Exhibit V
Wildfire Prevention and Risk Management

Umatilla-Morrow County Connect Project

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Application for Site Certificate

May 2025

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ATTACHMENTS

ACRONYMS AND ABBREVIATIONS

EFSC or Council	Energy Facility Siting Council
OAR	Oregon Administrative Rule
Project	Umatilla-Morrow County Connect Project
Project Order	Administrative Rules, and Other Requirements Applicable to the Proposed Umatilla-Morrow County Connect Project (First Amended Project Order; April 04, 2024)
UEC	Umatilla Electric Cooperative

1.0 INTRODUCTION

Exhibit V identifies the wildfire risk of the Umatilla Morrow County Connect Project (Project) analysis area. Umatilla Electric Cooperative's (UEC's) high-voltage transmission lines, including the Project, are designed, and maintained, with fire-hardening in consideration. Exhibit V describes the baseline and seasonal wildfire risk as well as areas subject to heightened risk of wildfire and areas of high-fire consequence. Further, Exhibit V provides a Wildfire Mitigation Plan that will guide the strategies employed to reduce the probability of and mitigate the damage of wildfire to UEC facilities.

2.0 ANALYSIS

Oregon Administrative Rule (OAR) 345-022-0115(1)(a) requires the applicant to adequately characterize wildfire risk within the analysis area using current data from reputable sources. Per OAR 345-001-0010(34)(c), the analysis area for wildfire risk is the Project site boundary plus the area within one half-mile of the Project site boundary. UEC has requested that the Oregon Department of Energy (ODOE) allows UEC to rely on data and reports from the Oregon Wildfire Risk Explorer (ODF et al. 2022) to satisfy the requirements of OAR 345-022-0115(1)(a). The statewide wildfire risk map was developed (and will be updated and maintained) per requirements under Senate Bill 762 and associated administrative rules. The map shows the assigned risk classification (extreme, high, moderate, low, and no-risk) for every tax lot in the state.

2.1 Dynamic Modeling Data Inputs

> OAR 345-021-0115(1)(a)(E): All data sources and methods use to model and identify risks and areas under sections 3.1 – 3.4.

As of August 4, 2022, the statewide wildfire risk map (originally published on June 30, 2022, as an outcome of Senate Bill 762) has been withdrawn for updates. The Oregon Wildfire Risk Explorer website that hosts the wildfire risk map currently provides the 2018 Quantitative Wildfire Risk Assessment data which includes the following layers:

- Hazard to Potential Structures
  - Hazard to Potential Structures shows impact levels to structures within 150 meters of a burnable fuel type, as if structures were present, and if a wildfire occurs. This data is based on modeled vegetation and not on building construction materials.
  - Most of the area within the Project site boundary is mapped as low hazard to potential structures with some discrete areas showing moderate to high hazard to potential structures (see Figure V-1).
  - Most of the area within the analysis area and outside the Project site boundary is mapped as low to very low hazard to potential structures (see Figure V-1).

- Burn Probability
  - Burn Probability is the likelihood of a wildfire greater than 250 acres burning a given location, based on wildfire simulation modeling. This is an annual burn probability, adjusted for consistency with the historical annual area burned. Viewing small local fires in conjunction with this data may provide a more comprehensive view of local fire history and potential.
  - Most of the Project site boundary area is mapped as high, moderate-high, moderate, or moderate-low burn probability. (See Figure V-2)
- Vegetation Type
  - The Vegetation type layer is derived from a LANDFIRE (2010) dataset, where existing vegetation is mapped using predictive landscape models based on extensive field reference data, satellite imagery, biophysical gradient layers, and classification and regression methods. This data represents the current distribution of terrestrial ecological systems, a group of plant community types that tend to co-occur within landscapes with similar ecological processes, substrates, and/or environmental gradients. This type of data provides the basis for fuel models used in wildfire risk assessment and other wildfire modeling.
  - Most of the Project site boundary is mapped as shrubland, agricultural, and developed (see Figure V-3).
- Average Flame Length
  - Average Flame Length shows predicted average flame length based on local fuel and weather conditions. Flame lengths have potential to exceed the mapped values shown, even under normal weather conditions.
  - Flame length is commonly used as a direct visual indication of fire intensity and is a primary factor to consider for firefighter safety and gauging potential impacts to resources and assets. It can also guide mitigation work to reduce the potential for catastrophic fires by showing where work can be done to reduce higher potential flame lengths and fire intensities.
  - Most of the Project site boundary Area is mapped with an average flame length of either four to eight feet or less than four feet (see Figure V-4). The Oregon Wildfire Risk Explorer indicates that fires with a flame length of four to eight feet generally have moderate intensity under normal weather conditions. Fires with a flame length below four feet are generally low intensity under normal weather conditions.
- Fire History and Active Fires
  - The Oregon Wildfire Risk Explorer provides several datasets, including fire locations from 1992 to 2019, fire perimeters from 2000 to 2021, and current fire points and perimeters.
  - No historic, active fire locations, or perimeters occurred within the Project site boundary or analysis area at the time this application was prepared.

Based on the information above, low-density development, agricultural land use, and flat topography in the analysis area, responses to each of the factors under OAR 345-022-0115(1)(a) are provided below.

2.2 Baseline Wildfire Risk

OAR 345-022-0115(1)(a)(A): The applicant shall include: Baseline wildfire risk, based on factors that are expected to remain fixed for multiple years, including but not limited to topography, vegetation, existing infrastructure, and climate.

Based on the relatively flat terrain, low-density infrastructure, and shrubland/agricultural vegetation, the baseline wildfire risk within the Project site boundary is moderate. Areas outside the site boundary also have a moderate baseline wildfire risk due to the same factors.

2.3 Seasonal Wildfire Risk

OAR 345-022-0115(1)(a)(B): Seasonal wildfire risk, based on factors that are expected to remain fixed for multiple months but may be dynamic throughout the year, including but not limited to, cumulative precipitation and fuel moisture content.

The seasonal wildfire risk within the Project site boundary and analysis area is moderate based on the dry seasonal climate and low average rainfall during the summer months.

2.4 Heightened Wildfire Risk Areas

OAR 345-022-0115(1)(a)(C): Areas subject to a heightened risk of wildfire, based on the information provided under sections 3.1, 3.2.

Based on the data available from the Oregon Wildfire Risk Explorer, the high and very high wildfire risk in the Project site boundary follows the railroad and access roads on the southern portion of CDA property. To the west of the CDA the wildfire risk is moderate to low. The lands immediately north, west, east, and south of the Project site boundary (within the analysis area) have a low or no wildfire risk as these lands are mostly irrigated agriculture. Risk of wildfire entering the Project site boundary from the east or west is low given the low wildfire risk in these irrigated agriculture areas. Risk of wildfire entering the Project site boundary from the south is very low given the low wildfire risk in these irrigated agriculture areas. Discreet corridors of very high and high wildfire risk has been assigned to the access roads on the Umatilla Chemical Depot to the north of the site boundary; however, average flame length is predicted to be below 8 feet on the Depot based on the Oregon Wildfire Risk Explorer data set, which means that under normal weather conditions, a fire in this area can be expected to be low intensity and is expected to be low to moderately difficult to control. Interstate-84 (I-84) would provide a fire break along the southern perimeter of the Project site boundary and given the low flame length predicted along this road, it would lower the risk of wildfire entering the Project site boundary from the south. Similarly, Interstate-82 and Highway 730 would provide a fire break along the eastern and western perimeter of the Project site boundary respectively.

