ROSEVILLE ELECTRIC UTILITY
WILDFIRE MITIGATION PLAN
2021 INFORMATIONAL RESPONSE

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

June 8th, 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. Roseville provides this document to the WSAB in order to respond to each of the recommendations included in the 2021 WSAB Guidance Advisory Opinion. POUs will provide a narrative response and/or a cross reference to the location in Roseville's Wildfire Mitigation Plan (WMP) where the topic is addressed. Where the recommendation is not applicable to Roseville, 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.

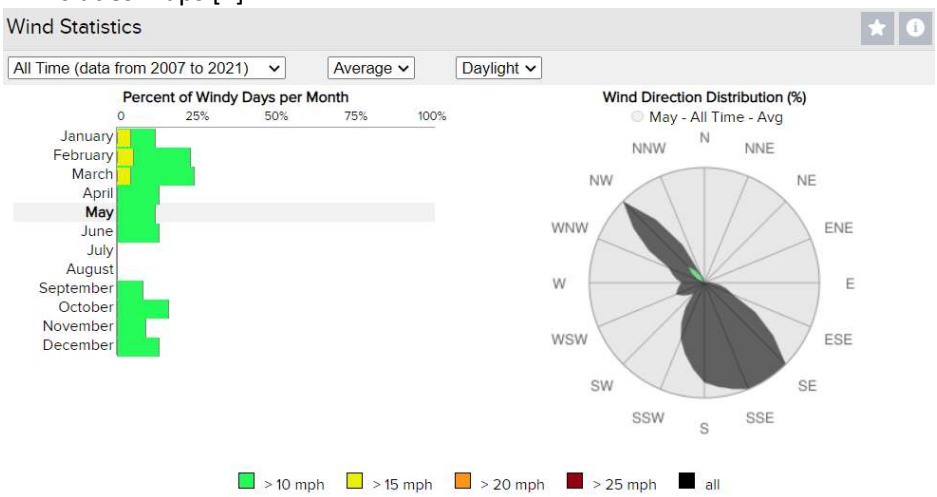
Table 1: Context-Setting Information

Utility Name	Roseville	
Service Territory Size	42+/- square miles	
Owned Assets	☐Transmission ☑Distribution ☑Generation	
Number of Customers Served	64,268 customer accounts	
Population Within Service Territory	146,875 [1]	
Customer Class Makeup	*Number of Accounts*	*Share of Total Load (MWh)*
	88.81% Residential; 0.67% Government; 0.00% Agricultural; 10.34% Small/Medium Business; 0.05% Commercial/Industrial[1]	37.24% Residential; 4.54% Government; 0.00% Agricultural; 34.25% Small/Medium Business; 23.96% Commercial/Industrial[2]
Service Territory Location/Topography[3]	0% Agriculture 0% Barren/Other	

[1] The number of accounts includes streetlights, dusk to dawn lights, and flat rate accounts that do not fall into one of the categories above and are not included in the categories but are in the total number. Government accounts include City, State, & Federal Agency accounts.

[2] The customer classes do not include streetlights, dusk to dawn lights and flat rate accounts, therefore the total percentage does not add up to 100% of our accounts or MWh.

[3] 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% Conifer Forest 0% Conifer Woodland 0% Desert 0% Hardwood Forest 2% Hardwood Woodland 8% Herbaceous 0% Shrub 90% Urban[4] 0% Water
Service Territory Wildland Urban Interface[5] (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 [2] 
Miles of Owned Lines Underground and/or Overhead	Overhead Dist.: 144 Miles (84 miles of 12kV and 60 miles of 60kV sub-transmission) Overhead Trans.: 0* Underground Dist.: 808 Miles (804 miles of 12kV and 4 miles of 60kV) Underground Trans.: 0* *The current definition of Bulk Electric System, as stated in NERC's Glossary of Terms, includes transmission lines generally operating at voltages of 100kV or higher. Roseville does not have 100kV or higher voltage-level assets operating on our pole lines.
	Explanatory Note 1 - *Methodology for Measuring "Miles":* All line measurements are in circuit miles, meaning an aggregate measurement for each linear foot per phase, i.e. if there are three phases on a mile-long pole line, the circuit measurement is three miles.

