMUD adequately performs ground and aerial patrols, through detailed protocols within the Plan.

#### Wildfire Infrastructure Protection Teams

An internal team to help coordinate efforts to ensure the Plan is being followed as well as coordinating efforts to enhance the Plan’s strategies and quality check that activities are being performed and tracked aligning with the Plan.

**Mitigation Rationale**

An internal team to prepare and protect physical aspects of the electric system as well as ensure effective mitigation measures are carried out would be a prudent activity to pursue.

**Plan Elements**

SMUD’s Plan provides a structure for Safety and Physical Security Protection Teams, achieving similar goals in asset protection and risk mitigation.

**Determination**

- SMUD plans to utilize internal teams targeting risk mitigation, meeting the best practice effort.

#### Infrared corona scanning and high definition imagery technology for inspection practices along with visual inspections

Infrared and ultraviolet (Corona) light cameras are typically mounted to helicopters with special attention to splices, conductor connection/attachment points, and insulators for a detailed visual of electrical equipment.

**Mitigation Rationale**

Infrared is an accepted practice that enables better awareness of the utility’s equipment.

**Plan Elements**

Line inspectors use infrared inspections through ground patrol efforts to make detailed inspections on assets and utilize clear-viewing tools such as binoculars to assess visible damage or issues warranting corrective action.

**Determination**

- This practice is provided, through detailed procedures, within the Plan.
RESOLUTION NO. _______________

WHEREAS, Senate Bill 901 (2018) and Assembly Bill 1054 (2019) revised the California Public Utilities Code section 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, California Public Utilities Code section 8387 also requires that the POU 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, the WMP must be submitted to the California Wildfire Safety Advisory Board on or before July 1 of each calendar year; and

WHEREAS, staff prepared the SMUD WMP and conducted a public outreach effort; and

WHEREAS, as part of the public outreach effort SMUD launched a new webpage at smud.org/WildfireSafety; and

WHEREAS, a public comment draft of the WMP was posted on the WildfireSafety webpage and made available for public review and comment from May 3, 2019, through June 21, 2019; and

WHEREAS, notice of SMUD’s WMP process was published in the local newspapers and posted on SMUD’s social media; and
WHEREAS, notice of SMUD’s WMP was provided by mail and e-mail to over 500 stakeholders, including first responders, local agencies, utility providers, and medical providers, and others that provide services to our communities; and

WHEREAS, SMUD met with the El Dorado and Folsom Fire Safe Councils and the Sacramento County Healthcare Coalition to provide information regarding SMUD’s WMP process; and

WHEREAS, SMUD hosted two meetings at SMUD’s offices inviting local agencies, emergency responders and other service providers; and

WHEREAS, SMUD considered all comments received, provided responses to the comments and updated the draft WMP; and

WHEREAS, the WMP was presented to the Board of Director’s Policy Committee at a duly noticed public meeting on September 11, 2019, and the Committee received comment from the public at that meeting; and

WHEREAS, SMUD contracted with Navigant Consulting, Inc. ("Navigant") as a qualified independent evaluator and Navigant completed a review and assessment of the SMUD WMP; and

WHEREAS, the SMUD WMP and independent evaluator’s report prepared by Navigant were presented at a duly noticed public Board meeting on October 17, 2019, at which additional 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 Wildfire Mitigation Plan
(WMP) substantially in the form set forth in Attachment ____ 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.
**STAFFING SUMMARY SHEET**

<table>
<thead>
<tr>
<th>TO</th>
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<tbody>
<tr>
<td>1. Emily Bacchini</td>
<td>6. Jennifer Davidson</td>
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<tr>
<td>3. Mike Deis</td>
<td>8.</td>
</tr>
<tr>
<td>4. Gary King</td>
<td>9. Legal</td>
</tr>
<tr>
<td>5. Stephen Clemons</td>
<td>10. CEO &amp; General Manager</td>
</tr>
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**Consent Calendar**
- Yes
- X
- No

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<th>MAIL STOP</th>
<th>EXT.</th>
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<tr>
<td>Rob Ferrera</td>
<td>Environmental Services</td>
<td>B209</td>
<td>6676</td>
<td>9/27/2019</td>
</tr>
</tbody>
</table>

**NARRATIVE:**

**Requested Action:**
Adopt the California Environmental Quality Act (CEQA) Initial Study and Final Mitigated Negative Declaration (MND) for the Pocket/Greenhaven 69kV Underground Cable Reliability Project (Project), adopt the Mitigation Monitoring and Reporting Program, and approve the Project.

**Summary:**
SMUD proposes to replace approximately 2 miles of existing underground 69kV cable within existing right-of-way and construction of up to 15 new utility holes along the route to allow for improved access and maintenance of the power line. The project is located within a two-mile corridor in the Pocket/Greenhaven neighborhood of the City of Sacramento, within western Sacramento County. The project extends generally from a connection point south of Florin Road and east of Interstate 5 (I-5) in Sacramento to two existing SMUD-owned electric distribution substations within the Pocket/Greenhaven neighborhood. Between those points, the project is generally located along Florin Road and Gloria Drive between Florin Road and the Gloria-Florin electric distribution substation (approximately 400 feet west of Florin Road), and Havenside Drive between Florin Road and Havenside-Canal electric distribution substation.

The proposed project is anticipated to occur between November 2019 and December 2020.

The Draft Initial Study (IS)/MND was released on August 7, 2019, for a 30-day agency and public comment period. SMUD placed a public notice in the Sacramento Bee and sent notices to landowners within 1,000 feet of the project. A public meeting was held on August 21, 2019. Approximately 25 members of the public attended. To date, six comments have been received from agencies and the public. A copy of the correspondence and the responses to all comments are included in the Final IS/MND. A Mitigation Monitoring and Reporting Plan was developed that describes specific mitigation measures for air quality, biological resources, cultural resources, transportation and circulation, and tribal cultural resources that are required to achieve a finding of no significant impacts for any environmental factors affected by the Project. Upon implementation of the recommended mitigation measures, the IS/MND found the Proposed Pocket/Greenhaven 69kV Underground Cable Reliability Project construction and operation would not result in significant and unavoidable environmental impacts.

**Board Policy:**
- The proposed project supports the following Board adopted policies: SD-4, System Reliability; SD-7, Environmental Leadership. The project supports Policy SD-4 by ensuring maintenance can be performed with fewer outages in the Pocket/Greenhaven neighborhood to keep the electric system in good repair, and to make the necessary upgrades, maintain load serving capability, and meet regulatory standards. The project supports Policy SD-7 by ensuring SMUD compliance with CEQA.

**Benefits:**
The proposed project would provide for improved maintenance of the underground 69kV cable and improved service reliability supporting the Pocket/Greenhaven neighborhood.
Cost/Budgeted: The Project budget is $11,300,000.

Alternatives: Adopt the Initial Study and Mitigated Negative Declaration, Mitigation Monitoring Plan; Return the documents to staff for further study; or Reject the Initial Study and Mitigated Negative Declaration.

Affected Parties: The City of Sacramento, Caltrans, Wilton Rancheria, United Auburn Indian Community and the public.

Coordination: Grid Assets: Substations, Grid Strategy & Operations: Distribution Operations, Grid Planning; Regional & Local Government; Community Engagement, Marketing & Corporate Communications; Environmental Services; Real Estate Services; Customer Operations; The City of Sacramento, Wilton Rancheria, United Auburn Indian Community

Presenter: Rob Ferrera

Additional Links:

SUBJECT Pocket/Greenhaven 69kV Underground Cable Reliability Project

ITEM NO. (FOR LEGAL USE ONLY) 11

ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.
Sacramento Municipal Utility District

Pocket/Greenhaven 69kV Underground Cable Reliability Project

Final Initial Study and Proposed Mitigated Negative Declaration • State Clearinghouse Number 2019089021 • October 7, 2019

Lead Agency:

Sacramento Municipal Utility District
6201 S Street, MS H201
Sacramento, CA 95817-1899

or

P.O. Box 15830 MS H201
Sacramento, CA 95852-1830
Attn: Rob Ferrera
(916) 732-6676 or rob.ferrera@smud.org

Prepared by:

Ascent Environmental
455 Capitol Mall, Suite 300
Sacramento, CA 95814
Contact: Cori Resha
Cori.Resha@ascentenvironmental.com
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A Draft IS/MND as Revised in the Final IS/MND

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# ACRONYMS AND OTHER ABBREVIATIONS

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<tr>
<td>BACT</td>
<td>best available control technology</td>
</tr>
<tr>
<td>BMP</td>
<td>best management practice</td>
</tr>
<tr>
<td>Caltrans</td>
<td>California Department of Transportation</td>
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<tr>
<td>I-5</td>
<td>Interstate 5</td>
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<tr>
<td>IS/MND</td>
<td>Initial Study/Mitigated Negative Declaration</td>
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<td>SMAQMD</td>
<td>Sacramento Municipal Air Quality Management District</td>
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<td>SMUD</td>
<td>Sacramento Municipal Utility District</td>
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EXECUTIVE SUMMARY

Introduction

This Initial Study (IS) and Mitigated Negative Declaration (MND) has been prepared to evaluate the potential physical environmental impacts associated with Sacramento Municipal Utility District’s (SMUD) Pocket/Greenhaven 69kV Underground Cable Reliability Project (project) in compliance with the California Environmental Quality Act (CEQA). SMUD is the lead agency responsible for complying with the provisions of CEQA.

Project Description

The Sacramento Municipal Utility District (SMUD) proposes to replace approximately 2 miles of existing underground cable and construct up to 15 new manholes in the Pocket/Greenhaven neighborhood of the City of Sacramento. The project alignment begins southeast of the Florin Road interchange on Interstate 5 (I-5) at two riser poles located between I-5 and a drainage canal. The project alignment crosses beneath I-5 and runs in a northwest direction through a parking lot to Florin Road, where it heads west along the southern edge of Florin Road. The alignment continues to Gloria Drive, where it turns left and terminates at the Gloria-Florin distribution substation (approximately 400 feet west of Florin Road). The alignment splits at Havenside Drive, and continues south along Havenside Drive until it terminates at the Havenside-Canal distribution substation located immediately west of the Pocket Canal. For the areas beneath I-5 and Pocket Canal, existing underground lines would be removed and new line installed within conduit or via a new overhead crossing of I-5. For the remainder of the alignment, the underground cable would be replaced via open trenching.

Findings

As lead agency for compliance with CEQA requirements, SMUD finds that the project would be implemented without causing a significant adverse impact on the environment. Mitigation measures for potential impacts associated with Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Traffic and Transportation, and Tribal Cultural Resources would be implemented as part of SMUD’s project through adoption of a mitigation monitoring and reporting program (MMRP).

Cumulative Impacts

CEQA requires lead agencies to assess whether a project’s incremental effects are significant when viewed in connection with the effects of other past, present, and foreseeable future projects. Based on the analysis presented in the Draft IS/MND, the project would not contribute incrementally to considerable environmental changes when considered in combination with other projects in the area. Therefore, the potential cumulative environmental effects of the project were determined to be less than
cumulatively considerable. All identified potentially significant impacts would be mitigated to less than significant.

**Growth-Inducing Impacts**

SMUD exists as a public agency to supply electrical energy to customers in the Sacramento area. It has an obligation to serve all new development approved by the local agencies and Sacramento County. SMUD does not designate where and what new development may occur. The project would increase power levels and reliability in the City of Sacramento, but does not have the potential to foster economic or population growth. The project would be consistent with SMUD’s established strategic direction, which includes meeting customers’ electrical energy needs, and is consistent with long-range planning documents prepared by the City of Sacramento, such as the 2035 General Plan, and would support development at levels approved by the City as the governing land use authority.

**Determination**

On the basis of this evaluation, SMUD concludes:

- The project does not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered species, or eliminate important examples of the major periods of California history or prehistory.

- The project would not achieve short-term environmental goals to the disadvantage of long-term environmental goals.

- The project would not have impacts that are individually limited, but cumulatively considerable.

- The project would not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly.

- No substantial evidence exists to demonstrate that the project would have a substantive negative effect on the environment.

---

October 7, 2019

Rob Ferrera
Environmental Management Specialist II

Date

Page ES-2
1.1 Project Overview

The Sacramento Municipal Utility District (SMUD) proposes to replace approximately 2 miles of existing underground cable and construct up to 15 new manholes in the Pocket/Greenhaven neighborhood of the City of Sacramento. The project alignment begins southeast of the Florin Road interchange on Interstate 5 (I-5) at two riser poles located between I-5 and a drainage canal. The project alignment crosses beneath I-5 and runs in a northwest direction through a parking lot to Florin Road, where it heads west along the southern edge of Florin Road. The alignment continues to Gloria Drive, where it turns left and terminates at the Gloria-Florin distribution substation (approximately 400 feet west of Florin Road). The alignment splits at Havenside Drive, and continues south along Havenside Drive until it terminates at the Havenside-Canal distribution substation located immediately west of the Pocket Canal. For the areas beneath I-5 and Pocket Canal, existing underground lines would be removed and new line installed either within conduit or via a new overhead crossing of I-5. For the remainder of the alignment, the underground cable would be replaced via open trenching.

1.2 Environmental Process Summary

1.2.1 Review of the Draft IS/MND

Copies of the Draft IS/MND were made available in hard copy form for public review at SMUD offices (Customer Service Center and East Campus Operations Center) a, posted on SMUD’s public website, and were distributed to the State Clearinghouse via the Governor’s Office of Planning and Research. A notice of intent was distributed to property owners and occupants of record within 1,000 feet of the project alignment. The 30-day public review period began on August 7, 2019 and ended on September 6, 2019. SMUD held a public meeting on August 20, 2019 at Elks Lodge #6 (6446 Riverside Boulevard in Sacramento). Two written comment cards were received at the public meeting. In addition, three comment letters were received from agencies during the comment period, as well as an email with comments submitted by a local resident. These six comment letters and SMUD’s written responses to each comment received are presented in Section 2.0 of this document. As noted in Section 2.0, the conclusions presented in the Draft IS/MND were not altered in response to comments received.

1.2.2 Preparation of the Final IS/MND

The comment letters were reviewed, and responses were prepared (see Section 2.0). Based on the comments received, there were no new environmental effects identified. The Final Initial Study/Mitigated Negative Declaration (IS/MND) does not incorporate any changes to the project description or to the Initial Study checklist responses in the Draft IS/MND (provided as Appendix A of this Final IS/MND).
CEQA Guidelines

CEQA Guidelines Section 15073.5 provides the conditions for determining if recirculation of a negative declaration is required before adoption. Section 15073.5(a) states:

A lead agency is required to recirculate a negative declaration when the document must be substantially revised after public notice of its availability has previously been given pursuant to Section 15072, but prior to adoption.

According to Section 15073.5(b), a substantial revision is defined as:

(1) A new, avoidable significant effect is identified, and mitigation measures or project revisions must be added in order to reduce the effect to insignificance, or

(2) The lead agency determines that the proposed mitigation measures or project revisions will not reduce potential effects to less than significance and new measures or revisions must be required.

SMUD has determined that none of the aforementioned conditions were satisfied following public notice; therefore, recirculation of the Draft IS/MND is not required. SMUD, as the lead agency, may proceed to present the Final IS/MND to the SMUD Board for action.

Circumstances under which recirculation is not required include:

(1) Mitigation measures are replaced with equal or more effective measures pursuant to Section 15074.1.

(2) New project revisions are added in response to written or verbal comments on the project’s effects identified in the proposed negative declaration which are not new avoidable significant effects.

(3) Measures or conditions of project approval are added after circulation of the negative declaration which are not required by CEQA, which do not create new significant environmental effects and are not necessary to mitigate an avoidable significant effect.

(4) New information is added to the negative declaration which merely clarifies, amplifies, or makes insignificant modifications to the negative declaration. (Section 15073.5[c])

No changes to the checklist in the Draft IS/MND is required; therefore, recirculation of the Draft IS/MND is not required.
1.3 Mitigation Measures

This section presents the mitigation measures SMUD would implement to address potential impacts on Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Traffic and Transportation, and Tribal Cultural Resources. These measures reflect text revisions as documented in the Final IS/MND.

1.3.1 Air Quality

As discussed in Section 3.3 of the Draft IS/MND, project construction activities would result in temporary generation and emissions of criteria air pollutants and precursors. The modeling of anticipated construction-generated emissions revealed that the project, without the application of best management practices (BMPs) and best available control technology (BACT), would generate daily emissions of particulate matter less than 10 microns in diameter and particulate matter less than 2.5 microns in diameter in excess of the Sacramento Municipal Air Quality Management District (SMAQMD) thresholds. Mitigation Measure 3.3-1 requires SMUD’s contractor to implement SMAQMD emission control practices and would reduce impacts to less than significant.

**Mitigation Measure 3.3-1: Implement SMAQMD Basic Construction Emission Control Practices.**

*During construction, the contractor shall comply with and implement SMAQMD’s Basic Construction Emission Control Practices, which includes SMAQMD-recommended BMPs and BACT, for controlling fugitive dust emissions. Measures to be implemented during construction include the following:*

- Water all exposed surfaces at least two times daily. Exposed surfaces include, but are not limited to, soil piles, graded areas, unpaved parking areas, staging areas, and access roads.

- Cover or maintain at least two (2) feet of freeboard space on haul trucks transporting soil, sand, or other loose material on the site. Cover any haul trucks that will be traveling along freeways or major roadways.

- Use wet power vacuum street sweepers to remove any visible track-out mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.

- Limit vehicle speed on unpaved roads to 15 miles per hour.

- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.

- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes (required by California Code of Regulations Title 13,
Sections 2449[d][3] and 2485). Provide clear signage that posts this requirement for workers at the entrances to the site.

- Maintain all construction equipment in proper working condition according to manufacturer’s specifications. Equipment will be checked by a certified mechanic and determined to be running in proper condition before it is operated.

1.3.2 Biological Resources

As discussed in detail in Section 3.4 of the Draft IS/MND, mature trees in the project alignment and adjacent area could support bird nests. To avoid disturbance to nesting birds, SMUD would implement the following mitigation measure to reduce impacts to less than significant.

**Mitigation Measure 3.4-1: Avoid disturbance of nesting birds**

If construction will occur during the nesting season, a SMUD project biologist/biological monitor will conduct pre-construction nesting bird surveys to determine if birds are nesting in the work area.

The pre-construction nesting bird surveys will identify on-site bird species and any nest-building behavior. If no nesting birds are found in or within 500 feet of the project alignment during the pre-construction clearance surveys, construction activities may proceed as scheduled.

If pre-nesting behavior is observed, but an active nest has not yet been established (e.g., courtship displays, but no eggs in a constructed nest), a nesting bird deterrence and removal program will be implemented. Such deterrence methods include removal of previous year’s nesting materials and removal of partially completed nests in progress. Once a nest is situated and identified with eggs or young, it is considered to be “active” and the nest cannot be removed until the young have fledged.

Because bird species may breed multiple times in a season, monitoring for nesting birds will continue during the nesting season to address new arrivals. A qualified biologist will conduct bi-weekly nesting bird surveys of suitable nesting habitat in the construction area during the nesting season and deter establishment of nests by removing partial completed nests.

If an active nest is found in or within 500 feet of the project alignment during construction, a “No Construction” buffer zone will be established around the active nest (usually a minimum radius of 50 feet for passerine birds and 500 feet for raptors) to minimize the potential for disturbance of the nesting activity. The project biologist/biological monitor will determine and flag the appropriate buffer size required, based on the species, specific situation, tolerances of the species, and the nest location. Project activities will resume in the buffer area when the project biologist/biological monitor has determined that the nest(s) is (are) no longer active or the biologist has determined that with implementation of an appropriate buffer, work activities would not disturb the birds nesting behavior.
If special-status bird species are found nesting in or within 500 feet of the project alignment, the project biologist/biological monitor shall notify SMUD’s project manager to notify CDFW or USFWS, as appropriate, within 24 hours of first nesting observation.

1.3.3 Cultural Resources

A records search for the project alignment failed to identify any known historical or archaeological resources. However, it is possible that previously-undiscovered historical or archaeological resources could be located beneath the ground surface and could by adversely affected by project construction activities. Therefore, SMUD would implement Mitigation Measure 3.5-1 to reduce impacts related to archaeological resources to less than significant.

**Mitigation Measure 3.5-1: Worker awareness and response for cultural and tribal cultural resources**

Prior to the start of construction, SMUD shall provide information to the construction contractor and SMUD’s project superintendent regarding the potential for cultural and tribal cultural resources that could be encountered during ground disturbance, the regulatory protections afforded to such finds, and the procedures to follow in the event of discovery of a previously unknown resource, including notifying SMUD representatives.

If workers observe any evidence of prehistoric, historic, paleontological, or tribal cultural resources (e.g., freshwater shells, beads, bone tool remnants, bones, stone tools, grinding rocks, foundations or walls, structures, refuse deposits, or fossils), all work within 50 feet of the find shall cease immediately and SMUD representatives shall be notified. An archaeologist meeting the Secretary of the Interior’s required qualifications or a paleontologist meeting the Society of Vertebrate Paleontology’s minimum qualifications shall be consulted to assess the significance of the cultural or paleontological find and recommend appropriate measure for the treatment of the resource. Potential treatment may include no action (i.e., the resource is not significant), avoidance of the resource, or data recovery. If the resource may be of Native American origin, SMUD shall consult with the tribes to whom the resource could have importance.

In addition, although records do not indicate the presence of human remains, it is possible that previously-undiscovered human remains could be encountered during project construction activities. SMUD would implement Mitigation Measure 3.5-2 to reduce potential impacts related to human remains to less-than-significant levels.

**Mitigation Measure 3.5-2: Halt ground disturbance upon discovery of human remains**

If human remains are discovered during any project activities, potentially damaging ground disturbing activities within 100 feet of the remains shall be halted immediately, and SMUD shall notify the Sacramento County coroner and the NAHC immediately, as required by Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.05. If the remains are determined by NAHC to be Native American, the guidelines of the NAHC shall be adhered to in the treatment and disposition of the
remains. SMUD shall also retain a professional archaeologist with Native American burial experience to conduct a field investigation of the specific site and consult with the Most Likely Descendant, if any, identified by the NAHC. Following the coroner’s and NAHC’s findings, the archaeologist, and the NAHC-designated Most Likely Descendant shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in PRC Section 5097.94.

### 1.3.4 Geology and Soils

As discussed in Section 3.7 of the Draft IS/MND, project-related earthmoving activities would occur in the Pleistocene-age Riverbank Formation. Because numerous vertebrate fossils have been recovered from the Riverbank Formation in northern and central California, including localities that are close to the project site, this formation is considered to be paleontologically sensitive. While there are no known paleontological resources within the project alignment, implementation of Mitigation Measure 3.5-1 would reduce effects on previously unknown paleontological resources to less than significant.

**Mitigation Measure 3.5-1: Worker awareness and response for cultural and tribal cultural resources**

Prior to the start of construction, SMUD shall provide information to the construction contractor and SMUD’s project superintendent regarding the potential for cultural and tribal cultural resources that could be encountered during ground disturbance, the regulatory protections afforded to such finds, and the procedures to follow in the event of discovery of a previously unknown resource, including notifying SMUD representatives.

If workers observe any evidence of prehistoric, historic, paleontological, or tribal cultural resources (e.g., freshwater shells, beads, bone tool remnants, bones, stone tools, grinding rocks, foundations or walls, structures, refuse deposits, or fossils), all work within 50 feet of the find shall cease immediately and SMUD representatives shall be notified. An archaeologist meeting the Secretary of the Interior’s required qualifications or a paleontologist meeting the Society of Vertebrate Paleontology’s minimum qualifications shall be consulted to assess the significance of the cultural or paleontological find and recommend appropriate measure for the treatment of the resource. Potential treatment may include no action (i.e., the resource is not significant), avoidance of the resource, or data recovery. If the resource may be of Native American origin, SMUD shall consult with the tribes to whom the resource could have importance.

### 1.3.5 Traffic and Transportation

Project construction would temporarily interfere with existing vehicle, transit, bicycle, and pedestrian circulation as it would include temporary closures of roads, sidewalks, transit stops, and bike lanes. Implementation of Mitigation Measure 3.17-1 would reduce impacts related to the circulation system to less than significant by ensuring that accessibility and connectivity are maintained during construction activities.
Mitigation Measure 3.17-1: Traffic Control Plan

Prior to project construction within or adjacent to public roadways, SMUD’s construction contractor shall develop a traffic control plan for the project and submit the plan to the City of Sacramento’s Department of Public Works. The plan shall identify temporary lane, sidewalk, bicycle lane, and transit stop closures and provide information regarding how access and connectivity will be maintained during construction activities. The plan shall include details regarding traffic controls that would be employed, including signage, detours, and flaggers. The traffic control plan shall be implemented by the contractor during construction to allow for the safe passage of vehicles, pedestrians, and cyclists along the project route.

1.3.6 Tribal Cultural Resources

Although there are no known tribal cultural resources within the project alignment, consulting Native American tribes requested to be able to visit the site periodically to evaluate the potential for tribal cultural resources. Mitigation Measure 3.18-1 requires SMUD to invite the tribes to periodically visit and inspect the project alignment and would reduce impacts related to tribal cultural resources to less than significant.

Mitigation Measure 3.18-1: Periodic Monitoring for Potential Unknown Tribal Cultural Resources

SMUD shall periodically invite representatives of interested Native American tribes to inspect the active areas of the project alignment, including any soil piles, trenches, or other disturbed areas. Invitations shall be extended to the tribe at least 24 hours prior to excavation of manholes and would allow for inspection to occur within 7 days of the invitation. In the event that tribal representatives or construction workers find evidence of potential tribal cultural resources, the procedures identified in Mitigation Measure 3.5-1 shall be implemented.

1.4 CEQA Determination

SMUD has determined that although the proposed project could have a significant effect on the environment, a significant effect would not occur with implementation of the aforementioned mitigation measures because the proposed mitigation measures would reduce the effects of any impacts to below the established thresholds of significance. Therefore, SMUD published the Mitigated Negative Declaration on August 7, 2019, and SMUD’s Board of Directors will consider adoption of the MND at a board meeting in October 2019.
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2 Comments and Responses

2.1 Introduction

The Draft IS/MND for the proposed project was circulated for a 30-day public review period (August 7, 2019 to September 6, 2019). During the public comment period, SMUD received six comment letters, including three comment letters from agencies and three from interested members of the public (see Table 2-1)

<table>
<thead>
<tr>
<th>Letter Number</th>
<th>Name</th>
<th>Email/Meeting Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Judy Connolly</td>
<td>August 20, 2019 Public Meeting</td>
</tr>
<tr>
<td>2</td>
<td>Sherrie Lowenstein</td>
<td>August 20, 2019 Public Meeting</td>
</tr>
<tr>
<td>3</td>
<td>Jody Wright</td>
<td>August 20-28, 2019 Email</td>
</tr>
<tr>
<td>4</td>
<td>Jordan Hensley, Environmental Scientist</td>
<td>Central Valley Regional Water Quality Control Board</td>
</tr>
<tr>
<td>5</td>
<td>Alex Fong, Branch Chief</td>
<td>California Department of Transportation, Office of Transportation Planning – South</td>
</tr>
<tr>
<td>6</td>
<td>Kevin Hocker, City Urban Forester</td>
<td>City of Sacramento, Department of Public Works, Urban Forestry</td>
</tr>
</tbody>
</table>

2.2 Responses to Comments

The comment letters identified above and SMUD’s responses to comments are provided on the following pages.
The comment expresses satisfaction with SMUD’s efforts for the project. The comment does not address the adequacy of the analysis of the Draft IS/MND. No further response is needed.
2-1 The comment questions whether the activities in the commenter's neighborhood would directly affect the commenter's landscaping and suggests the use of more detailed maps in the future. The area referenced is not part of the Pocket/Greenhaven 69kV Underground Cable Reliability Project, but rather an area where routine maintenance activities are taking place. The comment does not address the adequacy of the analysis of the Draft IS/MND. No further response is needed.
FYI...

Daniel Honeyfield
Manager, T&D Maintenance Planning
w.916-732-7285 | c.916-790-5575 | daniel.honeyfield@smud.org

SMUD | Powering forward. Together.
4401 Bradshaw Road, Mail Stop EA401, Sacramento, CA 95852
P.O. Box 16630, Sacramento, CA 95852-0630

From: Jody Wright <jdwright@ix.netcom.com>
Sent: Wednesday, August 28, 2019 6:42 AM
To: Daniel J. Honeyfield <Daniel.Honeyfield@smud.org>
Subject: RE: Pocket/Greenhaven Underground Cable Reliability

......CAUTION: Extern...
into lines, animals getting into our equipment, and tree branches landing into our lines.

We have a very thorough cable replacement program, where we monitor all cable outages. Some areas with the same type of equipment can have distinctly different failure modes due to multiple variables. Project 10 is replacing the 69kV cable. This cable failed twice in 2017 and caused outages to almost the entire Pocket area. This project is being implemented due to the number of customers impacted from the past cable failures. Our cable replacement program not only considers the number of customers impacted but also the number of outages due to cable failure.

I hope I have provided some additional clarification.

Please let me know if you have any additional questions.

Thanks,

Daniel

Daniel Honeyfield
Manager, T&D Maintenance Planning
w: 916-732-6484 | daniel_honeyfield@smud.org

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4401 Bradshaw Road, Mail Stop EA401, Sacramento, CA 95862
P.O. Box 15650, Sacramento, CA 95852-0650

From: Jody Wright <jdwright@ix.netcom.com>
Sent: Sunday, August 25, 2019 2:35 PM
To: Daniel J. Honeyfield <Daniel.Honeyfield@smud.org>
Subject: RE: Pocket/Greenhaven Underground Cable Reliability

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Mobile users should email phishing@smud.org

Hi Daniel,

Thank you for your rapid and informative response. There is just one point that still doesn’t make sense to me. As I mentioned, I lived on Perera Circle for 20 years until 2014. During that two-decade period outages were very rare. Then I moved to the vicinity of Garcia Bend Park. In the past five years I have experienced more outages than I did in the previous 20 years. Perera Circle is very near the Project 10 area. I would have expected many more outages in that location, but that was not the case. Why would there have been fewer outages nearer the Project 10 location than near Garcia Bend Park, relatively much farther away?

Thanks again for your time and consideration.

Jody Wright
Hi Judy,

Thank you for bringing this point to our attention. The related map has 13 projects scheduled to have work performed between 2019 and 2020. Project 10 is the focal point of the letter as it is the largest and most significant project.

Much of the cable in the south part of Pocket is newer and has better reliability. Based on our system configuration, cables are connected together in a way where a cable failure can impact customers hundreds of feet away. For example, cable failures within projects 1 and 10 have impacted your residence in the past. Replacing those cables will improve your reliability. SMUD will continue to monitor the performance of the south part of Pocket and issue new projects as they meet the criteria for replacement.

Thank you.

