

RESOLUTION NO. 1208

A RESOLUTION OF THE BOARD OF COMMISSIONERS FOR THE ADOPTION OF THE 2024-2027 WILDFIRE MITIGATION PLAN

The Wildfire Mitigation Plan (WMP) main objective seeks to implement an actionable plan to create increased reliability and safety while minimizing the likelihood that Kittitas PUD No.1 assets may be the origin or contributing factor in the ignition of a wildfire. This plan was developed to be consistent with current industry best management practices and the National Electric Safety Code (NESC) regulations and guidelines. While an electric utility can never fully eliminate the risk of fire, the Kittitas County Public Utility District No. 1 Board of Commissioners are committed to taking all practical actions available to it to prevent the devastation that a wildfire could bring to the people and communities we serve.

WHEREAS by October 31, 2024, and every three years thereafter, each consumer-owned utility and investor-owned utility must review, if appropriate revise, and adopt its wildfire mitigation plan. When reviewing or revising a wildfire mitigation plan, utilities must use the recommended format and elements contained in the WMP format. The plan must be submitted to the utility wildland fire prevention advisory committee created in RCW 76.04.780 to be posted on their website; and

WHEREAS the Board of Commissioners of the Kittitas PUD No.1 have reviewed and updated the Wildfire Mitigation Plan and desire to rescind and replace Resolution 1167, adopted in March 2023, with the most current version of the plan.

NOW, THEREFORE, BE IT RESOLVED that the Commissioners of Kittitas County Public Utility District No. 1 approve and adopt the Wildfire Mitigation Plan, as set forth in the attached Exhibit A, hereby rescinding and replacing all previous versions.

IN WITNESS WHEREOF, the undersigned, being all the members of the Board of Commissioners of Kittitas County Public Utility District No. 1 have executed this Resolution of the Board of Commissioners on this 29th day of October 2024.

Shan

Shan Rowbotham (Oct 30, 2024 21:26 PDT)

Shan Rowbotham, President

Rick Catlin

Rick Catlin (Oct 31, 2024 08:28 PDT)

Rick Catlin, Vice-President

Joe O'Leary

Joe O'Leary (Oct 31, 2024 07:51 PDT)

Joe O'Leary, Secretary

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Kittitas Public Utility District No.1 Wildfire Mitigation Plan

October 29, 2024

Version 2.0

1.0 Executive Summary

When the Washington Legislature passed [House Bill 1032](#) in July 2023 it stated that, it is in the best interest of the state, our citizens, and our natural resources to identify the sources of wildland fires; identify and implement best practices to reduce the prevalence and intensity of those wildland fires; put those practices in place; and by putting those practices in place, reduce the risk of wildland fires and damage and losses resulting from those fires.

The Legislature directed the Department of Natural Resources (DNR), in consultation with the Energy Resilience and Emergency Management Office of the Department of Commerce, to contract with an independent consultant with experience in developing electric utility wildfire mitigation plans to develop an electric utility wildfire mitigation plan format and a list of elements to be included in electric utility wildfire mitigation plans. The Wildfire Mitigation Plan (WMP) format below achieves the direction of the Legislature.

By October 31, 2024, and every three years thereafter, each consumer-owned utility and investor-owned utility must review, if appropriate revise, and adopt its wildfire mitigation plan. When reviewing or revising a wildfire mitigation plan, utilities must use the recommended format and elements contained in the WMP format. The plan must be submitted to the utility wildland fire prevention advisory committee created in RCW 76.04.780 to be posted on their website.

For the Public Utility District No. 1 of Kittitas County, which aims to protect public safety and preserve the reliable delivery of electricity, wildfire mitigation is without question a top priority. While an electric utility can never fully eliminate the risk of fire, Kittitas PUD No.1 is committed to taking all practical actions available to it to prevent 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.

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2.0 Wildfire Mitigation Plan Overview

2.1 Purpose of the Wildfire Mitigation Plan

The Plan describes the Kittitas PUD’s strategies, programs, and procedures to mitigate the threat of electrical equipment ignited wildfires, and addresses the unique features of its service territory, such as topography, weather, infrastructure, grid configuration, and areas most prone to wildfire risks. This includes the maintenance of its sub-transmission and distribution assets as well as the management of vegetation in the ROWs that contain these assets.

Kittitas PUD’s Board of Commissioners review and approve the Plan as needed, while the General Manager is responsible for its implementation. This plan complies with the requirements of HB1032 for investor and customer owned electric utilities (IOU/COU) to prepare a wildfire mitigation plan by October 31, 2024, and every three years thereafter.

2.2 Description of Where WMP Can be Found Online

The public, stakeholders, and others can find the Kittitas Public Utility District No.1 Wildfire Mitigation plan and related information at the District official website below.

[Kittitas Public Utility District, WA | Official Website \(kittitaspud.com\)](http://kittitaspud.com).

2.3 Best Practices – Code Citation

WAC 296-45-045 NESC applicable.

RCW 64.12.035 Cutting or removing vegetation – Electric Utility – Liability – Definitions

RCW 76.04.780 Utility wildland prevention advisory committee – Duties – Report – Membership – Immunity.

RCW 80.28.440 Wildfire Mitigation plan – Review/revision

RCW 19.29A.170 Wildfire Mitigation plan – Review/revision

3.0 Utility Overview

Kittitas County voters created a PUD in 1936. Helped by a Rural Electrification Administration loan, it built 56 miles of distribution lines and started operating on January 15, 1939. Power initially was supplied by Pacific Power and Light Company. After the Ellensburg Substation was completed in 1941, the Kittitas County PUD became a BPA customer.

