

# BANNING ELECTRIC UTILITY WILDFIRE MITIGATION PLAN

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*July 2021*



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## I. OVERVIEW

### A. POLICY STATEMENT

Banning Electric Utility's (BEU) overarching goal is to provide safe, reliable, and economic electric service to its local community. In order to meet this goal, BEU 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.

### B. PURPOSE OF THE WILDFIRE MITIGATION PLAN

This Wildfire Mitigation Plan describes the range of activities that BEU is taking to mitigate the threat of power-line ignited wildfires, including its various programs, policies, and procedures. This plan is subject to direct supervision by the Banning City Council and is implemented by the BEU Electric Utility Director. This plan complies with the requirements of Public Utilities Code section 8387 for publicly owned electric utilities to prepare a wildfire mitigation plan by January 1, 2020, and annually thereafter.

BEU is a department within the City of Banning. The City of Banning contracts with CAL Fire/Riverside County Fire Department for all fire department related services. BEU has collaborated with the City's fire prevention personnel to compile a program for patrol and vegetation clearance within the City and Utility's territory that is most susceptible to wildfire. BEU and CAL Fire have identified the utility poles that are within the high fire threat district within BEU's service territory. Since this identification was made, BEU has dedicated service crews to patrolling these areas while also utilizing on-call vegetation management services to ensure that the overhead conductors are clear from as many possible impacts.

CAL Fire creates its own fire-fighting plan for areas within the state's responsibility as well as within Banning city limits due to CAL Fire being the city's contracted Fire Agency. This plan was developed utilizing information about higher risk areas identified within the State Fire Map.

### C. ORGANIZATION OF THE WILDFIRE MITIGATION PLAN

Senate Bill 1028 requires all electric utilities to construct, maintain and operate its electrical lines and equipment in a manner that minimizes the risk of wildfire posed by this equipment. SB 1028 (that modifies an earlier wildfire mitigation bill, SB 901) and AB 1054 requires each POU develop and submit a Wildfire Mitigation Plan (WMP) to a new state agency, tentatively named the California Wildfire Safety Advisory Board (CWSAB), for review and approval by July 1, 2020 and update and resubmit the plan each July thereafter. The WPMP must include:

- (1) An accounting of the responsibilities of persons responsible for executing the plan.
- (2) The objectives of the plan.

- (3) A description of the preventive strategies and programs adopted by the electrical corporation to minimize the risk of its electrical lines and equipment causing catastrophic wildfires.
- (4) A description of the metrics the electrical corporation plans to use to evaluate the plan's performance and the assumptions that underlie the use of those metrics.
- (5) A discussion of how the application of previously identified metrics to previous plan performances has informed the plan.
- (6) A description of the processes and procedures the electrical corporation will use to do the following:
  - (A) How the utility intends to monitor and audit the implementation of the plan.
  - (B) How the utility will identify any deficiencies in the plan or the plan's implementation and correct those deficiencies.
  - (C) How the utility will monitor and audit the effectiveness of electrical line and equipment inspections, including inspections performed by contractors, carried out under the plan and other applicable statutes and commission rules.
- (7) Any other information that the commission may require.

In 2018 the CPUC completed the development of the statewide Fire Threat Map, also known as Fire Map 2 (Figure 1), that designates areas of the state at an elevated risk of electric line-ignited wildfires. This updated map incorporated historical fire data, fire-behavior modeling, and assessments of fuel, weather modeling, and host of other factors. The map development and approval process involved detailed review by the relevant utility staff and local fire officials, a peer review process, and ultimate approval by a team of technical experts led by CAL Fire.

The CPUC's Fire Threat Map includes three Tiers/Levels of fire threat risk. Tier 1 consists of areas that have the lowest hazards and risks. Tier 2 consists of areas on the CPUC Fire Threat Map where there is an *elevated risk* for destructive utility-associated wildfires. Finally, Tier 3 consists of areas on the CPUC Fire-Threat Map where there is an *extreme risk* for destructive utility-associated wildfires.

SB 1028 was enacted prior to the adoption of the CPUC's Fire Threat Map and does not reference the tiers of fire risk. However, BEU staff believe that the Fire Threat Map is the best source of data for determining whether there is significant risk of wildfire resulting from electrical lines or equipment. The Fire Threat Map incorporates historical fire data and received extensive input from electric utility staff and fire officials.

The CPUC's Fire Threat Map (Figure 2) for BEU identifies four primary areas of wildfire potential within Banning, a Tier 2 threat level within the site of the Rancho San Gorgonio Development, a tier 2 level in East Banning north and South of the Banning Airport, a Tier 2 threat level within the Communication Hill, Gilman Ranch and Sunnyslope Cemetery areas, and a Tier 3 threat level in the Banning Canyon and Mias Canyon areas. There is also a short stretch of transmission line (0.9

miles long) in an open area south of the I-10 Freeway between Sunset Avenue and South Highland Home Road that is in a Tier 2 threat level area.

