



WILDFIRE MITIGATION PLAN

Electric Utility Department

Approved:


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1. 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.

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.

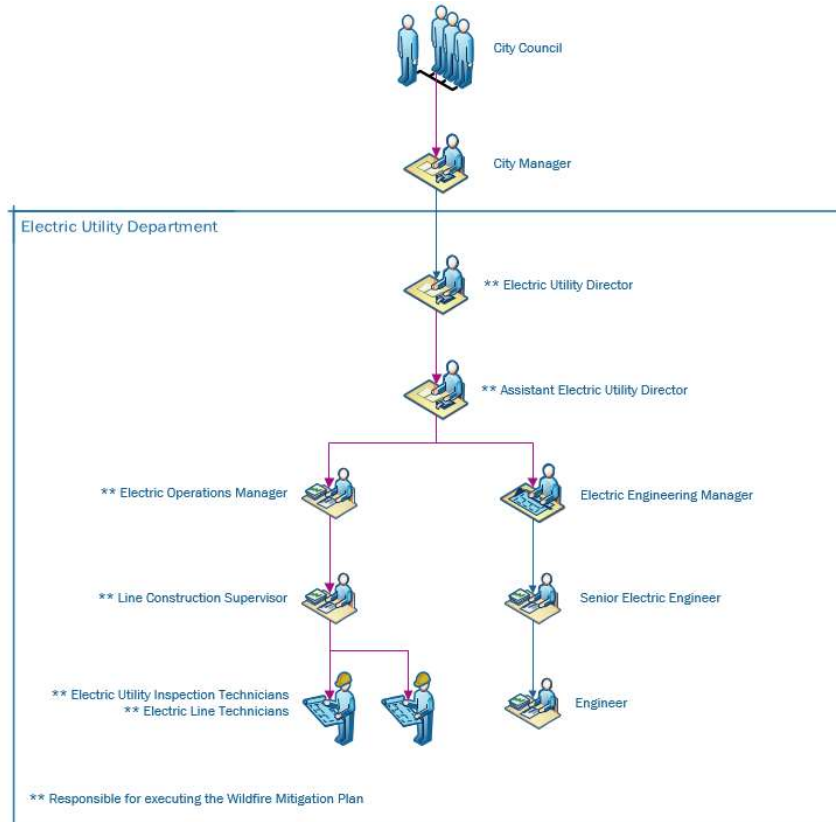
In early 2018, REU met with the Roseville Fire Department (RFD) to determine what areas exist within REU's electric service territory that could be augmented by additional measures to help mitigate potential wildfire risk. A designated "open space" area was identified as one that could benefit from additional 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.

2. 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.

