RIVERSIDE PUBLIC UTILITIES
WILDFIRE MITIGATION PLAN
2021 INFORMATIONAL RESPONSE

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

September 27, 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. Riverside Public Utilities (RPU) provides this document to the WSAB in order to respond to each of the recommendations included in the 2021 WSAB Guidance Advisory Opinion. RPU is providing this narrative response and/or a cross reference to the location in its 2021 Wildfire Mitigation Plan (WMP), where the topic is addressed. Where the recommendation is not applicable to RPU, 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 members in understanding the unique characteristics of each POU.

Table 1: Context-Setting Information

	RPU	
Service Territory Size	81.5 square miles	
Owned Assets	✓ Transmission ✓ Distribution ✓ Generation	
Number of Customers Served	111,161 electric customer accounts (as of 6/30/2020)	
Population Within Service Territory	330,000 residents, 24,000 businesses with about 134,000 employees	
Customer Class Makeup	*Number of Accounts*	*Share of Total Load (MWh)*
	89% Residential <1% Government <1% Agricultural 10% Small/Medium Business 1% Commercial/Industrial	36% Residential 3% Government <1% Agricultural 18% Small/Medium Business 42% Commercial/Industrial

	RPU
Service Territory Location/Topography[1]	5.3% Agriculture 1.9% Hardwood Woodland 5.7% Herbaceous 8.1% Shrub 78.5% Urban 0.2% Water 0.3% Wetland
Service Territory Wildland Urban Interface[2] **(based on total area)**	13.7% Wildland Urban Interface 8.2% Wildland Urban Intermix
Percent of Service Territory in CPUC High Fire Threat Districts (based on total area)	✓ Includes maps Tier 2: 15.4% Tier 3: 0.5%
Prevailing Wind Directions & Speeds by Season	Wind direction in Riverside is most often from the West between March and September, with an average wind speed of 9 mph and gusts of 22 mph. Between October and February, wind direction varies from WNW to NNE, with an average wind speed of 7 mph and gusts of 24 mph.
Miles of Owned Lines Underground and/or Overhead	Overhead Distribution: 517 miles Overhead Transmission: 91 miles Underground Distribution: 831 miles Underground Transmission: 5 miles
	Explanatory Note 1 - *Methodology for Measuring "Miles":* [e.g., circuit miles, line miles.] The methodology for measuring miles is circuit miles. The total length in miles of separate circuits regardless of the number of conductors used per circuit.
	Explanatory Note 2 – *Description of Unique Ownership Circumstances:* The 7 Transmission lines serving the service territory have joint ownership between Southern California Edison and City of Riverside. The lines outside of the service territory are owned and maintained by SCE.

[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.

[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.

	RPU
	Explanatory Note 3 – *Additional Relevant Context:* [e.g., percentage of lines located outside service territory] The 7 transmission lines outside of Riverside service territory totals 22 circuit miles. It is not included in the overhead transmission total for Riverside.
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: 6.2% Tier 3: 0.5%
	Overhead Transmission Lines as % of Total Transmission System (Inside and Outside Service Territory)
	Tier 2: 11.1% Tier 3: 0%
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

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.	Sec. II.C. Page 16
Objectives of the Plan	**PUC § 8387(b)(2)(B):** The **objectives** of the wildfire mitigation plan.	Sec. I.D. Page: 6
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.	Sec. IV Pages 29-36

Requirement	Statutory Language	Location in WMP
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.	Sec. VI.A. Page 41
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.	Sec. VII. Pages 45-46
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.	Sec. III.C. Page 34
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.	Sec. V.B. Page 37-38
Vegetation Management	**PUC § 8387(b)(2)(H):** Plans for vegetation management.	Sec. IV.B. Page 31-32
Inspections	**PUC § 8387(b)(2)(I): Plans for inspections** of the local publicly owned electric utility's or electrical cooperative's electrical infrastructure.	Sec. IV.B. Page 30-32
Prioritization of Wildfire Risks	**PUC § 8387(b)(2)(J):** A list that **identifies, describes, and prioritizes all wildfire risks, and drivers for those risks, throughout the local publicly owned electric utility's or electrical cooperative's service territory**. The list shall include, but not be limited to, both of the following: **(i)** Risks and risk drivers associated with design, construction, operation, and maintenance of the local publicly owned electric utility's or electrical cooperative's equipment and facilities. **(ii)** Particular risks and **risk drivers** associated with topographic and climatological risk factors throughout the different parts of the local publicly owned electric utility's or electrical cooperative's service territory.	Sec. III Page 20-28
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	Sec. III Page 20-28

Requirement	Statutory Language	Location in WMP
	fire threat district based on new information or changes to the environment.	
Enterprisewide Risks	**PUC § 8387(b)(2)(L):** A methodology for identifying and presenting **enterprisewide** safety risk and wildfire-related risk.	Sec. III Page 20-28
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**.	Sec. IV.C. Page 33
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.	Sec. VI Pages 41-44
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.	Sec. VI.D. Page 43

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.

