SACRAMENTO MUNICIPAL UTILITY DISTRICT
WILDFIRE MITIGATION PLAN
2021 INFORMATIONAL RESPONSE

RESPONSES TO WILDFIRE SAFETY ADVISORY BOARD'S 2021 GUIDANCE ADVISORY OPINION

Draft: May 3, 2021

I. PURPOSE OF THIS 2021 INFORMATIONAL RESPONSE

The California Wildfire Safety Advisory Board (WSAB) issued the *Guidance Advisory Opinion for the 2021 Wildfire Mitigation Plans of Electric Publicly Owned Utilities and Cooperatives* ("2021 WSAB Guidance Advisory Opinion") on December 15, 2020. The Sacramento Municipal Utility District (SMUD) provides this document to the WSAB in order to respond to each of the recommendations included in the 2021 WSAB Guidance Advisory Opinion.

After public outreach and review by a qualified independent evaluator, SMUD's 2021 Wildfire Mitigation Plan (WMP) was presented in a noticed public meeting to, and adopted by, SMUD's governing Board in November 2020. This Information Response is submitted with SMUD's adopted 2021 WMP to address the WSAB's recommendations. For each recommendation SMUD provides a narrative response and/or a cross reference to the location in SMUD's 2021 WMP where the topic is addressed. Where the recommendation is not applicable to SMUD, the response will provide a brief description supporting this conclusion.

II. CONTEXT SETTING INFORMATION

WSAB requested that POUs provide an informational table to assist the WSAB Staff and Board members in understanding the unique characteristics of each POU.

Table 1: Context-Setting Information

Utility Name	**[POU]**	
Service Territory Size	900 square miles	
Owned Assets	X Transmission X Distribution X Generation	
Number of Customers Served	Approximately 641,000 customer accounts	
Population Within Service Territory	Approximately 1.5 Million people	
Customer Class Makeup	*Number of Accounts*	*Share of Total Load (MWh)*
	88.3% Residential; 1.5% Government; 0.4% Agricultural; 8.6% Small/Medium Business; 1.3% Commercial/Industrial	46.8% Residential; 6.6% Government; 0.7% Agricultural; 6.8% Small/Medium Business; 39.1% Commercial/Industrial
Service Territory	25.8% Agriculture 0.1% Barren/Other 0% Conifer Forest 0% Conifer Woodland 0% Desert 0.3% Hardwood Forest 3.9% Hardwood Woodland	

Location/Topography[1]	29.5% Herbaceous 0.1% Shrub 37.9% Urban 2.3% Water
Service Territory Wildland Urban Interface[2] **(based on total area)**	4.5% Wildland Urban Interface; 8.4% Wildland Urban Intermix;
Percent of Service Territory in CPUC High Fire Threat Districts (based on total area)	☐Includes maps Tier 2: 0% Tier 3: 0% SMUD operates its Upper American River Project outside its territory within the High Fire Threat District, as described in the 2021 WMP, pages 26-28.
Prevailing Wind Directions & Speeds by Season	☐ Includes maps CalFire provides the following description it its 2020 Unit Strategic Fire Plan Amador-El Dorado Unit (AEU): "Fire weather for AEU is typically dominated by three general weather phenomena; the delta push influence, north wind events, and east foehn winds caused by high pressure development in the Great Basin. All three weather conditions cause potential increases in fire intensity and size. The delta influence is the most common and surfaces frequently throughout summer. Typically, high pressure systems will dominate Northern California in the summer months bringing extremely hot and dry conditions *over* much of the region. As these systems develop, they will tend to yield near the Delta and Sacramento areas bringing the marine influence to the Unit. This is generally considered a good thing for fire behavior; slightly cooler afternoon temperatures and increases in relative humidity. The downside is the strong winds that typically accompany these patterns can override any benefit that may come from marine air. Typically, this type of wind will subside after sundown causing fire behavior to drop off dramatically. The other critical wind patterns that are difficult to predict for AEU are the Northerly and Easterly winds. They are relatively rare, and often are forecasted only the day before. Northerly or Easterly winds are typically warmer and drier than most other wind patterns due to air compression. These conditions provide the perfect environment for increased fire intensity and large fire growth. Fire growth is typically wind driven, however as these events recede, fire immediately returns to fuel/topography driven in