2.5 High-Fire Consequence Areas

OAR 345-022-0115(1)(a)(D): High-fire consequence areas, including but not limited to areas containing residences, critical infrastructure, recreation opportunities, timber and agriculture resources, and fire-sensitive wildlife habitat.

Transmission line structures are subject to possible high fire consequence. There is the potential for wildfires damaging these structures and attachments (insulators and conductors).

The analysis area is rural and contains very few existing buildings. Outside the Project site boundary, the analysis area contains several houses, agricultural infrastructure, surrounding the Project site boundary, as well as irrigation infrastructure. These agricultural buildings and irrigation infrastructure may be considered areas of high fire consequence; however, these areas are identified as low to moderate hazard to potential structures as shown on Figure V-1. They are located within or adjacent to irrigated agricultural fields, which have a reduced fire hazard compared to the shrub/grassland vegetation within and north section of the Project site boundary.

3.0 UEC WILDFIRE MITIGATION PLAN

OAR 345-022-0115(1)(b): Exhibit V must also include a draft Wildfire Mitigation Plan that addresses construction and operation, for the proposed facility. The Wildfire Mitigation Plan must, at a minimum;

OAR 345-022-0115(1)(b)(A): Identify areas within the site boundary that are subject to a heightened risk of wildfire, using current data from reputable sources, and discuss data and methods used in the analysis;

OAR 345-022-0115(1)(b)(B): Describe the procedures, standards, and time frames that the applicant will use to inspect facility components and manage vegetation in the areas identified under sections 3.1, 3.2, 3.3, and 3.4.

OAR 345-022-0115(1)(b)(C): Identify preventative actions and programs that the applicant will carry out to minimize the risk of facility components causing wildfire, including procedures that will be used to adjust operations during periods of heightened wildfire risk. This should include a discussion of the use of defensible space, fire hardened infrastructure, and power shutoff protocols, as applicable.

OAR 345-022-0115(1)(b)(D): Identify procedures to minimize risks to public health and safety, the health and safety of responders, and damages to resources protected by Council standards if a wildfire occurs at the facility site, regardless of ignition- source; and

OAR 345-022-0115(1)(b)(E): Describe methods the applicant will use to ensure that updates of the plan incorporate best practices and emerging technologies to minimize and mitigate wildfire risk.

A wildfire mitigation plan was prepared in compliance with OAR 345-022-0115(1)(b) and is attached as Attachment V-5. The plan provides an overview of UEC's fire mitigation strategies, an outline of UEC's assets, risk analysis and risk drivers, wildfire prevention strategy and programs, emergency response procedures, and performance metrics and monitoring.

4.0 CONCLUSION

The Project meets the Energy Facility Siting Council's wildfire risk management standard set forth at OAR 345-022-0115. Exhibit V provides evidence that the potential wildfire risk introduced by construction and operation of the Project is low and would be reduced further by implementing actions presented in UEC's wildfire mitigation plan. In addition, Exhibit V provides evidence that the wildfire risk to the Project is minimal considering the surrounding irrigated agricultural lands and low-density fire fuel.

5.0 COMPLIANCE CROSS-REFERENCES

Table V-1 identifies locations within the application for site certificate for information responsive to OAR 345-022-0115 the Wildfire Risk Management Standard.

TABLE V-1. COMPLIANCE REQUIREMENTS AND RELEVANT CROSS-REFERENCES

REQUIREMENT	LOCATION
OAR 345-022-0115(1)(a)	
(E) All data sources and methods use to model and identify risks and areas under sections 2.1 – 2.4.	Exhibit V, Section 2.1
(A) The applicant shall include: Baseline wildfire risk, based on factors that are expected to remain fixed for multiple years, including but not limited to topography, vegetation, existing infrastructure, and climate.	Exhibit V, Section 2.2
(B) Seasonal wildfire risk, based on factors that are expected to remain fixed for multiple months but may be dynamic throughout the year, including but not limited to, cumulative precipitation and fuel moisture content.	Exhibit V, Section 2.3
(C) Areas subject to a heightened risk of wildfire, based on the information provided under sections 3.1, 3.2.	Exhibit V, Section 2.4
(D) High-fire consequence areas, including but not limited to areas containing residences, critical infrastructure, recreation opportunities, timber and agriculture resources, and fire-sensitive wildlife habitat.	Exhibit V, Section 2.5
OAR 345-0115(1)(b)	
(A): Identify areas within the site boundary that are subject to a heightened risk of wildfire, using current data from reputable sources, and discuss data and methods used in the analysis;	Exhibit V, Section 3.0 and Attachment V-5
(B): Describe the procedures, standards, and time frames that the applicant will use to inspect facility components and manage vegetation in the areas identified under sections 3.1, 3.2, 3.3, and 3.4.	Exhibit V, Section 3.0 and Attachment V-5
(C): Identify preventative actions and programs that the applicant will carry out to minimize the risk of facility components causing wildfire, including procedures that will be used to adjust operations during periods of heightened wildfire risk. This should include a discussion of the use of defensible space, fire hardened infrastructure, and power shutoff protocols, as applicable.	Exhibit V, Section 3.0 and Attachment V-5
(D): Identify procedures to minimize risks to public health and safety, the health and safety of responders, and damages to resources protected by Council standards if a wildfire occurs at the facility site, regardless of ignition- source; and	Exhibit V, Section 3.0 and Attachment V-5
(E): Describe methods the applicant will use to ensure that updates of the plan incorporate best practices and emerging technologies to minimize and mitigate wildfire risk.	Exhibit V, Section 3.0 and Attachment V-5

ATTACHMENT V-1 HAZARD TO POTENTIAL STRUCTURES

Path: G:\Projects\179233_UEC_730_Ordnance_EFSC\Apps\Reports\ASC_Figures_r2.aprx Figure V-1 Wildfire Hazard Potential Author: KES

Highway 730 Switchyard

Ordnance Switchyard

730

84

82

395

Paterson Ferry Rd

Co Rd 816 Depot Ln

Bombing Range Rd

Poleline Rd

Morrow County

Umatilla County

Bridge Rd

Agnew Rd

Powerline Rd

Prindle Loop Rd

Walker Rd

Westland Rd

Co 1325 Rd / Westland Rd

Co 1336 Rd

Noble Rd

Co 1334 Rd

Homestead Ln

207

WASHINGTON

Benton County

OREGON

Morrow County

Umatilla County

Project Components

- Project Endpoint
- Route
- Site Boundary
- Wildfire Risk Analysis Area (0.5 mile)

