CITY OF SHASTA LAKE
WILDFIRE MITIGATION PLAN
2021 INFORMATIONAL RESPONSE

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

June 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. City of Shasta Lake (COSL) provides this document to the WSAB to respond to each of the recommendations included in the 2021 WSAB Guidance Advisory Opinion, which requests POUs to provide a narrative response and/or a cross reference to the location in their Wildfire Mitigation Plan (WMP) where the topic is addressed. Where the recommendation is not applicable to COSL, 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 Staff and Board member in understanding the unique characteristics of each POU.

Table 1: Context-Setting Information

Utility Name	COSL	
Service Territory Size	10.83 square miles	
Owned Assets	☑ Transmission ☑ Distribution ☐ Generation	
Number of Customers Served	4,595 customer accounts	
Population Within Service Territory	10,250 people	
Customer Class Makeup	*Number of Accounts*	*Share of Total Load (MWh)*
	92.6%.....Residential; 1.4%.....Government; 0.0%.....Agricultural; 5.6%.....Small/Medium Business; 0.4%.....Commercial/Industrial	19.9% .....Residential; 1.4% .....Government; 0.0% .....Agricultural; 4.1% .....Small/Medium Business; 74.5% .....Commercial/Industrial
Service Territory Location/Topography[1]	0.0%.....Agriculture 10.6%....Barren/Other 3.5%.....Conifer Forest 0.0%.....Conifer Woodland 0.0%.....Desert 9.6%.....Hardwood Forest 38.9%....Hardwood 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.

	7.8%..... Herbaceous 12.4%.... Shrub 16.8%.... Urban 0.4%..... Water
Service Territory Wildland Urban Interface[2] (based on total area)	29.5% Wildland Urban Interface; 47.5% Wildland Urban Intermix;
Percent of Service Territory in CPUC High Fire Threat Districts (based on total area)	☐ Includes maps Tier 2: 79.9% Tier 3: 0.0%
Prevailing Wind Directions & Speeds by Season	☐ Includes maps The average wind speed is 4.1 mph and does not vary significantly throughout the year. Prevailing wind direction is generally a north wind, except for the periods form mid-February through March and from July to early September, when the prevailing wind direction is from the south[3].
Miles of Owned Lines Underground and/or Overhead	Overhead Dist.: 64.0 miles Overhead Trans.: 15.5 miles Underground Dist.: 15.5 miles Underground Trans.: 0 miles
	Explanatory Note 1 - *Methodology for Measuring "Miles":* All line measurements are in linear miles. Therefore, if multiple circuits are contained in the same right-of-way and travels 5 miles, the measurements above report 5 miles.
	Explanatory Note 2 – *Description of Unique Ownership Circumstances:* N/A
	Explanatory Note 3 – *Additional Relevant Context:* Approximately 1/3rd of COSL's overhead transmission lines are outside COSL's 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: Under development Tier 3: 0%
	Overhead Transmission Lines as % of Total Transmission System (Inside and Outside Service Territory)
	Tier 2: 100.0% Tier 3: 0%
	Explanatory Note 4 – *This data is under development.*
Customers have ever lost service due to an IOU PSPS event?	☑ 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.

[3] Source: https://weatherspark.com/y/666/Average-Weather-in-Shasta-Lake-California-United-States-Year-Round#Sections-Wind

Customers have ever been notified of a potential loss of service to due to a forecasted IOU PSPS event?	☑ Yes ☐ No
Has developed protocols to pre-emptively shut off electricity in response to elevated wildfire risks?	☑ Yes ☐ No
Has previously pre-emptively shut off electricity in response to elevated wildfire risk?	☑ 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:* 0 *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 3 Page 3
Objectives of the Plan	**PUC § 8387(b)(2)(B):** The **objectives** of the wildfire mitigation plan.	Section 2 Page: 2
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 5 Page 13
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 8.A Page 19
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 8.B Page 19
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	Section 5.G-H Pages 15-16

	protocols related to mitigating the public safety impacts of those protocols, including impacts on critical first responders and on health and communication infrastructure.	
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.	Section 5.H.2 Pages 17
Vegetation Management	**PUC § 8387(b)(2)(H):** Plans for vegetation management.	Section 5.D Page 15
Inspections	**PUC § 8387(b)(2)(I): Plans for inspections** of the local publicly owned electric utility's or electrical cooperative's electrical infrastructure.	Section 5.E Page 16
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 Pages 8-11
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 4.C Page 11
Enterprisewide Risks	**PUC § 8387(b)(2)(L):** A methodology for identifying and presenting **enterprisewide** safety risk and wildfire-related risk.	Section 4.B Page 9
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 7 Page 18
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.	Section 8.C-E Page 20

	(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.	
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 9 Page 21

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:*** The WMP is posted to the City's website and is available in print for public review and comment. The process for approving the WMP follows requirements that govern the meetings of the City of Shasta Lake City Council with materials under consideration for approval posted publicly to the City's website and available in print to the public in advance of the meeting. Funding for COSL's wildfire mitigation efforts is typically derived from the approved budgets for Electric operations and consulting funds.