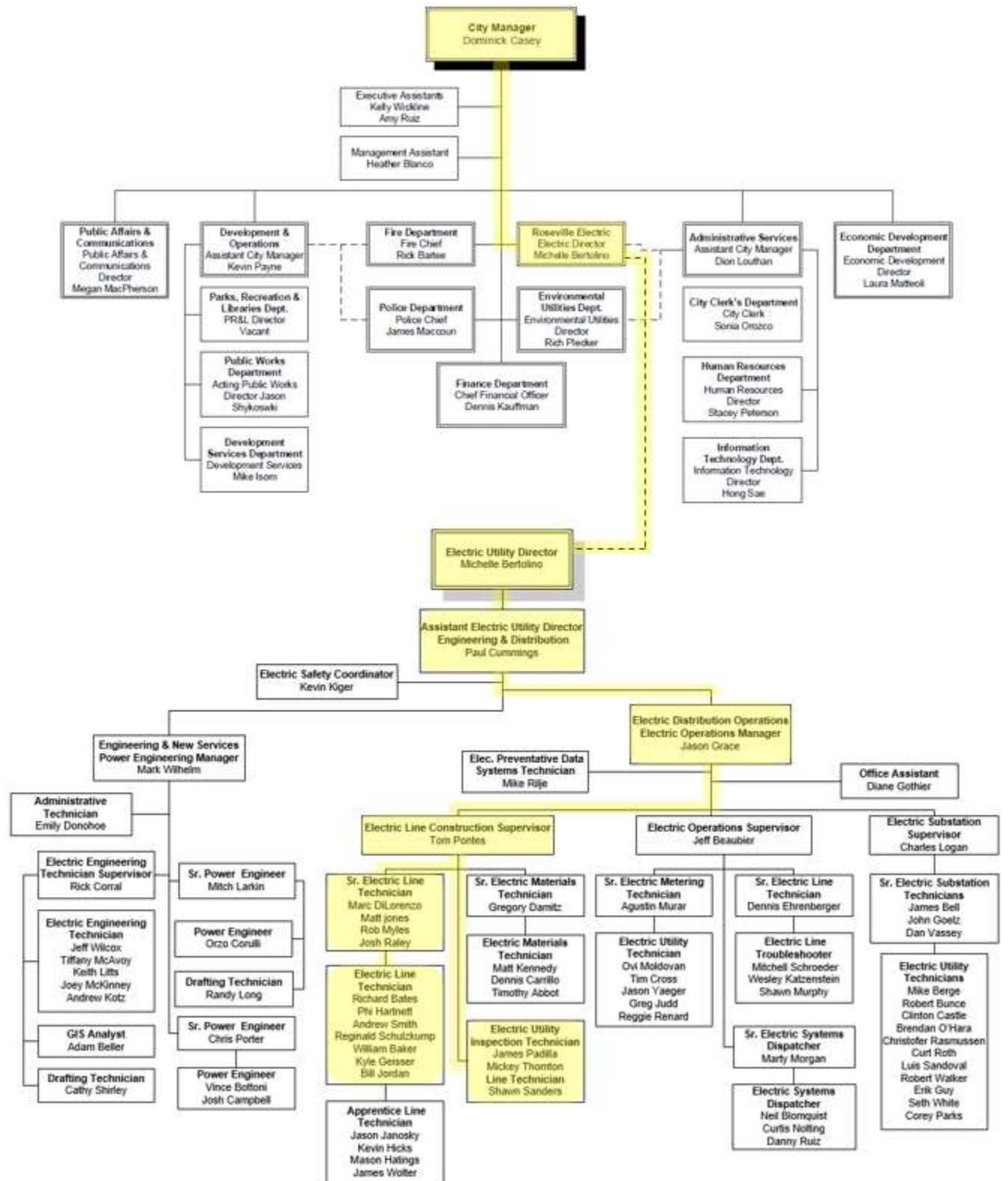
The City Manager administers the affairs of the city government in a businesslike and prudent manner. The public is invited to attend City Council meetings, which are typically held on the first and third Wednesday of the month in the City Council Chambers, 311 Vernon Street. Special meetings and workshops 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 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. *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 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 (REU, EOP 2.0):

- 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



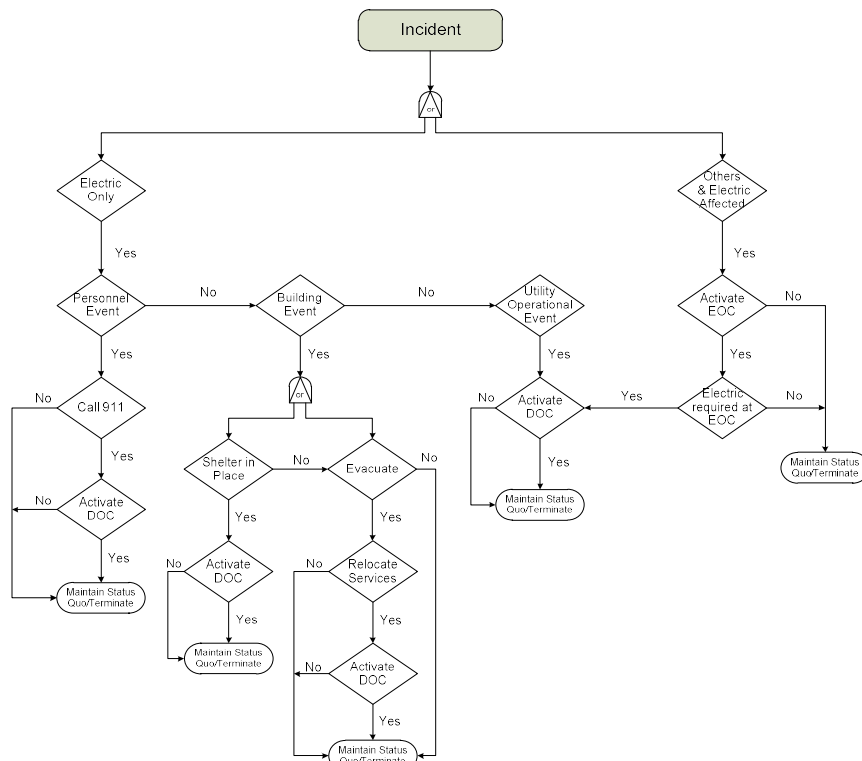
The DOC is the Roseville Electric Utility Department Command Post during times of emergencies. The DOC functions similarly to the EOC, but at a department level. The DOC coordinates strategic, operational and tactical decisions for field operations. If an emergency, such as a widespread fire, necessitates 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.

