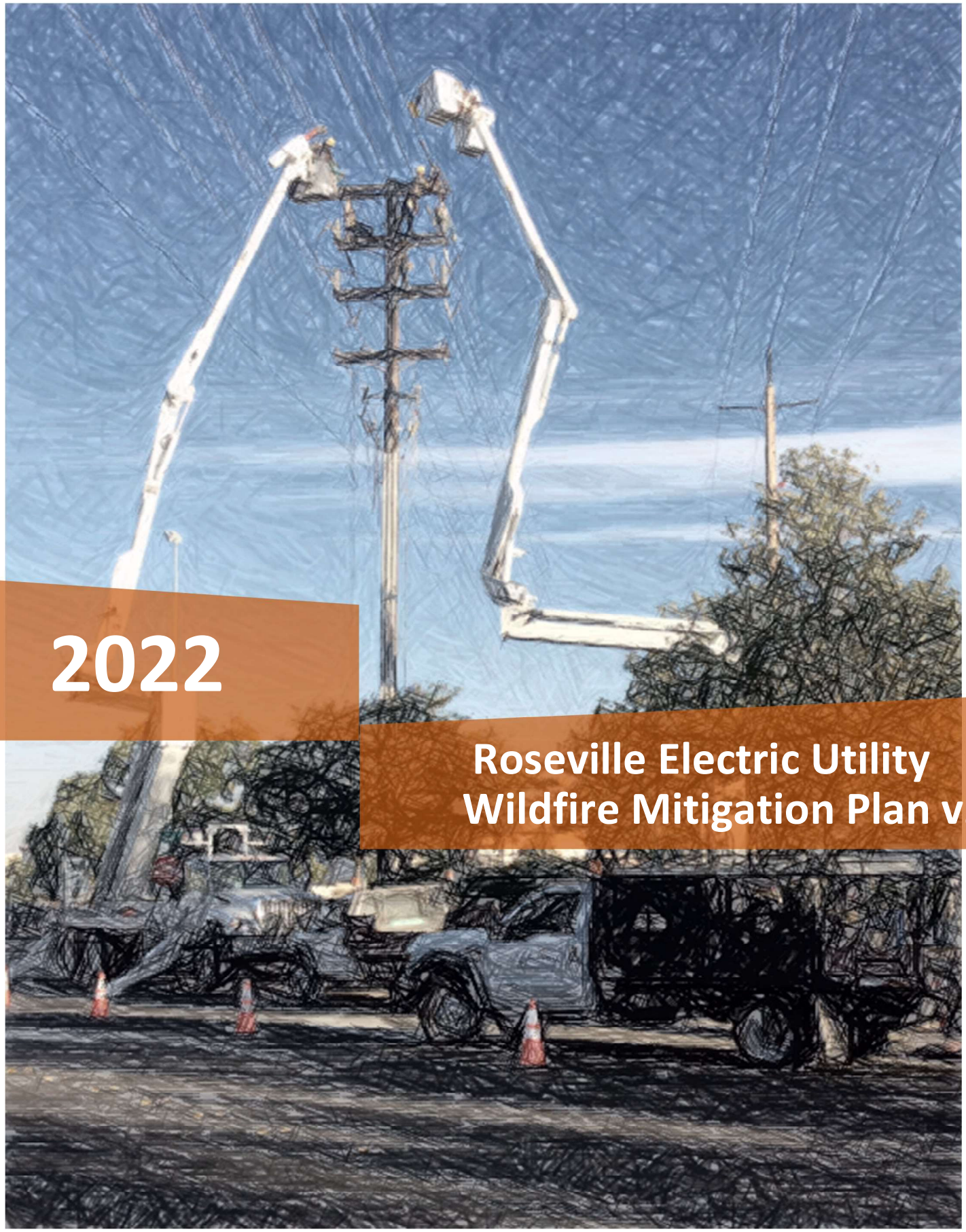

# 2022

# Roseville Electric Utility Wildfire Mitigation Plan v2

CITY OF ROSEVILLE CALIFORNIA
Electric Utility

Daniel Beans (Jun 17, 2022 10:15 CDT)

Dan Beans
Electric Utility Director

| | |
|---|---|
| Division: | Distribution Operations |
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# 1. UTILITY INFORMATION

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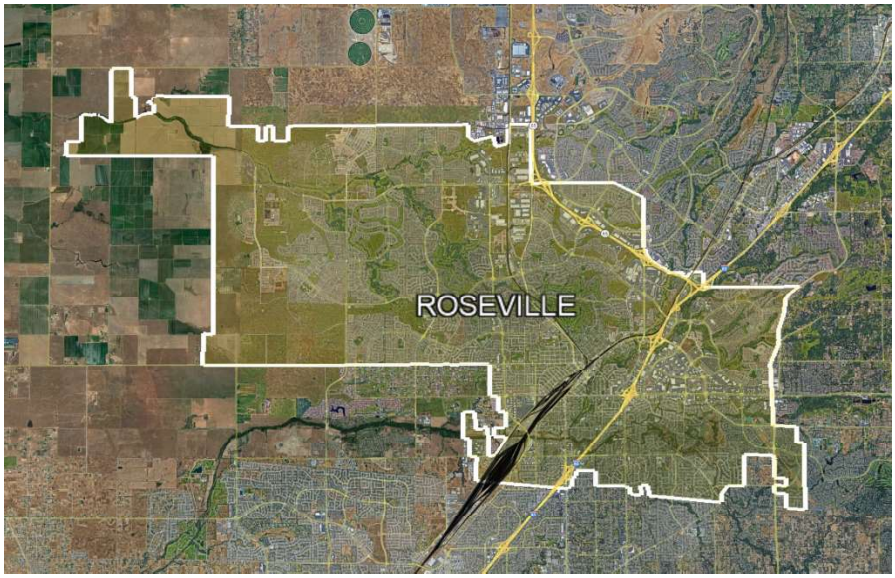
| | |
|---|---|
| **Utility Name** | **ROSEVILLE ELECTRIC UTILITY** |
| Size in Square Miles | *43 +/-* |
| Assets | ☐ Transmission ■ Distribution ■ Generation |
| Number of Customers Served | *64,268* |
| Customer Classes | ■ Residential ■ Government ☐ Agricultural<br>■ Small/Medium Business ■ Commercial/Industrial |
| Location/Topography | ■ Urban ☐ Wildland Urban Interface<br>☐ Rural/Forest ☐ Rural/Desert ☐ Rural/Agriculture |
| Percent Territory in CPUC High Fire Threat Districts | ■ Includes maps 0% in Tier 2 % 0% in Tier 3 |
| CAL FIRE FRAP Map Fire Threat Zones | ■ Includes maps 0% Extreme 0% Very High 0% High |
| Existing Grid Hardening Measures | ☐ Describes hardened & non-hardened infrastructure |
| Utility Fire Threat Risk Level | ☐ High ■ Low ☐ Mixed |
| Impacted by another utility's PSPS? | ☐ Yes ■ No |
| Mitigates impact of another utility's PSPS? | ☐ Yes ■ No |
| Expects to initiate its own PSPS? | ☐ Yes ■ No |
| Prevailing wind directions& speeds by season | ☐ Includes maps ■ Includes a description |

Overhead Circuit Miles = 144 (12kV & 60kV)
Underground Circuit Miles = 808 (12kV & 60kV)



# 2. PUC 8387 REQUIREMENT TABLE

| PUC 8387 | Requirement | Location in WMP |
|---|---|---|
| (A) | An accounting of the responsibilities of persons responsible for executing the plan. | Section 5<br>Governance Structure<br>(Pg. 12) |
| (B) | The objectives of the wildfire mitigation plan. | Section 3<br>Plan Objectives<br>(Pg. 8) |
| (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 7<br>Wildfire Preventative Strategies<br>(Pg. 25) |
| (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 9<br>Metrics for Measuring Performance<br>(Pg. 39) |
| (E) | A discussion of how the application of previously identified metrics to previous wildfire mitigation plan performances has informed the wildfire mitigation plan. | Section 9<br>Impact of Metrics on the Plan<br>(Pg. 39) |
| (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. | Section 7<br>Reclosing Policy<br>(Pg. 36) |
| (G) | Appropriate and feasible procedures for notifying a customer who may be impacted by the 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 de-energization for a given event. | Section 7<br>De-energization<br>(Pg. 37) |
| (H) | Plans for vegetation management. | Section 7<br>Vegetation Management<br>(Pg. 32) |
| (I) | Plans for inspections of the local publicly owned electric utility's or electrical cooperative's electrical infrastructure. | Section 7<br>Inspections<br>(PG. 36) |

| | | |
|---|---|---|
| (J)(i, ii) | 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 6<br>Wildfire Risks and Drivers<br>(Pg. 21) |
| (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 7<br>High Fire Threat District<br>(Pg. 25) |
| (L) | A methodology for identifying and presenting enterprise wide safety risk and wildfire-related risk. | Section 6<br>Enterprise-Wide Safety Risks<br>(Pg. 20) |
| (M) | A statement of how the local publicly owned electric utility or electrical cooperative will restore service after a wildfire. | Section 8<br>Restoration of Service<br>(Pg. 38) |
| (N)(i, ii, iii) | 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 statues, or commission rules. | Section 9<br>Plan Evaluation<br>(Pg. 39) |

# 3. PLAN OVERVIEW

## Plan Statement

The City of Roseville's overarching goal is to provide safe, reliable and economic electric service to its local community. In order to help meet this goal, Roseville Electric Utility (REU) constructs, maintains, and operates its electrical lines and equipment in a manner that minimizes the risk of catastrophic wildfire posed by its electrical lines and equipment. This Wildfire Mitigation Plan, or "Plan", is enacted in order to ensure the safety of the public and City employees, and maintain the reliability of the electric sub-transmission and distribution system.

The City has applied careful consideration in the development of broad strategies to mitigate utility-posed wildfire risks while remaining consistent with the intention of Senate Bill 901 (SB 901) and other regulatory requirements.

## Purpose of the Wildfire Mitigation Plan

This document describes the range of activities that Roseville Electric Utility is taking to mitigate the threat of wildfires ignited by power lines, including its various plans, policies and procedures. This Plan is subject to direct supervision by the City Council and is implemented by the Electric Department Director and his/her designees. This Plan complies with the requirements of the Public Utilities Code section 8387 for publicly-owned electric utilities to prepare a wildfire mitigation plan by January 1, 2020, and annually thereafter.

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) designed 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" in the California Department of Forestry and Fire Protection's (CAL FIRE) Fire and Resource Assessment Plan (FRAP) Fire Threat Map.

More than 85% of Roseville Electric Utility's electric supply system is located underground. Historically, undergrounded electric lines have not been associated with catastrophic wildfires. The undergrounding of electric lines serves as an effective mitigation measure to reduce the potential of wildfires ignited by power lines. 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 this low risk, Roseville Electric Utility takes appropriate actions to help its region prevent and respond to the increasing risk of wildfires. In its role as a public agency, REU closely coordinates with other local safety and emergency officials to help protect against fires and respond to emergencies. In its role as a utility, REU follows all applicable design, construction, operation, and maintenance requirements that reduce safety risks associated with its system. This Wildfire Mitigation Plan describes the safety-related measures that REU follows to reduce its risk of causing wildfires.

# Plan Objectives

## Minimizing Sources of Ignition

The primary goal of this Wildfire Mitigation Plan is to describe Roseville Electric Utility's existing programs, practices, and measures that effectively reduce the probability that REU's electric supply system could be the origin or contributing source for the ignition of a wildfire.

This goal is primarily achieved through providing minimum separation between wires and vegetation to eliminate potential electrical shock and reducing potential wildfire hazards from tree/wire conflicts and downed power lines caused by trees.

Roseville Electric Utility utilizes the CPUC statewide Fire-Threat Map adopted January 19, 2019, in addition to informational fire threat maps from other State of California government agencies to inform and aid in the development of this plan and its subsequent updating. All portions of REU's electric service territory are currently exempt from the HFTD; the CPUC Map does not designate any portion of the Roseville Electric Utility service territory in "Tier 2 – Elevated Risk" or "Tier 3- Extreme Risk".

## Resiliency of the Electric Grid

The secondary goal of this Plan is to improve the resiliency of the electric grid. As part of the development of this Plan, Roseville Electric Utility assesses new industry practices and technologies that will reduce the likelihood of an interruption (frequency) in service and improve the restoration (duration) of service.

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 Roseville Electric Utility electric supply system could be the origin, or contributing source for, the ignition of a wildfire. To support this goal, REU regularly evaluates prudent and cost-effective improvements to its physical assets, operations, and training that can help reduce the risk of equipment-related fires.

In early 2018, REU met with the Roseville Fire Department (RFD) to determine what areas exist within REU's electric service territory that could be augmented by additional measures to help mitigate potential wildfire risk. A designated "open space" area was identified as one that could benefit from additional fire counter-measures due to live and dead vegetation that can accumulate and increase the likelihood of a vegetation fire. Additionally, it is more difficult to get certain fire apparatus in portions of this area, subsequently labeled the "City Wildfire Reduction Zone."

