**Glendale Water & Power**

**Wildfire Mitigation Plan**

**2021 INFORMATIONAL RESPONSE**

RESPONSES TO Wildfire safety Advisory Board’s 2021 Guidance Advisory Opinion

 **JUNE 21, 2021**

# PURPOSE OF THIS 2021 INFORMATIONAL RESPONSE

The California Wildfire Safety Advisory Board (WSAB) issued the *Guidance Advisory Opinion for the 2021 Wildfire Mitigation Plans of Electric Publicly Owned Utilities and Cooperatives* (“2021 WSAB Guidance Advisory Opinion”) on December 15, 2020. [POU] provides this document to the WSAB in order to respond to each of the recommendations included in the 2021 WSAB Guidance Advisory Opinion. POUs will provide a narrative response and/or a cross reference to the location in [POU]’s Wildfire Mitigation Plan (WMP) where the topic is addressed. Where the recommendation is not applicable to [POU], the response will provide a brief description supporting this conclusion.

# Context setting information

**WSAB** requested that POUs provide an informational table to assist the Staff and Board member in understanding the unique characteristics of each POU.

**Table 1: Context-Setting Information**

|  |  |
| --- | --- |
| **Glendale Water & Power** | **[POU]** |
| **Service Territory Size**  | [30.58] square miles |
| **Owned Assets** | ☑Transmission ☑Distribution ☑Generation |
| **Number of Customers Served**  | [90,030] customer accounts |
| **Population Within Service Territory** | [205331] people |
| **Customer Class Makeup** | *Number of Accounts* | *Share of Total Load (MWh)* |
| [85.19] % Residential; [0.023] % Government; [0] % Agricultural;[14.57] % Small/Medium Business; [0.22] % Commercial/Industrial | [37.95] % Residential; [0.93] % Government; [0] % Agricultural;[31.30] % Small/Medium Business; [29.82]% Commercial/Industrial |
| **Service Territory****Location/Topography[[1]](#footnote-1)** | [0] % Agriculture [1.49] % Barren/Other [0] % Conifer Forest [0] % Conifer Woodland [0.03] % Desert[0.14] % Hardwood Forest[2.98] % Hardwood Woodland[0.86] % Herbaceous[35.95] % Shrub[58.29] % Urban[0.26]% Water  |
| **Service Territory****Wildland Urban Interface** | [40.81] % Wildland Urban Interface;[[2]](#footnote-2)[7.76] % Wildland Urban Intermix; |
| **Percent of Service Territory in CPUC High Fire Threat Districts (based on total area)** | ☐Includes maps Tier 2: [48.09] %Tier 3: [13.60 ]% |
| **Prevailing Wind Directions & Speeds by Season** | ☐ Includes maps Please refer the link below to California, Burbank Airport[Wind is **Southerly**, **except in January, when fire danger is low, it is ESE**] <https://wrcc.dri.edu/Climate/comp_table_show.php?stype=wind_dir_avg> |
| **Miles of Owned/Controlled Lines\* Underground and/or Overhead** | *In Service Territory* | *Outside Service Territory* |
| Overhead Dist.: [247.31] milesOverhead Trans. [28.13] milesUnderground: [275.44] miles | Overhead Dist.: [0] milesOverhead Trans.: [0] milesUnderground: [0] miles |
| \*Optional Explanatory Note on Unique Ownership/Control Circumstances: [\_\_\_\_] |
| **Percent of Owned/Controlled Lines\* in CPUC High Fire Threat Districts**  | *Overhead Distribution Lines as % of Total Distribution System* *(Inside and Outside Service Territory)*  |
| Tier 2: [21.73] %, 53.75 milesTier 3: [5.54]%, 13.71 miles  |
| *Overhead Transmission Lines as % of Total Transmission System**(Inside and Outside Service Territory)* |
| Tier 2: [19.80] %, 5.57 miles Tier 3: [20.53] %, 5.79 miles  |
| **Number of Owned Poles\*\***  | *In Service Territory* | *Outside Service Territory* |
| Wooden: [14,678] Steel: [137] Composite: [\_\_] Total 14,815 | Wooden: [0]Steel: [0]Composite: [0] |
| \*\*Optional Explanatory Note on Unique Ownership Circumstances: [\_\_\_\_] |
| **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 ☐ NoThere is a protocol to pre-emptively shut off the power to Bel Aire – Montrose Transmission line during elevated fire danger weather, but it does not result in loss of power of any customers. The elevated fire danger is based on the Red Flag Warning by the National Weather Service (NWS). The protocol also includes blocking all the Automatic Reclosers (AR) in the system to prevent the automatic re-energization of a tripped line. The line is patrolled before it is closed.  |
| **Has previously pre-emptively shut off electricity in response to elevated wildfire risk?**  | ☑ Yes ☐ NoIf yes, then provide the following data for calendar year 2020:*Number of shut-off events*: [7] on 1/29,2/13,10/25,11/26,11/28,12/4, 12/23*Customer Accounts that lost service for >10 minutes:* [0] Zero*For prior response, average duration before service restored:* [0] ZeroNote: No customers lost power during pre-emptive shutoffs, the transmission line that was shut off does not have any direct customer feed, it provided system redundancy and rigidity. |

