2024 WILDFIRE MITIGATION PLAN

DATE: October, 2024

PROJECT: PK24-002

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1 Executive Summary

The mission of Parkland Light & Water Company, a non-profit mutual corporation, is to provide reliable and efficient service at the lowest cost. PL&W is dedicated to safe operations while striving to improve the quality of life for our member-owners and our local community. The Cooperative works aggressively and proactively to manage and mitigate wildfire risk while operating and maintaining its system. The outcome of this approach is diligent stewardship of customer/owner investment in the Cooperative as it continues to construct, maintain, and operate its electric distribution system in a manner that minimizes the risk of catastrophic wildfire posed by electrical equipment.

Parkland Light and Water (PL&W or Cooperative) believes the development of this WMP is a prudent and responsible effort to prepare for the wildfire conditions in Pierce County and has applied careful consideration in the development of broad strategies to mitigate utility posed wildfire risks.

For PL&W, which aims to protect public safety and preserve the reliable delivery of electricity, wildfire mitigation is a top priority. While an electric utility can never fully eliminate the risk of fire, PL&W is committed to taking practical actions to reduce the devastation that a wildfire could bring to the people and communities we serve. This Wildfire Mitigation Plan lays out the steps we are taking to do so.

WILDFIRE MITIGATION PLAN DISCLAIMER

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Table 1. Version Tracker

Date	Version	Author	Revision Description
Oct. 2024	V0	BKI	Original document adopted and submitted in 2024

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2 Wildfire Mitigation Plan Overview

2.1 Purpose of the Wildfire Mitigation Plan

Reducing the risk of utility-caused wildfire plays an essential role in PL&W's operational practices. Its existing policies, programs, and procedures are intended to directly or indirectly manage or reduce the risk of its utility infrastructure becoming the origin or contributing factor for wildfire. This Wildfire Mitigation Plan (WMP or Plan) describes PL&W's measures to mitigate the threat of Cooperative equipment ignited wildfires.

The goals and activities included in this WMP focus on a comprehensive and integrated assessment of the risks posed by PL&W's distribution system, including equipment, facilities, pweather conditions, density and condition of potential fuels, and the potential threat to public safety.

This Plan is a practical approach to reducing fire-related risk for PL&W's customers in the near term and will allow for refinement and improvement over time. As PL&W gains experience implementing the WMP's mitigation programs, and as new information emerges, the Cooperative will assess, evaluate, enhance, and refine its practices.

2.2 Description of Where the WMP Can Be Found Online

The PL&W WMP will be available through the Cooperative's website at the following link:

https://www.plw.coop/safety/2024-wildfire-mitigation-plan/

2.3 Best Practices Cross-reference Table

Table 2. Best Practices Cross-reference Table

Standard or Best Practice Name and Description	Section & Page Number
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	

3 Utility Overview

Table 3. Utility Context Setting Information

General Utility Information	
Service Territory Size (sq miles)	3.4
Service Territory Make-up [100]% Urban [ ]% Agriculture [ ]% Barren/Other [ ]% Conifer Forest [ ]% Conifer Woodland [ ]% Desert	[ ]% Hardwood Forest [ ]% Hardwood Woodland [ ]% Herbaceous [ ]% Shrub [ ]% Water
Service Territory Wildland Urban Interface	0% Wildland Urban Interface 0% Wildland Urban Intermix
Consumers Served	4,688 meters
Account Demographic *[provide as % of total customers served]*	83% Residential 0% Agricultural 17% Commercial/Industrial
Utility Equipment Make-up *Calculated using GIS data*	Overhead Distribution: 0 Overhead Transmission: 0 Underground Distribution:89 Underground Transmission:0
Have customers ever been notified of a potential loss of service due to a forecasted utility de-energization event?	Yes: [ ] No: [X]
Has the utility developed protocols to pre-emptively shut off electricity in response to elevated wildfire risks?	Yes: [ ] No: [X]
Has the utility previously implemented a PSPS in response to elevated wildfire risk?	Yes: [ ] No: [X]

3.1 Utility Description and Context Setting

Established in 1914, PL&W is the nation's oldest mutual utility. Operating from offices located in Parkland, Washington, delivers power to approximately 4,700 residential and commercial customers in the Parkland community. (Figure 1). The electric system comprises one owned substation and one rented substation and 89 miles of underground distribution lines located in a primarily urban, residential service area.

In the early 1970's PL&W began placing the entire electric system in underground conduit and completed the project in 2003. The distribution grid operates as a 12.47 kV grounded-wye distribution system. The Cooperative also provides water service to approximately 11,700 households and businesses.

