



# Wildfire Mitigation Plan Independent Evaluation

Prepared for:

City of Azusa

Light & Water Department



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**DISCLAIMER**

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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

The City of Azusa, acting through its Light and Water Department (“ALW”), 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. Guidehouse’s project team reviewed detailed information related to the Plan and assessed ALW’s procedures related to the Plan. This Plan is also posted to ALW’s public website.

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”).

Guidehouse evaluated ALW’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 ALW under PUC Section 8387(c), which mandates an independent evaluation of ALW’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 ALW at a public meeting, scheduled for June 15, 2020. The Report includes the following:

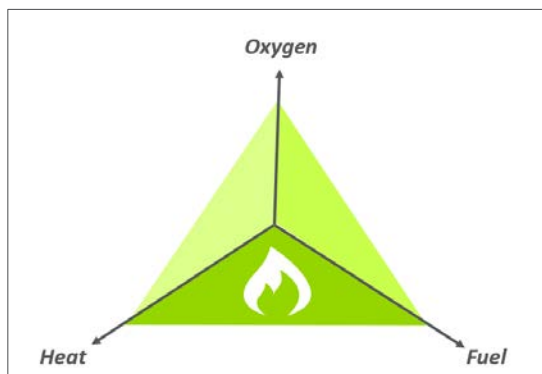
- Background of the legislative history requiring wildfire mitigation plans and their independent evaluations
- Approach and methodology evaluating a plan’s comprehensiveness
- ALW’s Plan elements and their compliance with SB 901 and PUC Section 8387 wildfire mitigation plans elements and directives
- 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 ALW’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

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



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

This Wildfire Mitigation Plan ("WMP" or "Plan") documents that Azusa's electric distribution facilities within the California Public Utilities Commission ("CPUC") Tier 2 and Tier 3 High Fire Threat Districts ("HFTDs").

### 1.2 Azusa Light & Water Plan Preparation

The City of Azusa ("Azusa") owns and operates an electric distribution utility in the City of Azusa and provides safe, reliable, sustainable, and affordable electricity to its residents and businesses through its Light and Water Department. Azusa is a city in the San Gabriel Valley, at the foot of the San Gabriel Mountains. Azusa's Light & Water Department ("ALW") is the City of Azusa's municipally owned electric utility. The Azusa electric utility was the successor to Azusa Electric Light & Power Company in 1904 and formally established its municipal electric utility. Electricity was purchased wholesale from the Sierra Electric Company and then distributed retail to our citizens and businesses. After Southern California Edison acquired Sierra Electric Company in 1917, Azusa began to buy electricity wholesale from SCE. The utility currently serves approximately 17,000 electric customers.

Azusa prepared its initial fire plan in 2019 which was approved at a public City Council meeting on December 12, 2019. This revised WMP focuses on Azusa's electric distribution facilities within the CPUC Tier 2 and Tier 3 HFTDs as shown in Exhibits B and C to the Plan.

#### 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>3</sup>

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<sup>3</sup> It is recognized that this requirement does not yet include a clear definition of comprehensiveness.



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ALW 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 Public Utilities Board. In March 2020, ALW contracted with Guidehouse Consulting, Inc., n/k/a Guidehouse Inc. (Guidehouse) 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 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 also leverages experience developing "Metrics and Benefits Reporting Plans" to gauge cost-effectiveness of activities and alignment of plans to intentions.

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

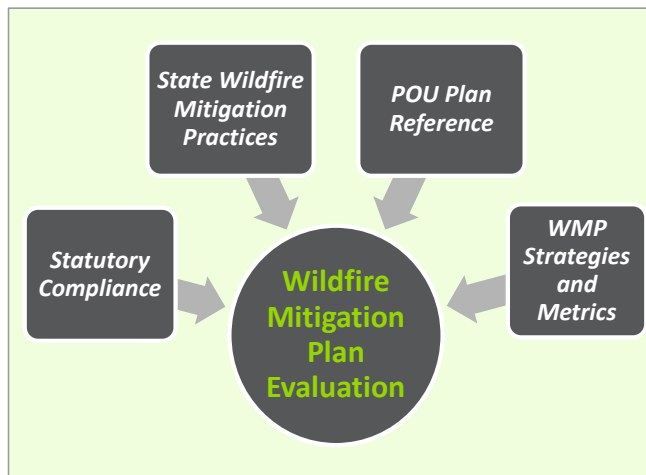
Guidehouse completed this evaluation based on industry standard practices, our experience developing and reviewing wildfire mitigation plans and other grid hardening activities, our active tracking of wildfire legislative and regulatory proceedings and, most importantly, a comparison of the specific criteria in PUC Section 8387(b)(2) to the specific wildfire-related plans outlined in ALW's WMP.