## Minimizing Unnecessary or Ineffective Actions

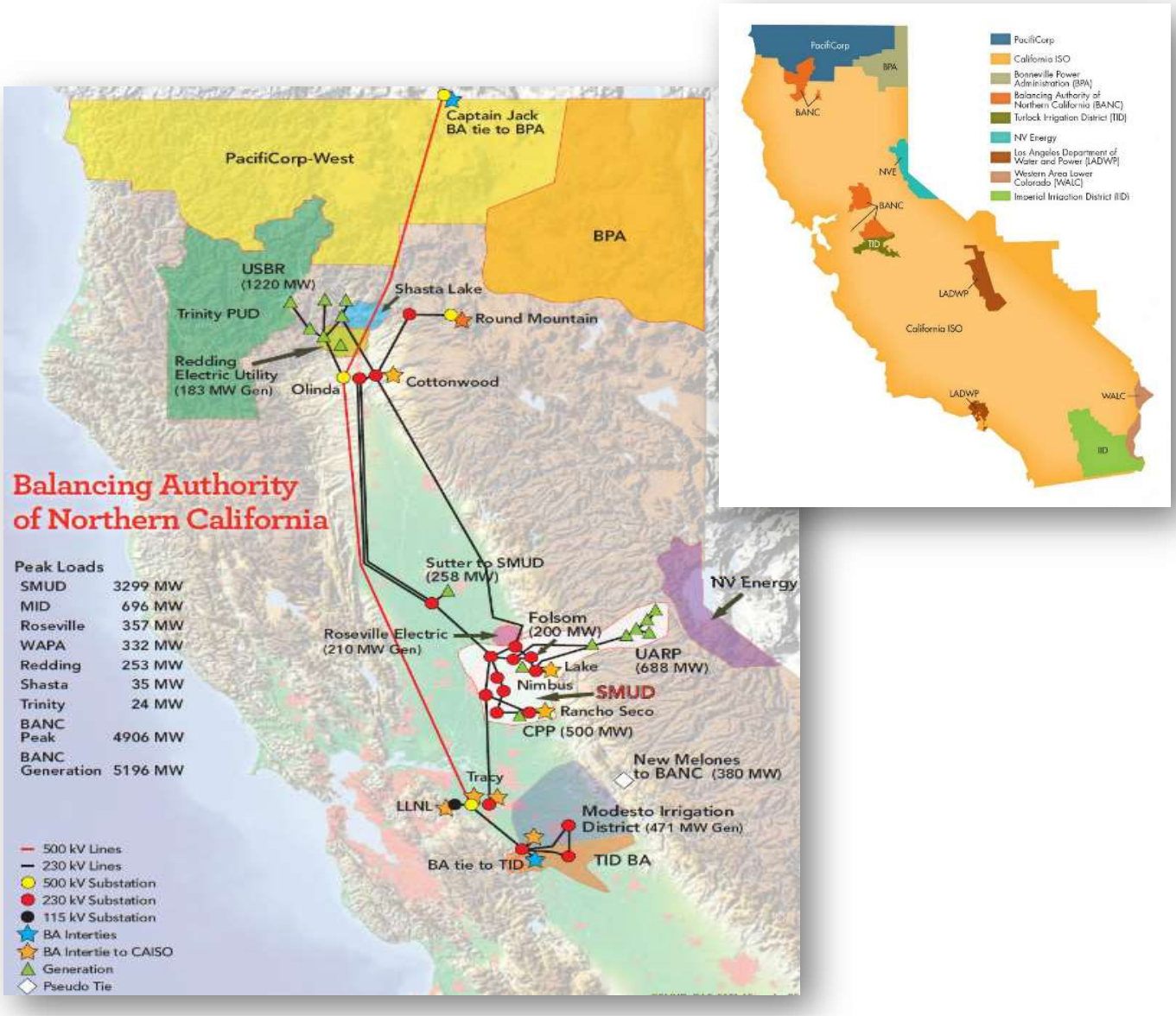
The final goal of the Plan is to evaluate the effectiveness of specific mitigation strategies as they apply to Roseville Electric Utility. Where a particular action, program or protocol is determined to be unnecessary or ineffective, REU will evaluate whether modification or replacement is suitable. This approach will also help determine if more cost-effective measures would produce the same or better results.

# 4. ELECTRIC SYSTEM BACKGROUND

## Balancing Authority of Northern California (BANC)

The Balancing Authority of Northern California is a Joint Powers Authority (JPA) consisting of the Sacramento Municipal Utility District (SMUD), Modesto Irrigation District (MID), City of Roseville (RSC), Redding Electric Utility, City of Shasta Lake, and Trinity Public Utilities District (TPUD).

BANC assumed the Balancing Authority (BA) responsibilities on May 1, 2011 from SMUD that include the matching of generation to load and coordinating system operations with neighboring BA's – Bonneville Power Administration (BPA), Turlock Irrigation District (TID), and California Independent System Operator (CAISO). The figure below shows the geographical map of the BANC system.



BANC is the third largest BA in California and the 16th largest BA within the Western Electricity Coordinating Council (WECC) area. The Central Valley Project (CVP) generation, owned by the Bureau of Reclamation, and Western Area Power Administration's (WAPA) transmission facilities, along with the 500 kV California Oregon Transmission Project (COTP), are included among other resources within the BANC footprint. BANC Members contract for about 40% of the CVP hydroelectric resource. The COTP is jointly owned by several parties, including WAPA and BANC members, via the Transmission Agency of Northern California (TANC).

Creation of the BANC as a partnership between public and government entities provides for an alternative platform to other BAs like the CAISO. BANC provides reliable grid operation consistent with standards developed and enforced by the Federal Energy Regulatory Commission (FERC), the North American Electric Reliability Corporation (NERC), and the WECC. BANC contracts with SMUD for operations of the BA.

BANC provides its members an ownership voice in all BA decisions consistent with the principle of maximizing consumer value. It also provides members a unified voice and representation in topics pertaining to Balancing Area matters. The structure provides flexibility to expand, offers potential cost-saving opportunities by sharing future facility costs, and clarifies roles and responsibilities of the members regarding reliability standard compliance.

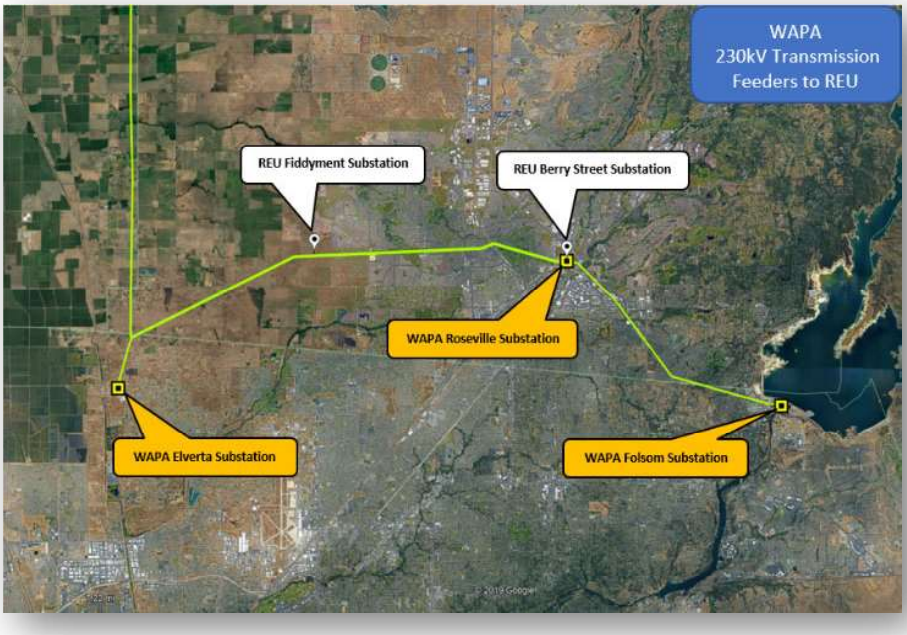
## Western Area Power Administration (WAPA)

The Western Area Power Administration, a power marketing administration within the Department of Energy, markets and transmits more than 30 billion kilowatt-hours of wholesale federal hydropower through an integrated 17,000-plus circuit mile transmission system across 15 central and western states. Power is sold to more than 680 preference power customers including cooperatives, federal and state agencies, municipalities, Native American tribes, public utility and irrigation districts and other energy service providers. In addition, WAPA provides for the purchase and exchange of electric resources, operations and maintenance services, transmission system interconnections, shared capacity and use of transmission facilities, and joint construction opportunities.

The Sierra Nevada Region (SNR) is one of five offices in the Western Area Power Administration. SNR markets power in northern and central California, and portions of Nevada, to wholesale customers and Federal end-use customers such as towns, rural electric cooperatives, public utility and irrigation districts, Federal, state, and military agencies, Native American tribes and U.S. Bureau of Reclamation customers. Roseville Electric Utility is interconnected to the WAPA system on the BANC grid via two REU “receiving” substations.

## The Roseville Electric Utility Grid (REU)

REU has been providing electrical power to the City of Roseville's residents, businesses, and the City's street lighting system since 1912. In 1956, the City signed a contract for 69 MW of electric power from the CVP which consists of a system of dams, reservoirs and power plants within central and northern California and marketed by WAPA. Steady population growth created a need to obtain resources beyond this allocation of Federal power.



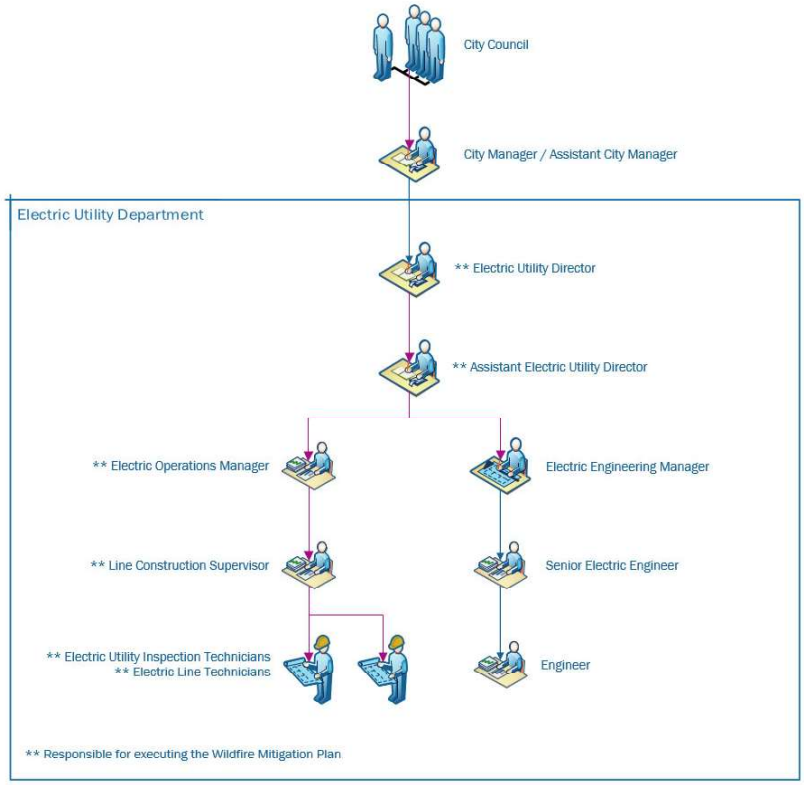

REU is under the supervision of the Roseville City Council. A five-member Roseville Public Utilities Commission (RPUC) serves as an advisory board to the City Council on matters relating to all utilities owned and operated by the City. The City Council appoints all five members of the RPUC. The Roseville Electric Utility Director manages REU and reports to the RPUC and an assistant City Manager.

Roseville's electric grid is interconnected to WAPA's Electric Transmission System through two 230kV receiving stations, *Fiddyment Substation* and *Berry Street Substation*.

Roseville maintains two permanent generation facilities, *Roseville Energy Park* (REP) and *Roseville Power Plant #2* (RPP2).

# 5. ROLES AND RESPONSIBILITIES

## Governance Structure




The City of Roseville is a Council-Manager form of government in which responsibilities are vested in the City Council and the City Manager. In this form of government, the City Council's role is that of a legislative policy-making body which determines not only the local laws that regulate community life, but also determines public policy and gives direction to the City Manager.

The *City Manager* administers the affairs of the city government in a businesslike and prudent manner. The public is invited to attend City Council meetings, which are typically held on the first and third Wednesday of the month in the City Council Chambers, 311 Vernon Street. Special meetings and workshops are scheduled as needed.

The *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 Utility Director is responsible for executing the Plan.*

The *Electric Operations Manager* oversees the daily electric utility operations, including; construction; maintenance; energy control; vegetation management; and other ancillary duties. The Electric Operations Manager maintains functional management of assigned sections within the Electric Utility and reports to an Assistant Electric Utility Director or the Director. *The Electric Utility Director has designated the Electric Operations Manager with the authority to implement, execute and modify the Plan as necessary*.

