



# Wildfire Mitigation Plan Independent Evaluation

Prepared for:

Burbank Water and Power



**Submitted by:**  
Guidehouse Inc.  
35 Iron Point Circle  
Suite #225  
Folsom, CA 95630

[guidehouse.com](http://guidehouse.com)

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## DISCLAIMER

This report was prepared by Guidehouse, Inc., f/k/a Navigant Consulting, Inc. (“Guidehouse”),<sup>1</sup> for the Burbank Water and Power (BWP). The work presented in this report represents Guidehouse’s professional judgment based on the information available at the time this report was prepared. Guidehouse is not responsible for the reader’s use of, or reliance upon, the report, nor any decisions based on the report. **GUIDEHOUSE MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESSED OR IMPLIED.** Readers of the report are advised that they assume all liabilities incurred by them, or third parties, as a result of their reliance on the report, or the data, information, findings and opinions contained in the report.

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<sup>1</sup> On October 11, 2019, Guidehouse LLP completed its previously announced acquisition of Navigant Consulting Inc. In the months ahead, we will be working to integrate the Guidehouse and Navigant businesses. In furtherance of that effort, we recently renamed Navigant Consulting Inc. as Guidehouse Inc.

## EXECUTIVE SUMMARY

Burbank Water and Power (BWP) contracted with Guidehouse, Inc. f/k/a Navigant Consulting, Inc. (“Guidehouse”) to engage in an independent evaluation of its Wildfire Mitigation Plan (“Plan” or “WMP”). This independent evaluation report (“Report”) describes the technical review and evaluation provided by Guidehouse. Guidehouse performed this evaluation between April and May of 2020 and completed the Report on May 13, 2020. Guidehouse’s project team reviewed detailed information related to the Plan and assessed BWP’s procedures related to the Plan.

The Plan was prepared as a response to SB 901, which was signed into law on September 21, 2018. SB 901 resulted in a number of provisions and directives, among which includes the requirement for electric utilities to prepare and adopt plans and revise and update the plan annually thereafter. These requirements are codified in the California Public Utilities Code (“PUC”) Section 8387 for publicly owned utilities (“POUs”). This plan was also posted to BWP’s public website.

Guidehouse evaluated BWP’s wildfire mitigation plan based on the statutory requirements of PUC Section 8387 as it relates to POUs. This PUC Section was amended on July 12, 2019 as a result of the signing of California’s Assembly Bill (AB) 1054 into law. AB 1054 amended Section 8387(b)(1) to include a provision that requires POU’s to “submit the plan to the California Wildfire Safety Advisory Board on or before July 1 of each year” (beginning in 2020) and conduct mandatory cyclical revisions. The required elements for a plan have not been modified by this new legislation.

This Report meets the requirement imposed on BWP under PUC Section 8387(c), which mandates an independent evaluation of BWP’s Plan. The Report was developed to satisfy the statutory requirement for public review. This Report underlies the required evaluation by the governing body of BWP at a public meeting and to the Burbank City Council. The Report includes the following:

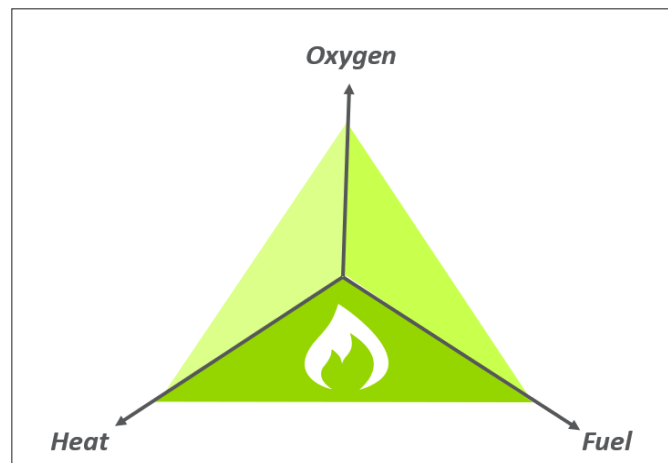
- Background of the legislative history requiring wildfire mitigation plans and their independent evaluations
- Approach and methodology evaluating a plan’s comprehensiveness
- BWP’s Plan elements and their compliance with SB 901 and PUC Section 8387 wildfire mitigation plans elements and directives
- An evaluation of the Plan’s presented metrics to assess the effectiveness of the overall Plan
- Determinations and results

Based on relevant experience in grid hardening and resiliency, natural disaster response, prior experience in wildfire mitigation plan development, and active tracking of wildfire legislative and regulatory proceedings Guidehouse has concluded that BWP’s WMP is comprehensive and meets the statutory requirements in accordance with PUC section 8387.

## 1. BACKGROUND

In recent years, California has seen an increase in utility equipment-involved, catastrophic wildfires. The unique geographic profile of California and the impacts of climate change, including continued dry conditions, high winds, and elevated heat index risk from global rising temperatures, have led to elongated fire seasons. The state is also experiencing increased levels of vegetation fuel due to the wet winters, hotter summers following a seven-year drought, and past fire suppression efforts. This increasingly abundant dry vegetation is the leading driver of wildfires. The levels of dry vegetation fuel have been aggravated by a destructive bark beetle infestation that continues to impact the health of the state's forested areas, further increasing fire risk. These fuel-rich environments, coupled with intensified climatological conditions with high wind gusts and natural electrical infrastructure risks, produce the conditions conducive to potential wildfire ignition. The three attributes that provide optimal conditions for a fire ignition are illustrated through the graphic in Figure 1: Fire Triangle.

**Figure 1: Fire Triangle**



Disastrous wildfire threat is a well-known and shared priority among electric utilities in California. The recent spike in utility-involved wildfire incidents since the 2015 wildfire season and the significant financial and livelihood impacts associated with them have led to more formalized efforts to ensure safe operations of electric utility equipment and greater investment in wildfire mitigation efforts.<sup>2</sup> Specifically, the state has approved legislation that strengthens governmental and regulatory oversight of wildfire prevention implementation activities, utility wildfire mitigation plans, and proper dispersal of state funds to wildfire victims. In an effort to minimize future devastating occurrences through risk-driven wildfire prevention, electric utilities, including cooperatives, were mandated, by SB 901 (Senator Bill Dodd, 2018), to prepare and annually adopt a wildfire mitigation plan before January 1, 2020. This effort is foundational to the state's prioritized goal of minimizing the potential of devastating fires in future years.

### 1.1 SB 901 – Wildfire Mitigation Plans

On September 21, 2018, Governor Jerry Brown signed SB 901 into law. The bill directs electrical utilities to annually prepare wildfire mitigation plans that include several mitigation and response elements in each utility's strategies, protocols, and programs. Each electric utility is to prepare and adopt a comprehensive wildfire mitigation plan before January 1, 2020. The requirements for publicly owned

<sup>2</sup> California Public Utilities Commission, 2019. "Fire Incident Data Reports for Investor-Owned Utilities," <https://www.cpuc.ca.gov/fireincidentsdata/>.

utilities (POUs) are presented in Public Utilities Code (PUC) Section 8387. Details relating to POU requirements are discussed in Section 2 of this Report.

## 1.2 Burbank Water and Power Plan Preparation

Burbank Water and Power (BWP) is a vertically integrated, publicly owned municipal utility that has served Burbank's electrical needs for more than 100 years. BWP is owned and operated by the City of Burbank and is governed by the BWP Board and the Burbank City Council. BWP electric system provides power to approximately 52,500 customers across 17 square miles within the City limits. In total, BWP serves 44,633 residential, 5,255 small commercial, 1,295 medium commercial, 163 large commercial, and 81 extra-large customer accounts. BWP supplies electrical service to its customers through a distribution network, which includes 13 distribution substations, 2 customer substations, 4 switching stations, 40 miles of 34.5 kilovolt (kV) sub-transmission lines, 32 miles of 69 kV transmission lines, 205 miles of overhead distribution lines, 126 miles of underground distribution lines, 11,000 poles, and 6,000 transformers.

BWP has no areas within their service area designated as a Tier 3 HFTD but does have an area adjacent to the Verdugo Mountains designated as Tier 2 HFTD.<sup>3</sup> The Tier 2 area is 4.89 square miles with approximately 26 miles of distribution lines of which 15 miles are underground lines and 11 miles are overhead wire. Ten distribution circuits have facilities within Tier 2 with 10.98 miles of overhead lines (OH), 643 distribution poles and 184 distribution transformers.

BWP performed a risk assessment and determined that due to continuity of vegetation within the canyon and density of tree canopies surrounding the residential homes, Sunset Canyon (the upper road segment of Country Club Drive) poses the greatest risk of wildfire within Burbank's Tier 2. BWP further prioritized their Tier 2 mitigation efforts into three sub-categories:

- Priority Level 2.1 – Tier 2 HFTD with dense vegetation adjacent to overhead electrical facilities
- Priority Level 2.2 – Tier 2 HFTD with low density vegetation underneath overhead electrical facilities
- Priority Level 2.3 – Tier 2 HFTD with no overhead electrical facilities

### 1.2.1 Independent Evaluation Services

PUC Section 8387(c) directs POUs to procure services for an independent evaluation (IE) of the comprehensiveness of their wildfire mitigation plans. In 2020, upon commencement of the California Wildfire Safety Advisory Board, guidelines and further details related to the scope and timelines of future IEs will be discussed and reviewed. In its present form, the provisions of PUC Section 8387 state that the independent evaluator shall be experienced in “assessing the safe operation of electrical infrastructure” and will perform an assessment to determine the comprehensiveness of wildfire mitigation plans.<sup>4</sup>

BWP sought IE services to assess the comprehensiveness of its WMP pursuant to PUC Section 8387(c) prior to presenting the final updated WMP to its City Council and contracted Guidehouse Consulting, Inc., n/k/a Guidehouse Inc. (Guidehouse) in March of 2020 to undertake an assessment of its Plan based on Guidehouse's prior experience with assessing the safe operation of electrical infrastructure, including grid-hardening and wildfire mitigation plans, with an emphasis on electrical equipment, public, and personnel safety.

Emergent practices will materialize as evolving legislative action and technology advances continue to shape wildfire mitigation and safety efforts. Understanding this, Guidehouse performed a comparison of

<sup>3</sup> The HFTD Map, adopted by the CPUC in January 2018, designates three types of fire threat area: Tier 3 (extreme risk), Tier 2 (elevated risk), and a much smaller Zone 1 (made up of areas on the CAL FIRE/ United States Forest Service (USFS) High Hazard Zones (HHZ) map that are not subsumed within Tier 2 and Tier 3 HFTD areas). See Decision (D.) 17-12-024, p. 158, Ordering Paragraph (OP) 12, and Appendix D.