Existing Utilities

- Substation or Switchyard

Transmission Lines

- 500 kV
- 230 kV
- 115 kV
- 69 kV

Transportation

- Highway
- Local Road
- Railroad

Boundaries

- County

Wildfire Hazard Potential

Hazard to Potential Structures

- Very High
- High
- Moderate
- Low
- Non-burnable/Very Low

UMATILLA-MORROW COUNTY CONNECT PROJECT
APPLICATION FOR SITE CERTIFICATE

Figure V-1
Hazard to Potential Structures

0 0.5 1 1.5 2
Miles

N

POWER ENGINEERS MEMBER OF WSP

UEC UMATILLA ELECTRIC COOPERATIVE

Date: 2/11/2025

ATTACHMENT V-2 WILDFIRE BURN PROBABILITY

Path: G:\Projects\179233_UEC_730_Ordnance_EFSC\Apps\Reports\ASC_Figures_r2.aprx Figure V-2 Wildfire Burn Probability Author: KES

Highway 730 Switchyard

Ordnance Switchyard

730

84

82

207

Paterson Ferry Rd

Co Rd 816

Depot Ln

Bombing Range Rd

Poleline Rd

Morrow County

Umatilla County

Bridge Rd

Agnew Rd

Powerline Rd

Prindle Loop Rd

Walker Rd

Westland Rd

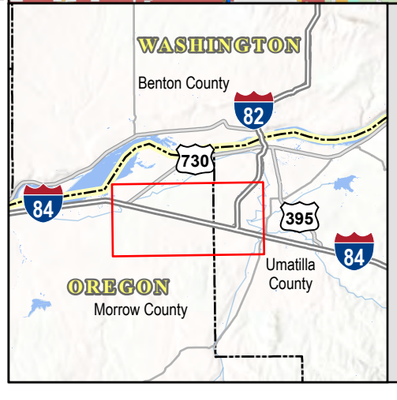
Co 1325 Rd / Westland Rd

Co 1336 Rd

Noble Rd

Co 1334 Rd

Homestead Ln



Project Components

- Project Endpoint
- Route
- Site Boundary

Existing Utilities

- Substation or Switchyard

Transmission Lines

- 500 kV
- 230 kV
- 115 kV
- 69 kV

Transportation

- Highway
- Local Road
- Railroad

Boundaries

- County

Burn Probability*

None	(0)
Low	(<= 1-in-10,000)
Low	(1-in-10,000 to 1-in-5,000)
Moderate	(1-in-5,000 to 1-in-1,000)
Moderate	(1-in-1,000 to 1-in-500)
High	(1-in-500 to 1-in-100)

*Pacific Northwest Quantitative Wildfire Risk Assessment 2018. The likelihood of a wildfire >250 acres burning a given location, based on wildfire simulation modeling. This is an annual burn probability, adjusted to be consistent with the historical annual area burned.

UMATILLA-MORROW COUNTY CONNECT PROJECT
APPLICATION FOR SITE CERTIFICATE

Figure V-2
Wildfire Burn Probability

0 0.5 1 1.5 2
Miles

N

POWER ENGINEERS MEMBER OF WSP

UEC UMATILLA ELECTRIC COOPERATIVE

Date: 2/12/2025

ATTACHMENT V-3 VEGETATION TYPE

Path: G:\Projects\179233_UEC_730_Ordnance_EFSC\Apps\Reports\ASC_Figures_r2_aprx Figure V-3 Vegetation Type Author: KES

Highway 730 Switchyard

Ordnance Switchyard

730

Co Rd 816

Depot Ln

Paterson Ferry Rd

Bombing Range Rd

Poleline Rd

84

82

395

Morrow County

Umatilla County

Bridge Rd

Agnew Rd

Powerline Rd

Prindle Loop Rd

Walker Rd

Westland Rd

Co 1325 Rd / Westland Rd

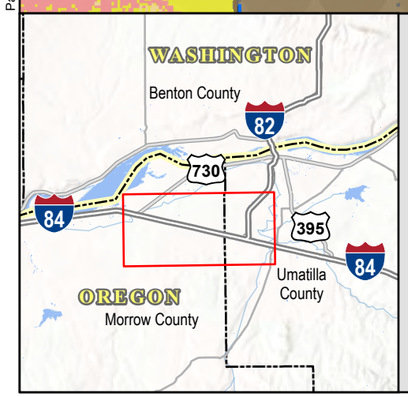
Co 1336 Rd

Noble Rd

Co 1334 Rd

Homestead Ln

207



Project Components

- Project Endpoint
- Route
- Site Boundary
- Wildfire Risk Analysis Area (0.5 mile)

Existing Utilities

- Substation or Switchyard

Transmission Lines

- 500 kV
- 230 kV
- 115 kV
- 69 kV

Transportation

- Highway
- Local Road
- Railroad

Boundaries

- County

Vegetation Type

- Non-vegetated
- Agricultural
- Conifer
- Developed
- Exotic Herbaceous
- Grassland
- Riparian
- Shrubland
- Sparsely Vegetated

UMATILLA-MORROW COUNTY CONNECT PROJECT
APPLICATION FOR SITE CERTIFICATE

Figure V-3
Vegetation Type

0 0.5 1 1.5 2
Miles

N

POWER ENGINEERS MEMBER OF WSP

UEC UMATILLA ELECTRIC COOPERATIVE

Date: 2/12/2025

ATTACHMENT V-4 AVERAGE FLAME LENGTH

Path: G:\Projects\179233_UEC_730_Ordnance_EFSC\Apps\Reports\ASC_Figures_r2_aprx Figure V-4 Average Flame Length Author: KES

Highway 730 Switchyard

Ordnance Switchyard

730

84

82

395

Paterson Ferry Rd

Co Rd 816

Depot Ln

Bombing Range Rd

Poleline Rd

Morrow County

Umatilla County

Walker Rd

Bridge Rd

Agnew Rd

Powerline Rd

Prindle Loop Rd

Westland Rd

Co 1325 Rd / Westland Rd

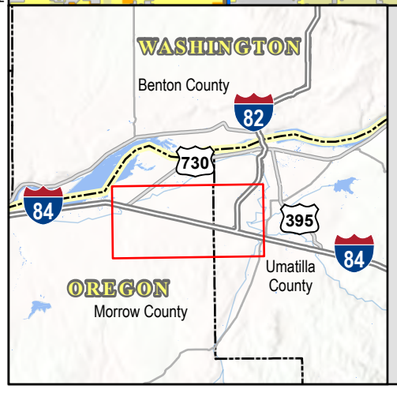
Co 1336 Rd

Noble Rd

Co 1334 Rd

Homestead Ln

207



Project Components

- Project Endpoint
- Route
- Site Boundary
- Wildfire Risk Analysis Area (0.5 mile)