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 ALW is not subject to CPUC regulations, the insight gained from this related experience is leveraged in assessing ALW'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







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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.

Table 1: POU Requirements for the WMP

<b>PUC Section 8387</b> <i>(as amended on July 12, 2019)</i>
<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.
<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.
<b>(2)</b> The wildfire mitigation plan shall consider as necessary, at minimum, all of the following:
<b>(A)</b> An accounting of the responsibilities of persons responsible for executing the plan.
<b>(B)</b> The objectives of the wildfire mitigation plan.
<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.
<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.
<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.
<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.



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<p>(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.</p>
<p>(H) Plans for vegetation management.</p>
<p>(I) Plans for inspections of the local publicly owned electric utility's or electrical cooperative's electrical infrastructure.</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>(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>(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>(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>(L) A methodology for identifying and presenting enterprise wide safety risk and wildfire-related risk.</p>
<p>(M) A statement of how the local publicly owned electric utility or electrical cooperative will restore service after a wildfire.</p>
<p>(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:</p>
<p>(i) Monitor and audit the implementation of the wildfire mitigation plan.</p>
<p>(ii) Identify any deficiencies in the wildfire mitigation plan or its implementation and correct those deficiencies.</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>(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>



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(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 described approach.

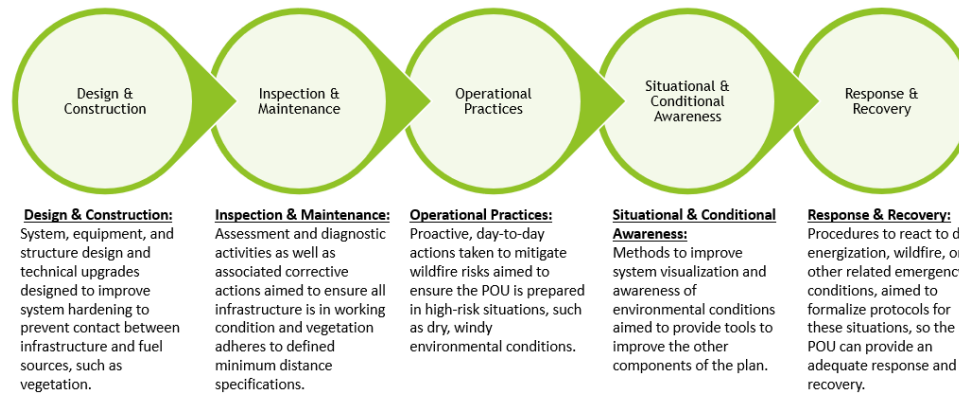
### 2.2.1 Statutory Compliance

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. Guidehouse's understanding of an effective wildfire mitigation plan draws on comparisons from existing wildfire mitigation plans and industry practices 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 ALW’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.



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- **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>4</sup>

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<sup>4</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. ALW 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 ALW'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

ALW identified three objectives for the WMP.

1. Identify Azusa's electric distribution facilities located within the High Fire Threat District (HFTD).
2. Establish that wildfire ignition risk from Azusa's electric distribution facilities is fully mitigated through 100% underground facilities in the HFTD.
3. Establish that all system expansions in the HFTD will be served with underground facilities.



### 3.1.1.2 Preventive Strategies

ALW describes four preventive strategies in its WMP. ALW's primary, and most effective, strategy is that 100% of its facilities in the High Fire Threat District (HFTD) have been undergrounded. Second, ALW continues an inspection program that follows the California Public Utility Commission (CPUC) General Order (GO) 165 and prioritizes all identified issues through the inspections by rating each issue based upon the reliability and safety risk posed. Third, re-energization of feeders in the HFTD will only occur following a visual inspection of the equipment and facilities. Finally, ALW maintains a vegetation management program designed in accordance with GO 95 Appendix E for its overhead equipment, none of which exists within the HFTD.