PL&W is an all-service customer of the Bonneville Power Administration (BPA) meaning the Cooperative, by contract, purchases all of its electrical energy from BPA. Power is wheeled over Tacoma Power transmission lines and distributed from the substations through the electric distribution wires owned and maintained by PL&W. The Cooperative also provides domestic and commercial water service to the Parkland & Spanaway communities.

3.2 The Service Area

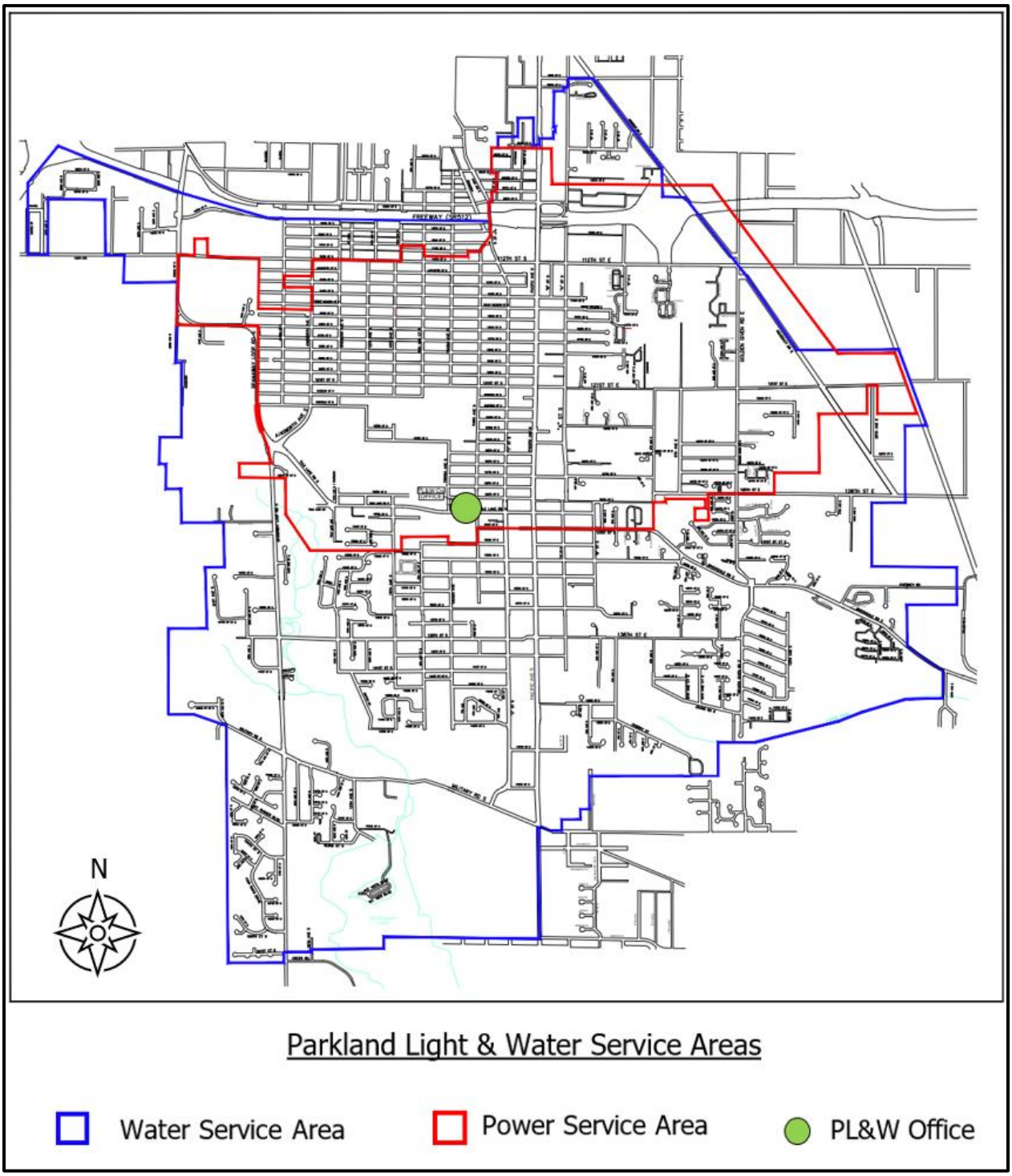
The 3.4 square mile electric service territory (Figure 1) spans ~*2.5* miles east to west and ~1.7 miles north to south. Located in Peirce County on the wetter, west side of the Cascade Range, geography consists of relatively flat, residential and light commercial development. Vegetation is a primarily landscaped with no state or federal public forestlands. Elevation ranges from ~290 feet to ~380 feet above sea level.

