CITY OF AZUSA

WILDFIRE MITIGATION PLAN

AZUSA
LIGHT & WATER

Updated June 19, 2023

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1. STATUTORY COMPLIANCE

TABLE 1: Context Setting Information

Utility Name	CITY OF AZUSA	
Service Territory Size	9.3 square miles	
Owned Assets	Distribution	
Number of Customers Served	16,500 customer accounts	
Population Within Service Territory	45,000 people	
Customer Class Makeup	*Number of Accounts*	*Share of Total Load (MWh)*
	87.7% Residential; 1.7% Government; 0% Agricultural; 10.4% Small/Medium Business; 0.2% Commercial/Industrial	42.4% Residential; 4.1% Government; 0% Agricultural; 27.4% Small/Medium Business; 26.0% Commercial/Industrial
Service Territory Location/Topography[1]	100% Urban	
Percent of Service Territory in CPUC High Fire Threat Districts (based on total area)	Tier 2: 2.0% Tier 3: 0%	
Prevailing Wind Directions & Speeds by Season	The average hourly wind speed in Azusa experiences mild seasonal variation over the course of the year. The windier part of the year lasts for 5.9 months, from November 9 to May 7, with average wind speeds of more than 6.6 miles per hour. The windiest day of the year is December 31, with an average hourly wind speed of 8.1 miles per hour. The calmer time of year lasts for 6.1 months, from May 7 to November 9. The calmest day of the year is September 8, with an average hourly wind speed of 5.2 miles per hour.	

[1] This data shall be based on the California Department of Forestry and Fire Protection, California Multi-Source Vegetation Layer Map, depicting WHR13 Types (Wildlife Habitat Relationship classes grouped into 13 major land cover types) *available at*: https://www.arcgis.com/home/item.html?id=b7ec5d68d8114b1fb2bfbf4665989eb3.

Miles of Owned Lines Underground and/or Overhead	Overhead Dist.: 66 miles Overhead Trans.: 0 miles Underground Dist.: 59 miles Underground Trans.: 0 miles
Percent of Owned Lines in CPUC High Fire Threat Districts	*Overhead Distribution Lines as % of Total Distribution System (Inside and Outside Service Territory)*
	Tier 2: 0% Tier 3: 0%
Customers have ever lost service due to an IOU PSPS event?	☐ Yes ☒ No
Customers have ever been notified of a potential loss of service to due to a forecasted IOU PSPS event?	☐ Yes ☒ No
Has developed protocols to pre-emptively shut off electricity in response to elevated wildfire risks?	☒ Yes ☐ No
Has previously pre-emptively shut off electricity in response to elevated wildfire risk?	☐ Yes ☒ No If yes, then provide the following data for calendar year 2020: *Number of shut-off events*: 0 *Customer Accounts that lost service for >10 minutes:* 0 *For prior response, average duration before service restored:* 0

Table 2: Cross References to Statutory Requirements

Requirement	Statutory Language	Location in WMP
Persons Responsible	**PUC § 8387(b)(2)(A):** An accounting of the **responsibilities of persons** responsible for executing the plan.	Section 7 Page 10
Objectives of the Plan	**PUC § 8387(b)(2)(B):** The **objectives** of the wildfire mitigation plan.	Section 2.B. Page 6
Preventive Strategies	**PUC § 8387(b)(2)(C):** A description of the **preventive strategies and programs to be adopted by the local publicly owned electric utility** or electrical cooperative to minimize the risk of its electrical lines and equipment causing catastrophic wildfires, including consideration of dynamic climate change risks.	Section 6 Page 9
Evaluation Metrics	**PUC § 8387(b)(2)(D):** A description of the **metrics the local publicly owned electric utility or electrical cooperative plans to use to evaluate the wildfire mitigation plan's performance** and the assumptions that underlie the use of those metrics.	Section 8.B(2) Page 11
Impact of Metrics	**PUC § 8387(b)(2)(E):** A discussion of how the **application of previously identified metrics** to previous wildfire mitigation plan performances has informed the wildfire mitigation plan.	Section 8.B(2) Page 11
Deenergization Protocols	**PUC § 8387(b)(2)(F): Protocols for disabling reclosers and deenergizing portions of the electrical distribution system** that consider the associated impacts on public safety, as well as protocols related to mitigating the public safety impacts of those protocols, including impacts on critical first responders and on health and communication infrastructure.	Section 6.C. Page 9
Customer Notification Procedures	**PUC § 8387(b)(2)(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.	Section 6.C. Page 9
Vegetation Management	**PUC § 8387(b)(2)(H):** Plans for vegetation management.	Section 5.D. Page 8