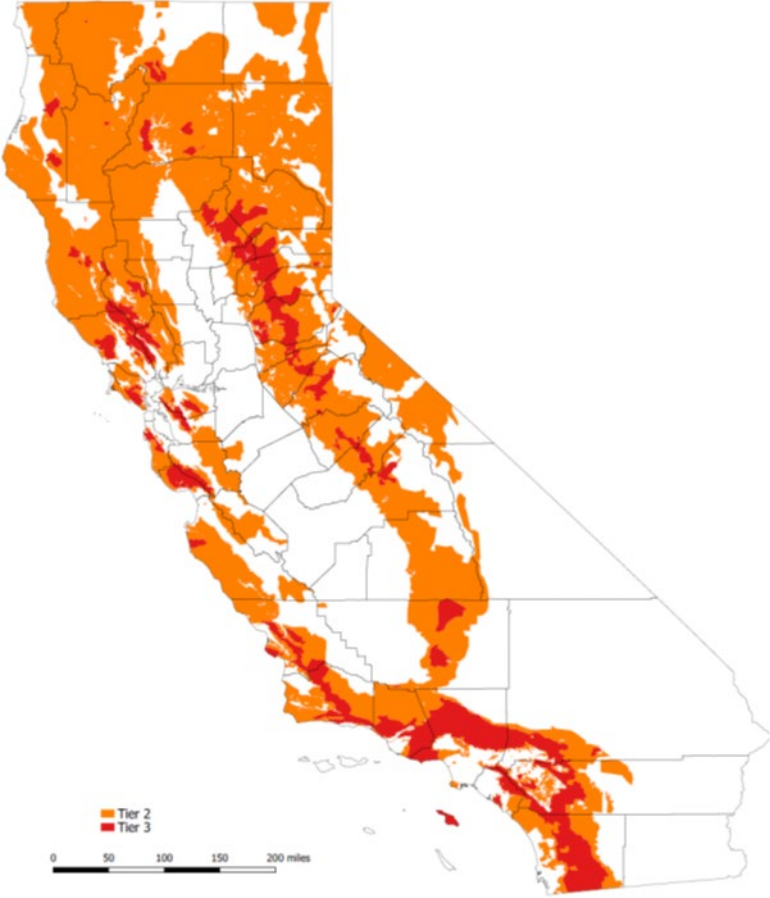
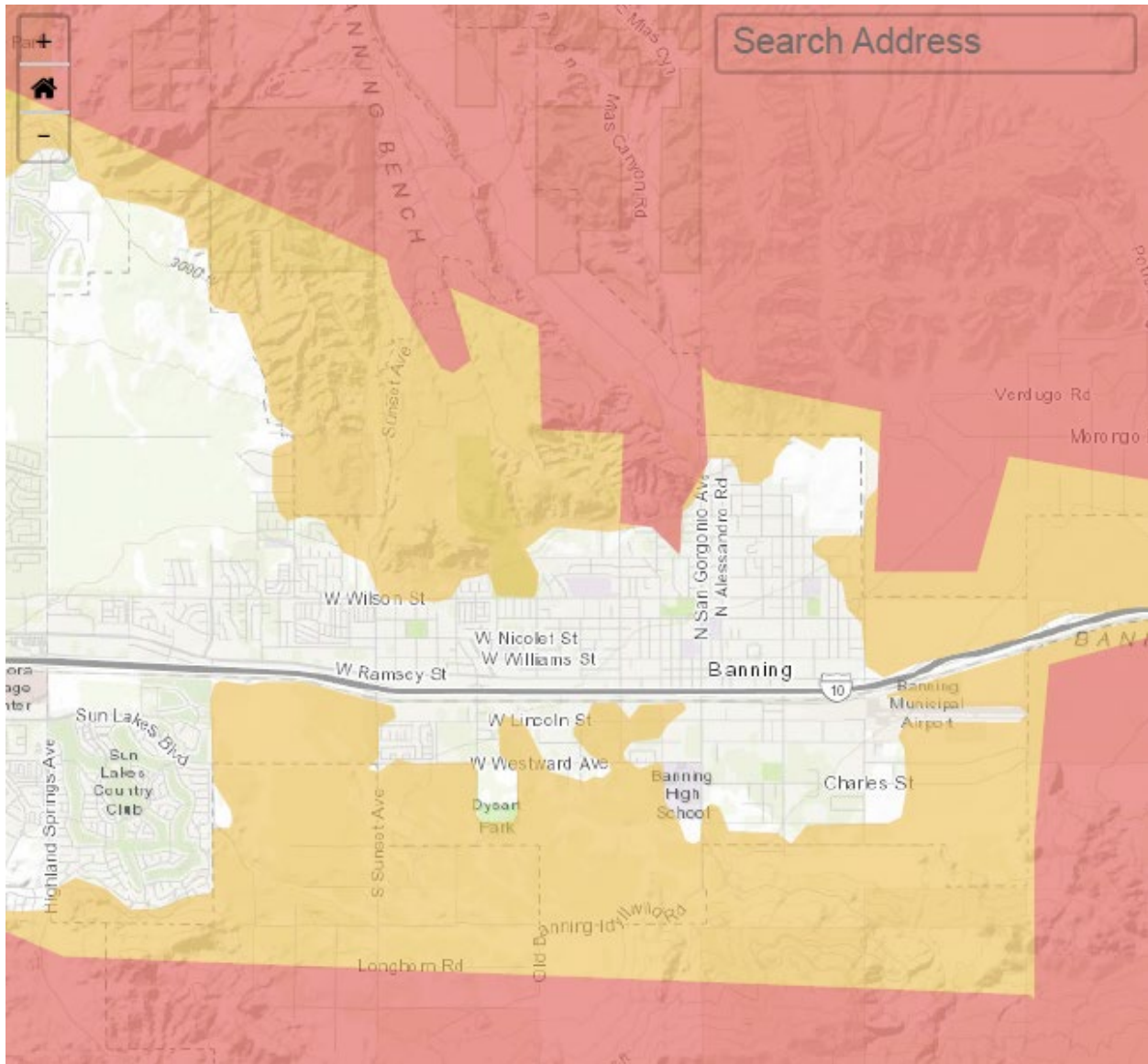


Figure 1 CPUC Fire Map 2



**Figure 2 Fire Map 2 - BEU Service Territory**

Conversely, the California Department of Forestry and Fire Protection's Fire and Resource Assessment Program (FRAP) had also developed a map in 2008 and then revised in 2012, also known as the FRAP Map, that 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. This map (Figure 3) identifies areas of wildfire potential within Banning's Local Responsibility Area. Banning and Mias Canyon areas, a portion of area along the boundary of North Hathaway Street, areas within Gilman Ranch and near Sunnyslope Cemetery, and an area in southeast Banning south of Wesley Street and Smith Creek as Very High Fire Hazard Severity Zones (VHFHZs).



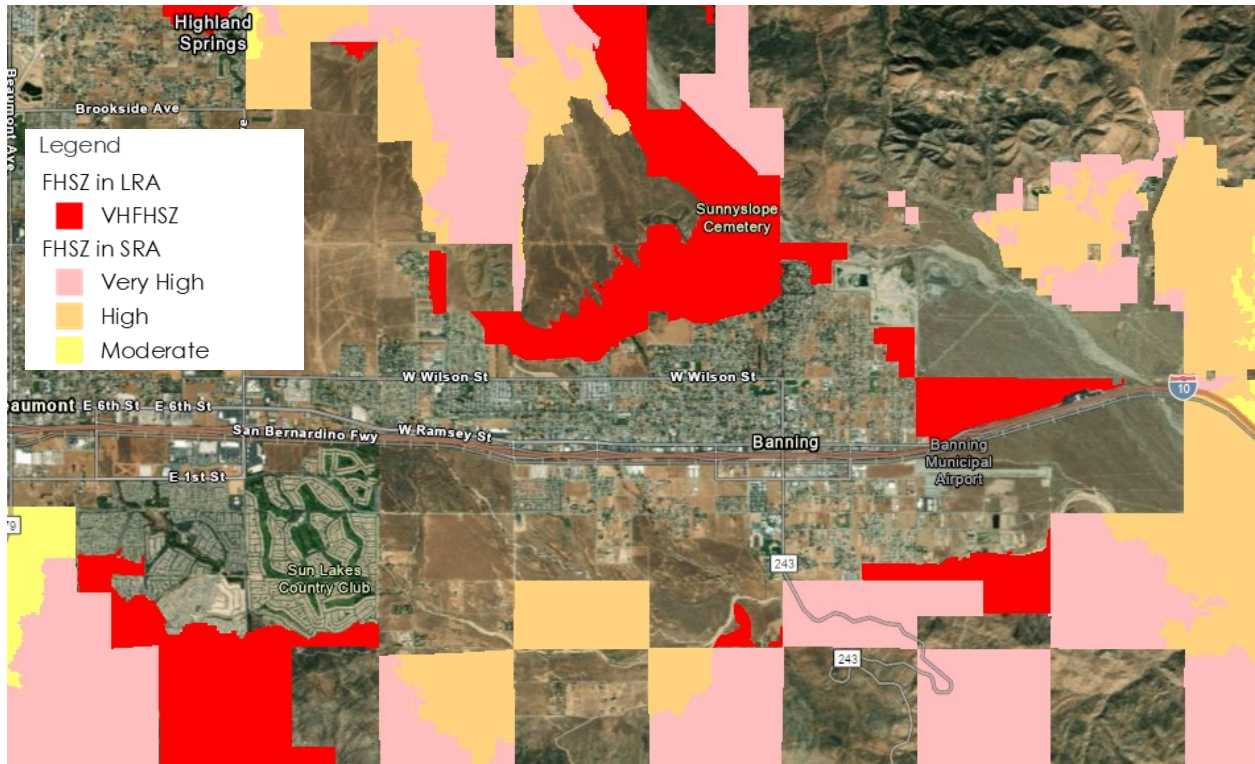


Figure 3 FRAP Map - BEU Service Territory



## II. OBJECTIVES OF THE WILDFIRE MITIGATION PLAN

### A. MINIMIZING SOURCES OF IGNITION

The primary goal of this Wildfire Mitigation Plan is to minimize the probability that BEU's transmission and distribution system may be the origin or contributing source for the ignition of a fire. BEU has evaluated the prudent and cost-effective improvements to its physical assets, operations, and training that can help to meet this objective. BEU will implement those changes consistent with this evaluation.