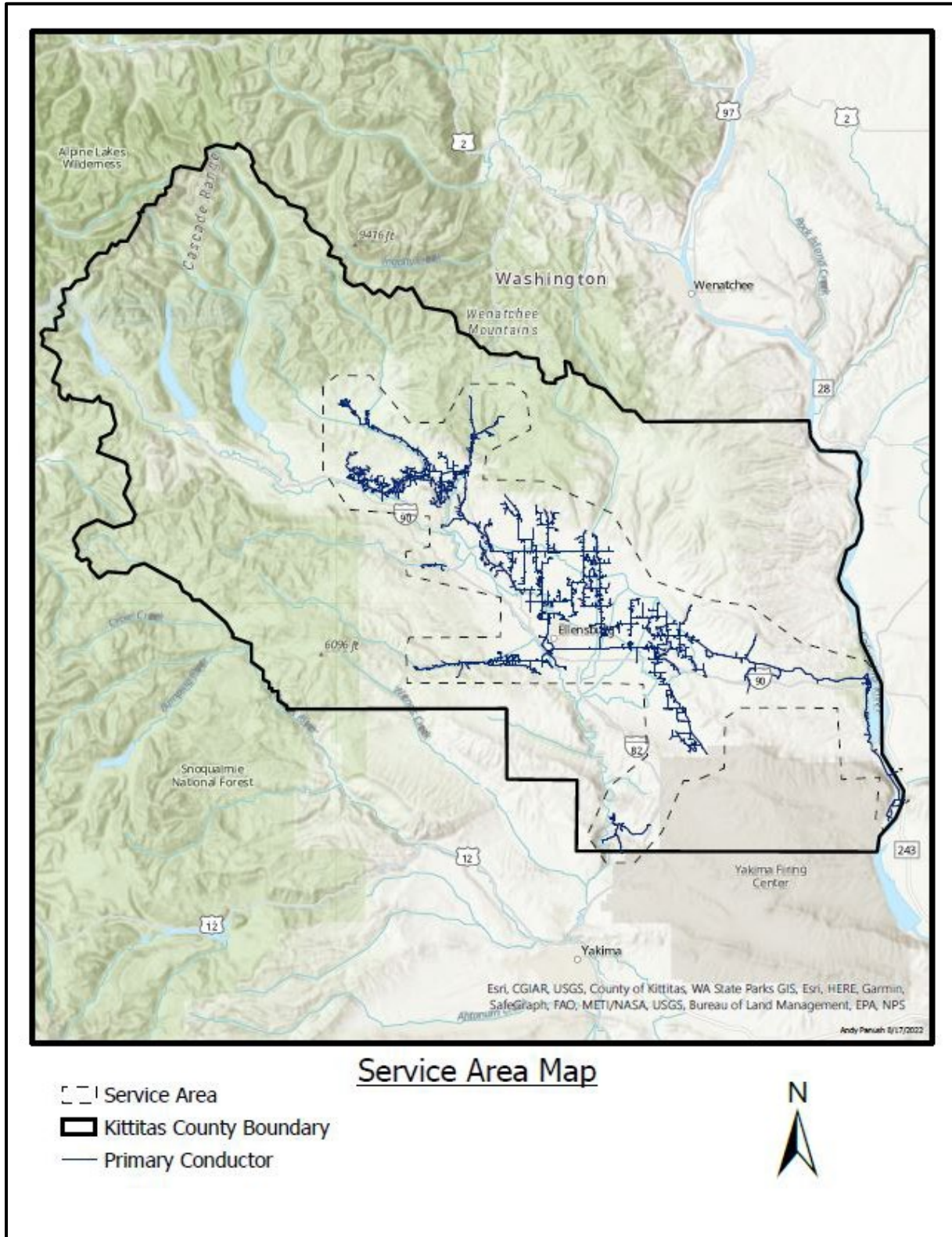
Today the Kittitas PUD delivers power to 5200 customers (meters) within the Kittitas County service area and operates 752 miles of distribution line. The purchased power is supplied by the Bonneville Power Administration and delivered through 4 metered power delivery points and 6 power substations. The Kittitas PUD has a system density of just under 7 customers per mile of power line.

The Kittitas PUD head office and warehouse is located within the City of Ellensburg, Washington. Ellensburg is the county seat of Kittitas County and is located just east of the Cascade Range near the junction of Interstate 90 and Interstate 82 and U.S. Route 97. Other geographic features in Kittitas County include the Columbia, Teanaway, and Yakima rivers, plus the Wenatchee Mountains and Manastash Ridge. Historically, the county was known for its coal and mineral mining and logging industries. Today, the county is known for livestock sales and hay production. The premium-quality hay produced in Kittitas County is exported and sold around the world, as well as other regions of the United States.

The Kittitas PUD service territory includes the entire 2,333 square miles of land and water but provides power to a portion of Kittitas County due to the presence of two other electric utilities: Puget Sound Energy and the City of Ellensburg Energy Services department. Generally, the other utilities provide power to the population centers while the PUD delivers power to the rural and less populated parts of the County.

The Weather ranges from a June high average high of 80°F to an average low of 24°F in January. The average hourly wind speed in Kittitas County is 5.9 miles per hour but is highly dependent on local topography and other factors. The windiest month of the year is June often with high-speed wind gusts, while the calmer time of the year lasts for 6 months from September to March. The humidity level in Kittitas County varies over the course of the year. The most pleasant months of the year for Kittitas County are July, August, and September.

Figure 1. Service Area



3.1 Utility Description and Context Setting Table

The Bonneville Power Administration (BPA) supplies the power to the Kittitas PUD through 6 substations and 4 metered points of delivery within the County. As a “full requirements” customer of BPA, the Kittitas PUD does not own or operate any transmission or power generating assets. The Kittitas PUD operates a short 13-mile sub-transmission system between 2 substations and 739 miles of 12.4kV distribution system. The system consists of mostly overhead power lines (about 67%).

The Kittitas PUD head office and warehouse/storage yard is located on 3.5 acres near the approximate center of the County. The Kittitas PUD employs less than 20 employees and contracts with an additional 10 to 20. The limited staff and resources provide a significant challenge to maintain the over 750 miles of line.

Table 1. Context-Setting Information Table

Kittitas Public Utility District No.1	
Service Territory Size (sq miles)	2,333
Service Territory Make-up <i>The land cover percentages for Kittitas County were derived from the National Land Cover Database (NLCD) and local GIS data.</i>	2.5% Urban 12% Agriculture 1% Barren/Other 34% Conifer Forest 5% Conifer Woodland 7% Desert 3% Hardwood Forest 2% Hardwood Woodland 8% Herbaceous 25% Shrub 1.5 % Water
Service Territory Wildland Urban Interface <i>This data is based on assessments by the U.S. Forest Service and Washington State Department of Natural Resources</i>	35% Wildland Urban Interface 22% Wildland Urban Intermix
Customers Served	5,150
Account Demographic	87% Residential 5% Agricultural 8% Commercial/Industrial
Utility Equipment Make-up <i>Circuit miles refer to the total length of electrical distribution or transmission lines regardless of the number of phases in the circuit.</i>	Overhead Distribution: 493 miles Overhead Transmission: 0 miles Underground Distribution: 191 miles Underground Transmission: 0 miles
Has developed protocols to pre-emptively shut off electricity in response to elevated wildfire risks?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> A summary or description of protocols can be provided in section 7.
Has previously pre-emptively shut off electricity in response to elevated wildfire risk?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

3.2 Wildfire History

Kittitas County has a long history of both natural and human wildfire occurrence. The fire season in Kittitas County occurs between July and September, with the middle of August being the period of the most extreme fire conditions. Forest and woodland fuels are mostly present in the western half of the county while sagebrush and grassland fuels are found throughout the mid to eastern edge of the county. Historically, the fires have been frequent low-intensity fires, but forest and rangelands are now significantly altered due to past forest and land management practices, fire prevention efforts with modern suppression activities, residential development, and a general lack of large-scale fires. These activities have resulted in overgrown forests and rangeland with increased ladder fuels creating a greater potential for significant and dangerous fire behavior.