The service area has a cool oceanic climate, where summers are short, warm, dry, and mostly clear. Westerly air currents from the ocean produce a mild and moderately moist climate, with warm dry summers and mild winters. The winters are cold, wet, and overcast with average precipitation of 46 inches annually[1]. Snowfall is minimal with three to four inches possible in the lowlands.

The summer dry season is generally from mid-May to mid-October with the average daily high temperatures above 77°F. The hottest months of the year are July and August, with an average high temperature of 75°F and highs above 90°F. Historically, the hottest day of the year is August 3rd with a temperature of 78°F.

[1] https://www.bestplaces.net/climate/county/washington/pierce

Figure 1. PL&W Service Territory



4 Objectives of the Wildfire Mitigation Plan

The WMP's main objective is to implement an actionable plan to:

- Create increased reliability and safety
- Prevent, mitigate, respond/assist, and recover from wildfires
- Comply with the National Electric Safety Code (NESC) regulations and guidelines
- Comply with the requirements of HB1032 for customer owned electric utilities (COU) to prepare a wildfire mitigation plan by October 31, 2024, and every three years thereafter
- Reduce liability
- Continually improve the plan

4.1 Minimizing Sources of Ignition

The primary goal of this Plan is to minimize the possibility that the Cooperative's facilities may be an original or contributing, however unlikely, source of ignition. The Cooperative has evaluated system improvements, operational procedures, and training that can help meet this objective. Further, the Cooperative continually updates best management practices to reflect its commitment to sensible system management and new opportunities to improve the Plan's efficacy.

The proposed wildfire mitigation strategies can be categorized into five main mechanisms that align with PL&W's best practices. Together, the five components create a comprehensive wildfire preparedness and response plan with a principal focus on stringent construction standards, fire mitigation through system design, proactive operations and maintenance programs, and specialized procedures and staff training.

- **Design & Construction:** PL&W's design and construction consists of system, equipment, infrastructure design and technical upgrades. These practices aim to improve system hardening and resilience.
- **Inspection & Maintenance:** PL&W's inspection and maintenance strategies consist of diagnostic activities as well as various methods of maintaining and ensuring equipment and infrastructure is in proper working condition.
- **Operational Practices:** Comprised of proactive day-to-day actions taken to mitigate wildfire risks.
- **Situational & Conditional Awareness:** This component consists of methods to improve system visualization and awareness of environmental conditions. The practices in this category aim to provide tools to improve the other components of the plan.
- **Response & Recovery:** This strategy consists of PL&W's procedures in response to wildfire, de-energization, and other emergency events. This component aims to formalize protocols for these situations for thorough and efficient communications, emergency response and recovery.

4.2 Resiliency of the Electric Grid

The National Infrastructure Advisory Council defines system resiliency as the ability to reduce the magnitude and/or duration of disruptive events. Along with developing the WMP, PL&W takes every opportunity to improve resiliency by hardening the system through regular maintenance and upgrades. As part of the ongoing development of this Plan, the Cooperative assesses new industry practices and technologies that may reduce the likelihood of a service disruption or improve the timeline for restoration of service.

Due to the urban setting, low density of the land cover, and the fact that all of the utility's distribution lines are constructed underground, PL&W's distribution grid is not susceptible to damages from wildfire, nor has any Cooperative equipment been responsible for an ignition.

5 Roles and Responsibilities

5.1 Utility Roles and Responsibilities

A five-member Board of Trustees makes policy decisions for PL&W and will be responsible for approving the Wildfire Mitigation Plan. The Board is responsible for adopting all policies and delegates the operational implementation of policy to the CEO. Staff responsibility for plan implementation and general communications is described below.

- The **General Manager** (**GM/CEO**) has the operational authority of the Cooperative and reports directly to the Board. The **GM/CEO** provides direction and management to all Cooperative staff while implementing Board adopted policy.
- The **Electric Operations Manager** (**OM**) and **GM/CEO** serve as the Cooperative's public liaisons to outside agencies and respond to requests for information, including proactively providing public awareness outreach and emergency information.
- The **GM/CEO** is responsible for the implementation of the WMP in general. Staff will be directed as to their roles and responsibilities.
- The **OM** oversees the daily electric utility operations, including construction, maintenance, energy control, fleet, vegetation management, and other ancillary daily duties.
- The **OM** is responsible for monitoring and auditing the metrics specified in the WMP to confirm that the objectives of the WMP are met.
- The **Customer Service Supervisor** communicates with key accounts.
- The **GM/CEO** responds to the news media and the general public.
- The **OM** is responsible for oversight of the electric system's design.