[4] This response is based on a general estimate derived from the CDF WHR13 map listed at the URL on page 1.
[5] 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.

	Explanatory Note 2 – *Description of Unique Ownership Circumstances:* NA
	Explanatory Note 3 – *Additional Relevant Context:* Roseville has 0% of lines located outside its 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:* [e.g., explain any difference from data reported in WMP due to different numerator used for this form]
Customers have ever lost service due to an IOU PSPS event?	☐ Yes ☑ No
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*: [____] *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 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 2 Page 5
Objectives of the Plan	**PUC § 8387(b)(2)(B):** The **objectives** of the wildfire mitigation plan.	Section 1 Page: 4
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 2 Page 7
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 6 Page 26
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 6 Page 26
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.	Section4 Page 24
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 2 Page 11
Vegetation Management	**PUC § 8387(b)(2)(H):** Plans for vegetation management.	Section 4 Page 22
Inspections	**PUC § 8387(b)(2)(I): Plans for inspections** of the local publicly owned electric utility's or electrical cooperative's electrical infrastructure.	Section 4 Page 23

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 3 Page 12
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 Page 20
Enterprisewide Risks	**PUC § 8387(b)(2)(L):** A methodology for identifying and presenting **enterprisewide** safety risk and wildfire-related risk.	Section 3 Page 14
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 5 Page 25
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 6 Page 27

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 7 Page 27

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 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.

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 Plan is posted on the City website and available in print for public review and comment. Roseville's process for approval includes an independent

evaluator presenting the Plan in a publicly held City Council meeting and Council approving the Plan for use. Wildfire mitigation funding is typically derived from the Council approved field operations maintenance budget and/or engineering rehabilitation 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: Roseville has a publicly posted Wildfire Mitigation Plan on its website, which includes the IE report. The direct Uniform Resource Locator (URL): https://www.roseville.ca.us/cms/One.aspx?portalId=7964922&pageId=9074308.

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: Roseville's customers are not directly connected (or interconnected) to IOU facilities and therefore will not experience an IOU PSPS event.

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: NA – Roseville is not located in a high-fire threat district and has no plans for PSPS events.

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: Roseville's approach to grid hardening is discussed in Section 4 of Roseville's WMP. Roseville Electric Utility is replacing standard transformer fusing at various locations within our Wildfire Reduction Zone (WRZ). The replacements are CAL FIRE approved expulsion proof fusing.

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 – our distribution restoration plans address critical facilities.

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

  POU Response: NA

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

  POU Response: NA

- 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 critical water facilities have backup generation capability.

- 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 generation or redundant distribution feeds.

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

POU Response: Backup generation is installed by the customer – redundant distribution feeds are installed by the utility.

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

POU Response: Yes, REU can open and close taps. REU can generally back-feed most circuits.

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

POU Response: NA

- 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 annual patrol inspection is intended to identify obvious problems or hazards while performing a visual inspection of overhead, underground and padmounted facilities. This inspection does not include opening equipment or enclosures. The problems sought are those that are readily observable while driving or on foot patrol, and do not require the patrol person to enter private properties unless facilities cannot be observed from public access locations.

All visual inspections include support structures, hardware, apparatus, insulators, conductors, transformers, regulators, protective devices, capacitors, switches, fuses, tree foliage clearance, street lighting, guy markers, visibility strips, etc. to identify obvious problems or hazards for public or worker safety, circuit reliability and fire hazards.

Post inspection data may be used in department decisions to change circuit configurations and upgrade conductors and/or equipment. If Roseville Electric Utility

staff discovers a facility on an REU pole line that is in need of repair and that is owned by an entity other than REU, REU will then issue a notice to repair (Safety Hazard Notification) to the facility owner.