<sup>4</sup> It is recognized that this requirement does not yet include a clear definition of comprehensiveness.

the wildfire mitigation investments undertaken by other utilities throughout California as well as relied on the team's experience in working directly with utilities to develop their wildfire mitigation plans and data collection practices along with prior experience related to grid hardening and electric safety assessments. This Report presents the results of Guidehouse's IE of the WMP. The following section describes the methodology in executing this evaluation.

### ***Guidehouse Identification of Qualifications***

Guidehouse provides IE services throughout the United States. Guidehouse's grid-related IE projects include storm hardening, wildfire mitigation, resiliency assessments, advanced technology suitability, among others. Our approach includes an evaluation of data considered, suitability of tracking metrics – both frequency and trends analysis - and an evaluation of key performance indicators. Guidehouse assesses the efficacy of tools for creating sufficient awareness and for effectiveness of understanding overall wildfire mitigation plan's intended and actual impacts.

Guidehouse continues to track proceedings, pending legislation, and other developments surrounding utility wildfire risk. Our team remains active with wildfire mitigation plan engagements across jurisdictions and risk profiles. As part of maintaining high acumen of prudent mitigation strategies, Guidehouse participates in forums focused on innovative wildfire mitigation strategies—further expanding our industry knowledge. Guidehouse provides thought leadership and advisory wildfire mitigation plan services related to wildfire mitigation plans and other resiliency innovative technologies to the California Energy Commission and has supported their system hardening and fire prevention efforts since 2008. Additionally, Guidehouse's reach into grid resiliency and disaster-related hardening extends across the United States including island grids, such as Puerto Rico, recovering from recent, weather-related catastrophes.

## 2. EVALUATION SCOPE AND APPROACH

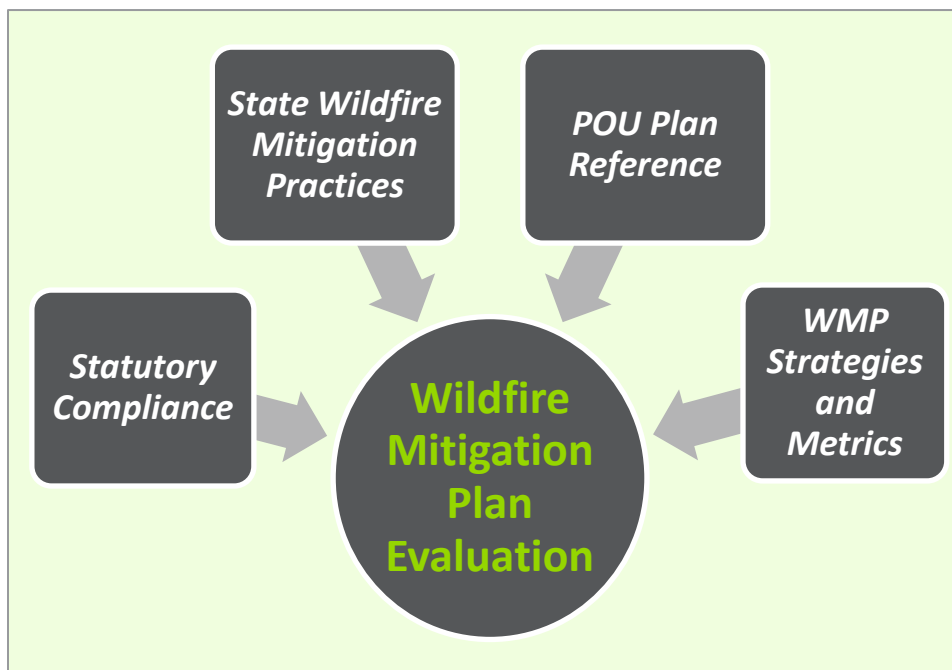
Guidehouse completed this evaluation based on a comparison of the specific criteria in PUC Section 8387(b)(2) to the specific wildfire-related plans outlined in BWP's WMP. This evaluation is based upon our knowledge of industry practices, our experience developing and reviewing wildfire mitigation plans and other grid hardening activities, and our understanding of wildfire legislative and regulatory.

The state's priority towards abating future catastrophic wildfire events is demonstrated through aggressive measures, directing utilities to enhance their protocols for fire prevention, public communications, and response. That collection of information is presented in a comprehensive wildfire mitigation plan. Guidehouse has tracked docketed proceedings and maintains a presence in state activities and workshops surrounding wildfire prevention. Understanding that BWP is not subject to CPUC regulations, the insight gained from this related experience is leveraged in assessing BWP's Plan relative to its risk profile and industry position.

### 2.1 Evaluation Parameters

Figure 2 represents the attributes comprising the methodology and approach of the evaluation.

**Figure 2: Contributing Factors to Evaluate the Plan**



As mentioned above, the requirement for electric utilities and corporations to develop wildfire mitigation plans emerged from the directives of SB 901 and associated statutory modifications. See Table 1 for the complete statutory compliance list for POU's.



**Table 1: POU Requirements for the WMP**

<b>PUC Section 8387</b> <i>(as amended on July 12, 2019)</i>
<p><b>(a)</b> Each local publicly owned electric utility and electrical cooperative shall construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of wildfire posed by those electrical lines and equipment.</p>
<p><b>(b) (1)</b> The local publicly owned electric utility or electrical cooperative shall, before January 1, 2020, prepare a wildfire mitigation plan. After January 1, 2020, a local publicly owned electric utility or electrical cooperative shall prepare a wildfire mitigation plan annually and shall submit the plan to the California Wildfire Safety Advisory Board on or before July 1 of that calendar year. Each local publicly owned electric utility and electrical cooperative shall update its plan annually and submit the update to the California Wildfire Safety Advisory Board by July 1 of each year. At least once every three years, the submission shall be a comprehensive revision of the plan.</p>
<p><b>(2)</b> The wildfire mitigation plan shall consider as necessary, at minimum, all of the following:</p>
<p><b>(A)</b> An accounting of the responsibilities of persons responsible for executing the plan.</p>
<p><b>(B)</b> The objectives of the wildfire mitigation plan.</p>
<p><b>(C)</b> A description of the preventive strategies and programs to be adopted by the local publicly owned electric utility or electrical cooperative to minimize the risk of its electrical lines and equipment causing catastrophic wildfires, including consideration of dynamic climate change risks.</p>
<p><b>(D)</b> A description of the metrics the local publicly owned electric utility or electrical cooperative plans to use to evaluate the wildfire mitigation plan's performance and the assumptions that underlie the use of those metrics.</p>
<p><b>(E)</b> A discussion of how the application of previously identified metrics to previous wildfire mitigation plan performances has informed the wildfire mitigation plan.</p>
<p><b>(F)</b> Protocols for disabling reclosers and deenergizing portions of the electrical distribution system that consider the associated impacts on public safety, as well as protocols related to mitigating the public safety impacts of those protocols, including impacts on critical first responders and on health and communication infrastructure.</p>
<p><b>(G)</b> Appropriate and feasible procedures for notifying a customer who may be impacted by the deenergizing of electrical lines. The procedures shall consider the need to notify, as a priority, critical first responders, health care facilities, and operators of telecommunications infrastructure.</p>
<p><b>(H)</b> Plans for vegetation management.</p>
<p><b>(I)</b> Plans for inspections of the local publicly owned electric utility's or electrical cooperative's electrical infrastructure.</p>
<p><b>(J)</b> A list that identifies, describes, and prioritizes all wildfire risks, and drivers for those risks, throughout the local publicly owned electric utility's or electrical cooperative's service territory. The list shall include, but not be limited to, both of the following:</p>
<p><b>(i)</b> Risks and risk drivers associated with design, construction, operation, and maintenance of the local publicly owned electric utility's or electrical cooperative's equipment and facilities.</p>
<p><b>(ii)</b> Particular risks and risk drivers associated with topographic and climatological risk factors throughout the different parts of the local publicly owned electric utility's or electrical cooperative's service territory.</p>
<p><b>(K)</b> Identification of any geographic area in the local publicly owned electric utility's or electrical cooperative's service territory that is a higher wildfire threat than is identified in a commission fire threat map, and identification of where the commission should expand a high fire-threat district based on new information or changes to the environment.</p>
<p><b>(L)</b> A methodology for identifying and presenting enterprise wide safety risk and wildfire-related risk.</p>

(M) A statement of how the local publicly owned electric utility or electrical cooperative will restore service after a wildfire.

(N) A description of the processes and procedures the local publicly owned electric utility or electrical cooperative shall use to do all of the following:

(i) Monitor and audit the implementation of the wildfire mitigation plan.

(ii) Identify any deficiencies in the wildfire mitigation plan or its implementation and correct those deficiencies.

(iii) Monitor and audit the effectiveness of electrical line and equipment inspections, including inspections performed by contractors, that are carried out under the plan, other applicable statutes, or commission rules.

(3) The local publicly owned electric utility or electrical cooperative shall, on or before January 1, 2020, and not less than annually thereafter, present its wildfire mitigation plan in an appropriately noticed public meeting. The local publicly owned electric utility or electrical cooperative shall accept comments on its wildfire mitigation plan from the public, other local and state agencies, and interested parties, and shall verify that the wildfire mitigation plan complies with all applicable rules, regulations, and standards, as appropriate.

(c) The local publicly owned electric utility or electrical cooperative shall contract with a qualified independent evaluator with experience in assessing the safe operation of electrical infrastructure to review and assess the comprehensiveness of its wildfire mitigation plan. The independent evaluator shall issue a report that shall be made available on the internet website of the local publicly owned electric utility or electrical cooperative and shall present the report at a public meeting of the local publicly owned electric utility's or electrical cooperative's governing board.

## 2.2 Evaluation Approach

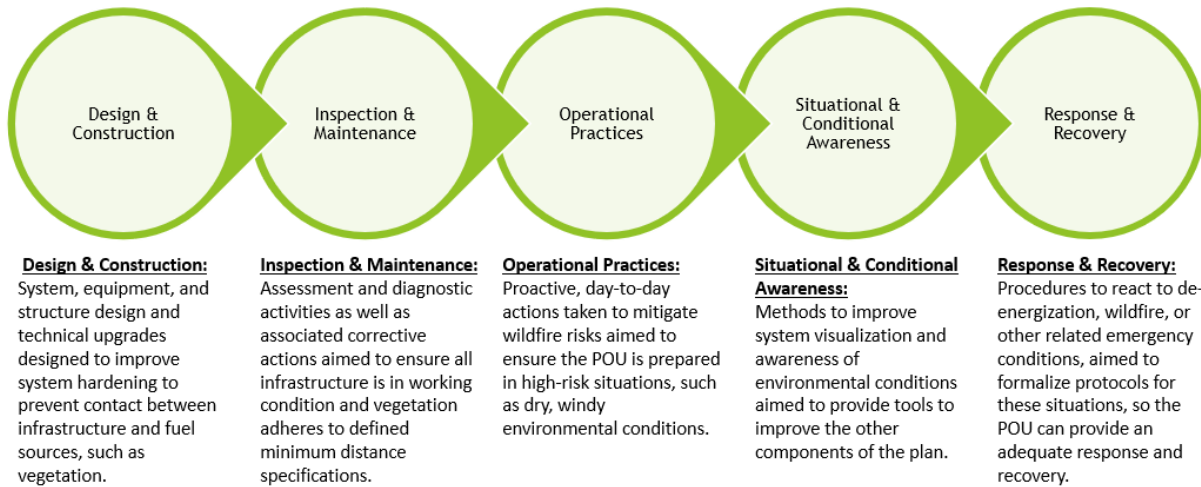
To perform an assessment of the comprehensiveness of the Plan, Guidehouse used the following approach.