# Cross Reference to Statutory requirements

**WSAB** requested that POUs provide a clear roadmap as to where each statutory requirement is addressed within the POU WMP.

**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. Chief Assistant GM | Section [A]Page [1 & 8] |
| **Objectives of the Plan** | **PUC § 8387(b)(2)(B):** The **objectives** of the wildfire mitigation plan. | Section [B]Page: [4 & 12] |
| **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 [C]Page [13,14] |
| **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 [D]Page [17] |
| **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.GWP electrical equipment has never caused a wildfire event  | Section [E]Page [18] |
| **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 [F]Page [19-22] |
| **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 [G]Page [23 & 24] |
| **Vegetation Management** | **PUC § 8387(b)(2)(H):**Plans for vegetation management. | Section [H]Page [25] |
| **Inspections** | **PUC § 8387(b)(2)(I):** **Plans for inspections** of the local publicly owned electric utility’s or electrical cooperative’s electrical infrastructure. | Section [I]Page [26] |
| **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 [J]Page [27-29] |
| **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 [K]Page [30-32] |
| **Enterprisewide Risks** | **PUC § 8387(b)(2)(L):** A methodology for identifying and presenting **enterprisewide** safety risk and wildfire-related risk. | Section [L]Page [33-37] |
| **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 [M]Page [38] |
| **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 [N]Page [39] |
| **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. | Exhibit [C]Page [43] |

# WSAB Guidance Advisory Opinion RecommendationS

The WSAB Guidance Advisory Opinion identifies 13 specific recommendations that POUs are requested to address in their 2021 WMPs. As specified in Public Utilities Code § 8387(b)(1), each POU is required to perform a comprehensive revision to the POU’s WMP at least once every three years. Pursuant to this guidance, the POUs will be updating their WMPs based on the direction of their local governing boards within this 3-year cycle. Because the WSAB’s recommendations have been provided after the initial WMP submission, the POUs will have varying capacities to fully address each recommendation in their 2021 WMP. This Section IV restates each of the WSAB recommendations and provides an opportunity for each POU to do one or more of the following: (1) provide a narrative response to the recommendation; (2) provide a cross reference to where in the POU’s WMP this topic is addressed; (3) describe why the recommendation is not applicable to the POU; or (4) inform the WSAB of the POU’s intent to address the recommendation at the point of the POU’s next comprehensive revision, occurring in either the 2022 or 2023 WMP.

## Plan Structure

**WSAB Recommendation #1:** Provide context-setting information about the POU and provide a simple guide to where the statutory requirements are addressed within the WMP.

***GWP Response:*** See Sections II and III above.

**WSAB Recommendation #2:** Provide a short description of the POU’s public review and approval (if required) for the WMP. This description may also include a brief explanation of the funding mechanisms for wildfire mitigation efforts.