Cooperative staff have the following responsibilities regarding fire prevention, response, and investigation:

- Conduct work in a manner that will minimize potential fire dangers
- Take all reasonable and practicable actions to prevent fires resulting from the Cooperative's electric facilities
- Coordinate with Federal, State, and Local fire management personnel to ensure that appropriate preventative measures are in place
- Immediately report fires, according to specified procedures
- Take corrective action when observing or having been notified of fire protection measures that have been improperly installed or maintained
- Ensure that wildfire data is appropriately collected
- Maintain adequate training programs for all relevant employees

5.2 Coordination with Local Utility and Infrastructure Providers

PL&W provides water service to its electric customers. Additionally, the Cooperative does not provide power to any other utilities within its service area.

5.3 Coordination with Local Tribal Entities

No tribal entities exist within the service area.

5.4 Emergency Management/ Incident Response Organization

PL&W coordinates and collaborates with its local emergency response agencies as well as other relevant local and relevant state agencies as a peer partner. PL&W's primary coordination point is Pierce County Emergency Management in Tacoma, WA.

During emergency events, PL&W collaborates with the local Office of Emergency Management (OEM) and provides an agency representative as needed to the county Emergency Operations Centers (EOC) to ensure effective communication and coordination. When requested by an emergency manager, the Cooperative will support Pierce County Emergency Management Center (EMC) operations. Support could include the exchange of information, supplying resources, or staffing at the EMC.

Some of the other local entities that PL&W may work with are:

- Pierce County Sheriff
- Central Pierce Fire Department

In addition, PL&W will implement their Emergency Management Plan if needed. PL&W also follows the FEMA Incident Command System when working with local organizations during crises.

5.5 Customer Communication

PL&W employs various methods of communicating with its members and the public. These forms ofcommunications each have their use in terms of differing levels of immediacy, and the amount of information each can provide. These forms of communications to the members may include:

- Ruralite articles
- Social Media
- PL&W Website
- E-Mail
- Annual meetings
- Pierce County Emergency Management Systems
- Street signs

6 Wildfire Risks

6.1 Risk Drivers Associated with Design, Construction, Operation, and Maintenance

Wildfire risks related to the design, construction, and operation of utility equipment and facilities are minimal, as the entire distribution system has been constructed underground. Above-ground equipment is limited to pad mount transformers and high voltage equipment located within PL&W's one substation. The substation is well maintained and void of any vegetation or fuel sources. The overhead transmission lines delivering power to the substation are owned and managed by Tacoma Power.

6.2 Risk Drivers Associated with Topographic and Climatological Factors

There are no topographic or climatological risk factors for PL&W. None of the electric service area falls within wildland urban interface or intermix areas.

6.3 Enterprise-wide Safety Risks

All utilities face enterprise-wide safety risks that are specific to the organization and region. For PL&W, some risk areas may include:

- Operational
  - PL&W's power provider may conduct PSPS.
- Vegetation
  - Effective processes to maintain vegetation encroachment or perceive when action is needed.
- System Sensitivities
  - Pad-mount transformers failure or damage from foreign objects.
  - Aging equipment

7 Wildfire Preventative Strategies

7.1 Weather Monitoring

7.1.1 Current Strategy Overview

Situational assessment is the process by which current operating conditions are determined. Situational Awareness (SA) is the understanding of the working environment, which creates a foundation for successful decision making and the ability to predict how it might change due to various factors.

PL&W uses various situational awareness resources to monitor evolving fire weather, fuel, and other climatological conditions that may lead to fire events. It evaluates information such as real-time field observations, ongoing wildfire reporting and real-time weather reporting resources. Based on available information, PL&W appropriately schedules work crews, adjusts equipment settings, and prepares for fire weather conditions as needed. The following resources are monitored as needed.

- **The National Weather Service (NWS):** The NWS provide on-line predictive fire weather forecasting tools in the form of a current fire-weather outlook, 2-day, and a 3-8 day outlook.
- **NOAA Weather and Hazards Data Viewer:** This on-line map provides historic or real-time surface observations including wind speed and direction, wind gust, dew point, relative humidity, and sea level pressure collected from remote automated weather stations (RAWS). Extreme-weather alerts such as fire weather watch, high wind watch, and red flag warning are provided from this resource.
- **United States Forest Service Wildland Fire Assessment System (WFAS**): The WFAS is a public website hosted by the United States Forest Service – Rocky Mountain Research Station that collects and displays fire danger information for the United States. Information includes daily fire danger maps using the
- **National Fire Danger Rating System (NFDRS)**, Fuel Moisture/drought levels, and more.

Based on the relevant weather data and knowledge of local conditions, the daily conditions could fall into one of three categories.

1. **Normal:** During normal conditions, no operational changes will take place.

2. **Elevated:** During elevated fire-risk conditions, Cooperative staff will perform routine work with an elevated level of observation for environmental factors that could lead to ignition.