Table 2. Historic Wildfires in Kittitas PUD Service Area

Fire Name	Year	Size (acres)	Structures Lost
Reecer	2004	107	
Lauderdale	2004	247	
Elk Heights	2004	296	
Lick Creek	2005	734	
Polallie	2006	961	
Amabilis	2006	116	
Crow Creek	2007	83	
Easton Ridge	2007	401	
Ellensburg Pass	2007	452	
WDFW-Tarpiscan	2008	575	
Lemah	2009	649	
Umtanum Falls	2011	252	
MP 124	2011	450	
Taylor Bridge*	2012	23,501	61
Trail Creek	2012	24	
Stafford Creek	2012	33	
Diamond Head	2012	1,055	
Gold Creek Springs	2012	31	
Old Blewett Pass	2012	22	
French Cabin Creek	2012	42	
Peavine Canyon*	2012	19,997	
Table Mountain Fire*	2012	42,481	5
Quilomene	2012	156	
Little Parke Creek	2012	700	
Umtanum 2	2012	180	
Burbank	2013	202	
Colockum Tarps*	2013	81,733	5
Christensen	2013	175	
Manastash Ridge	2013	2,351	
Cottonwood	2014	8,942	
South Cle Elum Ridge	2014	887	

I-82 Manastash	2014	1,994	
Saddle Mountain*	2014	24,917	5
Bighorn	2014	265	
Snag Canyon*	2014	12,599	22
Corral	2014	148	
Mile Post 9	2015	22	
Ginko	2016	124	
Rock Creek	2016	1,382	
130 Vantage	2016	363	
MP 133	2016	570	
Hayward Firing Range	2016	167	
Ryegrass	2017	192	
Poison Springs	2017	353	
Jolly Mountain*	2017	36,808	
Hult Butte	2017	138	
Teanaway River	2017	336	
Iron West	2018	13	
Iron East	2018	77	
Little Camas	2018	317	
Buckshot	2018	909	
Petrified 2	2018	27	
Conrad	2018	4,583	
Scorpion Coulee	2018	143	
Crystal	2018	2,610	
Baird Springs	2018	1,105	
Boylston*	2018	71,182	
Buffalo	2018	1,844	
Slab	2018	90	
Ancient Lakes	2018	73	
Johnson Canyon	2018	243	
Petrified Canyon	2018	215	
Trinidad	2018	49	
Burbank Creek	2018	32	
Left Hand	2018	3,463	
243 Command*	2018	20,196	
Wildhorse	2019	50	
Saddle Mountain	2019	124	
Cliff	2019	63	
MP20	2019	1,122	
Powerline	2019	7,725	
Evans Canyon*	2020	76,288	
Talor Pond	2020	22,591	
Colockum	2020	2,728	
Koffman Road	2021	316	17

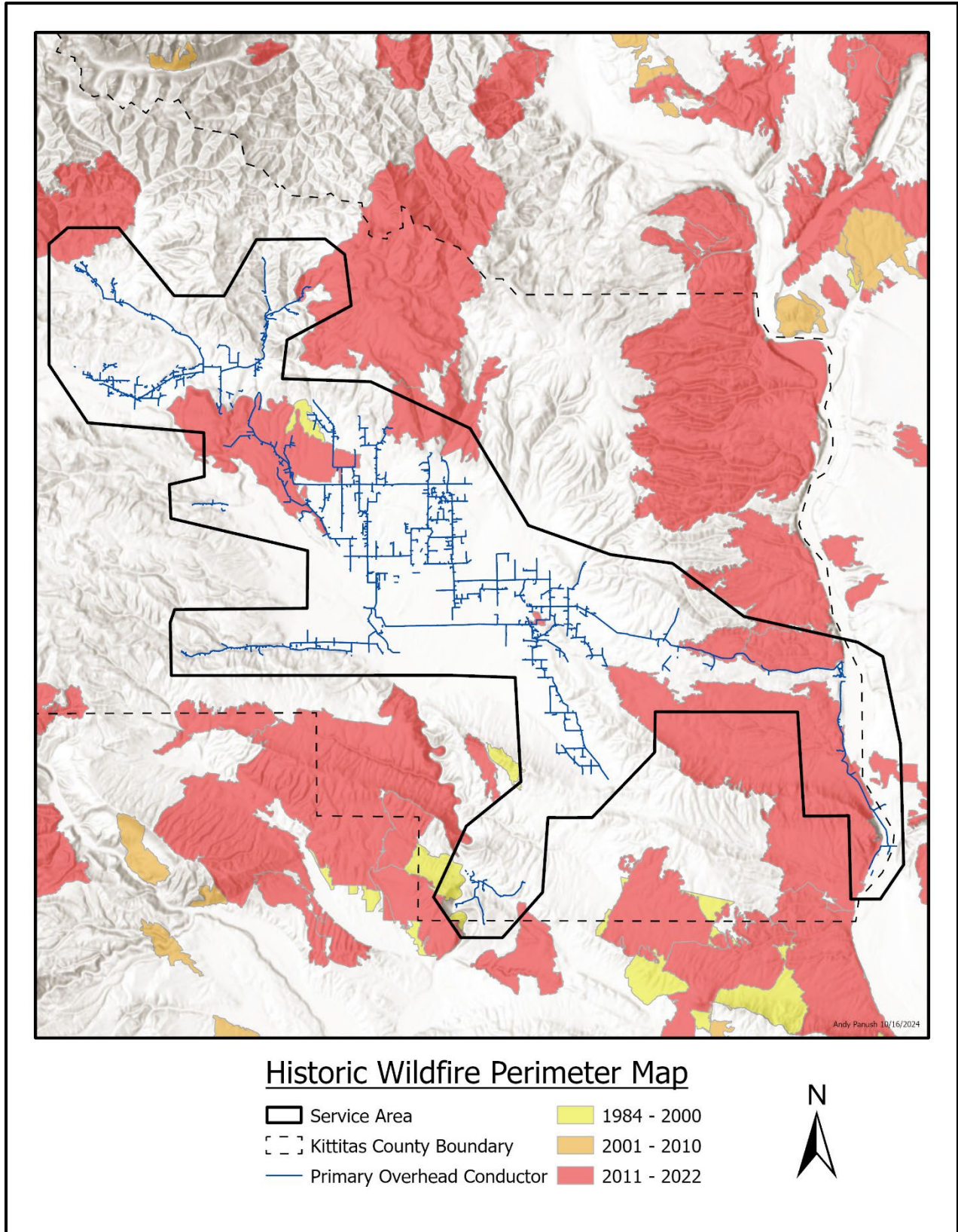
South Beverly	2021	5	
Vantage Hwy	2021	204	
Batterman Road*	2021	14,100	
Burbank	2021	10,270	
Selah Butte Fire (WA-SPD-000372)	2021	6	
Schneider Springs*	2021	107,322	
Rooster Comb	2021	88	
Sentinel Bluff	2021	135	
Mohr	2022	6,438	
Vantage Highway	2022	29,299	
Cow Canyon	2022	6,083	

Note: *Fires over 10,000 acres

3.3 Historic Wildfire Perimeter Mapping

The map shown in Figure 2 on the next page shows the perimeters of wildfires in Kittitas county which are listed in Table 2 above.