Daniel Honeyfield
Manager, T&D Maintenance Planning
w: 916-732-6484 | daniel.honeyfield@smud.org

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4401 Bradshaw Road, Mail Stop EM01, Sacramento, CA 95862
P.O. Box 15650, Sacramento, CA 95852-0630

From: jdwright@ix.netcom.com <jdwright@ix.netcom.com>
Sent: Tuesday, August 20, 2019 7:00 PM
To: Daniel J. Honeyfield <Daniel.Honeyfield@smud.org>
Subject: Pocket/Greenhaven Underground Cable Reliability

-------CAUTION: External email: To report suspicious emails, click “Report Email” icon in Outlook. Mobile users should email phishing@smud.org

Mr. Honeyfield,

I’m sorry I missed the meeting about this project tonight. I have a couple of questions:

The related map has an incomplete key. It indicates 13 projects of which the green ones have already been completed. Project 10, the current project, is in purple. What about the blue ones?
3-1 The comment thanks SMUD for the information provided in earlier emails. The comment does not address the adequacy of the analysis of the Draft IS/MND. No further response is needed.

3-2 The comment questions why there have been fewer outages nearer the project alignment than near Garcia Bend Park, relatively much farther away. A response to the question was provided in a subsequent email to the commenter from SMUD. The comment does not address the adequacy of the analysis of the Draft IS/MND. No further response is needed.

3-3 The comment questions why the south Pocket area is not included in the project as there have been many outages in the south Pocket area. An email response from SMUD states that much of the cable in the south Pocket area is newer and has better reliability. The comment does not address the adequacy of the analysis of the Draft IS/MND. No further response is needed.
Central Valley Regional Water Quality Control Board

22 August 2019

Rob Ferrera
Sacramento Municipal Utility District (SMUD)
6201 S Street, MS H201
Sacramento, CA 95817

CERTIFIED MAIL
7014 2120 0001 4292 4447

COMMENS TO REQUEST FOR REVIEW FOR THE MITIGATED NEGATIVE DECLARATION, POCKET/GREENHAVEN 69KV UNDERGROUND CABLE RELIABILITY PROJECT, SCH#2019059021, SACRAMENTO COUNTY

Pursuant to the State Clearinghouse’s 7 August 2019 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the Request for Review for the Mitigated Negative Declaration for the Pocket/Greenhaven 69kV Underground Cable Reliability Project, located in Sacramento County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state, therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan
The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State’s water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental...
Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the Water Quality Control Plan for the Sacramento and San Joaquin River Basins, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

**Antidegradation Considerations**

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

**II. Permitting Requirements**

**Construction Storm Water General Permit**

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the State Water Resources Control Board website at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml
Phase I and II Municipal Separate Storm Sewer System (MS4) Permits

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:

Industrial Storm Water General Permit

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ. For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

---

1 Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.
Clean Water Act Section 401 Permit – Water Quality Certification
If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at:
https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State
If USACE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqc/wqc2004-0004.pdf

Dewatering Permit
If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Risk General Order) 2003-0003 or the Central Valley Water Board’s Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Risk Waiver) R5-2013-0145. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Risk Waiver and the application process, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2013-0145_res.pdf

**Regulatory Compliance for Commercially Irrigated Agriculture**

If the property will be used for commercial irrigated agricultural, the discharger will be required to obtain regulatory coverage under the Irrigated Lands Regulatory Program.

There are two options to comply:

1. **Obtain Coverage Under a Coalition Group.** Join the local Coalition Group that supports land owners with the implementation of the Irrigated Lands Regulatory Program. The Coalition Group conducts water quality monitoring and reporting to the Central Valley Water Board on behalf of its growers. The Coalition Groups charge an annual membership fee, which varies by Coalition Group. To find the Coalition Group in your area, visit the Central Valley Water Board’s website at: https://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/regulatory_information/for_growers/coalition_groups/ or contact water board staff at (916) 464-4611 or via email at IrrLands@waterboards.ca.gov.

2. **Obtain Coverage Under the General Waste Discharge Requirements for Individual Growers, General Order R5-2013-0100.** Dischargers not participating in a third-party group (Coalition) are regulated individually. Depending on the specific site conditions, growers may be required to monitor runoff from their property, install monitoring wells, and submit a notice of intent, farm plan, and other action plans regarding their actions to comply with their General Order. Yearly costs would include State administrative fees (for example, annual fees for farm sizes from 11-100 acres are currently $1,277 + $8.53/Acre); the cost to prepare annual monitoring reports; and water quality monitoring costs. To enroll as an Individual Discharger under the Irrigated Lands Regulatory Program, call the Central Valley Water Board phone line at (916) 464-4611 or e-mail board staff at IrrLands@waterboards.ca.gov.

**Limited Threat General NPDES Permit**

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for Limited...
The comment provides background information about the Basin Plan and the process for amending the Basin Plan. It is understood that the standards of the Basin Plan may be amended over time. The comment does not address the adequacy of the analysis of the Draft IS/MND. No further response is needed.

4-2 The comment states that all wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan.

The Basin Plan is discussed on page 56 of the Draft IS/MND. Furthermore, as discussed on pages 56 and 57 of the Draft IS/MND, the project would comply with the applicable waste discharge requirements for the Municipal Separate Storm Sewer stormwater permit and the Statewide construction general NPDES permit. No changes are required to the Draft IS/MND in response to this comment.
The comment provides information about the permitting requirements that may be applicable to the project. Section 2.3 beginning on page 12 of the Draft IS/MND discusses the potential permits that may be required and includes permits issued by the Central Valley Regional Water Quality Control Board. Additionally, the impact discussion on pages 56 and 57 of the Draft IS/MND discuss the applicable permits and requirements related to water quality. No changes are required to the Draft IS/MND in response to this comment.
September 5, 2019

Rob Ferrera
Environmental Specialist
Sacramento Municipal Utility District
6201 S Street, MS H201
Sacramento, CA 95817

Pocket/Greenhaven 69kV Underground Cable Reliability Project – Draft Initial Study/Mitigated Negative Declaration (Draft IS/MND)

Dear Mr. Ferrera:

Thank you for including California Department of Transportation (Caltrans) in the application review for the project referenced above. Caltrans’ new mission, vision, and goals signal a modernization of our approach to California’s transportation system. We review this local development for impacts to the State Highway System (SHS) in keeping with our mission, vision and goals for sustainability/livability/economy, and safety/health. We provide these comments consistent with the state’s mobility goals that support a vibrant economy and build communities.

The Sacramento Municipal Utility District (SMUD) proposes to replace approximately 2 miles of existing underground cable and construct up to 15 new manholes in the Pocket/Greenhaven neighborhood of the City of Sacramento. The project alignment begins southeast of the Florin Road interchange on Interstate 5 (I-5) at two riser poles located between I-5 and a drainage canal. The project alignment crosses beneath I-5 and runs in a northwest direction through a parking lot to Florin Road, where it heads west along the southern edge of Florin Road. The alignment continues to Gloria Drive, where it turns left and terminates at the Gloria-Florin distribution substation (approximately 400 feet west of Florin Road). The alignment splits at Havenside Drive and continues south along Havenside Drive until it terminates at the Havenside-Canal distribution substation located immediately west of the Pocket Canal. For the areas beneath I-5 and Pocket Canal, existing underground lines would be removed, and new line installed within conduit. For the remainder of the alignment, the underground cable would be replaced via open trenching. Based on the information provided, Caltrans provides the following comments:

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"
Rob Ferrera
SMUD
September 5, 2019
Page 2

Right of Way:

All proposed work within Caltrans’ Right of Way (ROW) requires construction plans to be submitted for review and approval. This includes the proposed schedule for construction and all incidental submittals.

Caltrans also requires an issuance of permit(s) for movement of oversized or excessive loads on State Highways. Permit information for truck routes for the Sacramento region can be obtained by calling 916-322-129.

Traffic Operations:

1. Appendix B of the Draft IS/MND shows 132 days for the number of working days. Please provide the total number of working days, number of seasons, start and finish dates, number of shifts, number of employees in each shift, and hours of operation to determine the number of trips generated and their pattern.

2. In the Draft IS/MND on Page 9, Section 2.2, second paragraph, it states that, “…it is unknown whether the cable beneath I-5 is encased in conduit or direct buried. If the cable is within conduit, it will be replaced by pulling through the conduit. If the existing cable is direct-buried, the project would include installation of conduit and new cable beneath I-5 or a new overhead crossing over I-5.” If SMUD decides to install a conduit and cable beneath I-5, please clarify how this will affect the project schedule and operational impacts to I-5. We will need to be informed if SMUD will require any lane closures on our SHS.

3. In the Draft IS/MND on Page 74, Section 3.17.2, Item 3.17-1:
   It states that “Prior to project construction within or adjacent to public roadways, SMUD’s construction contractor shall develop a traffic control plan for the project and submit the plan to the City of Sacramento’s Department of Public Works.” Caltrans will need to be included in this discussion and, as part of the traffic control plan, we request it to show all detours, closures or restrictions to any State facilities (i.e. ramps, if any) due to the proposed construction work related to the installation of the conduit, and truck routes with the number of projected trips, time of day, and type of trucks per route.

Encroachment Permit/Maintenance:

An encroachment permit will be required from Caltrans for any work performed on the State ROW, if not previously obtained. To apply, a completed encroachment permit application, environmental documentation, and five sets of plans clearly indicating State ROW must be submitted to:

“Provide a safe, sustainable, integrated and efficient transportation system to enhance California’s economy and livability”
Rob Ferrera  
SMUD  
September 5, 2019  
Page 3

Hikmat Bsaibess  
California Department of Transportation  
District 3, Office of Permits  
703 B Street  
Marysville, CA 95901

Please provide our office with copies of any further actions regarding this project. We would appreciate the opportunity to review and comment on any changes related to this development.

If you have any questions regarding these comments or require additional information, please contact Uzma Rehman, Intergovernmental Review Coordinator for the City of Sacramento, by phone (530) 741-5173 or via email to uzma.rehman@dot.ca.gov.

Sincerely,

ALEX FONG, Branch Chief  
Office of Transportation Planning – South

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and quality of life."
The comment introduces California Department of Transportation's (Caltrans') interest in the project and provides a summary of the project description. The comment does not address the adequacy of the analysis of the Draft IS/MND. No further response is needed.

The comment states that all proposed work with Caltrans's right-of-way is subject to review and approval by Caltrans. The comment also notes that oversize or excessive loads may require permits issued by Caltrans. As noted in Section 2.3 (page 12) of the Draft IS/MND, SMUD acknowledges that permits issued by Caltrans may be required.

The comment requests detailed construction information, including the total number of working days, number of seasons, start and finish dates, number of shifts, number of employees in each shift, and hours of operation.

As noted in Section 2.2 (page 12) of the Draft IS/MND, construction activities could begin as early as November 2019 and, although construction activities may not be continuous, construction is anticipated to take approximately 8 months with completion by the end of 2020. At this time, the precise timing and details of construction activities around I-5 are not yet known, would be subject to site-specific conditions and are not required to ensure a proper analysis of potential environmental impacts under CEQA. More details will be developed once the project contractor has been selected. The Draft IS/MND presents a reasonably conservative analysis of the potential conditions that may occur as a result of construction activities associated with the project. As further construction details are developed, SMUD will contact Caltrans regarding any potential need for encroachment permits or permits from Caltrans.

The comment requests clarification about schedule impacts should the existing cable beneath I-5 not be encased in conduit. As discussed in Response to Comment 5-3, the exact schedule is not yet known but it is anticipated that construction activities would take approximately 8 months and conclude by the end of 2020. If it is determined that the existing underground freeway crossing cannot be re-used, SMUD will design a new underground or overhead crossing and submit for permit with Caltrans. No lane closures are anticipated for a new underground crossing. Further, the length of the construction period is not anticipated to be substantially affected in the event that the installation of additional conduit is required. However, in the event that any lane closures or amendments to permits associated with the project are required, SMUD would coordinate with the appropriate permitting agencies, including Caltrans.
5-5 The comment states that Caltrans needs to be included in discussions regarding a traffic control plan. The comment also requests that the traffic control plan show all detours, closures or restrictions to any State facilities (i.e., ramps, if any) due to the proposed construction work related to the installation of the conduit, and truck routes with the number of projected trips, time of day, and type of trucks per route. As part of the encroachment permit application process, SMUD will submit the traffic control plan and construction drawings to Caltrans for review.

5-6 The comment provides information regarding required submittals for an encroachment permit. Section 2.3 beginning on page 12 of the Draft IS/MND discusses the potential permits that may be required and includes permits issued by the Caltrans. No changes are required to the Draft IS/MND in response to this comment.
Hi Jodi,

I wasn't sure how best to make my comments so I copied the relevant text from page 32 of the document and provided my suggested edits in this email. Suggested deletions have strikethrough texts and suggested additions are in red text. I have essentially removed the language that characterizes SMUD as being exempt from the tree ordinance and I have asked SMUD to estimate the number of trees that will be removed as part of this project.

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Section 12.56.080(E) of the Sacramento City Code requires that before a public utility installs or performs maintenance on infrastructure that may cause injury to a city tree or private protected tree, the utility shall submit a plan for review and approval by the City's Public Works Director. While this provision essentially exempts SMUD from the City's tree ordinance, SMUD prefers to will coordinate with the City by providing tree work plans to the City that may be approved via email for approval prior to beginning any work in the vicinity of any city tree or private protected tree. Because the project would require the removal of approximately ## city and/or protected private trees, this impact is potentially significant.

**Mitigation Measure 3.4.2: Consistency with City of Sacramento Tree Ordinance**

While SMUD is exempt from the City's tree ordinance, SMUD shall provide to the City a plan for all tree work for approval. A certified arborist shall approve all work plans prior to submittal to the City. Tree planting will comply with the City's landscaping requirements (Sacramento City Code Sections 17.612.010 and 17.612.040). Protective fencing with tree protection signs will be erected around all trees (or tree groups) to be preserved during construction activities. The protective fence will be installed at the limits of the tree protection zone, usually the dripline of the tree or as defined by the project arborist or biologist. This will delineate the tree protection area and prevent unwanted activity in and around the trees and will reduce soil compaction in the root zones of the trees and other damage from heavy equipment. SMUD's construction contractor shall maintain the fence to keep it upright, taut, and aligned at all times. Fencing will be
The comment provides suggested revisions to the analysis and mitigation related to the Draft IS/MND’s discussion of the City of Sacramento’s tree ordinance. In response to this comment, the text beginning on page 32 of the Draft IS/MND has been amended to state:

**Less than Significant with Mitigation Incorporation.** The project alignment is located primarily within the rights-of-way of I-5, city streets, sidewalks, and landscaped vegetation. Where activities would take place adjacent to the street, and within the right of way of I-5, trees may need to be removed.

Section 12.56.080(E) of the Sacramento City Code requires that before a public utility installs or performs maintenance on infrastructure that may cause injury to a city tree or private protected tree, the utility shall submit a plan for review and approval by the City’s Public Works Director. While this provision essentially exempts SMUD from the City’s tree ordinance, SMUD prefers to will coordinate with the City by providing tree work plans to the City that may be approved via email any work in the vicinity of any city tree or private protected tree. Because SMUD will comply with Section 12.56.080(E), this impact would be less than significant and no mitigation is
required. Because the project would require the removal of city and/or protected private trees, this impact is potentially significant.

**Mitigation Measure 3.4-2: Consistency with City of Sacramento Tree Ordinance**

While SMUD is exempt from the City’s tree ordinance, SMUD shall provide to the City a plan for all tree work. A certified arborist shall approve all work plans prior to submittal to the City. Tree planting will comply with the City’s landscaping requirements (Sacramento City Code Sections 17.612.010 and 17.612.040).

Protective fencing with tree protection signs will be erected around all trees (or tree groups) to be preserved during construction activities. The protective fence will be installed at the limits of the tree protection zone, usually the dripline of the tree or as defined by the project arborist or biologist. This will delineate the tree protection area and prevent unwanted activity in and around the trees and will reduce soil compaction in the root zones of the trees and other damage from heavy equipment. SMUD’s construction contractor shall maintain the fence to keep it upright, taut, and aligned at all times. Fencing will be removed only after all construction activities near the trees are complete. Canopy or root pruning of any retained protected trees to accommodate construction and/or fire lane access will conform to the techniques and standards in the current edition of ANSI A300 (Tree, Shrub and Other Woody Plant Maintenance—Standard Practices) or International Society of Arboriculture Best Management Practices.

Implementation of Mitigation Measure 3.4-2 would minimize impacts to city and protected trees by requiring SMUD to submit a plan for work affecting city and protected trees for review and approval by the director of the department of public works. With implementation of this mitigation measure, potential impacts to city and protected trees would be reduced to a **less than significant** level.
3 Changes to Draft IS/MND Text

This section presents specific text changes made to the Draft IS/MND since its publication and public review. The changes are presented in the order in which they appear in the original document and are identified by the Draft IS/MND page number. Text deletions are shown in strikethrough (strikethrough), and text additions are shown in underline (underline).

It should be noted that the following revisions do not change the intent or content of the analysis or effectiveness of mitigation measures presented in the Draft IS/MND and do not necessitate recirculation of the Draft IS/MND or preparation of an Environmental Impact Report.

3.1 Changes to Draft IS/MND Text

The checklist on page 27 of the Draft IS/MND is revised as follows:

<table>
<thead>
<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
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<td>IV. Biological Resources. Would the project:</td>
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<td>a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?</td>
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<td>b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?</td>
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<td>c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?</td>
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<td>d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?</td>
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<td>e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</td>
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<td>f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?</td>
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</table>
The text beginning on page 32 of the Draft IS/MND is revised as follows.

**Less than Significant with Mitigation Incorporation.** The project alignment is located primarily within the rights-of-way of I-5, city streets, sidewalks, and landscaped vegetation. Where activities would take place adjacent to the street, and within the right of way of I-5, trees may need to be removed.

Section 12.56.080(E) of the Sacramento City Code requires that before a public utility installs or performs maintenance on infrastructure that may cause injury to a city tree or private protected tree, the utility shall submit a plan for review and approval by the City’s Public Works Director. While this provision essentially exempts SMUD from the City’s tree ordinance, SMUD prefers to will coordinate with the City by providing tree work plans to the City that may be approved via email for any work in the vicinity of any city tree or private protected tree. Because SMUD will comply with Section 12.56.080(E), this impact would be **less than significant** and no mitigation is required. Because the project would require the removal of city and/or protected private trees, this impact is potentially significant.

**Mitigation Measure 3.4-2: Consistency with City of Sacramento Tree Ordinance**

While SMUD is exempt from the City’s tree ordinance, SMUD shall provide to the City a plan for all tree work. A certified arborist shall approve all work plans prior to submittal to the City. Tree planting will comply with the City’s landscaping requirements (Sacramento City Code Sections 17.612.010 and 17.612.040). Protective fencing with tree protection signs will be erected around all trees (or tree groups) to be preserved during construction activities. The protective fence will be installed at the limits of the tree protection zone, usually the dripline of the tree or as defined by the project arborist or biologist. This will delineate the tree protection area and prevent unwanted activity in and around the trees and will reduce soil compaction in the root zones of the trees and other damage from heavy equipment. SMUD’s construction contractor shall maintain the fence to keep it upright, taut, and aligned at all times. Fencing will be removed only after all construction activities near the trees are complete. Canopy or root pruning of any retained protected trees to accommodate construction and/or fire lane access will conform to the techniques and standards in the current edition of ANSI A300 (Tree, Shrub and Other Woody Plant Maintenance—Standard Practices) or International Society of Arboriculture Best Management Practices.

Implementation of Mitigation Measure 3.4-2 would minimize impacts to city and protected trees by requiring SMUD to submit a plan for work affecting city and protected trees for review and approval by the director of the department of public works. With implementation of this mitigation measure, potential impacts to city and protected trees would be reduced to a **less than significant** level.
4 MITIGATION MONITORING AND REPORTING PROGRAM

4.1 Introduction

This mitigation monitoring and reporting program summarizes identified mitigation measures, implementation schedule, and responsible parties for the SMUD Pocket/Greenhaven 69kV Underground Cable Reliability Project (project). SMUD will use this mitigation monitoring and reporting program to ensure that identified mitigation measures, adopted as conditions of project approval, are implemented appropriately. This monitoring program meets the requirements of CEQA Guidelines Section 15074(d), which mandates preparation of monitoring provisions for the implementation of mitigation assigned as part of project approval or adoption.

4.2 Mitigation Implementation and Monitoring

SMUD will be responsible for monitoring the implementation of mitigation measures designed to minimize impacts associated with the Project. While SMUD has ultimate responsibility for ensuring implementation, others may be assigned the responsibility of actually implementing the mitigation. SMUD will retain the primary responsibility for ensuring that the Project meets the requirements of this mitigation plan and other permit conditions imposed by participating regulatory agencies.

SMUD will designate specific personnel who will be responsible for monitoring implementation of the mitigation that will occur during project construction. The designated personnel will be responsible for submitting documentation and reports to SMUD on a schedule consistent with the mitigation measure and in a manner necessary for demonstrating compliance with mitigation requirements. SMUD will ensure that the designated personnel have authority to require implementation of mitigation requirements and will be capable of terminating project construction activities found to be inconsistent with mitigation objectives or project approval conditions.

SMUD and its appointed contractor will also be responsible for ensuring that its construction personnel understand their responsibilities for adhering to the performance requirements of the mitigation plan and other contractual requirements related to the implementation of mitigation as part of Project construction. In addition to the prescribed mitigation measures, Table 4-1 (Mitigation Monitoring and Reporting Program) lists each identified environmental resource being affected, the corresponding monitoring and reporting requirement, and the party responsible for ensuring implementation of the mitigation measure and monitoring effort.
4.3 Mitigation Enforcement

SMUD will be responsible for enforcing mitigation measures. If alternative measures are identified that would be equally effective in mitigating the identified impacts, implementation of these alternative measures will not occur until agreed upon by SMUD.
<table>
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<tr>
<th>Checklist Section</th>
<th>Environmental Criteria</th>
<th>Mitigation Measure</th>
<th>Timing</th>
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| Air Quality       | a, b                   | *Mitigation Measure 3.3-1: Implement SMAQMD Basic Construction Emission Control Practices.*  
During construction, the contractor shall comply with and implement SMAQMD’s Basic Construction Emission Control Practices, which includes SMAQMD-recommended BMPs and BACT, for controlling fugitive dust emissions. Measures to be implemented during construction include the following:  
- Water all exposed surfaces at least two times daily. Exposed surfaces include, but are not limited to, soil piles, graded areas, unpaved parking areas, staging areas, and access roads.  
- Cover or maintain at least two (2) feet of freeboard space on haul trucks transporting soil, sand, or other loose material on the site. Cover any haul trucks that will be traveling along freeways or major roadways.  
- Use wet power vacuum street sweepers to remove any visible track-out mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.  
- Limit vehicle speed on unpaved roads to 15 miles per hour.  
- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used. | Throughout construction activities |
Table 4-1: Mitigation Monitoring and Reporting Program

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<td>• Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes (required by California Code of Regulations Title 13, Sections 2449[d][3] and 2485). Provide clear signage that posts this requirement for workers at the entrances to the site.</td>
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<td>• Maintain all construction equipment in proper working condition according to manufacturer’s specifications. Equipment will be checked by a certified mechanic and determined to be running in proper condition before it is operated.</td>
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<td>Biological Resources</td>
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<td><strong>Mitigation Measure 3.4-1: Avoid disturbance of nesting birds</strong></td>
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<td>If construction will occur during the nesting season, a SMUD project biologist/biological monitor will conduct pre-construction nesting bird surveys to determine if birds are nesting in the work area.</td>
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<td>The pre-construction nesting bird surveys will identify on-site bird species and any nest-building behavior. If no nesting birds are found in or within 500 feet of the project alignment during the pre-construction clearance surveys, construction activities may proceed as scheduled.</td>
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<td>If pre-nesting behavior is observed, but an active nest has not yet been established (e.g., courtship displays, but no eggs in a constructed nest), a nesting bird deterrence and removal program will be implemented. Such deterrence methods include removal of previous year’s nesting materials and removal of partially completed</td>
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Prior to construction activities.
nests in progress. Once a nest is situated and identified with eggs or young, it is considered to be “active” and the nest cannot be removed until the young have fledged.

Because bird species may breed multiple times in a season, monitoring for nesting birds will continue during the nesting season to address new arrivals. A qualified biologist will conduct bi-weekly nesting bird surveys of suitable nesting habitat in the construction area during the nesting season and deter establishment of nests by removing partial completed nests.

If an active nest is found in or within 500 feet of the project alignment during construction, a “No Construction” buffer zone will be established around the active nest (usually a minimum radius of 50 feet for passerine birds and 500 feet for raptors) to minimize the potential for disturbance of the nesting activity. The project biologist/biological monitor will determine and flag the appropriate buffer size required, based on the species, specific situation, tolerances of the species, and the nest location. Project activities will resume in the buffer area when the project biologist/biological monitor has determined that the nest(s) is (are) no longer active or the biologist has determined that with implementation of an appropriate buffer, work activities would not disturb the birds nesting behavior.

If special-status bird species are found nesting in or within 500 feet of the project alignment, the project biologist/biological monitor shall notify SMUD’s project manager to notify CDFW or USFWS, as appropriate, within 24 hours of first nesting observation.

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### Table 4-1: Mitigation Monitoring and Reporting Program

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<th>Environmental Criteria</th>
<th>Mitigation Measure</th>
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<tr>
<td>Cultural Resources</td>
<td>a, b</td>
<td><strong>Mitigation Measure 3.5-1: Worker awareness and response for cultural and tribal cultural resources</strong></td>
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**Mitigation Measure 3.5-1: Worker awareness and response for cultural and tribal cultural resources**

Prior to the start of construction, SMUD shall provide information to the construction contractor and SMUD’s project superintendent regarding the potential for cultural and tribal cultural resources that could be encountered during ground disturbance, the regulatory protections afforded to such finds, and the procedures to follow in the event of discovery of a previously unknown resource, including notifying SMUD representatives.

If workers observe any evidence of prehistoric, historic, paleontological, or tribal cultural resources (e.g., freshwater shells, beads, bone tool remnants, bones, stone tools, grinding rocks, foundations or walls, structures, refuse deposits, or fossils), all work within 50 feet of the find shall cease immediately and SMUD representatives shall be notified. An archaeologist meeting the Secretary of the Interior’s required qualifications or a paleontologist meeting the Society of Vertebrate Paleontology’s minimum qualifications shall be consulted to assess the significance of the cultural or paleontological find and recommend appropriate measure for the treatment of the resource. Potential treatment may include no action (i.e., the resource is not significant), avoidance of the resource, or data recovery. If the resource may be of Native American origin, SMUD shall consult with the tribes to whom the resource could have importance.
### Table 4-1: Mitigation Monitoring and Reporting Program

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<th>Mitigation Measure</th>
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<td>Cultural Resources</td>
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<td><strong>Mitigation Measure 3.5-2: Halt ground disturbance upon discovery of human remains</strong></td>
<td>Throughout construction activities.</td>
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*If human remains are discovered during any project activities, potentially damaging ground disturbing activities within 100 feet of the remains shall be halted immediately, and SMUD shall notify the Sacramento County coroner and the NAHC immediately, as required by Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.05. If the remains are determined by NAHC to be Native American, the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. SMUD shall also retain a professional archaeologist with Native American burial experience to conduct a field investigation of the specific site and consult with the Most Likely Descendant, if any, identified by the NAHC. Following the coroner’s and NAHC’s findings, the archaeologist, and the NAHC-designated Most Likely Descendant shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in PRC Section 5097.94.*
### Table 4-1: Mitigation Monitoring and Reporting Program

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<th>Checklist Section</th>
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<td>Traffic and Transportation</td>
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<td><strong>Mitigation Measure 3.17-1: Traffic Control Plan</strong></td>
<td>Prior to work within or adjacent to public roadways.</td>
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<td>Prior to project construction within or adjacent to public roadways, SMUD’s construction contractor shall develop a traffic control plan for the project and submit the plan to the City of Sacramento’s Department of Public Works. The plan shall identify temporary lane, sidewalk, bicycle lane, and transit stop closures and provide information regarding how access and connectivity will be maintained during construction activities. The plan shall include details regarding traffic controls that would be employed, including signage, detours, and flaggers. The traffic control plan shall be implemented by the contractor during construction to allow for the safe passage of vehicles, pedestrians, and cyclists along the project route.</td>
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<tr>
<td>Tribal Cultural Resources</td>
<td>a, b</td>
<td><strong>Mitigation Measure 3.18-1: Periodic Monitoring for Potential Unknown Tribal Cultural Resources</strong></td>
<td>Throughout construction activities.</td>
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<td>SMUD shall periodically invite representatives of interested Native American tribes to inspect the active areas of the project alignment, including any soil piles, trenches, or other disturbed areas. Invitations shall be extended to the tribe at least 24 hours prior to excavation of manholes and would allow for inspection to occur within 7 days of the invitation. In the event that tribal representatives or construction workers find evidence of potential tribal cultural resources, the procedures identified in Mitigation Measure 3.5-1 shall be implemented.</td>
<td></td>
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</table>
5 LIST OF PREPARERS

5.1 Sacramento Municipal Utility District
Rob Ferrera ........................................................................................................ Environmental Specialist

5.2 Ascent Environmental
Chris Mundhenk ................................................................................................ Principal
Cori Resha, J.D. .................................................................................................. Project Manager
Gayiety Lane ........................................................................................................ Document Specialist
Michele Mattei .................................................................................................... Document Specialist
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Sacramento Municipal Utility District

Pocket/Greenhaven 69kV Underground Cable Reliability Project

Draft Initial Study and Proposed Mitigated Negative Declaration • August 2019

Reflects Revisions Made in the Final IS/MND on October 7, 2019
Sacramento Municipal Utility District
Pocket/Greenhaven 69kV Underground Cable Reliability Project

Draft Initial Study and Proposed Mitigated Negative Declaration • August 2019
Reflects Revisions Made in the Final IS/MND on October 7, 2019

Lead Agency:
Sacramento Municipal Utility District
6201 S Street, MS H201
Sacramento, CA 95817-1899
or
P.O. Box 15830 MS H201
Sacramento, CA 95852-1830
Attn: Rob Ferrera
(916) 732-6676 or rob.ferrera@smud.org

Prepared by:
Ascent Environmental
455 Capitol Mall, Suite 300
Sacramento, CA 95814
Contact: Cori Resha
Cori.Resha@ascentenvironmental.com
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1.0 INTRODUCTION

1.1 Project Overview

The Sacramento Municipal Utility District (SMUD) proposes to replace approximately 2 miles of existing underground cable and construct up to 15 new manholes in the Pocket/Greenhaven neighborhood of the City of Sacramento. The project alignment begins southeast of the Florin Road interchange on Interstate 5 (I-5) at two riser poles located between I-5 and a drainage canal. The project alignment crosses beneath I-5 and runs in a northwest direction through a parking lot to Florin Road, where it heads west along the southern edge of Florin Road. The alignment continues to Gloria Drive, where it turns left and terminates at the Gloria-Florin distribution substation (approximately 400 feet west of Florin Road). The alignment splits at Havenside Drive, and continues south along Havenside Drive until it terminates at the Havenside-Canal distribution substation located immediately west of the Pocket Canal. For the areas beneath I-5 and Pocket Canal, existing underground lines would be removed and new line installed within conduit. For the remainder of the alignment, the underground cable would be replaced via open trenching.