Table 2: Cross References to WSAB Recommendations

WSAB Recommendation	Description	Plan Section
1 – Context Setting Information	Provide context-setting information about the POU and provide a simple guide to where the statutory requirements are addressed within the WMP.	Sec. II
2 – WMP Public Review and Approval Process	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	Sec. VI.E.
3 – Qualified Independent Evaluator (QIE) Reporting	Identify where the POU has posted the most recent Independent Evaluator (IE) Report, and if the POU plans to enhance future IE reports, please summarize in what ways.	Secs. VI.E. and F.
4 – Develop Collective Guidelines for Future WMPs	In collaboration with POU industry associations, develop WMP guidelines for future WMPs and understand that it may take multiple cycles for POUs to integrate these recommendations into the WMPs.	Various Sections Discuss Collab.
5 – Customer Impact from IOU PSPS	Describe the potential impact investor-owned utilities (IOU) public safety power shutoff (PSPS) events could have on the POU customers and how the POU manages these impacts. • Relationship between the IOU and the POU during PSPS events • POU impact at the transmission and distribution level • Back-up generator provisions for customers • Operations and communications to proactively deenergize lines during elevated wildfire risk, absent a formal PSPS	Sec. III.F.
6 – Customer Communications Plan During Wildfires and PSPS	Describe the utility customer communication plans concerning 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	Sec. V

WSAB Recommendation	Description	Plan Section
	customers, non-English speakers, and those at risk of losing water or telecommunications service.	
7 – Grid Hardening and Design	POU's system hardening and grid design programs, including: • The goals of the programs and the risks the program is designed to mitigate. • Assessment of essential facilities impacted by a PSPS • System hardening measures to prevent a PSPS of those facilities	Sec. III. and Sec. IV.
8 – System Patrols and Inspections	Describe annual visual patrols on potentially impacted circuits and the risks the POU is inspecting. 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.	Sec. IV.
9 – Identifying Risks	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.	Sec. III.
10 – Identify Risks Specific to Electrical Infrastructure	Describe the particular wildfire risks associated with system design and construction, such as topography and location near the HFTZ 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. • Are there design or construction issues related to the utility's specific topography or geographic location that the WSAB should be made aware? • How will the utility address risks associated with facilities requiring power that abut a Tier 2 or Tier 3 HFTD? • How does the utility assess its risks associated with system design and construction? • What design and construction standards has the POU implemented beyond G.O. 95 or other General Order standards related to design and construction?	Sec. III. And Sec. IV.

WSAB Recommendation	Description	Plan Section
11 – Use of Situational Awareness Technology	Provide context-setting information on prevailing wind directions and speeds, differentiated by season, and average weather conditions by season. Describe how and why situational awareness technology is installed and where on the system.	Sec. III.
12 – Vegetation Management	Describe treatment plans for all types of vegetation associated with utility infrastructure, from the ground to the sky, including vegetation above and below electrical lines. • Describe the reasoning behind each treatment plan and the ecological impact of the treatment options chosen. • Describe how vegetation management in the HFTZ or Fire Threat Zones differs from other areas, including within private property and urban landscaping. • Describe any enhanced vegetation management that goes beyond the minimum G.O. 95 standard. • A list of native and non-native species in the POU's Service Territory and describe how treatment methods vary. • Describe how the POU tracks new vegetation growth in areas that have previously been cleared or treated.	See Response Matrix*
13 – Qualifications of Vegetation Management Staff	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).	To Be Determined
14 – Enhanced Approaches to Vegetation Management	Describe whether the POU has considered innovative and alternative approaches to vegetation management.	See Response Matrix*

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:*** RPU's WMP is presented to the public during public meetings to the RPU's Board of Public Utilities and Riverside's City Council. The Board reviews the WMP and receives comments from the public. If the Board approves of the plan, it will recommend that the City Council approve the WMP and direct staff to submit it to the Wildfire Safety Advisory Board (WSAB). The City Council considers the WMP, also at a public meeting, and receives comments from the public. If approved by the City Council, RPU will then submit the plan to the WSAB.