### B. RESILIENCY OF THE ELECTRIC GRID

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

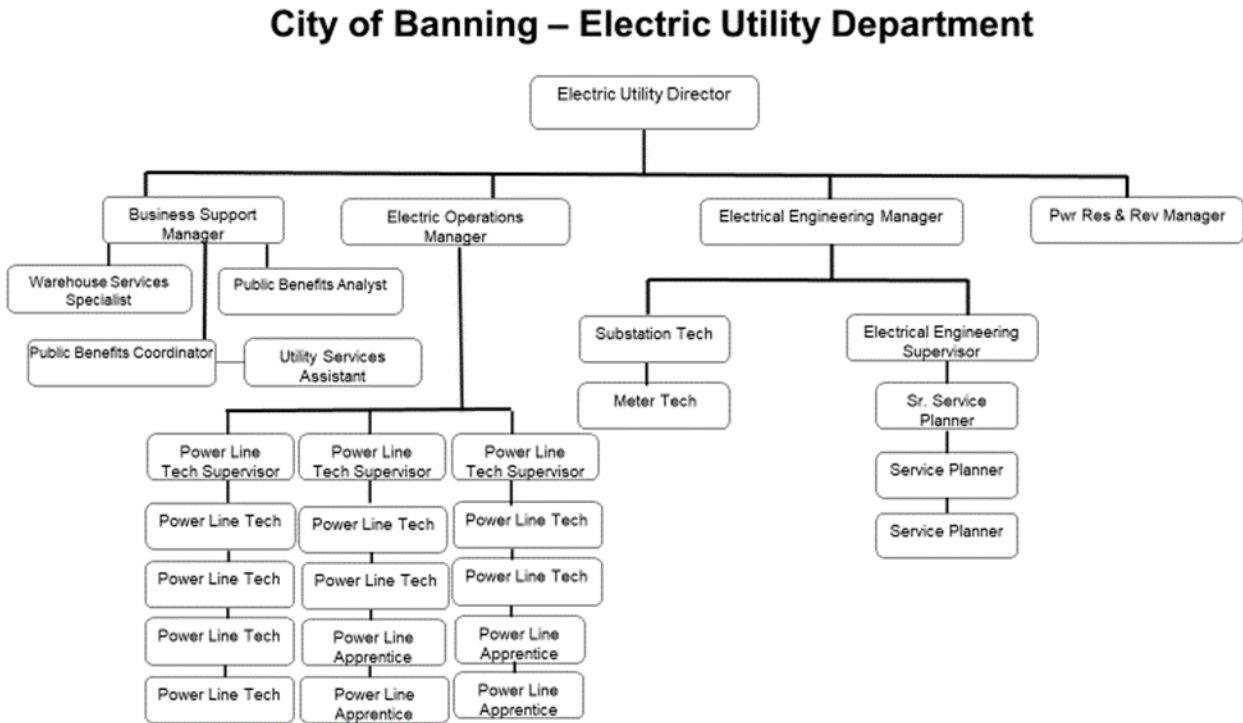
### C. IDENTIFYING UNNECESSARY OR INEFFECTIVE ACTIONS

The final goal for this Wildfire Mitigation Plan is to measure the effectiveness of specific wildfire mitigation strategies. Where a particular action, program component, or protocol is determined to be unnecessary or ineffective, BEU will assess whether a modification or replacement is merited. This plan will also help determine if more cost-effective measures would produce the same or improved results.

### III. ROLES AND RESPONSIBILITIES

#### A. UTILITY GOVERNANCE STRUCTURE

BEU's organization chart is shown below:



The BEU staff that have explicit responsibilities for wildfire prevention activities include:

**Electric Utilities Director:** Assumes overall responsibility for BEU's planning and mitigation activities, including maintaining compliance with state and federal safety and operating requirements.

**Electric Operations Manager:** Responsible for the safe operation of the BEU's 12.47 kV and below lines and equipment. The Electric Operations Manager supervises the BEU's linemen and is primarily responsible for ensuring that the lines are inspected, and a data base of pole and equipment inspections and O&M is maintained. The Electric Operations Manager is responsible for safety programs, including wildfire prevention training and evaluation and installation of new protective equipment to reduce fire risk.

**Electrical Engineering Manager:** Responsible for the reliable operation of the BEU's 34.5 kV transmission system and BEU's six 34.5/12 kV substations. This individual maintains compliance with federal, state and local fire management personnel to ensure that appropriate preventive measures are in place.

Electrical Engineering Supervisor: Responsible for management of the WMP, tracking of wildfire mitigation efforts, leads research of new technological developments related to wildfire mitigation, acts as the liaison between BEU and other stakeholders of the WMP. The Electrical Engineering Supervisor also manages the design and analysis functions of the electric distribution system.

## B. WILDFIRE PREVENTION

BEU's overall responsibility is to provide safe, reliable and sustainable and energy to its customers. The main responsibilities of BEUs' wildfire prevention objective include:

- Operating system in a manner that will minimize potential wildfire risks.
- Taking all reasonable and practicable actions to minimize the risk of a catastrophic wildfire caused by BEU electric facilities.
- Coordinating with federal, state, and local fire management personnel as necessary or appropriate to implement BEU's Wildfire Mitigation Plan.
- Immediately reporting fires, pursuant to existing BEU practices and the requirements of this Wildfire Mitigation Plan.
- Taking corrective action when the staff witnesses or is notified that fire protection measures have not been properly installed or maintained.
- Complying with relevant federal, state, and industry standard requirements, including the industry standards established by the California Public Utilities Commission.
- Collecting and maintaining wildfire data necessary for the implementation of this Wildfire Mitigation Plan.
- Providing regular training programs for all employees having obligations for implementation of this Wildfire Mitigation Plan.

BEU has evaluated practical and feasible improvements to its physical assets to reduce the fire hazard due to BEU's equipment. BEU's response has been to:

- significantly increase vegetation removal in the elevated threat areas;
- increase the number of patrols during red-flag periods to check for downed lines and broken or damaged poles and cross-arms;
- install expulsion-limiting fuses and avian protection at pole connections as a standard practice, and
- pilot a project to inspect and take inventory of all the 12.47 and 34.5/69 kV circuits which will aid in the adoption of a more rigorous inspection program for circuits located in the elevated threat areas.

## C. WILDFIRE RESPONSE AND RECOVERY

Whether or not Banning's Emergency Operations Plan is put into action, BEU emergency respondents have an obligation to communicate directly with local field level emergency

response personnel as well as with local government officials during an apparent emergency event.

BEU staff have the following obligations regarding fire prevention, response and investigation:

- Take all reasonable and practicable actions to prevent and suppress fires resulting from BEU electric facilities.
- Follow BEU protocols during Red Flag Warnings.