### 2.2.1 Statutory Compliance

Guidehouse sought to determine compliance with the provisional requirements laid out in SB 901 as codified in PUC Section 8387. The Plan's alignment with the statutory requirement is presented in Appendix A. Mitigation measures are not required to exceed the statutory requirements.

### 2.2.2 Industry Wildfire Mitigation Practices Comparison

Accepted practices for wildfire mitigation have been discussed and presented at numerous events. Additionally, wildfire mitigation plans approved by the CPUC have garnered significant insight from the industry at large. As a secondary review, Guidehouse utilized its understanding of effective wildfire mitigation plans and strategies drawn from comparisons of existing wildfire mitigation plans and industry practices. This evaluation, detailed in Section 4 "Fire Industry Practices Comparison" of this Report, is separate from the PUC Section 8387(c) review and is summarized according to business practice categories described in Figure 3: Mitigation Strategy Overview.

**Figure 3: Mitigation Strategy Overview**


Expertise in these critical elements facilitated Guidehouse’s review of the comprehensiveness of BWP’s WMP. While not all of these strategies need to be present in or applicable to in any POU’s wildfire mitigation plan, due to that POU’s size, location, and system or operational characteristics, Guidehouse’s understanding of collected utility strategies demonstrated throughout the state are summarized below:

- **Inspection and maintenance of distribution transmission and substation assets** including conducting system patrols and ground inspections, using technological inspection tools, managing predictive and electrical preventative maintenance, and conducting vegetation inspections and management, vulnerability detection such as Light Detection and Ranging (LiDAR) inspection; and geospatial and topography identification, geographic information system (GIS) mapping data. A key component is identifying collected data elements through each program and understand how that data is used and shared to improve utility practices.
- **Vegetation management** that includes routine preventative vegetation maintenance; corrective vegetation management and off-cycle tree work; emergency vegetation clearance, prioritized for portions of the service territory that lie in high hazard zones, quality control processes; and resource protection plan, including animal and avian mitigation programs.
- **System hardening** that includes pole replacement, non-expulsion equipment, advanced fuses, tree attachment removal, less flammable transformer oil, covered wire and wire wrap, and undergrounding where cost beneficial.
- **Operational practices** including communications and mustering plans under varying degrees of wildfire risk. Plans to deactivate automatic reclosers, de-energization of “at risk” area powerlines based on type of facility (overhead bare conduction, high voltage, etc.), tree and vegetation density, available dry fuel, and other factors that make certain locations vulnerable to wildfire risk.
- **Situational awareness** including obtaining information from devices and sensors on actual system, weather and other wildfire conductivity conditions, two-way communication with agencies and key personnel. Programs such as online feeds and websites such as the National Fire Danger Rating System. Situational awareness should help achieve a shared understanding of actual conditions and serve to improve collaborative planning and decision making.
- **De-Energization actions** triggered and prioritized by forecasted extreme fire weather conditions; imminent extreme fire weather conditions; validated extreme fire weather conditions; and plans for re-energization when weather subsides to safe levels. Manual or automatic capabilities exist for implementation.



- **Advanced Technologies** including Distribution Fault Anticipation technology, tree growth regulators, pulse control fault interrupters, oblique and hyper-spectral imagery; advanced transformer fluids; advanced LiDAR, and advanced SCADA, to reduce electrical ignition while also helping to mitigate power outages and equipment damage.
- **Emergency Preparedness, Outreach and Response communications** before, during, and after emergencies including but not limited to engaging with key stakeholders that include critical facilities and served customers; local governments, critical agencies such as California Department of Forestry and Fire Protection (CAL FIRE), local law enforcement agencies and other first responders, hospitals, local emergency planning committees, other utility providers, California Independent System Operator, and the utility's respective Board. Coordination agreements such as Mutual Assistance should be leveraged. Community outreach plan should inform and engage first responders, local leaders, land managers, business owners and others.
- **Customer support programs** including financial assistance and support for low-income customers; billing adjustments; deposit waivers; extended payment plans; suspension of disconnection and non-payment fees; repair processing and timing; access to utility representatives; and access to outage reporting and emergency communications. Consideration of languages in addition to English. Identification of priority customers, such as first responders and local agencies, health care providers, water and telecommunication facilities, groups that assist children, elderly, mobility impaired, and other vulnerable populations.

### 2.2.3 Value Determination of Plan Metrics

Metrics for tracking the wildfire mitigation plan's progress intend to allow the utility to refresh information as trends become clearer. Based upon the discussion included in the CPUC's Phase 2 of the SB 901 proceeding docket, interests in metric development and underlying data collection are beginning to take shape. While these determinations do not directly influence the public power sector, insight has been leveraged to employ and evaluate effective metrics.<sup>5</sup>

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<sup>5</sup> CPUC Order Instituting Rulemaking to Implement Electric Utility Wildfire Mitigation Plans Pursuant to SB 901 (2018) (Rulemaking 18-10-007) [https://apps.cpuc.ca.gov/apex/f?p=401:56:0::NO:RP,57,RIR:P5\\_PROCEEDING\\_SELECT:R1810007](https://apps.cpuc.ca.gov/apex/f?p=401:56:0::NO:RP,57,RIR:P5_PROCEEDING_SELECT:R1810007).

### 3. BWP WMP PLAN ELEMENTS

Guidehouse reviewed the Plan elements to determine whether the activities supported the intention to deploy an effective wildfire mitigation plan. This determination incorporated individual elements as well as underlying data sources that further described data collection methodologies and implementation procedures to ensure measures are carried out and also tracked. This understanding also informs internal reviews and subsequent updates for future Plan iterations.

Guidehouse found that BWP's WMP meets the statutory requirements of comprehensiveness per PUC Section 8387. In this section, we review the WMP's elements and their purpose relative to the development and successful execution of the WMP. A table comparing each subsection of PUC Section 8387 to the significant sections of the WMP can be found in Appendix A.

#### 3.1 Review of Statutory Elements

##### 3.1.1 Objectives and Overview of Preventative Strategies and Programs

###### PUC Section 8387

(B) The objectives of the wildfire mitigation plan.

(C) A description of the preventive strategies and programs to be adopted by the local publicly owned electric utility or electrical cooperative to minimize the risk of its electrical lines and equipment causing catastrophic wildfires, including consideration of dynamic climate change risks.

##### 3.1.1.1 Objectives

BWP identifies two primary objectives:

1. Reduce the probability that BWP's electric system may be the contributing source for the ignition of a wildfire; and
2. Create a WMP that is consistent with state law and objectives.

In support of these objectives, BWP intends to continually evaluate improvements to its design standards, physical assets, inspection and maintenance programs, operations, and training in order to meet these objectives.

##### 3.1.1.2 Preventive Strategies

Section 3 of the BWP Plan lists BWP's strategies for preventing wildfire. Table 2 of the WMP provides a good overview of all the actions and programs already under way or planned by BWP to prevent wildfires. Section 5 of the WMP details the elements of the strategies and programs listed in Section 3. Specifically, Section 5 elaborates upon the items listed in Section 3. BWP details how it plans to incorporate wildfire mitigation into Facility Design and Construction, Inspection and Maintenance, Operational Practices, and Situational/Conditional Awareness in accordance with this plan and in consideration of wildfire and dynamic climate change risks.

Specifically, BWP conducts or plans to conduct the following:

1. Facility Design and Construction – BWP regularly evaluates and tests poles and transformers and replaces those failing or deteriorating. BWP is also implementing new design standards to reduce risks in the Tier 2 High Fire Threat District (HFTD).
2. Inspection and Maintenance – BWP’s inspection programs meet the applicable General Orders (GOs) applied to IOUs including GO 95 and 165. BWP frequently exceeds these GOs by conducting more frequent inspections than required and trimming vegetation beyond required clearances.
3. Operational Practices – BWP disables reclosers on Red Flag Warning (RFW) days and added more sensitive, quicker acting relay settings are employed during RFW conditions to increase the chance of detecting and isolating faults.
4. Situational Awareness – BWP monitors weather conditions for low humidity, high wind days especially RFW conditions. BWP also employs automated metering infrastructure data in its geographical information system (GIS) applications to detect and monitor outages quickly

### **3.1.2 Risks, Risk Drivers, and Risk Assessment**

#### **PUC Section 8387**

**(J)** A list that identifies, describes, and prioritizes all wildfire risks, and drivers for those risks, throughout the local publicly owned electric utility’s or electrical cooperative’s service territory. The list shall include, but not be limited to, both of the following:

**(i)** Risks and risk drivers associated with design, construction, operation, and maintenance of the local publicly owned electric utility’s or electrical cooperative’s equipment and facilities.

**(ii)** Particular risks and risk drivers associated with topographic and climatological risk factors throughout the different parts of the local publicly owned electric utility’s or electrical cooperative’s service territory.

**(L)** A methodology for identifying and presenting enterprise-wide safety risk and wildfire-related risk.


#### **3.1.2.1 Identification of Risks and Risk Drivers**

Chapter 4 of the WMP is devoted to Risk Analysis and Risk Drivers. BWP conducted three separate evaluations in order to identify, describe, and prioritize all wildfire risks and drivers for those risk. These evaluations include a Risk Bowtie Analysis, a Site Fire Environment Assessment, and an Electrical Equipment Assessment. Through these analyses BWP identified 1. key risk impacts (injuries/fatalities, prolonged outages, damage/loss of equipment, and claims for damaged property), 2. risk drivers (electrical equipment failure, conventional fuse operation, wire contact with foreign object(s) or vegetation, and extreme weather conditions), and 3. prioritized risks based on location within the Tier 2 HFTD, proximity to overhead equipment, and density of vegetation underneath the overhead facilities.

#### **3.1.2.2 Methodology for identifying and presenting enterprise-wide safety risk and wildfire-related risk**

As described above in Section 3.1.2.1, BWP employed several methods to identify and presenting enterprise-wide safety risk and wildfire risk. BWP’s “bowtie” analysis is the primary method of identifying wildfire risk which is graphically depicted in Figure 3 of the Plan and inserted below.

BWP may want to explicitly include safety risks as part of future analyses.