3. **Red Flag Warning (RFW):** If the NWS declares an RFW for any portion of the service territory, the Cooperative may delay all routine work on energized primary lines. The Cooperative may perform necessary work to preserve facilities or property.

7.2 Design and Construction Standards

7.2.1 Current Strategy Overview

This WMP integrates and interfaces with PL&W's existing operations plans, asset management, and engineering principles, which are themselves subject to change. Future iterations of the WMP will reflect any changes to these strategies and will incorporate new best management practices as they are developed and adopted.

PL&W has constructed 100% of its electrical distribution and feeder lines within underground conduit. There are no plans to deviate from PL&W's current design standard.

7.2.1.1 Overhead vs Underground Conductor

The benefits of overhead conductor is that it is less costly and much easier to troubleshoot following an outage event, making restoration times shorter compared to underground construction. The downside to overhead conductor is its susceptibility to contact from foreign objects such as wildlife, vegetation, high winds and snow/ice.

The undergrounding of distribution lines greatly improves reliability and functions as an effective mitigation against wildfire. All electric services for PL&W customers are built using UG construction with approximately 89 miles of line on its network.

7.3 Fuel and Vegetation Management

Vegetation management (VM) continues to be a high priority for PL&W. The Cooperative employs a multi-faceted approach to vegetation management that, when combined with its inspection program, attempts to minimize the risk that PL&W facilities would be involved in an ignition.

7.3.1 Current Strategy Overview

While trees that grow within or adjacent to powerline right-of-ways (ROWs) are a common cause of outages and damage to facilities for most electric utilities, this type of vegetation does not generally cause damage or create outages for PL&W. Pad-mount transformers are cleared annually of weeds and grass by PL&W staff to allow for inspection and maintenance work.

Trees may be trimmed or removed for safety, reliability, board policies, and compliance with the National Electric Safety Code (NESC). If a tree's proximity to PL&W assets is a threat to our electric system, our contracted tree crew will trim the growth away from our equipment or remove the tree entirely.

7.3.2 Vegetation Control Options

Methods for controlling vegetation include chemical, manual, or mechanical techniques. The choice of control option(s) is based on effectiveness, environmental impact, site characteristics, worker and public health and safety concerns. The majority of the VM work is the removal of weeds and grass around pad-mount transformers.

7.4 Asset Inspections and Responses

7.4.1 Current Strategy Overview

Recognizing the hazards of equipment that operate high voltage lines, PL&W maintains formal time-based inspection and maintenance programs for distribution and substation equipment, which plays an essential role in wildfire mitigation, reliability, and safety. PL&W utilize FLIR technology for diagnostic and troubleshooting purposes as needed.

- **Substation:** PL&W rents a portion of the Brookdale substation from Elmhurst Mutual. Elmhurst inspects and maintains the transformer and PL&W inspects the maintains the feeder conductor outward. PL&W substation inspections occur weekly.
- **Underground Distribution:** Inspected annually
- **Pad Mount transformers:** Inspected annually
- **Wood poles:** The Cooperative has a handful of wood poles which are tested approximately every 3 years.

7.5 Workforce Training

7.5.1 Current Strategy Overview

PL&W believes that an essential line of defense against the ignition of fires is a well-trained and alert workforce. Internally, PL&W has created a culture of fire prevention. To that end, PL&W is developing training programs designed to minimize the likelihood that PL&W facilities or fieldwork would be the source of ignition for a fire.

The Cooperative is developing training programs for its workforce to become familiar with the WMP. All field staff will be:

- Trained in the content of the WMP
- Trained in proper use and storage of fire extinguishers
- Trained in environmental conditions (current and forecasted weather that coincides with the duration of work for the day)

Generally, all planned PSPS will go through a chain-of- command decision process. The training will also review the member communications strategy with employees. Workforce training will also include obtaining feedback from PL&W employees for possible incorporation into the Plan.

7.6 Relay and Recloser Policy

7.6.1 Current Strategy Overview

Reclosers are on a continuous non-reclose setting. It is not a current practice to configure reclosers with alternate settings in response to weather conditions.

7.7 De-energization / Public Safety Power Shutoff

7.7.1 Current Strategy Overview

A Public Safety Power Shutoff (PSPS) preemptively de-energizes power lines during high wind events combined with hot and dry weather conditions.