Figure 2. Historic Wildfire Perimeters 1984-2022



3.4 Fire Threat Assessment Mapping

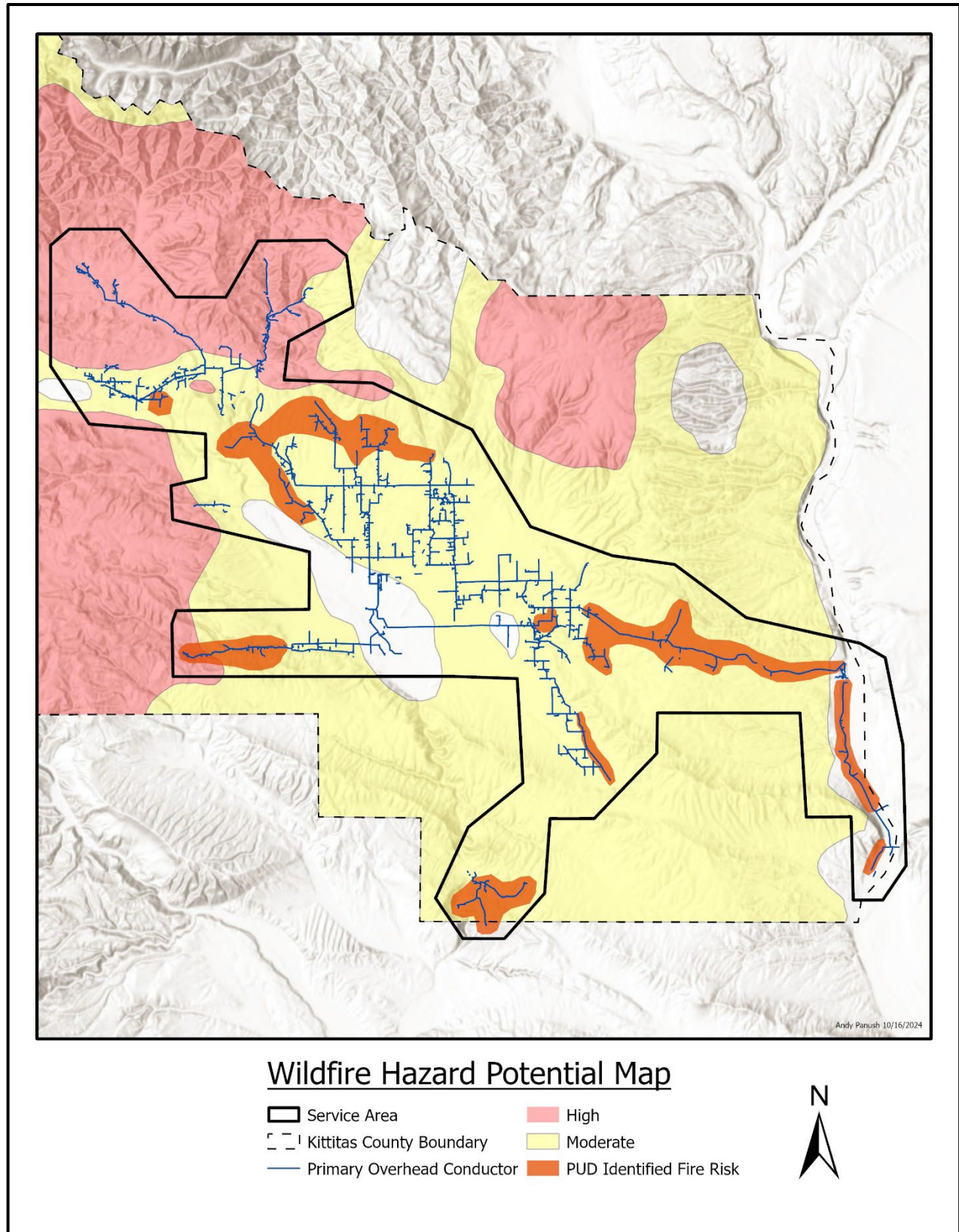
The Wildfire Hazard Potential (WHP) risk map is derived from a 270-meter resolution raster geospatial product created by the USDA/USFS/Fire Modeling Institute. The specific dataset used is the Wildfire Hazard Potential¹ Version 2020, which is the third edition of the WHP product and depicts landscape conditions of the conterminous United States as of the end of 2014.

Additionally, the Kittitas PUD GIS department has added a specific dataset identifying areas significant grassland risk areas subject to repeated wildfire incidents. The objective of the map was to depict relative potential for wildfire that would be difficult for suppression resources to contain and for long-term strategic fuels management planning. On its own, WHP is not an explicit map of wildfire threat or risk, but when paired with spatial data depicting highly valued resources and assets such as structures or powerlines, it can approximate relative wildfire risk to those specific resources and assets.

The data described here are derived from wildfire simulation modeling, and their exact accuracy cannot be measured. They are intended to be relative measures of wildfire risk for planning purposes.

¹ Product citation: Dillon, Gregory K. 2015. *Wildfire Hazard Potential (WHP) for the conterminous United States (270-m GRID), version 2020 classified. 3rd Edition. Fort Collins, CO: Forest Service Research Data Archive.* <https://doi.org/10.2737/RDS-2015-0047-3>

Figure 3. Wildfire Hazard Potential



4.0 Objectives of the Wildfire Mitigation Plan

The main objective seeks to implement an actionable plan to create increased reliability and safety while minimizing the likelihood that Kittitas PUD No.1 assets may be the origin or contributing factor in the ignition of a wildfire. This plan was developed to be consistent with current industry best management practices, will comply with current Washington State law, and National Electric Safety Code (NESC) regulations and guidelines. To help develop the Plan, Kittitas PUD compared emerging technologies that not only reduce the likelihood of a service interruption, but also minimize the risk of ignition from the fault causing the outage.

The secondary objective is to measure the effectiveness of the specific wildfire mitigation strategies. Where a particular action, program component or protocol proves unnecessary or ineffective, Kittitas PUD will assess whether modification or replacement is suitable.

4.1 *Minimizing likelihood of ignition*

The Kittitas PUD has adopted seven main mechanisms that align with best practices to provide a comprehensive wildfire preparedness and response plan. These mechanisms or strategies are listed below but are explained and described in Section 7 of this plan.

- Weather Monitoring
- Design and Construction Standard Improvements
- Fuel and Vegetation Management
- Asset Inspection, Maintenance, and Replacement
- Workforce Training
- Situational and Conditional Awareness
- Response and Recovery

4.2 *Resiliency of the electric grid*

The Kittitas PUD No.1 is staffed Monday to Friday during standard business hours. The PUD doesn't currently have a 24/7 dispatch center or an outage management system to notify staff when an outage occurs. The PUD utilizes a call center for customers to report incidents and outages who contact management for dispatch of line crew personnel when necessary.

For the last ten (10) years the District Capital plan has focused on substation and feeder redundancy. This improvement provides the District with operational flexibility to shift load sources when large outages occur. While not available in all areas of the District system, significant improvements have been completed improving power restoration times. Additionally, the District has begun the implementation of both SCADA and AMI improvements. The District expects these improvements to help the District in anticipating problem areas and resolving them before they become hazards or permanent outages.

5.0 Roles and Responsibilities

The Kittitas PUD is governed by a three-member Board of Commissioners, which is responsible for the legislative and fiscal control of the District. The elected Commissioners serve a six-year term and rotate

through the officer positions of Secretary, Vice-President, and President every two years. The Commissioners appoint the General Manager to oversee the daily operations and management of the Kittitas PUD. The Commissioners also approve budgets, adopt regulations, set policy, and provide the guiding financial and operating principals of the Kittitas PUD.

