

December 1, 2020

Subject: Independent Evaluation Report of Roseville Electric Utility's 2021 Wildfire Mitigation Plan

Introduction

Roseville Electric Utility (REU) contracted with Dudek to engage in an independent evaluation of its Wildfire Mitigation Plan (WMP). This independent evaluation report (Report) describes the technical review and evaluation of the WMP prepared by Dudek, performed in November 2020 and completed on December 1, 2020.

Dudek conducted an evaluation of REU's WMP, as required under California Public Utilities Code (PUC) §8387(b). PUC §8387(b), as modified by Senate Bill (SB) 901, and the Administrative Law Judge's Ruling issued on January 17, 2019 in CPUC Docket No. R.18-10-007 (ALJ Ruling), applies to local publicly owned electric utilities and required preparation of a WMP before January 1, 2020, and revising/updating the WMP in 2020 and annually thereafter.

The WMP requirements are codified in the California Public Utilities Code (PUC) §8387 for local publicly owned electric utilities (POUs). PUC §8387(c) requires that an independent evaluator review and assess the comprehensiveness of a POU's WMP and issue a summary report.

Dudek conducted an initial review of REU's WMP (Date Revised: December 19, 2019) and provided recommendations for clarifications/modifications on November 20, 2020. The focus of the evaluation was to determine whether the WMP included all elements required under PUC §8387(b)(2) (listed in Appendix A). The following summarizes the recommended clarifications/modifications identified during the initial review, by required element. Required elements not identified below were determined to satisfactorily meet code requirements in the WMP.

(b)(1) There have been no updates to the WMP for submittal by the July 1, 2021 deadline.

(A) While the staff responsibilities are clearly stated, it is not clear which person(s) are responsible for executing the plan.

(F) While protocols are included regarding notification and communication, it is unclear as to what mitigation protocols are proposed regarding potential public safety impacts to first responders, health facilities or the communication infrastructure.

(J)(i) The risks and risk drivers related to design, construction, operation and maintenance are not addressed.

(N)(i) The section should be enhanced to include details on how the monitoring will occur throughout the year.

(N)(iii) It is not clear how effectiveness of the inspections is monitored.

(c) The 2019 independent evaluation report is not available on the internet website of the REU.

Following updates to all of the above, the 2021 WMP (Date Revised: November 25, 2020) was found to meet all the requirements of PUC §8387.

I. Wildfire Mitigation Plan Requirements

A. Senate Bill 901

Per SB 901, all Publicly Owned Utilities (POUs) are required to adopt a Wildfire Mitigation Plan (WMP), which shall be reviewed by an independent third-party evaluator. SB 901 requires the governing board to determine whether any portion of the geographical area where the utility's overhead electrical lines and equipment are located has a significant risk of catastrophic wildfire resulting from those electrical lines and equipment. The bill directs electrical utilities to annually prepare WMPs that include several mitigation and response elements in each utility's strategies, protocols, and programs. Each electric utility is to prepare and adopt a comprehensive WMP before January 1, 2020. The requirements for POUs are presented in PUC §8387. In addition, the WMP shall be reviewed by an approved, independent, third-party evaluator to review and assess the comprehensiveness of, and the POU's compliance with, this Plan.

B. AB 1054 & AB 111

Per AB 1054, POUs must annually submit a WMP to the California Wildfire Safety Advisory Board, which will review the WMP and provide recommendations on mitigating wildfire risk. AB 1054 contains similar WMP requirements to SB 901 but allows WMPs of a three-year, rather than one-year duration.

AB 111 establishes the Wildfire Safety Division within the Public Utilities Commission.

C. Roseville Electric Utility WMP Requirements

California Public Utilities Code (PUC) §8387(b)(2) lists the statutory requirements for WMPs. These are the specific elements that the independent evaluator must review in order to make its determination for this report. The specific elements that must be addressed in REU's WMP are included in Table A (see Appendix A) and are summarized here for reference.

- The responsibilities of persons responsible for executing the plan.
- The objectives of the wildfire mitigation plan.
- The preventive strategies and programs to be adopted to minimize the risk of its electrical lines and equipment causing catastrophic wildfires.
- The metrics to use to evaluate the wildfire mitigation plan's performance.
- How the application of previously identified metrics has informed the wildfire mitigation plan.
- Protocols for disabling reclosers and deenergizing portions of the electrical distribution system that consider the associated impacts.
- Procedures for notifying a customer who may be impacted by the deenergizing of electrical lines.
- Plans for vegetation management.
- Plans for inspections of the electrical infrastructure.