The *Electric Engineering Manager* oversees the design/engineering tasks associated with distribution system modification and development/maintenance of material specifications. The Electric Engineering Manager maintains functional management over the electric engineering related tasks within the Electric Utility and reports directly to an Assistant Electric Utility Director.

The *Electric Line Construction Supervisor/Operations Supervisor* oversees the daily staff/crew work including establishing schedules and methods for assigned staff, implementing policies and procedures, and acting as a technical lead in support of the department's computer maintenance management system.

# Wildfire Prevention

Roseville Electric Utility facility design is performed by the engineering division using criteria that typically meets or exceeds relevant industry standards. Maintenance activities, inspections and vegetation management are performed by the operations division.

REU staff have the following responsibilities regarding fire prevention, response and investigation:

- Conduct work and operate the electric supply system in a manner that will minimize potential fire risks
- Take all reasonable and practicable actions to prevent and suppress fires resulting from REU electric facilities
- Coordinate as needed with Federal, State, and local fire management personnel to ensure that appropriate preventative fire measures are in place
- Take corrective action when observing or having been notified that fire protection measures have not been properly installed or maintained
- Ensure compliance with relevant Federal, State, and industry standard requirements
- Maintain adequate fire prevention training programs for all relevant employees
- Immediately report fires, pursuant to existing POU practices and the requirements of this Wildfire Mitigation Plan
- Take corrective action when the staff witnesses or is notified that fire protection measures have not been properly installed or maintained
- Comply with relevant Federal, State, and industry wildfire standard requirements, including the industry standards established by the CPUC

# Wildfire Response and Recovery

## Field Staffing Coverage during Business-Hours

Roseville Electric Utility typically operates an electric dispatch center from 0600 to 1900, Monday through Friday and the following operational personnel from 0600 to 1530, Monday through Friday:

- Line Construction Crews
- Warehousing
- Inspections/USA Locates
- Troubleshooting
- Metering
- Substations

Daily hours are subject to change based on various conditions such as weather, air quality and business needs.

## Field Staffing Coverage After-Hours

A structured standby and call out procedure has been established in order to respond as part of the City's statutory duties, and for Roseville Electric Utility distribution operations personnel to respond effectively in handling the emergencies that arise within the City.

Roseville Electric Utility maintains coverage for after-hour emergencies, per the Operations Standby Policy [1]:

- For conditions which must be responded to on short notice due to significant and immediate health and safety considerations, including, but not limited to, power outages, damage to electrical equipment or assets and Police/Fire emergency requests, or
- In order to respond to a civil emergency when a City Emergency Plan is implemented which results in the activation of the Emergency Operation Center (EOC) or the Department Operation Center (DOC).

## Standardized Emergency Management System

The City of Roseville has an Emergency Management Team (EMT) that meets regularly and has representatives from each City department as part of the team. The EMT works to ensure that the City is prepared to respond to disasters that may occur within the City. The City Manager acts as the Emergency Services Director. The Director works closely with city staff during a disaster; while the day-to-day operation of disaster preparedness and readiness lies with the Emergency Preparedness Manager, a Roseville Fire Department Battalion Chief.

As a local governmental agency, the City Office of Emergency Services has planning, communication, and coordination obligations pursuant to the California Office of Emergency Services' (Cal OES) Standardized Emergency Management System (SEMS) Regulations, adopted in accordance with Government Code section 8607. The SEMS Regulations specify roles, responsibilities, and structures of communications at five different levels: field response, local government, operational area, regional, and state. Pursuant to this structure, the City annually coordinates and communicates with the relevant safety agencies as well as other relevant local and state agencies and may activate its' EOC if necessary.

An EOC is the central command and control facility responsible for carrying out the principles of emergency preparedness and emergency management, or disaster management functions at a strategic level during an emergency, and ensuring the continuity of operation of the City. It is a 24-hour operation. When a disaster occurs, the Emergency Services Director meets with city staff to prioritize and develop strategies to handle the disaster incident. The EOC becomes the center of communication and coordination of resources. The Emergency Preparedness Manager coordinates all of the functions within the EOC.

An EOC is responsible for strategic direction and operational decisions and does not normally directly control field assets, instead leaving tactical decisions to lower commands. The common functions of EOC's are to collect, gather and analyze data; make decisions that protect life and property, maintain continuity of the organization, and disseminate those decisions to all concerned agencies and individuals. When activated, the EOC can be comprised of representatives from every department within the City, including Law Enforcement, Fire and Rescue, Public Works, Parks and Recreation (Care & Shelter), Electric Utility and Environmental Utilities. These operations can also include representatives from outside agencies such as Placer County or Cal OES.

Public external communications is handled by Public Information Officers that report to the EOC structure and include the use of electronic billboards, radio and social media (see "Emergency Communications" Section).

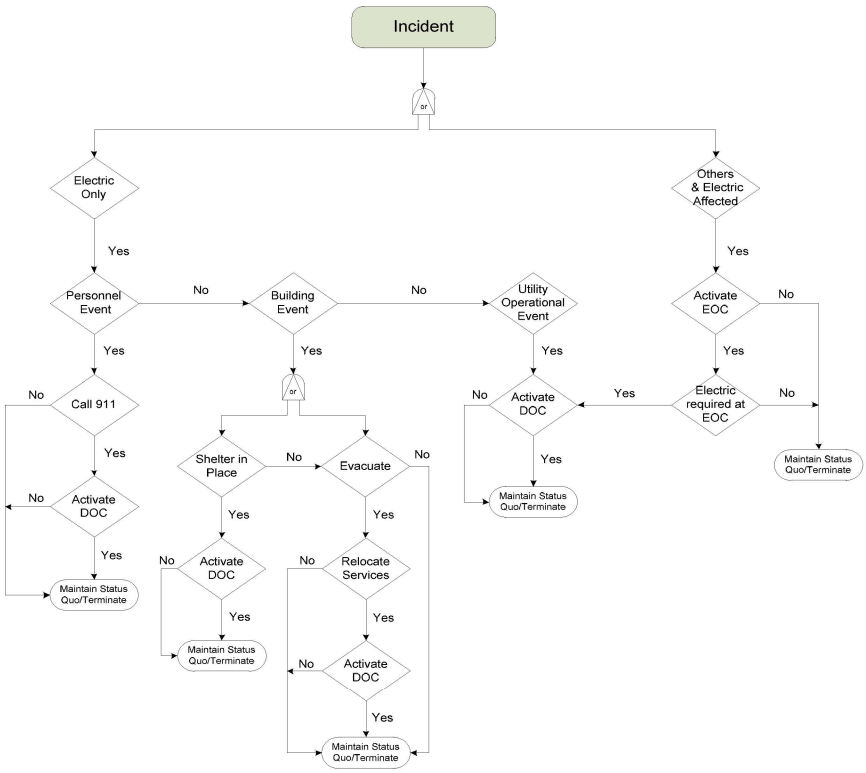
**City of Roseville EOC Positions**

| Function * | Primary Department Responsible |
|---|---|
| **Operations Section Chief** | Determined at the time of the emergency |
| Law Enforcement | Police Department |
| Fire and Rescue | Fire Department |
| Public Works | Public Works Department |
| Care & Shelter | Parks and Recreation |
| Electric | Electric Department |
| Environmental Utilities | Environmental Utilities Department |
| **Planning Section Chief** | Planning Department |
| Situation Status | Planning Department |
| Resources Status | Planning Department |
| Damage Assessment | Planning Department |
| Documentation | Planning Department |
| GIS | Fire Department |
| **Logistics Section Chief** | Central Services |
| Supply /Ordering | Central Services |
| Human Resources | Human Resources |
| Fleet | Central Services |
| Facilities | Central Services |
| Communications | Information Technology |
| **Finance Section Chief** | Finance Department |
| Cost | Finance Department |
| Procurement | Finance Department |

The DOC is the Roseville Electric Utility Department Command Post during times of emergencies. The DOC functions similarly to the EOC, but at a department level. The DOC coordinates strategic, operational and tactical decisions for field operations. If an emergency, such as a widespread fire, necessitates the citywide activation of the EOC, the DOC will likely report directly to the EOC command structure. An independent DOC activation may be authorized by specific electric management staff.

Pursuant to the SEMS structure, the City of Roseville participates in annual training exercises. The subject matter of the exercise is chosen by the City of Roseville EMT. The subject could be fire related in nature but is variable and could be changed from exercise to exercise.

The City of Roseville is a member of the California Utility Emergency Association (CUEA), which plays a key role in ensuring communications between utilities during emergencies. CUEA serves as a point-of-contact for critical infrastructure utilities, Cal OES and other governmental agencies before, during and after an event to:




- Facilitate communications and cooperation between member utilities and public agencies; and with non-member utilities (where resources and priorities allow).
- Provide emergency response support wherever practical for electric, petroleum pipeline, telecommunications, gas, water and wastewater utilities.
- Support utility emergency planning, mitigation, training, exercises and education.

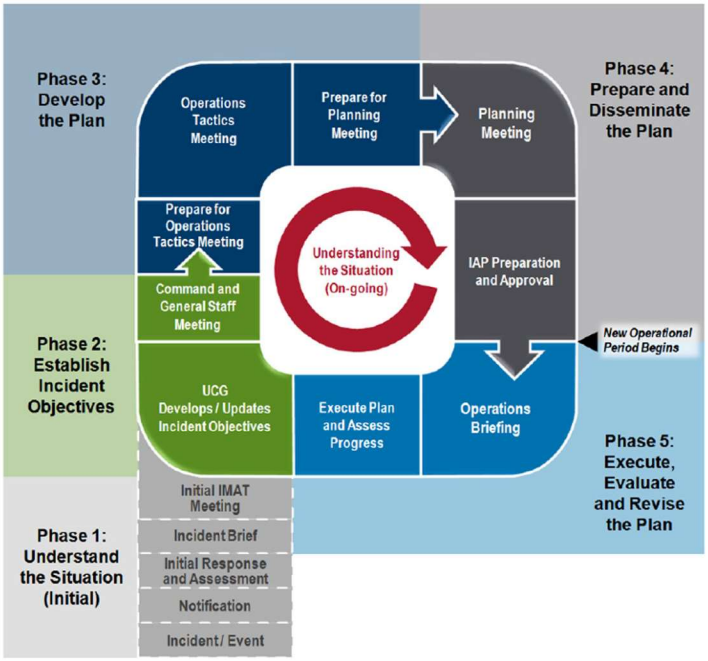
Once activated, the EOC/DOC utilizes the Planning Cycle to establish a continuum for Incident Action Planning (IAP) during both emergency and non-emergency operations and is an integral tool for managing an emergency incident.

Sound, timely planning provides the foundation for effective incident management. The planning process represents a template for strategic, operational, and tactical planning that includes all steps that an Incident Command/Unified Command (IC/UC) and other members of the Command and General Staff should take to develop and disseminate an IAP.

The planning process may begin with the:

1. Scheduling of a planned event
2. Identification of a credible threat
3. Initial response to an actual or impending incident

The process continues with the implementation of the formalized steps and the staffing required for the development of an IAP. Decisions on preemptive power shutoff will be evaluated based on the current (or pending) situation by either EOC/DOC or the Electric Dispatch Center.



## Emergency Communications – Public Awareness During and Post Incident

### *Emergency Communication Priority*

The public's response to any emergency is based on an understanding of the nature of the emergency, the potential hazards, the response of emergency services, and knowledge of what individuals and groups should do to increase their chances of survival and recovery.

The magnitude of an emergency or disaster will directly affect the City of Roseville's emergency operations communication and recovery efforts and what resources we use to disseminate that to the public.

### *Emergency Public Information EOC Procedure*

Emergency Public Information (EPI) is a priority of utmost importance during emergencies and disasters. The City of Roseville EPI organization and procedures for the dissemination of accurate and timely instructions and information to the public during periods of emergency are as follows: response to media inquiries and calls from the public; establishment of a 24 hour EPI contact point; and, establishment of a Public Information Officer function of the EOC.

### *Emergency Public Information Resources*

The following are resources we have at our discretion to use during an emergency:

- City telephone system (Consolidated Communications land-lines). Designated emergency phone lines for information hotline and public information can be established. Emergency messages can be established on different main city voicemails to give out pertinent information.
- A Google number can be established for public information hotline if the need arises.
- Everbridge can used to send alerts out residents. Neighboring counties have access to this system and assist us in the use of this if needed. Everbridge includes the ability to call out to landlines as well as send messages to cell phones that have registered through Alert Placer. The company was initially focused on providing a way of sending 'Mass Notification' messages via SMS or email with very fast execution to ensure messages were received when there was a threat to life. Through acquisition of industry technologies and ongoing research & development, Everbridge has broadened its capabilities and now provides a Critical Event Management platform.
- Cellular phone network (Verizon), each PIO and City communicator has a City-issued cell phone.
- City website has an emergency page and banner that can be activated. This can be edited and updated throughout the duration of the event.
- Social Media. The City has several online social media accounts through several different platforms. Facebook, Twitter, Nextdoor and Instagram can be used to push information out.
- Gov delivery email system (if practical and if working) can be used to send notifications to all utility billing customers. This also has a text function that can be used.
- Electronic Billboards.
- Local and regional television media.
- AM/FM Radio.
- City Private Radio System.
- EOC SharePoint Site (requires internet connection and VPN access to City IT Servers) will be used for internal communication.