| 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 |

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:

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- 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.

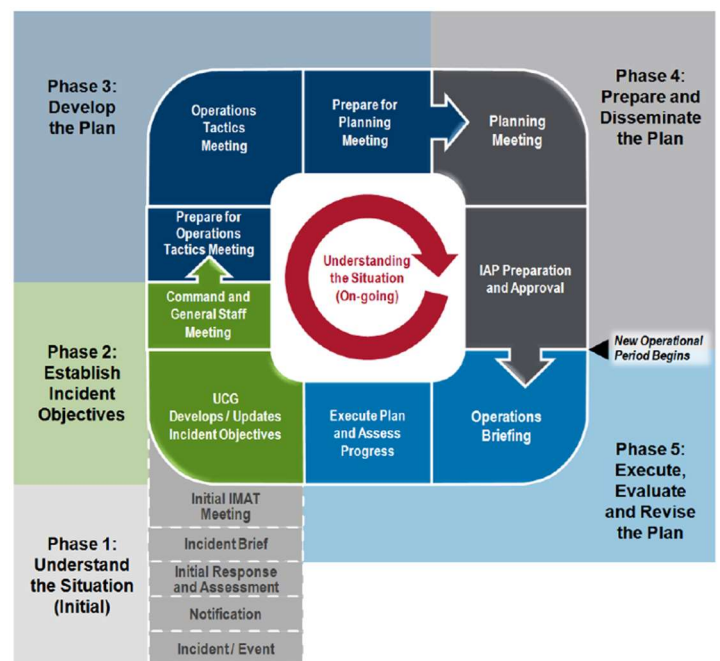
Once activated, the EOC/DOC utilizes the Planning Cycle to establish a continuum for Incident Action Planning (IAP) during both emergency and non-emergency operations and is an integral tool for managing an emergency incident.

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 Management Annex in Part 3 of the Emergency Operation Procedure describes the City of Roseville EPI organization and prescribes procedures for the dissemination of accurate and timely instructions and information to the public during periods of emergency: 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 be 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.

Additional communication information protocols can be found in the External and Internal Outage Communication procedure (REU, SOP 6.02A).

3. WILDFIRE RISKS AND DRIVERS

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. (National Oceanic and Atmospheric Administration, n.d.)

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. (Californias Fourth Climate Change Assessment, n.d.)

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. (Californias Fourth Climate Change Assessment, n.d.)

Roseville Electric Utility does 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)

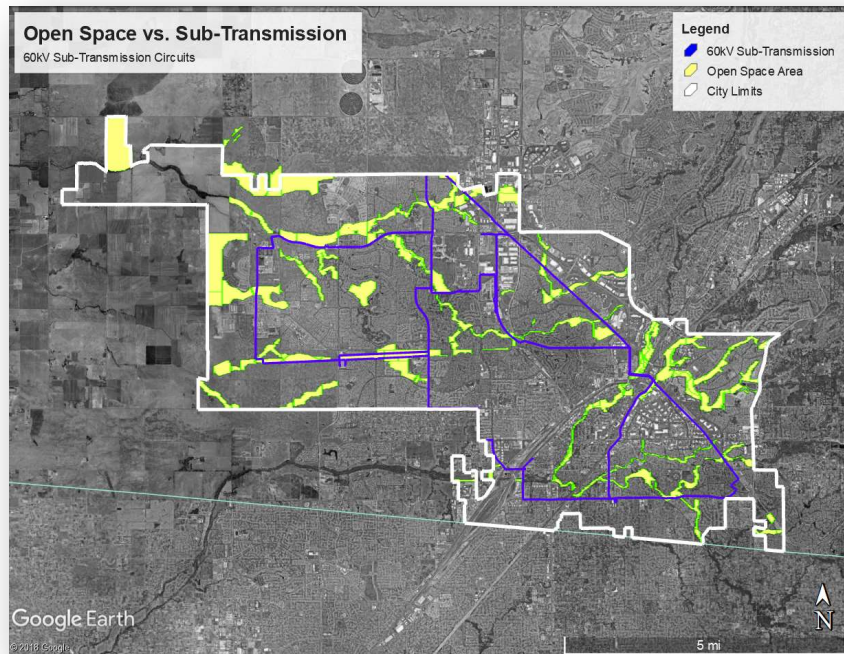
In an emergency situation, de-energization of circuits due to (or in preparation of) a major weather-related event would typically be directed from the EOC or DOC (see “Standardized Emergency Management System” Section 2).

