

For the State of Washington
Department of Natural Resources
Wildland Fire Management



Lakeview Light & Power Washington Electric Utility Wildfire Mitigation Plan Template

October 31, 2024

Version 1.0

1.0 Executive Summary

Lakeview Light & Power (LLP) is committed to the safe and reliable delivery of electric power to its customers. In keeping with LLP's mission to deliver clean, reliable services essential to quality of life, LLP is dedicated to its mission of safely providing low-cost, reliable power, while focusing upon ways to improve the quality of life for the members, customers, and community it serves.

The frequency and severity of large-scale wildfires in the western United States has been increasing over the last decade. The temperate rainforests west of the Cascade Mountains have historically had limited wildfire activity, but with warmer temperatures, reduced snowpack, and drought, the risk of large-scale wildfires is anticipated to increase substantially.

Recognizing the increasing threat of wildfires, in 2023 the Washington State Legislature passed House Bill 1032 that requires all Washington State electric utilities prepare a wildfire mitigation plan (WMP) by October 31, 2024, and update that plan a minimum of every three years.

This WMP identifies utility roles and responsibilities, risk drivers, prevention strategies, community outreach and public awareness programs, restoration strategies, and metrics to track plan performance and continuing performance key indicators.

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Wildfire Resources: <https://www.dnr.wa.gov/programs-and-services/wildfire-resources>

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2.0 Wildfire Mitigation Plan Overview

2.1 Purpose of the Wildfire Mitigation Plan

LLP recognizes that reducing the risk of a utility-caused wildfire is essential to the safe operation of the electric system and to protect the public. To that end, LLP has developed a wildfire mitigation plan (WMP) that documents programs, policies, and procedures designed to mitigate wildfire risk. These existing programs, policies, and procedures have been implemented to reduce the risk of starting a wildfire, make the electrical system more resilient to damage from wildfires, and ensure the safety and health of customers and employees.

The WMP follows the requirements of HB 1032 for all identified sections of a WMP. The WMP will be reviewed, updated, and refined a minimum of every three years.

2.2 The Lakeview Light & Power (LLP) WMP Can be Found Online at:

<https://www.lakeviewlight.com/safety/wildfire-mitigation-plan/>

2.3 Best Practices Cross-Reference Table

Provide any industry standard or other best practices¹ referenced within the WMP including what section and page number in the form of hyperlinks. Standards that do not have a specific reference within the text but apply to the entirety of the plan can be listed without additional information.

If no industry-wide standards or practices are utilized, this table may be left blank.

Standard or Best Practice Name and Description	Document, page number, or citation
HB 1032 – By October 31, 2024, and every three years thereafter, each Investor-owner and Consumer-owned Utility must review, if appropriate revise, and adopt its wildfire mitigation plan	Sec. 4 (1)
IEEE C2-2023 National Electric Safety Code (NESC)	

¹ Standards may include guidance from FEMA, US Forest Service, NERC regulations, NST, OSHA guidelines, etc.

3.0 Utility Overview

3.1 Utility Description and Context Setting Table

The Lakeview Light & Water Company, as it was originally named, was incorporated March 21, 1922, as a mutual non-profit cooperative utility company for the purpose of obtaining electric service for its members. This corporation was formed because a few forward-looking families who wanted to make things better for their community. Today Lakeview Light & Power (LLP) has 2,820 members and serves over 10,400 meters, predominantly in the city of Lakewood, WA. Approximately 95% of our fuel source is served by renewable, non-carbon emitting power generation. LLP is committed to its mission of “providing reliable, low-cost power while focusing on superior customer service and a commitment to safety”.