### 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

The risk posed by ALW's equipment and facilities in the HFTD is extremely low. This is due to the fact that ALW only has two distribution feeders in the HFTD and all of the equipment for both circuits are underground. Sections 3 and 4 of the WMP identifies and describes the wildfire risks and risk drivers present in the ALW service territory.

Section 4 of ALW's WMP describes the risks present in ALW's service territory. Specifically, Section 4 describes:

1. The general wildfire risk posed by electric facilities near fuel sources.
2. The ignition risk due to ALW's facilities in the HFTD.



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3. Fuel Risk which is indicated as low due to underground facilities within Tier 2 and developed residential neighborhoods with no brush or wooded areas.
4. The topographic risk posed by the terrain of the San Gabriel Mountains.
5. The climatological risks of Southern California, which often experiences extended droughts and high winds.

Each of these sections describes how these risks are eliminated due to the undergrounding of ALW's equipment and facilities in the HFTD.

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

As described above, Section 4 of the WMP, Azusa identifies five wildfire risks and basic mitigation activities. Azusa identifies low wildfire risk due to extensive undergrounding of the distribution system and lack of vegetative fuels. However, Guidehouse was not presented with evidence that the identified risk was part of a larger enterprise-wide safety risk assessment that included wildfire risk. Therefore, Guidehouse recommends ALW conduct a more comprehensive enterprise-wide risk assessment in that evaluates safety and wildfire risk.

### 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.

The CPUC map currently identifies Tier 2 and Tier 3 HFTDs to the North of Azusa. ALW currently has two feeders leading into the HFTD, but both are completely underground thereby presenting no risk to the higher threat areas. Additionally, ALW has no plans for any system expansion into the HFTD. There is no new information or changes to the environment raised by ALW and ALW has not identified any area where the commission should expand the HFTD designations in this area.

### 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.





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(H) Plans for vegetation management.

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

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### **3.1.4.1 Disabling Reclosers**

This section is not applicable to ALW because ALW does not employ any automatic reclosers in the HFTD as an effective means for improving reliability in areas served with 100% underground facilities. Further, ALW will not automatically, or manually, re-energize feeders in the HFTD without a visual inspection.

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

ALW is not planning to utilize any public safety power shutoff (PSPS) as a fire prevention strategy because their facilities in the HFTD are underground and not at risk from wind events or wildfires.

### **3.1.4.3 Vegetation Management**

Section 5D contains an overview of the ALW vegetation management program. Although ALW has no overhead equipment in the HFTD, ALW maintains a vegetation management program for its overhead equipment in the Tier 1 low risk areas. ALW clears all vegetation around high-voltage overhead power lines on an annual basis. Clearances are maintained in accordance with CPUC GO 95 using Appendix E as a guideline.

### **3.1.4.4 Infrastructure Inspections**

ALW conducts annual inspections of all facilities in the HFTD accordance with GO 165. Any issues found are prioritized for repair.

1. Condition A: immediate safety/reliability problem. Repair must be performed immediately.
2. Condition B: Maintenance or repair required but no immediate hazard exists. Repairs must be made within 90 days.
3. Condition C: Minor aging. Check the issue again during next inspection



### 3.1.5 Response & Restoration

#### PUC Section 8387

(G) Appropriate and feasible procedures for notifying a customer who may be impacted by the de-energizing 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

Although ALW is not planning to use PSPS as a fire prevention strategy, because their facilities in the HFTD are underground and not at risk from wind events, ALW may be impacted by SCE PSPS. ALW planned response is described in Sections 6.B. through 6.D. of the WMP.

If such an event were to occur, ALW operations will communicate with SCE electric operations personnel. ALW is prepared to shed load if necessary. In such circumstances, ALW will promptly post notices to its website and social media, email critical first responders, and call large key account customers including critical first responders.

In Section 6.D. of the Plan ALW describes its emergency management practices. ALW will coordinate with LA County Fire Department and the Azusa City Emergency Operations Center. The Azusa Police Department will serve as the incident command leads. The Emergency Operations Center is organized and operated in accordance with Azusa's Local Hazard Mitigation Plan and may be enacted to deal with emergencies that may include earthquakes, fires, floods, and PSPS events.

#### 3.1.5.2 Restoration

In Section 5.C. of the WMP, ALW declares the two feeder circuits in the HFTD will not be automatically re-energized. These circuits will be re-energized manually once a visual inspection of the facilities is performed. Additionally, ALW states in Section 6.B. that if Azusa is impacted by a PSPS initiated by SCE, ALW will endeavor to restore power promptly.