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.

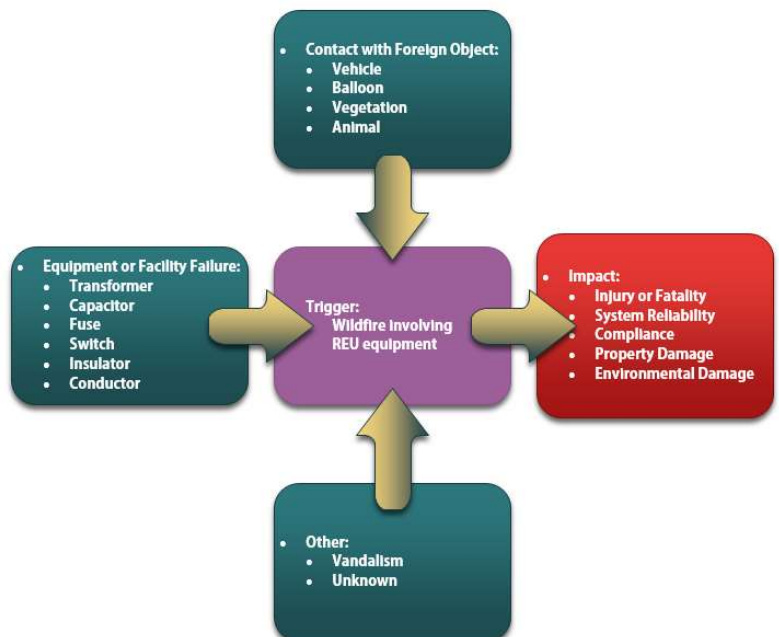
Figure 1- Roseville Open Space Areas / 60kV Sub-Transmission



Enterprise-Wide Safety Risks

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

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



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

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

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

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. Studies are conducted that include potential impacts, such as financial, legal, regulatory and compliance, operational, strategic, reputational and workforce.

4. 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.