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

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

	opposing directions to the wind driven direction. This type of wind event is commonly referred to as a Santa Ana Wind in Southern California, and a foehn wind in the Sierra/Cascade Region." 2020 Unit Strategic Fire Plan Amador-El Dorado Unit, https://osfm.fire.ca.gov/media/j0zbdecg/2020-aeu-fire-plan.pdf]
Miles of Owned Lines Underground and/or Overhead	Overhead Dist.: 3,871.0 miles Overhead Trans.: 461.9 miles Underground Dist.: 6,663.6 miles Underground Trans.: 17.3 miles
	Explanatory Note 1 - *Methodology for Measuring "Miles":* [e.g., circuit miles, line miles.] Circuit miles.
	Explanatory Note 2 – *Description of Unique Ownership Circumstances:* None
	Explanatory Note 3 – *Additional Relevant Context:* [e.g., percentage of lines located outside service territory] See Table 4 on page 27 in SMUD's WMP.
Percent of Owned Lines in CPUC High Fire Threat Districts	*Overhead Distribution Lines as % of Total Distribution System (Inside and Outside Service Territory)*
	Tier 2: 0% Tier 3: 0%
	Overhead Transmission Lines as % of Total Transmission System (Inside and Outside Service Territory)
	Tier 2: 18.6% Tier 3: 11.4%
	Explanatory Note 4 – *Additional Relevant Context:* No Tier 2 or Tier 3 areas exist within SMUD's Service Area. SMUD's overhead facilities in the High Fire Threat District are part of its Upper American River Project (UARP) as described in the WMP (see, e.g., pages 26-28, including Table 4).
Customers have ever lost service due to an IOU PSPS event?	☐ Yes X No
Customers have ever been notified of a potential loss of service to due to a forecasted IOU PSPS event?	☐ Yes X No
Has developed protocols to pre-emptively shut off electricity in response to elevated wildfire risks?	X Yes ☐ No
Has previously pre-emptively shut off electricity in response to elevated wildfire risk?	X Yes ☐ No If yes, then provide the following data for calendar year 2020: *Number of shut-off events*: 0 *Customer Accounts that lost service for >10 minutes:* N/A *For prior response, average duration before service restored:* N/A

III. CROSS REFERENCE TO STATUTORY REQUIREMENTS

WSAB requested that POUs provide a clear roadmap as to where each statutory requirement is addressed within the POU WMP.

Table 2: Cross References to Statutory Requirements

Requirement	Statutory Language	Location in WMP
Persons Responsible	**PUC § 8387(b)(2)(A):** An accounting of the **responsibilities of persons** responsible for executing the plan.	Section [9.1.1] Page [46]
Objectives of the Plan	**PUC § 8387(b)(2)(B):** The **objectives** of the wildfire mitigation plan.	Section [1.3] Page: [10]
Preventive Strategies	**PUC § 8387(b)(2)(C):** A description of the **preventive strategies and programs to be adopted by the local publicly owned electric utility** or electrical cooperative to minimize the risk of its electrical lines and equipment causing catastrophic wildfires, including consideration of dynamic climate change risks.	Section [3] Page [14]
Evaluation Metrics	**PUC § 8387(b)(2)(D):** A description of the **metrics the local publicly owned electric utility or electrical cooperative plans to use to evaluate the wildfire mitigation plan's performance** and the assumptions that underlie the use of those metrics.	Section [9.3.1] Page [48]
Impact of Metrics	**PUC § 8387(b)(2)(E):** A discussion of how the **application of previously identified metrics** to previous wildfire mitigation plan performances has informed the wildfire mitigation plan.	Section [9.2.1] Page [48]
Deenergization Protocols	**PUC § 8387(b)(2)(F): Protocols for disabling reclosers and deenergizing portions of the electrical distribution system** that consider the associated impacts on public safety, as well as protocols related to mitigating the public safety impacts of those protocols, including impacts on critical first responders and on health and communication infrastructure.	Sections [6.1.1 & 7.2] Pages [30 & 41]
Customer Notification Procedures	**PUC § 8387(b)(2)(G):** Appropriate and feasible **procedures for notifying a customer** who may be impacted by the deenergizing of electrical lines. The procedures shall consider the need to notify, as a priority, critical first responders, health care facilities, and operators of telecommunications infrastructure.	Sections [7.1 & 7.2] Pages [40 & 41]
Vegetation Management	**PUC § 8387(b)(2)(H):** Plans for vegetation management.	Section [6.4] Page [35]
Inspections	**PUC § 8387(b)(2)(I): Plans for inspections** of the local publicly owned electric utility's or electrical cooperative's electrical infrastructure.	Section [6.3] Page [32]