Roseville Electric Utility regularly evaluates enterprise safety risks, which include severe operating conditions and contingencies that may require load shedding to ensure the reliable operation of the Balancing Authority of Northern California (BANC). Specific events that may elevate to the point of load shedding include:

1. California-Oregon Intertie (COI) mitigation for more severe outages (such as Pacific AC Intertie Double Line Outages)
2. Sacramento Valley Study Group Nomogram violations
3. Significant generation loss (more than MSSC)
4. Significant transmission outages (multiple element loss)
5. Voltage collapse
6. Under-frequency conditions
7. Inadequate resources which may include loss of generation, energy, imports, contingency reserves and/or reactive requirements

In addition, a Roseville outage committee meets regularly (typically monthly) to review the following:

1. Unscheduled outages
2. Outages under investigation
3. Major/Circuit outages

This committee reviews risk drivers, such as conductors contacting foreign objects (for example, balloons or tree limbs) and equipment failure. Consequences, should these risks occur, could include injuries to employees or the public, damage to property, impact to the reliability and operation of the electric system and environmental damage. The committee also uses outage data to identify the causes of failures and makes recommendations to the engineering and operations divisions should this data reveal trends (such as cable or fusing failures).

Wildfire Inspections in the designated City Wildfire Reduction Zone are conducted annually and/or post fire related incident for all sub-transmission and distribution assets, excluding substation equipment. These inspections involve a closer and more thorough examination of facilities in order to identify circuit problems or hazards, which may not have been viewable from the last patrol. These inspections for pole-mounted

equipment are visual based from the ground. A closer look at a potential problem may require climbing, binoculars or a bucket truck, at the discretion of the inspector.

If an overhead sub-transmission or distribution pole line has been de-energized in anticipation of a wildfire threat or post wildfire event, all affected circuits will be inspected (patrolled) in order to mitigate any potential issues that may be found prior to re-energization of the overhead circuit.

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 previous unidentified risk options were discovered during the joint efforts of the POU associations.

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: Roseville's assessment of wildfire risks are discussed in Section 3 of Roseville's WMP. Roseville regularly evaluates enterprise safety risks, which include severe operating conditions and contingencies that may require load shedding to ensure the reliable operation of the Balancing Authority of Northern California (BANC).

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: There are no current special design or construction considerations to report. The topography and geographic location of Roseville places it in an area of lower fire risk and outside of high-fire threat zones (Roseville is not located within a High Fire Threat District). The elevation, 164' above sea level, is low enough to avoid extreme winter weather conditions (like snow and ice) and is distanced enough from the bay area to avoid corrosive sea salt.

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

  POU Response: NA - Roseville does not have any facilities that abut a Tier 2 or Tier 3 HFTD.

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

  POU Response: Roseville regularly reviews risk drivers, such as conductors contacting foreign objects (for example, balloons or tree limbs), and equipment failure. Consequences, should these risks occur, could include injuries to employees or the public, damage to property, impact to the reliability and operation of the electric system and environmental damage. Roseville uses outage data to identify the causes of failures and makes recommendations to the engineering and operations divisions should this data reveal trends (such as transformer or fuse failures).

  Roseville also performs regular Enterprise Risk Profile (ERP) analysis with the goal of providing a unified picture of risks to the Utility, thereby improving the ability to manage the risks effectively. Studies are conducted that include potential impacts, such as financial, legal, regulatory and compliance, operational, strategic, reputational and workforce.

- 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: In the City-designated Wildfire Reduction Zone (WRZ), Roseville Electric Utility has scheduled the use of Cal-Fire approved equipment such as non-explosive fuses. Additionally, we perform a detailed inspection of all assets annually in the WRZ.

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: Since REU is not located within a high-fire thread district, we have not implemented any of these technologies.

