

**SAN FRANCISCO PUBLIC UTILITIES
COMMISSION (SFPUC)
WILDFIRE MITIGATION PLAN
2021 INFORMATIONAL RESPONSE**

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

July 1, 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 San Francisco Public Utilities Commission (SFPUC) provides this document to the WSAB in order to respond to each of the recommendations included in the 2021 WSAB Guidance Advisory Opinion. The SFPUC will provide a narrative response and/or a cross reference to the location in the SFPUC’s Wildfire Mitigation Plan (WMP) where the topic is addressed. Where the recommendation is not applicable to the SFPUC, the response will provide a brief description supporting this conclusion.

II. CONTEXT SETTING INFORMATION

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

Table 1: Context-Setting Information

Utility Name	San Francisco Public Utilities Commission	
Service Territory Size	Please reference Section 1.B of the SFPUC WMP.	
Owned Assets	Transmission, Distribution, and Generation	
Number of Customers Served	1 customer account served from a distribution line in the Tier 2 High Fire Threat District (HFTD).	
Population Within Service Territory	N/A	
Customer Class Makeup	<i>Number of Accounts</i>	<i>Share of Total Load (MWh)</i>
	0% Residential; 0% Government; 0% Agricultural; 100% Small/Medium Business; 0% Commercial/Industrial	[]% Residential; []% Government; []% Agricultural; []% Small/Medium Business; []% Commercial/Industrial
Service Territory Location/Topography¹	4% Agriculture 27% Barren/Other 25% Conifer Forest 0% Conifer Woodland	

¹ This data shall be 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>.

	0% Desert 3% Hardwood Forest 16% Hardwood Woodland 18% Herbaceous 0% Shrub 7% Urban 0% Water																																								
Service Territory Wildland Urban Interface² (based on total area)	1% Wildland Urban Interface; 1% Wildland Urban Intermix; The above percentages refer to overhead transmission and distribution line miles.																																								
Percent of Service Territory in CPUC High Fire Threat Districts (based on total area)	Tier 2 Transmission: 26 % Tier 3 Transmission: 2 % Tier 2 Distribution: 75% Tier 3 Distribution: 6%																																								
Prevailing Wind Directions & Speeds by Season	<p>Generally, the coast range has higher average wind speeds throughout the year, which are typically west, with strong east wind events in the winter. The Central Valley typically has lower average wind speeds, with predominantly west direction. The mountain region has moderate average wind speeds, also typically west, with very strong east (Mono) wind events in the winter. In the table below, winter is considered from October-April and summer as May-September.</p> <table border="1"> <thead> <tr> <th></th> <th></th> <th colspan="2">Average</th> <th colspan="2">Max</th> </tr> <tr> <th>Region</th> <th>Season</th> <th>Wind Speed (mph)</th> <th>Direction</th> <th>Wind Speed (mph)</th> <th>Direction</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Coast Range</td> <td>Winter</td> <td>30</td> <td>W</td> <td>60</td> <td>E</td> </tr> <tr> <td>Summer</td> <td>20</td> <td>W</td> <td>30</td> <td>W</td> </tr> <tr> <td rowspan="2">Central Valley</td> <td>Winter</td> <td>10</td> <td>W</td> <td>20</td> <td>E</td> </tr> <tr> <td>Summer</td> <td>5</td> <td>W</td> <td>10</td> <td>W</td> </tr> <tr> <td></td> <td>Winter</td> <td>15</td> <td>W</td> <td>70</td> <td>E</td> </tr> </tbody> </table>			Average		Max		Region	Season	Wind Speed (mph)	Direction	Wind Speed (mph)	Direction	Coast Range	Winter	30	W	60	E	Summer	20	W	30	W	Central Valley	Winter	10	W	20	E	Summer	5	W	10	W		Winter	15	W	70	E
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² This data shall be 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.