Prioritization of Wildfire Risks	**PUC § 8387(b)(2)(J):** A list that **identifies, describes, and prioritizes all wildfire risks, and drivers for those risks, throughout the local publicly owned electric utility's or electrical cooperative's service territory**. The list shall include, but not be limited to, both of the following: **(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. **(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.	Section [4.3] Page [21] Sections [4.3] Pages [21] Section [5.1] Page [26]
CPUC Fire Threat Map Adjustments	**PUC § 8387(b)(2)(K):** Identification of any **geographic area in the local publicly owned electric utility's or electrical cooperative's service territory** that is a higher wildfire threat than is identified in a commission fire threat map, and identification of where the commission should expand a high fire threat district based on new information or changes to the environment.	Section [5.1] Page [26]
Enterprise-wide Risks	**PUC § 8387(b)(2)(L):** A methodology for identifying and presenting **enterprise-wide** safety risk and wildfire-related risk.	Section [4.3] Page [21]
Restoration of Service	**PUC § 8387(b)(2)(M):** A statement of how the local publicly owned electric utility or electrical cooperative will **restore service after a wildfire**.	Section [8] Page [44]
Monitor and Audit	**PUC § 8387(b)(2)(N):** A description of the processes and procedures the local publicly owned electric utility or electrical cooperative shall use to do all of the following (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.	Section [9.4] Page [50] Section [9.4.2] Page [50] Section [9.3.1] Page [48]

Qualified Independent Evaluator	**PUC § 8387(c):** 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.	Section [10] Page [52]

IV. WSAB GUIDANCE ADVISORY OPINION RECOMMENDATIONS

The WSAB Guidance Advisory Opinion identifies 14 specific recommendations that POUs are requested to address in their 2021 WMPs. As specified in Public Utilities Code § 8387(b)(1), each POU is required to perform a comprehensive revision to the POU's WMP at least once every three years. Pursuant to this guidance, the POUs will be updating their WMPs based on the direction of their local governing boards within this 3-year cycle. Because the WSAB's recommendations have been provided after the initial WMP submission, the POUs will have varying capacities to fully address each recommendation in their 2021 WMP. This Section IV restates each of the WSAB recommendations and provides an opportunity for each POU to do one or more of the following: (1) provide a narrative response to the recommendation; (2) provide a cross refence to where in the POU's WMP this topic is addressed; (3) describe why the recommendation is not applicable to the POU; or (4) inform the WSAB of the POU's intent to address the recommendation at the point of the POU's next comprehensive revision, occurring in either the 2022 or 2023 WMP.

A. Plan Structure

WSAB Recommendation #1: Provide context-setting information about the POU and provide a simple guide to where the statutory requirements are addressed within the WMP.

POU Response: See Sections II and III above.

WSAB Recommendation #2: Provide a short description of the POU's public review and approval (if required) for the WMP. This description may also include a brief explanation of the funding mechanisms for wildfire mitigation efforts.

POU Response:

SMUD staff prepare the WMP through an organization wide, cross functional working group and engage in extensive public outreach to its first responders, local agencies, community-based organizations and public, including posting the draft WMP for an advertised public comment period. SMUD retained a qualified independent third party to review the plan for compliance with statute and industry standard. The WMP and QIE report was then presented to SMUD's Board of Directors in a publicly noticed meeting, for adoption.

While the WMP is not a budget document, SMUD adopts its budget through open and public processes. Program commitments reflected in any given budget are impacted by many factors, including risk evaluations, system condition and requirements, emergency occurrences, economy, legislation, environment, and liability exposure. These commitments are consistently under evaluation, and program priorities can change if any of these factors shift.

WSAB Recommendation #3: Identify where the POU has posted the most recent Independent Evaluator (IE) Report and if your POU plans to enhance future IE reports, please summarize in what ways.

POU Response: The most recent IE report can be found at this link:

https://www.smud.org/-/media/Documents/In-Our-Community/Safety/SM20-002_WMP_IR_V1.ashx

SMUD retains the IE through a competitive procurement process and will continuously review the IE scope of work to ensure a robust and complete evaluation process.

WSAB Recommendation #4: Develop, in collaboration with POU industry associations, WMP guidelines for future WMPs, understanding that it may take multiple cycles for POUs to integrate these recommendations into the WMPs.