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: Roseville's vegetation management program is discussed in Section 4 of Roseville's WMP. Roseville Electric Utility meets or exceeds the minimum industry standard vegetation management practices. For distribution level facilities, Roseville Electric Utility meets: (1) Public Resources Code section 4292; (2) Public Resources Code section 4293; (3) GO 95 Rule 35; and, (4) the GO 95 Appendix E Guidelines to Rule 35. These standards require significantly increased clearances in the High Fire Threat District which do not apply to Roseville; however, Roseville Electric Utility contract tree crews perform tree branch trims to keep several feet of clearance away from the primary overhead electric supply conductors at the time of the trimming. Roseville utilizes two overhead voltage levels: 12kV and 60kV. Per GO95, Rule 35, Table 1, the radial clearance of bare line conductors from vegetation in a HFTD is 48-inches (18-inches for 12kV in non HFTD). Roseville tree contractors exceed this trimming separation by increasing the trim to 10 feet in order to maintain an effective separation distance.

- Describe the reasoning behind each treatment plan and the ecological impact of the treatment options chosen.

  POU Response: NA

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

  POU Response: NA

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

  POU Response: As stated above, Roseville contractors typically trim to 10 feet of separation at the time of trim.

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

  POU Response: NA

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

  POU Response: Roseville contractors maintain records of all types of trees that are trimmed for high-voltage separation. Patrols of the system are performed year-round. As new vegetation propagates and nears our separation target, it is logged in the patrol and scheduled for trimming, if needed.

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: Roseville Electric Utility relies on the expertise of in-house staff as well other City department personnel, as needed. This includes consulting with the following:

- *Park Planning and Development Superintendent* – position requires training from an accredited college or university with major course work in landscape architecture, park planning, construction management
- *Roseville Fire Department, Fire Division Chief* – position requires eight years of increasingly responsible experience in municipal fire suppression duties, including five years of supervisory responsibility at the Fire Captain level or higher.
- *Roseville Urban Forester* – requires three years of professional experience performing assessment and maintenance of trees in an urban environment, including one year of lead responsibility and training from an accredited college or university in urban forestry, biology, environmental science, ornamental horticulture or a related field.

REU personnel that manage the vegetation management:

- *Electric Operations Supervisor* – the Operations Supervisor plans, organizes, directs and supervises electric operations within the Electric Utility Department. The position may be assigned to one or more of the following electric utility operational areas: line construction and maintenance, troubleshooting, metering, dispatch, warehouse, vegetation management, or street lighting. This position requires three years of increasingly responsible experience in electric utility systems operations, construction, maintenance and repair work; including one year providing technical and functional supervision over assigned personnel.

- *Electric Operations Manager* – the Operations Manager plans, organizes, directs, and coordinates the activities of electric distribution operations within the Electric Utility Department including installation, construction, operation and maintenance of the electric utility distribution system to include substations, warehousing, and metering; coordinates operation and maintenance activities with other sections, divisions, departments or outside agencies and utilities; and provides highly responsible technical support to the Assistant Electric Utility Director. Position requires five years of increasingly responsible experience in electrical systems construction, maintenance and repair work, including two years of supervisory responsibility.

Measures taken for Minimum Approach Distance (MAD):

REU Engineers perform an Arc-Flash analysis on the electric system periodically. The analysis is conducted on each feeder in the system and takes into account OSHA Standard 1910.269 and Qualified Electric Worker (QEW) working distance, QEW inspection distance and observer distance. A chart is provided to employees that illustrates the correct minimum level of FR clothing and clothing systems allowed under specific working conditions. The MAD from energized equipment or bussing is specified as well as the perimeter safety distance.

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

POU Response: None considered

REFERENCES

[1] C. o. Roseville, "Demographics, City of Roseville," [Online]. Available: https://www.roseville.ca.us/cms/One.aspx?portalId=7964922&pageId=8889369.

[2] "Windalert.com," [Online]. Available: https://windalert.com/spot/14314.