1.2 Purpose of Document

This Draft Initial Study/Mitigated Negative Declaration (Draft IS/MND) has been prepared by SMUD to evaluate potential environmental effects resulting from the Pocket/Greenhaven 69kV Underground Cable Reliability Project (project). Chapter 2, “Project Description,” presents the detailed project information.

This document has been prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21000 et seq.) and the CEQA Guidelines (California Code of Regulations [CCR] Section 15000 et seq.). Under CEQA, an IS can be prepared by a lead agency to determine if a project may have a significant effect on the environment (CEQA Guidelines Section 15063[a]), and thus to determine the appropriate environmental document. For this project, the lead agency has prepared the following analysis that identifies potential physical environmental impacts and mitigation measures that would reduce impacts to a less-than-significant level. SMUD is the lead agency responsible for complying with the provisions of CEQA.

In accordance with provisions of CEQA, SMUD is distributing a Notice of Intent (NOI) to adopt an MND to solicit comments on the analysis and mitigation measures in the Draft IS/MND. The NOI will be distributed to property owners within 1,000 feet of the project alignment, as well as to the State Clearinghouse/ Governor’s Office of Planning and Research and each responsible and trustee agency. The Draft IS/MND will be available a 30-day review and comment period from August 7, 2019 to September 6, 2019.
If you wish to send written comments (including via e-mail), they must be received by close of business on September 6, 2019. Written comments should be addressed to:

SMUD–Environmental Services  
P.O. Box 15830 MS H201  
Sacramento, CA 95852-1830  
Attn: Rob Ferrera

E-mail comments may be addressed to rob.ferrera@smud.org. If you have questions regarding the NOI or Draft IS/MND, please call Rob Ferrera at (916) 732-6676.

Digital copies of the NOI and Draft IS/MND are available on the internet at: https://www.smud.org/en/about-smud/company-information/document-library/CEQA-reports.htm. Hardcopies of the NOI and Draft IS/MND are available for public review at the following locations:

- Sacramento Municipal Utility District  
  Customer Service Center  
  6301 S St.  
  Sacramento, CA 95817

- Sacramento Municipal Utility District  
  East Campus Operations Center  
  4401 Bradshaw Road  
  Sacramento, CA 95827

1.3 Public Review Process

This Draft IS/MND is being circulated for a 30-day public comment period and is available at the locations identified above. The NOI is being distributed to all property owners within 1,000 feet of the project alignment, as well as to the State Clearinghouse/ Governor’s Office of Planning and Research and responsible and trustee agencies. The NOI identifies where the document is available for public review and invites interested parties to provide written comments for incorporation into a final IS/MND.

Following the 30-day public review period, a final IS/MND will be prepared, presenting written responses to comments received on significant environmental issues. Before SMUD’s Board of Directors makes a decision on the project, the final IS/MND will be provided to all parties commenting on the Draft IS/MND.

1.4 SMUD Board Approval Process

The SMUD Board of Directors must adopt the IS/MND and approve the mitigation monitoring and reporting program (MMRP) before it can approve the project. The project and relevant environmental documentation will be formally presented at a SMUD Environmental Resources and Customer Service (ERCS) Committee meeting for information and discussion. The SMUD Board of Directors will then consider adoption the final IS/MND and MMRP at its next regular meeting. Meetings of the SMUD Board of Directors are generally held on the third Thursday of each month.
1.5 Document Organization

This Draft IS/MND is organized as follows:

Chapter 1: Introduction. This chapter provides an introduction to the environmental review process and describes the purpose and organization of this document.

Chapter 2: Project Description. This chapter provides a detailed description of the project.

Chapter 3: Environmental Checklist. This chapter presents an analysis of a range of environmental issues identified in the CEQA Environmental Checklist and determines if the project would result in no impact, a less-than-significant impact, or a less-than-significant impact with mitigation incorporated. Where needed to reduce impacts to a less-than-significant level, mitigation measures are presented.

Chapter 4: List of Preparers. This chapter lists the organizations and people that prepared the document.

Chapter 5: References. This chapter lists the references used in preparation of this Draft IS/MND.

1.6 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages.

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology / Soils
- Greenhouse Gas Emissions
- Hazards & Hazardous Materials
- Hydrology / Water Quality
- Land Use / Planning
- Mineral Resources
- Noise
- Population / Housing
- Public Services
- Recreation
- Transportation / Traffic
- Tribal Cultural Resources
- Utilities / Service Systems
- Mandatory Findings of Significance
- None With Mitigation
- None
1.7 Determination

On the basis of this initial evaluation:

☐ I find that the proposed project could not have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☑ I find that although the proposed project COULD have a significant effect on the environment, there WILL NOT be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

July 31, 2019

___________________________  __________________________
Signature                        Date

Rob Ferrera  Environmental Specialist
Printed Name                       Title

Sacramento Municipal Utility District  
Agency
2.0 PROJECT DESCRIPTION

2.1 Project Location

The project alignment is located in the Pocket/Greenhaven neighborhood in the southwestern area of the City of Sacramento, within western Sacramento County (see Exhibit 2-1). The project alignment extends generally from a connection point south of Florin Road and east of Interstate 5 (I-5) in Sacramento to two existing substations within the Pocket/Greenhaven neighborhood (see Exhibit 2-2). Between those points, the project is generally located along the southern edge of Florin Road, the southern edge of Gloria Drive between Florin Road and the Gloria-Florin distribution substation (approximately 400 feet west of Florin Road), and the north side of Havenside Drive between Florin Road and Havenside-Canal distribution substation.

2.2 Project Description

The project involves the installation of new underground concrete encased conduit duct bank and 69kV cable to replace approximately 2 miles of existing underground 69kV direct buried cable installed in the 1970s within existing right-of-way. The project also involves installation of up to 15 new manholes along the route to allow electric cable pulling, splicing and maintenance. The following provides a more detailed description of proposed improvements along the project alignment.

From the eastern terminus of the project alignment, the existing 69kV cable extends westward from two riser poles just east of I-5, beneath I-5. Due to the age of the existing cable, it is unknown whether the cable beneath I-5 is encased in conduit or direct buried. If the cable is within conduit, it will be replaced by pulling through the conduit. If the existing cable is direct-buried, the project would include installation of conduit and new cable beneath I-5 or a new overhead crossing over I-5. After crossing I-5, the project would involve the placement of cable by trenching through an existing apartment parking lot to the northeast corner of the existing Nugget Supermarket, along Florin Road just west of I-5.

From this location, the replacement 69kV underground duct bank would be located below-grade along the southern side (generally, the number one eastbound lane of Florin Road). At Havenside Drive, the underground duct bank splits, with one circuit proceeding along Florin Road and a second circuit proceeding south on Havenside Drive to the Havenside-Canal distribution substation located on the northside of Havenside Drive, immediately west of the Pocket Canal. The Havenside alignment crosses the canal immediately west of Los Positas Circle. East of the canal, two new manholes would be installed. The cable would go underneath the canal within existing conduit. This branch would terminate at the Havenside-Canal distribution substation, adjacent to the west side of the canal. For the portion of the project continuing along Florin Road past Havenside Drive, the replacement 69kV underground conduit duct bank would continue to be located along the southern edge of Florin Road to Gloria Drive, before turning left on Gloria Drive towards the Gloria-Florin distribution substation (approximately 400 feet west of Florin Road).

The proposed manholes would consist of pre-cast concrete, measuring 8’ x 14’ x 8’ inside, requiring an excavation area of approximately 15’ x 20’ x 15’, and would generally be spaced evenly throughout the alignment to allow for cable pulling, splicing, and maintenance of the 69kV cable. In general, manholes would be located in the street, with two located in a parking lot area near I-5 and two on the east side of I-5 near the existing riser poles with locations selected such that relocation of other existing utilities is not required.
In the open trenches, cable would be placed in a duct bank, a series of conduits encased in concrete. The trenches would then be backfilled with a cementitious slurry mixture or compacted aggregate base to the roadway subgrade elevation followed by replacement of the required aggregate base and pavement section.

Construction activities would likely take 8 months and are expected to begin as early as November 2019. While construction activities may not be continuous, they are expected to be completed by the end of 2020. City of Sacramento noise restrictions prohibit construction between 10:00 p.m. and 7:00 a.m.

While some areas of the project would use existing conduit, most construction would include open trenching to a maximum depth of 7 feet, though some deeper excavation may be necessary to avoid conflicts with existing utility lines. Dewatering of portions of the construction area are considered likely due to the high water-table of the area. Preliminary plans include the optional use of Baker tanks and/or filtration bags, if needed, to treat water prior to discharge into the City’s stormdrain system and/or the sewer system, in a manner consistent with existing permitting requirements.

As noted above, construction activities would generally be conducted in roadway rights-of-way and would include the temporary closure of roads and sidewalks. Following construction activities each day, the open trenches would be covered, and equipment removed to allow reopening of the lanes. In residential areas, there may be slight delays but no prolonged inaccessibility for residents.

### 2.3 Potential Permits and Approvals Required

Elements of the project could be subject to permitting and/or approval authority of other agencies. As the lead agency pursuant to CEQA, SMUD is responsible for considering the adequacy of the IS and determining if the project should be approved. Other potential permits required from other agencies could include:

**State**

- **State Water Resources Control Board/Central Valley Regional Water Quality Control Board**: issues Construction Storm Water Discharge Permits for projects that disturb more than one acre of land. The permit would also require preparation and implementation of a stormwater pollution prevention plan (SWPPP) that would specify storm water best management practices (BMPs).

- **California Department of Transportation**: issues permits for movement of oversized or excessive loads on State Highways.

**Local**

- **Sacramento Metropolitan Air Quality Management District (SMAQMD)**: issues the Authority to Construct/Permit to Operate pursuant to SMAQMD Regulation 2 (Rule 201 et seq.).

- **City of Sacramento**: issues encroachment and sewer discharge permits and approves improvement plans.
3.0 ENVIRONMENTAL IMPACT EVALUATION

3.0 Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.

4. “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less-Than-Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level (mitigation measures from “Earlier Analyses,” as described in (5) below, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.

   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.

9. The explanation of each issue should identify:

   a) the significance criteria or threshold, if any, used to evaluate each question; and

   b) the mitigation measure identified, if any, to reduce the impact to less than significance.
3.1 Aesthetics

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<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Aesthetics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Except as provided in Public Resources Code section 21099 (where aesthetic impacts shall not be considered significant for qualifying residential, mixed-use residential, and employment centers), would the project:

a) Have a substantial adverse effect on a scenic vista? ☐ ☐ ☒ ☐

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? ☐ ☐ ☐ ☒

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? ☐ ☐ ☒ ☐

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? ☐ ☐ ☐ ☒

3.1.1 Environmental Setting

Topography within the project alignment is generally flat. Extensive suburban development exists along the alignment, including shopping centers, residences, and schools. Most structures in the area are one to two stories in height. Landscaping in the project alignment includes many mature trees and a variety of other medium and large trees, shrubs, and lawn areas.

The visual character of the project alignment and the surrounding area is typical of the Sacramento metropolitan area, which includes commercial and industrial buildings, residences, roads, utility lines, trees, and landscaping. Distant views consist of the Sierra Nevada foothills, although existing buildings, trees, and other city infrastructure preclude/limit these views in many locations.

3.1.2 Discussion

a) Have a substantial adverse effect on a scenic vista?

Less than Significant. A scenic vista is generally defined as a distant public view along or through an opening or corridor that is recognized and valued for its scenic quality, or a natural or cultural resource that is indigenous to the area. The Sacramento 2035 General Plan Update designates the American River and Sacramento River, including associated parkways, the State Capitol (as defined by the Capitol View Protection Ordinance), and important historic structures listed on the Sacramento Register of Historic and Cultural Resources, California and/or National Registers as scenic resources (City of Sacramento 2014a:4.13-4). The closest scenic resource to the project alignment is the Sacramento River, located more than three-quarters of a mile from the closest point of the project alignment. Between the project alignment and the
Sacramento River, there is extensive residential and commercial development that prevents views of the Sacramento River. Views in the project vicinity are limited because of the flat terrain and the level of development/landscaping that preclude long-range views. Views along the project alignment are short- to mid-range and typical reflect the urban character of the surroundings, which are not considered scenic vistas. Further, the project would not involve the operation of above-ground facilities that could further impede long-distance views in the area. Therefore, the project would have a less-than-significant impact related to a substantial adverse effect on a scenic vista, and no mitigation is required.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. While portions of I-5 are designated as scenic, the segment located adjacent to the project alignment is not designated as a state scenic highway (Caltrans 2019). The nearest designated scenic roadway is Route 160, approximately 3 miles south of the project area (Caltrans 2019). Because there are no designated state scenic highways within, adjacent to, or visible from the project area, the project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. The project would have no impact, and no mitigation is required.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less than Significant. During project construction, views in the area would be modified as a result of the temporary presence of construction equipment and activities. However, the appearance of construction equipment and activities would be consistent with the developed nature of the project alignment. Once construction activities are complete, the project alignment would appear nearly identical to existing conditions, with no above ground structures associated with the project, though new manhole covers would be visible to motorists, pedestrians, and bicyclists along the project alignment. However, the existing roadways along the project alignment include manhole covers currently, and the addition of up to 15 more manhole covers over a distance of approximately two miles would not substantially degrade the existing visual character of the project area. Because impacts would be largely limited to construction, and the project would be minimally visible during operation, the project would have a less-than-significant impact related to a scenic quality, and no mitigation is required.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Impact. Construction activities would occur during daylight hours and would not require nighttime lighting. Construction equipment is unlikely to have reflective surfaces and would not be a substantial source of glare in the area. During project operation, all project features would be underground or flush with the pavement (i.e., manhole covers) and would not require any lighting during operation or create substantial glare. Therefore, the project would have a no impact related to light and glare, and no mitigation is required.
3.2 Agriculture and Forestry Resources

<table>
<thead>
<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
</table>
| II. Agriculture and Forest Resources. | In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997, as updated) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

   a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?
   - No

   b) Conflict with existing zoning for agricultural use or a Williamson Act contract?
   - No

   c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?
   - No

   d) Result in the loss of forest land or conversion of forest land to non-forest use?
   - No

   e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?
   - No

3.2.1 Environmental Setting

While the project area is predominantly non-agricultural, there are two areas along the project alignment that are zoned as Agricultural by the City of Sacramento (City of Sacramento 2014b). The area designated as Agricultural at the intersection of Florin Road and Gloria Drive is the site of John F. Kennedy High School. The area designated as Agricultural near the eastern end of the project alignment is a drainage canal. However, neither area currently serves an agricultural function.

The project alignment is identified as urban and built-up land by the California Department of Conservation’s (DOC’s) Farmland Mapping and Monitoring Program (FMMP) (DOC 2017).

According to the Sacramento County Important Farmland map, published by California Department of Conservation’s (DOC) Division of Land Resource Protection, the project alignment is designated as Urban Built-Up Land, which is defined as land that generally...
includes residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatments, and water control structures (DOC 2017). No portions of the project alignment or adjacent parcels are held under Williamson Act contracts (DOC 2015).

There are no areas either within or adjacent to the project alignment that have been designated as forest land or timberland.

3.2.2 Discussion

a-e) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses; conflict with existing zoning for agricultural use, or a Williamson Act contract; conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)); result in the loss of forest land or conversion of forest land to non-forest use; or involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

No Impact. The project alignment does not contain any lands designated as Important Farmland (i.e., Prime Farmland, Unique Farmland, or Farmland of Statewide Importance) or zoned as forest land or a timberland area. While a small area of the project alignment is zoned as Agricultural, these sites include a drainage ditch and a high school. There are no active agricultural operations within or near the project alignment, and there are no Williamson Act contracts associated with the project alignment. No existing agricultural or timber-harvest uses are located on or near the project alignment. Therefore, the project would have no impact on agriculture or forest land, and no mitigation is required.
3.3 Air Quality

III. Air Quality.

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied on to make the following determinations.

Are significance criteria established by the applicable air district available to rely on for significance determinations? ☒ Yes ☐ No

Would the project:

- a) Conflict with or obstruct implementation of the applicable air quality plan? ☐ ☒ ☐ ☐
- b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard? ☐ ☒ ☐ ☐
- c) Expose sensitive receptors to substantial pollutant concentrations? ☐ ☐ ☒ ☐
- d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? ☐ ☐ ☒ ☐

3.3.1 Environmental Setting

The U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for six criteria air pollutants, which are known to be harmful to human health and the environment. These pollutants are: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (which is categorized into particulate matter less than 10 microns in diameter [PM₁₀] and particulate matter less than 2.5 microns in diameter [PM₂.₅]), and sulfur dioxide (SO₂). The State of California has also established the California Ambient Air Quality Standards (CAAQS) for these six pollutants, as well as sulfates, hydrogen sulfide (H₂S), vinyl chloride, and visibility-reducing particles. NAAQS and CAAQS were established to protect the public with a margin of safety, from adverse health impacts caused by exposure to air pollution. A brief description of the source and health effects of criteria air pollutants is provided below in Table 3.3-1.

Table 3.3-1 Criteria Air Pollutants

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Sources</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ozone</td>
<td>Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG), also sometimes referred to as volatile organic compounds by some regulating agencies and nitrogen oxides (NOₓ). The main sources of ROG and NOₓ, often referred to as ozone precursors, are...</td>
<td>Ozone causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.</td>
</tr>
</tbody>
</table>
### Table 3.3-1 Criteria Air Pollutants

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Sources</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon monoxide</td>
<td>CO is usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicle engines; the highest emissions occur during low travel speeds, stop-and-go driving, cold starts, and hard acceleration.</td>
<td>Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue; impair central nervous system function; and induce angina (chest pain) in persons with serious heart disease. Very high levels of CO can be fatal.</td>
</tr>
<tr>
<td>Particulate matter</td>
<td>Some sources of particulate matter, such as wood burning in fireplaces, demolition, and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect.</td>
<td>Scientific studies have suggested links between fine particulate matter and numerous health problems, including asthma, bronchitis, and acute and chronic respiratory symptoms, such as shortness of breath and painful breathing. Recent studies have shown an association between morbidity and mortality and daily concentrations of particulate matter in the air.</td>
</tr>
<tr>
<td>Nitrogen dioxide</td>
<td>NO₂ is a reddish-brown gas that is a by-product of combustion processes. Automobiles and industrial operations are the main sources of NO₂.</td>
<td>Aside from its contribution to ozone formation, NO₂ can increase the risk of acute and chronic respiratory disease and reduce visibility.</td>
</tr>
<tr>
<td>Sulfur dioxide</td>
<td>SO₂ is a combustion product of sulfur or sulfur-containing fuels such as coal and diesel.</td>
<td>SO₂ is also a precursor to the formation of particulate matter, atmospheric sulfate, and atmospheric sulfuric acid formation that could precipitate downwind as acid rain.</td>
</tr>
<tr>
<td>Lead</td>
<td>Lead gasoline, lead-based paint, smelters (metal refineries), and the manufacture of lead storage batteries have been the primary sources of lead released into the atmosphere, with lead levels in the air decreasing substantially since leaded gasoline was eliminated in the United States.</td>
<td>Lead has a range of adverse neurotoxic health effects.</td>
</tr>
</tbody>
</table>

**Sources:** EPA 2019  
**Notes:** CO=carbon monoxide; NO₂=nitrogen dioxide; NOₓ=nitrogen oxides; ROG=reactive organic gases; SO₂=sulfur dioxide

The project alignment is located in Sacramento County which is within the Sacramento Valley Air Basin (SVAB). The SVAB encompasses Butte, Colusa, Glenn, Tehama, Shasta, Yolo, Sacramento, Yuba, and Sutter Counties and parts of Placer, El Dorado, and Solano Counties. The SVAB is bounded on the north and west by the Coast Ranges, on the east by the southern portion of the Cascade Range and the northern portion of the Sierra Nevada, and on the south by the San Joaquin Valley Air Basin. Sacramento County is currently designated as nonattainment for both the federal and State ozone standards, the federal PM₂.₅ standard, and
the State PM$_{10}$ standard. The region is designated as in attainment or unclassifiable for all other federal and State ambient air quality standards. (SMAQMD 2017).

The Sacramento Metropolitan Air Quality Management District (SMAQMD) is the local agency responsible for air quality planning and development of the air quality plan in the project area. SMAQMD maintains an updated plan for achieving the State and federal ozone standards that was updated and approved by the SMAQMD Board and the California Air Resources Board (CARB) in 2017. There are currently no plans available for achieving the federal PM$_{2.5}$ or State PM$_{10}$ standards. The air quality plan establishes the strategies used to achieve compliance with the NAAQS and California Ambient Air Quality Standard (CAAQS) in all areas within SMAQMD’s jurisdiction. SMAQMD develops rules and regulations and emission reduction programs to control emissions of criteria air pollutants, ozone precursors (oxides of nitrogen [NOx] and reactive organic gases [ROGs]), toxic air contaminants (TACs), and odors within its jurisdiction.

SMAQMD published the Guide to Air Quality Assessment in Sacramento County, which provides air quality guidance when preparing CEQA documents. This document was last updated in October 2016. SMAQMD’s guide establishes thresholds of significance for criteria air pollutants that SMAQMD recommends using when evaluating air quality impacts in Sacramento County. CEQA-related air quality thresholds of significance are tied to achieving or maintaining attainment designation with the NAAQS and CAAQS, which are scientifically substantiated, numerical concentrations of criteria air pollutants considered to be protective of human health. As such, for the purposes of this project, the following thresholds of significance are used to determine if project-generated emissions would produce a significant localized and/or regional air quality impact such that human health would be adversely affected.

Per SMAQMD recommendations, air quality impacts are considered significant if the project would result in any of the following:

- NO$_x$ emissions in excess of 85 pounds per day (lbs/day) during construction and 65 lbs/day during operations;
- ROG emissions in excess of 65 lbs/day during operations;
- PM$_{10}$ emissions in excess of 80 lbs/day and 14.6 tons per year (tons/year) during construction and operations;
- PM$_{2.5}$ emissions in excess of 82 lbs/day and 15 tons/year during construction and operations;
- CO emissions that would violate or contribute substantially to concentrations that exceed the 1-hour CAAQS of 20 parts per million (ppm) or the 8-hour CAAQS of 9 ppm during construction and operations;
- Expose any off-site sensitive receptor to a substantial incremental increase in TAC emissions that exceed 10 in one million for carcinogenic risk (i.e., the risk of contracting cancer) and/or a noncarcinogenic hazard index of 1.0 or greater; or
- Create objectional odors affecting a substantial number of people.
In addition to these thresholds, all SMAQMD-recommended BMPs (and use of Best Available Control Technology (BACT) shall be implemented to minimize emission of PM\(_{10}\) and PM\(_{2.5}\). Without the application of BMPs and BACT, the threshold for PM\(_{10}\) and PM\(_{2.5}\) during construction and operations is zero pounds per day.

### 3.3.2 Discussion

a) **Conflict with or obstruct implementation of the applicable air quality plan?**

**Less than Significant with Mitigation Incorporated.** It is anticipated that operational activities associated with the project would include only occasional maintenance and repair; therefore, operational emissions from the project would be negligible. The project does not include any land uses or operational emission sources that would result in substantial increases in operational vehicle trips. Thus, long-term operational emissions of criteria air pollutants and precursors would not violate or substantially contribute to an existing or projected air quality violation or expose sensitive receptors to substantial pollutant concentrations such that adverse health impacts would occur. As discussed previously, SMAQMD developed these thresholds in consideration of achieving attainment for the NAAQS and CAAQS, which represent concentration limits of criteria air pollutants needed to adequately protect human health. Therefore, the project’s contribution to operational criteria pollutants and precursors would not contribute to the exceedance of the NAAQS or CAAQS in the County nor result in greater health impacts compared to existing conditions. The project would be consistent with all applicable air quality plans for which these thresholds of significance were developed to support.

Construction activities would result in temporary generation and emissions of criteria air pollutants and precursors. Construction-related emissions were estimated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 computer program (CAPCOA 2016), in accordance with recommendations by SMAQMD. Modeling was based on project-specific information, where available; reasonable assumptions based on typical construction activities; and default values in CalEEMod that are based on the project’s location and land use type.

Project construction is anticipated to occur over an eight-month period. Construction-related activities would result in project-generated emissions of ROG, NO\(_X\), PM\(_{10}\), and PM\(_{2.5}\) from construction activities (e.g., site preparation, trenching, conduit duct bank installation, manhole installation, paving), off-road equipment, material delivery, and worker commute trips. Fugitive dust emissions of PM\(_{10}\) and PM\(_{2.5}\) are associated primarily with site preparation and trenching, and vary as a function of soil silt content, soil moisture, wind speed, acreage of disturbance, and vehicle miles traveled on and off the site. Emissions of ozone precursors, ROG and NO\(_X\), are associated primarily with construction equipment and on-road mobile exhaust. Paving results in off-gas emissions of ROG. Construction activities associated with the project would likely require the use of forklifts, cranes, excavators, rubber tiered dozers, paving equipment, rollers, concrete trucks, and generators, as well as other diesel-fueled equipment as necessary.

Although exact construction schedules are not known at this time, construction was assumed to be evenly spread over an eight-month period and all construction phases (e.g., site preparation, trenching, conduit duct bank installation and manhole installation, paving) were overlapped to account for construction activities occurring simultaneously in anticipation of periods with above-average construction activities.
It should be noted that as construction continues into the future, equipment exhaust emission rates would decrease as newer, more emission-efficient construction equipment replaces older, less efficient equipment. As noted in the project description, the project would adhere to strict daily construction hours to reduce interference with surrounding land uses and traffic patterns to the extent feasible. The construction analysis assumes that all construction equipment would be used for eight hours each day. Due to the strict timeframe during which project construction activities would occur, however, the actual daily usage of each construction equipment is expected to be less than eight hours. As such, reported emissions represent a conservative estimate of maximum daily emissions during the construction period. For assumptions and modeling inputs, refer to Appendix A.

Table 3.3-2 summarizes the modeled maximum daily emissions for all pollutants and annual emissions for particulate matter from construction activity without the application of BMPs and BACT.

### Table 3.3-2 Summary of Unmitigated Emissions Generated During Project Construction

<table>
<thead>
<tr>
<th></th>
<th>Maximum Daily Emissions (lbs/day)</th>
<th>Annual Emissions (tons/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ROG</td>
<td>NO\textsubscript{X}</td>
</tr>
<tr>
<td>Project Construction</td>
<td>6</td>
<td>57</td>
</tr>
</tbody>
</table>

SMAQMD Threshold of Significance\textsuperscript{a}

|                      | None | 85   | 0 | 0 | 14.6 | 15 |

Exceeds Threshold?

|                      | No | No | Yes | Yes | No | No |

Notes:

ROG = reactive organic gases; NO\textsubscript{X} = oxides of nitrogen; PM\textsubscript{10} = respirable particulate matter; PM\textsubscript{2.5} = fine particulate matter; lbs/day = pounds per day; SMAQMD = Sacramento Metropolitan Air Quality Management District

\textsuperscript{a} Represents SMAQMD Threshold of Significance without the application of Best Management Practices (BMPs) and Best Available Control Technology (BACT).

Maximum daily emissions represent overlapping construction phases. See Appendix A for details.

Source: Modeled by Ascent Environmental in 2019

As shown in Table 3.3-2, project construction would not generate emissions in excess of the SMAQMD thresholds for ROG and NO\textsubscript{X}, nor would it result in a significant increase in annual emissions of PM\textsubscript{10} and PM\textsubscript{2.5}. However, the project, without the application of BMPs and BACT, would generate daily emissions of PM\textsubscript{10} and PM\textsubscript{2.5} in excess of the SMAQMD thresholds during construction activities. Therefore, the impact of construction activities would be potentially significant.

**Mitigation Measure 3.3-1: Implement SMAQMD Basic Construction Emission Control Practices.**

During construction, the contractor shall comply with and implement SMAQMD’s Basic Construction Emission Control Practices, which includes SMAQMD-recommended BMPs and BACT, for controlling fugitive dust emissions. Measures to be implemented during construction include the following:
• Water all exposed surfaces at least two times daily. Exposed surfaces include, but are not limited to, soil piles, graded areas, unpaved parking areas, staging areas, and access roads.

• Cover or maintain at least two (2) feet of freeboard space on haul trucks transporting soil, sand, or other loose material on the site. Cover any haul trucks that will be traveling along freeways or major roadways.

• Use wet power vacuum street sweepers to remove any visible track-out mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.

• Limit vehicle speed on unpaved roads to 15 miles per hour.

• All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.

• Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes (required by California Code of Regulations Title 13, Sections 2449[d][3] and 2485). Provide clear signage that posts this requirement for workers at the entrances to the site.

• Maintain all construction equipment in proper working condition according to manufacturer’s specifications. Equipment will be checked by a certified mechanic and determined to be running in proper condition before it is operated.

Implementation of Mitigation Measure 3.3-1 would be considered application of BMPs and BACT and would result in the project generating emissions less than the SMAQMD thresholds for all pollutants, as shown in Table 3.3-3.

<table>
<thead>
<tr>
<th></th>
<th>Maximum Daily Emissions (lbs/day)</th>
<th>Annual Emissions (tons/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ROG</td>
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<td>6</td>
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</tr>
<tr>
<td>SMAQMD Threshold of</td>
<td>None</td>
<td>85</td>
</tr>
<tr>
<td>Significance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exceeds Threshold?</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Notes:
ROG = reactive organic gases; NO\textsubscript{X} = oxides of nitrogen; PM\textsubscript{10} = respirable particulate matter; PM\textsubscript{2.5} = fine particulate matter; lbs/day = pounds per day; SMAQMD = Sacramento Metropolitan Air Quality Management District Maximum daily emissions represent overlapping construction phases. See Appendix A for details.
Source: Modeled by Ascent Environmental in 2019
With implementation of Mitigation Measure 3.3-1, short-term construction emissions of criteria air pollutants and precursors would not violate or substantially contribute to an existing or projected air quality violation or expose sensitive receptors to substantial pollutant concentrations such that adverse health impacts would occur. As discussed previously, SMAQMD developed these thresholds in consideration of achieving attainment for the NAAQS and CAAQS, which represent concentration limits of criteria air pollutants needed to adequately protect human health. Therefore, implementation of Mitigation Measure 3.3-1 would reduce the impact of emissions generated during construction activities to a less-than-significant level.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less than Significant with Mitigation Incorporated. Construction of the project would result in emissions of criteria air pollutants, while project operational emissions would be negligible. Sacramento County is currently in nonattainment for federal and State ozone, State PM$_{10}$, and federal PM$_{2.5}$. Ozone impacts are the result of cumulative emissions from numerous sources in the region and transport from outside the region. Ozone is formed in chemical reactions involving NO$_X$, ROG, and sunlight. Particulate matter also has the potential to cause significant local problems during periods of dry conditions accompanied by high winds, and during periods of heavy earth disturbing activities. Particulate matter (PM$_{10}$ and PM$_{2.5}$) may have cumulative local impacts if, for example, several unrelated grading or earth moving activities are underway simultaneously at nearby sites. This impact would be potentially significant.