***GWP Response:*** The review and approval is conducted by the publicly elected City Council. The City of Glendale’s WMP 2021, was approved by Council members and Public on 05/25/2021 during a Council session open to public. The City Council allocated funds for GWP’s Wildfire Mitigation Plan for FY 2021-22

**WSAB Recommendation #3:** Identify where the POU has posted the most recent Independent Evaluator (IE) Report and if your POU plans to enhance future IE reports, please summarize in what ways. The report follows GWP’s Wildfire Mitigation Plan

***GWP Response:***  <https://www.glendaleca.gov/home/showpublisheddocument?id=54585>

**WSAB Recommendation #4:** Develop, in collaboration with POU industry associations, WMP guidelines for future WMPs, understanding that it may take multiple cycles for POUs to integrate these recommendations into the WMPs.

***GWP Response:*** This Addendum is intended to include, as appropriate, responses to the recommendations in the WSAB’s Guidance Advisory Opinion for the POUs’ 2021 WMP.   This Addendum also represents the combined effort of the POU industry associations to further the development of a template to respond to the WSAB’s Guidance Advisory Opinion in a future reporting WMP cycle.

## Customer Impacts

**WSAB Recommendation #5:** Describe the potential impact investor-owned utilities (IOU) public safety power shutoff (PSPS) events could have on POU customers and how the POU manages these impacts. For POUs that are also balancing authorities, describe the criteria for wildfire related de-energizations. Responses shall only provide aggregated information that does not provide customer-specific information or other potentially sensitive data.

***GWP Response:*** IOU PSPS events will have minimal impact on Glendale Water and Power. GWP has interties with other POUs and no direct connection to any IOU. The neighboring POUs along with GWP form a coalition of utilities that are self-reliant as far as power generation is concerned. The past power outages in California due to wide-spread wildfires did not curtail the available power supply of GWP.

**WSAB Recommendation #6:** Describe the utility customer communication plans with respect to wildfires and PSPS, and in particular describe the methods, content and timing used to communicate with the most vulnerable customers, such as Access and Functional Needs (AFN) customers, medical baseline customers, non-English speakers, and those at risk of losing water or telecommunications service.

***GWP Response:*** Please refer to Section G, Customer Outreach, pgs. 23 and 24 of GWP WMP

## The Grid

**WSAB Recommendation #7:** Provide details on each POU’s system hardening and grid design programs, including: (1) the goals of the programs and the risk any particular program is designed to mitigate; (2) approach to PSPS mitigation and prevention; and (3) identify any resource shortages.

***GWP Response:***

1. Commenced the Installation of Fuse Savers by Siemens. A Fuse Saver eliminates overhead fuse operations during a fault by de-energizing the line using a vacuum bottle, thus removing the possibility of an ignition caused by fuse operation. Thorough distribution and transmission system assessment followed by the replacement of aging assets. For example, all distribution transformers that are over 40 years of age shall be replaced. In 2020 there were over thirty power outages caused by Mylar balloons. Glendale City Council passed an ordinance prohibiting the sale of electrically conductive balloons in the city of Glendale.

2. Continued the modernization of Substation protective relays which will result in quicker, more reliable operation. Installation of relays with a ‘Falling Wire’ function; when an overhead line break occurs due to powerful wind gusts or a massive fault, the line is de-energized before it contacts ground, thus eliminating possible ground vegetation ignition. This can reduce the need for PSPS, since the possibility of overhead conductor causing a wildfire will be diminished by such advanced protective relays.

3. As is the case with most upgrades and retrofits, the main shortage is that of manpower and most importantly, of funds. We need to invest more on vegetation management and system inspection contracts.

**WSAB Recommendation #8:** Describe annual visual patrols on potentially impacted circuits and the risks the POU is inspecting for. Describe whether and how system inspections lead to system improvements. Describe line patrols before, during, and/or after a critical fire weather event, such as a Red Flag Warning with strong winds, or following a fire that burned in areas where electric facilities are or could have been impacted.

***GWP Response:*** 1. Patrols encompass vegetation intrusion and the condition of the equipment, such as the insulators, poles, cross-arms, guy wires, lines, etc. Glendale’s 34 kV transmission line “Bel Aire-Montrose transmission line” is de-energized whenever there is a Red Flag warning issued for the area by the National Weather Service. Before the line is re-energized, it is patrolled to confirm that the line is intact and that there is no debris lodged across the insulators or the lines.