#### D. COORDINATION WITH WATER UTILITIES/DEPARTMENT

BEU coordinates either directly with the Water/Wastewater Superintendent regarding information and implementation of strategies directly related to wildfire mitigation efforts. This communication would usually be elevated to the Public Works Director who oversees the Water/Wastewater Division during an actual wildfire event to ensure that all levels of management are informed of mitigation procedures and any fire-fighting activity that may be present within City limits that may affect power to water/wastewater resources.

#### E. COORDINATION WITH OTHER POWER AND COMMUNICATION INFRASTRUCTURE PROVIDERS

##### Coordination with Southern California Edison (SCE)

SCE has 220, 115, and 33 kV lines within BEU's service territory. SCE has developed their own Wildfire Prevention and Mitigation Plan detailing their plans for preventing any wildfire events and BEU and SCE are cooperating to reduce any impacts of the SCE plan on Banning customers.

Banning receives all its power imports SCE's 115 kV transmission lines from El Casco Substation to SCE's Banning Substation. SCE also has the ability to feed Banning through three other 115kV transmission lines from Zanja, Maraschino, or Devers Substations to SCE's Banning Substation. There are six 33 kV lines out of Banning Substation. Three of these lines (Dysart, Saddleback, and Stubby) serve SCE customers outside BEU's service territory, with the remaining three serving Banning loads. SCE has performed system studies to determine what would happen to Banning residents if different combinations of these three lines serving Banning were interrupted.

Depending upon the circuit interrupted, Banning could see up to two-thirds of its load dropped. Banning does not currently utilize any internal generation that could make up the capacity shortfall, which could cause significant impacts on Banning's customers.

As a result, BEU and SCE will need to develop protocols for inspecting and energizing SCE lines that have tripped or been purposely de-energized during red flag periods. Development of these protocols are a high priority by both SCE and BEU.

##### Coordination with Communication Infrastructure Providers

BEU has a direct relationship with communications providers such as Verizon, Frontier, AT&T, Charter, Time Warner, MCI and others. Most communications regarding removal or upgrade of overhead utilities is handled through a Joint Pole Authorization (JPA) process. The JPA tracks the progress of changes to utility (joint pole owner) connections at any given pole and tracks the costs associated with specific changes or upgrades. The changes include but are not limited to new attachments, replacement of existing attachments, pole inspections, and removal of utility poles to convert to underground construction.

When communications with these companies are of an urgent matter, for instance in a high risk or red flag weather condition or if there is damage present at a utility pole, direct communication is required in order to assess all conditions and prepare for emergency. First responders are supplied with all of the direct contact information for these companies.

## F. STANDARDIZED EMERGENCY MANAGEMENT SYSTEM

As a local governmental agency,<sup>1</sup> BEU has planning, communication, and coordination obligations pursuant to the California Office of Emergency Services' Standardized Emergency Management System ("SEMS") Regulations,<sup>2</sup> 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.<sup>3</sup> Pursuant to this structure, the City of Banning annually coordinates and communicates with the relevant safety agencies as well as other relevant local and state agencies.

BEU operates under the objectives and policies described within City of Banning's Emergency Operations Plan; the latest version of the plan was adopted in December 2012. The level of

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<sup>1</sup> As defined in Cal. Gov. Code § 8680.2.

<sup>2</sup> 19 CCR § 2407.

<sup>3</sup> Cal. Gov. Code § 2403(b):

(1) "Field response level" commands emergency response personnel and resources to carry out tactical decisions and activities in direct response to an incident or threat.

(2) "Local government level" manages and coordinates the overall emergency response and recovery activities within their jurisdiction.

(3) "Operational area level" manages and/or coordinates information, resources, and priorities among local governments within the operational area and serves as the coordination and communication link between the local government level and the regional level.

(4) "Regional level" manages and coordinates information and resources among operational areas within the mutual aid region designated pursuant to Government Code §8600 and between the operational areas and the state level. This level along with the state level coordinates overall state agency support for emergency response activities.

(5) "State level" manages state resources in response to the emergency needs of the other levels, manages and coordinates mutual aid among the mutual aid regions and between the regional level and state level, and serves as the coordination and communication link with the federal disaster response system.

communication, training, and coordination required from management, field personnel, and responding agencies is outlined within this plan. This plan is also fully compliant with the National Incident Management System (NIMS), which was enacted by the US Department of Homeland Security on March 1, 2004.

SEMS/NIMS have five essential functions adapted from ICS. These functions, while originally designed to give direction and control only to field level responders, are also applicable in the EOC at the local government, operational area, regional, and state levels. They are:

- Command (field level) or Management (EOC level)
- Operations
- Planning & Intelligence
- Logistics
- Finance & Administration

Wildfires are considered a Level 2 Emergency Alert under the SEMS structure. Activation of personnel during a wildfire emergency is described in the following chart taken from Banning's Emergency Operations Plan:

Event/Situation	Activation Level	Minimum Staffing
<ul style="list-style-type: none"> <li>• Small incidents involving two or more City Departments</li> <li>• Flood Watch</li> <li>• Resource request from outside the City</li> <li>• The Operational Area requests the City activate their EOC in support of the Operational Area EOC</li> <li>• There is an incident adjacent to the City that may impact the City..</li> </ul>	One	<ul style="list-style-type: none"> <li>• EOC Manager</li> <li>• Representatives of corresponding City departments</li> </ul>
<ul style="list-style-type: none"> <li>• Moderate Earthquake</li> <li>• Major wildland fire affecting developed area</li> <li>• Major wind or rain storm</li> <li>• Two or more large incidents involving two or more City Departments</li> <li>• Flood Warning</li> </ul>	Two	<ul style="list-style-type: none"> <li>• Dir. of Emergency Services</li> <li>• All Section Chiefs</li> <li>• Branches and Units as appropriate for the situation</li> <li>• Agency representatives as appropriate</li> </ul>
<ul style="list-style-type: none"> <li>• Major Countywide or Regional emergency</li> <li>• Multiple departments with heavy resource involvement</li> <li>• Major earthquake damage</li> <li>• Any real or potential failure of Perris Dam</li> </ul>	Three	<ul style="list-style-type: none"> <li>• All EOC positions</li> </ul>

Figure 3 Banning EOC Activation Levels

Under the SEMS structure, a significant amount of preparation is done through advanced planning at the county level, including the coordination of effort of public, private, and nonprofit organizations. Riverside County serves as the Operational Area and is guided by the Riverside County Disaster Council that is made up of representatives of several officials which include members of the Banning City Council. The Banning City Mayor, and lead representative of Banning City Council, is responsible for declaring a local disaster and implementing the Emergency Operations Plan. The Operational Area includes local and regional organizations that bring relevant expertise to the wildfire prevention and recovery planning process. These participants include Riverside County Sheriff – Banning Station, Riverside County Fire/CDF/ESC, Executive Management Team, Riverside County Office of Emergency Services, Banning Unified School District, Morongo Tribe, Banning City Council, EOC Command Management Staff, the American Red Cross, Hospitals, special districts, communications providers, and other similar organizations.



Pursuant to the SEMS structure, BEU members are encouraged to participate in annual training exercises that are coordinated through other local and county agencies. NIMS Training and Emergency Preparedness training is required for all emergency response personnel. Participation in Tabletop Exercises, Functional Exercises and Multi-Agency Exercise are recommended to provide emergency responders with a realistic simulation of emergency events with full field deployment.

BEU is a member of the California Utility Emergency Association, which plays a key role in ensuring communications between utilities during emergencies. BEU also participates in the Western Energy Institute's Western Region Mutual Assistance Agreement, which is a mutual assistance agreement covering utilities across several western states.