Implementation of Mitigation Measure 3.3-1 would reduce project construction emissions and ensure that project related emissions of NO$_X$, ROG, PM$_{10}$, and PM$_{2.5}$ would not exceed SMAQMD thresholds during construction activities. The project would implement SMAQMD BMPs and BACT to reduce fugitive dust emissions to the extent feasible. Construction emissions would be temporary and would not be generated following the completion of project construction. No long-term emissions would be generated during project operations. Therefore, short-term project-generated construction emissions and long-term operational emissions would not be cumulatively considerable and impacts would be less than significant.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant. Sensitive receptors are generally considered to include those land uses where exposure to pollutants could result in health-related risks to sensitive individuals, such as children or the elderly. Residential dwellings, schools, hospitals, playgrounds, and similar facilities are of primary concern because of the presence of individuals particularly sensitive to pollutants and the potential for increased and prolonged exposure of individuals to pollutants.

Construction-related activities would result in temporary, intermittent emissions of diesel particulate matter (PM) from the exhaust of off-road, heavy-duty diesel equipment. For construction-activity, diesel PM is the primary TAC of concern. The potential cancer risk from inhaling diesel PM outweighs the potential for all other diesel PM—related health impacts (i.e. noncancer chronic risk, short-term acute risk) and health impacts from other TACs (CARB 2003). Diesel PM is highly dispersive and can be estimated to decrease by approximately 70 percent at a distance of 500 feet from the source (Zhu et. al 2002).
The project is generally located adjacent to sensitive receptors along the entirety of the project site. These receptors include residences along Florin Road, Havenside Drive, and Gloria Drive, and two school sites (John F. Kennedy High School and School of Engineering and Sciences). At a minimum, construction activities would occur 50 feet away from sensitive receptors. Construction activities would only occur this close to any sensitive receptor over a short time period based on the linear construction plan. For the purposes of this analysis, it is assumed that construction would generally progress at a rate of approximately 80 linear feet per day, based on the length of the construction period and the linear length of the project alignment. Based on this assumption, project construction would only occur within a 500-foot radius of a given sensitive receptor for approximately two weeks.

Based on emission modeling, maximum daily emissions of exhaust PM$_{2.5}$ would not exceed three (3) lbs/day during construction with the application of Mitigation Measure 3.3-1. As noted previously, these estimates represent a conservative analysis and would only occur nearby each sensitive receptor during a short period of time. The project would not generate emissions during operations.

Considering the highly dispersive properties of diesel PM, the relatively low mass of diesel PM emissions that would be generated at any single place during project construction, and the relatively short period during which diesel PM—emitting construction activities would take place near any one sensitive receptor, construction-related TACs would not expose sensitive receptors to an incremental increase in cancer risk that exceeds 10 in one million. The project would not generate any emissions during operations and would not result in long-term exposure of any sensitive receptors to TACs. As a result, this impact would be less than significant, and no mitigation would be required.

**d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?**

**Less than Significant.** Minor odors from the use of heavy-duty diesel equipment and the laying of asphalt during project construction activities would be intermittent and temporary, and would dissipate rapidly from the source within an increase in distance. While facilities would be constructed intermittently over an eight-month period, these types of odor-generating activities would not occur at any single location or for an extended period of time. Therefore, project construction is not anticipated to result in an odor-related impact. Activities associated with project operation would be limited and would not generate odors. Implementation of the project would not result in exposure of a substantial number of people to objectionable odors. Thus, this impact would be less than significant, and no mitigation would be required.
### 3.4 Biological Resources

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<thead>
<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
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<tr>
<td>IV. Biological Resources. Would the project:</td>
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<tr>
<td>a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?</td>
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<td>b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?</td>
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<td>c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?</td>
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<td>d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?</td>
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<td>e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</td>
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<tr>
<td>f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?</td>
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### 3.4.1 Environmental Setting

This section describes biological resources in the project site and evaluates potential impacts to such resources as a result of project implementation. To determine the biological resources that may be subject to impacts from the project, Ascent biologists reviewed several existing data sources including:

- a reconnaissance survey of the project alignment conducted by an Ascent biologist on March 14, 2019;
- a records search of the California Natural Diversity Database (CNDDB) (CDFW 2019);
- a record search of the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants (CNPS 2019);
• a database search of the U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Consultation System (IPaC) and a list of federally proposed, candidate, threatened, and endangered species that may occur in the project region (USFWS 2019a); and

• USFWS National Wetlands Inventory (USFWS 2019b).

Vegetation and Habitat Types

The project site ranges from approximately 6 feet to 17 feet in elevation. The project site is highly urbanized with residential, commercial, and recreational land uses and includes the Interstate 5 (I-5) right-of-way. Vegetation within the project site consists mostly of street trees, mowed parkland, and manicured landscaping; however, the portion of the project within the I-5 right-of-way contains a small portion of ruderal land cover along the freeway.

Special-status Species

Special-status species include botanical species (plants, lichen, and fungi) and animals that are legally protected or otherwise considered sensitive by federal, state, or local resource agencies and conservation organizations. In this document, special-status species are defined as botanical species and animals in the following categories.

• Listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (ESA).

• Designated as a candidate for listing as threatened or endangered under ESA.

• Listed, proposed for listing, or a candidate for listing as threatened or endangered under the California Endangered Species Act (CESA).

• Listed as fully protected under the California Fish and Game Code.

• Animals identified by California Department of Fish and Wildlife (CDFW) as species of special concern.

• Plants considered by CDFW to be “rare, threatened or endangered in California” (California Rare Plant Ranks [CRPR] of 1A, presumed extinct in California; 1B, considered rare or endangered in California and elsewhere; and 2, considered rare or endangered in California but more common elsewhere). The California Rare Plant Ranks correspond with and replace former California Native Plant Society listings. While these rankings do not afford the same type of legal protection as ESA or CESA, the uniqueness of these species requires special consideration under the California Environmental Quality Act (CEQA).

• Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA Section 15125 [c]) or is so designated in local or regional plans, policies, or ordinances (State CEQA Guidelines, Appendix G).

• Otherwise meet the definition of rare or endangered under CEQA Sections 15380(b) and (d).
A preliminary list of special-status botanical and animal species with potential to occur in the project site was developed based on a review of the existing data sources described previously. An analysis of special-status animal and botanical species was conducted using documentation related to potential to occur in the project region, the presence of suitable habitat in the project site, and other factors.

3.4.2 Discussion

a) **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?**

**Less than Significant with Mitigation Incorporated.** Ground disturbance associated with the project is located primarily within the rights-of-way of city streets, sidewalks, and landscaped vegetation. Where the project site crosses ruderal areas along I-5, the cable would be pulled through existing underground conduit or new underground conduit would be installed using jack boring. Some ground disturbance would occur in this mowed ruderal habitat. A CNPS Inventory query for the nine U.S. Geological Survey 7.5-minute quadrangles surrounding the project site identified 28 special-status plant species documented in the search area (CNPS 2019). However, ground disturbance associated with the project would not occur in suitable habitat for special-status plant species; therefore, the proposed project would have no impact on special-status plants.

A query of the CNDDB for the nine U.S. Geological Survey 7.5-minute quadrangles surrounding the project site identified 29 special-status animal species documented within the search area. Twenty-one of these special-status animal species were eliminated from further consideration due to the project occurring outside of the current range of the species, or lack of suitable habitat where ground disturbance would occur. Eight special-status animal species could occur within the project site or could be indirectly affected by the project outside of the project site. This impact is potentially significant.

**Special-Status Fish Species**

Project construction is expected to require dewatering of groundwater from trenches and existing conduit due to the high water-table in the project site. Groundwater that is pumped from construction areas may be treated using Baker tanks and/or filtration bags, if needed, prior to discharge into the City’s stormdrain system and/or sewer system. Given the location of the project, it is assumed that this water would be discharged from the stormwater system to the Sacramento River. Six special-status fish have the potential to occupy the Sacramento River where this discharge would occur: Sacramento perch (*Archoplites interruptus*), Sacramento splittail (*Pogonichthys macrolepidotus*), Delta smelt (*Hypomesus transpacificus*), Central Valley steelhead (*Oncorhynchus mykiss irideus*), Central Valley spring-run chinook salmon (*Oncorhynchus tshawytscha*), and Sacramento River winterrun chinook salmon. The discharge of groundwater through the City’s stormdrain system and/or sewer system into the Sacramento River would not result in substantial changes to water quality in the Sacramento River that would adversely affect special-status fish, because groundwater pumped from construction areas would be treated prior to entering the stormdrain system and/or sewer system and would be subject to discharge requirements to comply with the City’s MS4 stormwater permit. Therefore, the project would have a less-than-significant impact on special-status fish species.
Special-Status and Common Nesting Birds

There are five CNDDB records of nesting Swainson’s hawks (*Buteo swainsoni*) within 1.5 miles of the project alignment (CDFW 2019). Four of these occurrences are within the riparian area along the Sacramento River to the west of the project alignment, and one occurrence is on a golf course to the east of I-5. While the project alignment is highly urbanized and disturbed, Swainson’s hawks are known to nest in urban settings in some locations. Although the project alignment is within 10 miles of known Swainson’s hawk nesting locations, because of its urban nature, the project alignment does not contain suitable foraging habitat for Swainson’s hawk (e.g., row crops, field crops, pasture). The closest record of nesting burrowing owl (*Athene cunicularia*) is approximately 2.0 miles south of the project alignment, and the project alignment contains ruderal habitat, which is often associated with burrowing owl nests. However, the ruderal habitat within the project alignment is highly and regularly disturbed by mowing and other human activities, and, due to its condition, is considered unsuitable for burrowing owl nesting.

The nearest CNDDB record for white-tailed kite (*Elanus leucurus*) is approximately 4.1 miles to the north, along the Barge Canal in West Sacramento. This species is known to nest in riparian areas, and within urban settings. Although the project alignment contains trees that could provide nesting sites for these species, foraging habitat is limited near the project alignment and therefore nesting potential is considered moderate for Swainson’s hawk and white-tailed kite.

In addition to providing potential nesting sites for Swainson’s hawk and white-tailed kite, mature trees in the project alignment and adjacent area could support nests of common raptors. The common raptors that may nest within the project include: Cooper’s hawk (*Accipiter cooperii*), red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), and great horned owl (*Bubo virginianus*). Potential Cooper’s hawk and red-shouldered hawk nests were observed during a reconnaissance survey by an Ascent biologist on March 14, 2019. In addition to common raptors, the project alignment may also support other common nesting birds. The nests of common raptors and other common birds are protected under Sections 3503 and 3503.5 of the Fish and Game Code.

**Mitigation Measure 3.4-1: Avoid disturbance of nesting birds**

*If construction will occur during the nesting season, a SMUD project biologist/biological monitor will conduct pre-construction nesting bird surveys to determine if birds are nesting in the work area.*

*The pre-construction nesting bird surveys will identify on-site bird species and any nest-building behavior. If no nesting birds are found in or within 500 feet of the project alignment during the pre-construction clearance surveys, construction activities may proceed as scheduled.*

*If pre-nesting behavior is observed, but an active nest has not yet been established (e.g., courtship displays, but no eggs in a constructed nest), a nesting bird deterrence and removal program will be implemented. Such deterrence methods include removal of previous year’s nesting materials and removal of partially completed nests in progress. Once a nest is situated and identified with eggs or young, it is considered to be “active” and the nest cannot be removed until the young have fledged.*
Because bird species may breed multiple times in a season, monitoring for nesting birds will continue during the nesting season to address new arrivals. A qualified biologist will conduct bi-weekly nesting bird surveys of suitable nesting habitat in the construction area during the nesting season and deter establishment of nests by removing partial completed nests.

If an active nest is found in or within 500 feet of the project alignment during construction, a “No Construction” buffer zone will be established around the active nest (usually a minimum radius of 50 feet for passerine birds and 500 feet for raptors) to minimize the potential for disturbance of the nesting activity. The project biologist/biological monitor will determine and flag the appropriate buffer size required, based on the species, specific situation, tolerances of the species, and the nest location. Project activities will resume in the buffer area when the project biologist/biological monitor has determined that the nest(s) is (are) no longer active or the biologist has determined that with implementation of an appropriate buffer, work activities would not disturb the birds nesting behavior.

If special-status bird species are found nesting in or within 500 feet of the project alignment, the project biologist/biological monitor shall notify SMUD’s project manager to notify CDFW or USFWS, as appropriate, within 24 hours of first nesting observation.

Implementation of Mitigation Measure 3.4-1 would minimize impacts to special-status bird species by requiring pre-construction nesting surveys for nesting birds, no-disturbance buffers around active nests, and monitoring of the project alignment to prevent new nests from being established during construction. With implementation of Mitigation Measure 3.4-1, potential impacts to nesting birds would be reduced to a less-than-significant level.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?

No Impact. The project alignment is located primarily within the rights-of-way of city streets, sidewalks, and landscaped vegetation and does not contain sensitive natural communities (e.g., riparian habitat, elderberry savanna, northern hardpan vernal pools). The project would result in no impact on listed sensitive natural communities, and no mitigation would be required.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less than Significant. The Havenside alignment of the project crosses beneath Pocket Canal immediately west of Los Positas Circle, which is a potentially state or federally protected water. Two new manholes would be installed in the street on either side of the canal. The cable would pass underneath the canal within existing conduit and would therefore not affect the canal.

The portion of the project alignment located within the right of way of I-5, where trenching will occur, was surveyed by Ascent biologists on May 23, 2019 and it was determined that no state or federally protected wetlands were present in the area. In addition, project construction is expected to require dewatering activities due to groundwater in the area. Preliminary plans include the potential for use of Baker tanks and/or filtration bags, if needed, to treat water prior
to discharge into the City’s stormdrain system and/or the sewer system. Any discharge of groundwater to the City’s stormdrain system and/or sewer system would need prior written authorization by the City and would need to comply with all conditions to comply with the City’s MS4 stormwater permit. With the initial treatment of water prior to discharge into the stormdrain system and/or sewer system and the discharge requirements already in place for those systems, there would be no substantial adverse effect on state or federally protected wetlands and any impact would be less than significant, and no mitigation would be required.

d) **Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

**No Impact.** The project alignment is located within an urban setting (see Exhibit 2-2) primarily within the rights-of-way of city streets, sidewalks, and landscaped vegetation. This urban and disturbed setting does not support native wildlife nursery sites. The project would not alter any existing wildlife corridor and would not interfere with the movement of migratory fish species. Therefore, the proposed project would result in no impact on movement of native resident or migratory fish or wildlife species, movement corridors, or native wildlife nursery sites, and no mitigation would be required.

e) **Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

**Less than Significant.** The project alignment is located primarily within the rights-of-way of I-5, city streets, sidewalks, and landscaped vegetation. Where activities would take place adjacent to the street, and within the right of way of I-5, trees may need to be removed.

Section 12.56.080(E) of the Sacramento City Code requires that before a public utility installs or performs maintenance on infrastructure that may cause injury to a city tree or private protected tree, the utility shall submit a plan for review by the City’s Public Works Director. SMUD will coordinate with the City by providing tree work plans to the City for any work in the vicinity of any city tree or private protected tree. Because SMUD will comply with Section 12.56.080(E), this impact would be less than significant and no mitigation is required.

f) **Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

**No Impact.** Two habitat conservation plans will be implemented near the project alignment. The South Sacramento Habitat Conservation Plan covers an area south of the City of Sacramento, and the Yolo Habitat Conservation Plan/Natural Communities Conservation Plan covers Yolo County including the area across the Sacramento River from the project alignment. However, the project is located outside of the plan areas for both plans and would not conflict with any of the provisions of either plan. Therefore, the project would result in no impact, and no mitigation would be required.
3.5 Cultural Resources

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<tr>
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<tr>
<td>a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?</td>
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<td>b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?</td>
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<td>c) Disturb any human remains, including those interred outside of dedicated cemeteries?</td>
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3.5.1 Environmental Setting

Regional Prehistory

Although human occupation of the Central Valley may extend back 10,000 before present (B.P.), reliable evidence of such an early human presence is lacking and may be deeply buried. The prehistoric setting can be categorized into the following periods.

The Paleo-Indian Period: The Paleo-Indian Period (12,000 to 10,500 B.P.) saw the first demonstrated entry and spread of humans into California. Characteristic artifacts recovered from archaeological sites of this time period include fluted projectile points (constructed from chipped stones that have a long groove down the center called a “flute”) and large, roughly fashioned cobble and bifacially-flaked stone tools that were used in hunting the mastodon, bison, and mammoth that roamed the land during this time.

The Lower Archaic Period: The beginning of the Lower Archaic Period (10,500 to 7500 B.P.) coincides with that of the Middle Holocene climatic change which resulted in widespread floodplain deposition. This episode resulted in most of the early archaeological deposits being buried. Most tools were manufactured of local materials, and distinctive artifact types include large dart points and the milling slab and handstone.

The Middle Archaic Period: The Middle Archaic Period (7500 to 2500 B.P.) is characterized by warm, dry conditions which brought about the drying up of pluvial lakes. Economies were more diversified and may have included the introduction of acorn processing technology, although hunting remained an important source of food. Artifacts characteristic of this period include milling stones and pestles and a continued use of a variety of implements interpreted as large dart points.

The Upper Archaic Period: The Upper Archaic Period (2500 to 850 B.P.) corresponds with a sudden turn to a cooler, wetter, and more stable climate. The development of status distinctions based upon wealth is well documented in the archaeological record. The development of specialized tools, such as bone implements and stone plummets, as well as manufactured shell
goods, were prolific during this time. The regional variance of economies was largely because of the seasonality of resources, which were harvested and processed in large quantities.

The Emergent Period: Several technological and social changes distinguish the Emergent Period (850 B.P. to Historic) from earlier cultural manifestations. The bow and arrow were introduced, ultimately replacing the dart and throwing spear, and territorial boundaries between groups became well established. In the latter portion of this Period (450 to 1800 B.P.), exchange relations became highly regularized and sophisticated. The clam disk bead developed as a monetary unit of exchange, and increasing quantities of goods moved greater distances. It was at the end of this Period that contact with Euroamericans became commonplace, eventually leading to intense pressures on Native American populations.

Ethnographic Setting

The project alignment is located in the traditional Native American territory of the Nisenan. Nisenan territory once extended from the city of Oroville to south of the American River and from a few miles west of Lake Tahoe to the Sacramento River. Most Valley Nisenan lived in villages comprising several hundred individuals along the Sacramento River. Most Valley Nisenan lived in villages comprising several hundred individuals along the Sacramento River. The Nisenan were organized into “tribelets,” which were made up of politically independent primary villages with one or more surrounding subordinate, smaller villages. Villages usually contained family dwellings, acorn granaries, a sweat house, and a dance house that was owned by the chief. Subsistence activities focused on gathering acorns, seeds, and other plant resources. Berries and other fruits and nuts were also gathered. Deer, rabbit, and large predators such as mountain lion and wildcat were among the animals that were hunted. The Nisenan also fished for a variety of fish species. Nisenan were involved in a trade network that extended from the coast to the east side of the Sierra Nevada.

Historic Setting

California was visited by most major European naval powers, but was claimed by the Spanish Empire ca. 1602. The first California mission was established in 1769, in San Diego. Over the next 50 years, the Spanish government, with the aid of various Roman Catholic orders, established 21 missions throughout Alta California. Lieutenant Gabriel Moraga and 13 soldiers traveled to the Sacramento Valley from Mission San Jose in 1808, but reported that the area would not be suitable for a mission site. However, a member of the expedition, enamored with the trees and the rivers, compared the region’s beauty to the Catholic Eucharist, or sagrado sacramento (SMUD 2018: 3.3-16).

Mexico’s independence from Spain in 1822 resulted in the secularization of the missions, in part to limit the influence of Roman Catholics loyal to Spain. Foreign fur trappers, primarily Canadian and American, gained a regional foothold. In 1826, Jedediah Smith camped near the present site of California State University, Sacramento, on assignment for the Hudson Bay Company. His success spurred an influx of trappers. They depleted the area of game until the early 1840s, when hunting and trapping were no longer profitable. The rapid influx of European and American trappers caused epidemics of malaria and smallpox that killed thousands of Nisenan and other indigenous people along the Sacramento River. Depopulation of the indigenous people from the project area through disease, relocation, and murder continued during Mexican secularization of Alta California (SMUD 2018:3.3-16).
California was ceded as a territory to the United States following the end of the Mexican-American War in 1848. During that time, the steadily growing population expanded into the surrounding countryside. As the commercial center of Sacramento began to favor the riverfront, more and more canvas and semi-permanent structures opportunistically arose in that area of the new town. When California was admitted to the Union in 1850, the population of Sacramento was nearly 12,000 (SMUD 2018:3.3-17).

In 1900, Sacramento had a population of 30,000, covering an area of about 4 square miles. The city streets averaged 80 feet wide and had electric lights. Water mains were established on an east-west orientation. By 1910 the population had increased to 45,000. New developments attracted middle-class and upper-class families away from the city core. The homes in the older parts of town were soon divided into rentals, demolished for new construction, or simply left to deteriorate (SMUD 2018:3.3-17).

Records Searches, Surveys, and Consultation

A records search of the project site and a 1/8-mile radius was conducted by the North Central Information Center (NCIC), at California State University, Sacramento (SAC-19-39) in March 2019. The following information was reviewed as part of the records search:

- site records of previously recorded sites,
- previous cultural studies,
- the National Register of Historic Places and the California Register of Historic Resources,
- the California Historic Resources Inventory, and

The records search revealed no resources or studies within the project alignment or within a 1/8-mile radius of the project alignment. As 1) the entire project alignment has been historically developed, 2) a significant portion of the project site is paved, and 3) the records search did not identify any resources within the project site or within 1/8-mile of the site, further investigation was not warranted.

3.5.2 Discussion

a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

Less than Significant with Mitigation Incorporated. No known historical resources were identified on the project alignment or within 1/8-mile of the project alignment (NCIC 2019). Therefore, no impact would occur to previously recorded historical resources in the project area. However, previously unknown buried resources could be discovered located beneath the ground surface during construction activities. The impact on previously unknown resources would be potentially significant.
Mitigation Measure 3.5-1: Worker awareness and response for cultural and tribal cultural resources

Prior to the start of construction, SMUD shall provide information to the construction contractor and SMUD’s project superintendent regarding the potential for cultural and tribal cultural resources that could be encountered during ground disturbance, the regulatory protections afforded to such finds, and the procedures to follow in the event of discovery of a previously unknown resource, including notifying SMUD representatives.

If workers observe any evidence of prehistoric, historic, paleontological, or tribal cultural resources (e.g., freshwater shells, beads, bone tool remnants, bones, stone tools, grinding rocks, foundations or walls, structures, refuse deposits, or fossils), all work within 50 feet of the find shall cease immediately and SMUD representatives shall be notified. An archaeologist meeting the Secretary of the Interior’s required qualifications or a paleontologist meeting the Society of Vertebrate Paleontology’s minimum qualifications shall be consulted to assess the significance of the cultural or paleontological find and recommend appropriate measure for the treatment of the resource. Potential treatment may include no action (i.e., the resource is not significant), avoidance of the resource, or data recovery. If the resource may be of Native American origin, SMUD shall consult with the tribes to whom the resource could have importance.

Implementation of Mitigation Measure 3.5-1 would reduce potential impacts to previously undiscovered resources by requiring worker awareness training and that steps be taken in the event that resources are encountered during project construction. With implementation of Mitigation Measure 3.5-1, this impact would be reduced to a less-than-significant level.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less than Significant with Mitigation Incorporated. No known archaeological resources were identified on the project alignment or within 1/8-mile of the project alignment (NCIC 2019). Therefore, no impact would occur to previously identified archaeological resources in the project area. Because the project alignment has been developed with roadways, sidewalks, and features associated with residential and non-residential development, most of the ground surface is not visible. Therefore, a field survey for archaeological resources was not conducted. Nonetheless, ground-disturbing activities could result in uncovering currently unknown resources and cause a substantial change in the significance of an undiscovered unique archaeological resource as defined in CEQA Guidelines Section 15064.5. The impact on previously unknown resources would be potentially significant.

Implementation of Mitigation Measure 3.5-1 would reduce potential impacts to previously undiscovered archaeological resources through worker awareness training and mandating that steps be taken in the event that archaeological resources are discovered during project construction. With implementation of Mitigation Measure 3.5-1, this impact would be reduced to a less-than-significant level.
c) Disturb any human remains, including those interred outside of formal cemeteries?

**Less than Significant with Mitigation Incorporated.** Based on documentary research, no evidence suggests that any prehistoric or historic-era marked or unmarked human interments are present within or in the immediate vicinity of the project alignment. However, the location of grave sites and Native American remains can occur outside of identified cemeteries or burial sites. Therefore, it is possible that unmarked, previously unknown Native American or other graves could be present within the project alignment and could be uncovered during project construction activities. The impact on undiscovered or unrecorded human remains would be potentially significant.

**Mitigation Measure 3.5-2: Halt ground disturbance upon discovery of human remains**

If human remains are discovered during any project activities, potentially damaging ground disturbing activities within 100 feet of the remains shall be halted immediately, and SMUD shall notify the Sacramento County coroner and the NAHC immediately, as required by Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.05. If the remains are determined by NAHC to be Native American, the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. SMUD shall also retain a professional archaeologist with Native American burial experience to conduct a field investigation of the specific site and consult with the Most Likely Descendant, if any, identified by the NAHC. Following the coroner’s and NAHC’s findings, the archaeologist, and the NAHC-designated Most Likely Descendant shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in PRC Section 5097.94.

Implementation of Mitigation Measure 3.5-2 would reduce impacts associated with human remains to a **less-than-significant** level because it would require the performance of professionally accepted and legally-compliant procedures in the event of discovery of human remains.
### 3.6 Energy

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<td>VI. Energy.</td>
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<td>Would the project:</td>
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<tr>
<td>a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?</td>
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<td>b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?</td>
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### 3.6.1 Environmental Setting

California relies on a regional power system composed of a diverse mix of natural gas, petroleum, renewable, hydroelectric, and nuclear generation resources.

- **Petroleum**: Petroleum products (gasoline, diesel, jet fuel) are consumed almost exclusively by the transportation sector, and account for almost 99 percent of the energy used in California by the transportation sector, with the rest provided by ethanol, natural gas, and electricity (Bureau of Transportation Statistics 2015). Between January 2007 and May 2016, an average of approximately 672 billion gallons of gasoline were purchased in California (California State Board of Equalization 2016). Gasoline and diesel fuel sold in California for motor vehicles is refined in California to meet specific formulations required by the California Air Resources Board (CARB) (U.S. Energy Information Administration [EIA] 2018).

- **Natural Gas**: Almost two-thirds of California households use natural gas for home heating, and about half of California’s utility-scale net electricity generation is fueled by natural gas (EIA 2018).

- **Electricity and Renewables**: The California Energy Commission (CEC) estimates that 34 percent of California’s retail electricity sales in 2018 will be provided by RPS-eligible renewable resources (CEC 2018). California regulations require that electricity consist of 33 percent renewables by 2020 and 50 percent renewables by 2030 for all electricity retailers in the state.

- **Alternative Fuels**: Conventional gasoline and diesel may be replaced (depending on the capability of the vehicle) with many alternative transportation fuels (e.g., biodiesel, hydrogen, electricity, and others). Use of alternative fuels is encouraged through various statewide regulations and plans (e.g., Low Carbon Fuel Standard, Assembly Bill [AB] 32 Scoping Plan).

#### Federal Regulations

The Energy Policy and Conservation Act of 1975 established nationwide fuel economy standards to conserve oil. Under this act, the National Highway Traffic and Safety Administration, is responsible for revising existing fuel economy standards and establishing new vehicle economy...
standards. The Corporate Average Fuel Economy program was established to determine vehicle manufacturer compliance with the government’s fuel economy standards. Three Energy Policy Acts have been passed, in 1992, 2005, and 2007, to reduce dependence on foreign petroleum, provide tax incentives for alternative fuels, and support energy conservation.

State Regulations

Warren-Alquist Act

The 1975 Warren-Alquist Act established the California Energy Resources Conservation and Development Commission, now known as the CEC. The Act established state policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures. The California Public Utilities Commission (CPUC) regulates privately-owned utilities in the energy, rail, telecommunications, and water fields.

State of California Energy Action Plan

The CEC, CPUC, and now defunct Consumer Power and Conservation Financing Authority prepared the first State of California Energy Action Plan in 2003 to establish shared goals and specific actions to ensure that adequate, reliable, and reasonably-priced electrical power and natural gas supplies are achieved and provided through policies, strategies, and actions that are cost-effective and environmentally sound for California’s consumers and taxpayers. The plan was updated in 2005 and 2008 to address policy the emerging importance of climate change, transportation-related energy issues, and research and development activities (CPUC et al. 2008).

Transportation-Related Regulations

Various regulatory and planning efforts are aimed at reducing dependency on fossil fuels, increasing the use of alternative fuels, and improving California’s vehicle fleet. Senate Bill (SB) 375 aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. CARB, in consultation with the metropolitan planning organizations, provides each affected region with reduction targets for greenhouse gases (GHGs) emitted by passenger cars and light trucks in their respective regions for 2020 and 2035.

Pursuant to AB 2076 (Chapter 936, Statutes of 2000), CEC and the CARB prepared and adopted a joint agency report in 2003, Reducing California’s Petroleum Dependence. Included in this report are recommendations to increase the use of alternative fuels to 20 percent of on-road transportation fuel use by 2020 and 30 percent by 2030, significantly increase the efficiency of motor vehicles, and reduce per capita VMT (CEC and CARB 2003).

AB 1007 (Chapter 371, Statutes of 2005) required CEC to prepare the State Alternative Fuels Plan to increase the use of alternative fuels in California.

In January 2012, CARB approved the Advanced Clean Cars program which combines the control of GHG emissions and criteria air pollutants, as well as requirements for greater numbers of zero-emission vehicles, into a single package of standards for vehicle model years 2017 through 2025. The program’s zero-emission vehicle regulation requires battery, fuel cell, and/or plug-in hybrid electric vehicles to account for up to 15 percent of California’s new vehicle sales by 2025.
Renewable Energy Regulations

SB X1-2 of 2011 requires all California utilities to generate 33 percent of their electricity from renewables by 2020. SB X1-2 also requires the renewable electricity standard to be met increasingly with renewable energy that is supplied to the California grid from sources within, or directly proximate to, California. SB X1-2 mandates that renewables from these sources make up at least 50 percent of the total renewable energy for the 2011-2013 compliance period, at least 65 percent for the 2014-2016 compliance period, and at least 75 percent for 2016 and beyond.

SB 100, signed in September 2018, requires that all California utilities, including independently-owned utilities, energy service providers, and community choice aggregators, supply 44 percent of retail sales from renewable resources by December 31, 2024, 50 percent of all electricity sold by December 31, 2026, 52 percent by December 31, 2027, and 60 percent by December 31, 2030. The law also requires that eligible renewable energy resources and zero-carbon resources supply 100 percent of retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045.

3.6.2 Discussion

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than Significant. Energy would be consumed during project construction to operate and maintain construction equipment, transport construction materials, and for worker commutes. Levels of construction-related energy consumption by the project were calculated using the California Emissions Estimator Model Version 2016.3.2 and from fuel consumption factors in the EMFAC and OFFRAOD models (see Appendix B for detailed calculations). An estimated 1,636,105 gallons of gasoline and 23,744 gallons of diesel would be consumed during project construction, accounting for both onsite equipment use and offsite vehicle travel. This one-time energy expenditure required to construct the project would be nonrecoverable. The energy needs for project construction would be temporary and would not require additional capacity or increase peak or base period demands for electricity or other forms of energy.