PL&W has considered the extremely complex external risks, and potential consequences of de-energization while striving to meet its main priority of protecting the communities and customers we serve. They include:

- Potential loss of water supply to fight wildfires due to loss of production wells and pumping facilities.
- Negative impacts to emergency response and public safety due to disruptions to the internet and mobile phone service during periods of extended power outages.
- Loss of key community infrastructure and operational efficiency that occurs during power outages.
- Medical emergencies for members of the community requiring powered medical equipment or refrigerated medication. Additionally, the lack of air conditioning can negatively impact medically vulnerable populations.
- Negative impacts on medical facilities, fire, police, and schools.
- Traffic congestion resulting from the public evacuation in de-energized areas can lengthen response times for emergency responders.
- Negative economic impacts from local businesses forced to close during an outage.
- The inability to open garage doors or motorized gates during a wildfire event.
- Loss of power for fuel station pumping

While PL&W has the authority to preemptively shut off power during high fire-threat conditions, the Cooperative believes that the risks and negative impacts to the community from a de-energization of the system far outweigh any potential safety benefit. Because of how PL&W's electrical distribution circuits are configured, PL&W cannot selectively de-energize circuits while avoiding a loss of power to critical loads during an PSPS.

Based on the above considerations, PL&W does not currently plan to proactively de-energize its system but will consider de-energizing in response to a known public safety issue or in response to a request from an emergency management agency. Any de-energizing of the lines would be performed in coordination with key local partner agencies, but the final determination is made by PL&W.

7.7.2 Assisting Vulnerable members during a PSPS

While all PL&W members would be affected negatively by a potential PSPS event, the Cooperative is aware that vulnerable groups would experience a more significant hardship in this scenario. These groups include:

- Members reliant on medical devices
- Members who lack mobility

- Members in areas without cell phone service
- Members in areas without internet access

If PL&W elects to initiate a PSPS, it will utilize its headquarters in Parkland as a resource center to assist vulnerable members during the outage. It is, however, critical that members establish their own emergency plan for loss of power during a PSPS event.

8 Community Outreach and Public Awareness

8.1 Current Community Outreach and Public Awareness Program

PL&W employs the following methods of communication with its members and the public.

- Ruralite articles
- Social Media
- PL&W Website
- E-Mail
- Annual meetings
- Pierce County Emergency Management Systems

The messaging platforms are selected based on the amount of information that can be shared, message type, and message urgency.

8.1 Community Outreach Timeline

Table 4 below illustrates the various timelines, content, media employed, and recipients of potential communications during fire season.

Table 4. Communications Timeline

Content	Media	Recipients
Update of the program at the beginning of fire season	• Ruralite Articles • E-mail • PL&W Website • Social Media • Pierce County Emergency Management System	• Members • Local Government Entities • Peirce County Fire • County Emergency Management • Local Community Agencies
Alert that conditions are approaching critical levels	• PL&W Website • Social Media • Pierce County Emergency Management System	• Members • Local Government Entities • Peirce County Fire • County Emergency Management • Local Community Agencies

Forecasted PSPS Alert	• PL&W Website • Social Media • Pierce County Emergency Management System	• Members • Local Government Entities • Peirce County Fire • County Emergency Management • Local Community Agencies
Notice to membership that Resource Center is set up at the NB HQ	• PL&W Website • Social Media • Pierce County Emergency Management System	• Members • Local Government Entities • Peirce County Fire • County Emergency Management • Local Community Agencies
Imminent De-energization Alert	• PL&W Website • Social Media • Pierce County Emergency Management System	• Members • Local Government Entities • Peirce County Fire • County Emergency Management • Local Community Agencies
Notification of actual de-energization	• PL&W Website • Social Media • Pierce County Emergency Management System	• Members • Local Government Entities • Peirce County Fire • County Emergency Management • Local Community Agencies
De-energization Updates	• PL&W Website • Social Media • Pierce County Emergency Management System	• Members
Intent to Restore Alert	• PL&W Website • Social Media • Pierce County Emergency Management System	• Members
Restoration is Complete Notification	• PL&W Website • Social Media • Pierce County Emergency Management System	• Members • County Emergency Management • Local Community Agencies

9 Restoration of Service

In the unlikely instance of a PL&W-initiated PSPS event, which will only be used in the most extraordinary of circumstances, the Cooperative will continue to monitor relevant weather conditions and any wildfire activity in the vicinity of the service area. When critical weather thresholds and safe operating conditions are no longer exceeded, PL&W will re-energize the system.

10 Evaluating the Plan

This chapter identifies PL&W's management responsibilities for overseeing this WMP, the methods for identifying plan deficiencies, and the inspection and VM program monitoring processes.

10.1 Metrics and Assumptions for Measuring Plan Performance

Achieving a robust, effective plan to mitigate wildfire risk is the primary objective of this document. Staff has the role of vetting current procedures and recommending changes or enhancements to build upon non-optimized strategies in the Plan. Unforeseen circumstances, regulatory changes, emerging technologies, or other rationales may expose deficiencies within the Plan. Those deficiencies will be reported to the CEO and rectified on an as-needed basis.