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:*** RPU's WMP has not received a final evaluation report from an Independent Evaluator. RPU will be retaining an IE to review the 2021 WMP. Once the IE prepares its final report and presents it at RPU's Board and City Council, it will be posted on RPU's website at: http://www.riversidepublicutilities.com/about-rpu/safety-power-shutoff.asp

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: RPU's customers may be impacted by the PSPS events ordered by SCE. The majority (97%) of the electricity served to the community flows through a single point of interconnection to the bulk electric system located at Southern California Edison's (SCE) Vista Substation. Seven 69kV transmission lines from the Vista Substation connect to RPU's distribution system, of which three traverse a Tier 2 fire hazard area.

SCE, as part of a Public Safety Power Shutoffs (PSPS), could turn off some or all the 69kV transmission lines providing electricity to RPU and the City of Riverside. RPU's internal generation includes two natural gas generation facilities (Riverside Energy Resource Center and Springs Generation) and a small solar photovoltaic system with a combined capacity of 280 MWs. Internal generation would only support a small portion of RPU's customers if a PSPS event occurred, particularly during a high-heat, Santa Ana wind event. The result of a PSPS event on a portion or all of these transmission lines would be rotating outages for all of RPU's service territory.

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

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

  POU Response: Seven transmission lines serving RPU's service territory have joint ownership between Southern California Edison and City of Riverside. The lines outside of the service territory are owned and maintained by SCE. Transmission lines could be de-energized during a PSPS event which can limit the capacity to serve RPU's load. RPU maintains communication with SCE during events that could warrant a PSPS in the local area in and around these transmission lines.

  Additionally, a small number of Riverside residences are served by SCE. These customers may be subject to PSPS by SCE.

Does the POU receive advance notification?

POU Response: City of Riverside Market Operations monitors High Wind Warnings and SCE's PSPS notifications. A PSPS events working group email has been established internal to the City of Riverside to inform of potential shutoff that will affect RPU. Additionally, SCE provides advance notification to RPU if any of its facilities may be affected by a PSPS. Most of the facilities are water wellheads operated by RPU's water utility division. If a PSPS event were to occur

on the transmission lines feeding RPU, RPU's Grid Operations would be notified, as would RPU's communications and management teams.

RPU does not receive notifications of PSPS events that may affect the small number of residents on SCE's distribution system.

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

POU Response: Impacts to RPU are primarily at a transmission level. Only a few residents received electricity service by SCE and through its distribution system.

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

POU Response: Yes. RPU will implement a strategy for rotating outages within its service territory and has a comprehensive customer communications strategy. All internal generation operated by RPU will need to operate to support customers. Critical facilities such as hospitals and medical offices will be prioritized for electricity services to the extent possible.

RPU will maintain communications with SCE's operations center and work closely with SCE to minimize the duration of any such events, including providing utility support to inspect the area around the transmission lines until the lines can be re-energized.

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

POU Response: RPU has its own permanent generation allowing it to withstand SCE PSPS events during certain times of the year. During much of the summer and especially during extreme heat events, internal generation will not be able to supply all customer load, and RPU will have to resort to rotating outages or de-energization of a portion of its service territory.

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

POU Response: RPU maintains a limited supply of back-up generators for customers that may be experiences a power outage. These back-up generators are able to assist a small number of customers. They would not be sufficient to support the service territory during an outage that results from SCE's de-energization of the transmission lines from the Vista Substation.

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

POU Response: RPU does not currently have plans to de-energize any of the lines when wildfire threat looms. RPU is developing a system that would gather weather data from locally installed sites and initiate non-reclosing operations on circuits within high fire threat areas.

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

  POU Response: RPU has outlined its customer communication plan in its WMP. During an outage event, RPU utilizes several tools, including posting information on its website and using social media. Additionally, RPU can also notify customers of outage information through email and through text messaging. For longer duration outages or for at-risk customers, RPU can call customers or go to their homes.

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

  POU Response: RPU is not a Balancing Authority area.

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: Several of Riverside's urbanized areas are adjacent to elevated fire risk districts. These urbanized areas include residential single-family housing, apartments, medical services, retail shopping and restaurants, schools, industrial zones, mixed-zones, and parks. Within these urban uses are critical care customers, customers with minimal access to the internet or other communication, and medical and other critical facilities for emergency response. RPU maintains a database of all critical care customers, individuals who rely on life supporting machines, and will confirm they have assistance in case of an emergency. RPU's Utilicare customers that have medical devices or other care that is dependent on electricity will also be directly contacted, either by phone or, if RPU is unable to reach them by phone, in-person. The customers will be provided with information on the outage, its expected duration, and the options they have available to them through emergency services or through some level of back-up generation if it is available.

RPU also works closely with the City's emergency responders to ensure that there is communication within our communities in the event of a wildfire or loss of power. In river-bottoms and other undeveloped areas, there are scattered homeless that must be evacuated during a wildfire or similar emergency.