The project would not generate additional vehicle trips or consume additional energy during operation. Therefore, the project would not result in an inefficient, wasteful, or unnecessary consumption of energy resources. This impact would be less than significant, and no mitigation would be required.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

No Impact. As discussed above, the project would not result in inefficient, wasteful, or unnecessary consumption of energy resources. Furthermore, the project includes the replacement of cable lines that would result in increased efficiency in transmitting energy between source and end destinations. Thus, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The project would have no impact, and no mitigation would be required.
3.7 Geology and Soils

<table>
<thead>
<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
</table>

VII. Geology and Soils. Would the project:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

   i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)

   □ □ □ □

   ii) Strong seismic ground shaking?

   □ □ □ □

   iii) Seismic-related ground failure, including liquefaction?

   □ □ □ □

   iv) Landslides?

   □ □ □ □

b) Result in substantial soil erosion or the loss of topsoil?

   □ □ □ □

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

   □ □ □ □

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property?

   □ □ □ □

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

   □ □ □ □

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

   □ □ □ □

3.7.1 Environmental Setting

In February 2019, Kleinfelder prepared a geotechnical investigation report for the project. This report is included in this IS/MND as Appendix C. The report presented the results from geotechnical and dewatering analyses and provided recommendations for the geotechnical and dewatering aspects of the project design and construction.

Geology

The project alignment is situated in the southwestern portion of Sacramento County, California, within the southern portion of the Sacramento Valley. The Sacramento Valley represents the northern portion of the Great Valley geomorphic province of California, which is bordered on the east by the foothills of the Sierra Nevada geomorphic province and on the west by the Coast
Range geomorphic province. The Great Valley is an asymmetrical trough approximately 400 miles long and 40 miles wide forming the broad valley along the axis of California. Erosion of the Coast Range and the Sierra Nevada has generated alluvial, overbank, and localized lacustrine sediments as thick as 50,000 feet. Subsequent deformation has folded these sediments into an asymmetrical syncline. Along the boundaries of the Sacramento Valley basin, these sediments decrease in thickness to the east and overlap older, alluvial and channel deposits associated with previous alignments of the American River and at greater depth, metamorphic terrain and crystalline basement rock of the Sierra Nevada (Kleinfelder 2019:8).

The project alignment is located along Florin Road, Gloria Drive, and Havenside Drive in Sacramento, California. The topography of the alignment is relatively flat except at the canal crossing where Havenside Drive and Gloria Drive meet (Kleinfelder 2019:10). Geologic mapping shows the near-surface soils within the project area consist primarily of historical and Holocene basin deposits (Helley and Harwood 1985; FWLA 2010). These basin deposits are characterized by fine sands, silts, and clays and are consistent with the soils encountered in the borings drilled for the project-specific geotechnical investigation report. These more recent alluvium deposits are underlain by Pleistocene-age Riverbank formation (Kleinfelder 2019:10).

Groundwater depths in the project alignment are between 5 to 6 feet below the ground surface. It is common in this area for groundwater levels to be at or near the ground surface during periods of elevated stage on the Sacramento River, since seepage under the levees contributes to the groundwater levels in this area. Further to the east near I-5, groundwater levels are between about 7 and 10 feet below the ground surface (Kleinfelder 2019:10-11).

Seismicity

The Great Valley is bounded on the west by the Great Valley fault zone and the Coast Ranges and on the east by the Foothills fault zone and the Sierra Nevada. Relatively few faults in the Great Valley have been active during the last 11,700 years. The closest faults to the project alignment with evidence of displacement during Holocene time are the Dunnigan Hills Fault (approximately 35 miles to the northwest) and the Cleveland Hills Fault (approximately 60 miles to the north). In general, active faults are located along the western margin of the Central Valley (e.g., the Great Valley Fault) and within the Coast Ranges (Jennings 1994).

Significant historic seismicity in the region includes the April 19, 1892 Vacaville earthquake which had an estimated magnitude of 6.6 along with significant seismicity associated with the San Andreas fault system (e.g. 1906 San Francisco Earthquake and 1868 Hayward Earthquake) and more recent 2014 South Napa Earthquake which had an estimated magnitude of 6.0 (Kleinfelder 2019:9).

According to the California Geological Survey Earthquake Shaking Potential for California, the Sacramento region would experience lower levels of shaking less frequently, due to the regions distance from known, active faults. However, very infrequent earthquakes could still cause strong shaking here (CGS 2016). The occurrence of liquefaction during an earthquake can potentially cause reduction in or loss of shear strength, seismically induced settlements, formation of boils, or lateral spreading of the liquefied soil. In order for liquefaction of soils due to ground shaking to occur, it is generally accepted that subsurface soils must be in a relatively loose state, soils must be saturated, soils must be sand like (e.g. non-plastic or of very low plasticity), and the ground motion is of sufficient intensity to act as a triggering mechanism. The
geotechnical report determined that the silty and sandy soils encountered in all four borings within the project alignment were potentially susceptible to liquefaction (Kleinfelder 2019:22).

**Soils**

A review of U.S. Natural Resources Conservation Service (NRCS) soil survey data indicates that the project alignment is composed of the Egbert Clay, Egbert–Urban Land Complex, San Joaquin–Urban Land Complex, and Xerarents–San Joaquin Complex (NRCS 2018). Table 3.7-1 shows the relevant characteristics of these soil types.

Table 3.7-1 Project Alignment Soil Characteristics

<table>
<thead>
<tr>
<th>Soil Map Unit</th>
<th>Water Erosion Hazard</th>
<th>Wind Erosion Hazard</th>
<th>Shrink-Swell Potential</th>
<th>Permeability</th>
<th>Drainage Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egbert Clay</td>
<td>Low</td>
<td>4</td>
<td>High</td>
<td>Moderately low</td>
<td>Poorly drained</td>
</tr>
<tr>
<td>Egbert–Urban Land Complex</td>
<td>Low</td>
<td>4</td>
<td>High</td>
<td>Moderately low</td>
<td>Poorly drained</td>
</tr>
<tr>
<td>San Joaquin–Urban Land Complex</td>
<td>Moderate</td>
<td>6</td>
<td>Low</td>
<td>Moderately high</td>
<td>Moderately well drained</td>
</tr>
<tr>
<td>Xerarents–San Joaquin Complex</td>
<td>NR</td>
<td>NR</td>
<td>NR</td>
<td>NR</td>
<td>Well drained</td>
</tr>
</tbody>
</table>

Notes: NR = not rated

1. Based on the erosion factor “Kw whole soil,” which is a measurement of relative soil susceptibility to sheet and rill erosion by water.

2. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible.

3. Based on percentage of linear extensibility. Shrink-swell potential ratings of “moderate” to “very high” can result in damage to buildings, roads, and other structures.

4. Based on standard U.S. Natural Resources Conservation Service saturated hydraulic conductivity (Ksat) class limits; Ksat refers to the ease with which pores in a saturated soil transmit water.

Source: NRCS 2018

### 3.7.2 Discussion

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)

No Impact. Surface ground rupture along faults is generally limited to a linear zone a few yards wide. There are no Alquist-Priolo Earthquake Fault Zones within Sacramento County (CGS 2010). Consequently, the project is not expected to expose people or structures to adverse effects caused by the rupture of a known fault. There would be no impact associated with fault rupture, and no mitigation would be required.
ii. Strong seismic ground shaking?

**Less than Significant.** The project alignment is located in the center of the Sacramento Valley, which has historically experienced a low level of seismic ground shaking. The California Geological Survey has identified the region as an area of low to moderately low earthquake shaking potential (CGS 2016).

Depending on the strength of ground shaking, it is possible that structures in the area could be damaged during such an event. However, project construction would conform to the standards contained within California Building Code (CBC) Title 24, which identifies specific design requirements to reduce damage from strong seismic ground shaking, ground failure, landslides, soil erosion, and expansive soils. This impact would be **less than significant**, and no mitigation would be required.

iii. Seismic-related ground failure, including liquefaction?

**Less than Significant.** Soil liquefaction most commonly occurs when ground shaking from an earthquake causes a sediment layer saturated with groundwater to lose strength and take on the characteristics of a fluid, thus becoming similar to quicksand. Liquefaction may also occur in the absence of a seismic event, when unconsolidated soil above a hardpan becomes saturated with water. Factors determining liquefaction potential are the soil type, the level and duration of seismic ground motions, the type and consistency of soils, and the depth to groundwater. Loose sands, peat deposits, and unconsolidated Holocene-age sediments are the most susceptible to liquefaction, while clayey silts, silty clays, and clays deposited in freshwater environments are generally stable under the influence of seismic ground shaking.

Older deposits, including the Pleistocene Riverbank formation which underlies the project alignment, are not generally susceptible to liquefaction; however, younger loose fluvial deposits overlying the Riverbank formation present a risk of liquefaction. As discussed above, the water table within the project alignment is shallow, increasing the potential for liquefaction. Liquefaction triggering analyses were performed for drilled borings and determined that there is a high potential for liquefaction that would likely cause severe damage to improvements not supported on deep foundations (Kleinfelder 2019:22).

Active seismic sources are a relatively long distance away and the project alignment is located on flat land with 0 to 2 percent slopes, is underlain by stable Pleistocene-age Riverbank formation sediments and has low shaking hazard potential. However, in the unlikely event of a significant earthquake, widespread liquefaction could occur resulting in significant damage. The project would comply with CBC Title 24, which includes specific design requirements to reduce damage from ground failure. The project would include dewatering activities, which would further reduce the potential for ground failure. In addition, emergency shutoffs would be installed to reduce risks involving seismic-related ground failure. Therefore, the potential of adverse effects involving ground failure, including liquefaction is low and this impact would be **less than significant**, and no mitigation would be required.

iv. Landslides?

**No Impact.** The project alignment is located in a flat area; there is no risk of landslides in such terrain. Consequently, the project would not expose people or structures to landslides and there would be **no impact** associated with landslide risk, and no mitigation would be required.
b) Result in substantial soil erosion or the loss of topsoil?

**Less than Significant.** As shown in Table 3.7-1, NRCS soil survey data indicate that the project alignment includes soils that are moderately susceptible to wind and water erosion hazards. Construction activities would involve grading, excavating, trenching, moving, filling, and temporary stockpiling of soil within the project alignment. Construction activities would remove vegetative cover and existing paving and would expose site soils to erosion via wind in the summer months, and to surface water runoff during storm events. Sediment from construction activities could be transported within stormwater runoff and could drain to off-site areas and degrade local water quality.

However, the project would be subject to the National Pollutant Discharge Elimination System (NPDES) Statewide construction general NPDES permit for stormwater runoff (Order No. 99 - 08 – DWQ and NPDES No. CAS000002 [Construction General Permit]). In compliance with the Construction General Permit, a Stormwater Pollution Prevention Plan (SWPPP) would be developed for the project by a qualified SWPPP professional. The objectives of the SWPPP are to identify pollutant sources that may affect the quality of stormwater associated with construction activity and identify, construct, and implement stormwater pollution prevention measures to reduce pollutants in stormwater discharges during and after construction. Therefore, the SWPPP would include a description of potential pollutants, the management of dredged sediments, and hazardous materials present on the site during construction (including vehicle and equipment fuels). The SWPPP would also include details of how BMPs for sediment and erosion control would be implemented. Implementation of the SWPPP would comply with state and federal water quality regulations.

Furthermore, and as noted above, the project would be constructed in accordance with CBC standards. These standards require that appropriate soil and geotechnical reports be prepared and that site-specific engineering design measures, including those related to general site grading, clearing and grubbing, soil stabilization, and general erosion control, be implemented to appropriately minimize potential adverse impacts related to erosion at the infill site. This, coupled with preparation of a site-specific SWPPP, would minimize potential adverse impacts related to erosion and loss of topsoil at the project alignment. Impacts would be less than significant, and no mitigation would be required.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

**Less than Significant.** As described previously, there are no steep slopes within the project area, and therefore there would be no potential for on- or off-site landslide. Near surface soils encountered in the project alignment have a significant portion of clay and silt and are, therefore, anticipated to be moisture sensitive. Soil moisture content, shallow groundwater levels, and silty and clayey soils could become unstable and potentially result in lateral spreading, subsidence, liquefaction, or collapse. However, a geotechnical investigation was conducted for the project (see Appendix C of this IS/MND) and concluded that the project alignment would be suitable for the project using conventional open trench, shoring, dewatering, and reinforced concrete subsurface structure construction methods (Kleinfelder 2019:21), all of which would be implemented as part of project implementation. In addition, the project would comply with and implement all appropriate recommendations provided in the site-specific
geotechnical investigation report. Therefore, this impact would be less than significant, and no mitigation would be required.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial direct or indirect risks to life or property?

Less than Significant. Expansive soils shrink and swell as a result of moisture change. These volume changes can result in damage over time to building foundations, underground utilities, and other subsurface facilities and infrastructure if they are not designed and constructed appropriately to resist the damage associated with changing soil conditions. A review of NRCS (2018) soil survey data indicates that the locations where project-related earthmoving activities would occur are composed of soil types with a low to high shrink-swell potential (see Table 3.7-1). However, underground cable would be placed in a series of conduits encased in concrete. The trenches would then be backfilled with a cementitious slurry mixture or compacted aggregate base to the roadway subgrade elevation to reduce the risk of expansive soils. Therefore, this impact would be less than significant, and no mitigation would be required.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The project would not require the use of septic tanks or alternative wastewater disposal systems. Thus, the project would have no impact related to soil suitability for use of septic tanks or alternative wastewater disposal systems, and no mitigation would be required.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant Impact with Mitigation Incorporated. Project-related earthmoving activities would occur in the Pleistocene-age Riverbank Formation. Because numerous vertebrate fossils have been recovered from the Riverbank Formation in northern and central California, including localities that are close to the project site, this formation is considered to be paleontologically sensitive. Therefore, earthmoving activities in the Riverbank Formation could result in accidental damage to or destruction of previously unknown unique paleontological resources. This impact would be potentially significant.

Implementation of Mitigation Measure 3.5-1 would reduce potential impacts to previously undiscovered paleontological resources through worker awareness training and mandating the steps to be taken in the event that resources are discovered during project construction. With implementation of Mitigation Measure 3.5-1, this impact would be reduced to a less-than-significant level.
3.8 Greenhouse Gas Emissions

<table>
<thead>
<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIII. Greenhouse Gas Emissions. Would the project:</td>
<td></td>
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</tr>
<tr>
<td>a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
</tr>
<tr>
<td>b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

3.8.1 Environmental Setting

Certain gases in the earth’s atmosphere, classified as greenhouse gases (GHGs), play a critical role in determining the earth’s surface temperature. Solar radiation enters the earth’s atmosphere from space. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead “trapped,” resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth.

Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF₆). GHG emissions contributing to global climate change are attributable, in large part, to human activities associated with on-road and off-road transportation, industrial/manufacturing, electricity generation by utilities and consumption by end users, residential and commercial onsite fuel usage, and agriculture and forestry. It is “extremely likely” that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic forcing together (IPCC 2014: 5).

Climate change is a global problem. GHGs are global pollutants because even local GHG emissions contribute to global impacts. GHGs have long atmospheric lifetimes (one to several thousand years) and persist in the atmosphere long enough to be dispersed around the globe. Although the lifetime of any particular GHG molecule is dependent on multiple variables and cannot be determined with any certainty, it is understood that more CO₂ is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration (IPCC 2013:467).

Federal Plans, Policies, Laws, and Regulations

On December 7, 2009, the U.S. Environmental Protection Agency (EPA) issued findings regarding GHGs under the Clean Air Act (CAA). The Final Endangerment and Cause or Contribute Findings for Greenhouse Gases state that current and projected concentrations of the six key well-mixed GHGs in the atmosphere—CO₂, CH₄, N₂O, HFC, PFC, and SF₆—threaten the public health and welfare and that combined emissions of GHGs from new motor vehicles contribute to this issue. This allowed EPA to regulate GHGs under the CAA. For example, EPA and the National Highway Traffic Safety Administration issued two rules (81 Fed.
Reg. 73478 and 77 Fed. Reg. 62623) that require substantial improvements in fuel economy for all vehicles sold in the U.S. for model years 2017 through 2025 of passenger cars, light-duty trucks, and medium-duty passenger vehicles. In 2012, EPA issued the California Air Resources Board (CARB) a waiver that allows California to more strictly regulate pollution from cars than the federal government.

State Plans, Policies, Laws, and Regulations

Statewide GHG Emission Targets and the Climate Change Scoping Plan

Reducing GHG emissions in California has been the focus of the state government for approximately two decades (State of California 2018). GHG emission targets established by the state legislature include reducing statewide GHG emissions to 1990 levels by 2020 (Assembly Bill [AB] 32 of 2006) and reducing them to 40 percent below 1990 levels by 2030 (Senate Bill [SB] 32 of 2016). Executive Order (EO) S-3-05 calls for statewide GHG emissions to be reduced to 80 percent below 1990 levels by 2050. EO B-55-18 calls for California to achieve carbon neutrality by 2045 and achieve and maintain net negative GHG emissions thereafter. These targets are in line with the scientifically established levels needed in the United States to limit the rise in global temperature to no more than 2 degrees Celsius, the warming threshold at which major climate disruptions, such as super droughts and rising sea levels, are projected; these targets also pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius (UN 2015:3).

California's 2017 Climate Change Scoping Plan (2017 Scoping Plan), prepared by CARB, outlines the main strategies California will implement to achieve the legislated GHG emission target for 2030 and “substantially advance toward our 2050 climate goals” (CARB 2017:1, 3, 5, 20, 25–26). It identifies the reductions needed by each GHG emission sector (e.g., transportation, industry, electricity generation, agriculture, commercial and residential, pollutants with high global warming potential, and recycling and waste). The state has also passed more detailed legislation addressing GHG emissions associated with industrial sources, transportation, electricity generation, and energy consumption, as summarized below.

Local

Sacramento Metropolitan Air Quality Management District

SMAQMD is the primary agency responsible for addressing air quality concerns in all of Sacramento County and recommends measures for analyzing project-generated GHGs in CEQA analysis. SMAQMD developed thresholds of significance to provide a uniform scale to measure the significance of GHG emissions from land use and stationary source projects in compliance with CEQA and AB 32.

City of Sacramento

Although SMUD is not subject to the goals and policies of the City of Sacramento, the City’s 2035 General Plan includes goals and policies relevant to climate change and GHG emissions for projects within city limits. Numerous policies within the 2035 General Plan address sustainable development, which influence operational mobile- and area-source emissions.
The City’s adopted Climate Action Plan (CAP) was incorporated into the 2035 General Plan. The CAP includes GHG emission reduction targets, strategies, and implementation measures developed to help the city reach these targets. Reduction strategies address GHG emissions associated with transportation and land use, energy, water, waste management and recycling, agriculture, and open space.

3.8.2 Discussion

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant. The issue of global climate change is inherently a cumulative issue, because the GHG emissions of an individual project cannot be shown to have any material effect on global climate. Thus, the level of GHG emissions associated with implementation of the project is addressed as a cumulative impact.

GHG emissions associated with implementation of the project would be generated during project construction. The project would not generate any GHG emissions during operations as operational activities would be limited to occasional inspection and maintenance. Construction-related emissions of GHGs were estimated using CalEEMod Version 2016.3.2. A detailed discussion of the major construction activities and model assumptions is provided in Section 3.3, “Air Quality.” Model outputs are included in Appendix A.

Project-related construction activities would result in the generation of GHG emissions from the use of heavy-duty off-road construction equipment and vehicle use during worker commute. Construction activities would include site preparation, trenching, conduit duct bank installation, manhole installation, and paving. Total construction activity would result in finite emissions of 409 metric tons of carbon dioxide equivalent (MTCO2e).

SMAQMD has established quantitative significance thresholds for evaluating GHG emissions. For construction of all types, emissions due to land development projects, the established significance threshold is 1,100 MT CO2e annually (SMAQMD 2018). Total construction-related GHG emissions for the project would be primarily generated in 2020 and would be no more than 409 MT CO2e. Therefore, construction-related GHG emissions would not exceed SMAQMD’s threshold of significance. This impact would be less than significant, and no mitigation would be required.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact. Plans, policies, and regulations adopted for the purpose of reducing GHG emissions were developed with the purpose of reducing cumulative emissions related, primarily, to long-term operational emissions. As described previously, the project would not result in a cumulatively considerable increase in GHG emissions as a result of construction activities and would not generate any GHG emissions during operations. Thus, the project would not conflict with any applicable plan, policy, or regulation adopting for the purpose of reducing emissions of GHGs. There would be no impact, and no mitigation would be required.
### 3.9 Hazards and Hazardous Materials

<table>
<thead>
<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
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</table>

IX. Hazards and Hazardous Materials. Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

### 3.9.1 Environmental Setting

The State Water Resources Control Board’s (SWRCB) GeoTracker website, which provides data relating to leaking underground storage tanks (USTs) and other types of soil and groundwater contamination, along with associated cleanup activities, did not identify any hazards related to USTs and other types of contamination within the project alignment (SWRCB 2019).

The California Department of Toxic Substances Control’s Envirostor Web site, which provides data related to hazardous materials spills and clean ups, also did not identify any hazards related to any cleanup sites within the project alignment (DTSC 2019).

There are two public schools adjacent to the project alignment, John F. Kennedy High School, located at the southeast corner of the intersection of Florin Road and Gloria Drive, and the School of Engineering and Sciences, located on the north side of Gloria Drive, directly west of the Pocket Canal. Two private preschools are located within one-quarter mile of the project alignment, Merryhill Preschool at 7335 Park City Drive and Angel’s Nest Preschool at 475 Florin Road.
Sacramento Executive Airport is a public airport located approximately 1 mile northeast of the easternmost edge of the project alignment. The area of the project alignment from just west of I-5 to the eastern terminus is within Approach-Departure Zone 2 of the airport’s safety zones (SACOG 1999:39).

3.9.2 Discussion

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than Significant. Construction activities would involve the use of hazardous materials, such as fuels, solvents, gasoline, asphalt, and oil. The use and storage of these materials could potentially expose and adversely affect workers, the public, or the environment as a result of improper handling or use, accident, environmentally unsound disposal methods, fire, explosion, or other emergencies, resulting in adverse health or environmental effects. Project operation would involve the use of electrical transmission lines and would not involve the use of hazardous materials.

The California Highway Patrol and Caltrans are responsible for enforcing regulations related to the transportation of hazardous materials on local roadways, and the use of these materials is regulated by the California Department of Toxic Substances Control (DTSC), as outlined in CCR Title 22. SMUD and its construction contractors would be required to comply with the California Environmental Protection Agency’s (Cal EPA’s) Unified Program, which protects Californians from hazardous waste and hazardous materials by ensuring consistency throughout the state regarding the implementation of administrative requirements, permits, inspections, and enforcement at the local regulatory level. Regulated activities would be managed by the Sacramento County Environmental Management Department, which is the designated Certified Unified Program Agency, and in accordance with the regulations included in the Unified Program (e.g., hazardous materials release response plans and inventories, California Uniform Fire Code hazardous material management plans and inventories). Such compliance would reduce the potential for accidental release of hazardous materials during project construction.

The project would be required to comply with existing laws and regulations regarding the transportation, use, and disposal of hazardous materials. These regulations are specifically designed to protect the public health and the environment and must be adhered to during project construction and operation. Compliance with applicable regulations would ensure that this impact would be less than significant, and no mitigation would be required.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?

Less than Significant. As discussed above, there are no existing hazardous conditions within the project alignment and no hazardous materials would be used during project operation. Project construction, however, would involve the use of hazardous materials, which could be accidentally upset or released into the environment. Potential hazardous materials that could be used include asphalt and other construction materials. As discussed in item a) above, compliance with applicable laws and regulations regarding the transport, use, and disposal of hazardous materials would ensure that the project would result in a less-than-significant impact related to upset or accidental release of hazardous materials, and no mitigation would be required.
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less than Significant. As discussed above, there are two public schools adjacent to the project alignment and two private preschools within one-quarter mile of the project alignment. Small quantities of hazardous materials such as fuels, oils, and lubricants would be used during project construction. The project would be required to comply with existing regulations associated with the transport, use, and disposal of hazardous materials. Compliance with applicable regulations regarding hazardous materials would reduce the potential for hazardous emissions within one-quarter mile of existing schools. Therefore, this impact would be less than significant, and no mitigation would be required.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. Government Code Section 65962.5 requires that DTSC compile and maintain a list of hazardous waste facilities subject to corrective action, land designated as hazardous waste property, or hazardous waste disposals on public land. This list is known as the Cortese List, which can be accessed on Cal EPA’s website. The project alignment is not located on a site included on a list of hazardous materials sites (DTSC 2019). There would be no impact, and no mitigation would be required.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Less than Significant. Sacramento Executive Airport is located approximately 1 mile northeast of the easternmost terminus of the project alignment. A portion of the project alignment from just west of I-5 to the eastern terminus is within Approach-Departure Zone 2 of the airport’s safety zones (SACOG 1999:39). The airport’s comprehensive land use plan identifies prohibited uses within the various safety zones (SACOG 1999:33-38). While underground electricity transmission lines are not specifically listed in the table of compatibility guidelines, the list of allowed and prohibited uses and features generally center around limiting large gatherings of people, structures that might interfere with aircraft navigation, and prohibiting flammable or explosive features to be located above-ground (SACOG 1999:38). All project features within Approach-Departure Zone 2 would be underground, and no project features would be above the surface in this area. While the project alignment includes land within Approach-Departure Zone 2 of Sacramento Executive Airport, the project would not conflict with the safety requirements of the airport’s comprehensive land use plan. Therefore, this impact would be less than significant, and no mitigation would be required.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than Significant. Project construction would require temporary lane closures and other roadway effects on Florin Road, Gloria Drive, and Havenside Drive that could interfere with or slow down emergency vehicles, temporarily increasing response times and impeding existing services on these roadways. However, any project activities that may involve public ROW would
be required to obtain an encroachment permit from either Caltrans or the City of Sacramento. As part of this encroachment permit application, SMUD would be required to prepare and then later implement a traffic control plan, which would require the provision of temporary traffic controls and maintenance of emergency access during construction. Once project construction is complete, all roads would return to their pre-construction state and project operations would not interfere with emergency repose or evacuation plans. As a result, this impact would be less than significant, and no mitigation would be required.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

No Impact. The project is located in an urbanized area of Sacramento that is not adjacent to wildlands, therefore implementation of the project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas. There would be no impact related to wildland fires, and no mitigation would be required.
3.10 Hydrology and Water Quality

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<tr>
<th>ENVIRONMENTAL ISSUES</th>
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<tr>
<td>X. Hydrology and Water Quality. Would the project:</td>
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<tr>
<td>a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?</td>
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<tr>
<td>b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?</td>
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<td>c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:</td>
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<td>i) Result in substantial on- or offsite erosion or siltation;</td>
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<td>ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;</td>
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<td>iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or</td>
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<td>iv) Impede or redirect flood flows?</td>
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<td>d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?</td>
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<td>e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?</td>
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3.10.1 Environmental Setting

Surface Water

The City of Sacramento is located at the confluence of the Sacramento and American Rivers within the Sacramento River Basin. The Sacramento River Basin encompasses about 27,000 square miles and is bounded by the Sierra Nevada to the east, the Coast Ranges to the west, the Cascade Range and Trinity Mountains to the north, and the Delta to the southeast. The Sacramento River Basin is the largest river basin in California, capturing, on average, approximately 22 million acre-feet of annual precipitation (City of Sacramento 2014c:6-43).

The westernmost extent of the project alignment is approximately 0.75 mile southwest of the Sacramento River. The project alignment includes two canals; one canal runs in a north-to-south direction and is located adjacent to the east side of I-5. The other canal, known as the Pocket Canal, also runs north-to-south and intersects with Havenside Drive just east of the Havenside-Canal distribution substation.
Water Quality

The City operates under a Phase I National Pollution Discharge Elimination System (NPDES) permit for stormwater municipal discharges to surface waters (NPDES No. CAS082597). The permit requires that the City impose water quality and watershed protection measures for all development projects. The intent of the waste discharge requirements in the permit is to attain water quality standards and protection of beneficial uses consistent with the Central Valley Regional Water Quality Control Board’s (CVRWQCB) Basin Plan. The NPDES permit prohibits discharges from causing violations of applicable water quality standards or result in conditions that create a nuisance or water quality impairment in receiving waters. A key component of the NPDES permit is the implementation of the Stormwater Quality Improvement Plan (SQIP), which consists of six Minimum Control elements 1) public education and outreach, 2) commercial/industrial control, 3) detection and elimination of illicit discharges, 4) construction stormwater control, 5) postconstruction stormwater control for new development and redevelopment 6) pollution prevention/good housekeeping for municipal operations). In addition, the City’s Land Grading and Erosion Control Ordinance and Stormwater Management and Discharge Control Code provide additional regulation and guidance to prevent degradation of water quality (City of Sacramento 2014a:4.7-15).

Groundwater

The project alignment is within the South American Groundwater Subbasin, which is part of the larger Sacramento Valley Groundwater Basin (City of Sacramento 2014c:6-48). The geotechnical study prepared for the project (see Appendix C of this IS/MND) evaluated groundwater depths in the project area and noted that groundwater levels in the project area vary. Groundwater in the project area is commonly at or near the ground surface during periods of elevated stage on the Sacramento River since seepage under the levees contributes to groundwater levels in the project area (Kleinfelder 2019:10-11).

Flooding

The project alignment is within an area with reduced flood risk due to levee (Zone X) as identified on Federal Emergency Management Agency (FEMA) flood maps (FEMA 2012).

3.10.2 Discussion

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality

Less than Significant. Drainage from the project alignment flows into the City of Sacramento stormdrain system and is discharged to the Sacramento River, which is located within the Sacramento River Basin. As such, the applicable water quality standards are listed in the Fifth Edition of the Water Quality Control Plan (Basin Plan) For the Sacramento River and San Joaquin River Basins (CRWQCB 2018). Construction of the project would occur within the City of Sacramento and would disturb more than one acre of land surface. Therefore, the applicable waste discharge requirements (WDR) are the Municipal Separate Storm Sewer (MS4) stormwater NPDES permit (Order No. R5-2002-0206 and NPDES No. CAS082597 [Municipal Stormwater NPDES Permit) and the Statewide construction general NPDES permit for stormwater runoff (Order No. 99 - 08 – DWQ and NPDES No. CAS000002 [Construction
General NPDES Permit), and the dewatering and low threat discharges general NPDES permit (Order No. R5-2008-0081 and NPDES No. CAG995001 [Dewatering General NPDES Permit]).