*External Communication Resources*

The City of Roseville has the ability to work with local and state resources to ensure information is provided in a timely and efficient manner. The following are examples for the resources available:

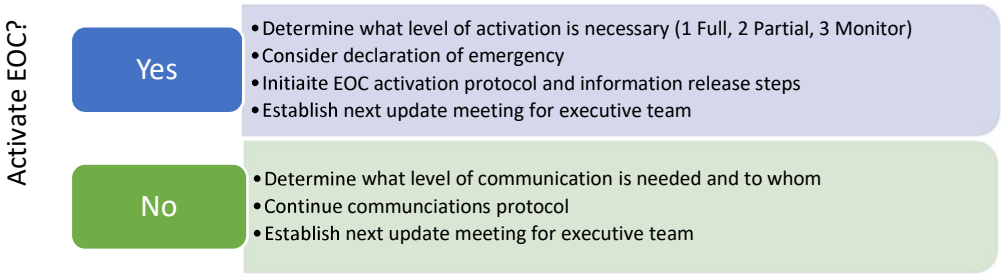
- Placer Operational Area Office of Emergency Services
- The State of California, Office of Emergency Services (OES)
- CAL FIRE
- Sacramento County
- Yolo County

*Emergency Public Information Assumptions*

The City of Roseville trains and is prepared to handle the follow EPI assumptions of communication issues that will arise during an emergency:

- The general public will demand information about the emergency situation and instructions on proper survival/response actions;
- The media will demand information about the emergency:
- The local media will perform an essential role in providing emergency instructions and periodic updates to the public;
- Depending on the severity of the emergency, or the media's perception of the severity of the emergency, regional and national media may also demand information and may play a role in reassuring (or alarming) distant relatives of disaster victims;
- Depending on the severity of the emergency, telephone communications may be sporadic or impossible;
- Local and regional radio/television stations without emergency power may also be off the air; telephones may be inoperative; and/or,
- The emergency organization will become overwhelmed by the demand for information if sufficiently trained staff is not available.

*Steps for Information Releases*




*Key Audiences and Stakeholders*

We will consider the most effective method of communicating with each stakeholder group, as it may be different based on the group.

Important questions we will consider include:

- Who will be most impacted and how?
- Are there stakeholders who need to keep in the loop? How will we prioritize them?
- How will we effectively reach each stakeholder group if they are busy dealing with the emergency at hand?

By categorizing the different interested parties, a strategy can be drafted for how to engage with each of them, in what order and to what extent. Stakeholders who have both influence and are impacted by the event will be the most critical to engage with first.

Those stakeholders include, but are not limited to: Employees, Residents, City Council, Partner agencies/Cities/Placer County, Businesses, Community Organizations.

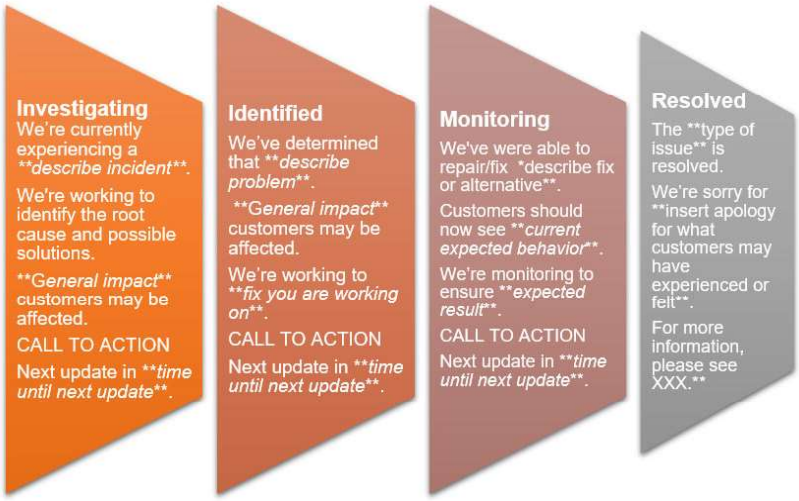
### *General Template Response*

Each incident/crisis will require specific and more directly relevant responses given the scale, scope, and the type of scenario.

We will incorporate more details as they become available during each incident/crisis but will include a status update, what we are doing to rectify the issue, general impact to customers, what customers should do (in the event a call to action is necessary) and when we will provide updates.

The information will be tailored for each communication channel and could be included as part of:

- The initial statement
- Key message development for customer service
- Common questions development for customer service, website copy, and social media posting
- Used for media relations
- Serve as content for social media posting



# 6. WILDFIRE RISKS AND DRIVERS

## Enterprise-Wide Safety Risks

Roseville Electric Utility's approach to risk management includes an 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.

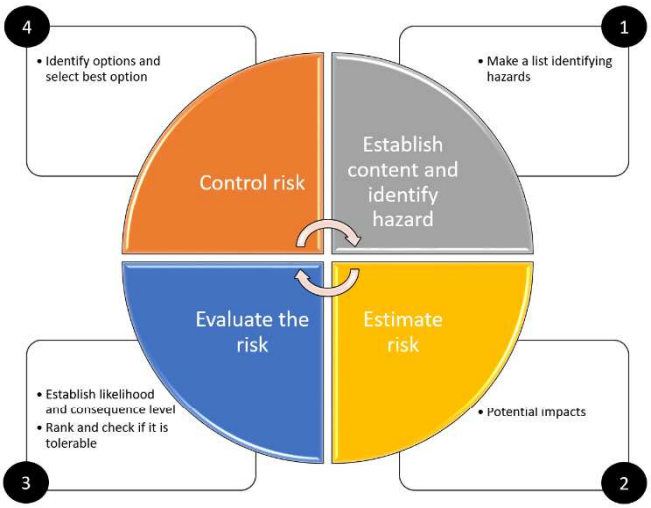
Each risk analysis includes the following factors:

Likelihood

1. Effectiveness of controls and mitigations in place
2. Number of processes and systems involved
3. Skills and competencies managing the risk
4. Political/regulatory environment
5. Time horizon

Velocity

1. Early detection opportunities
2. Reaction time available
3. Current mitigation strategies
4. Sudden or gradual impact




Trend – the likelihood or velocity of the risk is predicted to increase, remain constant or decrease over the next reporting period.

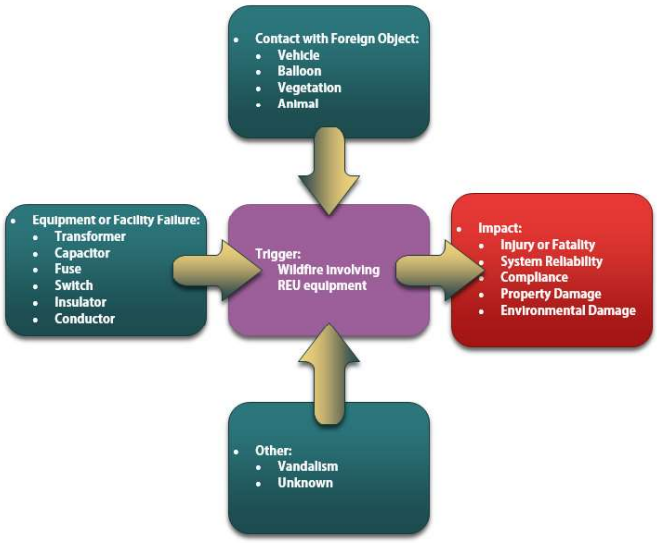
Ranking

1. **Extremely high** – very low level of comfort that mitigations will reduce level of risk to an acceptable level within the target timeframe. Immediate corrective action is necessary.
2. **High** - relatively low level of comfort that mitigations will reduce level of risk to an acceptable level within the target timeframe. Corrective action within specific period of time is necessary.
3. **Medium** - medium level of comfort that mitigations will reduce level of risk to an acceptable level within the target timeframe. Corrective action is necessary.
4. **Low** - high level of comfort that mitigations will reduce level of risk to an acceptable level within the target timeframe. No corrective but monitoring action is necessary.

# REU Electric System Risks

## Fire Risks and Possible Sources of Ignition

- Contact with foreign objects (objects in aerial lines)
  - Vehicle vs pole
  - Mylar balloons
  - Vegetation
  - Animals
- Equipment failure
  - Transformer
  - Capacitor
  - Fuse
  - Switch
  - Insulator
  - Conductor
- Vandalism
  - Object thrown onto lines
- Other
  - Workforce




Overhead power lines in Roseville are non-insulated bare wire that rests on top of insulated structures. Keeping the line insulated from any adjacent lines and any object touching the ground is paramount. In spite of this fact, line contact can occur. Animals, such as squirrels, and balloons made of mylar are highly conductive and when a conductive object comes into contact with bare (exposed) electrical wires, sparks can occur. Tree branches can fall during storms and catch in power lines or out-of-control vehicles may strike poles causing wires to break and fall to the ground. Special equipment (such as fuses or breakers) installed on the Roseville electric system are intended to minimize the impact of these types of incidents by de-energizing the circuit they protect but do not operate quickly enough to prevent a spark from occurring.

Equipment installed on the electric system can fail due to a variety of issues. Components of the equipment can emit sparks as the equipment is breaking down, leading to a fire. Energized portions of the equipment can emit sparks prior to a fuse or breaker operating to protect the circuit. This same equipment is installed in many public areas, which leaves the system susceptible to vandalism. Depending on severity, equipment may be vandalized and damaged to a level which may cause sparks and trigger fires in the vicinity.

# Other Risks

California currently has a strong need for Qualified Electrical Workers (QEW's). While Roseville has been fortunate to retain highly-trained QEW's, staff shortages could occur which could lead to delayed maintenance cycles and inspections, resulting in increased equipment failure on the Roseville system over time.

Another risk is interruption to the supply lines that feed into Roseville. There are several WAPA circuits (via the BANC grid) that are interconnected with the REU system. Roseville has no control or authority over these supply circuits but in an extreme circumstance, would implement load curtailment plans if supply to REU becomes negatively impacted and only if necessary. It should be noted that REU would likely utilize internal generation, if applicable, prior to implementing load curtailment plans.

# Topographic and Climatological Risk Factors

Impacts from climate change are happening now. These impacts extend well beyond an increase in temperature, affecting ecosystems and communities in the United States and around the world. Things that we depend upon and value — water, energy, transportation, wildlife, agriculture, ecosystems, and human health — are experiencing the effects of a changing climate. [2]

Climate change will make forests more susceptible to extreme wildfires. By 2100, if greenhouse gas emissions continue to rise, one study found that the frequency of extreme wildfires burning over approximately 25,000 acres would increase by nearly 50 percent, and that average area burned statewide would increase by 77 percent by the end of the century. [3]

An extensive scientific review supported by the Fourth Assessment found that reducing tree density and restoring beneficial fire can improve long-term resilience to California's forests. Simulations of large-scale fuels treatments in Sierra Nevada forests substantially reduce increases in burned area. Improving forest health by removing fuels can have important impacts to reduce rising wildfire insurance costs. Increasing understanding of megafires remains a critical research need for California. [3]

Roseville Electric Utility 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. Within Roseville Electric Utility's service territory and the surrounding areas, the primary risk drivers for wildfires are the following:

- Extended drought
- Vegetation type
- Vegetation Density
- Weather
- High winds
- Terrain
- Changing Weather Patterns (Climate Change)

Should climate change result in sustained higher temperatures, risk factors will include added stress on the electrical equipment, leading to an increase equipment failures and reduced reliability.