POU Response: This document is intended to include, as appropriate, responses to the recommendations in the WSAB's Guidance Advisory Opinion for the POUs' 2021 WMP. This document also represents the combined effort of the POU industry associations to further the development of a template to respond to the WSAB's Guidance Advisory Opinion in a future reporting WMP cycle.

B. Customer Impacts

WSAB Recommendation #5: Describe the potential impact investor-owned utilities (IOU) public safety power shutoff (PSPS) events could have on POU customers and how the POU manages these impacts. For POUs that are also balancing authorities, describe the criteria for wildfire related de-energizations. Responses shall only provide aggregated information that does not provide customer-specific information or other potentially sensitive data.

POU Response: SMUD does not have any interconnections with an IOU at the distribution voltage levels, therefore SMUD is not impacted by IOU distribution PSPS events. SMUD interconnects with Pacific Gas & Electric Company (PG&E) at the transmission level and maintains its own generation and energy resources to serve its customers. SMUD's exposure to a PG&E transmission PSPS event is limited to transmission curtailment or shortfall. SMUD has processes in place to address such potential shortfalls through such mechanisms as alternative transmission paths, internal generation, and demand response. As a last resort we have process in place to implement rolling outages which limit customer/community impact to short periods of around one hour. SMUD would communicate directly with its customers in such an event, with forecast of impacted communities available on our website (https://www.smud.org/en/Customer-Support/Outage-Status).

WSAB Recommendation #6: Describe the utility customer communication plans with respect to wildfires and PSPS, and in particular describe the methods, content and timing used to communicate with the most vulnerable customers, such as Access and Functional Needs (AFN) customers, medical baseline customers, non-English speakers, and those at risk of losing water or telecommunications service.

POU Response: As noted above SMUD's customers are unlikely to be directly impacted by an IOU PSPS event.

SMUD's customer communication plans are described in the WMP, see section 7.2 on page 41, first paragraph after the numbered bullets, and the first and second paragraphs in the second column in that section. The Opt-in program called out in that section is being developed to allow Vulnerable Populations or AFN customers the ability to opt in for additional notifications.]

C. The Grid

WSAB Recommendation #7: Provide details on each POU's system hardening and grid design programs, including: (1) the goals of the programs and the risk any particular program is designed to mitigate; (2) approach to PSPS mitigation and prevention; and (3) identify any resource shortages.

POU Response: SMUD's approach to grid hardening is discussed in the WMP, section 3 on page 14, section 4.3 on page 21, section 6 on page 29. See also SMUD's response to "WSAB Recommendation #5" above for resource shortages mitigation.

WSAB Recommendation #8: Describe annual visual patrols on potentially impacted circuits and the risks the POU is inspecting for. Describe whether and how system inspections lead to system improvements. Describe line patrols before, during, and/or after a critical fire weather

event, such as a Red Flag Warning with strong winds, or following a fire that burned in areas where electric facilities are or could have been impacted.

> ***POU Response:*** SMUD's approach to system inspections is discussed in the WMP, section 6.3 on page 32, section 9.4.4.1 on page 50 , section 8 on page 45.

WSAB Recommendation #9: Describe options considered by POU (including through the joint efforts of the POU associations) to identify previously unidentified risks that could lead to catastrophic wildfires.

> ***POU Response:*** The electric utility industry is collaborative in nature. Vendors, hardware manufacturers, and engineering teams reach out to peers, customers, and vendors when certain trends or problems with equipment or hardware are encountered. This type of information is typically shared more broadly at industry conferences and workshops. SMUD maintenance and planning staff, and operational staff are in constant communications with identified partners to share and learn from such collaborative efforts.
>
> For example, SMUD maintenance and planning staff are constantly monitoring failure related fire/wildfire events around the state, and around the country. When equipment or hardware failures are identified as the cause of fires or wildfires at another utility, questions are asked for failure risk associated with similar equipment or hardware used at SMUD. These questions are further evaluated and analyzed for risks at SMUD. An example is the transmission line C-hook insulator failure. SMUD, and a majority of other electric utilities have similar insulators on their transmission lines. SMUD engineering staff initiated a pilot project to capture high-resolution images of transmission line hardware using drones to closely analyze the amount of wear on c-hooks and other hardware. This project is ongoing and has the potential to yield many more benefits than a single component risk evaluation.