## IV. WILDFIRE RISKS AND DRIVERS ASSOCIATED WITH DESIGN, CONSTRUCTION, OPERATION, AND MAINTENANCE

### A. PARTICULAR RISKS AND RISK DRIVERS ASSOCIATED WITH TOPOGRAPHIC AND CLIMATOLOGICAL RISK FACTORS

Climate change is expected to cause increased temperatures, drier conditions, and insect outbreaks in the decades to come, all of which will likely increase the risk of wildfires, especially in the western United States.<sup>4</sup> Because wildfire risk is tied to higher temperatures, drought, and flooding, comprehensive resilience planning for multiple impacts is critical for communities.

Within BEU's service territory and the surrounding areas, the primary risk drivers for wildfire are the following:

- Extended drought;
- Vegetation type;
- Vegetation Density;
- Weather;
- High winds;
- Terrain;
- Changing Weather Patterns (Climate Change)
- Communities at Risk
- Fire History

Banning has two primary areas where the potential for wildfires is high due to fuels or vegetation, winds and terrain. The northeaster portion of Banning, the Banning and Mias Canyon areas, is a rugged, hilly area with canyons that makes travel through it difficult. This is the City's primary fire threat area. Wildfires can start within this area and then move to the west into the populated areas of Banning and unincorporated Riverside County due to prevailing winds.

The other area of concern is the undeveloped Communication Hill area of north-central Banning that contains communication towers and water reservoirs atop a large hill. Directly to the east side are two large undeveloped areas comprised of Gilman Ranch and Sunnyslope Cemetery. The Gilman Ranch and Sunnyslope Cemetery areas will be developed in the next few years, reducing wildfire threats. BEU has to plan on fires in the area even though BEU only has less than a combined 800 feet of overhead distribution line in these areas. SCE has several high voltage 115 kV transmission lines going east-west across the very northern part of the area.

#### Asset Classification

BEU does not have any substations in Banning and Mias Canyons, Communication Hill, or Gilman ranch and Sunnyslope areas. BEU has a single, 12.47 kV overhead circuit along Gilman Street in

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<sup>4</sup> D.J. Wuebbles et al., Climate Science Special Report: *Fourth National Climate Assessment*, (Washington, DC: U.S. Global Change Research Program, 2017)

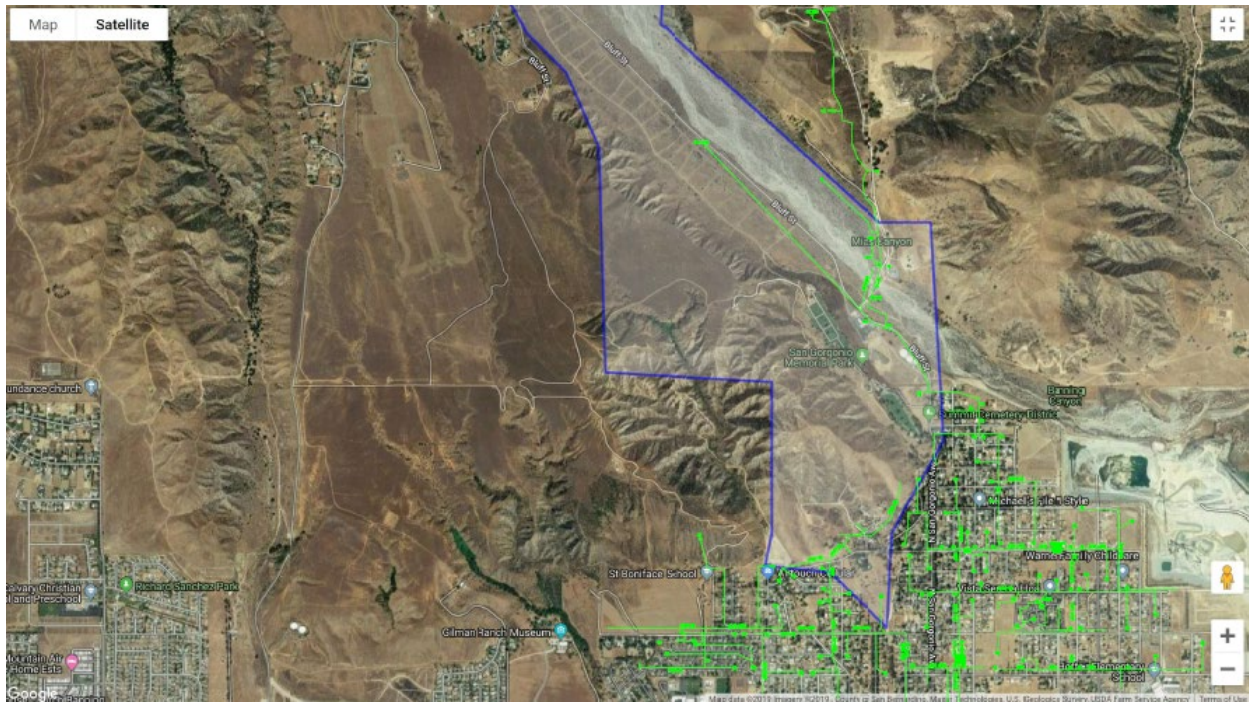
the Gilman Ranch area, a single 12.47 kV overhead circuit through Banning Canyon adjacent to Bluff Street and a single-phase 7.2 kV overhead circuit through Mias Canyon on Mias Canyon Road. BEU does not have any 34.5 or 69 kV transmission lines through any of these areas.

The 12.47 kV overhead circuit on Gilman Street will eventually be converted to an underground circuit that will serve the future St. Boniface Development. The threat of wildfire being caused by utility lines in this area will be eliminated through grid hardening.

Both Banning Canyon and Mias Canyon lie within the Tier 3 extreme risk threat level area and present a challenge for BEU to provide reliable energy to these areas during an event that could potentially spark a wildfire.

One such challenge is that Banning Canyon is frequently referred to as the "Water Canyon" in that there are eight water distribution wells in which BEU currently provides energy. If BEU were to disconnect power to these wells, CAL Fire may be extremely limited in fire protection resources if these wells aren't pumping and providing water to fight wildfires. At the same time, the city's customers/rate payers could possibly be forced to operate on short water supply during a wildfire event which would have an immediate impact on quality of life for Banning residents.

Mias Canyon poses a unique challenge because BEU currently provides primary 12.47kV and 7.2 kV electric power through Mias Canyon Road (Figure 5), and SCE transforms BEU's primary power to secondary power at 240 V to serve 14 residential customers in this area (meters are owned by and billed through SCE). The task that must be defined is what type of event will require BEU to de-energize Mias Canyon and how will this be accomplished? What role will SCE play in this situation and what authority will they have? BEU has discussed with SCE the need for the 12.47 kV and 7.2 kV circuits that serve Mias Canyon to be regulated with an on-line 15 kV rated distribution circuit recloser that will allow BEU to shut off power to this area if the utility feels that de-energization is warranted. BEU is working diligently with SCE to reach a consensus on the sequence of operations during such an event such as notifying resident of any potential fire threats and coordinating any information it releases to SCE to avoid releasing contradictory information or miscommunicating during field operations.



**Figure 5 Primary Utility in Tier 3 Area**

To ensure conformity with all required actions of SB 1054, a timeline for necessary action to remediate potential threats in the Banning and Mias Canyon Tier 3 zones is presented in Figure 6.