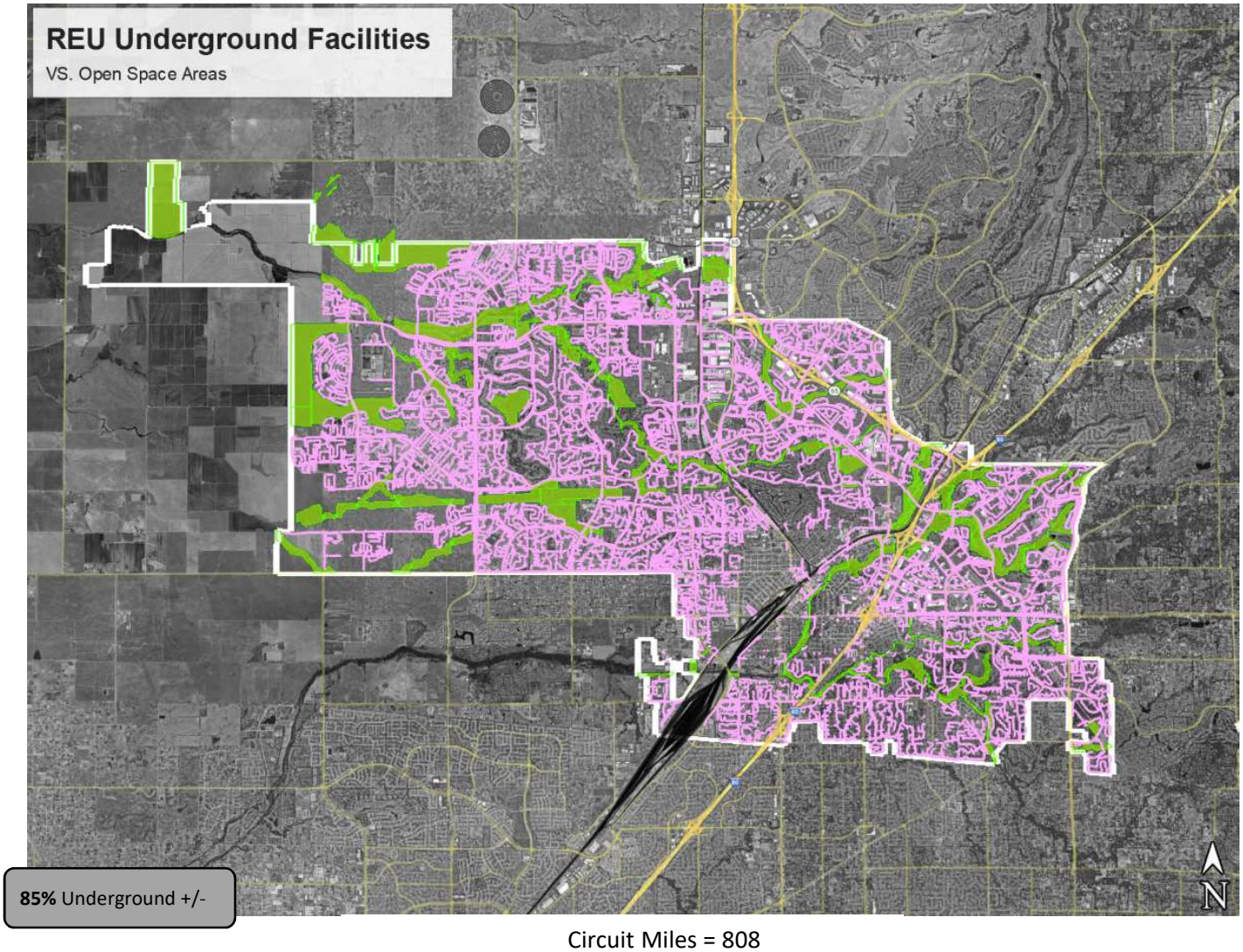
In an emergency situation, de-energization of circuits due to (or in preparation of) a major weather-related event would typically be directed from the Emergency Operation Center or Department Operation Center (see "Standardized Emergency Management System" Section 4).

Open space areas are any open piece of land that is undeveloped (has no buildings or other built structures) and is accessible to the public. Open space can include:

- Green space (land that is partly or completely covered with grass, trees, shrubs, or other vegetation). Green space includes parks, community gardens, and cemeteries.
- Schoolyards
- Playgrounds
- Public seating areas
- Public plazas
- Vacant lots

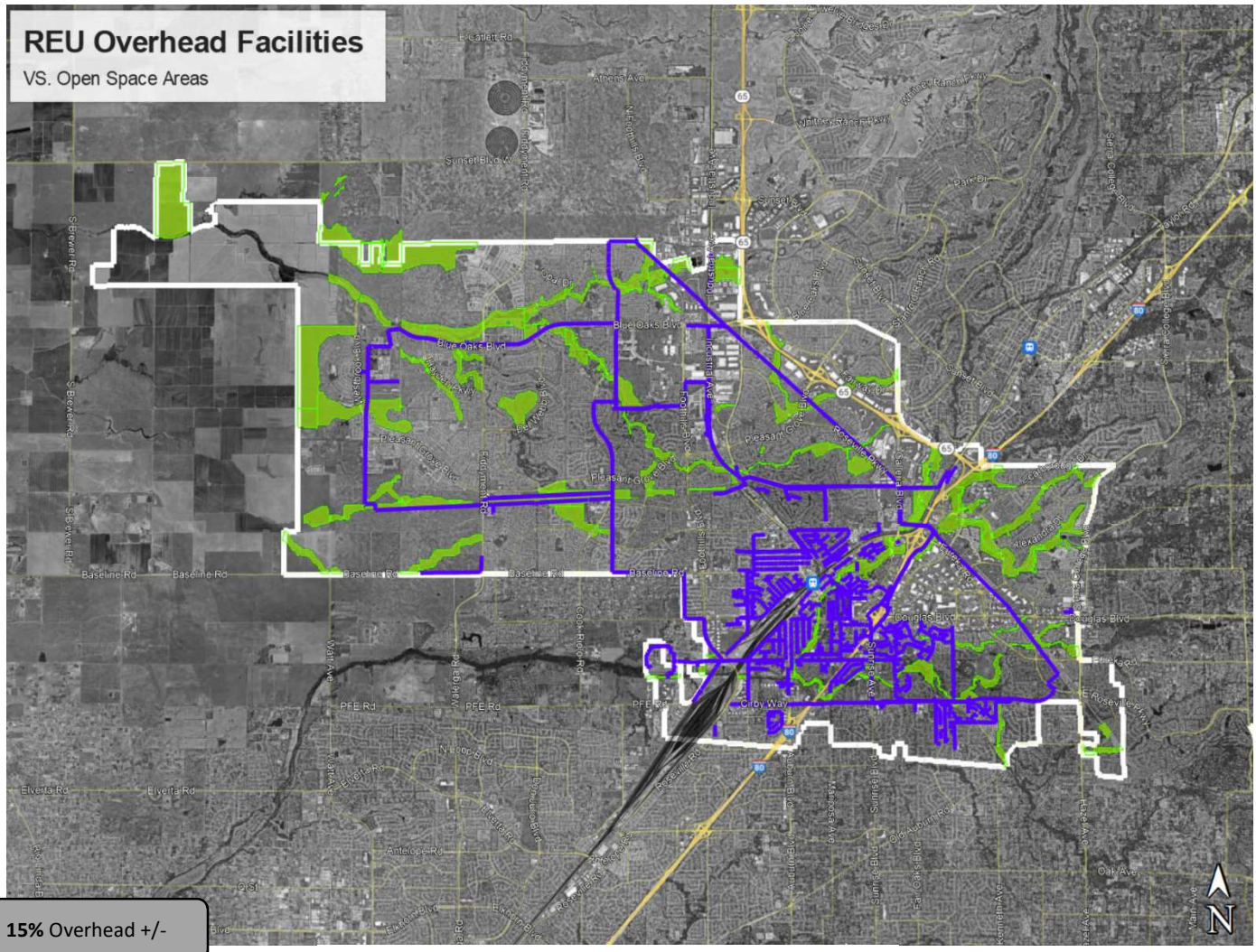
Open space provides recreational areas for residents and helps to enhance the beauty and environmental quality of neighborhoods.

*Figure 1- Roseville Facilities vs. Open Space Areas*




**85%** Underground +/-

Circuit Miles = 808




**15%** Overhead +/-

Circuit Miles = 144

# 7. WILDFIRE PREVENTATIVE STRATEGIES

## High Fire Threat District

BACKGROUND - In October 2007, devastating wildfires driven by strong Santa Ana winds burned hundreds of square miles in Southern California. Several of the worst wildfires were reportedly ignited by overhead utility power lines and aerial communication facilities in close proximity to power lines. In response to these wildfires, the CPUC initiated Rulemaking (R.) 08-11-005 to consider and adopt regulations to protect the public from potential fire hazards associated with overhead power line facilities and nearby aerial communication facilities.

Beginning in 2009, the CPUC issued several decisions in R.08-11-005 that together adopted dozens of new fire-safety regulations. Most of the adopted fire-safety regulations consisted of new or revised rules in General Order (GO) 95. Several of the adopted fire-safety regulations apply only to areas referred to as "high fire-threat areas," where there is an elevated risk for power line fires igniting and spreading rapidly. These high fire-threat areas are designated by several maps that were adopted on an interim basis. Each of the interim maps covers a different part of the state and uses its own methodology for identifying high fire-threat areas, presenting consistency and potential enforcement issues. To address these issues, the CPUC also commenced the development of a single statewide fire-threat map to designate areas where (1) there is an elevated risk for destructive power line fires, and (2) where stricter fire-safety regulations should apply.

In May 2015, the CPUC closed R.08-11-005 and initiated successor rulemaking R.15-05-006 to complete the outstanding tasks in R.08-11-005. The general scope of R.15-05-006 was to address the following matters carried over from the scope of R.08-11-005: (1) develop and adopt a statewide fire-threat map that delineates the boundaries of a new HFTD where the previously adopted regulations will apply, (2) determine the need for additional fire-safety regulations in the HFTD, and (3) revise GO 95 to include a definition and maps of the HFTD, as well as any new fire-safety regulations. The scope and schedule for R.15-05-006 was divided into two parallel tracks. One track focused on the development and adoption of a statewide fire-threat map. The second track focused on the identification, evaluation, and adoption of fire-safety regulations in the HFTD.

In 2012, the CPUC ordered the development of a statewide map that is designed specifically for the purpose of identifying areas where there is an increased risk for utility-associated wildfires. The development of the CPUC -sponsored fire-threat map, herein "CPUC Fire-Threat Map," started in R.08-11-005 and continued in R.15-05-006.

A multistep process was used to develop the statewide CPUC Fire-Threat Map. The first step was to develop Fire Map 1 (FM 1), an agnostic map which depicts areas of California where there is an elevated hazard for the ignition and rapid spread of power line fires due to strong winds, abundant dry vegetation, and other environmental conditions. These are the environmental conditions associated with the catastrophic power line fires that burned 334 square miles of Southern California in October 2007. FM 1 was developed by CAL FIRE and adopted by the CPUC in Decision 16-05-036.

FM 1 served as the foundation for the development of the final CPUC Fire-Threat Map. The CPUC Fire-Threat Map delineates, in part, the boundaries of a new HFTD where utility infrastructure and operations will be subject to stricter fire-safety regulations. Importantly, the CPUC Fire-Threat Map (1) incorporates the fire hazards associated with historical power line wildfires besides the October 2007 fires in Southern California (e.g., the Butte Fire that burned 71,000 acres in Amador and Calaveras Counties in September 2015), and (2) ranks fire-threat areas based on the risks that utility-associated wildfires pose to people and property.

Primary responsibility for the development of the CPUC Fire-Threat Map was delegated to a group of utility mapping experts known as the Peer Development Panel (PDP), with oversight from a team of independent experts known as the Independent Review Team (IRT). The members of the IRT were selected by CAL FIRE and CAL FIRE served as the Chair of the IRT. The development of CPUC Fire-Threat Map includes input from many stakeholders, including investor-owned and publicly-owned electric utilities, communications infrastructure providers, public interest groups, and local public safety agencies.

The PDP served a draft statewide CPUC Fire-Threat Map on July 31, 2017, which was subsequently reviewed by the IRT. On October 2 and October 5, 2017, the PDP filed an Initial CPUC Fire-Threat Map that reflected the results of the IRT's review through September 25, 2017. The final IRT-approved CPUC Fire-Threat Map was filed on November 17, 2017. On November 21, 2017, Safety and Enforcement Division (SED) filed on behalf of the IRT a summary report detailing the production of the CPUC Fire-Threat Map (referenced at the time as Fire Map 2). Interested parties were provided opportunity to submit alternate maps, written comments on the IRT-approved map and alternate maps (if any), and motions for Evidentiary Hearings. No motions for Evidentiary Hearings or alternate map proposals were received. As such, on January 19, 2018, the CPUC adopted, via SED's disposition of a Tier 1 Advice Letter, the final CPUC Fire-Threat Map.

In D.17-01-009, as modified by D.17-06-024, the CPUC adopted a work plan for the development and adoption of the CPUC Fire-Threat Map, which constitutes one part of the HFTD. Pursuant to these decisions, the HFTD is a composite of two maps:

- Tier 1 High Hazard Zones (HHZs) on the U.S. Forest Service-CAL FIRE joint map of Tree Mortality HHZs ("Tree Mortality HHZ Map").
- Tier 2 and Tier 3 fire-threat areas on the CPUC Fire-Threat Map

The Tree Mortality HHZ Map is an off-the-shelf map. Tier 1 HHZs are zones in direct proximity to communities, roads, and utility lines, and are a direct threat to public safety. Tier 2 fire-threat areas depict areas where there is an elevated risk (including likelihood and potential impacts on people and property) from utility-associated wildfires. Tier 3 fire-threat areas depict areas where there is an extreme risk (including likelihood and potential impacts on people and property) from utility-associated wildfires.

It should be noted that (1) Tier 2 and Tier 3 fire-threat areas on the CPUC Fire-Threat Map may overlap Tier 1 HHZs on the Tree Mortality HHZ Map, (2) the Tree Mortality HHZ Map is not owned or maintained by the CPUC, and (3) the Tree Mortality HHZ Map is updated much more frequently (approximately annually) than the 10-year update cycle adopted by the above-mentioned decisions for the CPUC Fire-Threat Map.