- Description of all wildfire risks, and drivers for those risks, throughout the service territory, including design, construction, operation, and maintenance of equipment and facilities, and topographic and climatological risk factors.
- Identification of any geographic area in the service territory that is a higher wildfire threat than is identified in a commission fire threat map.
- Identification of enterprise-wide safety risk and wildfire-related risks.
- How the service will be restored after a wildfire.
- The processes and procedures used to monitor and audit the implementation of the wildfire mitigation plan, identify any deficiencies, and the effectiveness of electrical line and equipment inspections.

II. Description of Roseville Electric Utility

The City of Roseville is located in a region of the state with a very low wildfire risk. No part of the City's electric service territory is located in or near the High Fire Threat District (HFTD) designated in the California Public Utilities Commission's (CPUC) Fire-Threat Map. All of the City's electric service territory is designated as "non-fuel" or "moderate" on the CPUC Fire-Threat Map. All portions of REU's electric service territory are currently exempt from the HFTD; the CPUC Map does not designate any portion of the REU service territory in "Tier 2 – Elevated Risk" or "Tier 3 – Extreme Risk".

The undergrounding of electric lines serves as an effective mitigation measure to reduce the potential of wildfires ignited by power lines. REU's electric system is 85% undergrounded, which serves as an effective mitigation measure to reduce the potential of any power-line ignited wildfires. Based on a review of local conditions and historical fires, Roseville Electric Utility has determined that its electrical lines and equipment do not pose a significant risk of catastrophic wildfire.

Despite its low risk, REU has taken actions to help prevent and respond to the increasing risk of devastating wildfires by following all applicable design, construction, operation, and maintenance requirements that reduce safety risks associated with its electric system.

III. Independent Evaluation

A. Independent Evaluator Requirement

PUC §8387 requires each POU to "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." Additionally, the independent evaluator's assessment of the comprehensiveness of the POU's WMP must be issued in a report that is both posted to the POU's website and presented at a public meeting of the POU's governing board.

B. Dudek's Qualifications

According to PUC §8387(c), the qualified independent evaluator that performs the assessment of REU's WMP must have "experience in assessing the safe operation of electrical infrastructure to review and assess the comprehensiveness of its wildfire mitigation plan." REU has determined that Dudek is the independent evaluator who adequately understands the local conditions and fire risks of the service area.

C. Evaluation Methodology

Dudek evaluated the comprehensiveness the REU WMP on the following measures:

- Statutory Compliance: Dudek ensured that each required element specified in PUC §8387 is either addressed in REU's WMP or that REU has sufficiently described why that element is not applicable due to REU's size, geography, system or other relevant factor.
- Industry Comparison: Dudek is familiar with existing industry practices and has reviewed the local POU WMPs previously filed with the California Public Utilities Commission (CPUC). Dudek has compared REU's WMP against existing practices and any comparable actions planned by the POU's.

D. Metrics

The REU WMP proposes the following metrics to measure performance of its wildfire mitigation measures: (1) number of fire ignitions, and (2) wires down events. Dudek has determined that these are appropriate metrics for this WMP. Dudek will continue to monitor the metrics selected in the CPUC's current Wildfire Mitigation Plan rulemaking for utilities (per R.18-10-007) and determine if any additional metrics are applicable to POU's and should be incorporated into future REU WMPs.

IV. Evaluation of The Roseville Electric Utility Wildfire Mitigation Plan

A. Minimizing Wildfire Risks

PUC §8387(a) requires the following: Each local publicly owned electric utility and electrical cooperative shall construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of wildfire posed by those electrical lines and equipment.

The WMP describes the safety-related measures that REU follows to reduce its risk of causing wildfires. Dudek has determined that REU complies with this standard due to the construction of REU's equipment and resources not being located in an area that is considered an elevated or extreme risk of electric line wildfire. Also, with 85% of the electrical lines being underground, this significantly decreases the opportunity for wildfires to occur above ground during high fire danger conditions.

B. Evaluation of WMP Elements

Dudek found that REU's WMP meets the statutory requirements of comprehensiveness per PUC §8387. The review of the WMP's elements are summarized relative to the application of the WMP. The table in Appendix A lists each required element for REU's WMP and provides Dudek's assessment of the comprehensiveness of that element within the WMP.

Below is a brief summary of WMP elements as required by PUC §8387, including restating sections of the WMP where applicable.

(A): Responsibilities of persons responsible for executing the plan.

The REU Electric Utility Director has overall functional management of the Electric Utility and provides oversight of the Electric Utility. The Director utilizes Assistant Electric Utility Directors for

division oversight. The Electric Operations Manager is designated with the authority to implement, execute and modify the Plan as necessary.