D. Risk Assessment

WSAB Recommendation #10: Describe the particular wildfire risks associated with system design and construction such as topography and location near the HFTD areas of another utility's service territory. Describe any G.O. 95 exempt assets and possible updates to G.O. 95 that could facilitate more resilient utility transmission and distribution assets.

> ***POU Response:*** SMUD's assessment of wildfire risks is discussed in the WMP, see, e.g., section 4
>
> POUs as a general matter voluntary comply with the CPUC's General Orders, including General Order 95 (GO95) that addresses overhead lines. SMUD incorporates the standards developed in GO95 into its procedures and meets or exceeds these standards. SMUD considers a wide array of industry standards and regulations when developing its design and construction criteria. We design to the highest applicable industry standard. (NESC, IEEE, ANSI etc.)

In the WMP, see section 6.5.2 on page 35 for GO95 exempt assets.

Regarding changes to GO95, SMUD notes that the CPUC recently updated several Rules impacting wildfire safety. CMUA, SMUD and other POUs actively participated in that process and SMUD suggests that any future changes to GO95 be assessed through similar properly noticed proceedings allowing participation from all interested parties.

E. SITUATIONAL AWARENESS TECHNOLOGY

WSAB Recommendation #11: Provide context-setting information about the prevailing wind directions and speeds, differentiated by season, along with average weather conditions by season. Describe how and why situational awareness technology is installed, and where on the system. Describe the decision-making process regarding the installation of situational awareness technology, including constraints such as budgets, availability of equipment, knowledge to effectively deploy, or qualified personnel to install and monitor effectively. Identify any other agencies, utilities, or fire professionals that the data from these devices is shared with.

POU Response: SMUD's situational awareness initiatives, including weather monitoring activities, are discussed in the WMP (see, e.g., section 3, page 17, and section 6.5.3, page 36). SMUD is willing and able to share data upon request.

F. VEGETATION MANAGEMENT

WSAB Recommendation #12: Describe treatment plans for all types of vegetation associated with utility infrastructure, from the ground to the sky, which includes vegetation above and below electrical lines.

POU Response: SMUD's vegetation management program is discussed in the WMP, see, e.g., sections 6.4.1 and 6.4.2 on page 3. SMUD's Integrated Vegetation Management (IVM) approach, includes all tools (pruning, tree removal, mastication, livestock grazing, herbicide, etc.) to address and manage vegetation around and near SMUD's Transmission and Distribution assets. Treatment methods are selected based on an array of factors and site-specific conditions, including landowner consultation and review of sensitive species and habitat.

SMUD's integrated vegetation management approach employs a variety of methods to manage those species, including annual clearing, livestock grazing, and direct and targeted herbicide treatments. Two specific methods used to monitor re-growth are traditional visual patrols and the use of remote sensing LiDAR and imagery.

WSAB Recommendation #13: List the qualifications of any experts relied upon, such as scientific experts in ecology, fire ecology, fire behavior, geology, and meteorology. Specify the

level of expertise of the POU staff that manages the contractors performing vegetation management. Describe measures each POU takes to ensure that POU staff and contractors comply with or verify compliance with Cal/OSHA standards on Minimum Approach Distances (MAD).

> ***POU Response:*** SMUD's in house Vegetation Management (VM) employees have decades of Utility Vegetation Management (UVM) experience, and also nearly all have industry credentials and formal educations (AS/AA, BS/BA, MS degrees, Certified Arborist, Utility Specialists, Tree Risk Assessment Qualified (TRAQ), Municipal Arborists, as well as other relevant industry credentials. SMUD's contractors' management teams are also Certified Arborists, and bring extensive Utility Vegetation Management Line Clearance Qualified knowledge to the program.

WSAB Recommendation #14: Describe whether the POU has considered innovative and alternative approaches to vegetation management.

> ***POU Response:*** SMUD's Vegetation Management Program includes deployed remote sensing technology, analytic data analysis, and computer learning, where reasonable to drive continuous improvement in SMUD's UVM program. Additionally, SMUD has partnered and collaborated with landowners (Federal and Private) to improve forest health and reduce fire risk well outside SMUD easements to target and reduce "fall-in" trees and forest fuels adjacent to the utility assets. Also of note, SMUD holds industry leadership roles in several UVM organizations such as; Utility Arborist Association (UAA), North American Transmission Forum (NATF), as well as other organizations to continue to explore and pilot new technology and tools in SMUD's UVM program.