Key Risk Drivers	Triggering Event	Key Risk Impacts
<b>Electrical Equipment Failure:</b> <ul style="list-style-type: none"> <li>• Conductor</li> <li>• Crossarm</li> <li>• Insulator</li> <li>• Splice/Clamp/Connector</li> <li>• Transformer</li> <li>• Pole</li> </ul>		Prolonged electrical outage for customers
<b>Conventional Fuse Operation:</b> <ul style="list-style-type: none"> <li>• Transformer Fuse</li> <li>• Lateral Fuse</li> </ul>		Serious injuries or fatalities
<b>Wire Contact with Foreign Object(s):</b> <ul style="list-style-type: none"> <li>• Mylar Balloons</li> <li>• Animals</li> </ul>		Damage and loss of BWP assets
<b>Wire Contact with Vegetation:</b> <ul style="list-style-type: none"> <li>• Tree Branch</li> <li>• Palm Frond</li> </ul>		Claims from damaged property
<b>Extreme Weather Conditions:</b> <ul style="list-style-type: none"> <li>• Climate Change</li> <li>• High Temperatures</li> <li>• Extreme Wind</li> <li>• Low Humidity</li> </ul>		

### 3.1.3 Asset Overview & Service Territory

#### PUC Section 8387

(K) Identification of any geographic area in the local publicly owned electric utility's or electrical cooperative's service territory that is a higher wildfire threat than is identified in a commission fire threat map, and identification of where the commission should expand a high fire-threat district based on new information or changes to the environment.

BWP did not identify any geographic area in its service territory that is a higher wildfire threat than is identified in a commission fire threat map. The development of the Tier 2 Zone in Burbank was a joint effort between BWP, the Burbank Fire Department (BFD), and CALFIRE. The intention of the Tier 2 designation was to identify areas that have increased risk of wildfire ignition from electrical facilities.

Two Mountain Fire Zones were designated by the Burbank Fire Department. One zone is located along the foothills of the Verdugo Mountains in northeast Burbank, and the other is located in the southwestern portion of the city adjacent to Warner Bros. Studios. The primary reason the shape of the two maps differ is because the Mountain Fire Zone map was created for the purpose of stricter building regulations for homes near wildfire prone areas. For example, homes in the Mountain Fire Zone may have stricter regulations on the type of roofing material due to the possibility of falling embers from nearby wildfires. Understanding that intention, BFD determined that the area in the southwestern portion of Burbank could be eliminated and the border in the northeast portion of Burbank was redrawn.

Accordingly, BWP did not identify any area where the commission should expand a high fire-threat district based on new information or changes to the environment.

### **3.1.4 Wildfire Prevention Strategies**

#### **PUC Section 8387**

(F) Protocols for disabling reclosers and deenergizing portions of the electrical distribution system that consider the associated impacts on public safety, as well as protocols related to mitigating the public safety impacts of those protocols, including impacts on critical first responders and on health and communication infrastructure.

(H) Plans for vegetation management.

(I) Plans for inspections of the local publicly owned electric utility's or electrical cooperative's electrical infrastructure.

#### **3.1.4.1 Disabling Reclosers**

Disabling reclosing refers to the ability to turn off the functionality of substation reclosing circuit breakers and line reclosers to attempt to isolate fault conditions and re-energize (turn back on) areas of the electric grid. Traditionally, electrical circuits were designed to automatically open and close to detect and isolate faults. BWP has reclosing capabilities on all substation circuit breakers in the electrical system. In the Tier 2 HFTD, reclosing the circuit could cause a spark and potentially ignite nearby vegetation if fault conditions are still present. Accordingly, BWP enacted an operating procedure D-014 (Operating Procedure Wildfire Mitigation) to block reclosing capabilities on all circuits in the Tier 2 HFTD during RFW conditions issued by the National Weather Service. Additionally, more sensitive, quicker acting relay settings are employed during RFW conditions to increase the chance of detecting and isolating a fault.

#### **3.1.4.2 De-Energization Protocols**

Section 5.5 discusses BWP's approach to pre-emptive de-energization commonly known as Public Safety Power Shutoffs (PSPS). BWP is not planning to implement PSPS unless instructed to do so by the Burbank Fire Department, Burbank Police, CALFIRE, or other emergency responders. Additionally, BWP's interconnected transmission provider Los Angeles Department of Water and Power (LADWP) is not planning to implement any PSPS.

Guidehouse recommends BWP develop an operating protocol for PSPS implementation, no matter how unlikely, that includes responsibilities for de-energization actions. Additionally, BWP should develop a protocol describing how BWP will mitigate the public safety impacts of a PSPS, including impacts on critical first responders and on health and communication infrastructure

#### **3.1.4.3 Vegetation Management**

BWP's vegetation management program 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. and is overseen by the Manger, Electrical Distribution. This includes meeting the expanded clearances required for HFTDs.

BWP also performs routine vegetation management, such as pruning and removal, on an annual basis in the Tier 2 HFTD. BWP annually inspects tree and conductor clearances and identifies any hazard trees for removal. BWP contractor crews trim a minimum of 12 feet of clearance. BWP's tree trimming contractors are specialists, supervised by a certified arborist. These crews are knowledgeable about work near energized electric lines and about trees including growth rates and pruning methods.



#### 3.1.4.4 Infrastructure Inspections

BWP performs electrical infrastructure patrol inspections to inspect each component of the electrical system to check that no obvious abnormalities exist to the extent possible. BWP performs these inspections on a cycle that meet or exceeds the timeframes given in General Order 165 (GO 165). During these inspections, problems are identified, prioritized and corrected. The specific cycles are detailed in Table 7 of the WMP. Additionally, BWP conducted intrusive pole inspections of all poles within the Tier 2 HFTD prior to implementation of the WMP.

#### 3.1.5 Response & Restoration

##### PUC Section 8387

**(G)** Appropriate and feasible procedures for notifying a customer who may be impacted by the deenergizing of electrical lines. The procedures shall consider the need to notify, as a priority, critical first responders, health care facilities, and operators of telecommunications infrastructure.

**(M)** A statement of how the local publicly owned electric utility or electrical cooperative will restore service after a wildfire.

##### 3.1.5.1 Event Communication

BWP maintains a communications protocol for communication and coordination with its primary stakeholders, including Burbank Fire, the City Manager, other utilities, elected officials, fire agencies and first responders, and BWP's emergency response support team. Communication with customers impacted by the de-energizing of electrical lines during an emergency would be initiated using BWP's standard communication protocols.

##### 3.1.5.2 Restoration

BWP restores its electric system in accordance with the BWP Emergency Response Plan. After a wildfire, BWP's Department Operations Center (DOC) will coordinate restoration of service in alignment with direction from the City of Burbank's Emergency Operations Center (EOC). As detailed in section 5.3.2 of the Plan, BWP indicates that they will perform safety patrols/inspections of the entire circuit to locate the cause of the fault and to identify damaged equipment and hazards prior to reenergization. The ECC must wait for confirmation of the patrol inspection prior to re-energizing the circuit.

#### 3.1.6 Plan Execution, Monitoring, & Metrics

##### PUC Section 8387

**(A)** An accounting of the responsibilities of persons responsible for executing the plan.

**(D)** A description of the metrics the local publicly owned electric utility or electrical cooperative plans to use to evaluate the wildfire mitigation plan's performance and the assumptions that underlie the use of those metrics.

**(E)** A discussion of how the application of previously identified metrics to previous wildfire mitigation plan performances has informed the wildfire mitigation plan.

(N) A description of the processes and procedures the local publicly owned electric utility or electrical cooperative shall use to do all of the following:

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(i) Monitor and audit the implementation of the wildfire mitigation plan.

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(ii) Identify any deficiencies in the wildfire mitigation plan or its implementation and correct those deficiencies.

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(iii) Monitor and audit the effectiveness of electrical line and equipment inspections, including inspections performed by contractors, that are carried out under the plan, other applicable statutes, or commission rules.

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### ***3.1.6.1 Responsibilities of Persons Responsible for Executing the Plan***

Section 7.1 assigns responsibility and accountability for execution of the WMP at BWP. Specifically, the General Manager is ultimately responsible for the Plan. Design and Construction activities are under the purview of the Assistant GM for Electric Services. Inspection and Maintenance is the responsibility of the Manager, Electrical Distribution. Operational Practices responsibility is split between the Managers of the Energy Control Center (ECC) and Electrical Distribution. The Manager, ECC is also responsible for Situational/Conditional Awareness activities. This level of assignment is appropriate for a utility the size of BWP.

### ***3.1.6.2 Metrics***

BWP sets forth and describes numerous metrics that may impact or contribute to wildfire prevention in section 7.2.1 and can be used by BWP to evaluate the WMP's performance and assumptions that underlie the metrics.

BWP intends to document, track, and identify trends of several datapoints in the Tier 2 HFTD that arise under the following categories:

1. Equipment Failure
2. Conventional Fuse Operation
3. Wire Contact with Foreign Object(s)
4. Wire Contact with Vegetation
5. Inspection and Maintenance
6. Operations
7. Extreme Weather Conditions

**Table 2: BWP Proposed Metrics**

Specific metric	Indicator	Measure of effectiveness	Criteria
Equipment Failure	Count of events	Declining count of events over time	<ul style="list-style-type: none"> <li>Number of wire down events caused by conductor failure</li> <li>Number of pole failures</li> <li>Number of transformer failures</li> </ul>
Conventional Fuse Operations	Count of Events	Declining count of events over time	<ul style="list-style-type: none"> <li>Number of conventional transformer fuse operation events</li> <li>Number of conventional lateral fuse operation events</li> </ul>
Wire Contact with Foreign Objects	Count of events	Declining count of events over time	<ul style="list-style-type: none"> <li>Number of outage events caused by wire contact with an animal</li> <li>Number of outage events caused by wire contact with mylar balloons</li> <li>Number of pole failures caused by vehicle contact</li> </ul>
Wire Contact with Vegetation	Count of Events	Declining count of events over time	<ul style="list-style-type: none"> <li>Number of outage events caused by wire contact with vegetation</li> <li>Number of trees trimmed</li> <li>Number of recurring “problem” trees removed</li> </ul>
Inspection and Maintenance	Measure of Actual Work Performed	100% completion of all planned work/	<ul style="list-style-type: none"> <li>100% of vegetation management inspections completed on time</li> <li>100% of patrol inspections of overhead facilities</li> <li>100% of intrusive pole inspections</li> <li>Summary of pole replacements based on priority level determined by intrusive inspections</li> </ul>
Operations	Count of outages and ignitions	Declining count of events over time	<ul style="list-style-type: none"> <li>Number of outages on circuits</li> <li>Number of outages on circuits during RFW days</li> <li>Number of ignitions caused by BWP electrical infrastructure</li> </ul>
Extreme Weather Conditions	Count of RFW events	N/A	<ul style="list-style-type: none"> <li>Number of RFW days</li> </ul>

BWP has been tracking some performance metrics notably outages for some time, but only limited data has been available from such metric tracking thus far. Additionally, new metrics will be tracked beginning this year. Future versions of the WMP will likely include a broader discussion of previous metrics and how those metrics are used to shape and improve measures to reduce the risk of wildfires.