3.2 Utility Information Table

Table 1. Context-Setting Information Table

Utility Name	Lakeview Light & Power
Service Territory Size (sq miles)	Roughly 10 square miles
Service Territory Make-up	100 % Urban/Suburban 0% Agriculture 0% Barren/Other 0% Conifer Forest 0% Conifer Woodland 0% Desert 0% Hardwood Forest 0% Hardwood Woodland 0% Herbaceous 0% Shrub 0% Water [] NA / Not tracked (please describe below)
Service Territory Wildland Urban Interface (based on total area)	0% Wildland Urban Interface 0% Wildland Urban Intermix [] NA / Not tracked (please add any other detail below)
Customers Served	10,440 meters
Account Demographic <i>[Note: Please provide as a percent of total customers served]</i>	43% Residential 0% Agricultural 57% Commercial/Industrial [] NA / Not tracked (please add any other detail below)

<p>Utility Equipment Make-up (circuit miles) <i>[Note: Please provide brief description of how line miles are measured or calculated]</i></p>	<p>Overhead Dist.: 32 miles Overhead Trans.: 0 miles Underground Dist.: 51 miles Underground Trans.: 0 miles</p>
<p>Has developed protocols to pre-emptively shut off electricity in response to elevated wildfire risks?²</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> A summary or description of protocols can be provided in section 7.</p>
<p>Has previously pre-emptively shut off electricity in response to elevated wildfire risk?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, then provide the following data for the three trailing calendar years: Number of shut-off events: [] Customer Accounts that lost service for >10 minutes: [] For prior response, average duration before service restored: []</p>

² For many utilities this will be a reference to a Public Safety Power Shutoff (PSPS) event. These events, whether through a formally defined PSPS program or not, are recognized as a safety measure of last resort initiated by utilities to pre-emptively de-energize specific powerlines during critical fire weather to reduce the risk of the electric system being involved in an ignition. The decision to either have or not have this type of practice is at the operational discretion of the individual utility.

4.0 Objectives of the Wildfire Mitigation Plan

The primary goal of the plan is to minimize and mitigate the possibility that LLP's facilities may be an original or contributing source of ignition, however unlikely, to a wildland fire.

4.1 *Minimizing Likelihood of Ignition*

LLP has and will continue to evaluate our strategic plan which includes system improvements, operational procedures and training to meet this objective. Further, LLP continually updates best management practices and technologies to reflect its commitment to safety and sensible system management. Periodic review will yield to continuous improvement of the Plan's efficacy.

4.2 *Resiliency of the Electric Grid*

Along with creating the Plan, LLP realizes the opportunity to improve resiliency through the hardening of its system. Describe the utility's ability to withstand fire weather conditions and quickly recover services. Since 2020, LLP has entirely rebuilt three of its four substations: the remaining one to be completed in 2026. With new distribution substations and associated relays, LLP has materially improved the resiliency of its distribution grid. LLP owns and operates over 1,300 distribution power poles. LLP proactively assesses and replaces at least 50 of its poles every year.

5.0 Roles and Responsibilities

5.1 *Utility Roles and Responsibilities*

As a small cooperative utility, LLP's WMP roles are held by the following people/groups:

WMP Role	Name	Title
Policy Adoption		LLP Board of Directors
Monitoring	John DeVore	General Manager
System Operations	Kelly Butts	Operations Superintendent
WMP Revisions	Kelly Butts	LLP Safety Committee

5.2 *Coordination with local utility and infrastructure providers*

Service to all four of LLP's substations is wheeled by Tacoma Public Utilities from the Bonneville Power Administration sources. As such, we would communicate and coordinate any utility-wide incidents, related to WMP activation, with their dispatch and ours.

5.3 Coordination with local Tribal entities

N/A - None of LLP's distribution services are on tribal lands.

5.4 Emergency Management / Incident Response Organization

To build better communication and coordination LLP partnered with Tacoma Power's Emergency Management and Puget Sound Energy to establish and facilitate a semi-annual pre- and post-wildfire season coordination meeting with all Pierce County electric utilities, Pierce County fire entities, PCDEM, and South Sound 911 which also includes fire dispatch. The coordination group meetings led to better coordination and communication during an incident and produced tools that aid both electric utilities and fire entities during response.

6.0 Wildfire Risks and Drivers Associated with Design, Construction, Operation, and Maintenance

Aside from wildfire risks related to animals or vegetation, the greatest risk LLP has experienced relative to its distribution territory is accidents which involve vehicles with its distribution assets.

6.1 Risks and risk drivers associated with topographic and climatological risk factors

LLP's distribution is primarily within the urban and suburban interfaces. As such the only specific risk we experience is any vegetation maintenance which is higher than 60 feet. For those scenarios we contract third party companies for vegetation maintenance. Most of our service area does not have much elevation variation. The only other risk factor is prolonged drought and sporadic high wind events.