(B): Objectives of the Wildfire Mitigation Plan

REU has clearly stated objectives in the “Objectives of the Wildfire Mitigation Plan” section of the WMP. REU’s primary objective refers to minimizing the probability that REU’s electric supply system may be the origin or contributing source for the ignition of a wildfire. The secondary objective is to improve the resiliency of REU’s electric grid by regularly evaluating assets, operations and training that can help reduce the risk of equipment related fires. The final objective is to evaluate the effectiveness of specific mitigation strategies.

(C): Prevention Strategies and Programs

The City of Roseville is not currently located within a CPUC designated high fire-threat area for utility-associated wildfires (Tier 2 or Tier 3). Nonetheless, several programs have been enacted for wildfire prevention purposes.

Wildfire Reduction Zone Inspection and Maintenance Program: 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 (REU, EOP 1.07).

City Wildfire Reduction Zone: Roseville Electric Utility has decided to inspect the zone on an annual basis, to be completed annually, before the start of fire season each year.

(D): Metrics and Assumptions for Measuring WMP Performance

REU tracks two metrics to measure the performance of the WMP: (1) number of fire ignitions; and (2) wires down within the service territory. REU will review mitigation plan metrics to see if they need to be revised and/or updated.

(E): Impact of Previous Metrics on WMP

In the initial years (2019, 2020), REU anticipates that there will be relatively limited data gathered through the metrics. As the data collection history becomes more robust, REU will be able to identify areas of its operations and service territory that are disproportionately impacted.

(F): Reclosing Protocols

REU does not currently have any distribution recloser equipment installed on electric supply circuits and thus no policy is currently needed.

(G): De-energization Notification Procedures

REU has the authority to preemptively shut off power due to fire-threat conditions, however, this option will only be used in extraordinary circumstances. Critical facilities and some key electric customers, such as Fire Departments, Law Enforcement and Hospitals, may be contacted directly to give as much notice as possible as to the planned de-energization of their electric service due to a fire-threat condition.

(H): Vegetation Management

REU meets or exceeds the minimum industry standard vegetation management practices. REU 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, refer to the Wildfire Reduction Zone Inspection and Maintenance Program (REU, EOP 1.07).

(I): Inspections

REU meets or exceeds the minimum inspection requirements provided in CPUC General Order (GO) 165 and CPUC GO 95, Rule 18. REU has decided to inspect the City Wildfire Reduction Zone on an annual basis, as stated in the Wildfire Reduction Zone Inspection and Maintenance Program, to be completed annually, before the start of fire season each year.

Distinctive inspections of the electric sub-transmission and distribution power lines/equipment located within designated City Wildfire Reduction Zones shall occur routinely in order to ensure that the probability is as low as practically possible that the REU electric supply system could be the origin, or contributing source for, the ignition of a wildfire.

(J)(i): Risks and Risk Drivers Associated with Design and Construction Standards

REU's electric facilities are designed and constructed to meet or exceed the relevant Federal, State, or industry standard. REU meets or exceeds all standards in GO 95 and GO 128.

(J)(ii): Risks and Risk Drivers Associated with Topographic and Climatological Risk Factors

REU does not contain, within its service area, a high hazard for wildfires. The flatness of Roseville (as a whole) is a benefit, since steep canyons can make a heavier fuel load.

(K): Geographical Area of Higher Wildfire Threat

The area designated as the "City Wildfire Reduction Zone" incorporates a specific section of Miners Ravine that runs through a portion of the city. This is mostly an open space area that has increased precautionary measures for electric utility inspections and maintenance actions.

(L): Enterprise-wide Safety Risks

REU regularly evaluates enterprise safety risks, which include severe operating conditions and contingencies. REU 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.

(M): Restoration of Service

REU has a Standard Operating Procedure for Electric Outage Restoration (REU, SOP 6.01). The same procedures apply after an electric outage event due to a wildfire.

(N)(i): Monitoring and Auditing WMP Implementation

Review of the WMP will occur by REU staff annually, or as needed throughout the year, and will be presented to City Council on an annual basis.

(N)(ii): Identifying and correcting WMP deficiencies

During any review of the Plan, the Electric Director, or his/her designee, has the authority to, and is responsible for, correcting the deficiencies.

(N)(iii): Monitoring and Auditing the effectiveness of inspections

REU uses General Orders 95 (G095), 128 (G0128) and 165 (G0165), respectively as it's guide to inspect its electric supply system.