Guidehouse believes the metrics identified and tracked satisfy the requirement of PUC 8387(b)(2)(d).

### ***3.1.6.3 Monitoring and Auditing the Plan***

BWP will audit the WMP annually to monitor the effectiveness of the implementation of the WMP and will align with BWP’s planning and budget process. The audit will include an assessment of the metrics and the effectiveness of the WMP implementation and mitigation activities. Deficiencies in the plan will be

identified and the Plan will be corrected on an ongoing basis to improve the WMP's effectiveness. BWP will also audit the effectiveness of electrical line and equipment inspections. Any problems identified will be recorded and prioritized for correction

## 4. FIRE INDUSTRY PRACTICES COMPARISON

In consideration of industry-accepted and demonstrated mitigation measures, Guidehouse provided a comparison against approved California Utility WMPs where comparable to BWP service territory, risk profile, and equipment within the HFTD. This comparison is separate and additional to the regulatory evaluation required by PUC Section 8387(c). The complete comparison matrix with supporting information is provided in Table 2. Five areas have been highlighted for detailed discussion of the applicability and efficacy of the proposed WMP strategy.

### Service Area

BWP is owned and operated by the City of Burbank and is governed by the BWP Board and the Burbank City Council. BWP electric system provides power to approximately 52,500 customers across 17 square miles within the City limits. In total, BWP serves 44,633 residential, 5,255 small commercial, 1,295 medium commercial, 163 large commercial, and 81 extra-large customer accounts. BWP supplies electrical service to its customers through a distribution network, which includes 13 distribution substations, 2 customer substations, 4 switching stations, 40 miles of 34.5 kilovolt (kV) sub-transmission lines, 32 miles of 69 kV transmission lines, 205 miles of overhead distribution lines, 126 miles of underground distribution lines, 11,000 poles, and 6,000 transformers.

BWP is responsible for an area adjacent to the Verdugo Mountains designated as Tier 2 (elevated risk) HFTD. The Tier 2 area is 4.89 square miles with approximately 26 miles of distribution lines of which 15 miles are underground lines and 11 miles are overhead wire. Ten distribution circuits have facilities within Tier 2 with 10.98 miles of overhead lines (OH), 643 distribution poles and 184 distribution transformers.

BWP performed a risk assessment and determined that due to continuity of vegetation within the canyon and density of tree canopies surrounding the residential homes, Sunset Canyon (the upper road segment of Country Club Drive) poses the greatest risk of wildfire within Burbank's Tier 2. BWP further prioritized their Tier 2 mitigation efforts into three sub-categories:

- Priority Level 2.1 – Tier 2 HFTD with dense vegetation adjacent to overhead electrical facilities
- Priority Level 2.2 – Tier 2 HFTD with low density vegetation underneath overhead electrical facilities
- Priority Level 2.3 – Tier 2 HFTD with no overhead electrical facilities

Wildland fires are relatively common in the Verdugo Mountains and have historically burned into the wildland-urban interface or Tier 2 areas of Burbank. These include La Tuna fire (2017), and Wildwood Fire (2003). Given the OH facilities within Tier 2 and history of wildfires adjacent to the service area, BWP service territory has elevated risks for wildfires and should carefully examine industry best practices.

### Fuels Management

Many types of plant materials can act as wildfire fuel, including grasses, shrubs, trees, dead leaves, and fallen pine needles. Accumulation of these burnable materials increase the chances of catastrophic wildland fire. In the right conditions, excess fuel allows fires to burn hotter, larger, longer, and faster, making them more difficult and dangerous to manage. The intensity and severity of wildfires is often reduced through fuels management activities. Fuels management is an action designed to reduce fire hazards by removing or rearranging fuels. When applied to strips of land, they are designated as a fuel break or fire break. Fuel breaks are strips of land in which vegetation, both dead and alive has been modified, but some trees and shrubs are retained.

The Burbank Fire Department has a Fire Hazard Reduction Program for brush clearance. Two Mountain Fire Zones are designated by the Fire Department. One zone is located along the foothills of the Verdugo Mountains in northeast Burbank, and the other is located in the southwestern portion of the city adjacent to Warner Bros. Studios. The program is designed to have property owners maintain their property in a

safe fire condition throughout the year. The program guidelines have 12 specific requirements for 0-100-foot clearance, guidelines for 100-200-foot clearance (fuel modification zone) and recommendations for vegetation management and defensible spaces. Beginning June 1, Burbank Fire Department conducts annual brush clearance inspections. Burbank Fire Department also provides compliance enforcement.

***The City of Burbank's approach to fuels management is well designed and can be considered a leading practice.***

### **Disabling Reclosing Operations**

Disabling reclosing refers to the ability to turn off the functionality of substation reclosing circuit breakers and line reclosers to attempt to isolate fault conditions and re-energize (turn back on) areas of the electric grid. Traditionally, electrical circuits were designed to automatically open and close to detect and isolate faults. In many cases, the relays would make two or three attempts to isolate a fault condition. Each potential attempt could cause an electrical spark, which could be a source of ignition. Disabling reclosing significantly reduces the number of potential ignition sources.

BWP has ten distribution circuits feeding Tier 2 including two in BWP Priority 2.1. No OH line reclosers are present in Tier 2. BWP operating procedure D-014 (Operating Procedure Wildfire Mitigation) directs the operators on the dispatch desk to block reclosing capabilities on all circuits in Tier 2 during red flag warnings (RFW) issued by the National Weather Service. Additionally, during an RFW, BWP enables high speed tripping on the distribution circuits feeding Tier 2. If a circuit within Tier 2 sees a fault during RFW conditions, field crews will perform a patrol of the entire circuit to locate the cause of the fault. The dispatcher will wait for confirmation of the patrol inspection to ensure no fire ignition risks are present when the circuit is re-energized.

***BWP's approach to disabling reclosing, and patrols after line faults during RFWs is consistent with the best practices at other Utilities.***

### **Non-Expulsive Fuse Devices**

Fuses (Fusing) refer to protective devices that defend the distribution system from faulted or damaged lines and equipment. Historically, BWP, other utilities in California, and utilities across the country have used conventional fuses to protect powerlines. These conventional fuses, when operated, expel hot particles and gases, which can start fires. In order to mitigate the potential for fire ignitions, non-expulsive fuses can be installed to replace expulsion type fuses. Fuses manufacturers now provide current-limiting dropout fuses with a self-contained design that eliminate expulsive showers associated with expulsion fuse operation. These non-expulsive fuses are more suitable for HFTDs. Many of these fuses have been granted permanent exemption by the California Department of Forestry and Fire Protection (CALFIRE) from pole clearance requirements if installed in the field according to manufacturer's specifications.

WMP Section 4.4 - Electrical Facility Assessment shows 229 OH lateral distribution line and distribution transformer fuses within Tier 2. According to Table 4 - Inventory of BWP Assets in Tier 2, 74 expulsive fuse devices are on Circuits T-14, T-19 which have been designed by BWP as Priority Level 2.1 (Section 4.5 - Prioritization of Wildfire Risks, Table 7). Additionally, BWP indicates in Section 4.4 - Electrical Facility Assessment, Table 5 - Electrical Equipment Risk Drivers Based on Historical Events that 42% of the historical events (19 potential ignitions) occurred with Tier 2. Since BWP does not have a non-expulsive fuse program, it can be assumed that all the OH lateral and transformer and fuses are expulsive type.

***Completion of the study of Distribution Construction Standards Improvements as outlined in WMP Section 5.1.4 may provide wildfire hardening benefits. Programs to replace expulsive fuses with the non-expulsive fuses is a best practice being performed by the other utilities in the state.***

### **Operational Activities Limitations**

A best practice implemented by some California utilities establishes procedures and routine operational practices that limit or curtail operational activities during periods of increased risk within fire threat districts. These procedures and practices provide employee and contractors specific information and instructions to improve the reliable and safe operations of electric facilities and mitigate the threat of utility caused inadvertent ignitions. For example, depending upon the level of designated fire risk, activities such as tree trimming, use of reciprocating equipment, blasting and conductor replacement are limited or curtailed. Crew safety monitors may also be assigned when crews are working within an HFTD during period of elevated risk.

In the WMP Section 5.3 - Operational Practices, BWP indicates blocking reclosing and line patrol after an outage event during an RFW as part of the overall strategy for Wildfire Prevention. Limiting operational activities within Tier 2,3 is a common best practice to reduce the probability of inadvertent ignitions by BWP workers and contractors.

***BWP currently holds safety tailboard meetings that include fire risks on Red Flag Warning days. Guidehouse recommends BWP also develop written procedures for operational practice limitations within the HFTD during periods of elevated wildfire risks. This may further reduce the risk of inadvertent ignition by BWP workers.***

### **Selective Undergrounding**

Selective undergrounding is an effective option for hardening electric facilities for wildfires. The selection criteria can include areas of high tree density, circuits that may be impacted by a PSPS and areas with limited ingress and egress. Often, areas with mountainous terrain are not good candidates for undergrounding of OH lines due to right of way and construction complications. Selective undergrounding of distribution facilities also improves aesthetics and service reliability.

BWP has approximately 26 miles of distribution lines in Tier 2 HFTD, with 15 miles underground lines and 11 miles overhead wire. Currently, 56% of BWP's distribution facilities in Tier 2 are underground. This undergrounding of distribution facilities within Tier 2 significantly reduces the threat of fire ignition.

***BWP's approach to selective undergrounding is consistent with the best practices at other Utilities.***

## 4.1 Mitigation Strategies Assessment

The following describes the scoring determinations of the benchmarking practice. Guidehouse weighed strategies that have been demonstrated globally as well as from those proposed by state utilities. As expressed in Figure 4, this benchmarking practice supports efforts to determine the Plan's comprehensiveness when investigating the mitigation measures proposed in BWP's WMP. This assessment is designed to confirm prudent measures as proposed by BWP and did not result in any material findings that would result in non-compliance or lack of comprehensive WMP elements.

**Figure 4: Determinations for Benchmarking**



Meets the state and federal requirements and aligns with the identified benchmarking practices



The Plan does not effectively describe the mitigation measure to warrant a sound determination or the strategy does not align with the presented best practice strategy. For the purpose of this evaluation, exploratory considerations of proposed best practice measures would fall under this category.





The strategy does not apply to the Utility or their risk exposure to wildfire events

The selected strategies represented in Table 2 include both statutory requirements that exist as industry standards for POUs as well as accepted industry practices within the state.