6.2 Enterprise-wide Safety Risks

The following categories have the potential for a utility caused ignition:

- Weather – A combination of low humidity and high wind.
- Vegetation – Tree and other vegetation contacts with power lines.
- Foreign Contacts – Vehicle, construction, balloon, and animal strikes to poles and wires.
- Equipment Failure – Failure of poles, transformers, wires, guys, and other electric utility equipment.
- Insulator contamination.
- Vandalism.
- Worksite related ignition.

7.0 Wildfire Preventative Strategies

7.1 *Weather Monitoring*

7.1.1 Current Strategy Overview

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

- The National Oceanic and Atmospheric Administration (NOAA)
- United States National Weather Service (NWS)
- United States Forest Service Wildland Fire Assessment System
- National Fire Danger Rating System
- Internal knowledge of local conditions

7.1.2 Planned Updates

LLP does not foresee any changes to the sources used above but will adapt to new weather monitoring models as they become available.

7.2 *Design and Construction Standards*

7.2.1 Current Strategy Overview

LLP has several ongoing efforts to address resiliency, reliability, and wildfire mitigation. They include:

- Continuing to upgrade substation and substation circuit protection devices from electro-mechanical to microprocessor-based relays. This will simplify and speed up changing protection settings in response to elevated fire risk.
- Replacing trans closures with vaulted or pad mounted transformers
- Requiring animal protection measures, where feasible

7.2.2 Planned Updates

LLP has several resiliency and reliability projects that are ongoing, planned, and/or in evaluation phase including:

- Periodic review of construction standards.
- Rebuild of fourth and final substation in 2026.
- Planned upgrade of our SCADA system in 2027.
- Evaluation of problem points (recurring animal or vegetation contact) and re-engineer those portions of distribution for hardening.
- Continued strategic replacement of direct buried and undersized conductors, to remove bottlenecks within the system.

7.3 Fuel & Vegetation Management

7.3.1 Current Strategy Overview

Due to LLP's condensed distribution system (10 square miles) we accomplish robust vegetation management of our entire system, annually and throughout the year as necessary. As the city of Lakewood has recently established strict statues regarding tree preservation, any maintenance and removal activities are reported as necessary. Trees potentially identified as "danger trees" within the system, whether in or outside of primary distribution right-of-way, are addressed with the respective property owner and worked accordingly.

Periodic right-of-way inspections also identify and report the following issues:

- Any observed broken or damaged electrical equipment or structures.
- Conditions of LLP signs and placards.
- Gate and fencing conditions.
- Unauthorized access points.
- Unapproved structures or trespasses.
- Garbage and abandoned vehicles.
- Illegal activities.

7.3.2 Planned Updates

LLP does not have any anticipated vegetation management practices that are anticipated in the upcoming three years.

7.4 Asset Inspections and Response

7.4.1 Current Strategy Overview

- Conduct wood pole inspections annually and replacing all poles within a 26-year cycle.
- Replace oil-cooled distribution switches with less flammable gas switches.
- Perform infrared (IR) Inspection on all transformers within the system, every two years.

7.4.2 Planned Updates

Due to LLP's proximity to the JBLM military base, we are unable to incorporate drone inspections of trees or utility assets within two miles of the base boundaries. Therefore, LLP will rely upon its current technologies and protocols to assess distribution updates.

7.5 Workforce training

7.5.1 Current Strategy Overview

LLP believes that a strong culture of safety is essential to our understanding and response to a WMP. Crew personnel are trained annually on fire extinguishing and risk mitigation. This included the proper use, storage, and location of fire extinguishers and other firefighting equipment.

7.5.2 Planned Updates

LLP will have its Safety Committee develop training specific to its WMP which will be facilitated annually at one of its monthly safety meetings. Provide pre-fire season information once per year during one of its quarterly State of the Utility meetings.

7.6 Relay and Recloser Practices

7.6.1 Current Strategy Overview

- All distribution feeder circuit breakers are SCADA-controlled.
- Substation distribution feeder circuit breaker status is remotely monitored via SCADA, and SCADA can be used to change operational modes.
- Distribution reclosers within the substations can be remotely or manually disabled when necessary.