Location	Fire Threat Tier	Electric Assets	Risk Description	Targeted Action/s	Timeframe
<b>Banning Canyon</b>	3	12.47kv OH distribution - 3 miles	Single-circuit overhead line feeds 8 water distribution wells needed for fresh water and fire protection	Joint project with SCE to harden the line which will include covered conductor, avian protection, fire-retardant wrap at base of poles, and 12.47kV recloser near base of the canyon	Construction schedule for Q4 2021
<b>Mias Canyon</b>	3	BEU provides OH 12.47kv and 7.2kv through Mias Canyon to 14 SCE customers	No disconnect device (recloser) exists to disconnect power to SCE customers in case of fire emergency.  Operating procedures with SCE have not been established	Install temporary in-line stick operated disconnects.  Develop engineering estimate for line upgrade and reclosers  Increase monitoring and limit fuels	Engineering estimate completed. Construction scheduled for Q3 2022

Figure 6 Action Plan for Tier 3 Areas

**B. ENTERPRISEWIDE SAFETY RISKS**

BEU does not have a database of what type of events have caused the most fires over the years. Based on current outage information, the ranking of factors causing BEU's outages was estimated as equipment deterioration or failure, vegetation (tree branches and palm fronds), vehicles running into BEU equipment, animals (mostly birds, snakes, and rodents), mylar balloons, lightning and vandalism.

During the past three years, BEU's largest and longest lasting outages have been caused by equipment deterioration or failure and vehicle damage to BEU equipment. The most outages (by number) over this period of time are due to equipment deterioration or failure, vegetation (mostly customer trees in service laterals) and vehicles hitting BEU equipment. BEU contracts with professional tree trimming vendors to ensure that all transmission and distribution equipment within the public right-of-way and on City-owned property are clear from any potential hazards involving vegetation.

BEU has had a long-term problem with palm fronds and other taller trees on private property throughout the city that blow free during wind events and fall across BEU's power lines. BEU's field staff does its best to engage and educate property owners of the inconvenience to other rate payers and potential dangers that may be present by allowing tree branches to reside near live power lines. Older, unkept trees that have the appearance of deterioration possibly due to tree rot are given the highest priority for required action. BEU may impose penalties that may include a fine or temporary disconnection of electric service if such vegetation hazards are not remedied within a specified amount of time once official notice of the unsafe condition is given.

### C. CHANGES TO CPUC FIRE THREAT MAP

BEU has considered the recommended threat levels identified on the CPUC Fire Threat Map and proposes to evaluate and remedy our construction standards accordingly. However, BEU has identified certain challenges to the methodology used to identify some of the areas with the service territory as high-risk wildfire threat zones.

In future WMP updates, BEU may choose to evaluate and recommend the following areas be eliminated from designation as a high-risk fire area although the CPUC fire map and FRAP Map show these areas as elevated risk areas:

- The site of the Rancho San Gorgonio Development
- East Banning north and south of the Banning Airport
- Gilman Ranch and Sunnyslope Cemetery areas,
- The portion of southeast Banning that lies south of Wesley Street and Smith Creek
- The portion of area along the boundary of North Hathaway Street

BEU believes that these areas could potentially have low risk of wildfire ignition due to the existence of only a few hundred feet of overhead wire in these sparsely developed areas. BEU also does not plan to construct additional overhead lines in these areas. Additionally, within the next few years, three new master planned communities will be constructed in the Rancho San Gorgonio, Gilman Ranch and Sunnyslope Cemetery areas, eliminating much of the undeveloped at-risk area.

## V. WILDFIRE PREVENTATIVE STRATEGIES

### A. HIGH FIRE THREAT DISTRICT

BEU directly participated in the development of the California Public Utilities Commission's (CPUC) Fire-Threat Map,<sup>5</sup> which designates a High-Fire Threat District. In the map development process, BEU served as a territory lead, and worked with utility staff and local fire & government officials to identify the areas of BEU's service territory that are at an elevated or extreme risk of power line ignited wildfire. BEU has incorporated the High Fire Threat District into its construction, inspection, maintenance, repair, and clearance practices, where applicable.

### B. WEATHER MONITORING

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

- United States National Weather Service
- United States Forest Service Wildland Fire Assessment System
- National Fire Danger Rating System
- National Interagency Fire Center – Predictive Services for Northern and Southern California.
- Any official warnings from CAL Fire

BEU assigns one of four operating conditions based on the relevant weather data and knowledge of local conditions:

- (1) Normal:** During normal conditions, no changes are made to operations or work policy.
- (2) Elevated:** During elevated fire-risk conditions, patrols begin in the areas of elevated and extreme risk to wildfires.
- (3) Extreme:** During extreme fire-risk conditions, an additional crew is assigned to either patrol or remain on stand-by to assist with any corrective action in the areas of elevated and extreme risk to wildfires.
- (4) Red Flag:** If the National Weather Service declares a Red Flag Warning for any portion of BEU's service territory, then an additional crew will be assigned to patrol the areas of elevated and extreme risk to wildfires and assist with any corrective action needed.

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<sup>5</sup> Adopted by CPUC Decision 17-12-024.



## C. DESIGN AND CONSTRUCTION STANDARDS

BEU's electric facilities are designed and constructed to meet or exceed the relevant federal, state, or industry standard. BEU treats CPUC General Order (GO) 95 as a key industry standard for design and construction standards for overhead electrical facilities. BEU meets or exceeds all standards in GO 95. Additionally, BEU monitors and follows as appropriate the National Electric Safety Code.

## D. VEGETATION MANAGEMENT

BEU meets or exceeds the minimum industry standard vegetation management practices. For transmission-level facilities, BEU complies with NERC FAC-003-4, where applicable. For both transmission and distribution level facilities, BEU 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. The recommended time-of-trim guidelines do not establish a mandatory standard, but instead provide useful guidance to utilities. BEU will use specific knowledge of growing conditions and tree species to determine the appropriate time of trim clearance in each circumstance.

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

## 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
Radial clearances for any conductor of a line operating at 72,000 or more volts, but less than 110,000 volts	6 feet	20 feet
Radial clearances for any conductor of a line operating at 110,000 or more volts, but less than 300,000 volts	10 feet	30 feet
Radial clearances for any conductor of a line operating at 300,000 or more volts	15 feet	30 feet

Within the High Fire Threat District, BEU performs an evaluation of every tree that has the potential to strike overhead facilities if it were to fail on a basis required by statewide frequency requirements. BEU performs more frequent and detailed inspections of any such trees, and in cases where "hazard trees" (dead, dying, diseased or leaning) could strike the facilities, will work with the land owner to remove the tree or portion of the tree that poses a risk.

### E. INSPECTIONS

BEU meets or exceeds the minimum inspection requirements provided in CPUC GO 165 and CPUC GO 95, Rule 18. Pursuant to these rules, BEU inspects electric facilities in the High Fire Threat District more frequently than the other areas of its service territory. Additionally, BEU staff uses their knowledge of the specific environmental and geographical conditions to determine when areas outside of the High Fire Threat District require more frequent inspections.

BEU performs a detailed inspection of each pole. Detailed inspections include careful visual inspections of each pole to identify any non-conformance with GO 95 and GO 165, infringement by other utilities on poles or rights-of-way, defects, potential safety hazards and deterioration of poles, cross-arms or insulators.

BEU also performs safety/visual inspections (also known as patrols) of cross-arms, insulators and conductor, a brief visual inspection to identify obvious damage or non-conformance of the poles that could result in an ignition source.