Inspections	**PUC § 8387(b)(2)(I): Plans for inspections** of the local publicly owned electric utility's or electrical cooperative's electrical infrastructure.	Section 5.B. Page 8
Prioritization of Wildfire Risks	**PUC § 8387(b)(2)(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.	Section 4 Page 7
CPUC Fire Threat Map Adjustments	**PUC § 8387(b)(2)(K):** Identification of any **geographic area in the local publicly owned electric utility's or electrical cooperative's service territory** that is a higher wildfire threat than is identified in a commission fire threat map, and identification of where the commission should expand a high fire threat district based on new information or changes to the environment.	Section 3 Page 7
Enterprise- wide Risks	**PUC § 8387(b)(2)(L):** A methodology for identifying and presenting **enterprise-wide** safety risk and wildfire-related risk.	Section 4 Page 7
Restoration of Service	**PUC § 8387(b)(2)(M):** A statement of how the local publicly owned electric utility or electrical cooperative will **restore** **service after a wildfire**.	Section 6.D. Page 9
Monitor and Audit	**PUC § 8387(b)(2)(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.	Section 7 Page 10

Qualified Independent Evaluator	**PUC § 8387(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 Web site 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.	Section 8.C. Page 11

2. PURPOSE AND OBJECTIVES

A. Purpose

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 (as more fully described in Exhibit A).

This Wildfire Mitigation Plan ("WMP") documents that Azusa's electric distribution facilities within the California Public Utilities Commission ("CPUC") Tier 2 and Tier 3 Fire Threat Zones ("Fire Threat Area"), as shown in Exhibits B and C, are 100% underground facilities and do not pose a risk of wildfire ignition. Nevertheless, Azusa has routinely inspected and maintained its facilities following CPUC's General Order ("GO") 95, and 165 guidelines to further minimize potential risks of wildfire ignition.

B. Objectives

The objectives of this WMP are as follows:

(1) Identifying the ignition sources and wildfire risks related to Azusa's equipment near the High Wildfire Threat District.

(2) Minimizing the sources of ignition near the Fire Threat Area.

(3) Improving the resiliency of the electric grid

3. ELECTRIC DISTRIBUTION FACILITIES IN FIRE THREAT AREAS

Exhibit C shows only two (2) distribution feeder circuits in the Fire Threat Area, and both circuits are comprised of all-underground facilities. These two circuits are named the Owl and Sierra Madre 12.47 kV circuits. There are currently no plans for system expansion into the Fire Threat Area. Accordingly, no areas have been identified where the commission should expand a high fire-threat district based on new information or changes to the environment.

4. WILDFIRE RISKS

Azusa employed a methodology for identifying and presenting enterprise wide safety risk and wildfire-related risk in the development of this WMP, including consultation with local fire authorities and incorporation of industry best practices to identify the following wildfire risks and mitigation strategies.

A. General Wildfire Risk: Fires caused by electrical facilities are generally caused by an electrical short circuit, which creates heat and ignites a source of fuel. Localized electrical fires transform into catastrophic wildfires when there is dry and abundant fuel available and wind conditions spread the fire quickly before it can be controlled. Wildfire

prevention programs mitigate ignition sources and fuel availability.

B. Ignition Risk: Underground electrical facilities have inherently low ignition risk because the conductors are buried approximately 3-feet below ground, and the conductors are terminated in enclosed concrete vaults or metal cabinets. Any ignition from an electrical fault would extinguish quickly in the absence of fuel. Undergrounding of facilities is one of the most effective form of wildfire mitigation. Overhead electric facilities pose high ignition risk. Protective fuses when operate can expel burnt particles which could ignite nearby dry vegetations. Overhead power lines could also be the ignition cause. When power line is in contact with tree branches or the ground, short circuit creates arc that could ignite fire. ALW had replaced the pole mount fuses with S&C fault tamers on tap lines which serve the residential area on the outskirt of the fire threat zone. ALW also replaced two spans of bare copper wires with insulated tree wires in the back property line of a block of residential area near the edge of the fire threat zone.