7.6.2 Planned Updates

- Review distribution switching to enhance as needed.
- In 2026, all substations will have microprocessor relays to allow for implementation of expanded operational modes.

7.7 De-energization / Public Safety Power Shutoff

7.7.1 Current Strategy Overview

In the event of extreme weather conditions that dramatically increase the risk of wildfire, some electric utilities have elected to preemptively de-energize portions of their system to avoid becoming the source of ignition. A Public Safety Power Shutoff (PSPS) is a controversial practice and carries significant risks of its own. Some of these risks include:

- Loss of water supply to homeowners on private wells. Also, the potential loss of production wells and pumping facilities that may be needed to fight wildfires.
- Loss of power to customers on medical support equipment or requiring refrigerated medications.
- Loss of traffic signals worsening traffic congestion during a public evacuation.

- Disruptions to the internet and mobile phone service for emergency communication.
- Economic impacts to local businesses.
- Lack of air conditioning for medically vulnerable populations.
- Difficulty notifying all customers impacted by a PSPS, when a PSPS is under consideration and when a PSPS will be initiated.
- Power restoration delays due to required patrol and inspection of the system, potentially only during daylight hours, that had been de-energized prior to re-energization.

While LLP feels the risks associated with a PSPS would in most scenarios outweigh the risk of the electric system igniting a catastrophic wildfire, LLP will reserve the use of a PSPS as a mitigation tool of last resort.

To ensure the safety of the public and first responders, LLP will always maintain the option to de-energize a portion of the system in response to a request by first responders or because of a known public safety issue.

7.7.2 Planned Updates

LLP will further develop a protocol describing the conditions of when a PSPS would be under consideration and a community outreach plan to communicate how a PSPS would be initiated. We will utilize feedback from our employees and emergency management stakeholders (fire departments, law enforcement, hospitals) to assist with our determinations.

8.0 Community Outreach and Public Awareness

8.1 *Current Community Outreach and Public Awareness Program*

LLP's current outreach related to the WMP mainly consists of interagency connections to the participants of the Pierce County Electric Utility and Fire Departments/Districts Pre/Post-Wildfire Coordination Group. This group is made up of representatives from PCDEM, South Sound 911 (SS911), all power utilities that reside in Pierce County, including Lakeview Light and Power (LLP), Peninsula Light Company (PLC), Tacoma Power (TPU), Puget Sound Energy (PSE), and the other nine power utilities that make up the Pierce County Cooperative Power Association (PCCPA), as well as all fire entities that have response requirements within Pierce County. This coordination group was established in July of 2021 to meet regularly and discuss ways to improve response during a fire incident in Pierce County. The group currently meets twice a year, once pre-wildfire season to discuss the forecasted outlook for the upcoming wildfire season and how to mitigate any concerns, and once post-wildfire season to discuss any lessons learned and how to improve mitigation efforts in the future. The group has also provided training sessions to train Pierce County fire districts on how to respond to fires involving utility assets. Since Lakewood has three different power utilities that service

their residents, the group developed a utility pole placard brochure and distributed it to the Lakewood Police and West Pierce Fire Departments, to help first responders quickly identify which utility a pole belonged to.

8.2 *Planned Updates*

LLP has a variety of communication channels to reach its customers, and will use these to provide wildfire safety, prevention, and preparedness materials for its customers.

LLP would employ two strategies to communicate wildfire information to their customers:

- Educating the public in advance about safety measures and how they can be prepared, through newsletter articles, social media post, and/or other media sources.
- Real time notifications about an active situation.

LLP's many communications channels would be used for this and in an active situation, LLP will notify customers using similar tools used during power outages.

Proposed tactics to communicate wildfire awareness and safety information:

- Bill insert messages.
- LLP Smarthub (on-line account portal) message.
- Information on the lakeviewlight.com homepage
- Dedicated wildfire information webpage.
- Information in our newsletter
- Social media posts.
- LLP on-hold phone message.
- Internal employee communication.

9.0 **Restoration of Service**

Typically, LLP operations personnel will patrol the affected portion of the system prior to restoration. Immediately prior to energizing, LLP command will make positive contact with any LLP crews working in the area.