The fire-safety regulations described below apply only to areas designated as "high fire-threat areas" in accordance with the adopted interim maps. Similarly, the HFTD, as described in this section, is intended to depict an analogous area based, in part, upon a mapping product (i.e. CPUC Fire-Threat Map) developed specifically for the purpose of scoping utility regulations.

The fire-safety regulations adopted in R.08-11-005 that relied on the interim maps include:

- GO 95, Rule 18A, which requires electric utilities and communication infrastructure providers (CIPs) to place a high priority on the correction of significant fire hazards in high fire-threat areas of Southern California.

- GO 95, Rules 31.2, 80.1A, and 90.1B, which set the minimum frequency for inspections of aerial communication facilities located in close proximity to power lines in high fire-threat areas throughout California.
- GO 95, Rule 35, Table 1, Case 14, which requires increased radial clearances between bare-line conductors and vegetation in high fire-threat areas of Southern California.
- GO 95, Appendix E, which authorizes increased time-of-trim clearances between bare-line conductors and vegetation in high fire-threat areas of Southern California.
- GO 165, Appendix A, Table 1, which requires more frequent patrol inspections of overhead power line facilities in rural, high fire-threat areas of Southern California.
- GO 166, Standard 1.E., which requires each electric utility in Southern California to develop and submit a plan to reduce the risk of fire ignitions by overhead facilities in high fire-threat areas during extreme fire-weather events. Electric utilities in Northern California must also develop and submit a plan if they have overhead facilities in high fire-threat areas that are subject to extreme fire-weather events.

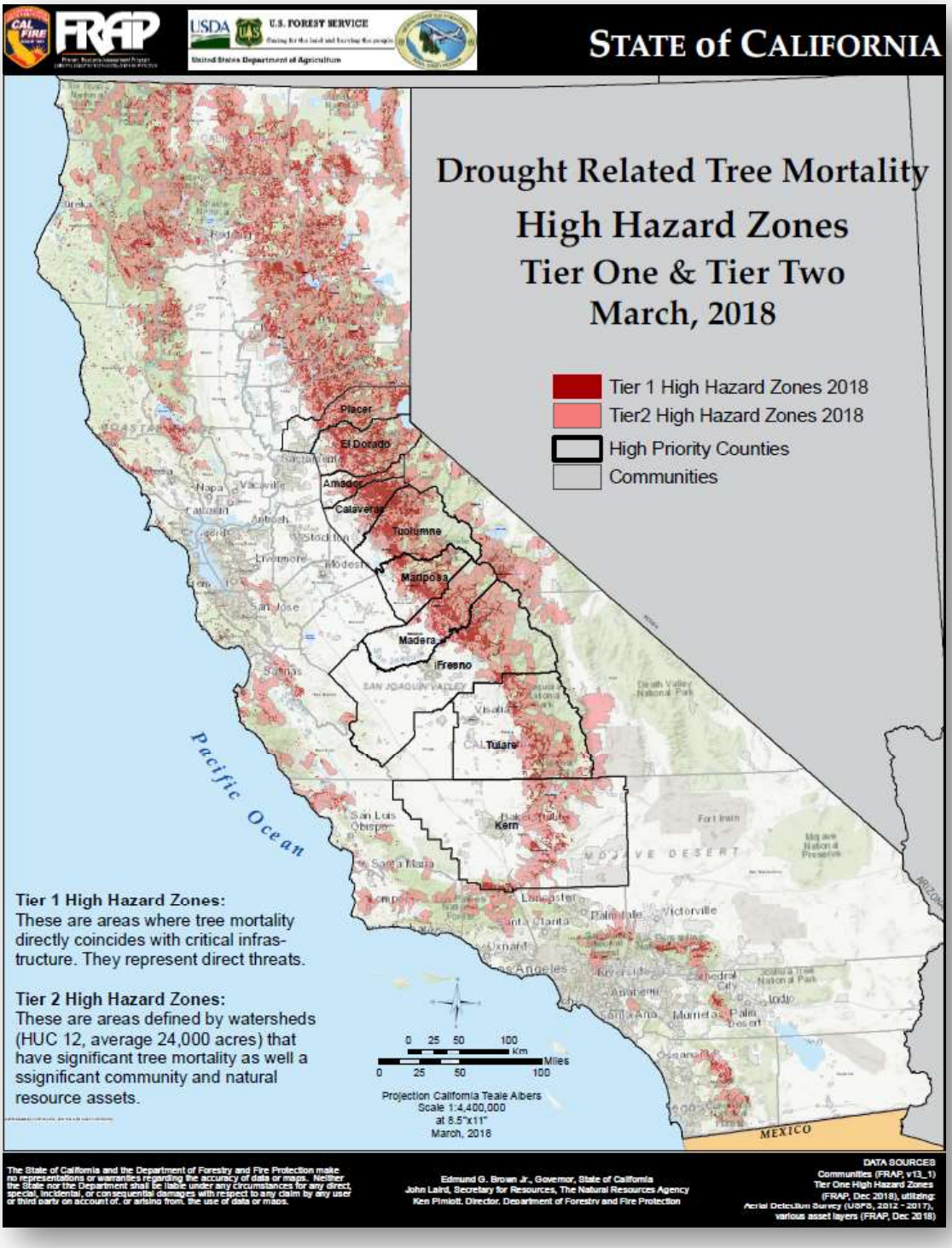
The scope of R.15-05-006 included the identification, evaluation, and adoption of additional fire-safety regulations for the High Fire-threat District (HFTD). To this end, a series of public workshops were held by a group known as the Fire Safety Technical Panel (FSTP), chaired by the CPUC's SED and Southern California Edison Company (SCE).

On July 10, 2017, the FSTP filed a Workshop Report that contained 23 proposed fire-safety regulations and eight (8) alternatives. Interested parties filed opening comments on July 31, 2017, and reply comments on August 11, 2017. On December 21, 2017, the CPUC issued D.17-12-024, adopting new fire-safety regulations in the HFTD.

On December 21, 2017, the CPUC issued Decision (D.) 17-12-024 adopting regulations to enhance fire-safety in the HFTD, effectively completing the second track of R.15-05-006 described above.

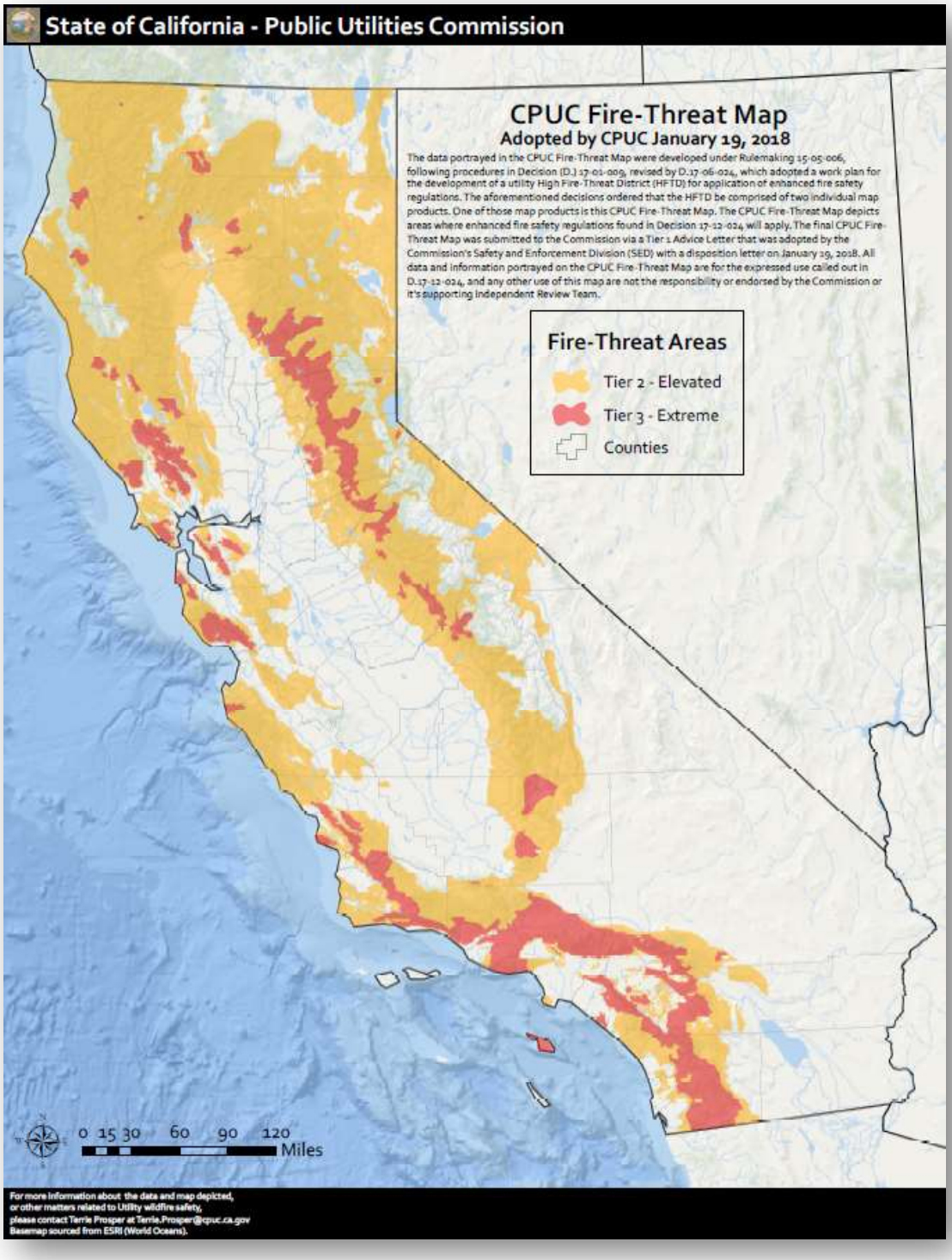
On January 19, 2018, the CPUC adopted, via SED's disposition of a Tier 1 Advice Letter, the final CPUC Fire-Threat Map. The adopted CPUC Fire-Threat Map, together with the map of Tier 1 High Hazard Zones (HHZs) on the USFS-CAL FIRE joint map of Tree Mortality HHZs, comprise the HFTD Map where stricter fire-safety regulations apply. [4]

*Figure 2 - California Fire High Hazard Zones*



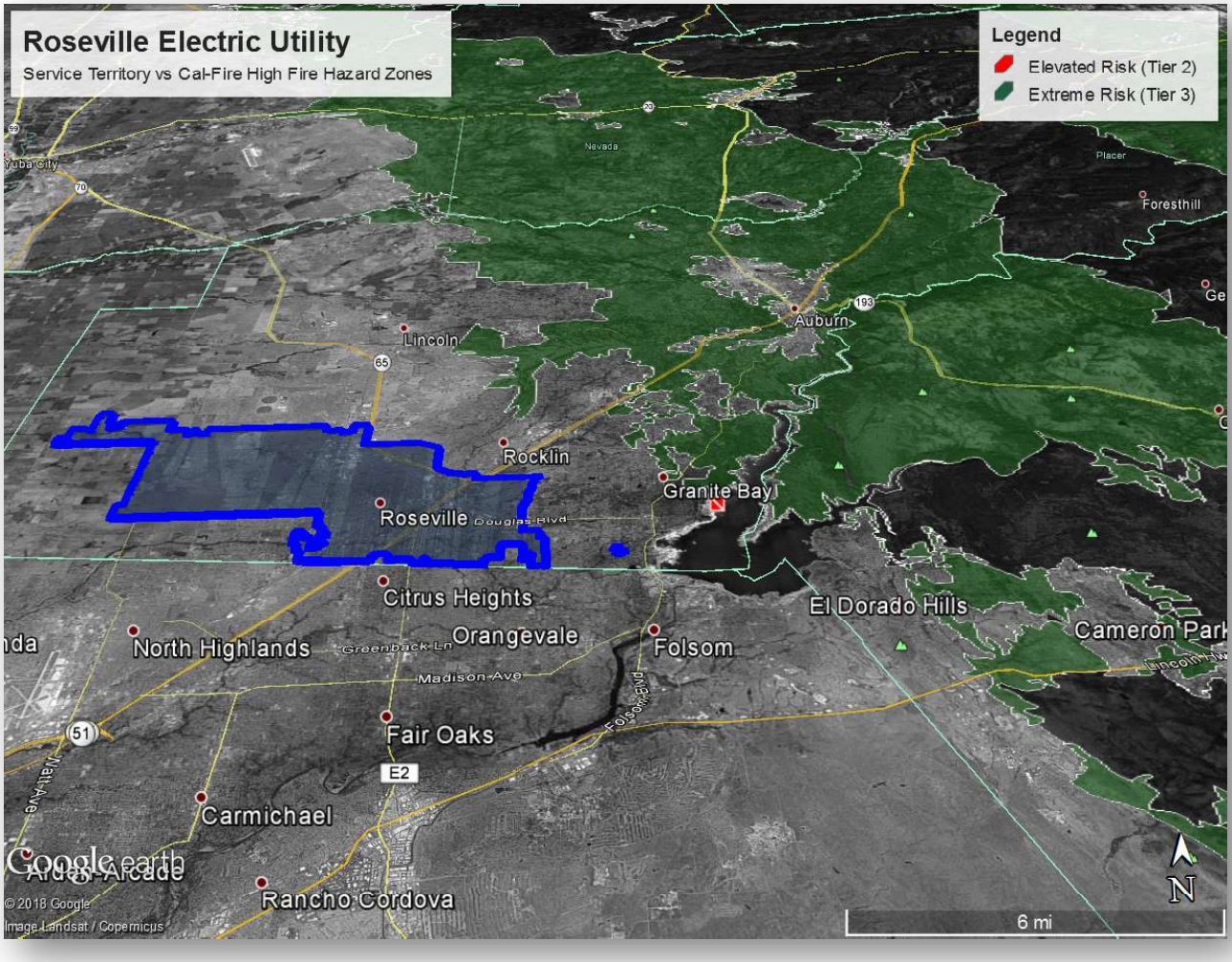

Note: The City of Roseville is not currently located within a USFS-CAL FIRE designated High Hazard Zone. High Hazard Zones are based on estimated tree mortality rates.