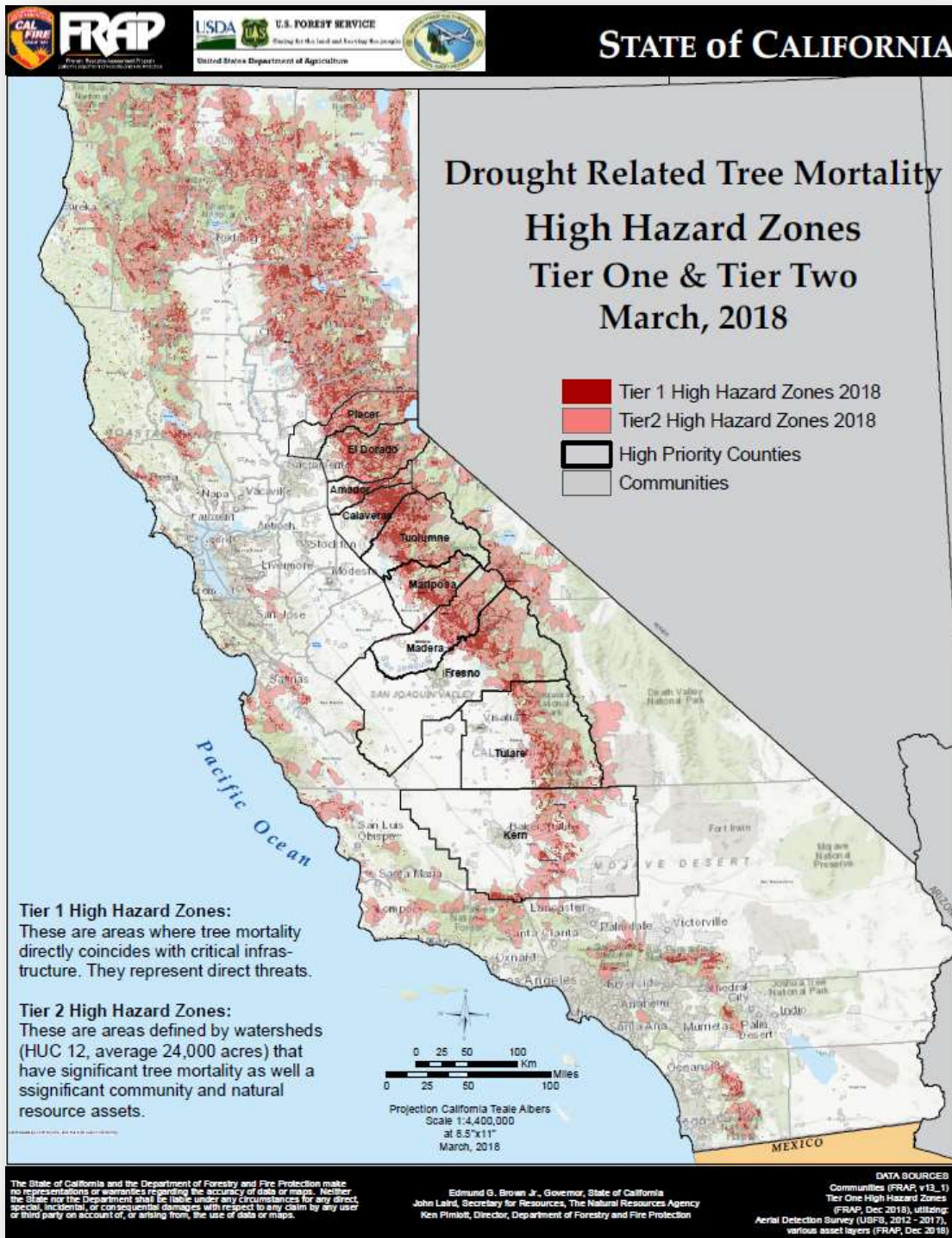
The scope of R.15-05-006 included the identification, evaluation, and adoption of additional fire-safety regulations for the High Fire-threat District (HFTD). To this end, a series of public workshops were held by a group known as the Fire Safety Technical Panel (FSTP), chaired by the CPUC's SED and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