V. Conclusion

Dudek concludes that the Roseville Electric Utility Wildfire Mitigation Plan comprehensively addresses all of the applicable statutorily required elements for a Publicly Owned Utilities' WMP as specified in California Public Utilities Code Section 8387, and has been updated to include modifications from the previous year's WMP. Dudek further finds that REU has taken reasonable actions to minimize the risk that its lines or equipment will cause a wildfire.

Prepared by,



Douglas V. Nickles, RPF
Fire Protection Specialist

Att.: *Appendix A. WMP Required Element Compliance Matrix under PUC Section 8387*
cc: *Scott Eckardt, Dudek*



Attachment A

WMP Required Element Compliance Matrix under
PUC Section 8387

PUC §8387	Location in WMP	Summary	Independent Evaluator's Assessment
(a) Each local publicly owned electric utility and electrical cooperative shall construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of wildfire posed by those electrical lines and equipment.	NA	NA	
(b)(1) The local publicly owned electric utility or electrical cooperative shall, before January 1, 2020, prepare a wildfire mitigation plan. After January 1, 2020, a local publicly owned electric utility or electrical cooperative shall prepare a wildfire mitigation plan annually and shall submit the plan to the California Wildfire Safety Advisory Board on or before July 1 of that calendar year. Each local publicly owned electric utility and electrical cooperative shall update its plan annually and submit the update to the California Wildfire Safety Advisory Board by July 1 of each year. At least once every three years, the submission shall be a comprehensive revision of the plan.	NA	The Plan being reviewed is dated revised as of 11.25.2020 and effective 01.01.2021. A Plan was first prepared for 2019; the Plan was updated/revised and submitted to the WSAB for 2020; the Plan was updated/revised for 2021 for submittal to the WSAB by July 1, 2021. A comprehensive revision of the Plan will be required for 2022.	Meets requirements.
(b)(2)(A): An accounting of the responsibilities of persons responsible for executing the plan.	Chapter 2, Roles and Responsibilities, pgs 5-6	The Governance Structure section outlines the administration, management and organizational structure of the utility; the individual management staff responsibilities are also included. The Electric Operations Manager has the responsibility to execute the Plan.	Meets requirements following updates.
(b)(2)(B): The objectives of the wildfire mitigation plan.	Chapter 1, Plan Overview, pg 4	The Plan Objectives section includes the three primary objectives: minimizing sources of ignition; resiliency of the electric grid; minimizing unnecessary or ineffective actions.	Meets requirements.
(b)(2)(C): A description of the preventive strategies and programs to be adopted by the local publicly	Chapter 4, Wildfire Prevention Strategies,	The Wildfire Preventative Strategies chapter addresses preventive strategies and	Meets requirements.

PUC §8387	Location in WMP	Summary	Independent Evaluator's Assessment
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.	pgs 15-23; Chapter 2, Roles and Responsibilities, pg 7	programs in the following sections: High Fire Threat District - not applicable to REU; City Wildfire Reduction Zone - enhanced inspections and maintenance actions; Design and Construction Standards - meets or exceed standards; Vegetation Management - meet or exceed trimming standards; Inspections - increased inspection frequencies; Reclosing Policy - not applicable to REU; De-energization - enhanced notification and communication. The Wildfire Prevention section includes a list of staff responsibilities regarding fire prevention, response and investigation activities.	
(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.	Chapter 6, Plan Evaluation, pg 25	The Metrics for Measuring Plan Performance section describes two metrics that will be used to measure the performance of the plan: Fire Ignitions and Wire Down.	Meets requirements.
(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.	Chapter 6, Plan Evaluation, pg 25	The Impact of Metrics on Plan section discusses how metrics data collection will be used in future plans as there has been limited data gathered to date.	Meets requirements.
(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.	Chapter 6, Plan Evaluation, pg 23	The Reclosing Policy notes that the REU does not currently have any distribution recloser equipment, hence no disabling protocols are necessary. The De-energization section lists protocols that address advance notice and communication with public safety, health care and critical facilities.	Meets requirements following updates.
(b)(2)(G): Appropriate and feasible procedures for notifying a customer who may be impacted by the	Chapter 6, Plan Evaluation, pg 23	The De-energization section lists protocols that address communication and	Meets requirements.