Existing Utilities

- Substation or Switchyard

Transmission Lines

- 500 kV
- 230 kV
- 115 kV
- 69 kV

Transportation

- Highway
- Local Road
- Railroad

Boundaries

- County

Average Flame Length

- 0
- >0 - 4 ft
- 4 - 8 ft
- 8 - 11 ft
- >11 ft

UMATILLA-MORROW COUNTY CONNECT PROJECT
APPLICATION FOR SITE CERTIFICATE

Figure V-4
Average Flame Length

0 0.5 1 1.5 2
Miles

N

POWER ENGINEERS MEMBER OF WSP

UEC UMATILLA ELECTRIC COOPERATIVE

Date: 2/11/2025

ATTACHMENT V-5 UEC 2022 WILDFIRE MITIGATION PLAN

UMATILLA ELECTRIC COOPERATIVE

2022 WILDFIRE MITIGATION PLAN

DATE: April, 2022
PROJECT: UM21-001
VERSION: 2

BKI ENGINEERING SERVICES

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1 Introduction

The Pacific Northwest experiences some of the most devastating and catastrophic wildfires in the country. Umatilla Electric Cooperative (UEC) was directly impacted in 2018, with a major fire in Wallula Gap that necessitated the pre-emptive shutdown of the Juniper Canyon Substation[1]. Despite a mild fire season in 2019 due to cooler temperatures, Oregon's 2020 wildfire season became the most destructive in the state's history, burning more than 1.5 million acres. [2]

Wildfire mitigation has played an essential role in operational practices and decision-making at UEC. UEC has existing policies, programs, and procedures to directly or indirectly manage wildfire risk. Going forward, UEC will implement additional programs to adapt to evolving fire-related conditions, incorporate technological advances, and improve operational practices to mitigate the potential for ignitions and more effectively respond to increasing wildfire risk conditions.

The UEC Wildfire Mitigation Plan (WMP or Plan) takes an active approach to reduce fire-related risks for its members while allowing for retooling and improvement over time. As new technology and information emerge, UEC will assess, enhance, and refine its practices. The Plan describes UEC's ongoing vegetation management (VM), asset inspection and maintenance, de-energization,

1 Ruralite, UEC edition, July 2019

[2] The Oregon Department of Forestry; https://apps.odf.oregon.gov/DIVISIONS/protection/fire_protection/fires/dailyFireReps.asp

communication plans, and restoration of service processes. Additionally, the WMP outlines roles and responsibilities for its implementation, performance metrics, deficiency identification, and the audit process.

1.1 Purpose of the Plan

The Plan describes the UEC's strategies and programs 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.

UEC's Board of Directors reviews and approves the Plan as needed, while the Vice President of Engineering and Operations (VPE&O) is responsible for its implementation.

1.2 Objectives of the WMP

The main objectives of this WMP are to:

1. Implement an actionable plan to increase reliability and safety while minimizing likelihood of UEC assets' becoming the origin or contributing factor for wildfire.
2. Maintain a plan that prioritizes safety, situational awareness, preventative methods, and recovery.
3. Continue to assess and incorporate new industry best practices, technologies and risk mitigation activities.
4. Measure the effectiveness of UEC's wildfire mitigation strategies through annual evaluation of the WMP

1.3 UEC Profile and History

UEC was established in 1937 and currently has 11,142 members. UEC serves approximately 16,000 meters throughout portions of 4 counties in Oregon. The last few years have brought growth to UEC, particularly in the agricultural, commercial and industrial sectors. UEC is now the largest electric cooperative in Oregon as measured by power sales. The utility has invested millions of dollars into new and upgraded infrastructure to manage this growth and plan for future developments.

UEC upholds a commitment to service excellence while delivering safe, affordable and reliable electricity to its customers. These principal focuses are further enhanced with innovative energy solutions and a deep-rooted involvement in the communities it serves.

UEC members elect a seven-member, geographically distributed Board of Directors that determines policy and retains the General Manager/CEO (GM/CEO) who is responsible for UEC's overall management and operations.

UEC maintains offices in Hermiston and Boardman, Oregon. UEC owns and operates nearly 1,796 miles of line, through more than 10,000 acres of right-of-way in order to maintain electric service to its customers.