5.1 Utility Roles and Responsibilities

Utility roles and responsibilities for plan implementation and general communications is described below:

- The Board of Commissioners make policy decisions relative to the utility – they will be responsible for approving and adopting the Wildfire Mitigation Plan.
- The General Manager directs management staff responsible for operations, customer service and finance. The General Manager is responsible for ensuring that this WMP meets all public agency guidelines and PUD goals to mitigate the risk of its assets becoming the source or contributing factor of a wildfire.
- The Engineer will be responsible for spearheading discussions and collaborating on solutions to be included in the WMP and the PUD Capital Plan.
- The Operations Manager supervises the service crew, line crew, tree crew, etc. and will be responsible for monitoring and auditing the targets specified in the WMP to confirm that the objectives of the WMP are met, as well as the implementation of the plan in general.
- The Public Information Officer (PIO) is responsible for communicating with public safety, media outlets, public agencies, first responders, local Office of Emergency Management, and health agencies during an emergency or planned maintenance outages.

5.2 Coordination with local utility and infrastructure providers

The Kittitas PUD No.1 interacts with other local utility and infrastructure providers at multiple levels. These activities include pre-fire season and pre-emergency efforts to ensure the District is prepared for potential emergencies. Additionally, the District management maintains annual mutual aid contracts with other utilities in the region, as well as, multiple storm and emergency response contracts with electrical line contractors in the area to ensure resources are available to respond to all potential emergencies. The District utilizes procedures and protocols for response to power restoration and wildfires. Additionally, the District sends personnel in response to support requests from police and fire agencies.

5.3 Coordination with local Tribal entities

The Kittitas PUD No.1 has not coordinated with the Yakama or Wanapum Tribes in the region regarding the District Wildfire Mitigation Plan or to identify a potential impact. The District does not anticipate the Tribes to be impacted or have emergency response needs in the event of a wildfire scenario.

5.4 Emergency Management / Incident Response Organization

In response to active emergencies and incidents, Kittitas PUD No.1 coordinates and collaborates with the local Department of Emergency Management (DEM) and relevant state agencies as a peer partner. During such emergencies, Kittitas PUD No.1 provide a utility representative to the county and/or city DEM to ensure effective communication and coordination.

Kittitas PUD No.1's primary coordination point is Kittitas County DEM, which in Kittitas County is administered by the Sheriff's office with the county Sheriff designated as the Director of Emergency Services. Kittitas PUD No.1's Operations Manager contact the local DEM and establish themselves as the duty officer for coordination. The Operations Manager, Engineering Manager or General Manager acts as the communications officer during an emergency.

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

In order to establish a baseline understanding, the Kittitas PUD staff examined all aspects of exposure to fire hazards related to construction and operation activities of the Kittitas PUD plus the inherent risks associated with the Kittitas PUD service area. Identifying these risk drivers will help the PUD to plan strategies to mitigate these risks.

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

Kittitas PUD staff examined asset locations and recognized risk drivers unique to the Kittitas PUD service area. The types of risk drivers identified are as follows:

- Climate (high winds, high temperature, dry weather / low humidity)
- Vegetation Types / fuels (dead or dying trees, tall dry grasses or sagebrush)
- Lightning
- Inaccessible and steep terrain

6.2 Enterprise-wide Safety Risks

Kittitas PUD staff evaluated other utility's fire causes and applied its own field experience to determine the critical potential risk drivers. The categories listed below were identified as having the potential for causing powerline sparks and ignitions:

- Foreign contact (both vegetation and wildlife)
- Equipment/facility failure
- Vehicle/Equipment impact
- Standard expulsion fuses
- Cross-phasing (also called wire-slap)
- Age of assets (deteriorated or undersized equipment/facilities)
- Legacy tree attachments
- Vandalism

7.0 Wildfire Preventative Strategies

The Kittitas PUD has developed preventative strategies and programs to minimize the risk of its assets as a potential ignition source of wildfires. These plans are detailed more specifically in the proceeding section.

7.1 *Weather Monitoring*

7.1.1 **Current Strategy Overview**

Kittitas PUD No.1 will rely on various resources to monitor evolving fire weather and climatological conditions that may lead to fire events. Sources for weather information include, but are not limited to the following:

- **USFS-Wildland Fire Assessment System (WFAS):** For immediate and short-term situational awareness, mapping tools from the USFS-WFAS help determine daily and short-term forecasted risk, with daily or weekly fire weather status maps produced as needed to assess PNW wildfire conditions. <https://www.wfas.net>
- **Fire Environment Mapping System (FEMS):** The FEMS application called Field Sample Database (FSD) provides hourly data of fuel moisture information and other enhanced features. <https://fems.fs2c.usda.gov>.
- **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. (https://www.spc.noaa.gov/products/fire_wx/)
- **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. (<https://www.wrh.noaa.gov/map/?wfo=psr>)

7.1.2 **Planned Updates**

No changes planned during the next 3 years.

7.2 *Design and Construction Standards*

7.2.1 **Current Strategy Overview**

The Kittitas PUD No.1 has revised and updated the District construction standards and Detail any system design include resilience and hardening practices or other efforts for purposes of wildfire mitigation.

Below is a list of design and construction standard improvements since the adoption of the WMP in 2023.

- Updated construction standards with increased wire spacing, non-expulsion fuses, shorter spans
- Replacement of existing fuses with non-expulsion fuses in high fire risk areas
- Installation and maintenance of wildlife protection and cover of all exposed energized parts
- Fire mitigation construction projects to relocate or underground high risk lines
- Fire hardening projects to protect wood poles with resistant materials
- AMI and SCADA to monitor momentary outages “blinks” for proactive response

7.2.2 **Planned Updates**

The District may consider the installation of new non-wood poles to help the resiliency of the system during an active fire. These efforts have not been prioritized because they are not preventative. This WMP

developed by the District focuses on preventative design and construction standards to help mitigate possible sources of ignition.

7.3 Fuel & Vegetation Management

7.3.1 Current Strategy Overview

State and Federal Agencies require maintenance of the right-of-way (ROW) under or around the Kittitas PUD No.1's power lines. Kittitas PUD No.1 is authorized by RCW 64.12.035 to trim or remove any tree or vegetation that poses an imminent hazard to the public or is a potential threat that could damage electric facilities. Kittitas PUD No.1 contracts tree trimming crews for vegetation management work, as needed. The tree-trimming crews are responsible for trimming trees and vegetation around Kittitas PUD No.1's energized power lines, utility poles and pad-mount transformers to obtain clearance with due regard to current and future tree health and symmetry. The District will meet the minimum standards for conductor clearances from vegetation to provide safety for the public and utility workers, reasonable service continuity and fire prevention.

Vegetation management (WM) operations are scheduled to ensure all lines are cleared of vegetation hazards on a 3-year timeline. During tree work, contractors aim to achieve the clearance specifications described below:

- **OH Distribution:** 10 feet from the closest conductor
- **Distribution ROW (defined width):** 10 feet between the closest conductor and the rooted tree stem. Defined 30 feet width ROWs are necessary for cross-country corridors.
- **Trees Under Conductors:** Trees that are under conductors should have crowns reduced to a height 10 feet below the primary conductors or be removed.
- **Overhanging Branches:** Removed to a height of 10 feet above all distribution conductors and from conductor to sky on all transmission lines.
- **Service Wire:** Branches that deflect or weigh heavily upon service or other insulated secondary wires beyond the last Kittitas PUD No.1 pole are removed, but not pruned in their entirety.