Finally, BEU performs detailed pole tests to assess the condition of transmission and distribution poles to identify which poles need to be repaired or replaced. The specific tests include pole sounding, butt testing, and visual inspections. The test information is used to determine the pole strength and shell thickness.

If BEU staff discovers a facility in need of repair that is owned by an entity other than BEU, BEU will issue a notice to repair to the facility owner and work to ensure that necessary repairs are completed promptly. If BEU owns utility space on this pole, then the notification will be filed through the JPA process.

BEU works to ensure that all inspections to be performed within the High Fire Threat District are completed before the beginning of the historic fire season, which typically begins on September 1. BEU monitors drought conditions and other relevant factors throughout the year to determine if inspections should be completed on a shorter timeframe.

In Tiers 2 and 3 of the High Fire-Threat District, the inspection intervals for Solely-owned and Joint Use poles shall not exceed the time specified in the following Table.

<b>Inspection</b>	<b>Tier 2</b>	<b>Tier 3</b>
Patrol	2 Years	1 Year
Detailed – Includes pole-butt tests and/or intrusive testing	10 Years	5 Years

## F. WORKFORCE TRAINING

BEU has implemented work rules and complementary training programs for its workforce to help reduce the likelihood of the ignition of wildfires. As described earlier, the Election Operations Manager is responsible for such safety programs, which includes specific training that helps crews recognize and predict wildfire trends and patterns and learn the skills required to evaluate and install new protective equipment to reduce fire risk.

## G. RECLOSING POLICY

BEU currently handles all circuit reclosing activities at the substation, particularly at the feeder circuit breaker control level. BEU does not currently have any in-field distribution circuit reclosers installed in its distribution system. However, BEU does plan to provide circuit reclosers on its circuit that supplies power to both Banning Canyon and Mias Canyon due to extreme (Tier 3) fire risk that this particular area is exposed to.

## H. DE-ENERGIZATION

The combination of predicted wind gusts up to 50 mph, low humidity of 5 to 10 percent, and warm temperatures have created a Red Flag warning for extreme fire conditions in our area. As a result, one of the most contentious areas of discussion in wildfire mitigation analysis has been the willingness or ability of utilities to de-energize transmission and distribution circuits during red flag weather events or other high-risk periods. Public Safety Power Shut-Offs (PSPS) is the de-energization of power lines to protect public safety under California law.

While SCE alerts have been deployed to BEU customers that the Dysart, Saddleback, and Stubby circuits could experience PSPS events during red flag weather events, these events will not impact Banning Electric Utility customers at this time. These unincorporated areas currently affected by PSPS are not served by BEU. A potential PSPS event within the City of Banning would only occur if the Banning Circuit out of El Casco is impacted by a PSPS event. Currently, the Banning Circuit out of El Casco is not scheduled for a PSPS event. If an SCE PSPS will impact Banning Electric Utility customers in the future, every attempt will be made to alert and inform our customers.

BEU identifies two separate justifications for de-energizing a circuit. The first is for operational reasons, such as a local fire or request by safety officers for a specific circuit to be de-energized as a result of an ongoing event. The second is a pre-emptive de-energization to reduce fire risk or some other potential impact due to anticipated conditions.

BEU recognizes that de-energizing circuits could have an impact on surrounding utilities such as SCE, water production and pumping facilities, wastewater reclamation facilities, local communication switchyards and cell towers. Any de-energization policy must consider the impacts on these entities. More importantly, de-energizing lines affects the ability of fire fighters to control the fire.

BEU will continue to de-energize circuits for operational reasons at the request of police and fire personnel. At this time, BEU does not intend to preemptively de-energize lines due to the impact on firefighting capabilities in the City. However, BEU must evaluate the effects of possible SCE line de-energization on its ability to serve customers during extreme weather events.

While not BEU's initial intent, this plan recognizes that BEU has the authority to preemptively shut off power due to fire-threat conditions; however, this option will only be used in extraordinary circumstances. BEU will make a case-by-case decision to shut off power based on the following considerations:

- Red Flag Warnings issued by the National Weather Service for fire weather zones that contain BEU circuits;
- BEU staff assessments of local conditions, including wind speed (sustained and gust), humidity and temperature, fuel moisture, fuel loading and data from weather stations;
- Real-time information from staff located in areas identified as at risk of being subject to extreme weather conditions;
- Input from BEU fire experts and vegetation experts;

- Input from local and state fire authorities regarding the potential consequences of wildfires in select locations;
- Alternative ways to reroute power to affected areas;
- Awareness of mandatory or voluntary evacuation orders in place;
- Expected impact of de-energizing circuits on essential services;
- Other operational considerations to minimize potential wildfire ignitions, including the blocking of reclosers on the identified circuit(s);
- On-going fire activity throughout BEU territory and California;
- Ability to notify customers;
- Notifications to local governments and public officials; and
- Potential impacts to communities and customers

A typical but not required procedure for identifying and responding to potential wildfire threats would be:

- During Extreme weather events where wind gusts exceed 25 mph, activate the appropriate operations requirements in response to the weather which may include public advisory through various communication channels
- During Red Flag weather events where wind gusts exceed 50 mph, activate the appropriate operations requirements in response to the weather, which will include public notice to customers of a potential PSPS event

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## 1. IMPACTS TO PUBLIC SAFETY

While there are not any impacts directly related to public safety through power shutoff, BEU understands the difficulty of its customers being able to function regularly and safely during a power outage. BEU always recommends that its customers prepare for outages regardless of cause.

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## 2. CUSTOMER NOTIFICATION PROTOCOLS

BEU has sent letters to all customers encouraging them to follow Banning Electric on Twitter, Facebook, and Instagram for future updates and alerts and register for alerts and updates on the City of Banning at Nixle. Nixle helps keep customers up-to-date with relevant information from your local public safety departments & schools.

### Key Accounts

BEU has a responsibility to the community when it comes to providing safe, reliable, and sustainable power to its customers. In that mission, BEU recognizes that it is important to keep its most vulnerable customers abreast of all information on situations that could have an impact on power delivery. BEU staff is developing a Key Accounts system that will quickly and thoroughly notify medical baseline customers and others that are identified as critical facilities in any event that poses a risk of wildfire and/or will compromise delivery of electric power to BEU customers.

Key Accounts will not be limited to only critical care customers; it will include other critical demand customers as well such as first responders, public safety, mass transit, local government, etc.

## VI. COMMUNITY OUTREACH AND PUBLIC AWARENESS

To date, BEU has not had any other community outreach in regard to fire safety aside of presenting the 2020 Wildfire Mitigation Plan at two public City Council meetings. BEU plans to hold a series of community meetings within its service territory soon to discuss information on BEU's fire mitigation activities including the potential use of PSPS de-energization protocols. Subject matter expert personnel will be available at these meeting and will deliver information and answer questions related to a variety of topics including:

- Climate change impacts on wildfires
- Grid hardening and other engineering practices
- Vegetation management
- Weather monitoring as it relates to elevated/extreme threat and red flag events
- PSPS protocol
- Safety during outages



## VII. RESTORATION OF SERVICE

If a transmission or distribution line has been de-energized in anticipation of a wildfire threat, BEU troubleshooters or patrollers must perform additional steps prior to re-energization. In an event of a wildfire where distribution poles or transmission structures were burned, additional steps must be taken to rebuild the lines. BEU field crews must take several important steps prior to restoring electrical service after a de-energization event which include:

- Patrol - look for vegetation in lines and any obvious damage that may prevent safe energization; notify communication company(ies) if their cables have been affected and relocate if safe to do so
- Repair – if equipment damage is found, additional crews are dispatched with new materials to repair or replace damaged equipment after area is cleared of any obstructions
- Test - once the lines and poles are safe to operate, crews test the infrastructure by closing the fuse, or breaker to re-energize the power line
- Restore - power is restored and BEU provides notification of power restoration to customers

## VIII. EVALUATING OF THE PLAN

### A. METRICS AND ASSUMPTIONS FOR MEASURING PLAN PERFORMANCE

BEU will track two metrics to measure the performance of this Wildfire Mitigation Plan: (1) number of fire ignitions; and (2) wires down within the elevated fire threat areas.