*Figure 3 - CPUC Fire Map (Tier 2 & 3)*




Note: The City of Roseville is not currently located within a CPUC designated high fire-threat area. The CPUC defines two fire threat tiers: Tier 2 – Elevated risk for utility-associated wildfires / Tier 3 – Extreme risk for utility-associated wildfires.

*Figure 4 – Roseville Electric Utility Service Territory vs .Cal-Fire High Fire Hazard Zones*

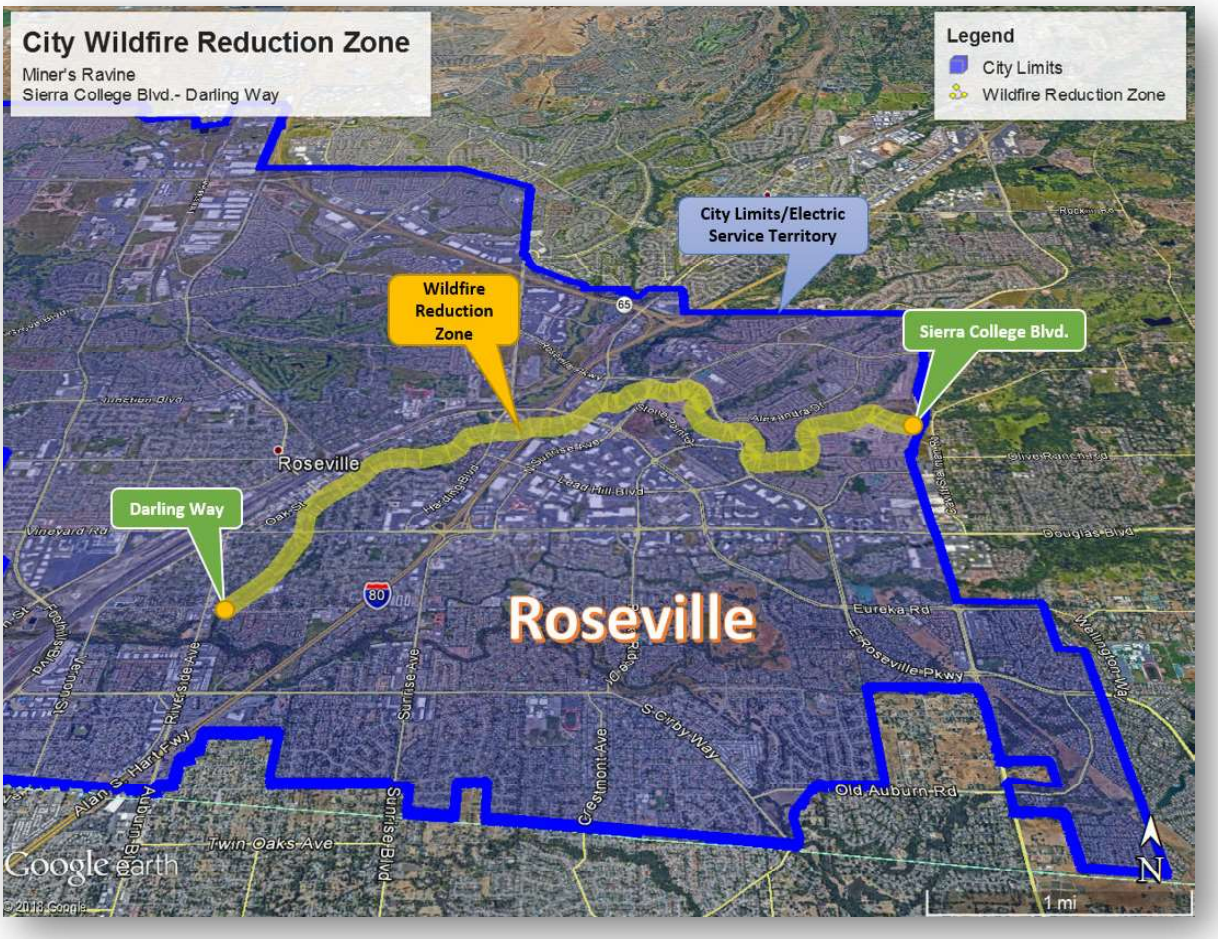



Roseville Electric Utility reviewed the boundaries of the HFTD and confirmed that, based on local conditions and historical fire data, all of Roseville Electric Utility's service territory was properly excluded.

# City Wildfire Reduction Zone

The area designated as the "City Wildfire Reduction Zone" (WRZ) 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.

*Figure 5 – City Wildfire Reduction Zone*




## Grid Hardening

Roseville recently installed Cal-Fire approved expulsion proof fusing for all overhead transformer assets within the WRZ, which are ideal for areas prone to grass fires.

The S&C "Fault Tamer" type fusing helps to minimize equipment damage and improve service continuity. No parts are expelled during a circuit interuption.

**Expulsion Proof Fusing**

S&C Fault Tamer Fuse - Closed

S&C Fault Tamer Fuse - Open

## Design and Construction Standards

Roseville Electric Utility's electric facilities are designed and constructed to meet or exceed the relevant Federal, State, or industry standard. Roseville Electric Utility treats CPUC GO 95 and GO 128 as a key industry standard for design and construction standards for overhead and underground electrical facilities. Roseville Electric Utility meets or exceeds all standards in GO 95 and GO 128. Additionally, Roseville Electric Utility monitors and follows, as appropriate, National and/or California Electric Safety Codes. In the City Wildfire Reduction Zone Roseville Electric Utility has installed Cal Fire approved fault-tamer equipment which is intended to have no sparking should a fault occur.

## Vegetation Management

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 (HFTD), which do not apply to Roseville; however, REU's goal is a more effective separation distance by increasing the trim around primary lines to 10-feet at the time of the trimming. Internal staff review has shown that this approach to high-voltage vegetation management in Roseville has historically proven beneficial in preventing the REU electric system from starting wildfires.

REU utilizes two overhead (aerial) 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 separation distance by increasing the trim around primary lines to 10 feet in order to obtain a more-effective clearance. This safety and reliability effort typically allows the REU tree crews enough time to return to the same location and trim again before the tree branches grow within the minimum allowable clearances.

Vegetation includes trees, bush, weeds, grass and other plants.

*Figure 6 – GO95, Rule 35, Table 1*

| GO 95, Rule 35, Table 1 | | | | | |
|---|---|---|---|---|---|
| Case | Type of Clearance | Trolley Contact, Feeder and Span Wires, 0-5kv | Supply Conductors and Supply Cables, 750 - 22,500 Volts | Supply Conductors and Supply Cables, 22.5 - 300 kV | Supply Conductors and Supply Cables, 300 - 550 kV (mm) |
| 13 | Radial clearance of bare line conductors from tree branches or foliage | 18 inches | 18 inches | ¼ Pin Spacing | ½ Pin Spacing |
| 14 | Radial clearance of bare line conductors from vegetation in the Fire-Threat District | 18 inches | 48 inches | 48 inches | 120 inches |

*Figure 7 – Appendix E, Guidelines to Rule 35*

**Appendix E**
**Guidelines to Rule 35**

The radial clearances shown below are recommended minimum clearances that should be established, at time of trimming, between the vegetation and the energized conductors and associated live parts where practicable. Reasonable vegetation management practices may make it advantageous for the purposes of public safety or service reliability to obtain greater clearances than those listed below to ensure compliance until the next scheduled maintenance. Each utility may determine and apply additional appropriate clearances beyond clearances listed below, which take into consideration various factors, including: line operating voltage, length of span, line sag, planned maintenance cycles, location of vegetation within the span, species type, experience with particular species, vegetation growth rate and characteristics, vegetation management standards and best practices, local climate, elevation, fire risk, and vegetation trimming requirements that are applicable to State Responsibility Area lands pursuant to Public Resource Code Sections 4102 and 4293.

| Voltage of Lines | Case 13 | Case 14 |
|---|---|---|
| Radial clearances for any conductor of a line operating at 2,400 or more volts, but less than 72,000 volts | 4 feet | 12 feet |

## Tree Pruning

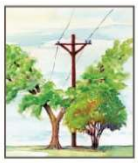
REU utilizes industry-standard vegetation management practices recommended by the American National Standards Institute (ANSI) A300 for Tree Care Operations - Standard Practices for Tree Pruning, California Occupational Safety and Health Administration (OSHA) and the California Public Utility Commission (CPUC). All personnel, equipment and tools meet regulations as written in the American National Standard Institute Z.133.1 requirement for pruning, trimming, repairing, maintaining and removing trees and for cutting brush.

Directional pruning methods are used to encourage trees to grow away from electric lines. Sometimes the situation requires pruning only one side of the tree, pruning one side more than the other, or pruning just the middle of the tree. These variations are known as side pruning, slope pruning or "V pruning." Trees may appear unbalanced at first, but a healthy tree will cope with the changes, and its appearance will soften over time.

The primary pruning of deciduous trees is typically during the dormant season. Damaged trees, or those that constitute health or safety hazards, are pruned at any time of the year as required. All pruning cuts are usually made to lateral branches. Clearing of vegetation around poles and equipment is also performed.

Side Pruning

Slope Pruning


V-Pruning

Crown reduction (when necessary)

## Priority for Trimming

Routine tree-trimming priorities are based on the total number of customers potentially impacted due to a tree/vegetation event:

1. 60KV sub-transmission facilities,
2. 12KV distribution facilities,
3. 12KV distribution taps (down-stream of fuses).

Other priorities include:

1. Trees/Vegetation in contact with primary wire (Burners),
2. Trees/Vegetation within 18 inches of contact with primary conductor,
3. Trees/Vegetation within 10 feet of primary conductors and based on the growth rate of species,
4. Trees/Vegetation in contact with secondary conductors.

## Firebreaks and Weed Abatement

REU firebreak clearances are utilized in open-space areas for structural protection of power poles. Firebreak clearances are applicable within an imaginary cylindroid space surrounding each pole on which a switch, fuse, transformer or lightning arrester is attached and surrounding each dead end or corner pole unless such pole is exempt from minimum clearance requirements by provisions of California Code of Regulations Title 14 CCR 1255 or PRC 4296. The radius of the cylindroid is 3.1 m (10 feet) measured horizontally from the outer circumference of the specified pole. Flammable vegetation and materials located wholly or partially within the firebreak space is treated as follows:

a) At ground level -remove flammable materials, including but not limited to, ground litter, duff and dead or desiccated vegetation that will allow fire to spread, and;
b) From 0-2.4 m (0-8 feet) above ground level -remove flammable trash, debris or other materials, grass, herbaceous and brush vegetation. All limbs and foliage of living trees are removed up to a height of 2.4 m (8 feet).
c) From 2.4 m (8 feet) to horizontal plane of highest point of conductor attachment -remove dead, diseased or dying limbs and foliage from living sound trees and any dead, diseased or dying trees in their entirety.

In order to maintain firebreaks, chemical vegetation management is used in open-space areas (as needed). Treatment around the base of poles in these areas include pre-emergence or post-emergence herbicides in order to control young emerging and existing vegetation. Chemical treatments are completed every other year for each location with the use of alternative methods, such as weed-eaters, for the gap treatment year. Treatment records are submitted to REU after application.

## Responsible Parties

REU relies on Subject Matter Experts (SME's) in order to utilize their expertise to assist in Plan review and/or individual recommendations for specific Plan items. This includes consulting with the following City positions as needed:

- 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.
- 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.