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:*** COSL has posted the IE report at the direct link below.
> *https://cityofshastalake.org/DocumentCenter/View/2758*

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:*** COSL's customers are unlikely to be directly impacted by an IOU PSPS event because COSL is not a transmission-dependent utility of any IOU.

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:*** COSL targets its PSPS consideration to a single customer at the end of a 2-mile radial line that traverses a wooded area. In the event COSL is considering a PSPS event on this single customer, COSL relies on direct communications, such as telephone or site visit.

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:*** COSL's approach to design and construction standards is discussed in Section 5 of COSL's WMP. COSL is deploying CAL FIRE approved non-expulsion, current-limiting fuses, at multiple locations in tier 2 fire threat areas. These devices have been installed in approximately 20 locations to reduce fire ignition risks on the northern areas of the city in recognition of the prevailing wind direction during "fire season." COSL uses overhead transformers with internal fusing in areas with increased fire risks and is evaluating expanding use of these devices in tier 2 areas. COSL is evaluating CAL FIRE approved lightning arrestors to further reduce or eliminate a source of spark and potential wildfire ignition. 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: Yes, COSL's grid operations and restoration practices address critical facilities.

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

  POU Response: COSL has evaluated options that could help reduce PSPS occurrences but chose to engage local and Federal firefighting agencies to address the larger issue of Federal policies that substantially restrict the vegetation management practices on Federal lands. In 2021, the US Forest Service provided additional guidance that enabled COSL to improve clearances around overhead lines on certain Federal lands. COSL will continue to evaluate hardening measures.

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

POU Response: The two-mile section of circuit that may be subject to PSPS is equipped with a non-expulsion current-limiting fuse set and a "Fusesaver" device. To the extent a PSPS is considered, a lineworker is dispatched to visually inspect conditions and to provide visual confirmation that any Fusesaver instructions are accepted by the device.

- 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: All water facilities served by COSL have backup generation capabilities.

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

POU Response: Yes.

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

POU Response: All critical facilities have backup generators.

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

POU Response: Backup generators are installed by customers.

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

POU Response: COSL can open and close taps and can generally back-feed circuits.

- Are there wildfire related circumstances wherein the tactics in the previous item would be useful?

POU Response: Undetermined.

- 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: Please refer to COSL's "Asset Inspection Plan" starting attached to the WMP.

After a critical fire weather event, additional visual inspections are performed, particularly on any circuit that was deenergized. Such inspections are meant to identify

potential hazards including but not limited to: improper clearance around electric equipment, damaged equipment, external threats to equipment (e.g., damaged trees that may strike electric assets), etc.

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: No additional previously unidentified risks were discovered.

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: COSL's assessment of wildfire risks is discussed in Section IV of COSL's WMP. 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: The COSL community is predominately in a WUI designated area. There is significant tree coverage, many of which throughout the City are mature.

- How will the utility address risks associated with facilities requiring power that abut a Tier 2 or Tier 3 HFTD?

  POU Response: All critical facilities are equipped with backup generators.

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

  POU Response: COSL regularly reviews risk drivers associated with its electric assets, including contact with foreign objects and equipment failure, and consequences to life, property, equipment, and electric reliability services should these risk events occur. Power outage events are investigated to determine cause and any trends or correlations are considered by engineering and operations staff to determine if design or construction standards should be modified to further reduce risks.

- 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: COSL uses transformers with internal fuses; CAL FIRE approved non-expulsion, current limiting fuses; and maintains wider clearances from vegetation through most of the COSL service territory.

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: There are several situational awareness technology devices installed in and around the COSL service territory, which were deployed by other entities who make their data available to the public in near real time. Data can be observed at: https://www.wrh.noaa.gov/map/?wfo=mtr&obs=true

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: COSL's vegetation management program is discussed in Section 5 of COSL's WMP. COSL's vegetation management practices focus on preventing vegetative material from contacting overhead electric assets. Vegetation that satisfies minimum clearances from assets, but pose risk of contact in the event of failure (e.g., dead or dying trees leaning toward lines, branches hanging over lines, or trees otherwise designated "dangerous" from fire or other officials) are trimmed or removed by tree crews. Below the lines, right-of-ways are cleared manually or with mechanical devices. Wood chips may be used to attempt to prevent regrowth, but often the native shrubs in this area (e.g., poison oak, manzanita) overcome such measures. Herbicide and preemergent treatments are the most effective means of controlling brush within right-of-ways, but these measures are used in limited applications within the COSL service territory.