Kittitas PUD No.1 personnel and contractors perform annual, ground-based inspections of tree conductor clearances and hazard tree identification for Kittitas PUD No.1 ROWs and easements. Identified work is reported to the PUD operations department and tracked through the District GIS mapping platform. Kittitas PUD No.1 contracts full-time tree trimming crews for year-round vegetation management work. Proactive maintenance during routine operations and prompt action during emergency events maintain system reliability, a safe work environment, and reduces fire danger. Scheduled patrols ensure all lines are inspected for vegetation hazards and systematically trimmed. On-going, year-round field patrols identify targeted areas for vegetation pruning or removal and ensure compliance with state and federal regulatory requirements.

Kittitas PUD No.1's contractors follow American National Standards Institute (ANSI) A300 concepts and utility directional pruning, which supports proper pruning/tree health while achieving and maximizing the pruning cycle.

Table 3. Vegetation Management Schedule

Asset Classification	Operation Type	Frequency
7.2 kV – 34.5 kV Overhead Distribution	Routine Trimming	3-year Cycle
7.2 kV – 34.5 kV Overhead Distribution	Fast Growing Mid-cycle Trimming	Annually

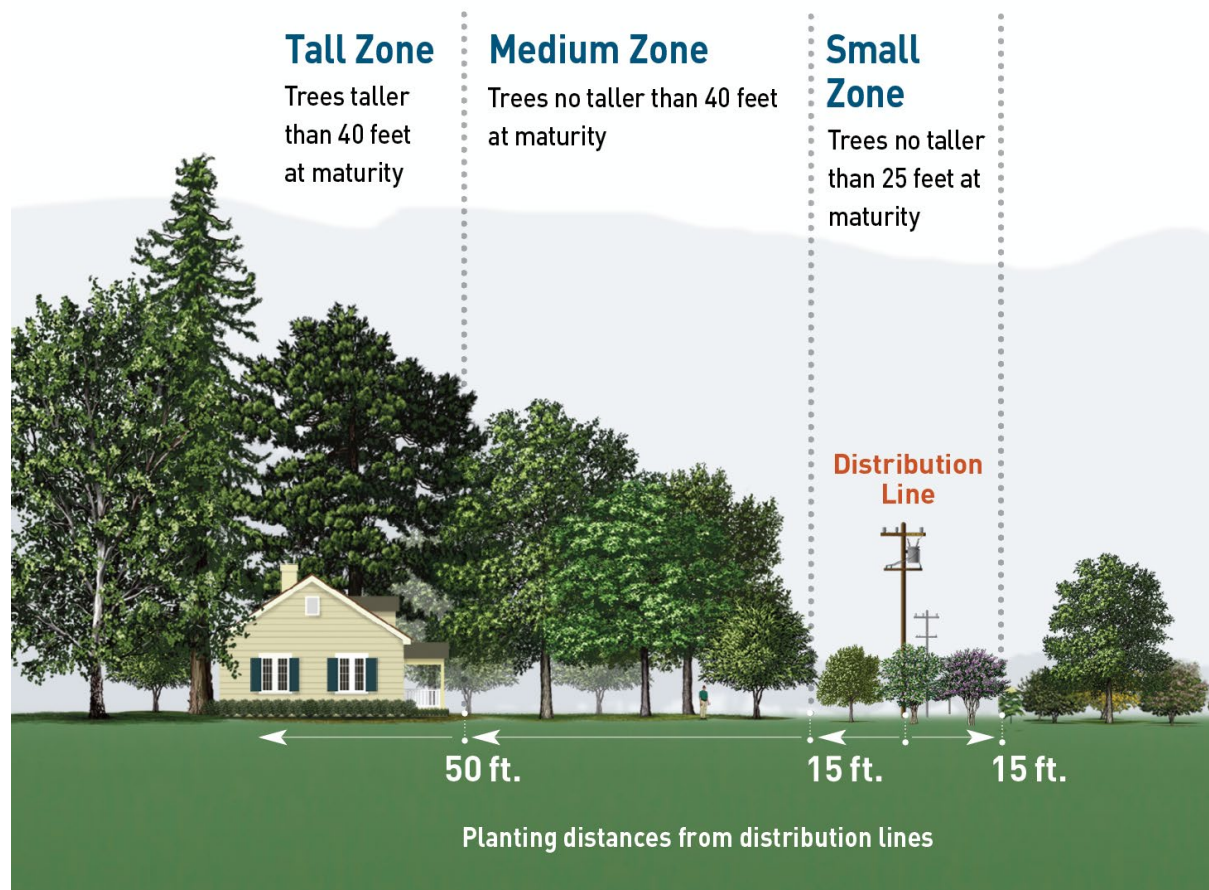
A Hazard Tree is defined as any tree or portion of a tree that is dead, rotten, decayed, or diseased and which may fall into or onto the overhead lines or trees leaning toward transmission and distribution facilities. These trees are sometimes located beyond the easement or ROW. The District may notify the landowner of any danger trees located outside of the ROW and deemed to be a hazard. Removal or topping of the hazard trees to make them safe for conductors shall be the responsibility of the land-owner or responsible agency.

A hazard tree will have one or more of the following characteristics:

- Dead or dying - all dead or dying trees along, or outside the Kittitas PUD No.1 right-of-way may be removed depending on the height of tree and the direction of the lean.

Leaning trees - trees that have such a lean toward the right-of-way that they cannot be trimmed without removing the tops and slanting the tree back. Removal depends on height and species of the tree and direction of the lean.

In addition to the annual patrols by Kittitas PUD No.1 field staff observing and reporting on incompatible uses and encroachments, Kittitas PUD No.1 make efforts to educate public and private landowners about incompatible vegetation that can pose risks if planted under or near conductors. Kittitas PUD No.1’s website provides guidance on “Right Tree/Right Place”, as well as answers to tree trimming frequently asked questions.



Work performed to the above guidelines provides reasonable service continuity, public safety, and guards against wildfire damage caused by supply conductors. Consideration is given to the impact of pruning on power line reliability, individual tree condition, and tree aesthetics.

7.3.2 Planned Updates

The Kittitas PUD No.1 will monitor the effectiveness of the above trim cycles and management practices. The District has demonstrated a willingness to explore new technologies and best management practices. As resources are available, the Kittitas PUD No.1 may continue to integrate these technologies or practices. The District may explore these technologies as they become more available, affordable, and sophisticated. Additionally, the District plans to work closely with land-owners in high risk areas to completely remove all trees and vegetation requiring mid-cycle trimming annually.

7.4 Asset Inspections and Response

7.4.1 Current Strategy Overview

Recognizing the hazards of equipment that operate high voltage lines, Kittitas PUD No.1 maintains a formal inspection and maintenance program for distribution and substation equipment which plays an essential role in wildfire prevention. Kittitas PUD No.1 currently patrols its system regularly and is

increasing the frequency of inspections in high-risk areas. Table 4 summarizes the inspection schedule for all assets, while the following sections outline inspection practices for the utility.