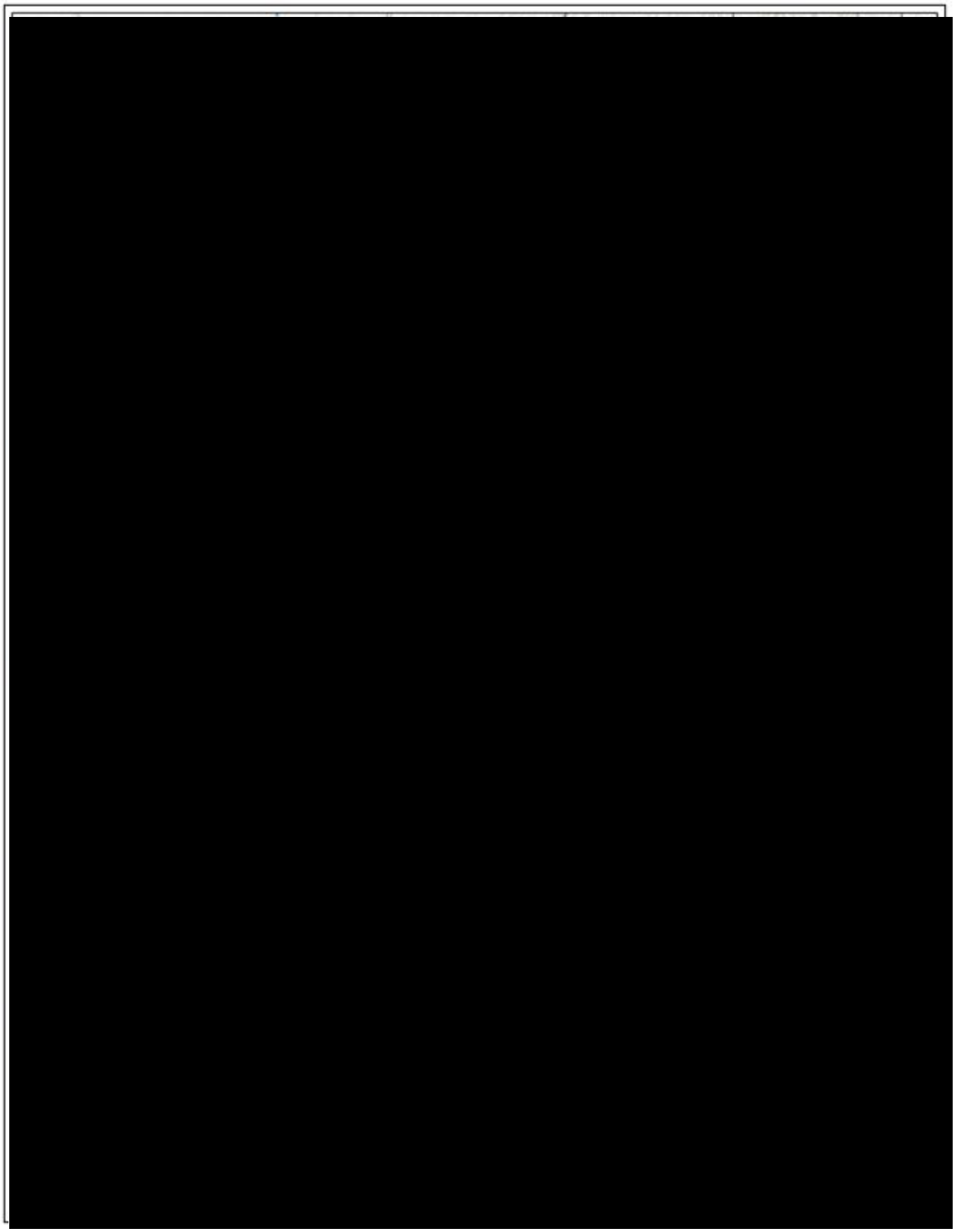
1.4 The Service Area

UEC has been granted an exclusive service territory by the Oregon Public Utilities Commission (OPUC) that includes approximately 1,891 square-miles in North Eastern Oregon from west of Boardman in Morrow County, through much of Umatilla County outside Pendleton and Hermiston, and on to Union County in the Blue Mountains (Figure 1). The UEC service territory also includes a small piece of Wallowa County.

The UEC service area is in north central and north east Oregon along the Columbia River Gorge and Umatilla River basin. This expansive service territory is located in a transition zone between the Columbia Plateau and the Blue Mountains. Stretching nearly 100 miles from west to east, with a small north-south break around Pendleton, the service area leaves behind the sagebrush steppe of the plateau as it transitions to spruce fir forests in the upper elevations.

Overall, the climate in the UEC service area is temperate and semi-arid. Low annual precipitation, low winter temperatures, and high summer temperatures are typical, especially along the Columbia River near Boardman. Droughts are common in the region particularly in Morrow County. August is the hottest month with an average high above 90 degrees at Boardman. At Meacham, in the eastern part of UEC's service territory, maximum temperatures are often in the 60s and 70s during summer.

Figure 1. UEC Service Territory (Dated May 27th, 2021)



2 Overview of UEC's Fire Mitigation Strategies

2.1 Strategy and Program Overview

The UEC wildfire prevention strategies are comprised of five main components. Together they create a comprehensive wildfire preparedness and response plan with a principal focus on construction standards, ignition reduction through system design, proactive operations, maintenance programs, specialized operating procedures, and staff training.

- **Design & Construction:** UEC's design and construction strategies are intended to improve system hardening to prevent contact between infrastructure and fuel sources and minimize the risk of UEC's electrical system becoming an ignition source.
- **Inspection & Maintenance:** UEC's inspection and maintenance strategies consist of diagnostic activities, maintenance methods and inspection schedules to ensure all equipment and infrastructure are in excellent working condition.
- **Operational Practices:** Pro-active, day-to-day actions include safety training, emergency planning, system mapping, and protection device settings. Measures to mitigate wildfire risks are taken to ensure preparedness in high-risk situations, such as dry and windy climatological conditions.
- **Situational & Conditional Awareness:** This component consists of methods to improve system visualization and awareness of environmental conditions. The practices in this category provide tools to strengthen the Plan's other features.
- **Response & Recovery:** These strategies consist of UEC's procedures and protocols for response to wildfire and other emergency events, and the process for restoring power after a major outage, as well as methods for efficient communications with emergency responders as well, emergency response, and recovery efforts.

2.2 Mitigation Strategies and Programs

This WMP integrates and interfaces with UEC'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.

Table 1 summarizes UEC's five mitigation components with associated programs and activities that support UEC's ongoing commitment to wildfire prevention and mitigation.

Table 1. Mitigation Programs/Activities

DESIGN AND CONSTRUCTION
Underground distribution lines
Field recloser to vacuum-type breaker with communications change-out program
Covered jumpers and animal guards
Non-expulsion fuses in select high-risk areas
Avian protection construction standards
Substation perimeter fencing for security and protection
INSPECTION AND MAINTENANCE
Unmanned Aerial Vehicle Transmission line inspections
Wood pole intrusive inspection and testing
Distribution system line patrols and detailed inspections
T&D system vegetation management program
Removal of hazard trees along the Right-Of-Way (ROW)
Enhanced line patrols during fire season
ROW maintenance standards

OPERATIONAL PRACTICES
Work procedures and Fire Hazard training for persons working in locations with elevated fire risk conditions
Community outreach/wildfire safety awareness
Contractor/staff safety training and orientation for vegetation management work
Alternate system protection device settings during fire season
Fire suppression equipment on worksite during fire season
Provide liaison to county offices of emergency services (OES) during fire event
SITUATIONAL & CONDITIONAL AWARENESS
Weather Monitoring in the service area
Monitoring active fires in the Pacific Northwest
RESPONSE AND RECOVERY
Pre-emptive de-energization protocols
Coordination with local Department of Emergency Management
Customer assistance programs for post-disaster recovery
Line patrols before re-energization
Emergency Restoration Plan

3 UEC Asset Overview

As part of the risk analysis process, UEC examined its asset locations to identify risks unique to its service area. This chapter will provide an overview of the service area properties and associated risks, which are factored into the wildfire mitigation strategy. See section 1.4 for a detailed service area description. Power is provided to UEC customers by way of substations, overhead transmission and sub-transmission lines, and overhead and underground distribution line assets. Table 2 depicts a high-level description of UEC's transmission and distribution assets.

Table 2. Asset Description

ASSET CLASSIFICATION	ASSET DESCRIPTION
Transmission	Approximately 36 miles of 230 kV lines, 128 miles of 115 kV lines, and 18 miles of 69kv lines Transmission structures, sub-transmission structures, switchyards, and switches at 230, 115, and 69 kV.
Distribution	Approximately 1,127 miles of overhead (OH) lines, transformers, voltage regulators, capacitors, switches, and line protective devices operating at 7.2kV phase to ground voltage Approximately 487 miles of underground (UG) lines, transformers, switches, and line protective devices operating at 7.2kV.
Substation	Major equipment such as power transformers, voltage regulators, breakers, relays, open-air structures, switchgear, and control houses in 45 substation/switchyard facilities.

3.1 The Electric System

UEC owns and operates an electric system including transmission and distribution facilities, which delivers more than three billion kWh of energy to its members each year. Power is purchased from the Bonneville Power Administration (BPA), and a variety of wholesale power suppliers. The purchased power is wheeled over others' transmission lines to the UEC system.

[redacted]

[redacted]

UEC has 36 miles of 230V kV transmission line, 128 miles of 115kV transmission line, and 18 miles of 69kV sub-transmission line. The power is transmitted over UEC's transmission system to its 45 power substations and then distributed via a distribution system spanning 1,127 miles of overhead (OH) line and 487 miles of underground (UG) line.