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:
(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.

3.1.6.1 Responsibilities of Persons Responsible for Executing the Plan

Section 7 contains an overview of the Azusa personnel are responsible for the implementation, monitoring, and auditing the effectiveness of this WMP. The Director of Utilities is accountable for the implementation of a WMP that is in compliance with statutory requirements, including the following:

1. Verify that the wildfire mitigation plan complies with all applicable rules, regulations, and standards, as appropriate.
2. Accept comments from the public, other local and state agencies, and interested parties regarding the WMP.
3. Present the WMP and the associated independent evaluation report, as revised, to the Azusa City Council annually at appropriately noticed public meetings.
4. Submit the initial and subsequent revised versions of the WMP to the California Wildfire Safety Advisory Board on or before July 1 of each calendar year.

The Assistant Director of Electric Operations is responsible for implementing, monitoring, auditing, and updating the WPM, including the following:



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1. Implementation: Manage the engineering, procurement, and administration required to fully implement the mitigation programs and activities of the WMP.
2. Monitor Effectiveness: WMP effectiveness is monitored by tracking the following metrics in the Fire Threat Area:
  - Number of wildfires ignited by Azusa equipment
  - Number of local fires ignited by Azusa equipment
  - Number of fuse or relay operations, including causes

**3.1.6.2 ALW Metrics**

**Table 2: ALW Proposed Metrics**

Specific metric	Indicator	Measure of effectiveness	Criteria
Number of wildfires ignited by Azusa equipment	Number of Events	Decrease of events over time	<ul style="list-style-type: none"> <li>• Count of wildfire events caused by ALW equipment, facilities, or operations</li> </ul>
Number of local fires ignited by Azusa equipment	Number of Events Number of events	Decrease of events over time	<ul style="list-style-type: none"> <li>• Count of all fire events caused by ALW equipment, facilities, or operations that do not spread to become uncontrolled wildfires</li> </ul>
Number of fuse or relay operations, including causes	Number of Events	Decrease of events over time	<ul style="list-style-type: none"> <li>• Count of all operations and the identified cause of each operation</li> </ul>

Performance metrics were first introduced in the 2019 WMP and at that time limited data was available to make comparisons. Given the nature of the wildfire risks for Azusa, no metric changes were required for this plan.

**3.1.6.3 Monitoring and Auditing and Correcting Deficiencies of the Plan**

According to Section 7.A of the WMP, the Director of Utilities is accountable for the implementation of the WMP and the Assistant Director of Electric Operations is responsible for implementing, monitoring, auditing, and updating the WMP.

Specifically, Section 7.B. states that the Assistant Director of Electric Operations must prepare an annual WMP compliance report. In order to prepare this report, ALW will audit the implementation of the WMP including completion reports for all prevention programs and activities required by the WMP. ALW will also monitor and audit the effectiveness of inspections, including those performed by contractors. This position is also



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responsible for identifying deficiencies and updating the plan to correct those deficiencies. ALW will identify WMP deficiencies based on metrics, change in conditions, new prevention technology, or change in law, and update the WMP to correct any such deficiencies.

ALW plans to comprehensively update the WMP every three years. The Assistant Director of Electric Operations will also monitor and audit the effectiveness of inspections including those performed by contractors. Through its an annual WMP compliance report, ALW will audit the implementation of the WMP including completion reports for all prevention programs and activities required by the WMP.

ALW will post the current version of the WMP and the independent evaluation report on Azusa's public website for accessibility.



## 4. RESULTS & DISCUSSION

Guidehouse concluded this assessment on June 7, 2020. Over the course of reviewing ALW's WMP and supporting documentation, Guidehouse captured takeaways and findings that align the Plan with state laws and effective wildfire measure demonstration. ALW

### ***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. ALW's WMP aligns appropriately with PUC Section 8387 and includes all required elements.<sup>5</sup>
2. Given the significant undergrounding and associated low risk of utility equipment ignition of wildfires, Guidehouse finds ALW's Plan to be comprehensive.

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<sup>5</sup> Following acceptance of this Report, ALW will post the Report online for public view. The Report is scheduled for presentation to the City Council on June 15, 2020.