10.0 **Definitions**

Circuit Breaker: Distribution circuit breaker providing protection for 12.5kV distribution circuit. Located inside substation.

Circuit Miles: A circuit mile is the total length of separate circuits in miles, regardless of how many conductors are used in each circuit.

Distribution System: The final stage in the delivery of electric power carrying electricity from the transmission system to individual consumers.

Feeder: A three-phase power line that transmits electricity from the substation to branch circuits, also known as “laterals.”

Hardening: Electric system hardening, also known as grid hardening or storm hardening, is the process of upgrading electric equipment to make it stronger and more resilient in severe weather and to reduce the risk of wildfires.

Infrared (IR): Electromagnetic radiation with wavelengths longer than visible light but shorter than microwaves. The use of infrared cameras to remotely determine the temperature of objects is known as thermography.

Recloser: A class of switchgear designed for use on overhead electricity distribution networks to detect and interrupt transient faults. Reclosers are essentially rated circuit breakers with integrated current and voltage sensors and a protection relay, optimized for use as a protection device.

Relay: An electromechanical, solid state electronic, or microprocessor-based device typically located within substations, switching stations, or switchyards that detects electrical faults and operates circuit breakers to open (de-energize) and, in some cases, close (re-energize) automatically.

SCADA: SCADA is an acronym for Supervisory Control and Data Acquisition. SCADA is a computer-based system for gathering and analyzing real-time data to monitor and control equipment that deals with critical and time-sensitive materials or events. In the case of the transmission and distribution elements of electrical utilities, SCADA will monitor substations, transformers, circuit breakers, and other electrical assets. Equipment can be controlled or reset remotely using SCADA.

Substation: A substation is a part of an electrical generation, transmission, and distribution system. Substations transform voltage from high to low, or the reverse, or perform any of several other important functions. Between the generating station and consumer, electric power may flow through several substations at different voltage levels. A substation may include transformers to change voltage levels between high transmission voltages and lower distribution voltages, or at the interconnection of two different transmission voltages.

Switching Station: A switching station is a substation without transformers and operating only at a single voltage level. Their primary function is switching, connecting, and disconnecting transmission lines or other components to and from the system.

Switchyard: A switching station located directly adjacent to or near a generating station.

Transclosure: A utility asset that includes a pole mount transformer in an above-ground cabinet. This is an old design of transformer configuration that LLP is removing from its distribution system, due to its safety strategy.

Vegetation Management: Utility vegetation management is a series of activities that assist utilities in removing unwanted and hazardous vegetation from power lines and other electrical system equipment.

Wildfire: Also called wildland fire, a wildfire is an unplanned, unwanted fire burning in a natural area, such as a forest, grassland, or prairie.

Wildfire Mitigation Plan (WMP): A wildfire mitigation plan (WMP) is a document that outlines how to reduce the risk of wildfires. WMPs are used by electrical utilities to describe how they will maintain and operate their equipment and power lines to minimize the risk of wildfires along with their emergency response and recovery procedures.

10.1 Metrics and Assumptions for Measuring Plan Performance

The LLP WMP will be reviewed annually in its Safety Committee, or as necessary, to evaluate any updates.

10.2 Identifying and Addressing Areas of Continued Improvement in the Plan

LLP will use any lessons learned or information from operations personnel tailboards to update its WMP as applicable.

10.3 Monitoring the Performance of Inspections

Inspections of LLP utility assets are all performed in-house at this time. If that changes, we will add or edit protocols as needed.

Appendix A.

Appendix A provides the Utility with the opportunity to add metrics tables, including:

External Risk Metrics:

- Red Flag Warning days
- High Wind Warning days
- Increases to customers in high-risk areas (as identified by utility)

Performance Metrics:

- Distribution Inspections (Inspection Type if Applicable)
 - Circuit Miles Inspected
 - Count of Inspection Findings
- Transmission Inspections (Inspection Type if Applicable)
 - Circuit Miles Inspected
 - Count Inspection Findings
- Vegetation Inspections (Inspection Type if Applicable)
 - Circuit Miles Inspected
 - Count Inspection Findings

Outage Metrics:

- Distribution:
 - Utility Identified Outage Case
- Transmission:
 - Utility Identified Outage Case