Table 4. Inspection Program Summary

Asset Classification	Inspection Type	Frequency
Overhead Distribution	Routine Safety Patrol Inspection	Every year
	Detailed Inspection	Every 5 years
Underground Distribution	Routine Safety Patrol Inspection	Every year
	Detailed Inspection	Every 5 years
Substations	Routine Safety Patrol Inspection	Monthly
	Detailed Inspection	Annually

Routine Safety Patrol Inspection: District line crews’ complete safety patrol inspections the course of other company business or from information reported by a member of the public. A simple visual inspection of applicable utility equipment and structures designed to identify obvious structural problems and hazards. Information gathered will be used to identify and prioritize maintenance work and capital replacement projects, especially in High-Risk Areas.

Detailed Inspection: The Kittitas PUD No.1 completes detailed facilities inspections every 5 years or as appropriate. The details records are stored electronically and tracked in the District GIS mapping platform. The GIS map help the District ensure all structures, associated equipment, hardware, and right-of-way are inspected routinely. Information gathered will be used to identify and prioritize maintenance work and capital replacement projects, especially in High-Risk Areas.

These precautionary inspections are intended to identify items which must be corrected to maintain safe and reliable service and include information regarding deficiency correction. The following is a listing of items checked while performing detailed inspections:

- Low clearance of primary conductor, secondary wires, and service drops
- NESC Violations
- Non-standard equipment scheduled to be replaced (live-front equipment)
- Excessive splicing
- Objects too close to electric lines including trees and vegetation
- Missing or loose hardware and braces
- Encroachments
- Vandalism
- Physical damage to facilities
- Deterioration of facilities
- Exposed facilities
- Bird nests
- Conductor spacing
- Missing or damaged wildlife protection

- Joint-use contacts
- Device tagging
- Missing hazard signage
- Missing or broken down-guys or down-guy markers

Substation Inspection: The Kittitas PUD No.1 requires regular inspections of the District's substations. Routine visual inspections are completed on a 30-day cycle while a full inspection and testing are completed annually or as needed or recommended. Qualified personnel will use prudent care while performing inspections following all required safety rules to protect themselves, other workers, the public, and the system's reliability.

The monthly visual substation inspection involves a thorough look at the system to confirm that there are no structural or mechanical deficiencies, hazards, or repair requirements. Individual pieces of equipment and or structures receive careful visual examination and routine diagnostic tests as appropriate.

Prioritization of Repairs: Kittitas PUD No.1 considers and prioritizes maintenance work by assessing the most urgent needs. The individual performing the inspections will document the overhead and underground systems' condition, recording defects, deterioration, violations, safety concerns, or any other factors requiring attention on the inspection records. The inspection shall focus on any hazards that could affect the system's integrity or the safety of line workers and the public.

Inspection data (overhead & underground) will be prioritized and issued as follows:

Priority # 1 – Immediate hazard: Conditions that may affect the integrity of the system or present a hazard to workers or the public. Priority #1 will be responded to **immediately** and appropriate action taken until the hazardous condition is remedied.

Priority # 2 – Non-emergency repair condition: Conditions that require maintenance that can be scheduled to maintain the integrity of the system. Priority #2 will be prioritized by urgency and will be scheduled to have appropriate repairs made to correct the condition within two years where practicable.

Priority # 3 – Non-emergency repair condition: Conditions that do not present a situation that could jeopardize the safety of the system, line workers and the public. Priority #3 will be submitted by the individual performing the inspections with the time interval recommended. In the judgment of the Operations Manager, the work will be scheduled to be completed in a reasonable amount of time.

7.4.2 Planned Updates

The Kittitas PUD No.1 plans to track and monitor the data gathered from the above inspection processes by requiring routine reporting of identified hazards and actions to ensure maintenance work is being completed appropriately. Management will look for trends in hazards identified as well as the effectiveness of the remediation actions. Management may change the inspection cycles or add specific hazards currently not being identified during the detailed inspections.

7.5 Workforce training

7.5.1 Current Strategy Overview

The Kittitas PUD No.1 utility personnel responsible for the management, response and coordination of the wildfire mitigation plan conduct a pre-wildfire season preparation meeting to ensure the District is properly prepared, usually conducted in early spring. This WMP is reviewed at this meeting to ensure all participant understand their responsibilities and the District is meeting the expectations of the plan. Then in late fall, after the fire season is over, the utility personnel complete a “lessons learned” review to identify any short-comings or improvements needed in the District mitigation efforts.

7.5.2 Planned Updates

Future updates may require emergency management training to utility personnel responsible for the execution of this plan. However, the Kittitas PUD No.1 is a small utility with limited staffing available to manage and carry out this mitigation plan effectively. District employees have multiple responsibilities at the District, limiting their ability to meet all the expectations of this plan. Future improvements could include additional staffing, agency partnerships, or contracted support assigned specifically to administer this plan and develop improvements.

7.6 Relay and Recloser Practices

7.6.1 Current Strategy Overview

Each fire season the Kittitas PUD will adjust recloser settings in high-risk areas to either “one shot” or “non-reclose”. The impact of adjusting these settings will increase the number of line worker dispatch events and lengthen outage restoration times and increase cost to the District. However, the adjustment during the fire season will reduce the risk of wildfire ignition from automatic reclosing actions. Reclosers without electronic controls and communication will require the settings to be done manually by Kittitas PUD personnel.

7.6.2 Planned Updates

The Kittitas PUD No.1 will monitor and assess the effectiveness of the above recloser practices. As technology advances and communication with field equipment improves, the District may implement additional procedures and/or new technology which helps reduce the potential of wildfire ignition from automatic recloser action. The above practice results in longer and costly extended outage times.

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. When considering de-energization, Kittitas PUD No.1 considers the impacts on fire response, water supply, public safety, and emergency communications.

Kittitas PUD No.1 considers the external risks and potential consequences of de-energization while striving to meet its main priority of protecting the communities and members 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.
- 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 can lead to injuries and fatalities.

The risks and potential consequences of initiating a PSPS are significant and extremely complex. Based on the above considerations, Kittitas PUD No.1 reserves the option of implementing a PSPS when conditions dictate. While Kittitas PUD No.1 believes the risks of implementing a PSPS far outweigh the chances of its electric overhead distribution system igniting a catastrophic wildfire, the PSPS provides a last resort tool and another mitigation option in a potential crisis.

On a case-by-case basis, Kittitas PUD No.1 will consider de-energizing a portion of its system in response to a request from an outside emergency management/response agency. The final determination is made by Kittitas PUD No.1. A Public Safety Power Shutoff will only be done as a last resort during the most extreme fire danger conditions. Importantly, no single factor will drive the PSPS. Kittitas PUD No.1 will take a combination of many criteria into consideration including:

- **“Extreme” fire danger threat level**, by the USFS-Wildland Fire Assessment System
- **A Red Flag Warning declared** by the National Weather Service
- **Low humidity levels**
- **Sustained winds**
- **Site-specific conditions** such as temperature, terrain and local climate
- **Critically dry vegetation** that could serve as fuel for a wildfire
- **On-the-ground, real-time observations** from Kittitas PUD No.1 field crews

7.7.2 Planned Updates

The Kittitas PUD No.1 does not have any current plans to update the PSPS strategy. The District will monitor the effectiveness of the current PSPS program. One suggested improvement would be to provide more community outreach and public awareness of the Kittitas PUD No.1 PSPS approach, especially if it is different than other utilities with presence in our County.