In addition to residential usage, over 80% of UEC's power is delivered to irrigation, commercial, and industrial sector loads.

4 Risk Analysis and Risk Drivers

UEC examined its exposure to fire-related hazards to establish a baseline understanding of the risks and risk drivers involved in a wildfire mitigation plan. Although inherent risks exist in operating an electric utility, there are strategies and processes to better plan and manage them. After identifying key risk factors, UEC incorporated best available utility practices where necessary to bolster existing mitigation strategies and programs. This combination of existing and soon to be implemented practices has been incorporated in this plan to mitigate the identified risk factors identified in this section.

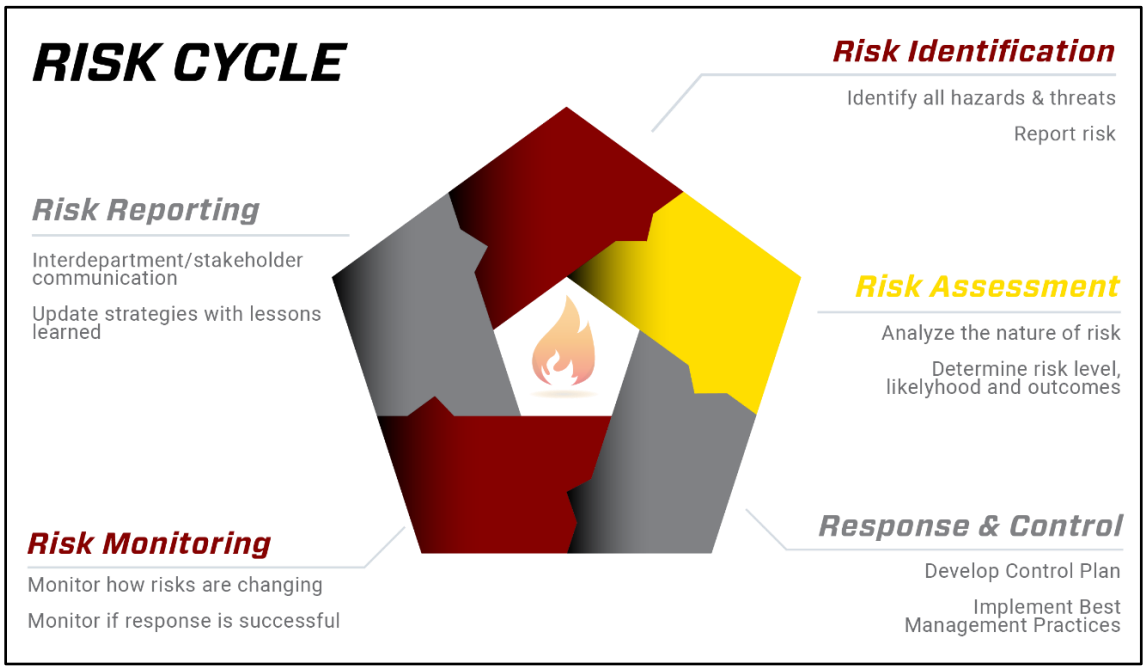
4.1 Enterprise Risk Management

The Enterprise Risk Management process is not a periodic "Risk Assessment" but an ongoing and forward-looking management discipline enabling UEC to analyze risks continually and adapt to changing conditions. The key or critical risks affect the entire community and are interrelated. Therefore, they are managed holistically with a structured approach. Figure 2 illustrates the risk management process.

The Risk Assessment process began with the Vice President of Engineering and Operations (VPE&O) key staff, and stakeholders working together to collect information on all potential and perceived risks. Relevant local plans such as the Umatilla Emergency Operations Plan and the Umatilla County Wildfire Plan, were reviewed for additional data. Also analyzed were the risks, drivers, key impacts, mitigations, controls, and UEC policies and procedures.

[3] UEC Emergency Restoration & Disaster Recovery Plan, page 23

Figure 2. UEC Enterprise Risk Management Process



4.2 Climate Change

The *Fourth Oregon Climate Change Assessment* has determined that climate change would make forests more susceptible to extreme wildfires due to overall warming in the Pacific Northwest. The years from 2016-2018 were all warmer than the 1970-1999 average, and 2015 still stands as Oregon's warmest year on record. Fire is the most obvious impact of climate change in recent years, with the extreme wildfires occurring extensively in hot and dry summers. Record-breaking catastrophic fires in California and Oregon in 2020 highlight increased vulnerability in a warming climate. The report projects fire risk will only increase across the entire state by midcentury, especially in eastern Oregon and the Willamette Valley[4].

4.3 Wildfire History and Outlook

Generally speaking, fire season in Oregon lasts from June through the end of October, but research indicates that this is changing. Fire seasons from 2003 through 2012 averaged more than 84 days longer than in 1973 to 1982[5]. The largest fires years coincide with warm spring and summer temperatures, and early spring snowmelt. Annual large wildfire frequency in USFS, National Park Service and Bureau of Indian Affairs (BIA) forests is significantly correlated with spring and summer temperature. Projected warmer and drier summers and declining snowpack

[4] Fourth Oregon Climate Assessment Report 2019. Oregon Climate Change Research Institute
[5] Westerling, A.L. 2016 Increasing Western US Forest Wildfire Activity; https://royalsocietypublishing.org/doi/10.1098/rstb.2015.0178

and correlated decreases in summer soil moisture will increase the risk of wildfires, particularly in forested areas where fuels are abundant[6].

Historically, most large fires have occurred along the Columbia River where dry rangeland grasses and shrubs provide an easily ignitable and continuous fuel source. These grass and brush fires are a regular occurrence and tend to cover large areas very quickly. While low intensity grass and rangeland fires are more common, forest fires do occur in the higher elevations in the Blue Mountains of northeastern Oregon.

4.3.1 Fire Threat Assessment Mapping

The Wildfire Hazard Potential (WHP) map used in this plan is a raster geospatial dataset produced by the USDA Forest Service, Fire Modeling Institute that can help to inform evaluations of wildfire risk or prioritization of fuels management needs across very large landscapes. The specific objective of the WHP map is to depict the relative potential for wildfire that would be difficult for suppression resources to contain. The 2018 version was built upon spatial datasets of wildfire likelihood and intensity generated for the conterminous U.S. in 2016 with the Large Fire Simulator (FSim), as well as spatial fuels and vegetation data from LANDFIRE 2012 and point locations of past fire occurrence (ca. 1992 - 2013). Areas mapped with higher WHP values represent fuels with a higher probability of experiencing torching, crowning, and other forms of extreme fire behavior under conducive weather conditions, based primarily on landscape conditions at the end of 2012[7].

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 communities, structures, or powerlines, it can approximate relative wildfire risk to those resources and assets. WHP is not a forecast or wildfire outlook for any particular season as it does not include any information on current or forecasted weather or fuel moisture conditions. It is instead intended for long-term strategic planning and fuels management tool.