PUC §8387	Location in WMP	Summary	Independent Evaluator's Assessment
deenergizing of electrical lines. The procedures shall direct notification to all public safety offices, critical first responders, health care facilities, and operators of telecommunications infrastructure with premises within the footprint of potential deenergization for a given event.		coordination with public safety and health care facilities.	
(b)(2)(H): Plans for vegetation management.	Chapter 4, pg 22	The Vegetation Management section describes the REU standards and practices to maintain the mandated regulatory clearances.	Meets requirements.
(b)(2)(I): Plans for inspections of the local publicly owned electric utility's or electrical cooperative's electrical infrastructure.	Chapter 4, Wildfire Preventative Strategies, pg 23	The Inspections section notes that the REU does not have any overhead power lines located within or near the High Fire Threat District. Nonetheless, annual inspections are conducted in the City Wildfire Reduction Zone before the start of fire season.	Meets requirements.
(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:	Chapter 3, Wildfire Risks and Drivers, & Chapter 4, Wildfire Preventative Strategies	See below.	See below.
(b)(2)(J)(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.	Chapter 4, Wildfire Preventative Strategies, pg 21	The Design and Construction Standards section discusses the standards REU follows for design, construction, operation and design. REU also performs regular Enterprise Risk Profile (ERP) analysis with the goal of providing a unified picture of risks to the Utility.	Meets requirements following updates.
(b)(2)(J)(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.	Chapter 3, Wildfire Risks and Drivers, pgs 12-14	The Topographic and Climatological Risk Factors section lists the primary risk drivers associated with wildfires in the REU service territory.	Meets requirements.

PUC §8387	Location in WMP	Summary	Independent Evaluator's Assessment
(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.	Chapter 4, Wildfire Preventative Strategies, pg 21	The City Wildfire Reduction Zone section discusses the Miners Ravine that runs through a portion of the city. This open space area has increased precautionary measures for inspections and maintenance actions. The REU service territory is excluded in its entirety from the High Fire Threat District.	Meets requirements.
(b)(2)(L): A methodology for identifying and presenting enterprise-wide safety risk and wildfire-related risk.	Chapter 3, Wildfire Risks and Drivers, pgs 14-15	The Enterprise-Wide Safety Risks section lists specific events that may elevate to the point of load shedding. In addition, the outage committee meets regularly to review risk drivers and data that may reveal trends.	Meets requirements.
(b)(2)(M): A statement of how the local publicly owned electric utility or electrical cooperative will restore service after a wildfire.	Chapter 5, Restoration of Service, pg 24	The SOP 6.01 Electric Outage Restoration Procedure section references the REU Standard Operating Procedure for Electric Outage Restoration.	Meets requirements.
(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:	Chapter 6, Plan Evaluation	See below.	See below.
(b)(2)(N(i)) Monitor and audit the implementation of the wildfire mitigation plan.	Chapter 6, Plan Evaluation, pg 25	The Monitoring and Auditing the Plan section describes the processes and procedures for monitoring and auditing the plan on an annual basis. Review of the WMP will occur by REU staff annually, or as needed throughout the year. The annual review will include an assessment of the Plan's associated programs and performance.	Meets requirements following updates.
(b)(2)(N(ii)) Identify any deficiencies in the wildfire mitigation plan or its implementation, and correct those deficiencies.	Chapter 6, Plan Evaluation, pg 25	The Identifying and Correcting Deficiencies to the Plan section states that any deficiencies will be corrected once identified, but that none have been identified thus far.	Meets requirements.

PUC §8387	Location in WMP	Summary	Independent Evaluator's Assessment
<p>(b)(2)(N(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.</p>	<p>Chapter 6, Plan Evaluation, pg 26</p>	<p>The Monitoring the Effectiveness of Inspections section references General Orders 95, 128 and 165 as guidance for inspecting the REU electric supply system; the tracking, corrective action and maintenance process is also reviewed. REU staff meets monthly to review electric outages and related metrics.</p>	<p>Meets requirements following updates.</p>
<p>(b)(3) The local publicly owned electric utility or electrical cooperative shall, on or before January 1, 2020, and not less than annually thereafter, present its wildfire mitigation plan in an appropriately noticed public meeting. The local publicly owned electric utility or electrical cooperative shall accept comments on its wildfire mitigation plan from the public, other local and state agencies, and interested parties, and shall verify that the wildfire mitigation plan complies with all applicable rules, regulations, and standards, as appropriate.</p>	<p>NA</p>	<p>NA</p>	
<p>(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 website 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.</p>	<p>NA</p>	<p>Dudek (Independent Evaluator) reviewed the 2020 Plan in November 2019 provided an IE report. The IE report for the 2020 Plan is available on the internet website of the REU. The 2021 WMP and associated IE report will need to be uploaded to the website once approved by the City Council.</p>	<p>Meets requirements following updates.</p>