**WSAB Recommendation #9:** Describe options considered by POU (including through the joint efforts of the POU associations) to identify previously unidentified risks that could lead to catastrophic wildfires.

***GWP Response:*** Some of the options considered by GWP to identify previously unidentified risks that could lead to wildfires include the use of infrared technology to be able to more thoroughly inspect distribution and transmission lines, insulators and other equipment. Also, the use of ultrasound is being considered to identify micro-arcing and leakage currents. An option to use drone for quicker and more detailed inspection is being considered.

## Risk Assessment

**WSAB Recommendation #10:** Describe the particular wildfire risks associated with system design and construction such as topography and location near the HFTD areas of another utility’s service territory. Describe any G.O. 95 exempt assets and possible updates to G.O. 95 that could facilitate more resilient utility transmission and distribution assets.

Note: HFTD stands for High Fire Treat Districts

***GWP Response:*** Overwhelming majority of the area serviced by GWP is classified as ‘Urban’, therefore the possibility of wildfire is very low, but there is a single transmission line that runs across an uninhabited hilly terrain covered with brush; it has limited vehicular access. This is an area of elevated fire risk and that is the reason why GWP de-energizes this transmission line each time the National Weather Service issues a Red Flag Alert.

## SITUATIONAL AWARENESS TECHNOLOGY

**WSAB Recommendation #11:** Provide context-setting information about the prevailing wind directions and speeds, differentiated by season, along with average weather conditions by season. Describe how and why situational awareness technology is installed, and where on the system. Describe the decision-making process regarding the installation of situational awareness technology, including constraints such as budgets, availability of equipment, knowledge to effectively deploy, or qualified personnel to install and monitor effectively. Identify any other agencies, utilities, or fire professionals that the data from these devices is shared with.

***GWP Response:*** GWP does not have weather stations on its service territory. The nearest weather station is 5 miles away at Burbank Airport. The information is provided by the Western Regional Climate Center, please refer to the Web link below, California, Burbank Airport <https://wrcc.dri.edu/Climate/comp_table_show.php?stype=wind_dir_avg>

It indicates that the prevailing winds are in Southerly direction every month of the year, except January in January their direction is ESE. January is usually cool and moist time of the year. The highest fire danger period is the end of summer into fall, although during low precipitation years the wildfire danger is high all year round. GWP follows the Red Flag warnings issued by the National Weather Service. We are considering the installation of one or two weather stations in our service territory.

## VEGETATION MANAGEMENT

**WSAB Recommendation #12:** Describe treatment plans for all types of vegetation associated with utility infrastructure, from the ground to the sky, which includes vegetation above and below electrical lines.

***GWP Response:*** As indicated in Section C, pg. 15 of GWP’s WMP “***vegetation management practices will be expanded to exceed minimum clearance requirements (as described in GO 95) by trimming trees down to the telecommunications layer and to clear hazardous vegetation in both Tier 2 and Tier 3 zones.”***

**WSAB Recommendation #13:** List the qualifications of any experts relied upon, such as scientific experts in ecology, fire ecology, fire behavior, geology, and meteorology. Specify the level of expertise of the POU staff that manages the contractors performing vegetation management. Describe measures each POU takes to ensure that POU staff and contractors comply with or verify compliance with Cal/OSHA standards on Minimum Approach Distances (MAD).

***GWP Response:*** Vegetation management in GWP service area is performed by the same Electrical Line Mechanics that are involved in the installation and maintenance of power lines and all other overhead equipment; it usually takes place under the watchful eye of GWP’s Electrical Line Mechanic Supervisor II, who has over 25 years of overhead electrical system experience.

**WSAB Recommendation #14:** Describe whether the POU has considered innovative and alternative approaches to vegetation management.

***GWP Response:*** Use of covered wire, also known as Tree Wire is one approach. GWP is also considering undergrounding some of the overhead lines in High Fire Threat Districts (HFTD)

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>. [↑](#footnote-ref-1)
2. This data shall be based on the definitions and maps maintained by the United States Department of Agriculture, as most recently assembled in *The 2010 Wildland-Urban Interface of the Conterminous United States*, *available at* <https://www.fs.fed.us/nrs/pubs/rmap/rmap_nrs8.pdf>. [↑](#footnote-ref-2)