To determine fire threat levels within UEC's service area, the electrical system was overlaid on the WHP maps shown in Figures 3 and 4. T&D assets as well as substation locations can be seen in relation to the WHP zones shown in color-coded overlays. Factors such as fire history, topography and physical access are considered in the risk analysis.

The WHP maps below illustrate UEC's assets in relation to the Low, Moderate and High WHP zones within the service area.

[6] RMJOC 2018; Gergel et al 2017

[7] https://www.fs.usda.gov/rds/archive/Catalog/RDS-2015-0046-2

Figure 3. Wildfire Hazard Potential - West Side (Dated May 27th, 2021)

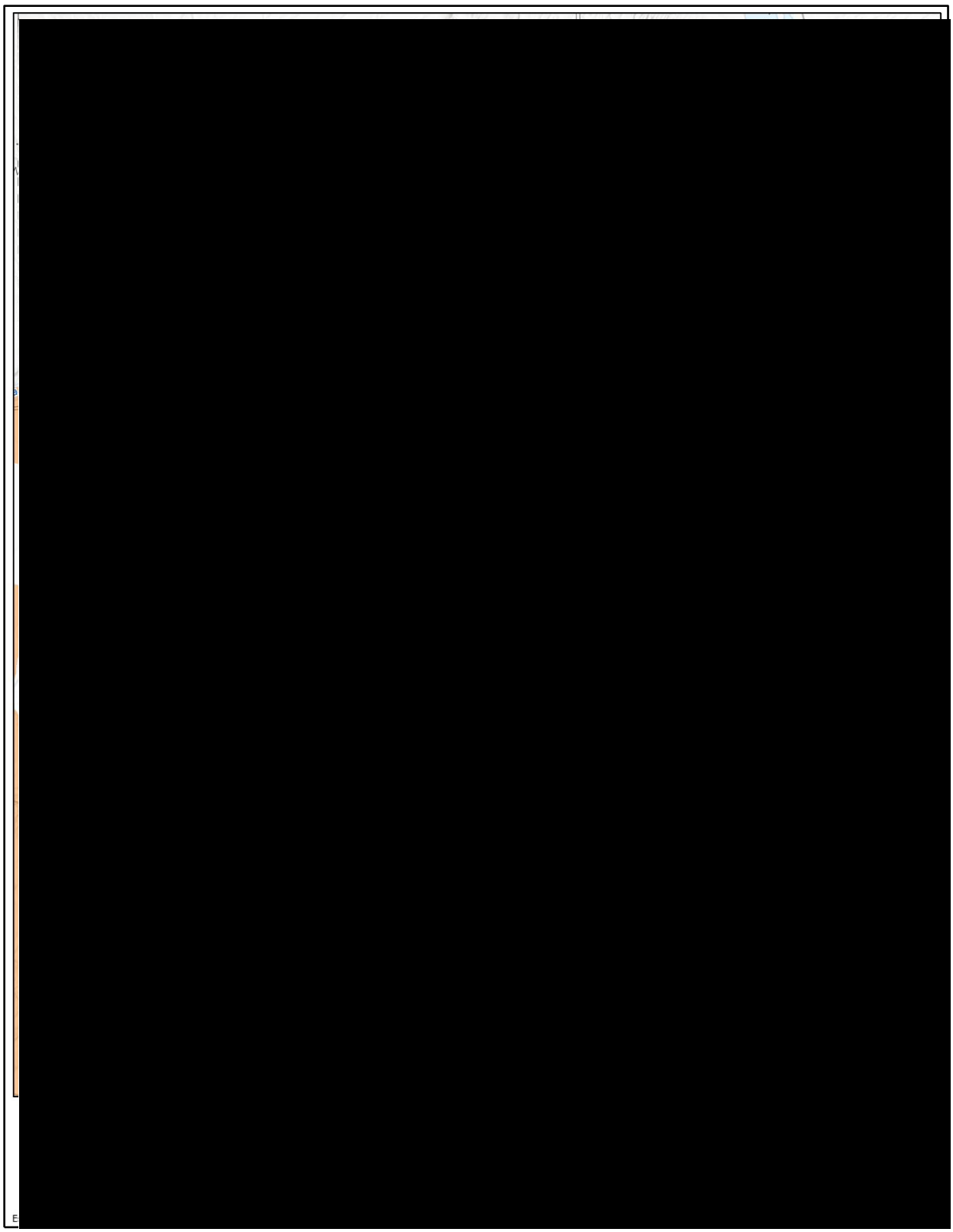
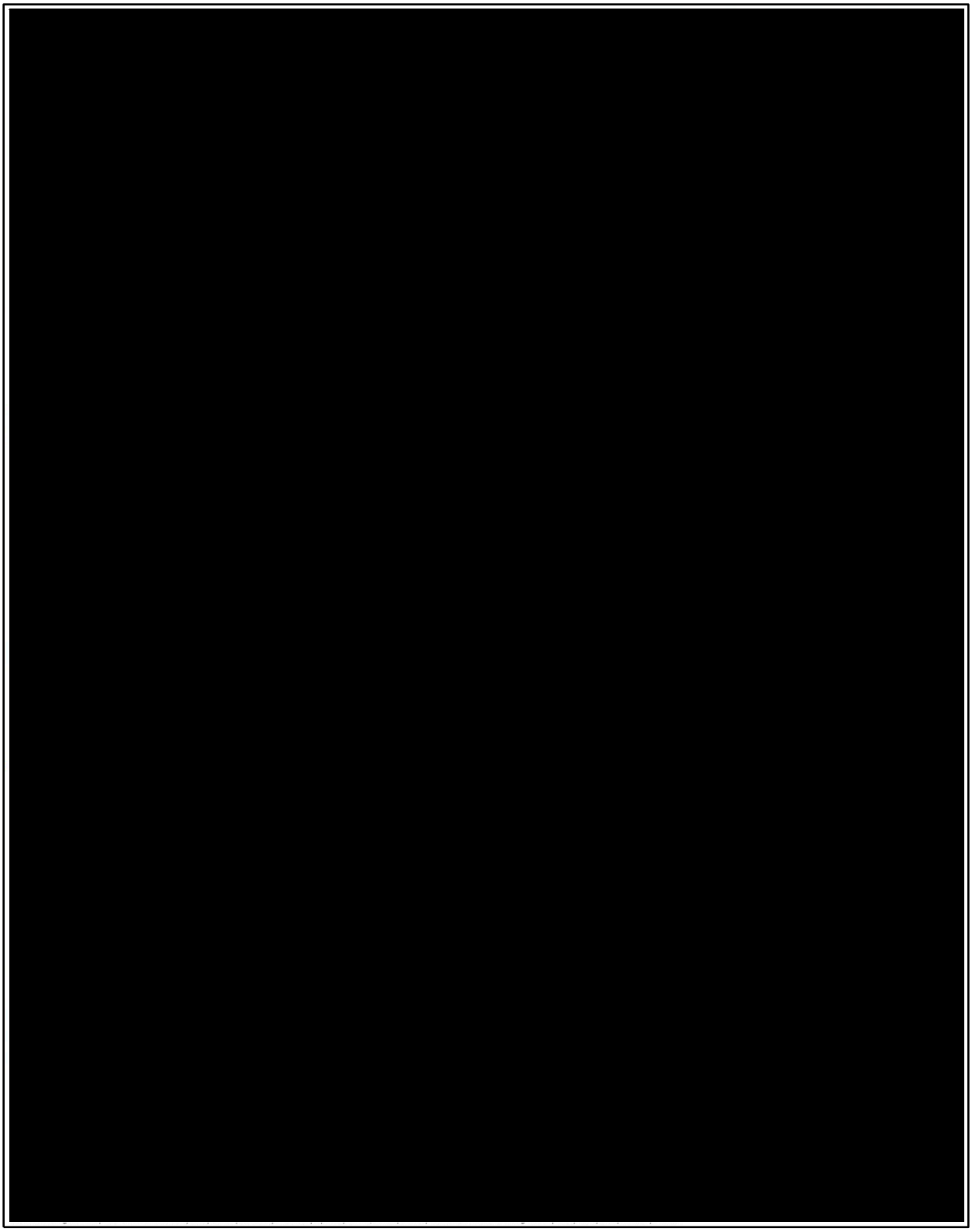