C. Fuel Risk: The customer service areas served by the underground electrical facilities in the Fire Threat Area are in fully developed residential neighborhoods with no brush or wooded areas that would serve as a fuel source that could grow into a catastrophic wildfire. Also, all premises served in the Fire Threat Area are subject to the Los Angeles County Fire Department Brush Clearance Program, which requires property owners to clear fuel within a 30-foot radius of the structure, which further mitigates wildfire risk.

D. Topographic Risks: Azusa is a city in the San Gabriel Valley, at the foot of the San Gabriel Mountains. The mountains to the north of the City have been designated as CPUC Fire-Threat Tier 2 (Elevated) and CPUC Fire-Threat Tier 3 (Extreme). However, there are only two (2) distribution feeder circuits in the Fire threat Area, and both circuits are comprised of all-underground facilities in developed residential areas, and pose limited wildfire risk.

E. Climatological Risks: Extended droughts or continued periods of below average rainfall can increase dry vegetative fuel loads lending to the increase in wildfire risk. Prolonged droughts can also weaken or kill trees. High winds can spread wildfires and blow organic and flammable materials into exposed energized equipment. However, since Azusa's facilities are 100% underground in the Fire Threat Area there are no exposed energized conductors and low fuel subject to climatological conditions in the fully developed residential neighborhoods; therefore, climatological risks are low. The City's annual vegetation management program, that exists outside of the Fire Threat Area for reliability purposes, clears all vegetation around high-voltage overhead power lines.

5. WILDFIRE MITIGATION ACTIVITIES

The City of Azusa 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, including the following programs and activities:

A. 100% Underground Facilities in Fire Threat Area: Azusa shall maintain 100% underground facilities in the Fire Threat Area, including any new system expansions

or line extensions.

B. Facilities Inspection Program: Azusa will continue to perform annual inspections of all electrical facilities in the Fire Threat Area, in accordance with California Public Utilities Commission ("CPUC") General Order ("GO") 165 and promptly repair any issues found pursuant to such inspections.

   In the fully developed residential subdivision within the tier 2 CPUC fire threat zone, above-ground equipment such as pad mount transformers are routinely inspected and maintained to address the probable cause of fire ignition. In the year 2021, ALW had inspected all the pad mount transformers in the residential subdivision namely "Mountain Cove", which is in the Tier 2 zones. Any known issues such as rusty transformers or oil-leaked transformers were immediately mitigated. ALW also practices conservative loading philosophy to avoid overloading transformers.

C. No Automatic Re-energization into Fire Threat Area: The two feeder circuits serving customers in the Fire Threat Area shall not be automatically re-energized. Manual re-energization shall occur only after a visual inspection of facilities.

D. Vegetation Management Program: Azusa has a long-established system-wide annual power line clearance tree trimming program, which clears all vegetation around high-voltage overhead power lines. Clearances are maintained in accordance with CPUC GO 95 using Appendix E as a guideline. This program was established and will continue for system reliability and is not part of this WMP because there are no overhead facilities in the Fire Threat Area requiring vegetation management. All pad mount transformers in the wildfire threat area are placed in front of the properties, where they are surrounded by hardscapes. In the event that a transformer does explode, the risk of spreading fire is extremely low.

E. Deployment of Non-Explosion Fuses: ALW replaced traditional protective fuses at each overhead transformer in the residential area near the outskirt of the tier 2 wildfire threat area with non-explosion S&C Fault Tamer fuses. When fault tamers operate, they do not expel burnt elements that could ignite a fire.

F. Replacement of Bare Overhead Conductor: ALW replaced two spans of overhead 12KV tap lines with insulated tree-wires in the residential area at the outskirt of the tier 2 fire threat zone.

6. PUBLIC SAFETY POWER SHUTOFFS AND CUSTOMER NOTIFICATION

A. Azusa Initiated Public Safety Power Shutoffs ("PSPS"): Given that underground distribution facilities are not subject to increased risk during wind events and have a very low probability of ignition, Azusa does not plan on initiating PSPS for its feeder circuits pursuant to high wind conditions.