REU personnel that manage and execute the electric utility Vegetation Program:

- Electric Utility Director - the Utility Director plans, organizes, directs and reviews the broad activities and operations of the Electric Department including distribution, generation, planning, retail and administrative services. This position coordinates assigned activities with other departments and outside agencies and provides highly responsible and complex administrative support to an Assistant City Manager.
- 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.
- 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.
- Tree-Trimming Contractors - most Electric Utility tree pruning/vegetation management work are performed by an outside tree-trimming contractor, but may be performed by REU crews as needed. The contractor work consists of furnishing all labor, supervision, training, methods, tools, fuel, disposal of brush/chips and equipment necessary to accomplish the vegetation management work. The contractor crew must be qualified and able to perform all high-voltage energized line clearance tree trimming work utilizing an aerial device, such as a bucket truck, or by climbing. In addition to certified tree workers, the contractor must also employ a certified arborist.

  The REU contractor patrols all City owned overhead power lines annually. Tree-trimming schedules are prioritized based on the level of corrective maintenance action needed. The contractor will also respond to service order requests and other maintenance work requiring tree/vegetation trimming or removal at the direction of REU management.

## Work Review

Contractor trimming work includes the use of hand saws, pruners, pole saws, hand pruners, wood chippers, axes and wedges, and chain-saws. Most work is performed by a crew utilizing a variety of vehicles and equipment including bucket trucks, wood chippers, . REU regularly reviews and inspects the equipment the contractor intends to use. A supervisor provided by the contractor is required to perform safety inspections and perform training as needed to assure the safety of contractor's personnel. All contractor trimming or pruning work near high voltage distribution and transmission lines are performed by a certified and qualified line clearance tree trimmer.

### Record Keeping

A complete record of all tree work is maintained by the contractor and REU. Line clearance tree trimming records include the type of tree work performed, date, species, and location.

### Property Owner Notification

Property owners are typically notified a minimum of 24 hours prior to trimming on private property. Door hangers are left at each location or with the occupant of the property. A "Letter of Understanding" must be signed by the property owner prior to removal of any tree (unless an emergency condition exists). Public notification may not be required for emergency call-out work.

### Emergency Work

Emergency vegetation trimming/removal work is performed for the safety of the public, REU employees and the safety/reliability of the REU electric system. Standard notifications may not be issued for emergency work depending on the severity of the issue.

## Inspections

Roseville Electric Utility meets or exceeds the minimum inspection requirements provided in CPUC GO 165 and CPUC GO 95, Rule 18. Pursuant to these rules, utilities inspect electric facilities in the HFTD more frequently than the other areas of its service territory. As described above, Roseville Electric Utility currently does not have any overhead power lines located within or near the HFTD within the CPUC's Fire-Threat Map. However, Roseville Electric Utility performs a detailed-type inspections within the City Wildfire Reduction Zone on an annual basis, as stated in the Wildfire Reduction Zone Inspection and Maintenance Program [5].

The inspection target is to be completed annually, before the start of fire season each year. Intrusive-type inspections will be performed approximately every five-years as per the standard Distribution Inspection and Maintenance Program. The inspection process is unchanged during high-risk and red flag days. **See attached EOP 1.02 and 1.07 for further information**.

Note: if Roseville Electric Utility staff discovers a facility in need of repair that is owned by an entity other than Roseville Electric Utility, Roseville Electric Utility will issue a notice to repair (Safety Hazard Notification) to the facility owner so that necessary repairs can be completed.

## Reclosing Policy

Roseville Electric Utility does not currently have any distribution recloser equipment installed on electric supply circuits and thus no policy is currently needed:

> REU does not have 12kV reclosers located along distribution feeders. Reclosing operations are performed by feeder breakers located in REU's substations. In most instances, the reclose function is set to operate once for underground feeders and twice for overhead feeders. In most cases, 60kV substation line breakers are set to reclose one time.

Engineering and operations management have reviewed the current system protection (reclose) philosophy and, considering our annual summer preparedness work, have determined there is no immediate apparent advantage to changing our approach to protection reclosing.

Note: Substation breakers are placed in "no-test" during maintenance procedures that necessitate that action.

## Public Safety Power Shutoff (PSPS)

Protocols for de-energizing portions of the electrical system defer to one of several methods that depend upon the severity and type of situation. Roseville's customers are not directly connected (or interconnected) to investor owned utilities (IOU's) and therefore should not experience an IOU PSPS event. Roseville has not had, or expects to have, the need to implement a PSPS event within the REU service territory however, a plan is in place should the need arise to curtail load for any reason. In the unlikely event of a load curtailment event, REU will follow the established emergency protocols in the REU Summer Preparedness Plan. These protocols include: City Emergency Operations Center activation, Electric Department Emergency Operation Center activation, emergency communications, emergency public information priorities, mutual assistance options, and critical and at-risk customer considerations. Working with City Police and Fire Departments, REU developed the following restoration list that will be used in reverse to prioritize load curtailment:

- Priority 1 – Restores power to communication facilities and the most at risk population.
- Priority 2 – Restores power to the critical at risk population
- Priority 3 – Restores power to potable water. This priority was determined based on available generation at the City of Roseville's water treatment facility and that the generator does not fail.
- Priority 4 – Restores power to larger capacity fueling facilities.
- Priority 5 – Solid waste and wastewater. The city is capable of handling much of this without supplied power because of onsite generation
- Priority 6 - Jail/Detention and Court house.
- Priority 7 – Key Accounts, Eating/Dining/Mall. These include restaurants, grocery stores, and warehouses. All at-risk personnel and sanitation is complete. Power to grocery stores, food ware houses and restaurants (fast food and sit down) becomes a need so that people can be fed and potentially prevent the discarding of food that has not been refrigerated properly.
- Priority 8 – Assembly areas – these include schools, theater and churches. The intent is to provide locations for cooling centers to be available. These are large gathering sites and if logistical support is needed for residents, they are in central areas to make aid support easier.

## De-energization

Roseville Electric Utility has the authority to preemptively shut off power due to fire-threat conditions, however, this option will only be used in extraordinary circumstances. Upon confirmation of a planned fire-threat de-energization event, advance notice (as much as possible and/or practical) will be given to all Roseville customers, such as residences and businesses, through the communication tactics as previously stated.

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.

Typical methods used for internal city communication of a major de-energization event may be through Dispatch (for example, Electric Dispatch to Police Dispatch), radio or cellular equipment. Should a major de-energization event occur due to a fire-threat, it is likely that the EOC will be activated and the Electric, Police and Fire Departments will be directly involved in the emergency process.

# 8. RESTORATION OF SERVICE

## Electric Outage Restoration Procedure

REU has procedures for electric outage restoration [6]. The purpose of the these procedures are to provide a consistent set of procedures for Electric System Dispatchers and field personnel to communicate, safely assess, isolate and restore power to areas affected by an unscheduled power outage. The same procedures apply after an electric outage event due to a wildfire.

This procedure classifies unscheduled outages in the following categories:

- 12kV Feeder – Laterals
- 12kV Feeder – Mainline
- 60/12kV Distribution Substation
- 230/60kV Receiving Station
- Complete System Blackout

Steps are outlined for each outage category restoration effort. All overhead circuits will be inspected and cleared prior to re-energization per applicable regulations.

## Outage Notification Procedure for Electric Dispatch

REU establishes broad power outage notification procedures [7] that is adhered to by all REU Electric System Dispatchers involved in the notification process for scheduled and unscheduled power outages. Notification procedures for REU Dispatchers and describes their role in the notification process for scheduled and unscheduled power outages during and after normal working hours are divided into the following categories:

- Scheduled Power Outages
- Unscheduled Power Outages – Non-Circuit/Normal Hours
- Unscheduled Power Outages – Non-Circuit/After Hours
- Unscheduled Power Outages – Circuit/VIP Normal Hours
- Unscheduled Power Outages – Circuit/VIP After Hours

Priorities:

1. Physical safety of employees and the public
2. Integrity and reliability of the power system
3. Protection of equipment
4. Service to the customer

# 9. PLAN EVALUATION

## Metrics for measuring plan performance

Roseville Electric Utility will track two metrics to measure the performance of this Wildfire Mitigation Plan: (1) number of fire ignitions; and (2) wires down within the service territory.

### Metric 1: Fire Ignitions

For purposes of this metric, a fire ignition is defined as follows:

- A Roseville Electric Utility distribution asset was associated with the fire;
- The fire was self-propagating and of a material other than electrical and/or communication facilities;
- The resulting fire traveled greater than one linear meter from the ignition point; and,
- Roseville Electric Utility has knowledge that the fire occurred.

### Metric 2: Wire Down

The second metric is the number of distribution wires downed within REU's service territory. For purposes of this metric, a wires down event includes any instance where an electric primary distribution conductor falls to the ground or on to a foreign object.

Roseville Electric Utility will not normalize this metric by excluding unusual events, such as severe storms. Instead, Roseville Electric Utility will supplement this metric with a qualitative description of any such unusual events.

## Impact of Metrics on Plan

In the initial years, Roseville Electric Utility anticipates that there will be relatively limited data gathered through these metrics. However, as the data collection history becomes more robust, Roseville Electric Utility will be able to identify areas of its operations and service territory that are disproportionately impacted. Roseville Electric Utility will then evaluate potential improvements to the plan.

## Monitoring and Auditing the Plan

Review of the Wildfire Mitigation Plan will occur by REU staff annually, or as needed throughout the year. The annual review will include an assessment of this Plan's associated programs and performance. This Plan will be presented publicly to City Council on an annual basis or consistent with State mandates. Additionally, a qualified independent evaluator may present a report on this Plan to the City Council.

## Identifying and Correcting Deficiencies to the Plan

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

## Monitoring the Effectiveness of Inspections

Roseville Electric Utility uses General Orders 95 (GO95), 128 (GO128) and 165 (GO165), respectively as it's guide to inspect its electric supply system. Field staff routinely inspect assets (typically based on an interval process) within the electric service territory and identify and perform corrective action as deficiencies are encountered. For reactive maintenance that cannot be repaired upon discovery, a priority level is assigned and a subsequent work order is created. Work orders require personnel to input information, which establishes accountability, for those charged with completing the order, along the order processing continuum. REU tracks inspections and reactive maintenance in its Computerized Maintenance Management System and, per GO165, reports information to the CPUC annually.

REU staff meets regularly (typically monthly) to review electric outages. Several metrics, such as outage response times, fire ignition, wires down, and reliability indices undergo review. Below are the metrics that will be used to measure the performance of this Plan:

| Specific metric | Indicator | Measure of effectiveness |
|---|---|---|
| Fire ignition | Count of events | Reduction in general trends |
| Wires down | Count of events | Reduction in general trends |

# 10. INDEPENDENT AUDITOR

Public Utilities Code section 8387(c) requires Roseville Electric Utility to contract with a qualified independent evaluator with experience in assessing the safe operation of electrical infrastructure to review and assess the comprehensiveness of this Wildfire Mitigation Plan. The independent evaluator must issue a report that is posted to the City's website. This report must also be presented to City Council at a public meeting.

# 11. PLAN APPROVAL PROCESS

1. The Plan undergoes an annual internal review that includes associated policies, procedures and tasks associated with wildfire mitigation efforts, plans and procedures. The review may include senior operations personnel, administrative, compliance and government relations staff. Training needs are included in the review to ensure employees understand their role in maintaining compliance.

2. During the review process, new or additional wildfire mitigation items may be assessed and added to an electric operations budget or engineering rehabilitation budgets. These items are typically budgeted for the next fiscal year. Funding undergoes several approval processes, both internally in the Electric department – which requires Director approval - and then at the City level, which requires City Management approvals. When complete, the budget then moves to a public process at City Council, which reviews and authorizes the final approval. The financial budgeting process is publically available to all Roseville customers. Should an unexpected and/or unbudgeted mitigation expense become necessary, the expense will typically be funded from the existing approved operations maintenance budget.

3. Once staff has reviewed the Plan, an independent auditor is chosen to make an impartial review of the Plan, policies and procedures as well as compliance with current regulations. Adjustments are made to the next version of the Plan during this process until the auditor and the City are satisfied that all statutes have been met. At that time, the Plan is posted on the City website and available in print for public review and comment. The final part of the process includes the independent auditor presenting the Plan in a publicly held City Council meeting requesting Council approval for use.

# 12. REFERENCES

[1] REU, EOP 2.0, *REU, EOP 2.0 Operations Standby Policy.*

[2] "National Oceanic and Atmospheric Admistration," [Online].

[3] "Californias Fourth Climate Change Assessment," [Online]. Available: https://www.energy.ca.gov/sites/default/files/2019-07/Statewide%20Reports-%20SUM-CCCA4-2018-013%20Statewide%20Summary%20Report.pdf.

[4] "California Public Utilites Commission," [Online]. Available: https://www.cpuc.ca.gov/firethreatmaps/.

[5] REU, EOP 1.07, *REU, EOP 1.07 Wildfire Inspection and Maintenance Plan.*

[6] REU, SOP 6.01, *REU, SOP 6.01 Electric Outage Restoration Procedures.*

[7] REU, SOP 6.02, *REU, SOP 6.02 Outage Notification Procedures.*

[8] REU, SOP 6.02A, *REU, SOP 6.02A External and Internal Outage Notification Procedures.*

[9] E. 1. D. I. a. M. P. REU.

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