The Operations Manager, or their designee, will be responsible for spearheading discussions to address deficiencies when updating the Plan for its annual presentation to the CEO. All stakeholders are empowered to suggest improvement opportunities. These stakeholders include, but are not limited to:

- Employees
- Management
- Auditors
- Fire safety professionals
- Emergency Management personnel
- Members of the public

10.2 Identifying and Addressing Areas of Continued Improvement

This Plan is a living document and will be reviewed and modified as needed to reflect changes in regulations, advancements in technology and changes in operational circumstances. The Operations and Engineering Leadership are responsible for conducting an annual review of the Plan and recommending to the GM any revisions or changes.

As results of the mitigation programs become evident and additional data is collected, PL&W will identify areas of its operations that may require a different approach, as well as develop additional methods to maintain the goal of zero PL&W asset-sourced ignitions. Staff responsible for assigned mitigation areas will vet current procedures and recommend changes or enhancements to build upon the Plan's strategies.

10.3 Monitoring the Performance of Inspections

The utility manages the distribution line and substation assets and develops inspection and maintenance programs. These programs ensure the safe operation of PL&W line and substation facilities.

Key imperatives are to:

- Reduce the risk of power-related wildfire
- Meet federal and state regulatory requirements
- Achieve reliability performance within mandated limits and to optimize capital and O&M investments

Designated managers regularly monitor inspection and corrective maintenance records and diagnostic test results to adjust maintenance plans and develop new programs. PL&W make all efforts to follow best industry practices in developing its maintenance programs.

PL&W's Electrical Superintendent is responsible for performing the inspections and corrective maintenance. The priority for corrective maintenance is to remove safety hazards immediately and repair deficiencies according to the type of defect and severity of the risk level associated with the asset location. Work orders are monitored throughout the year to ensure timely completion via regular internal reports.

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Appendix A: Definitions

Bonneville Power Administration: The Bonneville Power Administration (BPA) is an American federal agency based in the Pacific Northwest created in 1937 to market electric power from the Bonneville Dam and to construct transmission facilities. BPA is the marketing agent for power from all 31 of the federally owned hydroelectric projects in the Pacific Northwest. The BPA is one of four regional Federal power marketing agencies within the U.S. Department of Energy (DOE).

Commission: Publicly elected five-member board of commissioners.

Danger Tree: A danger tree is any tree, on or off the right of way, that can contact electric power lines. A danger tree may be completely healthy and intact, or it may be sick or dead. Even a healthy tree could sustain damage in a severe storm and impact nearby power lines, thus the potential for "danger."

Distribution System: The final stage in the delivery of electric power carrying electricity from the transmission system to individual consumers. The PL&W distribution system includes 7.2Kv lines not tied to generation facilities.

Fire Hazard: "Hazard" is based on the physical conditions that give a likelihood that an area will burn over a 30 to 50-year period without considering modifications such as fuel reduction efforts.

Fire Risk: "Risk" is the potential damage a fire can do, to the area under existing conditions, including any modifications such as defensible space, irrigation and sprinklers and ignition resistant building construction which can reduce fire risk. Risk considers the susceptibility of what is being protected.

Fire Season: 1) Period(s) of the year during which wildfires are likely to occur, spread, and affect resource values sufficiently to warrant organized fire management activities. 2) A legally enacted time during which burning activities are regulated by state or local authority.

Hardening: Modifications to electric infrastructure to reduce the likelihood of ignition and improve the survivability of electrical assets.

Hazard Tree: A specific type of danger tree that poses a greater likelihood of causing damage to electric power lines or equipment. In this case, the tree is structurally unsound and positioned in such a way that it could fall onto conductors.

Industrial Fire Precaution Level (***IFPL):*** Activated when needed during the summer fire season, IFPL are an activity closure system to reduce wildfire risk. By law (WAC 332-24-301), it applies to woods workers and other industrial forest users on 13 million acres of unimproved private, federal, and state forestlands protected by the WADNR, BLM or USFS. Levels range from Level-1 to Level-4.

Landscape: Refers generally to the area of interest in a project or study and could refer to modeled or on-the-ground conditions.

National Fire Danger Rating System (NFDRS): A uniform fire danger rating system that focuses on the environmental factors that control the moisture content of fuels. It combines the effects of existing and expected states of selected fire danger factors into one or more qualitative or numeric indices that reflect an area's fire protection needs.

Recloser: Recloser is a device that is used in over-head distribution systems to interrupt the circuit to clear faults. Automatic reclosers have electronic control senses and vacuum interrupters that automatically reclose to restore service if a fault is temporary. There are several attempts that may be made to clear and reenergize the circuit and if the fault still exists the recloser locks out. Reclosers are made in single-phase and three-phase versions and use oil or vacuum interrupters.