B. Southern California Edison Initiated PSPS: Azusa imports 100% of its power supply from the California Independent System Operator ("CAISO") electric grid. SCE is the

Transmission Operator that operates both of Azusa's substations. SCE has advised Azusa that one of the SCE lines serving Azusa Substation runs partially through the Fire Threat Area and is subject to PSPS. The probability of SCE initiated PSPS for this line is very low because it runs through a commercial/industrial area, and it is not adjacent to an open space fuel source. Also, Azusa Substation is fed from a second sub-transmission line that is capable of carrying the entire station should a PSPS require the line through the Fire Threat Area to be de-energized. However, Azusa maintains good communication with SCE electric operations personnel and is prepared to shed load if required by a PSPS as described. In the event of a PSPS requiring Azusa to interrupt service to its customers, all power shall be promptly restored following the PSPS. ALW would follow the same protocol in restoring power after the normal outage to restore the power following the PSPS which entails: patrolling the circuit, identifying any electrical faults, and restoring power after all threats are removed.

C. PSPS Notification of Customers: In the event that SCE were to interrupt one of the lines feeding Azusa Substation pursuant to a PSPS, and the remaining line was unable to reliably carry the entire station, then Azusa would shed load as required to stabilize the distribution system and employ the following customer communication protocols to notify customers of the extent and duration of the interruption:

(1) Post notices and updates on the Azusa website and social media.

(2) Email critical first responders such as Azusa Police Department, Los Angeles County Fire Department, and Verizon. There are no hospitals or other health care facilities currently operating in Azusa, but the email communication program would extend to any new health care facilities in the future.

(3) Call large key account customers, including the critical first responders to ensure clear communication.

D. Emergency Management:

One of the benefits of having a municipally owned electric and water utility is the close coordination with the first responders of other Departments of the City and the Los Angeles County Fire Department that provides fire and rescue services to the City. When the City Emergency Operations Center is invoked, under the incident command of the Azusa Police Department, Azusa electric utility first responders work collaboratively to manage emergencies affecting electric service, such as fires, PSPS events, earthquakes, floods, etc. The City Emergency Operation Center is organized and operated in accordance with the City's Local Hazard Mitigation Plan, which available at the following web link: https://azusaca.gov/DocumentCenter/View/41099/D-1-Staff-Report---GPA-2019- 01--LHMP-Adoption?bidId=.

7. PLAN MONITORING AND AUDIT RESPONSIBILITIES

A. **Metrics:** Azusa Light and Water uses three outcome driven metrics to evaluate the effectiveness of the WMP. These metrics are:

1. **Number of wildfires ignited by Azusa equipment.** Azusa Light and Water will track wildfire ignitions by Azusa's electrical equipment within the city limits by cause and location.
2. **Number of local fires ignited by Azusa equipment.** Azusa Light and Water will track fire ignitions by Azusa's electrical equipment within the city limits by cause and location.
3. **Number of fuse or relay operations.** Azusa Light and Water will track fire ignitions by Azusa's electrical equipment within the city limits by cause and location (in or outside of the high fire threat district).

B. **Impacts of Metrics on the WMP:** Azusa Light and Water has undergrounded its wires and equipment in and adjacent to the high fire threat district within city limits. Since the creation of the original WMP, ALW has recorded zero fires ignited because of our equipment. Ninety-six fuse or relay operations have been recorded, all occurring outside of the high fire threat district. These metrics including the zero events recorded for fire ignitions indicate that the ALW wildfire prevention programs, with their focus on undergrounding, continue to be an effective wildfire prevention strategy. Azusa Light and Water plans to continue tracking these metrics as a method of documenting overall WMP success at identifying and addressing wildfire risk.

The following Azusa personnel are responsible for the implementation, monitoring, and auditing of the effectiveness of this WMP.

C. **General Manager:** 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 Utility Board every three-year cycle 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.

D. **Assistant General Manager - Electric Operations:** Responsible for implementing, monitoring, auditing, and updating the WMP, including the following:

(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 since the year 2019

- There is a "0" Number of wildfires ignited by Azusa equipment
- There is a "0" Number of local fires ignited by Azusa equipment
- There is a "0" Number of fuse or relay operations, including causes

.

(3) Audit Compliance: Prepare 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. Azusa will also monitor and audit the effectiveness of inspections including those performed by contractors.

- During the week of May 9th, 2022 CPUC Safety and Enforcement Division's inspector audited ALW distribution system which includes the facilities in the fire threat area. Minor infractions were identified. ALW had mitigated immediately and submitted the report to that agency.

- During the week of March 7, 2023. ALW's contractor - Allied Reliability performed the Infrared Inspection of overhead facilities and pad mount transformers at large commercial sites, and pad mount equipment such as switches and transformers in the Mt. Cove (a subdivision) in the fire threat area

(4) Update Plan: 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.