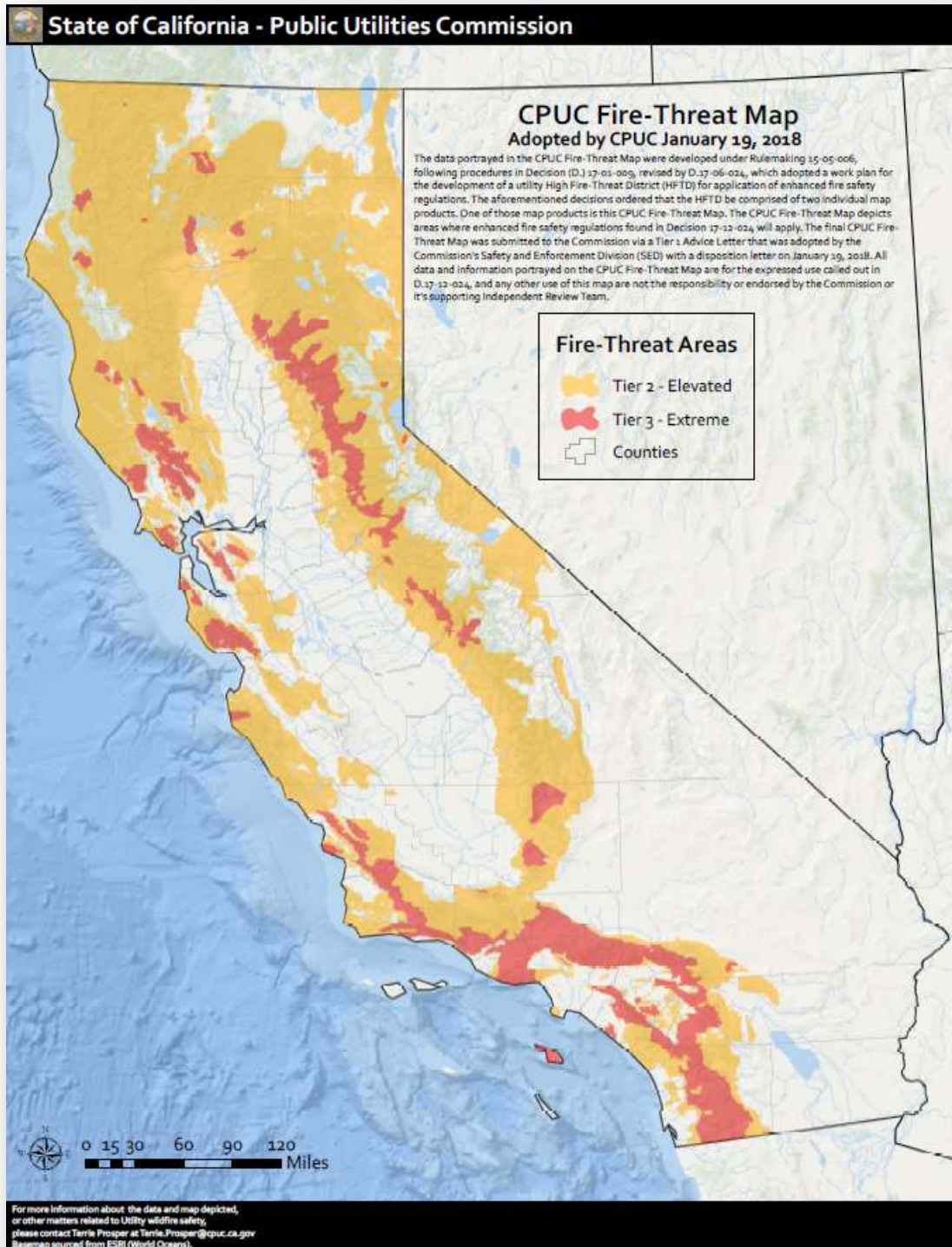
On January 19, 2018, the CPUC adopted, via SED's disposition of a Tier 1 Advice Letter, the final CPUC Fire-Threat Map. The adopted CPUC Fire-Threat Map, together with the map of Tier 1 High Hazard Zones (HHZs) on the USFS-CAL FIRE joint map of Tree Mortality HHZs, comprise the HFTD Map where stricter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

