PORT OF OAKLAND
WILDFIRE MITIGATION PLAN
2021 INFORMATIONAL RESPONSE

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

October 15, 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. Port of Oakland ("Port" or "Port of Oakland") provides this document to the WSAB in order to respond to each of the recommendations included in the 2021 WSAB Guidance Advisory Opinion. Port of Oakland will provide a narrative response and/or a cross reference to the location in Port of Oakland's Wildfire Mitigation Plan (WMP) where the topic is addressed. Where the recommendation is not applicable to Port of Oakland, the response will provide a brief description supporting this conclusion.

II. CONTEXT SETTING INFORMATION

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

Table 1: Context-Setting Information

Utility Name	Port of Oakland	
Service Territory Size	[__5.4__] square miles	
Owned Assets	☐ Transmission x Distribution ☐ Generation	
Number of Customers Served	[_200___] customer accounts	
Population Within Service Territory	[_0___] people	
Customer Class Makeup	*Number of Accounts*	*Share of Total Load (MWh)*
	[_0_]% Residential; [_5_]% Government; [_0_]% Agricultural; [_25_]% Small/Medium Business; [_70_]% Commercial/Industrial	[_0_]% Residential; [_5_]% Government; [_0_]% Agricultural; [_10_]% Small/Medium Business; [_85_]% Commercial/Industrial
Service Territory Location/Topography[1]	[_0_]% Agriculture [_0_]% Barren/Other [_0_]% Conifer Forest [_0_]% Conifer Woodland [_0_]% Desert [_0_]% Hardwood Forest	

[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_]% Hardwood Woodland [_0_]% Herbaceous [_15_]% Shrub [_85_]% Urban [_0_]% Water
Service Territory Wildland Urban Interface[2] (based on total area)	[_0_]% Wildland Urban Interface; [_0_]% 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_]%
Prevailing Wind Directions & Speeds by Season	☐ Includes maps [Description]
Miles of Owned Lines Underground and/or Overhead	Overhead Dist.: [_<5___] miles Overhead Trans.: [_2.5__] miles Underground Dist.: [_~50___] miles Underground Trans.: [__0__] miles
	Explanatory Note 1 - *Some distances estimated*
	Explanatory Note 2 – *Description of Unique Ownership Circumstances:* Port of Oakland borders the San Francisco Bay, and the City of Oakland, CA.
	Explanatory Note 3 – *Additional Relevant Context:* [e.g., percentage of lines located outside service territory]
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: [_0_]% Tier 3: [0_]%
	Explanatory Note 4 – *Additional Relevant Context:* Port is located between a major city (Oakland) and the San Francisco Bay.
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?	☐x Yes ☐ No

[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.

Has developed protocols to pre-emptively shut off electricity in response to elevated wildfire risks?	☐ Yes ☐x No
Has previously pre-emptively shut off electricity in response to elevated wildfire risk?	☐ Yes ☐x No If yes, then provide the following data for calendar year 2020: *Number of shut-off events*: [____] *Customer Accounts that lost service for >10 minutes:* [____] *For prior response, average duration before service restored:* [____]

III. CROSS REFERENCE TO STATUTORY REQUIREMENTS

WSAB requested that the Port of Oakland provide a clear roadmap as to where each statutory requirement is addressed within the Port's 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.	Page [2]
Objectives of the Plan	**PUC § 8387(b)(2)(B):** The **objectives** of the wildfire mitigation plan.	Page: [3]
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.	Page [6]
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.	Page [7]
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.	Page [8]
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.	Page [8]

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.	Page [8]
Vegetation Management	**PUC § 8387(b)(2)(H):** Plans for vegetation management.	Page [8]
Inspections	**PUC § 8387(b)(2)(I): Plans for inspections** of the local publicly owned electric utility's or electrical cooperative's electrical infrastructure.	Page [10]
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.	Page [10]
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.	Page [5]
Enterprise wide Risks	**PUC § 8387(b)(2)(L):** A methodology for identifying and presenting **enterprise wide** safety risk and wildfire-related risk.	Page [10]
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**.	Page [10]
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.	Page [10]

	(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.	
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.	https://www.portofoakland.com/business/port-utilities/

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 Port of Oakland will be updating its WMPs based on the direction of the Board of Port Commissioners 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 the Port of Oakland 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 Port's WMP this topic is addressed; (3) describe why the recommendation is not applicable to the Port; or (4) inform the WSAB of the Port's intent to address the recommendation in the next comprehensive revision, occurring in either the 2022 or 2023 WMP.

A. Plan Structure

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

Port of Oakland Response: See Sections II and III above.

WSAB Recommendation #2: Provide a short description of the Port of Oaklands 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:*** The Port of Oakland created a WMP and had it verified by a qualified independent reviewer. The WMP was presented to the Board of Port Commissioners on 12/3/2020 and posted on the Port's website. Because none the Port is not located in or adjacent to a high fire severity zone, the Port has not separately allocated funds to wildfire mitigation efforts. Instead, the Port has established maintenance and vegetation protocols to address fire risk in general.

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

> ***POU Response:*** https://www.portofoakland.com/business/port-utilities/. Port of Oakland has not planned any enhancements yet.