To reduce or eliminate construction-related water quality effects, the City of Sacramento’s Grading Ordinance would require future public or private contractors to comply with the requirements of the City’s Stormwater Quality Improvement Plan (SQIP). In addition, before the onset of any construction activities, where the disturbed area is one acre or more in size, the City would require any public or private contractors to obtain coverage under the NPDES General Construction Permit and include erosion and sediment control plans. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater and other non-point source runoff. The City’s SQIP and the Stormwater Quality Design Manual for the Sacramento Region include BMPs to be implemented to mitigate impacts from new development and redevelopment projects. Construction BMPs that implement the SQIP and General Construction Permit may include, but are not limited to the following measure:

Prior to issuance of a construction permit, the City would require public and/or private contractors to provide an erosion and sediment control plan. The City would verify that a state general permit was obtained including verification that a Notice of Intent has been filed with the Central Valley Regional Water Quality Control Board and a SWPPP has been developed before allowing construction to begin. The City would perform inspections of the construction area to verify that the BMPs specified in the erosion and sediment control plan are properly implemented and maintained. The City would notify contractors immediately if there is a noncompliance issue and would require compliance. Control of erosion and sediment transport during the construction phase would effectively mitigate potential sediment impairment of receiving waters.

Consequently, violation of WDRs or water quality standards would be less than significant, and no mitigation would be required.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less than Significant. The project alignment is underlain by the South American Groundwater Subbasin, which is part of the larger Sacramento Valley Groundwater Basin. The South American River Subbasin is estimated to have a groundwater storage capacity of 4,816,000 acre-feet (DWR 2004:2). Given the high level of the water table in the project area, project construction would include dewatering activities. Preliminary plans include the potential use of Baker tanks and/or filtration bags, if needed, to treat water prior to discharge into the City’s stormdrain system and/or sewer system. Dewatering activities would be temporary and the volume of groundwater withdrawn would be very small relative to the subbasin’s capacity. Furthermore, the geotechnical study prepared for the project evaluated dewatering activities and recommended appropriate methods for construction dewatering activities (Kleinfelder 2019). No groundwater would be withdrawn during project operation.

Because the project would involve construction activities within previously-developed areas, which are primarily paved areas, the project would not involve construction practices or develop facilities that would substantially prevent or otherwise redirect groundwater resources in the project alignment. Implementation of the project would result in a very limited increase in impervious surface area, if any, and there would be no change in surface infiltration.
characteristics affecting groundwater recharge. For all these reasons, there would be a less-than-significant impact on groundwater supplies and groundwater recharge, and no mitigation would be required.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) Result in substantial on- or offsite erosion or siltation;

**Less than Significant.** Project construction activities would involve excavation and movement of soil, which could result in erosion and siltation. These activities have the potential to cause or increase soil erosion and could accidentally discharge wastes into waterways in runoff. The existing submittal and approval requirements associated with the Stormwater Management and Control Code, the Grading, Erosion and Sediment Control Ordinance, as well as the NPDES Regional MS4 Permit would be sufficient to ensure that the project does not result in substantial long-term effects on water quality. As a result, this impact would be less than significant, and no mitigation would be required.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

**Less than Significant.** Project construction activities would occur within areas of existing rights-of-way, which are predominantly paved areas. While the project would generally return the project alignment to its pre-construction condition, it is possible that a small amount of impervious surface could be added if manhole covers are installed in areas that are currently not paved. However, any addition of impervious surface would be minimal and would not be expected to substantially increase the rate or amount of surface runoff in or near the project alignment. Therefore, this impact would be less than significant, and no mitigation would be required.

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

**Less than Significant.** As described in Chapter 2, “Project Description,” project construction would require dewatering due to the high water-table of the area. Preliminary plans include the potential use of Baker tanks and/or filtration bags, if needed, to treat water prior to discharge into the City’s stormdrain system and/or sewer system. SMUD and its construction contractor would coordinate with the City to determine the maximum amount that could be discharged to the stormdrain system so that the project, in conjunction with other sources of stormwater, would not exceed the capacity of the existing system. If the construction dewatering rate exceed the maximum discharge rate, the water would be stored in Baker tanks prior to discharge and could be retained in the tanks as needed until there is adequate capacity for discharge. If needed, water would be treated with filtration bags prior to discharge to ensure that the discharge meets all applicable water quality requirements. The project alignment would be substantially returned to its pre-construction condition and would not generate substantially new or polluted runoff. Therefore, the project would not exceed existing or planned stormwater capacity or provide polluted runoff. This impact would be less than significant, and no mitigation would be required.
iv) Impede or redirect flood flows?

Less than Significant. The project alignment is in an area protected from flooding by levees (FEMA 2012). While not expected, flooding could occur in the area. Project construction could temporarily impede or redirect flood flows as construction equipment would be located within existing rights-of-way, which could include gutters and areas near stormdrain inlets. Construction impacts would be temporary and project operation would not require above-ground features that could impede or redirect flood flows. Therefore, this impact would be less than significant, and no mitigation would be required.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Impact. The project alignment is located within an area of reduced flood risk due to levee protection (Zone X) (FEMA 2012). The project is in an area of mostly flat terrain with no large open bodies of water. For these reasons, the project would not be expected to be inundated. There would be no impact, and no mitigation would be required.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant. Project construction would be subject to the City’s water quality and watershed protection measures as required by the Phase I NPDES Permit and implemented through the SQIP. During operation, the project would not generate wastewater or stormwater runoff, so there would be no conflict with or obstruction of a water quality control plan during project operation. While project construction would require dewatering due to the high level of the water table in the project area, the groundwater removed would be minimal compared with the groundwater supply. Project operation would not require the use of any potable water, including groundwater. Because the project’s potential impacts would be limited to construction activities, this impact would be less than significant, and no mitigation would be required.
3.11 Land Use and Planning

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<td>XI. Land Use and Planning. Would the project:</td>
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<tr>
<td>a) Physically divide an established community?</td>
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<tr>
<td>b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?</td>
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3.11.1 Environmental Setting

The project alignment is located within the Pocket/Greenhaven neighborhood in the city of Sacramento in Sacramento County. The project alignment includes roadways, rights-of-way, and areas of utility easements that run through an existing commercial and residential community. The project would replace existing underground cable and install up to 15 new manholes with manhole covers to be located within roadways.

3.11.2 Discussion

a) Physically divide an established community?

No Impact. The project would replace existing underground cable and install new manholes in a highly developed area of Sacramento. Because the cable is underground, there is no hindrance to the surrounding community as it does not interfere with the community life. The project would not lead to a physical division of an established community. There would be no impact, and no mitigation would be required.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Less than Significant. Project construction would occur within existing roadways, rights-of-way, and utility easements. As discussed in Section 3.4, Biological Resources," implementation of Mitigation Measure 3.4-2 would require compliance with the City of Sacramento’s tree ordinance as it applies to public utilities. The project would not result in any land use changes, and would not conflict with any adopted plans, policies, or regulations adopted for avoiding or mitigating an environmental effect. Therefore, this impact would be less than significant, and no mitigation would be required.
3.12 Mineral Resources

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<td>XII. Mineral Resources. Would the project:</td>
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<tr>
<td>a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?</td>
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<td>b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?</td>
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3.12.1 Environmental Setting

The Surface Mining and Reclamation Act directs the State Geologist to classify (identify and map) the non-fuel mineral resources of the State to show where economically significant mineral deposits occur and where they are likely to occur based upon the best available scientific data. Areas known as Mineral Resource Zones (MRZs) are classified on the basis of geologic factors, without regard to existing land use and land ownership. The areas are categorized into four general classifications (MRZ-1 through MRZ-4). Of the four, the MRZ-2 classification is recognized in land use planning because the likelihood for occurrence of significant mineral deposits is high, and the classification may be a factor in the discovery and development of mineral deposits that would tend to be economically beneficial to society.

The project alignment is classified as MRZ-1 which means adequate information indicates no significant mineral deposits in that area (DOC 1999). The project alignment is not designated as a locally important mineral resource recovery site in the Sacramento 2035 General Plan Update (City of Sacramento 2014c).

3.12.2 Discussion

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

**No Impact.** The project alignment is classified as MRZ-1. No known mineral deposits are present in the project alignment. Therefore, there would be no impact, and no mitigation would be required.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

**No Impact.** The project alignment is not designated as a locally important mineral resource recovery site in the Sacramento 2035 General Plan Update (City of Sacramento 2014c:Figure 6-11). Thus, project implementation would not result in a loss of availability of locally important mineral resources, and the project would have no impact related to the loss of availability of a locally important mineral resource discovery site, and no mitigation would be required.
3.13 Noise

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<tr>
<td>Generating noise. Would the project result in:</td>
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<tr>
<td>a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?</td>
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<td>b) Generation of excessive groundborne vibration or groundborne noise levels?</td>
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<tr>
<td>c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?</td>
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3.13.1 Environmental Setting

**Acoustic Fundamentals**

Acoustics is the scientific study that evaluates perception, propagation, absorption, and reflection of sound waves. Sound is a mechanical form of radiant energy, transmitted by a pressure wave through a solid, liquid, or gaseous medium. Sound that is loud, disagreeable, unexpected, or unwanted is generally defined as noise. Exposure to noise may result in physical damage to the auditory system, which may lead to gradual or traumatic hearing loss. Gradual hearing loss is caused by sustained exposure to moderately high noise levels over a period of time; traumatic hearing loss is caused by sudden exposure to extremely high noise levels over a short period. Non-auditory behavioral effects of noise on humans are primarily subjective effects such as annoyance, nuisance, and dissatisfaction, which lead to interference with activities such as communications, sleep, and learning.

Noise is typically expressed in decibels (dB), which is a common measurement of sound energy. A decibel is logarithmic; it does not follow normal algebraic methods and cannot be directly summed. For example, a 65-dB source of sound, such as a truck, when joined by another 65-dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by 3 dB). A sound level increase of 10 dB corresponds to 10 times the acoustical energy, and an increase of 20 dB equates to a 100-fold increase in acoustical energy. The human ear is not equally sensitive to loudness at all frequencies in the audible spectrum. To better relate overall sound levels and loudness to human perception, frequency-dependent weighting networks were developed, identified as A through E. There is a strong correlation between the way humans perceive sound and A-weighted sound levels. For this reason, the A-weighted sound levels are used to predict community response to noise from the environment, including noise from transportation and stationary sources, and are expressed as A-weighted decibels. All sound levels discussed in this section are A-weighted decibels unless otherwise noted.
The intensity of environment noise fluctuates over time, and several different descriptors of time-average noise levels are used. The noise descriptors used in this chapter include:

- **Equivalent Noise Level** (Leq): The equivalent steady-state noise level in a stated period of time that would contain the same acoustic energy as the time-varying noise level during the same period (i.e., average noise level)

- **Maximum Noise Level** (Lmax): The highest instantaneous noise level during a specific time period.

### Noise Generation and Attenuation

Noise can be generated by many sources, including mobile sources such as automobiles, trucks, and airplanes and stationary sources such as activity at construction sites, machinery, and commercial and industrial operations. As sound travels through the atmosphere from the source to the receiver, noise levels attenuate (i.e., decrease) depending on a variety of factors. Atmospheric conditions such as wind speed, wind direction, turbulence, temperature gradients, and humidity alter the propagation of noise and affect levels at a receiver. The presence of a barrier (e.g., topographic feature, intervening building, and dense vegetation) between the source and the receptor can provide substantial attenuation of noise levels at the receiver. Natural (e.g., berms, hills, and dense vegetation) and human-made features (e.g., buildings and walls) may function as noise barriers. To provide some context to noise levels described throughout this section, common sources of environmental noise and associated noise levels are presented in Table 3.13-1.

### Table 3.13-1 Typical Noise Levels

<table>
<thead>
<tr>
<th>Common Outdoor Activities</th>
<th>Noise Level (dB)</th>
<th>Common Indoor Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jet flyover at 1,000 feet</td>
<td>110</td>
<td>Rock band</td>
</tr>
<tr>
<td>Gas lawnmower at 3 feet</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Diesel truck moving at 50 mph at 50 feet</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>Noisy urban area, Gas lawnmower at 100 feet</td>
<td>80</td>
<td>Food blender at 3 feet, Garbage disposal at 3 feet</td>
</tr>
<tr>
<td>Commercial area, Heavy traffic at 300 feet</td>
<td>70</td>
<td>Vacuum cleaner at 10 feet, Normal speech at 3 feet</td>
</tr>
<tr>
<td>Quiet urban daytime</td>
<td>60</td>
<td>Large business office, Dishwasher in next room</td>
</tr>
<tr>
<td>Quiet urban nighttime</td>
<td>50</td>
<td>Theater, Large conference room (background)</td>
</tr>
<tr>
<td>Quiet suburban nighttime</td>
<td>40</td>
<td>Library, Bedroom at night, Concert hall (background)</td>
</tr>
<tr>
<td>Quiet rural nighttime</td>
<td>30</td>
<td>Broadcast/Recording Studio</td>
</tr>
<tr>
<td>Threshold of Human Hearing</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Threshold of Human Hearing</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Notes: dB = A-weighted decibels; mph = miles per hour
Source: Caltrans 2013
Ground Vibration

Vibration is the periodic oscillation of a medium or object with respect to a given reference point. Sources of vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, (e.g., operating factory machinery or transient in nature, explosions). The existing ambient vibration environment in the project vicinity is extremely low.

Noise- and Vibration-Sensitive Land Uses and Receptors

Noise- and vibration-sensitive land uses generally include those uses where noise exposure could result in health-related risks to individuals, places where a quiet setting is an essential element of the intended purpose (e.g., schools and libraries), and historic buildings that could sustain structural damage due to vibration. The project is in relatively developed and populated area and would occur adjacent to sensitive receptor through the duration of the project. Nearby sensitive receptors include primarily single-family residential units and schools.

Local Noise Regulations

Although SMUD is not subject to the goals and policies of the City of Sacramento, the City’s 2035 General Plan Environmental Constraints Element contains noise policies and standards (e.g., exterior and interior noise-level performance standards for new projects affected by or including non-transportation noise sources, and maximum allowable noise exposure levels for transportation noise sources) and the City Noise Ordinance contains noise limits for sensitive receptors that are considered relevant to the evaluation of potential noise impacts as a result of the project.

3.13.2 Discussion

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?

Less than Significant. In the project area, the dominant noise source is roadway traffic, primarily from vehicles along I-5 and Florin Road. The project would result in temporary increase in noise levels during construction as a result of heavy equipment movement and pavement removal, but no permanent increases in ambient noise levels would occur during operation. Construction-related noise sources would include both mobile and stationary on-site equipment (e.g., dozers, loaders, generators). Construction noise would be short-term and temporary, and operation of heavy-duty construction equipment would be intermittent throughout the day during construction.

Within the City of Sacramento, the City’s Municipal Code Section 8.28.060 exempts certain activities, including construction, from the City’s noise standards as long as the activities are limited to the hours of 7 a.m. to 6 p.m. Monday through Saturday, and 9 a.m. to 6 p.m. on Sunday. This exemption provides that construction equipment must include appropriately maintained exhaust and intake silencers. However, the City does not specify limits in terms of maximum noise levels that may occur during the allowable construction hours.
Construction activities would generate noise near individual sensitive receptors throughout the duration of the construction period, but only for a short period of time due to the linear nature of construction activities. As noted in Section 3.3, “Air Quality,” construction activities may occur within 500 feet of any one sensitive receptor (residence) for approximately two weeks. Further, the project would comply with the City’s noise ordinance and restrict construction activities to occur within the ordinance’s identified timeframes. In addition, due to the location of the project alignment within existing roadway rights-of-way, construction activities would either not occur or be substantially limited during peak-hours of vehicular travel along adjacent major roadways and during school pick-up and drop-off times. Reducing construction noise during these times would result in construction activities generating a minimal increase in noise levels during time periods where the existing noise levels from roadway traffic are greatest.

Site preparation and trenching phases typically generate the most substantial noise levels because of the on-site equipment associated with excavation are typically the noisiest. Site preparation and trenching equipment and activities include backhoes, dozers, loaders, graders, excavation equipment, and generators. Installation of prefabricated manholes may require the use of a crane for placement and assembly tasks, which may also generate noise levels. Noise levels from these types of construction equipment are shown in Table 3.13-2 below.

### Table 3.13-2  Noise Emission Levels from Construction Equipment

<table>
<thead>
<tr>
<th>Equipment Type</th>
<th>Typical Noise Level (dBA) @ 50 feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Compressor</td>
<td>81</td>
</tr>
<tr>
<td>Backhoe</td>
<td>80</td>
</tr>
<tr>
<td>Compactor</td>
<td>82</td>
</tr>
<tr>
<td>Concrete Mixer</td>
<td>85</td>
</tr>
<tr>
<td>Concrete Pump</td>
<td>82</td>
</tr>
<tr>
<td>Crane, Mobile</td>
<td>83</td>
</tr>
<tr>
<td>Dozer</td>
<td>85</td>
</tr>
<tr>
<td>Generator</td>
<td>81</td>
</tr>
<tr>
<td>Grader</td>
<td>85</td>
</tr>
<tr>
<td>Jack Hammer</td>
<td>88</td>
</tr>
<tr>
<td>Loader</td>
<td>85</td>
</tr>
<tr>
<td>Paver</td>
<td>89</td>
</tr>
<tr>
<td>Pneumatic Tools</td>
<td>85</td>
</tr>
<tr>
<td>Rail Saw</td>
<td>90</td>
</tr>
<tr>
<td>Roller</td>
<td>74</td>
</tr>
<tr>
<td>Scraper</td>
<td>89</td>
</tr>
<tr>
<td>Trucks</td>
<td>74–88</td>
</tr>
<tr>
<td>Water Pump</td>
<td>76</td>
</tr>
</tbody>
</table>

Notes: Assumes all equipment is fitted with a properly maintained and operational noise control device, per manufacturer specifications. Noise levels listed are manufacture-specified noise levels for each piece of heavy construction equipment.

Source: FTA 2018
Based on the information provide and accounting for typical usage factors of individual pieces of equipment and activity types along with typical attenuation rates, on-site construction related activities could result in hourly average noise levels of approximately 87 $L_{eq}$ and 91 $L_{max}$ at 50 feet. As noted previously, construction activities would only occur at a minimum 50 feet from a sensitive receptor for a brief period of time. At a distance of 500 feet, construction related activities could result in hour average noise levels of approximately 67 $L_{eq}$ and 72 $L_{max}$.

Construction activities would occur within the timeframe identified by the City’s noise ordinance for exemption. In addition, the project would self-impose additional time constraints to further reduce noise generated during peak-noise levels along the existing roadways. Thus, the project would not generate a substantial temporary increase in ambient noise levels in excess of allowable standards in the vicinity of the project. The impact would be less than significant, and no mitigation would be required.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less-than-significant. Construction activities would result in ground vibration from the use of heavy-duty construction equipment. Construction may result in varying degrees of temporary ground vibration and noise levels due to the intermittent operation of various types of construction equipment and activities. Although a detailed construction equipment list is not currently available, based on the types of construction activities associated with the project (e.g., site preparation, trenching, conduit duct bank installation, manhole installation, and paving) and the location of the project alignment, the use of heavy-duty equipment such as large dozers would be associated with the maximum ground vibration and noise levels during construction activities.

According to the Federal Transit Authority (FTA), large dozers produce groundborne vibration levels that could result in 0.089 inches per second (in/sec) peak particle velocity (PPV) and 87 vibration decibels (VdB) within 25 feet of operational construction equipment (FTA 2006). Caltrans recommends a level of 0.2 in/sec PPV with respect to structural damage and FTA recommends a maximum acceptable level of 80 VdB with respect to human response for residential uses (i.e., annoyance). FTA guidance for maximum acceptable VdB levels are primarily concerned with sleep disturbance in residential areas and can be avoided by keeping exposures at or below 80 VdB during typical sleeping hours, or if the vibration events are infrequent (i.e., 30 per day). The project would occur at a minimum 50 feet from sensitive receptors and would only generate vibration levels at this minimum distance for a brief period of time. As the project alignment would not be within 25 feet of sensitive land uses (i.e., 50 feet or more), these values would attenuate accordingly.

Sensitive receptors would not be expected to experience exposure to 0.2 in/sec PPV or 80 VdB as a result of project construction activities. Project construction activities would not occur during typical sleep hours (i.e., construction would only occur between 7 a.m. and 6 p.m.). Thus, the project would not result in the exposure of the existing off-site receptors to excessive ground vibration levels. The impact would be less than significant, and no mitigation would be required.
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The project site is located approximately one mile southwest of the Sacramento Executive Airport and 3.5 miles north of the Borges-Clarksburg Private Airport. No other airports or airstrips, public or private, exist in the area. The project would not result in expansion of aviation operations at any airport nor would it result in the addition of sensitive receptors to the project alignment. Further, the project would not build any structure that would be above the existing ground or nearby building levels in the project, and would not affect air traffic patterns. Thus, the project would have no impact on existing aviation operations or expose new receptors to aviation related noise, and no mitigation would be required.
3.14 Population and Housing

<table>
<thead>
<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>XIV. Population and Housing. Would the project:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
</tbody>
</table>

3.14.1 Environmental Setting

The project involves the replacement of underground cables and installation of new manholes within roadways, rights-of-way, or utility easements. The project would not generate any new residents in the area, or provide any new jobs.

3.14.2 Discussion

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. The project involves the replacement of an underground cable that does not include new homes or businesses that would induce or generate population growth. Therefore, the project would have no impact, and no mitigation would be required.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. No persons or homes would be displaced as a result of project construction or operation. Therefore, the project would have no impact, and no mitigation would be required.
3.15 Public Services

<table>
<thead>
<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>XV. Public Services. Would the project:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire protection?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>Police protection?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>Schools?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>Parks?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>Other public facilities?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
</tbody>
</table>

3.15.1 Environmental Setting

The project alignment is located within the Pocket/Greenhaven neighborhood in the city of Sacramento in Sacramento County. The project alignment extends approximately 2 miles along Florin Road from I-5 and continues down to Gloria Drive with a split to run down Havenside Drive. The project would replace existing underground utility lines and install up to 15 new manholes within the roadways, rights-of-way, and utility easements.

Fire Protection Services

The Sacramento Fire Department (SFD) provides fire protection services to the project alignment, as well as the entire city. The project alignment is within the response zone of Fire Station #11 (SFD 2019). Fire Station #11 is located at 785 Florin Road, adjacent to the project alignment at the northwest corner of the intersection of Florin Road and Havenside Drive.

Police Protection Services

The Sacramento Police Department (SPD) is principally responsible for providing police protection services in the city of Sacramento, including the project area.

The project alignment is located within the South Command and beat 4C (SPD 2016:8). The South Command is based at the Joseph E. Rooney Police Facility located at 5303 Franklin Boulevard, approximately 3 miles northeast of the project alignment.
Schools

There are two public schools adjacent to the project alignment, John F. Kennedy High School, located at the southeast corner of the intersection of Florin Road and Gloria Drive, and the School of Engineering and Sciences, located on the north side of Gloria Drive, directly west of the Pocket Canal. Two private preschools are located within one-quarter mile of the project alignment, Merryhill Preschool at 7335 Park City Drive and Angel’s Nest Preschool at 475 Florin Road.

Parks and Other Public Facilities

The nearest park to the project alignment is Seymour Park, a beltway park that extends north and south of Florin Road, approximately one-tenth mile east of Havenside Drive. Seymour Park provides open space for citizens to walk or bike around in the area. Athletic fields at John F. Kennedy High School are also available for public use. The Pocket Canal Parkway is adjacent to the east side of the Pocket Canal where it intersects with Havenside Drive. The Pocket Canal Parkway provides a paved trail for bicyclists and pedestrians.

3.15.2 Discussion

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

Fire Protection

No Impact. Implementation of the project would not increase demand for SFD fire protection services because the project would not generate new residents, which is the driving factor for fire protection services, nor would it result in the operation of additional structures within the project area that could generate calls for service. Because the project would not increase demand for fire protection services, no construction of new or expansion of existing fire service facilities would be required. Therefore, the project would have no impact on fire protection services, and no mitigation would be required.

Police Protection

No Impact. Implementation of the project would not increase demand for SPD police protection services because the project would not generate new residents, which is the driving factor for police protection services, nor would it result in the operation of additional structures within the project area that could generate calls for service. Because the project would not increase demand for police protection services, no construction of new or expansion of existing police service facilities would be required. Therefore, the project would have no impact on police facilities, and no mitigation would be required.
**Schools**

**No Impact.** The project would not provide any new housing that would generate new students in the community nor result in an increase in employment opportunities that could indirectly contribute new students to the local school district. Therefore, the project would have **no impact** on school services and facilities, and no mitigation would be required.

**Parks**

**No Impact.** The project would not provide any new structures that could result in additional residents/employees, which could necessitate new or expanded park facilities. Therefore, the project would have **no impact** on parks, and no mitigation would be required.

**Other Public Facilities**

**No Impact.** No other public facilities exist in the project area that could be affected by implementation of the project. Therefore, the project would have **no impact** on other public facilities, and no mitigation would be required.
3.16 Recreation

<table>
<thead>
<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
</table>

XVI. Recreation. Would the project:

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

   - Potentially Significant Impact: No
   - Less Than Significant with Mitigation Incorporated: No
   - Less-Than-Significant Impact: No
   - No Impact: Yes

b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

   - Potentially Significant Impact: No
   - Less Than Significant with Mitigation Incorporated: No
   - Less-Than-Significant Impact: No
   - No Impact: Yes

3.16.1 Environmental Setting

The project site is located within the Pocket/Greenhaven neighborhood in the city of Sacramento in Sacramento County. Seymour Park is a beltway park that extends north and south of Florin Road, approximately one-tenth mile east of Havenside Drive. Seymour Park provides open space for citizens to walk or bike around in the area. Athletic field at John F. Kennedy High School adjacent to the project alignment are also available for public use. The Pocket Canal Parkway is adjacent to the east side of the Pocket Canal where it intersects with Havenside Drive. The Pocket Canal Parkway provides a paved trail for bicyclists and pedestrians.

3.16.2 Discussion

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

   No Impact. The project does not include any new development that could increase the use of existing parks or recreational facilities. Therefore, the project would have no impact, and no mitigation would be required.

b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

   No Impact. The project does not include any new development that could necessitate new or expanded recreational facilities. Therefore, the project would have no impact, and no mitigation would be required.
### 3.17 Traffic and Transportation

<table>
<thead>
<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
</table>

XVII. Transportation/Traffic. Would the project:

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities? ☐ ☒ ☐ ☐

b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? ☐ ☐ ☒ ☐

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? ☐ ☒ ☐ ☐

d) Result in inadequate emergency access? ☐ ☒ ☐ ☐

### 3.17.1 Environmental Setting

The project involves open trenching and other construction activities within existing rights-of-way, including public roads, curbs, gutters, and sidewalks. Most of the project alignment is within Florin Road and Havenside Drive, with some work occurring along Gloria Drive and within the parking lot of an apartment complex. Multiple transit stops are located along Florin Road in the project area.

On-street bicycle lanes are provided along many streets within and near the project alignment. An overhead bridge for pedestrians and bicycles crosses over Florin Road to connect Seymour Park. The Pocket Canal Parkway includes a dedicated off-street route for bicycles and pedestrians. The project alignment crosses the canal along Havenside Drive, just east of the Havenside-Canal distribution substation.

### 3.17.2 Discussion

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

Less than Significant with Mitigation Incorporated. Project construction would temporarily interfere with existing vehicle, transit, bicycle, and pedestrian circulation as it would include temporary closures of roads, sidewalks, transit stops, and bike lanes. Upon completion of construction, all facilities would be returned to their pre-project condition. Project operation would not generate additional vehicle, transit, pedestrian, or bicycle use, so there would be no conflicts with programs, plans, ordinances, or policies related to circulation. Because project construction activities could affect the existing circulation system, this impact would be potentially significant.
Mitigation Measure 3.17-1: Traffic Control Plan

Prior to project construction within or adjacent to public roadways, SMUD’s construction contractor shall develop a traffic control plan for the project and submit the plan to the City of Sacramento’s Department of Public Works. The plan shall identify temporary lane, sidewalk, bicycle lane, and transit stop closures and provide information regarding how access and connectivity will be maintained during construction activities. The plan shall include details regarding traffic controls that would be employed, including signage, detours, and flaggers. The traffic control plan shall be implemented by the contractor during construction to allow for the safe passage of vehicles, pedestrians, and cyclists along the project route.

Implementation of Mitigation Measures 3.17-1 would reduce impacts related to the circulation system by ensuring that accessibility and connectivity are maintained during construction activities. Therefore, this impact would be reduced to a less-than-significant level.

b) Conflict or be inconsistent with CEQA Guidelines section 15064.3(b), which pertains to vehicle miles travelled?

Less than Significant. Temporary construction activities would result in slight increases in vehicle trips associated with worker commutes and materials delivery. However, these additional trips would only occur during the 8-month construction period. During operation, no new vehicle trips would be generated as the project involves existing facilities with existing maintenance and operations activities. Because the project would not change the amount of development projected for the area, would be consistent with the population growth and VMT projections in regional and local plans, and would have only a slight increase in VMT during construction, this impact would be less than significant, and no mitigation would be required.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less than Significant with Mitigation Incorporated. Project operation would not result in any changes in road geometry or new uses. As discussed above, project construction would require temporary closure of vehicle lanes as well as sidewalks, bike lanes, and transit stops. This impact would be potentially significant.

Implementation of Mitigation Measures 3.17-1 would reduce impacts related to traffic hazards during construction by requiring a plan to maintain access and provide safety information. As part of the plan, requirements would be established to allow for the safe, controlled passage of vehicles through the project area. Therefore, impacts related to traffic hazards would be reduced to a less-than-significant level.

d) Result in inadequate emergency access?

Less than Significant with Mitigation Incorporated. As discussed above, project operation would not change any existing roads, including areas provided for emergency access. Project construction would involve temporary lane closures, which has the potential to impact access for emergency vehicles. This impact would be potentially significant.
Implementation of Mitigation Measures 3.17-1 would reduce impacts related to inadequate emergency access during construction by requiring implementation of a plan to maintain access for emergency vehicles during construction. Therefore, impacts related to emergency access would be reduced to a *less-than-significant* level.
3.18 Tribal Cultural Resources

Has a California Native American Tribe requested consultation in accordance with Public Resources Code section 21080.3.1(b)?

<table>
<thead>
<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>XVIII. Tribal Cultural Resources. Has a California Native American Tribe requested consultation in accordance with Public Resources Code section 21080.3.1(b)?</td>
<td>☑ Yes</td>
<td>☐ No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

3.18.1 Environmental Setting

Assembly Bill (AB) 52, signed by Governor Edmund G. Brown, Jr., in September 2014, established a new class of resources under CEQA: “tribal cultural resources” (TCRs). AB 52, as provided in Public Resource Code Sections 21080.3.1, 21080.3.2, and 21082.3, requires that lead agencies undertaking CEQA review must, upon written request of a California Native American Tribe, begin consultation once the lead agency determines that the application for the project is complete, prior to the issuance of a NOP of an EIR or notice of intent to adopt a negative declaration or mitigated negative declaration.

AB 52 applies to those projects for which a lead agency had issued a NOP of an EIR or notice of intent to adopt a negative declaration or mitigated negative declaration on or after July 1, 2015. Therefore, the requirements of AB 52 apply and SMUD has initiated consultation with tribes that have requested consultation.