Figure 2 - California Fire High Hazard Zones



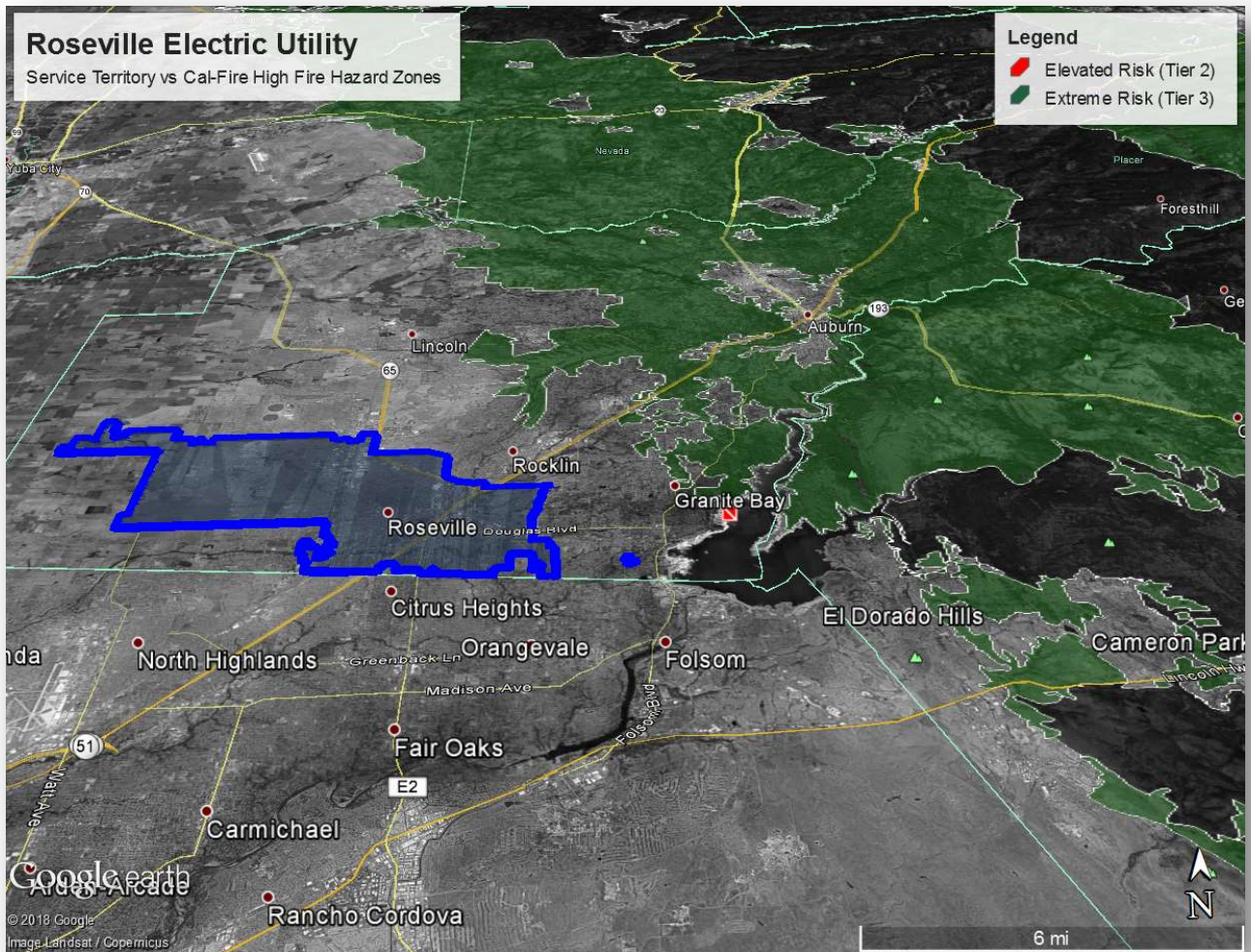
Note: The City of Roseville is not currently located within a USFS-CAL FIRE designated High Hazard Zone. High Hazard Zones are based on estimated tree mortality rates.