	<table border="1"> <tr> <td>Sierra Nevada Foothills</td> <td>Summer</td> <td>15</td> <td>W</td> <td>20</td> <td>W</td> </tr> </table>	Sierra Nevada Foothills	Summer	15	W	20	W
Sierra Nevada Foothills	Summer	15	W	20	W		
Miles of Owned Lines Underground and/or Overhead	Overhead Dist.: 57.8 miles Overhead Trans.: 162.5 miles Underground Dist.: 4 miles Underground Trans.: 0 miles						
	Explanatory Note 1 - Methodology for Measuring "Miles": e.g., circuit miles, line miles. Measured by line miles						
	Explanatory Note 2 – Description of Unique Ownership Circumstances: The following distribution lines are where the SFPUC interconnects to PG&E lines from SFPUC facilities. Bay Area region: San Andreas Lake Line, Pilarcitos Line, Sawyer Camp Line, Crystal Springs Line, Pulgas Line. Central Valley region: San Joaquin Valve House and Tesla Portal Line.						
Percent of Owned Lines in CPUC High Fire Threat Districts	<i>Overhead Distribution Lines as % of Total Distribution System (Inside and Outside Service Territory)</i>						
	N/A						
	<i>Overhead Transmission Lines as % of Total Transmission System (Inside and Outside Service Territory)</i>						
	N/A						
Customers have ever lost service due to an IOU PSPS event?	Yes, SFPUC owned and operated facilities have been impacted. However, PG&E PSPS events do not interrupt the SFPUC's ability to supply power and water services. The SFPUC has backup generators for its water treatment plants. The purpose of the SFPUC's power transmission line system is to deliver generation produced by the HHWP Project to the electric grid. The SFPUC transmission lines also feed one of two SFPUC water treatment plants. In the event the SFPUC had to de-energize the transmission lines that feed this water treatment plant, the portion of the transmission system outside of the HFT zone would still be back fed from the electrical grid (PG&E). The SFPUC also has backup power at both water treatment plants.						
Customers have ever been notified of a potential loss of service to due to a	The SFPUC interconnects to PG&E lines as described above in the unique ownership circumstances section. The SFPUC is notified by PG&E prior to a PSPS event. The SFPUC has been assigned a PG&E						

forecasted IOU PSPS event?	representative. Both the SFPUC and PG&E have shared area contact representatives.
Has developed protocols to pre-emptively shut off electricity in response to elevated wildfire risks?	Yes These protocols are described in Section 5.J - Strategy – De-energization, of the SFPUC 2021 WMP.
Has previously pre-emptively shut off electricity in response to elevated wildfire risk?	Yes If yes, then provide the following data for the 2020 calendar year: <i>Number of shut-off events in 2020: 4</i> <i>Customer Accounts that lost service for >10 minutes: 0</i> <i>For prior response, average duration before service restored: 12 hrs.</i>

III. CROSS REFERENCE TO STATUTORY REQUIREMENTS

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

SFPUC Response: Please see Table 1 in SFPUC 2021 WMP.

IV. WSAB GUIDANCE ADVISORY OPINION RECOMMENDATIONS

The WSAB Guidance Advisory Opinion identifies 14 specific recommendations that POU's 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 POU's 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 POU's will have varying capacities to fully address each recommendation in their 2021 WMP. 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 reference 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.

SFPUC Response: See Sections II and III above for context setting information. A table with clickable links to where the statutory requirements are addressed is in Section 1.A, Table 1 – PUC § 8387 Compliance Requirements, in the SFPUC 2021 WMP.

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.

SFPUC Response: The SFPUC WMP is subject to public review and is ultimately approved by the SFPUC Commission, prior to being submitted to the WSAB and posted to the SFPUC website (sfpuc.org). The SFPUC 2021 WMP was presented to the SFPUC Commission on June 8, 2021 and approved. Consistent with all upcoming Commission agendas are posted to the sfwater.org website a week prior to the date of the meeting for public review and comment. Additionally, each meeting has time set aside for public comment.