(5) Independent Evaluation: Contract with a qualified independent evaluator with experience in assessing the safe operation of electrical infrastructure to review and assess the comprehensiveness of the WMP on an annual basis.

(6) Post on Internet: Post the latest version of the WMP and the independent evaluation report on Azusa's website for public accessibility.

8. PUBLIC COMMENT, APPROVAL AND INDEPENDENT EVALUATION

A. Public Comment

(1) December 4, 2019, Azusa staff received comments on the WMP from the Forestry Division of the Los Angeles County Fire Department. All comments received were incorporated into the WMP.

(2) The draft WMP was posted on Azusa's website on December 12, 2019, and the Azusa City Council accepted comments from the public and interested parties prior to approving the WMP.

B. Presentation and Approval

(1) On June 19, 2023 Azusa staff presented the WMP at a properly noticed public meeting of the City Council, which was also televised on a local channel, and the WMP was unanimously approved by the Azusa City Council after receiving the presentation and public comment.

(2) The WMP will be updated by staff and re-approved by City Council annually.

C. Independent Evaluation

This WMP has been reviewed by Dudek - 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. A report from the independent evaluator was presented at a properly noticed City Council meeting on June 19, 2023 and is posted on Azusa's website.

EXHIBIT A

CITY OF AZUSA DESCRIPTION

City of Azusa

The City of Azusa ("Azusa") was founded in 1887 and incorporated as a general law city on December 29, 1898. The City is located in the County of Los Angeles, situated 27 miles northeast of the City of Los Angeles, and nestled against the San Gabriel Mountain foothills. The City of Azusa encompasses 9.13 square miles and has a population of approximately 45,000. Educational facilities include 9 public elementary / middle schools, 2 public high schools, 1 private school, and 1 private university.

Light & Water Department

The Light & Water Department operates and maintains the electric and water utilities for the City and serves approximately 16,500 electric and 23,000 water customers.
The Azusa electric utility was the successor to Azusa Electric Light & Power Company purchased in 1904 for $2,300 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. In the early 1980s, Azusa joined several other California municipal utilities allowing the Department to purchase energy in the open market.

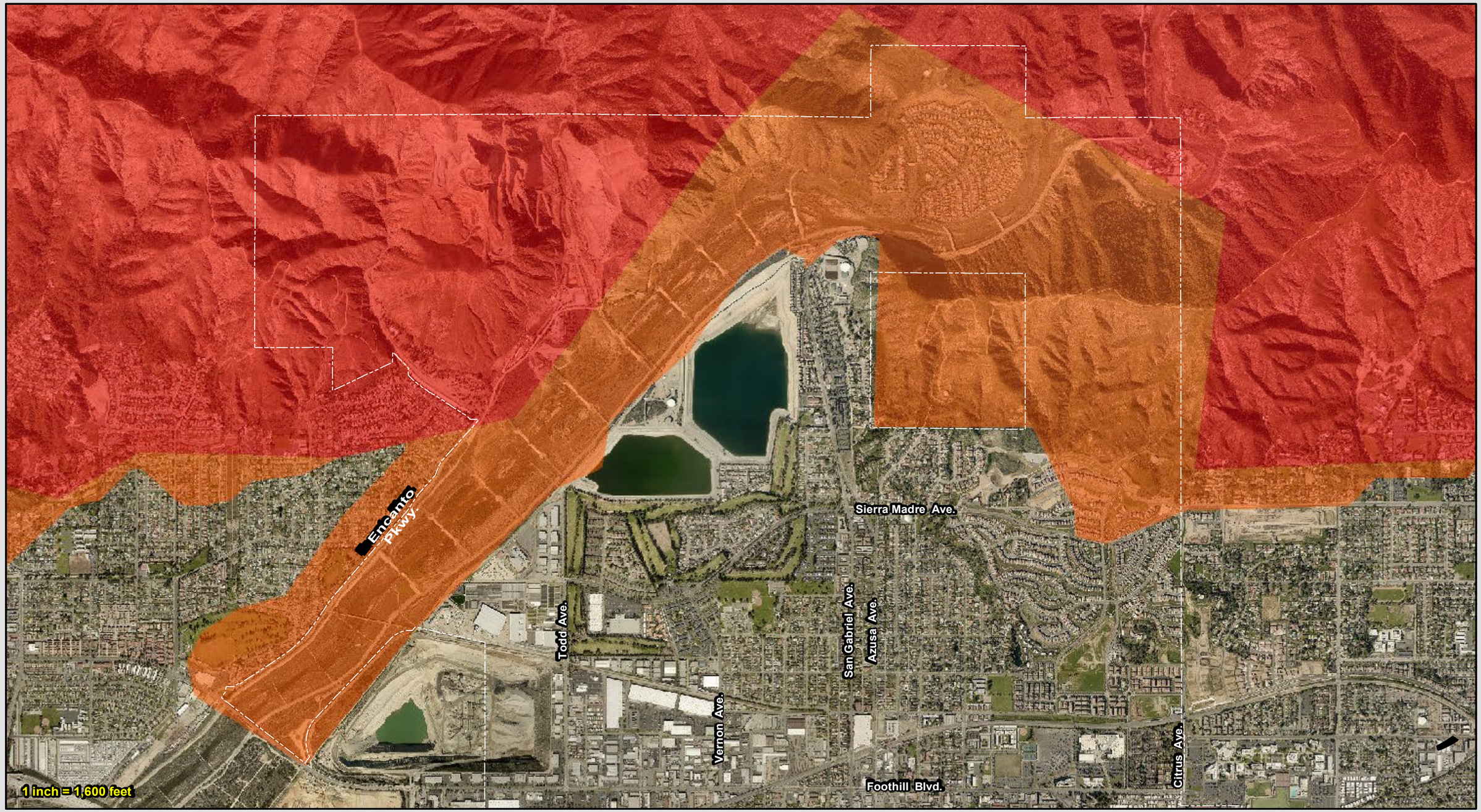
Azusa is a Distribution Provider, Load Serving Entity, and Scheduling Coordinator operating within the California Independent System Operator (CAISO) Balancing Authority. Azusa has no wholesale generation facilities, and all power is imported through two 69 kV substations interconnected with Southern California Edison Company, the adjacent Transmission Operator.