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

> ***POU Response:*** While Port of Oakland does not represent a wildfire threat due to its location along the San Francisco Bay, and bordering the city of Oakland, the Port continues to work to evaluate and implement actions to help mitigate wildfires. For example, the Port can provide reminders for trucks and other transient traffic to inspect their vehicles for dangling chains or other equipment that could create a wildfire once they leave the Port property.

B. Customer Impacts

WSAB Recommendation #5: Describe the potential impact investor-owned utilities (IOU) public safety power shutoff (PSPS) events could have on Port customers and how the Port 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.

The Port of Oakland is entirely dependent on PG&E transmission lines that connect to the Port's distribution network. If a PSPS were to shutoff power for an extended period of time in the Oakland Seaport, there will be significant interruption in the transit of goods, especially food,

both locally and worldwide. It would preclude plugging in ships and using the electric cranes to load and unload ships. Additionally, the number of electric trucks in the Seaport is increasing. Conversely, OAK is equipped with sufficient back-up generation to sustain air travel during a moderately timed PSPS event.

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

POU Response: Over the past few years, Port of Oakland has received notification of potential outages. Notice alone is very disruptive to the Port's planning and business. In the future it would be helpful for the IOU to include the likelihood of events happening to allow for diversion of ships and airplanes if necessary.

Does the POU receive advance notification?

POU Response: Generally, the Port receives notice a few hours before a potential transmission level outages.

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

POU Response: Both

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

POU Response: The Port is working on viable solutions in the Oakland Seaport. As noted above, OAK can withstand moderately PSPS events.

- Does the POU have its own permanent or temporary generation, (or customer provision of same) allowing it to withstand an IOU PSPS?

POU Response: The Port has generation facilities, but they only provide a small fraction of the Port's overall power needs.

- Does the POU distribute back-up generators to customers?

POU Response: [__] No.

- Does the POU deenergize their own lines when a wildfire threat looms, even if it is not labelled a PSPS?

POU Response: No.

- In the above instance, what customer communication takes place?

POU Response: Port of Oakland communicates with our customers to warn them of a potential outage.

- Is the POU a Balancing Authority Area? If yes, describe any applicable criteria for wildfire related de-energization.

POU Response: Port of Oakland 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.

POU Response: Port of Oakland has emergency communications procedures associated with its overall emergency planning. PSPS events in and of themselves are not considered emergencies and thus the Port does not have a special communications plan for PSPS events or wildfires.

C. The Grid

WSAB Recommendation #7: Provide details on the Port of Oakland'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: Port of Oakland is not taking any action to harden the grid to mitigate against wildfires due to the Port's location along the San Francisco Bay and away from high fire risk areas. However, measures are being created to respond to potential PSPS events. The following provides responses to specific questions included in the WSAB's 2021 WSAB Guidance Advisory Opinion:

- Does the POU perform a circuit-by-circuit analysis to identify essential facilities (and whether they have backup power) like hospitals, communication centers, and community resource centers?

  POU Response: No. Essentially all Port circuits are essential.

- Does the POU assess system hardening measures that could be installed to prevent PSPS for those facilities?

  POU Response: Yes. The Port is testing different technologies to identify the best options.

- In what way does the POU prepare these facilities for a PSPS or another wildfire related de-energization event?

  POU Response: Nothing directly related to PSPS events.

- 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?

POU Response: No. The Port's system is gravity fed, except for the lift stations for which the Port will be adding back up generation.

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

POU Response: Some pump stations have back up generation.

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

POU Response: In some critical locations, the Port maintains back up power facilities, but this is not consistent throughout the Port. For the most part, OAK has backup power, but there is only minimal backup power at the seaport.

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

POU Response: Both: most of the backup at OAK is provided by the Port of Oakland, but at the Oakland Seaport, customers are responsible for providing their own backup power.

- Can the utility open and close taps? Can the utility back-feed?

POU Response: Yes, to both but back-feeding would require planning and testing.

- Are there wildfire related circumstances wherein either of these tactics would be useful?

POU Response: Yes

- Can the utility sectionalize in a localized fashion?

POU Response: Yes

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: The Port of Oakland performs routine inspections looking for anomalies.

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: None.

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: The Port's wildfire risks are minimal due the Port's location adjacent to the San Francisco Bay and away from high fire danger areas.

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

- Are there design or construction issues related to the utility's specific topography or geographic location that the Board should be aware of?
  POU Response: No.

- How will the utility address risks associated with facilities requiring power that abut a Tier 2 or Tier 3 HFTD?
  POU Response: N/A

- How does the utility assess its risks associated with system design and construction?
  POU Response: All designs are inspected by Port staff.

- 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?
  POU Response: None.

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:*** Due to the location of the Port's distribution system and transmission lines, the potential for creating a wildfire has not been considered. However, Port staff monitor wind and other patterns closely during hot and dry times in preparation of a potential wildfire that could create a PSPS event affecting the Port's service territory.

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: The Port's 's vegetation management program is discussed on page 9 of Port of Oakland's WMP.

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:*** Port of Oakland has not utilized any experts related to wildfire mitigation measures due to the Port's location away from high fire risk areas and limited possibility of creating a wildfire.

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

> ***POU Response:*** No.