**TABLE 2 INDUSTRY PRACTICE STRATEGY COMPARISON MATRIX**

Identified Practice Strategy	Mitigation Rationale	BWP Applicability	Plan Elements	Determination
<i>Situational Awareness / Weather Conditions</i>				
<p>Real-time situational awareness of conditions that lead to high risk of wildfires requires a multi-faceted approach including but not limited to coordination with local public agencies, weather monitoring, strategically placed high visibility cameras and other early warning systems.</p>	<p>Having access to internal and external mechanisms to track fire conditions (high wind, dry conditions, high heat), will aid in responding to and preventing potential fires by enacting related protocols during fire watch conditions</p>	<p>Especially in the HFTD, weather stations and cameras would allow BWP personnel to have access to real-time monitoring of these areas</p>	<p>Given the topography and condensed area of the BWP service area, high visibility cameras may only apply to the Sunset Canyon (the upper road segment of Country Club Drive) which BWP has determined poses the greatest Tier 2 wildfire risk.</p> <p>BWP's Energy Control Center monitors National Weather Service warnings and watches and coordinates with other agencies and third parties in the area.</p>	<p>BWP meets the basic requirements of real-time situational awareness. Further coordination with Los Angeles Department of Water and Power (LADWP) is encouraged</p>
<p>Cameras with night vision mode capability atop of electrical structures</p>	<p>Visual inspections can be enhanced through the use of cameras with high definition and night vision capabilities. This measure improves response times in addressing risk incidents and de-energization</p>	<p>The Tier 2 zone within the BWP service territory mostly suburban</p>	<p>Given that the majority of BWP's Tier 2 is suburban, night vision cameras may not be necessary.</p>	<p>This best practice strategy does not apply to BWP</p>




<b>System Hardening / Design &amp; Construction / Operational Practices</b>					
<p><b>Selective undergrounding of distribution facilities within Tier 2,3.</b></p>	<p>Selective undergrounding is an effective option for hardening electric facilities for wildfires. The selection criteria can include areas of high tree density, circuits that may be impacted by a PSPS and areas with limited ingress and egress. Often, areas with mountainous terrain are not good candidates for undergrounding of OH lines due rights of way and construction complications</p>	<p>Poles and overhead wires within known areas of high fire severity zones or past wildfires, should be considered for selective undergrounding</p>	<p>BWP has approximately 26 miles of distribution lines in Tier 2 HFTD, with 15 miles underground lines and 11 miles overhead wire. 56% of the distribution facilities in Tier 2 are underground. This undergrounding of distribution facilities within Tier 2 can significantly reduce the threat of fire ignition. BWP has determined that the Sunset Canyon area in Tier 2 is not feasible for selective undergrounding</p>		<p>BWP's undergrounding of distribution facilities improves aesthetics, service reliability and is an effective wildfire hardening strategy.</p>
<p><b>Replacing bare wires with covered conductors</b></p>	<p>Covered wire is a well-demonstrated prevention method to sparks / ignitions during severe weather conditions. Several utilities are employing pilot programs of covered wire replacement of distribution lines, prioritizing HFTDs for implementation.</p>	<p>BWP has overhead distribution lines (11 circuit miles in Tier 2) This area may benefit from additional hardening such as covered wire replacement for existing legacy bare wire.</p>	<p>BWP does not have program for replacing bare wires within Tier 2 with covered conductors. An engineering study will be completed in fiscal year 2020-2021.</p>		<p>Replacing bare wires with covered conductors is a common best practice. BWP will benefit from completion of the engineering evaluation study and may wish to install covered conductors at that time.</p>

<p><b>New or planned electrical lines (distribution and transmission) that are designed to withstand working loads under the stress above design standards to address high wind speeds</b></p>	<p>As new capital infrastructure plans are developed, it would be prudent to consider resilient design standards that can withstand sustained winds and gusts that occur during Red Flag Warning periods.</p>	<p>Construction of distribution facilities meet or exceed GO 95 standards. Specifically, BWP increases pole strength requirements to meet the GO 95 safety factors.</p>	<p>BWP designs poles in accordance with the wind loading criteria set in General Order 95 (GO 95) in order to minimize the chance of pole failure during heavy winds.</p> <p>During intrusive pole inspections, BWP performs this loading analysis on poles located within the Tier 2 HFTD. Poles not passing the wind loading criteria are scheduled for replacement. In some cases, poles may only require additional guy wire reinforcement to meet wind loading criteria.</p>	<p>BWP's actions are consistent with Utility best practices for design and evaluation of poles withstand working loads under stress for high winds.</p>
<p><b>Steel or composite poles swapped out for wood poles, at minimum, within HFTDs or fireproofing wooden poles (fire resistant material coating)</b></p>	<p>When considering pole replacement strategies, when applicable, composite or steel poles can reduce the risk that wood poles present. At minimum, fire retardant material can be coated to temporarily enhance the ability to prevent fire spread or impact the stability of the structure under fire threat.</p>	<p>Poles within known areas of high fire severity zones or past wildfires, should be considered for replacement with more fire resilient materials.</p>	<p>BWP performed a pilot project for replacement of wood poles with composite poles. Fire resilient design evaluation is recommended for the OH portion of the BWP service area designated as priority level 2.1 zone.</p>	<p>Completion of the evaluation for the use of fire resilient materials for distribution poles within Tier 2 may provide storm hardening benefits.</p>

<p><b>Pole loading assessment, pole intrusive inspection and testing</b></p>	<p>Carry out programs that address pole loading issues and inspections that would result in remediation to infrastructure.</p>	<p>GO 165 is considered a "best practice" by many public owned utilities. GO 165 Section III A (5) defines "Intrusive" inspection as one involving movement of soil, taking samples for analysis, and/or using more sophisticated diagnostic tools beyond visual inspections or instrument reading.</p>	<p>BWP has performed and will continue to perform intrusive pole inspections within Tier 2. Any poles that do not pass the wind loading criteria are scheduled for replacement. In some cases, poles may only require additional guying reinforcement to meet wind loading criteria.</p>	<p>BWP's actions are consistent with Utility best practices for intrusive pole inspection and testing</p>
<p><b>Expulsion fuse device change out to current-limiting (non-expulsive) fuses</b></p>	<p>Traditional fuses pose a fire risk due to the ignited material that can be expelled. Best practices for mitigating this risk is to change out these fuses with non-expulsive fuses.</p> <p>A protective device coordination study achieves an optimum balance between equipment protection and selective isolation that is consistent with the operating requirements of power systems.</p>	<p>HFTDs would benefit from the replacement of traditional fuses with ones that minimize sparks and arcs</p> <p>Electrical systems use fuses and circuit breakers to protect electrical equipment. Equipment failures and other anomalies may cause a short circuit. Risks are reduced within HFTDs when a short circuit impacts only that portion of the system where the failure occurs.</p>	<p>BWP has indicated that the engineering study will be completed to evaluate replacement of expulsive fuses with non-expulsive fuses.</p> <p>Within Table 5 (Electrical Equipment Risk Drivers Based on Historical Events) of the BWP WMP, it is indicated that 42% (19 events) of risk events are attributed to conventional fuse operations of transformers and lateral fuses. Of the 19 events, 2 were indicated within circuits T-14 and 19 located in the BWP priority level 2.1 zone.</p>	<p>Replacement of expulsion fuses with non-expulsion fuses is a common best practice. Completion of the engineering evaluation for the use of non-expulsion fuses for new construction, and replacement construction within Tier 2 may provide wildfire hardening benefits.</p>

<p><b>Tree attachment removals</b></p>	<p>This practice involves the removal of electrical infrastructure fastened to trees for infrastructural support but can be a source of ignition. The removal of these legacy devices may reduce electrical spark risk.</p>	<p>BWP has no tree attachments within Tier 2 that require evaluation</p>	<p>BWP does not have tree attachments nor use tree attachments for new construction</p>	<p> This best practice strategy does not apply to BWP</p>
<p><b>Disabling reclosers through blocking reclosing operations (distribution level) in HFTDs during the fire season and/or during Red Flag Warnings issued by the National Weather Service (or as fire risk potential designates)</b></p>	<p>Disabling reclosing reduces the number of potential ignition events during a fault condition</p>	<p>Reclosing operations should be defined within the Plan as per statute PUC 8387 (b) (2) (F)</p> <p>Operational best practices align with having settings that align with fire potential weather conditions to prevent potential ignition</p>	<p>BWP has ten distribution circuits feeding Tier 2. No OH line reclosers are present in Tier 2. BWP enacted an operating procedure to block reclosing capabilities on all circuits in Tier 2 during red flag warning (RFW) conditions. Additionally, during an RFW, BWP enables high speed tripping on the distribution circuits feeding Tier 2.</p>	<p> BWP's actions represent a Utility best practice for blocking reclosing on distribution lines within Tier 2</p>
<p><b>Ground patrol as well as aerial inspection practices</b></p>	<p>Routine ground patrols are implicit practices in equipment and vegetation inspection protocols. Increasing the frequency, especially in the HFTD, represents an effective preventative measure and ensures the integrity of electrical equipment. Aerial inspections, by way of helicopters, will lead to greater coverage of the service territory and areas adjacent to required clearances</p>	<p>Ground patrols are a required strategy in ensuring safe and reliable delivery of electricity. When access concerns arise, aerial inspections provide better coverage in surveying and inspecting electrical equipment throughout the utility service territory</p>	<p>BWP performs inspection cycles in accordance with GO 165. For Tier 2, BWP performs annual patrols for all overhead equipment. Problems that are identified during inspection are prioritized for correction. Inspection findings are examined to identify trends and recurring problems.</p> <p>BWP has no areas that would benefit from an aerial inspection.</p>	<p> BWP's actions are consistent with Utility best practices for ground patrols and inspection practices</p>

<b>Wildfire Infrastructure Protection Teams</b>	<p>An internal team to help coordinate efforts to ensure the Plan is being followed as well as coordinating efforts to enhance the Plan's strategies and quality check that activities are being performed and tracked aligning with the Plan</p>	<p>An internal team to prepare and protect physical aspects of the electric system as well as ensure effective mitigation measures are carried out would be a prudent activity to pursue</p>	<p>In Chapter 7, Section 7.1. BWP defines that the General Manager has overall responsibility for the plan. Table 11 shows activity owners for the four categories of mitigation activities. These assignments can be as viewed formation of a Wildfire Infrastructure Protection team.</p>	 <p>BWP's actions are consistent with Utility best practices for Wildfire Protection Teams.</p>
<b>Infrared corona scanning and high definition imagery technology for inspection practices along with visual inspections</b>	<p>Infrared and ultraviolet (Corona) light cameras are typically mounted to helicopters with special attention to splices, conductor connection/attachment points, and insulators for a detailed visual of electrical equipment</p>	<p>Infrared is an accepted practice that enables better awareness of the utility's equipment</p>	<p>BWP performs infrared inspections of substations on an annual basis. Performing annual infrared inspections of Tier 2 OH lines may provide wildfire mitigation benefits.</p>	 <p>Annual infrared inspections of OH lines within Tier 2,3 is a common best practice</p>
<b>Operational activities limitations during the fire season and/or during Red Flag Warnings issued by the National Weather Service (or as fire risk potential designates)</b>	<p>Establishment of procedures and routine operational practices that limit or curtail operational activities during periods of increased risk within fire threat districts. These procedures and practices provide employee and contractors specific information and instructions to improve the reliable and safe operations of electric facilities and mitigate the threat of utility caused inadvertent ignitions.</p>	<p>Limiting operational practices may reduce the probability of inadvertent ignitions by utility workers and utility contractors</p>	<p>In the WMP Section 5.3 - Operational Practices, BWP indicates blocking reclosing and line patrol after an outage event during an RFW as part of the overall strategy for Wildfire Prevention. Limiting operational activities within Tier 2,3 is a common best practice to reduce the probability of inadvertent ignitions by BWP workers and contractors.</p>	 <p>BWP should evaluate addition of limiting operational activities during RFWs to the applicable operating procedure. Limiting operational activities during RFWs is a best practice</p>