Tribal Consultation

On March 19, 2019, an email was sent to the NAHC to request a Sacred Lands File search for known cultural resources within the project alignment and a 1/8-mile buffer. The NAHC provided a positive response to this request on May 15, 2019. The NAHC’s letter advised SMUD to contact the United Auburn Indian Community of the Auburn Rancheria and the Wilton Rancheria for more information. The NAHC also provided a list and contact information for six additional Native American contacts who may have interest in the project.
On May 9, 2019, SMUD sent emails and certified letters to the Ione Band of Miwok Indians, United Auburn Indian Community of the Auburn Rancheria (UAIC), and Wilton Rancheria. All three tribes have requested to consult on the project. The specific details of the consultations are confidential pursuant to California law, however, as summary of events related to communication between the tribes and SMUD is provided below:

- May 10, 2019: Ione Band of Miwok Indians replied to SMUD’s letter indicating a desire to consult.
- May 13, 2019: Wilton Rancheria replied to SMUD’s letter indicating a desire to consult and requesting copies of cultural resource assessments and records searches.
- May 29, 2019: SMUD shared an excerpt of the Cultural Resources and Tribal Cultural Resources sections of the administrative draft IS/MND to the Ione Band of Miwok Indians and Wilton Rancheria. At this time, SMUD also provided KMZ files depicting the project alignment.
- May 31, 2019: UAIC replied to SMUD’s email indicating a desire to consult and requesting copies of all existing cultural resource assessments and records searches. UAIC also requested that the project’s environmental documents incorporate measures recommended by UAIC.
- June 3, 2019: SMUD shared the excerpt of the Cultural Resources and Tribal Cultural Resources sections of the administrative draft IS/MND and project KMZ files with UAIC.
- June 13, 2019: UAIC requests additional information and submits proposed mitigation measure language.
- June 19, 2019: SMUD and Wilton Rancheria representatives conduct site visit.
- July 1, 2019: SMUD and Wilton Rancheria representatives conduct conference call. Wilton Rancheria requests a mitigation measure be included that provides for tribes to periodically visit the project alignment.

3.18.2 Discussion

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?
Less than Significant with Mitigation Incorporated. In compliance with AB 52, SMUD sent letters to three Native American tribes on May 9, 2019. SMUD received three responses, from the Ione Band of Miwok Indians, Wilton Rancheria, and UAIC. Consultation was initiated and included a site visit and conference call with Wilton Rancheria, sharing of the administrative draft version of project mitigation measures, and discussion regarding mitigation measures. While no specific areas of concern or specific tribal cultural resources were identified during the consultation process, the tribes expressed general concern due to the historic significance of the Pocket/Greenhaven area and the villages along the Sacramento River that were displaced with construction of the levees. In particular, tribes expressed concern regarding manhole excavation as it would involve depths beyond existing underground infrastructure in the area and would disturb soils that have been previously undisturbed. As a result, this impact is potentially significant.

*Mitigation Measure 3.18-1: Periodic Monitoring for Potential Unknown Tribal Cultural Resources*

SMUD shall periodically invite representatives of interested Native American tribes to inspect the active areas of the project alignment, including any soil piles, trenches, or other disturbed areas. Invitations shall be extended to the tribe at least 24 hours prior to excavation of manholes and would allow for inspection to occur within 7 days of the invitation. In the event that tribal representatives or construction workers find evidence of potential tribal cultural resources, the procedures identified in Mitigation Measure 3.5-1 shall be implemented.

Implementation of Mitigation Measure 3.18-1 would reduce potential impacts to tribal cultural resources by ensuring interested tribes have opportunities to visit the project alignment during construction, with timing for the visits triggered by pending manhole excavation. Prior to the start of construction, workers shall receive information regarding the potential for tribal cultural resources that could be encountered during ground disturbance, as required in Mitigation Measure 3.5-1. Should any previously unknown tribal cultural resources be discovered during project construction, implementation of Mitigation Measure 3.5-1 would reduce impacts by mandating the steps to be taken in the event that potential tribal cultural resources are discovered during project construction. With implementation of Mitigation Measures 3.18-1 and 3.5-1, this impact would be reduced to a *less-than-significant* level.
3.19 Utilities

<table>
<thead>
<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less-Than-Significant Impact</th>
<th>No Impact</th>
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<tbody>
<tr>
<td>XIX. Utilities and Service Systems. Would the project:</td>
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<tr>
<td>a) Require or result in the relocation or construction of construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?</td>
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<tr>
<td>b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?</td>
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<tr>
<td>c) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project’s projected demand, in addition to the provider’s existing commitments?</td>
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<td>d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?</td>
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<tr>
<td>e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?</td>
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3.19.1 Environmental Setting

The project involves replacement of existing electrical utility lines and would not require water supply or generate wastewater requiring disposal. Project construction would require extensive dewatering activities, and the water could be retained in Baker tanks and/or conveyed through filtration bags, if needed, prior to being released to the City’s stormdrain system and/or sewer system. For more information regarding dewatering and discharge, see Section 3.10, “Hydrology and Water Quality.”

3.19.2 Discussion

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?

Less than Significant. The project would install new conduit duct bank to replace the existing direct buried underground electrical lines and would not require the use or construction of water treatment, wastewater treatment, natural gas, or telecommunications infrastructure or facilities. As discussed above, project construction would include dewatering and the water may be temporarily stored in Baker tanks and/or conveyed through filtration bags, if needed, prior to
being discharged into the City’s stormdrain system and/or sewer system. Discharge to the stormdrain system and/or sewer system would be temporary and would not exceed system capacity as water could be retained on the project site until there is adequate capacity. Project operation would not require any utility infrastructure or service. This impact would be less than significant, and no mitigation would be required.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

No Impact. The project would not include any use that would require potable water. Because the project would not require water supplies, there would be no impact related to water supplies, and no mitigation would be required.

c) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project’s projected demand, in addition to the provider’s existing commitments?

No Impact. The project would not require the use of wastewater systems. Therefore, the project would have no impact related to wastewater treatment capacity, and no mitigation would be required.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less than Significant. The project would generate a small amount of solid waste during construction, but would not generate solid waste during project operation. Construction debris could include asphalt, concrete, scrap lumber, finishing materials, metals, and organic materials. Compliance with the 2013 CALGreen Code and the City Construction and Demolition Debris Recycling Ordinance would result in a reduction of construction waste and demolition debris and increase recycling. In addition, the construction contractor would comply with goals of the Sacramento 2035 General Plan Update also contains goals regarding solid waste generation and recycling.

The majority of landfilled waste would be delivered to the Sacramento Recycling and Transfer Station, the Sacramento County Kiefer Landfill, the Yolo County Landfill, L and D Landfill, Florin Perkins Landfill, and Elder Creek Transfer Station. Combined, these landfills have a large volume of landfill capacity available to serve the project during construction. The project involves the replacement of existing underground electrical lines and would not generate solid waste during operation. This impact would be less than significant, and no mitigation would be required.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less than Significant. The project would cause a temporary increase in the generation of solid waste as a result of construction activities. However, the operation of the project would not generate solid waste. Compliance with the City of Sacramento policies regarding solid waste would prevent landfills from being overloaded due to the project construction activities. This impact would be less than significant, and no mitigation would be required.
### 3.20 Wildfire

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<thead>
<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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<tbody>
<tr>
<td>XX. Wildfire.</td>
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Is the project located in or near state responsibility areas or lands classified as high fire hazard severity zones?

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

- a) Substantially impair an adopted emergency response plan or emergency evacuation plan?
- b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?
- c) Require the installation of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?
- d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

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<th>Yes</th>
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#### 3.20.1 Environmental Setting

The project alignment is located within a local responsibility area that is designated as a non-Very High Fire Hazard Severity Zone (non-VHFHSZ) (CAL FIRE 2008).

#### 3.20.2 Discussion

- **a) Substantially impair an adopted emergency response plan or emergency evacuation plan?**

  **Less than Significant.** Construction of the project would require road lane closures that could temporarily impair emergency response plans or evacuation plans. As required by Mitigation Measure 3.17-1, SMUD and its construction contractor would develop and implement a traffic control plan that would maintain access and connectivity during project construction activities. Because access and connectivity would be maintained during construction, the project would not substantially impair an emergency response plan or evacuation plan. Once construction is complete, the project alignment would be returned to its pre-construction condition and there would not be any above-ground features that would potentially impair emergency response or evacuation. Because adequate access would be maintained throughout construction activities, this impact would be **less than significant**, and no mitigation would be required.
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

**No Impact.** The project would not exacerbate wildfire risks as the project site is not located within a wildfire hazard zone, is substantially surrounded by developed land, and is not near wildland areas. There would be *no impact*, and no mitigation would be required.

c) Require the installation of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

**No Impact.** The project does not require the installation of infrastructure that could exacerbate fire risk because the project would locate all electrical facilities below the ground surface. There would be *no impact*, and no mitigation would be required.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

**No Impact.** The project is in an area of flat terrain and would not involve the changing to slopes that could expose people to risks of flooding from post-fire slope instability. Project facilities would be located under the ground surface and would not result in changes to existing drainage. There would be *no impact*, and no mitigation would be required.
### 3.21 Mandatory Findings of Significance

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<tr>
<th>ENVIRONMENTAL ISSUES</th>
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<th>Less Than Significant Impact</th>
<th>No Impact</th>
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<tbody>
<tr>
<td>XVIII. Mandatory Findings of Significance.</td>
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<tr>
<td>a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?</td>
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<td>b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)</td>
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<tr>
<td>c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?</td>
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Authority: Public Resources Code Sections 21083, 21083.5.

#### 3.21.1 Discussion

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?

Less than Significant with Mitigation Incorporated. As discussed in Section 3.4, “Biological Resources,” of this IS/MND, project construction would occur primarily within rights-of-way or other paved areas but the project would not result in significant impacts on biological resources with implementation of Mitigation Measures 3.4-1 and 3.4-2.

As discussed in Section 3.5, “Cultural Resources,” there are no known cultural resources on the project site. Because there is the potential for discovery of previously-unknown resources, Mitigation Measures 3.5-1 and 3.5-2 would be implemented to reduce impacts to a less-than-significant level. Also, implementation of Mitigation Measures 3.18-1 and 3.5-1 would reduce impacts on tribal cultural resources to a less-than-significant level.
Implementation of project mitigation measures, along with adherence to applicable regulations and requirements, would ensure that the project would not substantially degrade the quality of the environment. This impact would be **less than significant**.

b) **Does the project have impacts that are individually limited, but cumulatively considerable?** (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

**Less than Significant with Mitigation Incorporated.** Project impacts would be individually limited and not cumulatively considerable due to the site-specific nature of the potential impacts. The potentially significant impacts that can be reduced to a less-than-significant level with implementation of recommended mitigation measures include the following areas: air quality, biological resources, cultural resources, traffic and transportation, and tribal cultural resources. These impacts would primarily be related to construction activities, would be temporary in nature, and would not substantially contribute to any potential cumulative impacts associated with these topics.

Potentially significant air quality impacts would be reduced to a less-than-significant level with implementation of Mitigation Measure 3.3-1. Potentially significant biological resources impacts would be reduced to a less-than-significant level with implementation of Mitigation Measures 3.4-1 and 3.4-2. Potentially significant cultural resources impacts would be reduced to less-than-significant levels with implementation of Mitigation Measures 3.5-1 and 3.5-2. Potentially significant impacts related to geology and soils would be reduced to less-than-significant levels with implementation of Mitigation Measures 3.7-1 and 3.7-2. Potentially significant transportation impacts would be reduced to less-than-significant levels with implementation of Mitigation Measure 3.17-1. Potentially significant tribal cultural resources impacts would be reduced to a less-than-significant level with implementation of Mitigation Measures 3.18-1 and 3.5-1.

The project would have no impact or less than significant impacts to the following environmental areas: aesthetics, agriculture and forestry resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, utilities and service systems, and wildfire. Therefore, the project would not substantially contribute to any potential cumulative impacts for these topics. All environmental impacts that could occur as a result of the project would be reduced to a less-than-significant level through the implementation of the mitigation measures recommended in this document. Implementation of these measures would ensure that the impacts of the project would be below established thresholds of significance and that these impacts would not combine with the impacts of other cumulative projects to result in a cumulatively considerable impact on the environment as a result of project implementation. Therefore, this impact would be **less than significant**.

c) **Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?**

**Less than Significant with Mitigation Incorporated.** The project would have potentially significant impacts related to the following areas: air quality, biological resources, cultural resources, transportation, and tribal cultural resources. However, all of these impacts would be reduced to less-than-significant levels with incorporation of the mitigation measures included in the respective section discussions above. No other direct or indirect impacts on human beings were identified in this IS/MND. Therefore, this impact would be **less than significant**.
4.0 LIST OF PREPARERS

SMUD

Rob Ferrera ................................................................................................................... Environmental Specialist

Ascent

Chris Mundhenk............................................................................................................. Principal

Cori Resha, J.D........................................................................................................... Project Manager

Kim Untermoser ........................................................................................................... Environmental Planner

Megan Diliberti .............................................................................................................. Environmental Planner

Ricky Williams ............................................................................................................. Transportation and Environmental Planner

Poonam Boparai .......................................................................................................... Senior Air Quality Specialist

Ted Thayer ................................................................................................................... Senior Biologist

Carlos Alvarado ......................................................................................................... Wildlife Biologist

Shannon Hickey.......................................................................................................... Botanist

Steve Henderson ........................................................................................................ Senior Biologist

Lisa Merry .................................................................................................................... GIS Specialist

Phi Ngo .......................................................................................................................... GIS Specialist

Brian Perry ................................................................................................................... Graphics Specialist

Gayiety Lane ............................................................................................................... Document Specialist

Michele Mattei ............................................................................................................. Document Specialist
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5.0 REFERENCES


CAL FIRE. See California Department of Forestry and Fire Protection.


California Department of Forestry and Fire Protection. 2008 (July 30). Sacramento County, Very High Fire Hazard Severity Zones in LRA. 1:100,000 Scale. Sacramento, CA.


Caltrans. See California Department of Transportation.

CARB. See California Air Resources Board.

CEC. See California Energy Commission.

CGS. See California Department of Conservation, California Geological Survey.


——. 2014b (September 3). Planning and Development Code, Base Zones. Sacramento, CA.

Kleinfelder. 2019 (February 15). Geotechnical Investigation Report Proposed SMUD Pocket 69kV Cable Replacement, Sacramento, California.


NCIC. See California Historical Resources Information System, Northern California Information Center.

NRCS. See Natural Resources Conservation Service.

SACOG. See Sacramento Area Council of Governments.


SMAQMD. See Sacramento Metropolitan Air Quality Management District.

SMUD. See Sacramento Metropolitan Utility District.


SWRCB. See State Water Resources Control Board.

UN. See United Nations.


USFWS. See U.S. Fish and Wildlife Service.

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RESOLUTION NO. ______________

WHEREAS, this Board has adopted policies stating this Board is committed to meeting customers’ electrical energy needs (SD-4); demonstrating energy reliability and environmental leadership (SD-7); and ensuring high levels of customer satisfaction (SD-5); and

WHEREAS, SMUD’s primary purpose is to supply electrical energy to customers in the Sacramento area; and

WHEREAS, SMUD proposes the Pocket/Greenhaven 69kV Underground Cable Project (Project) to replace approximately two miles of existing underground cable and construct up to 15 new utility holes in the Pocket/Greenhaven neighborhood of the City of Sacramento; and

WHEREAS, the Project the project alignment begins southeast of the Florin Road interchange on Interstate 5 (I-5) at two riser poles located between I-5 and a drainage canal, crosses beneath I-5 and runs in a northwest direction through a parking lot to Florin Road, where it heads west along the southern edge of Florin Road, and continues to Gloria Drive, where it turns left and terminates at the Gloria-Florin distribution substation (approximately 400 feet west of Florin Road), splits at Havenside Drive, and continues south along Havenside Drive until it terminates at the Havenside-Canal distribution substation located immediately west of the Pocket Canal; and

WHEREAS, for the areas beneath I-5 and the Pocket Canal, existing underground lines would be removed and new lines installed within conduit or via a new overhead crossing of I-5, and for the remainder of the alignment, the underground cable would be replaced via open trenching; and
WHEREAS, SMUD prepared an Initial Study, Final Mitigated Negative Declaration, and Mitigation Monitoring and Reporting Program for the Project that incorporated environmental avoidance, mitigation and improvement measures; and

WHEREAS, the draft Initial Study, Mitigated Negative Declaration, and Mitigation Monitoring and Reporting Program were distributed to members of the Board, interested persons, organizations, public agencies, and landowners and occupants of parcels adjacent, and notice published in the Sacramento Bee, inviting public comment; the comment period was open from August 7, 2019, through September 6, 2019; a public meeting was held on August 21, 2019, which was attended by 25 members of the public; and six public comments were received; and

WHEREAS, all comments received during the public review period have been responded to as appropriate and incorporated into the Initial Study, Final Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program; and

WHEREAS, the Initial Study, Final Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program are located in the records of SMUD under the custody of the Environmental Services Department; NOW THEREFORE,

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

Section 1. This Board has reviewed and considered information in the Initial Study, Final Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program, together with comments received during the public review period; finds that the Initial Study, Final Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program as set forth in Attachment ____ hereto have
been completed in compliance with the California Environmental Quality Act (CEQA), the State Guidelines for implementation of CEQA, and Board Resolution No. 13-11-03 (Procedures for Implementation of CEQA); and finds that the Initial Study, Final Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program reflect the independent judgment and analysis of this Board.

Section 2. This Board finds, on the basis of the Initial Study, Final Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program, and comments received during the public review period, that there is no substantial evidence that the Pocket/Greenhaven 69kV Underground Cable Project (Project) may have a significant effect on the environment.

Section 3. Based on the Initial Study, Final Mitigated Negative Declaration, Mitigation Monitoring and Reporting Program, and the findings made by this Board, this Board adopts the Final Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program and approves the Project. The Environmental Services Department is directed to file with the County Clerk of Sacramento County, a Notice of Determination, which shall set forth the information required by CEQA.
WHEREAS, William H. Lee served the Sacramento community with great distinction as publisher of the Sacramento Observer, one of the nation’s most prominent African-American newspapers, until his passing on September 22, 2019; and

WHEREAS, the Sacramento region, and the city’s African-American community in particular, benefited greatly from Dr. Lee’s tenure as publisher from the early years of the Civil Rights era through the election of black candidates to the offices of Mayor of Sacramento and President of the United States; and

WHEREAS, SMUD enjoyed a productive relationship with Dr. Lee during his half-century as the Observer’s publisher; and

WHEREAS, the knowledge and contacts Dr. Lee developed as the Observer’s publisher helped SMUD, Sacramento’s not-for-profit, community-owned electric utility communicate its programs and services more effectively to the capital’s African-American community; and

WHEREAS, Lee was born in Austin, Texas, in 1936, and moved to California with his parents and brother in the early 1940s; and

WHEREAS, Lee received an accounting degree from U.C. Berkeley in 1957 and was awarded an honorary Ph.D. from Southeastern University in 1970; and

WHEREAS, after launching the Observer in 1962 with co-investors Geno Gladden and John Cole, Lee and his late wife, Kathryn, became sole owners of the newspaper in 1965, also starting the Lee Publishing Company; and
WHEREAS, Dr. Lee took on local, state and national leadership roles in journalism, serving nearly 20 years on the board of directors and as an officer of the National Newspapers Publishers Association; and

WHEREAS, the Sacramento Observer has been named the nation’s No. 1 black newspaper on six separate occasions and was awarded the prestigious John B. Russwurm trophy, considered the Pulitzer Prize in the black newspaper world; and

WHEREAS, Dr. Lee was a forceful advocate for ensuring that black journalists have the same access as their colleagues in the mainstream press; and

WHEREAS, Dr. Lee was greatly respected as a community leader who co-founded the Sacramento Urban League and the Sacramento Black Caucus; and

WHEREAS, Dr. Lee was appointed by Governor George Deukmejian to chair the statewide Dr. Martin Luther King Jr. holiday committee; and

WHEREAS, Dr. Lee received a Lifetime Achievement Award from the California Black Chamber of Commerce; and

WHEREAS, the Sacramento Observer was inducted into the Sacramento Metro Chamber of Commerce’s Hall of Fame in 2012; and

WHEREAS, the Sacramento Observer remains in family hands under the leadership of Dr. Lee’s son, Larry; and

WHEREAS, Dr. Lee’s belief in the empowerment of education was honored with a college preparatory school in Oak Park named in his honor; and

WHEREAS, Dr. Lee is missed by all who had the good fortune to know and work with him; NOW, THEREFORE,
BE IT RESOLVED BY THE BOARD OF DIRECTORS
OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT:

This Board honors William H. Lee for his years of dedicated service, outstanding leadership and numerous contributions to the Sacramento community, and extends its heartfelt condolences to the Lee family on the passing of the publishing titan.
TO TO
3. Nicole Howard 8. 
4. 9. Legal 
5. 10. CEO & General Manager

Consent Calendar | Yes | No | If no, schedule a dry run presentation. | Budgeted | Yes | No (If no, explain in Cost/Budgeted section.)
---|---|---|---|---|---|---
FROM (IPR) DEPARTMENT MAIL STOP EXT. DATE SENT
Laura Lewis Office of the General Counsel B308 6123 10/01/18

NARRATIVE:

Requested Action: Cast vote on Sacramento Local Agency Formation Commission (LAFCo) ballot regarding the election of a Special District Commissioner to LAFCo and Alternate Special District Commissioner.

Summary: Pursuant to the provisions of Section 56332 of the Government Code, the Executive Officer of LAFCo has determined that a meeting of the Special District Selection Committee for the purpose of selecting a Special District Commissioner [Office No. 6] and Alternate Special District Commissioner [for Offices No. 6 & 7] to serve on the Sacramento Local Agency Formation Commission is not feasible. Therefore, the business of the Special District Selection Committee will be conducted in writing. To be valid, selection of a candidate must be done by a majority vote of the governing board of an Independent Special District in an official meeting of that board and certified by the secretary of the board. The ballot must be returned by no later than 4:00 p.m. on November 21, 2019. Communications from LAFCo are attached, including copies of the ballot and resumes of the candidates for Special District Commissioner and Alternate Special District Commissioner.

Board Policy: GP-2 Governance Focus; GP-3 Board Job Description

Benefits: The SMUD Board will have a voice in determining their representatives on LAFCo.

Cost/Budgeted: No budget impact.

Alternatives: Decide not to cast a vote for Special District Commissioner or Alternate Special District Commissioner.

Affected Parties: Board, LAFCo, Special Districts

Coordination: Legal, Legislative

Presenter: Laura Lewis

Additional Links:

SUBJECT Cast Vote on LAFCo Ballot

ITEM NO. (FOR LEGAL USE ONLY) 12a

ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.
DATE: September 24, 2019

TO: Special Districts' Selection Committee

FROM: Donald Lockhart, Executive Officer

RE: Selection of Special District Commissioner

Term of Office: January 1, 2020 to December 31, 2023

and Selection of Alternate Special District Commissioner

Term of Office: January 1, 2020 to December 31, 2021

for the Sacramento Local Agency Formation Commission

Pursuant to the provisions of Section 56332 of the Government Code, the Executive Officer has determined that a meeting of the Special District Selection Committee for the purpose of selecting a Special District Commissioner [Office No. 6] and Alternate Special District Commissioner [for Offices No. 6 & 7] to serve on the Sacramento Local Agency Formation Commission is not feasible. Based on past experience, due to the size of the Special District Selection Committee, it has been difficult to establish a quorum. Therefore, the business of the Special District Selection Committee will be conducted in writing, as provided in the cited section code.

Please see the attached Ballot

Please select one candidate for Special District Commissioner and one candidate for Alternate Special District Commissioner.

Please return the ballot to the LAFCo office no later than:

4:00 P.M. on THURSDAY, NOVEMBER 21, 2019

To be valid, selection of a candidate must be done by a majority vote of the governing board of an Independent Special District in an official meeting of that board and certified by the secretary or clerk of the board.

Any ballot received after the date specified above shall not be valid. The candidate who receives the most votes will be determined the winner outright. In the event of a tie, there will be a run-off selection held in the same format as the initial selection. The LAFCo Executive Officer will announce the results of the selection within seven days of the specified date.

If you have questions, please contact Sacramento LAFCo at (916) 874-6458.

Return ballot to:

Sacramento LAFCo
1112 "I" Street; Suite 100
Sacramento, CA 95814

or e-mail to: Diane.Thorpe@SacLAFCo.org
**Ballot**

LAFCo Special District Commissioner & Alternate Commissioner & Alternate Commissioner

Please select one candidate from each COLUMN

---

**Ballot A**

**Commissioner - Office No. 6**

Please select ONE candidate BELOW

<table>
<thead>
<tr>
<th>Name</th>
<th>District/Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jason Green</td>
<td>Rio Linda Elverta Community Water District</td>
</tr>
<tr>
<td>Michael Hanson</td>
<td>Arcade Creek Recreation &amp; Park District</td>
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</tr>
<tr>
<td>Michael Yearwood</td>
<td>Cordova Recreation &amp; Park District</td>
</tr>
</tbody>
</table>

**Ballot B**

**Alternate Commissioner - for Offices No. 6 & 7**

Please select ONE candidate BELOW

<table>
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Ballot must be received by **4:00 pm on Thursday November 21, 2019**

Special Districts must return the ballots to LAFCo by the date specified above. Any ballot received after the specified date shall not be valid. **The information below must be complete.**

The candidate who receives the most votes will be determined the winner outright. The LAFCo Executive Officer will announce the results of the election within seven days of the specified date.

---

**Name of Special District**

**Street Address**

**Date of Meeting**

**District Phone Number**

**Signature of Secretary or Clerk of the Board**

**Phone Number**

**Print Name**

**E-mail Address**
Seven-year resident of Rio Linda.

Appointed Board Member for Rio Linda Elverta Community Water District in February 2019.

Currently employed as an electrician in IBEW Local 340 and have been an electrician in the construction industry for 30-years.

President of the Rio Linda/Elverta Historical Society. Member of Rio Linda Grange and participate in several non-profit community benefit organizations, e.g. Rio Linda Food Closet.
SUMMARY

Information Technology Professional proven experience including roles as a manager, project manager, systems analyst, systems integrator and software developer of systems in the mainframe and midrange environments. Experienced in all stages of software development life cycle, from analysis through implementation. Successfully managed numerous projects and led teams in system & vendor selection, analysis of business requirements, vendor management, system development & implementation. Strengths include:

- Project Manager
- Vendor Management
- Systems Integration
- Database Analysis
- Application Architecture
- System Analysis
- Software Development Lifecycle
- Managing Projects Across Technologies

Elected to Arcade Creek Recreation and Park District 2014
- Serve as Chair 2015
- Serve as director 2016
  - Lead in the Master Plan project
- Serve as Secretary/Treasurer 2017

PROFESSIONAL EXPERIENCE

CSAA IG, Glendale AZ 1993-Present
Previously, CSAA, San Francisco, CA
AAA Membership and Insurance Co.

Project Manager 2002 – Present
As an EDS/HP employee supporting CSAA (outsourced in 1996), led projects involved in mainframe upgrades and support activities.

- Created proposal to upgrade all application software to a consistent and supportable level. The application software would not be supported under the new operating system (the environment was scheduled to be upgraded). Worked with leadership to document proposal and create the accepted SOW. (Project size >65K staff hours)
- Managed teams’ efforts associated with the application. Assumed role as the Technical Lead and Application Architect. Needed to allow concurrent business changes to occur while upgrading the infrastructure. Delivered a consolidated toolset for mainframe application support including the customized Configuration Management tool, the approach to managing DB2, and the build process itself.
• Reviewed infrastructure requirements and worked with senior management to create an accepted SOW to upgrade the system software.
• Managed a multi-stage mainframe software upgrade the environment to supported levels. Managed the efforts of EDS, Mphasis, and CSAA teams to upgrade the environment with minimal interruption to the business.
• Technical lead for the CSAA account for the mainframe portion of the Data Replication Project by providing stats and coordinating various teams. In addition, provided communication and follow-through for questions/concerns related to the midrange portion of the effort. Help to coordinate the efforts to deliver a successful data replication environment where the mainframe and midrange have replication in place for Disaster Recovery purposes.
• Manage mainframe hardware upgrades. Managed 4 mainframe CPU upgrades for the CSAA account. The scope included the coordination of the teams, the actual upgrade itself, and validation all components would continue to support the business/applications in the new environment as they did on the current hardware including the encryption coprocessor.
• Manage mainframe system software upgrades. Managed migrations from IBM OS/390 through z/OS 1.13, DB2 v7 through DB2 v10, and similar upgrades to CICS, Datacom, and the infrastructure in general. Each major upgrade required a level of acceptance testing and burn-in prior to moving the upgrades to production.

Team Lead 1996 – 2002
As a Systemhouse/MCI/WorldCom employee supporting CSAA (outsourced in 1996), led teams addressing improvements in the Travel/Touring and Membership area.

• Coordinated the install of the TripTik system developed by the AAA National team to automate the Tourbook and map process used to support members in their travels. This was a client-server app where workstations would communicate to a SUN Sparc back-office server.
• Lead the development of the processes internal to CSAA to handle “vanity cards.” This is the AAA VISA cards for the CSAA members which allowed them to autopay their membership. Later, added the capability to Autopay their insurance premiums as well.
• Scheduled to manage the Claims replacement project (HAL), a Client-Server application. Studied the architecture and status with the current PM who then was able to stay and complete the project.

Team Lead 1993 – 1996
Managed team supporting Travel and Touring

• Brought onboard to support the project replacing all Membership, Insurance, and Claims. The architecture of the system was client-server based with the data storage being DB2 on the mainframe and the client residing on workstations running OS/2 and communicating to the mainframe. Directed the efforts of the Membership team (and supported other team’s efforts) related to productionalizing the system.
Education: BA in Management, St. Mary's College, Moraga CA.
Lindsey Liebig
Galt, CA 95632
lindsey@heraldfire.com

Education

BACHELOR OF SCIENCE | 2008 | CAL POLY SAN LUIS OBISPO, CA
• Major: Agricultural Business
• Minor: Wine & Viticulture
• Concentration: Fair & Event Planning and Marketing

Experience

EXECUTIVE DIRECTOR | SACRAMENTO COUNTY FARM BUREAU | MARCH 2018 - PRESENT
• Manage all organizational functions including personnel, budget, legislative advocacy, communications and membership development.
• Responsible for event management for fundraising events, membership recruitment activities and business member development.
• Manage Board of Directors, committees and advisory groups within the organization.

PROGRAM DIRECTOR | CALIFORNIA FARM BUREAU FEDERATION | DECEMBER 2013 – MARCH 2018
• Managed the Young Farmers & Ranchers and Leadership Farm Bureau programs including committee development, leadership development, event planning and fundraising.
• Assisted with marketing campaigns and membership development efforts for the statewide organization.
• Responsible for organizing conferences, meetings and agricultural tours for members and legislative officials.

PROGRAM COORDINATOR | SACRAMENTO COUNTY FARM BUREAU | JANUARY 2012 – DECEMBER 2013
• Responsible for various member programs and events within the county including safety seminars, fundraising dinners, legislative tours and educational presentations.
• Responsible for organizing events, fundraising efforts and membership recruitment.

MARKETING CONSULTANT | CALIFORNIA SPECIALIZED TRAINING INSTITUTE | JUNE 2008- JULY 2013
• Managed marketing efforts for the training division of the Governor’s Office of Emergency Services.
• Responsible for course catalog, course marketing, website and social media functions.
• Assisted in curriculum development for federal grant funding applications.