**APPENDIX A. STATUTORY COMPLIANCE MATRIX**

Required Statutory Element	Plan Section Reference(s)	ALW 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.</b></p>	<p>Section 7 describes the responsibilities for the WMP. Specifically, the Director of Utilities is accountable to the City Council for the Plan and its implementation, monitoring, maintenance, oversight, and submission to the Wildfire Safety Advisory Board. The Assistant Director of Electric Operations is responsible for the implementing, monitoring, auditing, revising, and posting the WMP.</p>	<p><b>Yes</b></p>



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<p>(B) The objectives of the wildfire mitigation plan.</p>	<p><b>Section 1.B.</b></p>	<p>ALW identified three objectives for the WMP:</p> <ol style="list-style-type: none"> <li>1. Identify Azusa’s electric distribution facilities located within the Fire Threat Area</li> <li>2. Establish that wildfire ignition risk from Azusa’s electric distribution facilities is fully mitigated through 100% underground facilities in the Fire Threat Area.</li> <li>3. Establish that all system expansions in the Fire Threat Area will be served with underground facilities.</li> </ol>	<p><b>Yes</b></p>
<p>(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.</p>	<p><b>Section 5.</b></p>	<p>ALW describes four preventive strategies in the Plan. ALW’s primary, and most effective, strategy is that 100% of its facilities in the High Fire Threat District (HFTD) have been undergrounded. Additionally, ALW continues an inspection program that follows CPUC GO 165 and prioritizes all identified issues. Re-energization of feeders in the HFTD will only occur following a visual inspection. Finally, ALW maintains a vegetation management program designed in accordance with GO 95 Appendix E for its overhead equipment.</p>	<p><b>Yes</b></p>
<p>(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.</p>	<p><b>Section 7.</b></p>	<p>The Assistant Dir. Of Electric Operations will monitor the effectiveness of the implementation of the WMP through monitoring the following metrics:</p> <ol style="list-style-type: none"> <li>1. Number of wildfires ignited by Azusa equipment,</li> <li>2. Number of local fires ignited by Azusa equipment, and</li> <li>3. Number of fuse and relay operations, including causes</li> </ol>	<p><b>Yes</b></p>
<p>(E) 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.</b></p>	<p>As with many other POU WMP metrics, the metrics were not previously tracked. Future iterations of ALW’s WMP should include a discussion of previously identified and applied metrics and how those metrics has informed the WMP.</p>	<p><b>Yes</b></p>





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<p>(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.</p>	<p>Sections 5.C. and 6</p>	<p>ALW does not have any automatic reclosers in the HFTD and will not automatically re-energize feeders in the HFTD without a visual inspection. ALW is not planning to use PSPS as a fire prevention strategy because their facilities in the HFTD are underground and not at risk from wind events.</p>	<p>Yes</p>
<p>(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.</p>	<p>Section 6</p>	<p>Although ALW is not planning to use PSPS as a fire prevention strategy, because their facilities in the HFTD are underground and not at risk from wind events, ALW may be impacted by SCE PSPS. If such an event were to occur, ALW will need to shed load. ALW will promptly post notices to its website and social media, email critical first responders, and call large key account customers including critical first responders.</p>	<p>Yes</p>
<p>(H) Plans for vegetation management.</p>	<p>Section 5.D.</p>	<p>Although ALW has no overhead equipment in the HFTD, ALW maintains a vegetation management program for its overhead equipment in the Tier 1 low risk areas. ALW clears all vegetation around high-voltage overhead power lines. Clearances are maintained in accordance with CPUC GO 95 using Appendix E as a guideline.</p>	<p>Yes</p>
<p>(I) Plans for inspections of the local publicly owned electric utility's or electrical cooperative's electrical infrastructure.</p>	<p>Section 5.B.</p>	<p>ALW conducts inspections of its facilities in the HFTD accordance with GO 165. Any issues found are prioritized for repair.</p> <ol style="list-style-type: none"> <li>1. Condition A: immediate safety/reliability problem – repair immediately</li> <li>2. Condition B: Maintenance or repair required but no immediate hazard exists.</li> <li>3. Condition C: Minor aging. Check during next inspection</li> </ol>	<p>Yes</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>Sections 3-4</p>	<p>Sections 3 and 4 of the WMP identifies and describes the wildfire risks and risk drivers present in the ALW service territory.</p>	<p>Yes</p>