<b>Vegetation Management</b>					
<p>Routine vegetation management &amp; inspections in accordance with: Public Resources Code (PRC) 4292 &amp; 4393, General Order (GO) 95 Rule 35 and Appendix E, and ANSI A300</p>	<p>State and federal compliance for vegetation management and inspection, as well as California Public Utilities Commission GO 95, which is accepted as industry standard amongst all utilities. (Community and investor owned).</p>	<p>PRC sections 4292 and 4293; GO 95 is required by the CPUC for investor owned utilities.</p> <p>Public Owned Utilities (POUs) generally follow these guidelines.</p>	<p>BWP performs routine vegetation management, such as pruning and removal, on an annual basis in Tier 2. Each year, field patrols are performed to inspect tree and conductor clearances and to identify any hazard trees. Areas for vegetation pruning and removal are targeted based on the results of these patrols.</p>		<p>BWP's actions are consistent with Utility best practices for routine vegetation management inspections.</p>
<p>LiDAR Technology for vegetation management inspections</p>	<p>Where foot patrols or normal helicopter patrols are insufficient to evaluate the right-of-way (ROW) clearance, utilities use LiDAR technology to identify trees along the ROW border that can potentially contact with lines during high wind events.</p>	<p>LiDAR is demonstrated as an effective tool for transmission level inspection of dense vegetation within the corridor and adjacent to the easement area.</p>	<p>BWP has no transmission facilities in Tier 2.</p>		<p>This best practice strategy does not apply to BWP</p>
<p>Hazardous tree/vegetation identification and removal protocols and programs</p>	<p>Recording and tagging trees that pose risks to adjacent electrical equipment or are dead/dying are considered prudent efforts for vegetation management practices</p>	<p>Within the HFTD, danger trees could pose a greater potential to catch on fire or contribute to fire spread. Addressing, though identification and surveying, as well as implementing remediation activities will result in further wildfire risk reduction</p>	<p>Each year, field patrols are performed to inspect tree and conductor clearances and to identify any hazard trees.</p>		<p>BWP's actions are consistent with Utility best practices for hazardous tree identification and removal protocols and programs.</p>

<p><b>Fuels management</b></p>	<p>Fuels management is an action designed to reduce fire hazards by removing or rearranging fuels. When applied to strips of land, they are designated as a fuel break or fire break. Fuel breaks are strips of land in which vegetation, both dead and alive has been modified, but some trees and shrubs are retained.</p>	<p>Fuels management is an effective practice to reduce fire intensity and can provide safe passage zones for the public, BWP workers and Burbank Fire Department</p>	<p>The Burbank Fire Department has a Fire Hazard Reduction Program for brush clearance. Two Mountain Fire Zones are designated by the Department. One zone is located along the foothills of the Verdugo Mountains in northeast Burbank, and the other is located in the southwestern portion of the city adjacent to Warner Bros. Studios. The program is designed to have property owners maintain their property in a safe fire condition throughout the year. The program guidelines have 12 specific requirements for 0-100 feet clearance, guidelines for 100-200 clearance (fuel modification zone) and recommendations for vegetation management and defensible spaces. Beginning June 1, Burbank Fire Department conducts annual brush clearance inspections. Burbank Fire Department also provides compliance enforcement.</p>	<p>The Fire Hazard Reduction Program is an effective program to provide standards and compliance for fuels management for the City of Burbank.</p>
<p><b>Off-Cycle / Call-in vegetation removal or corrective work, especially during the fire season</b></p>	<p>Off-cycle practices of vegetation inspection and management</p>	<p>Within BWP's HFTD, impact trees could pose a greater potential to catch on fire or contribute to fire spread. Addressing, though identification and surveying, as well as implementing remediation activities will result in further wildfire risk reduction</p>	<p>BWP has a Line Clearance Tree Trimming in Elevated Fire Risk Areas Communications Plan. The communications plan informs the approximately 850 Burbank residents within Tier 2 that they have until May 31, 2020 to trim trees on their property to the California state standards. Customers are also notified that line clearance tree trimming should only be performed by arborists that are certified to work around energized power lines. After May 31, 2020, and before the wildfire season, BWP will trim trees near BWP OH distribution lines on customer property to the compliance standard.</p>	<p>A majority of the BWP OH distribution lines in Tier 2 traverses through customer backyards. The BWP program and communications to trim trees in compliance with the state standards is a proactive program and best practice.</p>



**Emergency Response & Recovery**

<p>Notify critical facilities and public safety partners, which may include first responders, incident origin law enforcement, acute health care facilities, essential service providers, related governing local and state agencies, adjacent jurisdictions, vulnerable populations, and the Independent System Operator (ISO) (for transmission level de-energization)</p>	<p>Following a sequence of events in contacting public safety partners and impacted community facilities will enable quicker response in reacting to an emergency event (such as a wildfire or de-energization). Utilities should describe their processes to notify critical facilities as it applies to their service territory and impacted communities as well as grid operators.</p>	<p>Notification practices targeting key stakeholders are crucial during emergency events such as storms and wildfires.</p>	<p>BWP relies upon its Electric Emergency Response Plan (EERP) respond effectively to wildfire threats and other hazards. BWP does not have a formal PSPS program and specific communications protocols for direct notification to all public safety offices, critical first responders, health care facilities, and operators of telecommunications infrastructure with premises within the footprint of potential de-energization for a given event.</p>	<p>Specific communications protocols for wildfire emergency events improves communication and coordination.</p>
<p>Incident Command Team / Emergency Operations frameworks in the event a de-energization event or wildfire incident occurs</p>	<p>Using the State Emergency Management System (SEMS) framework, which is determined on the Federal Emergency Management Agency (FEMA) structure for incident command protocols will ensure prepared and adequately trained staff to respond in effective communication manners as well as respond to risk events in a sequence of effective procedures.</p>	<p>Establishment of Emergency Action Plans between the Electric Department, the City Emergency Operations Center and other City departments assures effective identification, assignment and training for emergency management roles.</p>	<p>BWP responds to emergencies in accordance with its Emergency Response Plan (2017). This plan dictates BWP's Emergency Response plans and formation of teams of experts from Operational Technology, Electric Services, Power Supply, and Water to respond and recover effectively from all hazards and threats, such as wildfires. The Electric Services Team follows guidelines that are detailed in the Electric Emergency Response Plan (EERP). No specific response plan exists for a Public Safety Power Shutoff.</p>	<ul style="list-style-type: none"> <li>• BWP has identified a portion of Tier 2 as Priority Level 2.1 – Tier 2 HFTD with dense vegetation adjacent to overhead electrical facilities.</li> <li>• BWP defines Sunset Canyon (the upper road segment of Country Club Drive) as posing the greatest risk of wildfire within Burbank's Tier 2 HFTD. This is due to the continuity of vegetation within the canyon and density of</li> </ul>

tree canopies surrounding the residential homes.

- Results of the 2019 Dudek study observed that most of the Tier 2 HFTD Areas are hilly or mountainous and steeper slopes that exacerbate fire spreading and impede fire suppression efforts. In worst-case scenarios, fires on the steep slopes of the Verdugo Mountains could burn into the heavily developed areas of Burbank.
- In the WMP, BWP indicates it has implemented mitigation activities that do not necessitate pre-emptive de-energization of any portions of its electrical system.
- Given the identified wildfire risks within portions of the BWP service area, may benefits from development of a PSPS plan with the associated emergency management plans and communications protocols.

Coordination with stakeholder agencies/entities with routine meetings to discuss emergency preparedness needs and areas of improvement, etc.

Communicating with vested stakeholders during wildfire mitigation activities, PSPS events, and general strategy development will help drive efforts to better align with the risk profile of the utility's service and asset territory. These efforts should occur throughout the year and wildfire mitigation plan planning process

BWP has overhead facilities within the Tier 2.

The BWP WMP does not indicate proactive activities with agencies/entities through routine meetings to discuss emergency preparedness needs and areas of improvement, etc.



Establishment of regular meetings with City of Burbank agencies and other interested stakeholders to discuss wildfire emergency preparedness and wildfire mitigation activities may provide coordination benefits.

## 5. RESULTS & DISCUSSION

Guidehouse concluded this assessment on April 10, 2020. Over the course of reviewing APU's WMP and supporting documentation, Guidehouse captured takeaways and findings that align the Plan with state laws and effective wildfire measure demonstration. BWP's Plan appropriately responds to each of the required elements of PUC Section 8387, which is detailed in Appendix A. The following describes the assessment and resulting findings of the Plan's proposed and established mitigation measures as it applies to safe, reliable operation of all electric infrastructure and wildfire prevention and response.

### ***Report Conclusions***

After internal review of the latest version of the WMP and associated data collection products, Guidehouse concludes this Report with the following:

1. BWP's WMP aligns appropriately with PUC Section 8387 and includes all required elements.<sup>6</sup>
2. BWP's Plan is determined to be comprehensive as described throughout this Report.

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<sup>6</sup> Following acceptance of this Report, BWP will post the Report online for public view. The Report is scheduled for presentation to the BWP Board on June 4, 2020 and the Burbank City Council at a public meeting on June 16, 2020.