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: RPU's approach to grid hardening is discussed in Section IV of RPU's 2021 WMP. RPU's efforts in this area reflect its investment in actions that maintain grid reliability in all situations, including prevention of equipment failure or from outside factors negatively affecting the grid system. 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 back-up power) like hospitals, communication centers, and community resource centers?

POU Response: RPU has identified critical and essential facilities located on each circuit. These facilities include but are not limited to hospitals, communication centers, and community resource centers. RPU's Outage Management and Reporting (OMAR) system includes this information in every outage report so that critical customers can be notified in the event of a prolonged outage.

Protocols have been established that include communication with other emergency response and safety entities such as the Police, Fire, and Public Works Departments in the City.

RPU has not documented if these facilities have back-up power onsite.

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

POU Response: RPU does not pre-emptively de-energize (enact a PSPS) its lines. System hardening measures are addressed during annual inspections and maintenance of electrical infrastructure when there is a risk identified at a particular location.

- 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: Yes. RPU's Water Division is taking steps to ensure that back-up power is available at its facilities where needed. In particular, back-up diesel generators as well as battery-energy storage and solar are being installed at facilities located in high fire threat districts outside the City in SCE service territory.

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

  POU Response: The utility has installed back-up generation at its facilities. RPU also provides a limited amount of back-up generation to critical care customers. Back-up generation at non-utility facilities is provided by the customers.

- Can the utility sectionalize in a localized fashion?

  POU Response: RPU is able to sectionalize its distribution circuits system-wide. The equipment is used in circuit protection or load transferring regardless of the reason for the outage and will be used should de-energization be necessary.

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: RPU meets the inspection requirements provided in CPUC GO 165 and CPUC GO 95, Rule 18. Distribution circuits are patrolled once a year by field personnel. RPU performs detailed inspection every five years and intrusively inspects wood poles after 20 years of service. If a pole passes intrusive inspection, it will be scheduled for another intrusive inspection every 10 years thereafter. Patrols are not currently being conducted before, during, or after critical fire weather events, such as a Red Flag Warning with strong winds. In collaboration with Riverside Fire Department, RPU patrols facilities that have been impacted by fire and will not restore service until the area is fully patrolled and given an all-clear from ground crews and emergency personnel.

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: RPU participates in a variety of joint stakeholder efforts on the topic of wildfire. This allows staff to engage in peer-learning and identification of best practices to prevent or mitigate risks that could lead to catastrophic wildfire.

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: RPU's assessment of wildfire risks is discussed in Section III of its 2021 WMP. RPU's service territory is 81.5 square miles. RPU has identified areas in the City that are HFTD as well as areas with wildland/urban interface and intermix areas. Almost 14% of the land area in the City is considered a wildland urban interface, and slightly more than 8% of the urbanized land area mixes with wildland areas. These areas are also at greater risk, due to wildfire in adjacent to or having urban area mixes with wildlands areas. The major urban/rural interface areas of high-fire risk include Mount Rubidoux, the Santa Ana River Basin, Lake Hills, Mockingbird Canyon/Monroe Hills, Sycamore Canyon, Box Springs Mountain, and La Sierra/Norco Hills.

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? How will the utility address risks associated with facilities requiring power that abut a Tier 2 or Tier 3 HFTD? How does the utility assess its risks associated with system design and construction? 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: RPU's electric facilities are designed and constructed to meet and exceed requirements from relevant federal, state, and industry standards. RPU uses CPUC General Order (GO) 95 as a key standard for design and construction standards for overhead facilities. RPU meets or exceeds all standards set forth in GO 95. Furthermore, RPU also considers minimum requirements set forth in the National Electric Safety Code (NESC) when applicable standards are not available or detailed in GO 95.

The vast majority of RPU's distribution and transmission system is located outside of the HFTDs. While most of the distribution system in HFTDs is developed, urbanized areas, there are a small number of facilities that are located in natural park areas and along the Santa Ana River. Facilities in these two areas, neither of which are forested, are habitat protection areas that limit vegetation clearance activities. To mitigate this situation, RPU works closely with the Riverside Fire Department to address vegetation if there is a fire threat, and clearances are allowed and will mitigate the threat that a wildfire will spread.