Azusa's electric distribution feeders operate at 12 kV, and they are both overhead and underground. All newly constructed distribution facilities are required to be underground, and 100% of the existing facilities located in Fire Threat Area are underground facilities, which fully mitigates Azusa's wildfire ignition risk.

EXHIBIT B

CPUC FIRE THREAT ZONES IN AZUSA

(SEE MAP ON NEXT PAGE)



California Public Utilities Commission

CPUC Fire-Threat Tier 2 (**Elevated**)

CPUC Fire-Threat Tier 3 (**Extreme**)

AZUSA LIGHT & WATER

J.Prado

EXHIBIT C

AZUSA ELECTRIC DISTRIBUTION FACILITIES IN FIRE THREAT AREA

(SEE MAP ON NEXT PAGE)

CITY OF AZUSA
12 KV ELECTRIC DISTRIBUTION FACILITIES IN CPUC TIER 2 AND TIER 3 FIRE THREAT AREAS

CIRCUITS IN VERY HIGH FIRE HAZARD SEVERITY ZONES

- CPUC TIER 2 FIRE THREAT AREA
- CPUC TIER 3 FIRE THREAT AREA
- OWL CIRCUIT UG 04 LINES IN TIER 2 ZONE
- SIERRA MADRE CIRCUIT UG LINES IN TIER 2 ZONE
- SIERRA MADRE CIRCUIT OVERHEAD LINES
- HILLTOP CIRCUIT OVERHEAD LINES
- HILLTOP CIRCUIT UNDERGROUND LINES
- OWL CIRCUIT OVERHEAD LINES

N
W E
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SCALE - NTS

CIRCUIT LEGEND

- A-ALAMEDA
- A-BIRCH
- A-BRIDELINO
- A-AZUSA
- A-BRADBURY
- A-GENEVIOS
- A-COMET
- A-HILLTOP
- A-IRWINDALE
- A-OWL
- A-PARAMOUNT
- A-PASADENA
- A-ROCKVALE
- A-SIERRA MADRE
- A-TODD
- A-VERNON
- X-ARROW
- X-GLADSTONE
- X-JACKSON
- X-VINCENT

UNDERGROUND ELECTRIC FACILITIES IN TIER 2 ZONE

UNDERGROUND ELECTRIC FACILITIES IN TIER 2 ZONE