Budgets for Wildfire Mitigation initiatives are included as a part of the overall SFPUC operating budget that is developed on a two-year cycle.

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.

SFPUC Response: Current and future SFPUC Wildfire Mitigation Plans and Independent Evaluator Reports are posted to the SFPUC website: <https://www.sfpuc.org/about-us/policies-plans/wildfire-mitigation-plan>.

In compliance with PUC § 8387 the SFPUC WMP will be reviewed and updated every year (2021 and 2022). A comprehensive plan update with a review and report issued by an Independent Evaluator will be done once every three years (next scheduled for 2023). All WMP updates will be posted to the SFPUC website which is accessible to the public.

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

SFPUC Response: This document is intended to include, as appropriate, responses to the recommendations in the WSAB’s Guidance Advisory Opinion for the POU’s 2021 WMP. This document also represents the combined effort of the California Municipal Utilities Association (CMUA) and POU’s 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.

SFPUC Response: The SFPUC does not directly deliver power through its overhead electrical lines to meet the load of customers; instead the power is delivered over PG&E facilities. As a result, the SFPUC has very few direct power customers served from its overhead electrical lines; only one retail customer directly from its distribution system within the Tier 2 High Fire Threat District (HFTD).

- What is the relationship between the IOU and the POU during PSPS events?

SFPUC Response: The SFPUC owns and operates critical water, power, and sewer facilities across multiple counties. The SFPUC has provided a list of these critical facilities to PG&E with the associated contact person(s); in turn, PG&E has provided the SFPUC with a contact representative.

- Does the POU receive advance notification?

SFPUC Response: Yes, communications with PG&E before a PSPS has continued to improve over time. The SFPUC is also very proactive and will often contact the PG&E representative prior to PG&E making notifications.

- Is the POU affected at the transmission or distribution level?

SFPUC Response: Distribution.

- Is the POU implementing a mitigation strategy for IOU PSPS?

SFPUC Response: Yes, the SFPUC has a combination of permanent and mobile temporary back-up generators for locations that have been identified as having a potential to be impacted by an IOU PSPS. The SFPUC communicates with PG&E prior

to a PSPS event and can mobilize temporary generators to those facilities that do not have permanent standby generators.

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- Does the POU have its own permanent or temporary generation, (or customer provision of same) allowing it to withstand an IOU PSPS?
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SFPUC Response: Yes, please reference the response to the previous question.

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- Does the POU distribute back-up generators to customers?
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SFPUC Response: No. See section 5.H - Strategy – Customer Communication, in the SFPUC 2021 WMP.

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- Does the POU de-energize their own lines when a wildfire threat looms, even if it is not labelled a PSPS?
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SFPUC Response: Yes. See section 5.J - Strategy – De-energization in the SFPUC 2021 WMP.

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- In the above instance, what customer communication takes place?
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SFPUC Response: See section 5.H - Strategy – Customer Communication, in the SFPUC 2021 WMP

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- Is the POU a Balancing Authority Area? If yes, describe any applicable criteria for wildfire related de-energization.
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SFPUC Response: The SFPUC is not a Balancing Authority.

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.

SFPUC Response: See section 5.H - Strategy – Customer Communication, in the SFPUC 2021 WMP.

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.

SFPUC Response: The SFPUC's approach to grid hardening is discussed in Section 5.E - Strategy – System Hardening, in their 2021 WMP. The following provides responses to specific questions included in the WSAB's 2021 WSAB Guidance Advisory Opinion:

- For POUs that power water utilities or supply water themselves, if that water is used for drinking and firefighting, are certain projects being undertaken to harden the system for water delivery purposes?

SFPUC Response: Based on the critical facilities list that the SFPUC shared with PG&E, it was determined that the SFPUC could continue delivering power and water during an IOU PSPS. Two sites have back up generation and another site can be powered by a temporary mobile generator.

- Are pump stations self-contained or have some level of fire protection? Is the supply to sewage treatment plants hardened?