Red Flag Warning (RFW)[2]: A term used by fire- weather forecasters to call attention to limited weather conditions of importance that may result in extreme burning conditions. It is issued when it is an on-going event, or the fire weather forecaster has a high degree of confidence that Red Flag criteria will occur within 24 hours of issuance. Red Flag criteria occurs whenever a geographical area has been in a dry spell for a week or two, or for a shorter period, if before spring green-up or after fall color, and the National Fire Danger Rating System (NFDRS) is high to extreme and the following forecast weather parameters are forecasted to be met:

- A sustained wind average 15 mph or greater;
- Relative humidity less than or equal to 25%, and;
- A temperature of greater than 75 degrees Fahrenheit

In some states, dry lightning and unstable air are criteria. A Fire Weather Watch may be issued prior to the RFW.

Right-of-Way (ROW): The corridor of land under (and adjacent to) a transmission or distribution line.

Risk: A measure of the probability and severity of adverse effects that result from exposure to a hazard.

Substation: Part of the 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.

2 Source: https://w1.weather.gov/glossary/index.php?word=Red%20Flag%20Warning

Summer Fire Rules (DNR): Washington's "summer fire rules" are in effect April 15 through October 15. These rules apply to the 13 million acres of private and state forestlands protected from wildfire by the Washington Department of Natural Resources.

These regulations affect loggers, firewood cutters, land clearers, road builders, heavy equipment operators, off-road motorcyclists, and others. During fire season, people using motorized equipment in the woods must have approved spark arresters and follow fire safety precautions. In addition, those working in the woods must have fire prevention and extinguishing equipment in good working order at the job site and workers trained in proper use.

The rules are intended to prevent forest fires and to extinguish small fires before they spread to the forested lands. These rules restrict cigarette smoking in forested areas to roads, gravels pits, or other clearings and prohibit lighting fireworks on forestland.

Transmission System: The bulk delivery of electrical energy from a generating site to an electrical substation. While PL&W does not currently own any transmission system assets, BPA does operate several transmission lines in the county.

Vegetation: Trees, shrubs, and any other woody plants.

Vegetation Management: A broad term that includes tree pruning; brush removal through the use of power saws and mowers; the judicious use of herbicides and tree growth regulators; hazard tree identification and removal; the implementation of strategies to minimize the establishment of incompatible species under and near power lines; and the control of weeds.

Wildfire: Also called wildland fire, an unplanned, uncontrolled fire in a forest, grassland, brushland or land sown to crops.

Wildfire Mitigation Plan (WMP): A comprehensive plan to reduce the threat and severity of wildfire within an electric utility's service area. Plans include the preventive strategies and programs adopted by the utility to minimize the risk of its facilities causing wildfires along with its emergency response and recovery procedures.

Wildlands: Forests, shrub lands, grasslands, and other vegetation communities that have not been significantly modified by agriculture or human development*. A more specific meaning for fire managers, used by the National Wildfire Coordinating Group (which coordinates programs of participating wildfire management agencies nationwide), refers to an area in which development is essentially non-existent (except for roads, railroads, power lines, and similar transportation facilities); structures, if any, are widely scattered.

Wildland Urban Interface (WUI): Line, area, or zone where structures and other human development meet or intermingle with vegetative fuels in wildlands.

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Appendix B: Acronym Glossary

ANSI	American National Standards Institute
BLM	U.S. Bureau of Land Management
BMP	Best Management Practices
BPA	Bonneville Power Administration
CSR	Customer Service Representative
DEM	Department of Emergency Management
DNR	(Washington) Department of Natural Resources
EOC	Emergency Operation Center
ES	Electrical Superintendent
GM	General Manager
HFTA	High Fire Threat Area
HIF	High Impedance Fault
IFPL	Industrial Fire Protection Level
KV	Kilovolt
KWH	Kilowatt Hours
MW	Mega Watts
MVCD	Minimum Vegetation Clearance Distance
NESC	National Electric Safety Code
NFDRS	National Fire Danger Rating System
NF	National Forest
OH	Overhead
OM	Operations Manager
OS	Operation Superintendent
PL&W	Parkland Light & Water
OEM	Office of Emergency Management
Co-op	Cooperative
PSPS	Public Safety Power Shutoff
QA	Quality Assurance
QC	Quality Control

RFW	Red Flag Warning
ROW	Right-of-Way
ROW	Right-of-Way
SCADA	Supervisory Control and Data Acquisition
UG	Underground
USDA	United States Department of Agriculture
USFS	United States Forest Service
VM	Vegetation Management
WA	Washington State
WHP	Wildfire Hazard Potential
WMP	Wildfire Mitigation Plan
WUI	Wildland Urban Interface