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: RPU monitors current and forecasted weather data from a variety of sources, including:

- United States National Weather Service (NWS)
- United States Forest Service Wildland Fire Assessment System
- National Fire Danger Rating System
- National Interagency Fire Center – Predictive Services for Northern and Southern California
- The Weather Channel
- Substations equipped with weather monitoring, specifically observe wind speeds and temperature

RPU assigns one of two operating conditions based on the relevant weather data and knowledge of local conditions:

1. Normal: During normal conditions, no changes are made to operations or work policy.
2. Red Flag: If the National Weather Service declares a Red Flag Warning for any portion of RPU's service territory, the Grid Control Center (GCC) shall monitor NWS or other sources to determine when Red Flag Warnings are issued that include the City of Riverside. GCC will issue a red flag warning alert using the "PU-Red Flag Notification." GCC will review the circuit maps on the attached list of circuits to determine if the circuits are in normal configuration or if the overhead portions in the elevated or extreme fire threat districts have been transferred to other circuits. On-duty electric troubleshooters will be notified and assigned to conduct patrols of overhead facilities in elevated or extreme fire threat areas. An electric service crew will be notified and assigned to clear any palm frond or debris from overhead lines in elevated or extreme fire threat districts. Electric crews will be assigned to correct

any deficiencies on overhead facilities in elevated or extreme fire threat districts identified by the troubleshooter during patrol.

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: RPU's vegetation management program is discussed in Section IV of RPU's WMP. RPU meets or exceeds the minimum industry standard vegetation management practices. For both transmission and distribution level facilities, RPU meets: (1) Public Resources Code section 4292[3]; (2) Public Resources Code section 4293[4]; (3) GO 95 Rule 35 (as shown in the tables below); and (4) the GO Appendix E Guidelines to Rule 35. These standards require increased clearances in the High Fire-Threat District. The recommended time-of-trim guidelines do not establish a required standard but do provide useful guidance for utilities. RPU will use specific knowledge of growing conditions and tree species to determine the appropriate time of trim clearance in each unique circumstance. Full details of RPU's vegetation management efforts are described in RPU's WMP.

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

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

  POU Response: All landscaping and natural vegetation is inspected up to four times per year to ensure vegetation in landscaped areas is safe and meets standards. When possible, landscaping is installed or replaced with vegetation that is appropriate for the location to reduce fire and outage risk.

[3] Public Resources Code Section 4192 states, "… any person that owns, controls, operates, or maintains any electrical transmission or distribution line upon any mountainous land, or forest-covered land, brush-covered land, or grass-covered land shall, during such times and in such areas as are determined to be necessary by the director or the agency which has primary responsibility for fire protection of such areas, maintain around and adjacent to any pole or tower which supports a switch, fuse, transformer, lightning arrester, line junction, or dead end or corner pole, a firebreak which consists of a clearing of not less than 10 feet in each direction from the outer circumference of such pole or tower…."

[4] Public Resources Code 4293 explicitly states, "… maintain a clearance of the respective distances which are specified in this section in all directions between all vegetation and all conductors which are carrying electric current: (a) For any line which is operating at 2,400 or more volts, but **less than 72,000 volts, four** feet."

Vendor converts removed material to mulch and then uses that on site to reduce weed growth. This also reduces the need to use herbicides.

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

POU Response: RPU's HFTD zones are primarily wildlife habitat protected, and vegetation management is only allowed once a fire related incident occurs. Private property and urban landscaping are handled under the G. O. 95 line clearance regulations.

When working in the HFTD, RPU performs an evaluation of every individual tree that has the potential to strike overhead facilities if it were to fail on a yearly basis. RPU performs more frequent and detailed inspections of these particular trees. In cases where hazard trees (dead, dying, diseased, or leaning) could strike overhead facilities, RPU will work with the landowner to remove the tree or portion of the tree that poses a risk.

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

POU Response: RPU's vegetation management considers G.O. 95 to be a minimum standard and goes beyond these standards when determined to be necessary to protect public health and safety.

Two specific actions RPU implements:

- In the Santa Ana River and Sycamore canyon area. When allowed, the line clearance is expanded to 25 ft.
- Vegetation and Tree trimming occur more frequently than the scheduled annual inspection. This typically occurs when there is increased risk of fire hazards or an increased number of outages due to contact with vegetation occurs during the year.

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

POU Response: RPU is working on identifying this information for inclusion in its next WMP.

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

POU Response: RPU completes annual circuit patrols and inspections. Any new vegetation growth is identified and vegetation cleared.

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: RPU is surveying the certifications of staff involved with the WMP and will include this information in its next WMP update. RPU ensures that all vendors and staff follow all Cal/OSHA standards on MAD and veg management cycles as well as State and Local requirements. Follow these standards to increase or decrease clearance services.

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

POU Response: RPU utilizes drones to complete inspections. Additionally, RPU is implementing a program to block reclosing at substations when data from weather monitoring indicate a high wildfire threat.