SFPUC Response: Because SFPUC has backup power generators, SFPUC pump stations and sewage treatment facilities remain operational during a PG&E PSPS.

- Is supplemental generation available such as backup batteries or backup power facilities?

SFPUC Response: Permanent backup generation is available at two locations that has been identified as vulnerable to a PG&E PSPS. The third facility can be powered by a mobile temporary generator.

- Are the majority installed by the customers themselves or the utility?

SFPUC Response: The permanent generators were installed by the SFPUC to provide backup power to SFPUC facilities, there is no customer involvement.

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- Can the utility open and close taps? Can the utility back-feed?
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SFPUC Response: The SFPUC has an automatic transfer switch at one location identified as being potentially impacted by a PG&E PSPS. The second identified facility would require opening the main breaker to avoid a back feed to PG&E, if hooked up to a mobile temporary generator.

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- Are there wildfire related circumstances wherein either of these tactics would be useful?
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SFPUC Response: Yes, see response to previous question.

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- Can the utility sectionalize in a localized fashion?
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SFPUC Response: Yes, the SFPUC can sectionalize both its transmission and distribution lines.

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.

SFPUC Response: Vegetation management patrols are described in section 5.A - Program – Vegetation Management, of the SFPUC 2021 WMP. Distribution and transmission line patrols/inspections are described in section 5.B - Program – Facility Inspections, of the SFPUC 2021 WMP. These patrols help identify potential hazards and allow the SFPUC to proactively perform corrective maintenance prior to failure. Currently, the SFPUC does not employ in-house meteorologists and relies on public weather reports and advisories. Most times they are made aware of a Red Flag Warning when it is issued by the National Weather Service and may not allow time to conduct proactive patrols prior to the event. The SFPUC will investigate a process to receive more advanced notifications for RFW and will report status in their 2022 WMP update. Service restoration following a fire is described in section 5.K - Strategy – Service Restoration.

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.

SFPUC Response: The CMUA will be holding a special meeting of its Wildfire Preparedness, Response, and Recovery Working Group this fall, which will be focused on risk drivers for powerline caused catastrophic wildfires and innovative mitigation options. The CMUA plans to invite a broad range of utility staff, state agency staff (including the WSAB), industry experts, and academics to participate in this discussion. As part of this meeting, the working group will discuss unidentified wildfire risk drivers and mitigation measures that could address these risks. Based on the input provided during this meeting, the CMUA will produce a publicly available, post-meeting report that summarizes the group’s conclusions and recommendations. The SFPUC’s staff will participate in the CMUA’s meeting and will discuss any changes that SFPUC has made to its operations in response to the conclusions and recommendations of the working group in a future WMP.

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.

SFPUC Response: The SFPUC’s assessment of wildfire risks are discussed in Section 4.B – Assessment of SFPUC’s High Fire Threat District and considers all CPUC HFTD Tier 2 areas as an elevated risk from utility associated wildfires and all Tier 3 areas as an extreme risk. The SFPUC will provide an update regarding G.O. 95 exempt assets in the 2022 WMP update.

- Are there design or construction issues related to the utility’s specific topography or geographic location that the Board should be aware of?

SFPUC Response: The SFPUC is not constructing additional/new transmission and distribution assets. The SFPUC meets or exceeds CPUC GO 95 for distribution construction.

- How does the utility assess its risks associated with system design and construction?

SFPUC Response: The SFPUC meets or exceeds CPUC GO 95 for distribution construction. Additionally, the SFPUC complies with line maintenance and inspection standards.

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- What design and construction standards has the POU implemented that go beyond G.O. 95 or other General Order standards related to design and construction?
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SFPUC Response: The SFPUC is not constructing any additional overhead lines but is developing a plan to replace non-exempt equipment as described in the CA Public Resource Code § 4292 and the Cal Fire CA Power Line Fire Prevention Field Guide.

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.