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<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>Section 3.</p>	<p>The risk posed by ALW's equipment and facilities in the HFTD is extremely low. This is due to the fact that ALW only has two distribution feeders in the HFTD and all of the equipment for both circuits are underground.</p>	<p>Yes</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>Section 4.</p>	<p>Section 4 of ALW's WMP describes the risks present in ALW's service territory. Specifically, Section 4 describes:</p> <ol style="list-style-type: none"> <li>1. The general wildfire risk posed by electric facilities near fuel sources.</li> <li>2. The ignition risk due to ALW's facilities in the HFTD.</li> <li>3. Fuel Risk which is indicated as low due to underground facilities within Tier 2 and developed residential neighborhoods with no brush or wooded areas.</li> <li>4. The topographic risk posed by the terrain of the San Gabriel Mountains. And</li> <li>5. The climatological risks of Southern California, which often experiences extended droughts and high winds.</li> </ol> <p>Each of these sections describes how these risks are eliminated due to the undergrounding of ALW's equipment and facilities in the HFTD.</p>	<p>Yes</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>Section 3.</p>	<p>The CPUC map currently identifies Tier 2 and Tier 3 HFTDs to the North of Azusa. ALW currently has two feeders leading into the HFTD but both are completely underground. ALW has no plans for any system expansion into the HFTD and has not identified any area where the commission should expand the HFTD designations in this area.</p>	<p>Yes</p>
<p>(L) A methodology for identifying and presenting enterprise wide safety risk and wildfire-related risk.</p>	<p>Section 4.</p>	<p>In Section 4 of the WMP, Azusa identifies five wildfire risks and basic mitigation activities. Azusa identifies low wildfire risk due to extensive undergrounding of the distribution system and lack of vegetative fuels. Guidehouse recommends ALW conduct a more comprehensive enterprise-wide risk assessment in that evaluates safety and wildfire risk.</p>	<p>Yes</p>



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<p>(M) A statement of how the local publicly owned electric utility or electrical cooperative will restore service after a wildfire.</p>	<p><b>Sections 5.C., 6.B.</b></p>	<p>ALW states in Section 5.C. that the two feeder circuits in the HFTD will not be automatically re-energized. These circuits will be re-energized manually once a visual inspection of the facilities is performed. Additionally, ALW declares that if Azusa is impacted by a PSPS initiated by SCE, ALW will restore power promptly.</p>	<p><b>Yes</b></p>
<p>(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:</p>	<p></p>	<p></p>	<p></p>
<p>(i) Monitor and audit the implementation of the wildfire mitigation plan.</p>	<p><b>Section 7.</b></p>	<p>According to Section 7 of the WMP, the Director of Utilities is accountable for the implementation of the WMP and the Asst Director of Electric Operations is responsible for implementing, monitoring, auditing, and updating the WMP.</p>	<p><b>Yes</b></p>
<p>(ii) Identify any deficiencies in the wildfire mitigation plan or its implementation and correct those deficiencies.</p>	<p><b>Section 7.B.4.</b></p>	<p>The Asst Director of Electric Operations is responsible for identifying deficiencies and updating the plan to correct those deficiencies. Azusa will identify WMP deficiencies based on metrics, change in conditions, new prevention technology, and/or change in law, and update the WMP as applicable to correct such deficiencies. The WMP shall be updated comprehensively every three years.</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.B.3.</b></p>	<p>The Asst Director of Electric Operations will also monitor and audit the effectiveness of inspections including those performed by contractors. Through an annual WMP compliance report, Azusa will audit the implementation of the WMP including completion reports for all prevention programs and activities required by the WMP.</p>	<p><b>Yes</b></p>



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<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>Sections 8.A. - 8.B.</b></p>	<p>The WMP was presented to the Azusa City Council on December 12, 2019. The revised WMP and this IE report will be presented to the Azusa City Council on June 15, 2020 and will also be televised on a local channel. This WMP will be updated and approved annually.</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.C.</b></p>	<p>Azusa contracted with Guidehouse Inc. to perform an independent evaluation of its WMP. Guidehouse's qualifications are described in Section 1. Guidehouse evaluated a revised 2020 version of the Azusa 2019 WMP. Guidehouse will present to the City Council on June 15, 2020 and this report will be made available on the Azusa website.</p>	<p><b>Yes</b></p>

**Commented [AD1]:** This will also be presented June 15, correct?

**Commented [MAR2R1]:** Correct.