8.0 Community Outreach and Public Awareness

8.1 Current Community Outreach and Public Awareness Program

The Kittitas PUD No.1 adopted its first Wildfire Mitigation Plan in March of 2023 after multiple public meetings and discussions. The District sought public comment and involvement in the establishment of the plan.

The Wildfire Mitigation Plan be reviewed and updated every three years using this same transparent method our customers and members of the public appreciate and expect from the District.

The Kittitas PUD No.1 is staffed Monday to Friday during standard business hours. The PUD doesn't currently have an outage management system to notify staff when an outage occurs. The PUD rely's on customers to report outages or power fluctuations. The PUD utilizes a call center for customers to report incidents and outages who contact management for dispatch of line crew personnel when necessary. When an outage exceeds the minimum threshold for notification (currently 50 customers minimum), management sends out notification on the PUD social media platform and PUD phone system, when possible. Additionally, customers who call in to the PUD call center, can request follow-up notification for active outages.

The Kittitas PUD No.1 uses several methods to communicate planned outages. These include physical signage, press releases, radio announcements, email messages, phone calls, automated phone message, mailers, social media posts and statement messages.

The Kittitas PUD No.1 does not expect to utilize the PSPS except as a last resort. As such, early notification prior to a PSPS event may not be possible. A PSPS event would be handled the same as a unplanned outage with one exception, the PUD would be coordinating with the local Department of Emergency Management and communicating the recommended PSPS.

The Kittitas PUD No.1 provides information on their website and social media regarding wildfire safety and emergency preparedness. The following topics are published and available to the public:

- Fire Season Preparation
- Defensible Space Guidelines for Property Owners
- Emergency Planning
- Right Tree/Right Place

8.2 Planned Updates

Future customer communication goals:

- Text notifications
- Outage Management System (upon the completion of SCADA and AMI projects)
- Outage Map on website

9.0 Restoration of Service

If an outside emergency management/emergency response agency requests a power shutdown, or if Kittitas PUD No.1 elects to de-energize segments of its system due to extreme weather, Kittitas PUD No.1 staff will patrol the affected portions of the system before the system can be re-energized. Suspect equipment or distribution lines that cannot immediately be patrolled will remain de-energized until Kittitas PUD No.1 staff can do so. Poles and structures damaged in a wildfire must be assessed and rebuilt as needed prior to re-energization. Periodic customer and media updates of restoration status prior to full restoration will be made.

After a wide-spread outage, Kittitas PUD No.1 work crews take the following steps before restoring electrical service after a de-energization event. These measures intend to protect the worker, members, the public, and the system's reliability.

- **Patrol:** Crews patrol every de-energized line to ensure no hazards have affected the system during the outage. If an outage is due to wildfire or other natural disasters, as soon as it is deemed safe by the appropriate officials, crews inspect lines and equipment for damage, foreign contacts and estimate equipment needed for repair and restoration. Lines located in remote and rugged terrain with limited access may require additional time for inspection. Kittitas PUD No.1 personnel assist in clearing downed trees and limbs as needed.
- **Isolate:** Isolate the outage and restore power to areas not affected.
- **Repair:** After the initial assessment, Kittitas PUD No.1 staff meet to plan the needed work. Rebuilding commences as soon as the affected areas become safe. Repair plans prioritize substations facilities, then distribution circuits serving the most critical infrastructure needs. While the goal to reenergize all areas is as soon as possible, emergency services, medical facilities, and utilities receive first consideration when resources are limited. Additional crew and equipment are dispatched as necessary.
- **Restore:** Periodic customer and media updates of restoration status before full restoration are posted on social media platforms and Kittitas PUD No.1's website. After repairs are made, power is restored to homes and businesses as quickly as possible.

10.0 Evaluating the Plan

The Wildfire Mitigation Plan will be reviewed periodically for the purpose of updating the plan as needed to reflect knowledge gained and modified accordingly. A more formal review will be done every 3 years in coordination with Kittitas PUD No.1's strategic planning.

10.1 Metrics and Assumptions for Measuring Plan Performance

Reports and metrics used to measure and benchmark the effectiveness of Kittitas PUD's wildfire mitigation efforts described in the WMP are still being developed. Copies of these metrics, reporting, and tracking will be attached in Appendix A in future versions of the WMP.

10.2 Identifying and Addressing Areas of Continued Improvement in the Plan

The General Manager is expected to bring progress updates, unforeseen circumstances, regulatory changes, emerging technologies, or deficiencies within the WMP to be sought out and reported to the Board of Directors as needed.

Kittitas PUD No.1 staff, contractors, and qualified stakeholders are encouraged to bring any potential deficiencies to the attention of the Engineering Manager for inclusion in the WMP and PUD capital plan.

The Operations Manager, along with the appropriate staff, will evaluate each reported deficiency, and if determined to be valid, shall record the deficiency for further action.

10.3 Monitoring the Performance of Inspections

See Section 7.4 above. The Kittitas PUD No.1 plans to track and monitor the data gathered from the above inspection processes by requiring routine reporting of identified hazards and actions to ensure maintenance work is being completed appropriately. Management will look for trends in hazards identified as well as the effectiveness of the remediation actions.

The Kittitas PUD No.1 Operations Manager is responsible for monitoring inspection and corrective maintenance records as well as diagnostic test results. The percentages below.

- Inspections of new and repaired installation: Annually, operations shall review of 100% of project documentation completed, physically inspect 10% of all such work performed prior to project closing to ensure construction is completed properly.

The Kittitas PUD No.1 Operations Manager is responsible for the quality control processes in place to ensure the tree trimming work is providing adequate clearance of vegetation from power lines and hazard tree identification. The quality assurance checks ensure the inspections, record keeping, and repairs are being properly conducted and complete.

Appendix A.

WILDFIRE MITIGATION PLAN DISCLAIMER

The information provided in this report was developed by Kittitas PUD No.1 staff and is intended for Kittitas PUD No.1's internal planning purposes only. Kittitas PUD No.1 does not warrant the accuracy, reliability, or timeliness of any information in this report, and assumes no liability for any errors, omissions, or inaccuracies in the information provided. Kittitas PUD No.1 shall not be held liable for losses caused by using this information. Portions of the data may not reflect current conditions. Any person or entity who relies on any information obtained from this report, does so at their own risk. This report is presented solely for internal use AS-IS by Kittitas PUD No.1 staff. Kittitas PUD No.1 make no representations or guarantees expressed or implied regarding the accuracy or completeness of the report.

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Benchmarking, Metrics, and Reports

The Kittitas PUD completes multiple reports related to the WMP. These reports will be available upon request and are listed here for reference;

- Distribution Inspections Report
- Vegetation and Tree Trimming Report
- Reliability Report
 - o SAIDI – System Average Interruption Duration Index
 - o SAIFI – System Average Interruption Frequency Index
 - o ASAI – Average System Availability Index
 - o CAIDI – Customer Average Interruption Duration Index
- Capital Budget Report (Wildfire Mitigation Projects Completed)











2024 Board Resolution 1208 - Adopt the Wildfire Mitigation Plan Update

Final Audit Report

2024-10-31

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