Community Involvement
• Board Chair, Herald Fire Protection District – Elected to 4-year term in 2016
• Member, Protest Provisions Rewrite Working Group, CSDA/CALAFCO – 2019
• Alternate Representative, Sacramento Central Groundwater Authority – 2018 – present
• Member, Sacramento LAFCo Special District Advisory Committee – 2019
• President, Sacramento Farm Bureau Foundation for Ag Education – 2015 – present
• President, National Sigma Alpha Educational Foundation – 2019
• Past President, Sigma Alpha National Sorority – 2012-2016
Applicant Statement for the Special District LAFCO Representative

I moved from Glassboro New Jersey to Rio Linda Elverta in 1981, along with my 3 year old daughter and my husband.

Almost immediately I became involved with Sacramento County Service Area #3 which was the forerunner of our current independent Parks and Recreation District serving the Rio Linda Elvera Communities. This involvement was the result of reading a statement in the local paper, indicating that the Parks Advisory Board had determined that there were sufficient equestrian trails in the area. I was very happy to advocate for additional trails and in the process begin my education in local governance processes.

Over the next several decades I was appointed to numerous County and Local advisory boards, steering committees and ad hoc committees. My interest expanded to include growth issues, flood issues and agriculture/suburban/urban issues.

I learned a great deal about how government works and how Special Districts fit into the process. I became a strong advocate for local governance after going through 3 incorporation attempts in the Rio Linda Elvera communities and in the education process I switched from anti-incorporation to pro-incorporation for unincorporated communities.

In about 1992 I was appointed to the RLE CPAC in and served during the Community Plan Update. I am familiar with the governance process and with procedures for arriving at a decision as a board member. I have served several terms on CPAC under four different County Supervisors since that initial appointment. All of these experiences were very educational for me.

In 2002 I successfully ran for the Rio Linda Elvera Recreation and Parks District. I truly enjoyed and have greatly benefited from the experience of becoming an elected board member. I ran again in 2016 and am currently serving as Secretary for the RLE Recreation and Parks District.

I believe that my history in the community and experience as an elected public official will be an asset for Special Districts as a LAFCO Special District Board member.

Thank you,

Charlea R. Moore
Resume
Elliot Mulberg
Elk Grove, CA 95758

Community Service:

Florin Resource Conservation District / Elk Grove Water District - Director
Sacramento LAFCO Special District Advisory Committee
California Special District Association Legislative Committee
Friends of Stone Lakes National Wildlife Refuge
Elk Grove Western Festival
Rotary Club of Elk Grove

Past Community Service:

Sacramento Local Agency Formation Commission
   Chair 2003, Vice Chair 2002
   Special District Commissioner 2001-2006, Special District Alternate 1995-2001
Elk Grove (now Cosumnes) Community Services District (parks and fire services) - Director 1994 – 2006
CALAFCO (statewide association of LAFCo’s) Board of Directors
   Special District Representative 2001-2006
California Special District Association Sacramento Chapter - Treasurer 1995-99
Sacramento Regional Council of Recreation & Park Agencies Vice President 1995
Franklin Laguna Area Community Planning Advisory Council Secretary 1993-1994
Elk Grove Historical Society President 2000, 2001

Professional Experience:

Environmental/ LAFCO Consultant – E Mulberg & Associates 2011-Present, CEQA analysis, municipal service reviews for water districts, sewer districts, reclamation districts, resource conservation districts, health care districts, full service cities; sphere of influence updates; change of organization analysis annexations, consolidations, dissolutions; Solano LAFCO Executive Officer; Senior Air Quality Scientist, and Senior Air Quality Planner Michael Brandman Associates 2008-2011, Senior Analyst Monterey LAFCO 2006-08. Air Pollution Specialist CA Air Resources Board 25 years.

Professional Affiliations:
American Planning Association
Association of Environmental Professionals
American Meteorological Society

Education:
B.S. St. Louis University
M.S. UCLA
Profile

Passionate to improve government services, for over 40 years, Gary is dedicated to public and community servant-leadership.

Formal Education

Eastern Michigan University:
Bachelor of Science Degree in Public Administration

Southern Illinois University at Edwardsville:
Master of Science Degree in Urban Affairs and Public Policy Analysis

“Real Work” Experience

Gravel Pit: Sand Plant Operator
Sweat Shop (2 days): Molten metal pourer
Can Factory: Fork Lift Operator
General Motors Assembly Plant: Parts Production

Professional Experience

Current: California Department of Education - Education Programs Consultant
Illinois State Auditor General - Senior Management Auditor
California State Auditor General – Management Auditor
California Department of Education – Internal Auditor
Certified Fraud Examiner
Skills

Skilled at writing for various audiences and purposes
- State Legislatures for information/action
  Organizational studies (management/systems/outcomes)
  Legislation (bill analysis)
  Program Advocacy (met with advocates/legislators)
- Local decision makers for desirable outcomes (Sacramento City Superintendent)
- General public for program awareness/promotion (TechWire contributor)
- School community for information/action (announcements/fundraisers)
- Teachers to establish and promote community/action (EdSynergy Publisher)
- Established non-profit foundation (501 c3) (Met Sacramento)
- Wrote school policies (Met Sacramento)
- Wrote model curriculum standards (California CTE)
- Wrote contract proposals and contracts (UC Davis C-STEM Center)

Leadership Team Experience
- Grassroots advocacy/representation/results
  Fair Oaks Water District 3 Director
  Royal Rangers (Wrote a federal grant to get land to build a Camp)
  Neighborhood Association (Website - Built a Park – Park Day)
  Sacramento County Alliance of Neighborhoods (Community Support)
  Environmental Council of Sacramento (Won Smart Growth Policies)
  Sacramento County Water Forum (Interest-based negotiation)
- Educational leadership
  Team Lead: Coordinated Compliance Reviews
  Met Sacramento (Board President/Treasurer/Secretary)
  Alliance for California Computing Education for Students and Schools (ACCESS)
  National Visiting Committee member (Mid-Pacific ICT)
  ICT (Information and Communication Technologies) Sector Lead
    Project Lead the Way (California)
    C-STEM (UC Davis)
    Exploring Computer Science (UCLA/LAUSD)

Technology and Social Media
  Website Designer/Developer (Responsive Web Design)
  ICT Sector Lead (CTE Sector and Pathways)
    Information Support and Services
    Networking
    Software and Systems Development
    Games and Simulation
  Listserv Publisher (3900 teachers/administrators)
www.EdSynergy.org Blog (Collaborating to Transform Education)
Responsive to Mobile
Search Engine Optimization
Twitter Feed with Re-Tweets
Easy to Maintain and Sustain (WordPress)

Worked with Google/Cisco/Adobe/Code.org to promote technologies

**Issue Analysis/Problem Solving**

Master's Degree in Public Policy Analysis
  - Issue Analysis
  - Program Design
  - Program Implementation
  - Program Evaluation

Performance/Management Auditor in Illinois and California
  - Legal Research
  - Gathering evidence (data) to support conclusions (findings)
  - Focus on Problem Identification (corrective actions)

Systems Focus
  - Input/Process/Output
  - Budget Systems
  - Reporting Systems
  - Systems include people!
Thank you for consideration as the Special District Commissioner to the Sacramento Local Agency Formation Commission (LAFCO). As fellow governing board members, I know you understand the vital role our special districts serve in Sacramento. Our agencies provide a diverse set of unique services across the County and we are called on time and time again when our communities are in need. I believe that as special districts, we have our hands on the pulse of our diverse populace and it is critical that our unique voice, insights and interests be strongly represented on the Commission. That is why I consider representing special districts on a regional body such as LAFCO a vitally important role. Please find my professional and academic qualifications as well as dedication to public service below. Thank you for your support and please don't hesitate to contact me directly at 916-844-5510 if I can be of service or you have any questions.

PUBLIC SERVICE

2017 - CURRENT
DIRECTOR, SACRAMENTO MUNICIPAL UTILITY DISTRICT, WARD 1
As a board member, I work with my fellow directors to establish policies and values about how the organization best represents the community. The Board sets the budget ($1.75 billion), governance structures, the long-term strategic direction and monitors compliance. I actively engage the public, strategic partners and government organizations across a spectrum of issues.

2008 - 2017
DIRECTOR, FAIR OAKS RECREATION AND PARK DISTRICT
As an elected member of the Board of Directors and past chair, I worked in conjunction with the district administrator to determine long term policy development and strategic planning. As former chair of the Personnel and Management Committee I was responsible for updates to personnel policies as well as negotiations with the employees association and management. As chair of the Finance and Budget Committee, I direct the drafting and approval of the annual budget. In addition, as board chair, I focused on completion of a long term master plan.

2011 - 2019
CHAIR & SPECIAL DISTRICT REPRESENTATIVE, SACRAMENTO COUNTY TREASURY OVERSIGHT COMMITTEE
The Special District Representative is elected by the region’s local governments to oversee the County’s pooled investment funds, which total approximately $4 billion. Duties include review of the annual investment policy; quarterly review of investments; and causation and review of an annual portfolio audit. Board Chair 2014-2018.

2010 - 2011
MEMBER, SPECIAL DISTRICT ADVISORY COMMITTEE; SACRAMENTO COUNTY LOCAL AGENCY FORMATION COMMISSION
The advisory committee provided a forum for valuable learning and information exchange with LAFCO staff.

WORK EXPERIENCE

2007 – CURRENT
AIR POLLUTION SPECIALIST, CALIFORNIA AIR RESOURCES BOARD
Duties in the Mobile Source Control Division include research, analysis and development of public health regulations including economic analysis, emission modeling as well as report, database, and training development. My current focus is on commercial fleet electrification and supporting the adoption of battery and fuel cell trucks and buses.

2004 – 2007
ENERGY SPECIALIST, CALIFORNIA ENERGY COMMISSION
I was lead for the Solar Rebate program’s Performance Based Incentive pilot and managed the list of eligible equipment. In addition, I co-authored the New Solar Homes Partnership Program and the Emerging Renewables Program Guidebooks. I was a member of the California Solar Initiative Submetering Committee Working Group, as well as the Office of the State Fire Marshal Photovoltaic Building Standards Task Force. Activities included presenting at Solar Power International Conference, the California Council for Affordable Housing, and testifying at California Public Utilities Commission proceedings.

2003 – 2004
RESEARCH ASSISTANT IV (HYDROLOGY), UC DAVIS
I conducted fluvial geomorphologic surveying and data collection of Sierra Nevada streams in the Feather River watershed as part of a larger CalFed Bay Delta effort.

1998 – 2002
ASSISTANT POOL MANAGER, SUNRISE RECREATION & PARK DISTRICT
Duties included working with the management team to ensure smooth operation of the aquatic division.

EDUCATION

2004
ENVIRONMENTAL POLICY ANALYSIS & PLANNING, UC DAVIS
Specialization in City and Regional Planning with a focus in Public Lands Management and Land Use Planning.

Study Abroad in Wilderness & Natural Area Management, University of Tasmania, Australia

MEMBERSHIPS

- Professional Engineers in California Government
- Young Professional in Energy
- Environmental Council of Sacramento (Past President)
Michael T. Yearwood
Rancho Cordova, CA 95670

Experience Summary:
Customer Service Leader with over ten years of experience with direct customer problem solving within the health insurance industry. Expert level experience with hiring, training, staff retention, process improvement projects, managing deadlines and increasing production of teams.

Health Net of California
Claims Supervisor - Performance Team 2016-2019
- Supervise a team of 17 Claims Analysts
- Coach and mentor staff to exceed expectations
- Responsible for talent and performance management of Claims Team
- Daily operational leadership and support through work distribution and monitoring
- Coordinate with scheduling to assist with daily forecast ensuring accurate staffing coverage
- Identify individual performance gaps to recommend and implement action plans that achieve desired result
- Monitor daily productivity through the Maces System
- Collaborate with peers and managers on process improvements

State of California - Health Benefits Exchange (Covered California) 2015-2016
Supervising Program Technician III
- Supervise a team of 15 Customer Service Representatives
- Coach and mentor staff to exceed expectations
- Assist representatives with questions regarding health plan options and policy and procedures
- Research and resolve escalated calls from consumers
- Monitor daily productivity through the IEX System
- Audit inbound calls through the Nice System
- Collaborate with peers and managers on process improvements

Vision Service Plan
Client Broker Representative - Inside Sales 2007-2015
- Assisted and resolved clients and brokers service issues
- Provided phone support and customer service to clients and brokers
- Provided e-mail coverage for Sales Team in their absence
- Implemented installation of new groups and pull-outs according to guidelines
- Processed renewals for clients according to guidelines
- Provided Resource Center support to clients and brokers

References available upon request
Michael Yearwood  
Rancho Cordova, CA 95670

Service to My Community
Cordova Recreation and Park District (Board Chairperson)  
2015-Present: Director

As a Cordova Recreation and Park District (CRPD) Board Member I am responsible for the budget and for setting policies that safeguard the vitality of the district. The five non-partisan members of the Board of Directors are elected to four-year terms by residents located within CRPD's boundaries. The elected board is held accountable to the following laws that govern public officials: The Brown Act, California Public Records Act, FPPC Reporting Requirements and biannual ethics training.

Specific functions and duties of my role as a Board Director are:

1. To perform its legal responsibility.
2. To set up by-laws, regulations and operation procedures
3. To select, employ, and if necessary, dismiss the District Administrator.
4. To control the operating budget, the financial plans and the insurance program.
5. To care and maintain property.
6. To be responsible for program.
7. To assure personnel policies.
8. To maintain good public relations.
9. To appoint, commission, supervise and receive reports from committees and the District Administrator.

BOARD MEMBERS RESPONSIBILITIES

1. Board members should understand the significance and importance of recreation in the community.
2. Board members should be aware of the relationship of the recreation services to other community services.
3. Board members should look objectively at their specific responsibility as board members and at local community recreation needs, and keep abreast of changing conditions, continuously reassessing their efforts and reasons for service.
4. Board members should have the courage to resist pressures of all types and insist upon high standards for their agencies, particularly in regard to competent, professional personnel.
5. Board members should be aware of their role as board members, acting in concert with their fellow board members without usurping the functions of the District Administrator.
Michael Yearwood
Rancho Cordova, CA 95670

Rancho Cordova Athletic Association
2013: Founding Member
2013-2015: Secretary
2016: CRPD Representative

Leadership Rancho Cordova
2014-2016: Governing Board
2014: Graduate of Class VIII

Rancho Cordova Youth Soccer Club (RCSC)
2002: Coach
2003: U-6 Age Coordinator
2004: Coach & U-8 Boys Age Coordinator
2005: Coach & U-8 Girls Age Coordinator
2006: Coach & U-6 Age Coordinator
2007-2009: Club Manager & Coach
2012: Coach

American River Youth Soccer League (ARYSL)
2007-2009: Board Member – RCSC Representative
2010: League Treasurer

Cordova Girls Softball League
2010-2011: League Vice President
2011-2012: League Vice President
2012-2013: Secretary
2013-2014: Secretary
2014-2015: NORCAL Representative

Folsom Cordova Unified School District
Cordova High School Site Council
2014-2015: Parent Representative

Cordova Lane Elementary School Site Council
1998-2006: Elected Parent Representative

Navigator Elementary School Site Council
2006-2008: Elected Parent Representative

Measure M & P Oversight Committees
2014-2016: Parent/PTSO Member Representative
RESOLUTION NO. ________________

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

This Board casts its vote for _____________ as Special District Commissioner to the Sacramento Local Agency Formation Commission (LAFCo).
NARRATIVE:

Requested Action: Cast vote on Sacramento Local Agency Formation Commission (LAFCo) ballot regarding the election of a Special District Commissioner to LAFCo and Alternate Special District Commissioner.

Summary: Pursuant to the provisions of Section 56332 of the Government Code, the Executive Officer of LAFCo has determined that a meeting of the Special District Selection Committee for the purpose of selecting a Special District Commissioner [Office No. 6] and Alternate Special District Commissioner [for Offices No. 6 & 7] to serve on the Sacramento Local Agency Formation Commission is not feasible. Therefore, the business of the Special District Selection Committee will be conducted in writing. To be valid, selection of a candidate must be done by a majority vote of the governing board of an Independent Special District in an official meeting of that board and certified by the secretary of the board. The ballot must be returned by no later than 4:00 p.m. on November 21, 2019. Communications from LAFCo are attached, including copies of the ballot and resumes of the candidates for Special District Commissioner and Alternate Special District Commissioner.

Board Policy: GP-2 Governance Focus; GP-3 Board Job Description

Benefits: The SMUD Board will have a voice in determining their representatives on LAFCo.

Cost/Budgeted: No budget impact.

Alternatives: Decide not to cast a vote for Special District Commissioner or Alternate Special District Commissioner.

Affected Parties: Board, LAFCo, Special Districts

Coordination: Legal, Legislative

Presenter: Laura Lewis

Additional Links:
DATE: September 24, 2019

TO: Special Districts' Selection Committee

FROM: Donald Lockhart, Executive Officer

RE: 

Selection of Special District Commissioner

Term of Office: January 1, 2020 to December 31, 2023

and Selection of Alternate Special District Commissioner

Term of Office: January 1, 2020 to December 31, 2021

for the Sacramento Local Agency Formation Commission

Pursuant to the provisions of Section 56332 of the Government Code, the Executive Officer has determined that a meeting of the Special District Selection Committee for the purpose of selecting a Special District Commissioner [Office No. 6] and Alternate Special District Commissioner [for Offices No. 6 & 7] to serve on the Sacramento Local Agency Formation Commission is not feasible. Based on past experience, due to the size of the Special District Selection Committee, it has been difficult to establish a quorum. Therefore, the business of the Special District Selection Committee will be conducted in writing, as provided in the cited section code.

Please see the attached Ballot

Please select one candidate for Special District Commissioner and one candidate for Alternate Special District Commissioner.

Please return the ballot to the LAFCo office no later than:

4:00 P.M. on THURSDAY, NOVEMBER 21, 2019

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If you have questions, please contact Sacramento LAFCo at (916) 874-6458.

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Sacramento LAFCo
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Sacramento, CA 95814

or e-mail to: Diane.Thorpe@SacLAFCo.org
Ballot
LAFCo Special District Commissioner & Alternate Commissioner & Alternate Commissioner
Please select one candidate from each COLUMN

Ballot A
Commissioner - Office No. 6
Please select ONE candidate BELOW

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Rio Linda Elverta Community Water District

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Elliot Mulberg
Florin Resource Conservation District

Gary Page
Fair Oaks Water District

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Sacramento Municipal Utility District

Michael Yearwood
Cordova Recreation & Park District

Ballot B
Alternate Commissioner - for Offices No. 6 & 7
Please select ONE candidate BELOW

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Rio Linda Elverta Community Water District

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The LAFCo Executive Officer will announce the results of the election within seven days of the specified date.

Name of Special District

Street Address

Date of Meeting

District Phone Number

Signature of Secretary or Clerk of the Board

Phone Number

Print Name

E-mail Address
Seven-year resident of Rio Linda.

Appointed Board Member for Rio Linda Elverta Community Water District in February 2019.

Currently employed as an electrician in IBEW Local 340 and have been an electrician in the construction industry for 30-years.

President of the Rio Linda/Elverta Historical Society. Member of Rio Linda Grange and participate in several non-profit community benefit organizations, e.g. Rio Linda Food Closet.
SUMMARY

Information Technology Professional proven experience including roles as a manager, project manager, systems analyst, systems integrator and software developer of systems in the mainframe and midrange environments. Experienced in all stages of software development life cycle, from analysis through implementation. Successfully managed numerous projects and led teams in system & vendor selection, analysis of business requirements, vendor management, system development & implementation. Strengths include:

- Project Manager
- Vendor Management
- Systems Integration
- Database Analysis
- Application Architecture
- System Analysis
- Software Development Lifecycle
- Managing Projects Across Technologies

Elected to Arcade Creek Recreation and Park District 2014

- Serve as Chair 2015
- Serve as director 2016
  - Lead in the Master Plan project
- Serve as Secretary/Treasurer 2017

PROFESSIONAL EXPERIENCE

CSAA IG, Glendale AZ 1993-Present

Previously, CSAA, San Francisco, CA

AAA Membership and Insurance Co.

Project Manager 2002 – Present

As an EDS/HP employee supporting CSAA (outsourced in 1996), led projects involved in mainframe upgrades and support activities.

- Created proposal to upgrade all application software to a consistent and supportable level. The application software would not be supported under the new operating system (the environment was scheduled to be upgraded). Worked with leadership to document proposal and create the accepted SOW. (Project size >65K staff hours)
- Managed teams’ efforts associated with the application. Assumed role as the Technical Lead and Application Architect. Needed to allow concurrent business changes to occur while upgrading the infrastructure. Delivered a consolidated toolset for mainframe application support including the customized Configuration Management tool, the approach to managing DB2, and the build process itself.
• Reviewed infrastructure requirements and worked with senior management to create an accepted SOW to upgrade the system software.

• Managed a multi-stage mainframe software upgrade the environment to supported levels. Managed the efforts of EDS, Mphasis, and CSAA teams to upgrade the environment with minimal interruption to the business.

• Technical lead for the CSAA account for the mainframe portion of the Data Replication Project by providing stats and coordinating various teams. In addition, provided communication and follow-through for questions/concerns related to the midrange portion of the effort. Help to coordinate the efforts to deliver a successful data replication environment where the mainframe and midrange have replication in place for Disaster Recovery purposes.

• Manage mainframe hardware upgrades. Managed 4 mainframe CPU upgrades for the CSAA account. The scope included the coordination of the teams, the actual upgrade itself, and validation all components would continue to support the business/applications in the new environment as they did on the current hardware including the encryption coprocessor.

• Manage mainframe system software upgrades. Managed migrations from IBM OS/390 through z/OS 1.13, DB2 v7 through DB2 v10, and similar upgrades to CICS, Datacom, and the infrastructure in general. Each major upgrade required a level of acceptance testing and burn-in prior to moving the upgrades to production.

Team Lead 1996 – 2002
As a Systemhouse/MCI/WorldCom employee supporting CSAA (outsourced in 1996), led teams addressing improvements in the Travel/Touring and Membership area.

• Coordinated the install of the TripTik system developed by the AAA National team to automate the Tourbook and map process used to support members in their travels. This was a client-server app where workstations would communicate to a SUN Sparc back-office server.

• Lead the development of the processes internal to CSAA to handle “vanity cards.” This is the AAA VISA cards for the CSAA members which allowed them to autopay their membership. Later, added the capability to Autopay their insurance premiums as well.

• Scheduled to manage the Claims replacement project (HAL), a Client-Server application. Studied the architecture and status with the current PM who then was able to stay and complete the project.

Team Lead 1993 – 1996
Managed team supporting Travel and Touring

• Brought onboard to support the project replacing all Membership, Insurance, and Claims. The architecture of the system was client-server based with the data storage being DB2 on the mainframe and the client residing on workstations running OS/2 and communicating to the mainframe. Directed the efforts of the Membership team (and supported other team’s efforts) related to productionalizing the system.
Education: BA in Management, St. Mary's College, Moraga CA.
Lindsey Liebig
Galt, CA 95632  

Education

BACHELOR OF SCIENCE | 2008 | CAL POLY SAN LUIS OBISPO, CA
- Major: Agricultural Business
- Minor: Wine & Viticulture
- Concentration: Fair & Event Planning and Marketing

Experience

EXECUTIVE DIRECTOR | SACRAMENTO COUNTY FARM BUREAU | MARCH 2018 - PRESENT
- Manage all organizational functions including personnel, budget, legislative advocacy, communications and membership development.
- Responsible for event management for fundraising events, membership recruitment activities and business member development.
- Manage Board of Directors, committees and advisory groups within the organization.

PROGRAM DIRECTOR | CALIFORNIA FARM BUREAU FEDERATION | DECEMBER 2013 - MARCH 2018
- Managed the Young Farmers & Ranchers and Leadership Farm Bureau programs including committee development, leadership development, event planning and fundraising.
- Assisted with marketing campaigns and membership development efforts for the statewide organization.
- Responsible for organizing conferences, meetings and agricultural tours for members and legislative officials.

PROGRAM COORDINATOR | SACRAMENTO COUNTY FARM BUREAU | JANUARY 2012 - DECEMBER 2013
- Responsible for various member programs and events within the county including safety seminars, fundraising dinners, legislative tours and educational presentations.
- Responsible for organizing events, fundraising efforts and membership recruitment.

MARKETING CONSULTANT | CALIFORNIA SPECIALIZED TRAINING INSTITUTE | JUNE 2008 - JULY 2013
- Managed marketing efforts for the training division of the Governor’s Office of Emergency Services.
- Responsible for course catalog, course marketing, website and social media functions.
- Assisted in curriculum development for federal grant funding applications.

Community Involvement
- Board Chair, Herald Fire Protection District – Elected to 4-year term in 2016
- Member, Protest Provisions Rewrite Working Group, CSDA/CALAFCO – 2019
- Alternate Representative, Sacramento Central Groundwater Authority – 2018 – present
- Member, Sacramento LAFCo Special District Advisory Committee – 2019
- President, Sacramento Farm Bureau Foundation for Ag Education – 2015 – present
- President, National Sigma Alpha Educational Foundation – 2019
- Past President, Sigma Alpha National Sorority – 2012-2016
Applicant Statement for the Special District LAFCO Representative

I moved from Glassboro New Jersey to Rio Linda Elverta in 1981, along with my 3 year old daughter and my husband.

Almost immediately I became involved with Sacramento County Service Area #3 which was the forerunner of our current independant Parks and Recreation District serving the Rio Linda Elverta Communities. This involvement was the result of reading a statement in the local paper, indicating that the Parks Advisory Board had determined that there were sufficient equestrian trails in the area. I was very happy to advocate for additional trails and in the process begin my education in local governance processes.

Over the next several decades I was appointed to numerous County and Local advisory boards, steering committees and ad hoc committees. My interest expanded to include growth issues, flood issues and agriculture/suburban/urban issues.

I learned a great deal about how government works and how Special Districts fit into the process. I became a strong advocate for local governance after going through 3 incorporation attempts in the Rio Linda Elverta communities and in the education process I switched from anti-incorporation to pro-incorporation for unincorporated communities.

In about 1992 I was appointed to the RLE CPAC in and served during the Community Plan Update. I am familiar with the governance process and with procedures for arriving at a decision as a board member. I have served several terms on CPAC under four different County Supervisors since that initial appointment. All of these experiences were very educational for me.

In 2002 I successfully ran for the Rio Linda Elverta Recreation and Parks District. I truly enjoyed and have greatly benefited from the experience of becoming an elected board member. I ran again in 2016 and am currently serving as Secretary for the RLE Recreation and Parks District.

I believe that my history in the community and experience as an elected public official will be an asset for Special Districts as a LAFCO Special District Board member.

Thank you,

Charlea R. Moore
Michael T. Yearwood
Rancho Cordova, CA 95670

Experience Summary:
Customer Service Leader with over ten years of experience with direct customer problem solving within the health insurance industry. Expert level experience with hiring, training, staff retention, process improvement projects, managing deadlines and increasing production of teams.

Health Net of California
Claims Supervisor - Performance Team 2016-2019
- Supervise a team of 17 Claims Analysts
- Coach and mentor staff to exceed expectations
- Responsible for talent and performance management of Claims Team
- Daily operational leadership and support through work distribution and monitoring
- Coordinate with scheduling to assist with daily forecast ensuring accurate staffing coverage
- Identify individual performance gaps to recommend and implement action plans that achieve desired result
- Monitor daily productivity through the Macess System
- Collaborate with peers and managers on process improvements

State of California - Health Benefits Exchange (Covered California) 2015-2016
Supervising Program Technician III
- Supervise a team of 15 Customer Service Representatives
- Coach and mentor staff to exceed expectations
- Assist representatives with questions regarding health plan options and policy and procedures
- Research and resolve escalated calls from consumers
- Monitor daily productivity through the IEX System
- Audit inbound calls through the Nice System
- Collaborate with peers and managers on process improvements

Vision Service Plan
Client Broker Representative - Inside Sales 2007-2015
- Assisted and resolved clients and brokers service issues
- Provided phone support and customer service to clients and brokers
- Provided e-mail coverage for Sales Team in their absence
- Implemented installation of new groups and pull-outs according to guidelines
- Processed renewals for clients according to guidelines
- Provided Resource Center support to clients and brokers

References available upon request
Michael Yearwood
Rancho Cordova, CA 95670

Service to My Community

Cordova Recreation and Park District (Board Chairperson)
2015-Present: Director

As a Cordova Recreation and Park District (CRPD) Board Member I am responsible for the budget and for setting policies that safeguard the vitality of the district. The five non-partisan members of the Board of Directors are elected to four-year terms by residents located within CRPD's boundaries. The elected board is held accountable to the following laws that govern public officials: The Brown Act, California Public Records Act, FPPC Reporting Requirements and biannual ethics training.

Specific functions and duties of my role as a Board Director are:

1. To perform its legal responsibility.
2. To set up by-laws, regulations and operation procedures
3. To select, employ, and if necessary, dismiss the District Administrator.
4. To control the operating budget, the financial plans and the insurance program.
5. To care and maintain property.
6. To be responsible for program.
7. To assure personnel policies.
8. To maintain good public relations.
9. To appoint, commission, supervise and receive reports from committees and the District Administrator.

BOARD MEMBERS RESPONSIBILITIES

1. Board members should understand the significance and importance of recreation in the community.
2. Board members should be aware of the relationship of the recreation services to other community services.
3. Board members should look objectively at their specific responsibility as board members and at local community recreation needs, and keep abreast of changing conditions, continuously reassessing their efforts and reasons for service.
4. Board members should have the courage to resist pressures of all types and insist upon high standards for their agencies, particularly in regard to competent, professional personnel.
5. Board members should be aware of their role as board members, acting in concert with their fellow board members without usurping the functions of the District Administrator.
Michael Yearwood

Rancho Cordova Athletic Association
2013: Founding Member
2013-2015: Secretary
2016: CRPD Representative

Leadership Rancho Cordova
2014-2016: Governing Board
2014: Graduate of Class VIII

Rancho Cordova Youth Soccer Club (RCSC)
2002: Coach
2003: U-6 Age Coordinator
2004: Coach & U-8 Boys Age Coordinator
2005: Coach & U-8 Girls Age Coordinator
2006: Coach & U-6 Age Coordinator
2007-2009: Club Manager & Coach
2012: Coach

American River Youth Soccer League (ARYSL)
2007-2009: Board Member – RCSC Representative
2010: League Treasurer

Cordova Girls Softball League
2010-2011: League Vice President
2011-2012: League Vice President
2012-2013: Secretary
2013-2014: Secretary
2014-2015: NORCAL Representative

Folsom Cordova Unified School District
Cordova High School Site Council
2014-2015: Parent Representative

Cordova Lane Elementary School Site Council
1998-2006: Elected Parent Representative

Navigator Elementary School Site Council
2006-2008: Elected Parent Representative

Measure M & P Oversight Committees
2014-2016: Parent/PTSO Member Representative
RESOLUTION NO. ________________

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

This Board casts its vote for ____________ as Alternate Special District Commissioner to the Sacramento Local Agency Formation Commission (LAFCo).