## APPENDIX A. STATUTORY COMPLIANCE MATRIX

Required Statutory Element	Plan Section Reference(s)	APU Plan Elements (Summarized)	Meets Section Elements (Determination)
<p>(a) Each local publicly owned electric utility and electrical cooperative shall construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of wildfire posed by those electrical lines and equipment.</p>			
<p>(b) (1) The local publicly owned electric utility or electrical cooperative shall, before January 1, 2020, prepare a wildfire mitigation plan. After January 1, 2020, a local publicly owned electric utility or electrical cooperative shall prepare a wildfire mitigation plan annually and shall submit the plan to the California Wildfire Safety Advisory Board on or before July 1 of that calendar year. Each local publicly owned electric utility and electrical cooperative shall update its plan annually and submit the update to the California Wildfire Safety Advisory Board by July 1 of each year. At least once every three years, the submission shall be a comprehensive revision of the plan.</p>			
<p>(2) The wildfire mitigation plan shall consider as necessary, at minimum, all of the following:</p>			
<p>(A) An accounting of the responsibilities of persons responsible for executing the plan.</p>	<p><b>Section 7.1</b></p>	<p>Section 7.1 assigns accountability at BWP for execution of the WMP. Specifically, the GM is ultimately responsible for the Plan. Design and Construction activities are under the purview of the AGM for Electric Services. Inspection and Maintenance is the responsibility of the Manager, Electrical Distribution. Operational Practices responsibility is split between the Managers of the ECC and Electrical Distribution. The Manager, ECC is also responsible for Situational/Conditional Awareness activities.</p>	<p><b>Yes</b></p>

<p><b>(B)</b> The objectives of the wildfire mitigation plan.</p>	<p><b>Section 1.3</b></p>	<p>BWP identifies two primary objectives:</p> <ol style="list-style-type: none"> <li>1. Reduce the probability that BWP's electric system may be the contributing source for the ignition of a wildfire; and</li> <li>2. Create a WMP that is consistent with state law and objectives.</li> </ol> <p>In support of these objectives, BWP intends to continually evaluate improvements to its design standards, physical assets, inspection and maintenance programs, operations, and training in order to meet these objectives.</p>	<p><b>Yes</b></p>
<p><b>(C)</b> A description of the preventive strategies and programs to be adopted by the local publicly owned electric utility or electrical cooperative to minimize the risk of its electrical lines and equipment causing catastrophic wildfires, including consideration of dynamic climate change risks.</p>	<p><b>Sections 3, 5</b></p>	<p>BWP provides an overview of its prevention strategies and programs including whether the measure has already begun in Section 3 of the Plan. Additionally, Section 5 elaborates upon the items listed in Section 3. Specifically, BWP details how it plans to incorporate wildfire mitigation into Facility Design and Construction, Inspection and Maintenance, Operational Practices, and Situational/Conditional Awareness in accordance with this plan and in consideration of wildfire and dynamic climate change risks.</p>	<p><b>Yes</b></p>
<p><b>(D)</b> A description of the metrics the local publicly owned electric utility or electrical cooperative plans to use to evaluate the wildfire mitigation plan's performance and the assumptions that underlie the use of those metrics.</p>	<p><b>Section 7.2.1</b></p>	<p>BWP sets forth and describes numerous metrics that may impact or contribute to wildfire prevention in section 7.2.1 and can be used by BWP to evaluate the WMP's performance and assumptions that underlie the metrics.</p>	<p><b>Yes</b></p>
<p><b>(E)</b> A discussion of how the application of previously identified metrics to previous wildfire mitigation plan performances has informed the wildfire mitigation plan.</p>	<p><b>Section 7.2.2</b></p>	<p>Similar to many other utilities, BWP indicates that there are no previously applied metrics for measuring performance with the WMP. BWP does, however, retain historical outage information and this was used to assess risk and plan mitigation activities that were incorporated into the WMP.</p>	<p><b>Yes</b></p>

<p><b>(F)</b> Protocols for disabling reclosers and deenergizing portions of the electrical distribution system that consider the associated impacts on public safety, as well as protocols related to mitigating the public safety impacts of those protocols, including impacts on critical first responders and on health and communication infrastructure.</p>	<p><b>Section 5.3.1, 5.5</b></p>	<p>BWP developed and implemented an operating procedure to block reclosing capabilities on all Tier 2 circuits during Red Flag Warning conditions. Additionally, more sensitive, quicker acting relay settings are employed during RFW conditions to increase the chance of detecting and isolating a fault.</p>	<p><b>Yes</b></p>
<p><b>(G)</b> Appropriate and feasible procedures for notifying a customer who may be impacted by the deenergizing of electrical lines. The procedures shall consider the need to notify, as a priority, critical first responders, health care facilities, and operators of telecommunications infrastructure.</p>	<p><b>Section 6.3</b></p>	<p>BWP includes a communications protocol to notify and establish communication and coordination with its primary stakeholders, which include Burbank Fire Department, City Manager, other utilities, elected officials, fire agencies and first responders, and BWP’s emergency response support team. Communication with customers impacted by the de-energizing of electrical lines during an emergency are initiated using BWP’s standard communication protocols.</p> <p>Guidehouse recommends BWP add details on how it will communicate with impacted health care facilities and telecommunication providers.</p>	<p><b>Yes</b></p>
<p><b>(H)</b> Plans for vegetation management.</p>	<p><b>Section 5.2.2</b></p>	<p>For all electrical facilities, BWP 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. BWP performs routine vegetation management, such as pruning and hazard tree removal, on an annual basis in the Tier 2 HFTD. Tree crews are supervised by a certified arborist will trim a minimum of 12 feet of clearance.</p> <p>Burbank Fire runs an extensive fuels management program that includes brush abatement.</p>	<p><b>Yes</b></p>

<p>(I) Plans for inspections of the local publicly owned electric utility's or electrical cooperative's electrical infrastructure.</p>	<p><b>Section 5.2.1</b></p>	<p>BWP performs electrical infrastructure patrol inspections to inspect each component of the electrical system to check that no obvious abnormalities exist to the extent possible. BWP performs these inspections on a cycle that meet or exceeds the timeframes given in General Order 165 (GO 165). During these inspections, problems are identified, prioritized and corrected. The specific cycles are detailed in Table 7 of the WMP. Additionally, BWP conducted intrusive pole inspections of all poles within the Tier 2 HFTD prior to implementation of the WMP.</p>	<p><b>Yes</b></p>
<p>(J) A list that identifies, describes, and prioritizes all wildfire risks, and drivers for those risks, throughout the local publicly owned electric utility's or electrical cooperative's service territory. The list shall include, but not be limited to, both of the following:</p>	<p><b>Sections 4.2, 4.5</b></p>	<p>BWP clearly identifies, describes, and prioritizes wildfire risks and identifies the drivers for those risks. The risk identification analysis and its outputs are thorough and convey the necessary risk information.</p>	<p><b>Yes</b></p>
<p>(i) Risks and risk drivers associated with design, construction, operation, and maintenance of the local publicly owned electric utility's or electrical cooperative's equipment and facilities.</p>	<p><b>Section 4.2.1</b></p>	<p>Risks and risk drivers associated with the design, construction, operation, and maintenance of BWP's equipment and facilities are identified and elaborated in the WMP.</p>	<p><b>Yes</b></p>
<p>(ii) Particular risks and risk drivers associated with topographic and climatological risk factors throughout the different parts of the local publicly owned electric utility's or electrical cooperative's service territory.</p>	<p><b>Section 4.3</b></p>	<p>BWP identifies risks and risk drivers specific to their service territory that account for the topographic risks (steep hillsides and narrow canyons) and climatological risks (high winds, dry conditions) present in the area.</p>	<p><b>Yes</b></p>
<p>(K) Identification of any geographic area in the local publicly owned electric utility's or electrical cooperative's service territory that is a higher wildfire threat than is identified in a commission fire threat map, and identification of where the commission should expand a high fire-threat district based on new information or changes to the environment.</p>	<p><b>Section 4.3.3</b></p>	<p>BWP did not identify any geographic area within its service territory that is identified in a commission fire threat map. Accordingly, BWP did not identify any area where the commission should expand a high fire-threat district based on new information or changes to the environment.</p>	<p><b>Yes</b></p>



<p><b>(L)</b> A methodology for identifying and presenting enterprise wide safety risk and wildfire-related risk.</p>	<p><b>Section 4.1</b></p>	<p>BWP and a third-party contractor performed a fire risk assessment of BWP’s electric system, facilities, and territories by conducting a risk bowtie analysis, a site fire environment assessment, and an electrical equipment assessment.</p>	<p><b>Yes</b></p>
<p><b>(M)</b> A statement of how the local publicly owned electric utility or electrical cooperative will restore service after a wildfire.</p>	<p><b>Section 6.4, 5.3.2</b></p>	<p>Restoration of the electric system occurs in accordance with the BWP Emergency Response Plan (2017). After a wildfire, BWP’s Department Operations Center (DOC) will coordinate restoration of service in alignment with direction from the City of Burbank’s Emergency Operations Center (EOC).</p> <p>In section 5.3.2 of the Plan, BWP indicates that they will perform safety patrols/inspections of the entire circuit to locate the cause of the fault and to identify damaged equipment and hazards prior to reenergization. The ECC must wait for confirmation of the patrol inspection prior to re-energizing the circuit.</p>	<p><b>Yes</b></p>
<p><b>(N)</b> A description of the processes and procedures the local publicly owned electric utility or electrical cooperative shall use to do all of the following:</p>			
<p><b>(i)</b> Monitor and audit the implementation of the wildfire mitigation plan.</p>	<p><b>Section 7.3</b></p>	<p>BWP will audit the WMP annually to monitor the effectiveness of the implementation of the WMP. The audit will include an assessment of the metrics. Deficiencies in the plan will be identified and the Plan will be updated to improve the WMP’s effectiveness.</p>	<p><b>Yes</b></p>
<p><b>(ii)</b> Identify any deficiencies in the wildfire mitigation plan or its implementation and correct those deficiencies.</p>	<p><b>Section 7.3.1</b></p>	<p>BWP declares an intent to identify and correct deficiencies continuously upon discovery.</p>	<p><b>Yes</b></p>

<p>(iii) Monitor and audit the effectiveness of electrical line and equipment inspections, including inspections performed by contractors, that are carried out under the plan, other applicable statutes, or commission rules.</p>	<p><b>Section 7.3.2</b></p>	<p>BWP performs annual patrols for all overhead equipment. Problems identified during inspection are prioritized for correction. Inspection findings are recorded and examined to identify trends and recurring problems.</p>	<p><b>Yes</b></p>
<p>(3) The local publicly owned electric utility or electrical cooperative shall, on or before January 1, 2020, and not less than annually thereafter, present its wildfire mitigation plan in an appropriately noticed public meeting. The local publicly owned electric utility or electrical cooperative shall accept comments on its wildfire mitigation plan from the public, other local and state agencies, and interested parties, and shall verify that the wildfire mitigation plan complies with all applicable rules, regulations, and standards, as appropriate.</p>	<p><b>Section 8.2</b></p>	<p>BWP first presented its current WMP at publicly noticed public meetings of the BWP Board on November 7, 2019 and City Council at a public meeting December 17, 2019.</p>	<p><b>Yes</b></p>
<p>(c) The local publicly owned electric utility or electrical cooperative shall contract with a qualified independent evaluator with experience in assessing the safe operation of electrical infrastructure to review and assess the comprehensiveness of its wildfire mitigation plan. The independent evaluator shall issue a report that shall be made available on the internet website of the local publicly owned electric utility or electrical cooperative and shall present the report at a public meeting of the local publicly owned electric utility's or electrical cooperative's governing board.</p>	<p><b>Section 8.3</b></p>	<p>BWP contracted with Guidehouse Inc. to perform an independent evaluation of its WMP. Qualifications are described in Section 1.</p>	<p><b>Yes</b></p>