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

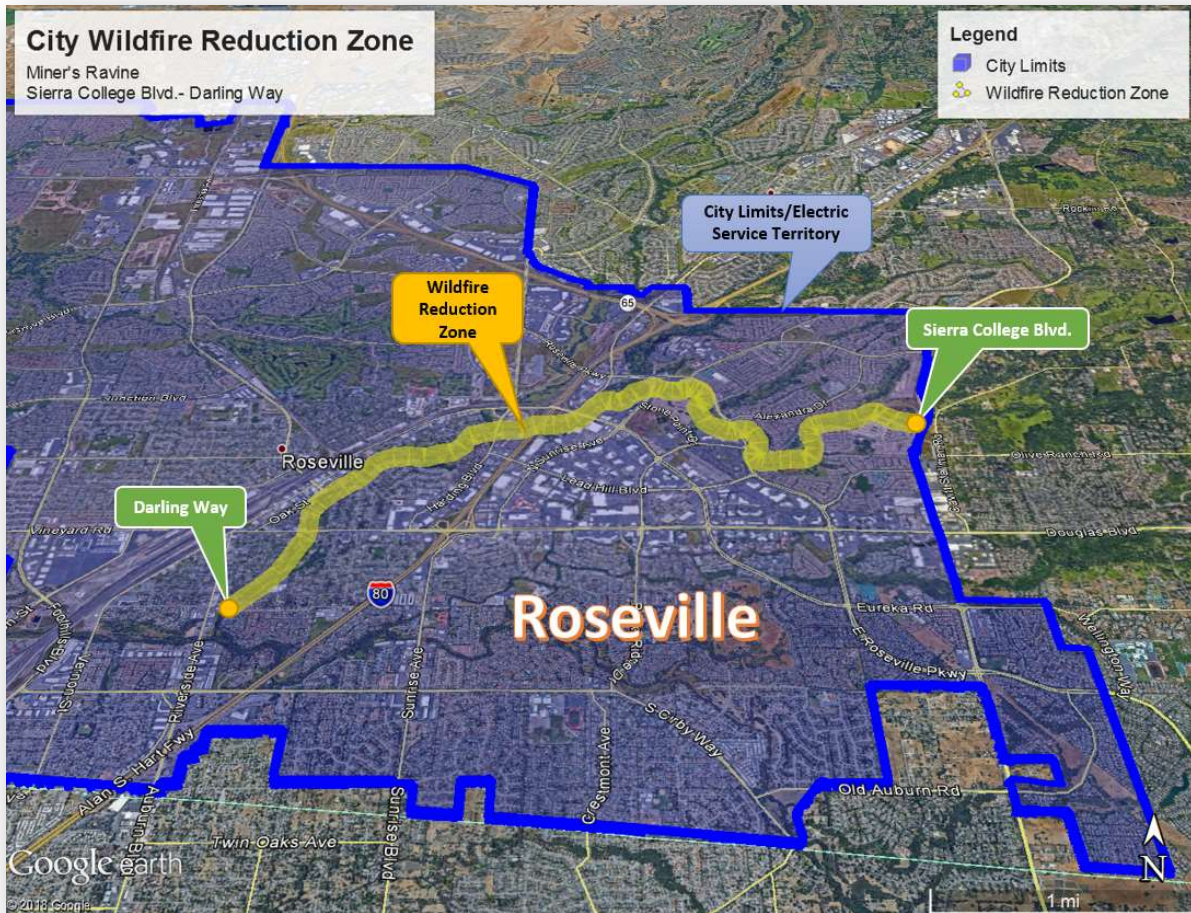


Roseville Electric Utility reviewed the boundaries of the HFTD and confirmed that, based on local conditions and historical fire data, all of Roseville Electric Utility’s service territory was properly excluded.

City Wildfire Reduction Zone

The area designated as the “City Wildfire Reduction Zone” 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



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 will research the use Cal Fire Exempt equipment such as non-explosive fuses. Additionally, line and bird guards will be installed where jumpers are closely spaced, and the use of hot line clamps will be prohibited.

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 which do not apply to Roseville; however, Roseville Electric Utility contract tree crews perform tree branch trims to keep several feet of clearance away from the primary overhead electric supply conductors at the time of the trimming, refer to the Wildfire Reduction Zone Inspection and Maintenance Program (REU, EOP 1.07). 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. The recommended time-of-trim guidelines do not establish a mandatory standard, but instead provide useful guidance to utilities. REU will use specific knowledge of growing conditions and tree species to determine the appropriate time-of-trim clearance in each circumstance.

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 | | |
|---|----------------|----------------|
| <p>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.</p> | | |
| 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 |

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 has decided to inspect the City Wildfire Reduction Zone on an annual basis, as stated in the Wildfire Reduction Zone Inspection and Maintenance Program (REU, EOP 1.07). The inspection target is to be completed annually, before the start of fire season each year.

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.

Response

Protocols for de-energizing portions of the electrical system defer to one of several methods that depend upon the severity and type of situation. In the unlikely event of a Power Safety Power Shutoff (PSPS) Roseville Electric will follow the protocols established 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 a PSPS:

- ❖ 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. Currently it is not known what types of generation are available to these facilities. The assumption is that there is and they can maintain minimal operations until power is restored. These facilities need further investigation as do the needs of the FBI building.
- ❖ 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 stated in Section 2.0 of this document.

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.

5. RESTORATION OF SERVICE

SOP 6.01 Electric Outage Restoration Procedure

Roseville Electric Utility has a Standard Operating Procedure for Electric Outage Restoration (REU, SOP 6.01). The purpose of the document is 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.

Employee, public safety personnel and public safety shall always be the first consideration.

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.

SOP 6.02 Outage Notification Procedure for Electric Dispatch

This document (REU, SOP 6.02) establishes broad power outage notification procedures that shall be adhered to by all Roseville Electric Utility Electric System Dispatchers involved in the notification process for scheduled and unscheduled power outages. This document provides general outage 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.

This procedure classifies outages in 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

This SOP is located in the dispatch center, online on the City intranet and a hard-copy has been assigned to relevant operations field staff. For reference, the document (REU, SOP 6.02A) “External and Internal Outage Communication” handles additional communication protocols.

6. 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 |

7. 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.

8. REFERENCES

- California Public Utilities Commission.* (n.d.). Retrieved from Fire Threat Maps: <https://www.cpuc.ca.gov/firethreatmaps/>
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Wildfire Mitigation Plan v1 121720 Final

Final Audit Report

2020-12-18

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