SFPUC Response: The SFPUC Situational Awareness tools are described in section 5.C - Program – Situational Awareness, of their WMP. The SFPUC electrical facilities traverse the PG&E service area. The SFPUC leverages PG&E’s mesonet and any other publicly available weather information to monitor weather conditions. The SFPUC continues to evaluate if additional weather stations are needed to enhance their weather monitoring capabilities. The SFPUC is currently consulting with a third-party fire risk/consequence risk model provider to evaluate their product for consideration to procure. The SFPUC does not currently have wind maps showing the prevailing wind direction and wind speeds but will provide additional requested information in their 2022 WMP update.

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.

SFPUC Response: The SFPUC’s vegetation management program is discussed in Section 5.A - Program – Vegetation Management, of their 2021 WMP.

The following provides responses to specific questions included in the WSAB’s 2021 WSAB Guidance Advisory Opinion:

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- Describe the reasoning behind each treatment plan and the ecological impact of the treatment options chosen.
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SFPUC Response: Refer to Section 5.A - Program – Vegetation Management, in the SFPUC 2021 WMP, which addresses the methods and ecology of vegetation management within the SFPUC.

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- Describe how vegetation management in the HFTD or Fire Threat Zones differs from other areas, including within private property and urban landscaping.
-

SFPUC Response: The vegetation management (VM) programs and practices described in the SFPUC 2021 WMP apply to Tier 2 and 3 HFTD and not urban landscapes.

-
- Describe any enhanced vegetation management that goes beyond the minimum G.O. 95 standard.
-

SFPUC Response: Beginning in 2021, the SFPUC is working with the US Forest Service on a Hazard Tree Settlement Sale to remove hazard trees near our transmission lines that were identified by the Hetch Hetchy Water forester during inspections. The SFPUC will be contracting with a Licensed Timber Operator for the removal of these trees. The SFPUC does perform enhanced vegetation management in the Central Valley, where overhead transmission lines and lattice towers run through walnut orchards. Trees that have been planted without an application to the SFPUC, and are identified as encroachment issues, are removed for safety. Additionally, the SFPUC clears a 60 ft. radius around transmission towers in the Central Valley to ensure safety and access for SFPUC staff performing inspections.

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- A list of native and non-native species in the POU's Service Territory and describe how treatment methods vary.
-

SFPUC Response: During vegetation inspections by the forester and arborist, trees and vegetation that have potential to become a hazard based on type, growth rates, and proximity to the conductor are inventoried using an ArcGIS Collector application so the trees can be mapped and followed up on with the appropriate mitigation methods.

- Describe how the POU tracks new vegetation growth that occurs in areas that has previously been cleared or treated.

SFPUC Response: New growth is identified during routine inspections and cleared per established VM standards.

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: The SFPUC employs certified/licensed foresters, arborist, hydrologists. The SFPUC does not have employees with expertise in fire behavior or certified meteorologists. However, they leverage resources from the National Weather Service and publicly available fire risk data published by CAL FIRE, USFS, BLM, etc.

The qualifications of SFPUC personnel overseeing the VM contractors are described in section 5.A - Program – Vegetation Management, of the SFPUC 2021 WMP.

The SFPUC personnel working on electrical facilities are Qualified Electrical Workers (QEW). SFPUC line crews are run by a line crew supervisor who has primary responsibility for ensuring that all work is done following established local, State, or federal safety rules.

The SFPUC contracts with contractors licensed and qualified to do high voltage work, with QEW's. It is the contractor's responsibility to ensure that their work is being done in accordance with established local, State, or federal safety rules. Additionally, the SFPUC has construction inspectors that make field visits to observe SFPUC and/or contract crews work methods.

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

SFPUC Response: Over the last few years, the SFPUC has been working to formalize Integrated Vegetation Management (IVM) towards the removal of undesirable vegetation species. Additionally, work is being performed on databasing these species so that SFPUC vegetation management crews can track their location and growth rates to implement prescriptions, as appropriate.