#### METRIC 1: FIRE IGNITIONS

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

- BEU facility 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
- BEU has knowledge that the fire occurred.

In future Wildfire Mitigation Plans, BEU will provide the number of fires that occurred that were less than 10 acres in size. Any fires greater than 10 acres will be individually described.

#### METRIC 2: WIRES DOWN

The second metric is the number of distribution and transmission wires downed within BEU's elevated fire threat areas annually. For purposes of this metric, a wire down event includes any instance where an electric transmission or primary distribution conductor falls to the ground or on to a foreign object.

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

### B. IMPACT OF METRICS ON PLAN

This version of BEU's Wildfire Mitigation Plan will be the first such plan completed for the utility. In the initial years, BEU anticipates that there will be relatively limited data gathered through these metrics. However, as the data collection history becomes more robust, BEU will be able to identify areas of its operations and service territory that are disproportionately impacted. During this first year of the WMP, BEU will evaluate the plan metrics and identify potential improvements to the plan.

### C. MONITORING AND AUDITING THE PLAN

This Wildfire Mitigation Plan will be presented to Banning City Council. BEU will present this plan to the City Council on an annual basis. Additionally, a qualified independent evaluator has provided

a report on this plan to the City Council in June 2020. Each year, BEU will conduct an internal audit of the plan as it is updated.

#### D. IDENTIFYING AND CORRECTING DEFICIENCIES IN THE PLAN

Each year, this WMP will be reviewed and any noted areas of improvement will be presented to the Banning City Council for inclusion. Specific areas that should be examined include identifying better communication methods with residents in high threat fire areas and identifying better evacuation methods. Evacuation and communication issues are part of the Riverside County's Local Hazard Mitigation Plan (LHMP) and they will be responsible for implementing their plan with BEU's assistance. A primary goal of the City is to implement a mass communication system to help during disasters.

BEU will collaborate with SCE on protocols for notifying residents of Mias Canyon of any potential fire threats. SCE could make regional notifications of potential PSPS and fire threats and BEU must coordinate any information it releases with SCE to avoid releasing contradictory information.

#### E. MONITORING THE EFFECTIVENESS OF INSPECTIONS

The Wildfire Prevention Plan will be evaluated on an annual basis to assess its effectiveness. This Plan will be judged based upon:

- Number of downed wires in elevated fire threat areas annually;
- Vegetation management in compliance with GO 95;
- Number of compromised poles repaired/replaced annually;
- Feet of non-insulated conductor replaced with insulated/covered conductor in high threat fire areas where applicable;
- Feet of primary and secondary power lines placed underground in high fire threat areas (grid hardening)
- Number of wood poles equipped with fire protectant wrap, coating or barrier in high fire threat areas
- Number of wood poles replaced with fire-resilient poles in high fire threat areas
- Installation of avian protection over equipment connections at utility poles within high fire threat areas
- Number of fires in elevated threat areas caused by BEU's electrical equipment.

BEU intends to do its best at keeping wires from falling, being aggressive with its vegetation management, replacing or repairing all its poles and replace its non-insulated conductor with insulated or covered conductor in the areas that make the most sense, BUE should not be responsible for many, if any, fires in high-threat areas even though wildfires may start in the area due to other reasons.

## BEU Performance Metrics

Figure 7 below gives some information on BEU's performance metrics during this plan review period per the performance categories above.

Category	Performance Metric
<b>Equipment Failure</b>	Number of fire ignitions due to equipment failure in Tier 2 or 3 HFTD: <b>1</b>  Number of wires down in Tier 2 or 3 HFTD: <b>1</b>  Number of pole failures in Tier 2 or 3 HFTD: <b>0</b>
<b>Vegetation Management</b>	Number of outages caused by wire contact with vegetation in Tier 2 or 3 HFTD: <b>0</b>  Number of recurring tree issues in Tier 2 or 3 HFTD: <b>0</b>
<b>Construction</b>	Feet of primary non-insulated conductor replaced with insulated conductor in Tier 2 or 3 HFTD: <b>0</b>  Feet of primary non-insulated conductor replaced with insulated conductor in Tier 2 or 3 HFTD: <b>0</b>  Feet of primary conductor placed underground in Tier 2 or 3 HFTD (grid hardening): <b>2180</b>  Feet of primary conductor placed underground in Tier 2 or 3 HFTD (grid hardening): <b>345</b>  Number of wood poles equipped with fire-protectant wrap in Tier 2 or 3 HFTD: <b>18</b>  Number of wood poles replaced with fire-resilient poles in Tier 2 or 3 HFTD: <b>0</b>  Installation of avian protection over equipment connections at utility poles in Tier 2 or 3 HFTD: <b>0</b>

Figure 7 WMP Performance Metrics

## Review of Mitigation Activity Accomplishments

During the initial year following the first draft of the WMP, BEU has implemented several strategies to help minimize the risk/potential of wildfire within its service area. Figure 8 below details some of the accomplishments made to reduce wildfire risk.

Category	Risk Description	Accomplishments
<b>Design and Construction</b>	Overhead single-phase primary and secondary conductor lateral on the border of Tier 3 HFTD	Converted overhead to underground for both primary and secondary laterals. Service risers and service drops are still overhead. BEU plans to work with property owners to convert to UG during the 2021/2022 WMP review period.

	Distribution Construction Standards Improvements	Added improvements to construction standards such as the use of fiberglass cross arms, covered conductor for Tier 3 HFTD areas, avian protection, current limiting fuses, and polymer insulators
<b>Inspection and Maintenance</b>	GO 165 Annual Inspections	Annual system patrol to inspect the condition of electrical assets in Tier 3 HFTD areas 100% complete. Bi-Annual system patrol and inspection of Tier 2 HFTD areas are 75% complete.
<b>Operational Practices</b>	Relay/Reclosing Strategies	Increased sensitivity for all substation reclosers on feeders with assets in the Tier 2 and Tier 3 areas

**Figure 8 Mitigation Activity Accomplishments**

BEU will continue to study and analyze the effectiveness of automated in-line field reclosers and cutout mounted reclosers to be utilized in certain locations within the Tier 2 and 3 HFTD areas. Covered conductor will be utilized on utility lines within Banning Canyon and Mias Canyon which are the two areas that are almost completely within the Tier 3 HFTD, and BEU will analyze the use for other areas as well.

## IX. INDEPENDENT AUDITOR

Public Utilities Code section 8387(c) requires BEU 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. An independent evaluator has reviewed the June 2020 version of the WMP for completeness and issued a report that was posted to the BEU website and presented to Banning City Council at a public meeting.

This process was completed and approved in June 2020 but will not be required for any other subsequent WMP updates.