Figure 4. Wildfire Hazard Potential - East Side (Dated May 27th, 2021)



4.3.2 Assets within Wildfire Hazard Potential Tiers

Table 3 provides an overview of UEC asset location within the Wildfire Hazard Potential zones (Figures 3-4).

Table 3. Overview of UEC's T&D Assets within WHP Tiers

Assets	Total	Low		Moderate		High	
	Line-miles	Line-miles	%	Line-miles	%	Line-miles	%
230kV OH Transmission	36	17	46%	19	54%	0	0%
115kV OH Transmission	128	115	90%	13	10%	0	0%
69kV OH Transmission	18	11	61%	7	39%	0	0%
7.2kV OH Distribution	1,127	713	63%	377	33%	38	3%
7.2kV UG Distribution	487	362	74%	82	17%	43	9%
Totals							
Total OH Transmission	182	143	79%	39	21%	0	0%
Total OH Distribution	1,127	712	63%	377	33%	38	3%
Total UG Distribution	487	362	74%	82	17%	43	9%
Substations / Switchyards	45	39	87%	6	13%	0	0%

5 Wildfire Prevention Strategy and Programs

In recent years, UEC has proactively implemented many measures to address increased wildfire risks. This chapter outlines UEC's existing fire mitigation efforts and identifies new processes and pilot programs UEC may employ moving forward. Some of these programs are multi-year and programmatic, while others are situational and based on environmental conditions such as Red Flag Warnings or other high fire risk conditions. UEC's community outreach and support for customers impacted by a wildfire are ongoing are also discussed.

UEC continues to explore new technologies and approaches to determine their ability to reduce the probability of an ignition and improve system reliability. UEC has implemented several newer industry practices such as electronic vacuum reclosers, non-expulsion fuses, and Unmanned Aerial Vehicle inspection methods. It has initiated several pilot programs, such as fireproof coatings for wood poles, fire weather tracking, and the incorporation of thermal imaging technology into the asset inspection program. UEC updates its practices as new information emerges and then adopts improved strategies. Table 4 depicts the activities intended to address key wildfire risk factors.

Table 4. Activities That Address Wildfire Risk Factors

RISK FACTOR	MITIGATION ACTIVITY
Fuel Source	• Comprehensive vegetation management program • Enhance vegetation Line Inspections • Enhanced ROW maintenance and clearing specifications • Enhanced inspection intervals and spot checks in high-risk areas • Selective use of non-expulsion fuses • Enhanced tree removal efforts •
Extreme Weather	• National weather service monitoring • USFS/WADNR IFPL monitoring • Alternate recloser settings in fire prone areas • Preemptive power shutdown during ongoing wildfires • Emergency preparedness community outreach and education

Contact with Foreign Objects	• Increased wildlife guards • Avian Protection construction standards • Insulated equipment • Covered Jumpers • Underground conversion of distribution lines • Hazard tree removal
Equipment Failure	• Routine Maintenance • Design and construction standards to reduce ignition sources • Transmission line detailed inspections and annual patrols • Distribution line routine patrols • De-energizing or alternate settings of lines during certain conditions • Infrared inspections of substation equipment • Wood pole test and treatment program • Aerial inspections on all transmission circuits
Field Work	• UEC worker/contractor education on fire ignition sources • Tailgate meetings before fieldwork • USFS fire restriction level monitoring

5.1 Transmission & Distribution Operational Practices

5.1.1 Situational Awareness and Assessment Tools

Situational assessment is the process by which current operating conditions are determined. Situational Awareness (SI) 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. UEC uses all situational awareness resources at its disposal to monitor evolving fire weather, fuel, and other climatological conditions that may lead to fire events.

5.1.2 Public Safety Power Shutoff

[redacted]

[redacted]

5.2 Infrastructure Inspections and Maintenance

Recognizing the hazards of equipment that operate high voltage lines, UEC maintains formal time-based and risk-based inspection and maintenance programs for distribution, transmission, and substation equipment which play an essential role in wildfire prevention. UEC currently patrols its system regularly and is increasing the frequency of inspections in high-risk areas. The following sections outline the inspection practices for the utility.

5.2.1 Safety Patrol Inspections of Transmission and Distribution Lines

UEC has a system patrol process complying with OAR 860-024-0011 requirements, including biennial patrol inspections of T&D system infrastructure. UEC monitors vegetation during its system patrols and directs VM contractors to conduct additional inspections and VM as needed. Efforts are made UEC personnel to identify, geolocate, and document all hazard trees during routine system patrols using GIS enabled data collectors.

[redacted]

Routine patrol inspections are conducted on a two-year cycle on all <200kV transmission and overhead distribution lines. In the "High Risk" WHP areas, safety patrol inspections occur

annually before fire season. The maximum interval between safety patrols is two years, with a recommended rate of 50% of lines and facilities per year. Safety Patrol inspections are performed on the 230kV transmission assets annually.

5.2.2 Detailed Inspections of Transmission and Distribution Lines

Detailed inspections of the 69kV sub-transmission, and 115kV transmission lines fall within a 4-year cycle, which exceeds OPUC guidelines. Detailed inspections of the 7.2kV distribution lines are performed on a 10-year cycle.

The inspection cycles ensure safety and reliability based on standards found in Oregon Administrative Rules (OAR) 860-024-0011. System equipment found in need of maintenance or repair is categorized depending on the severity of the condition.

Detailed Line Inspections (DLI) consist of aerial footage, foot patrols, and all-terrain vehicle patrols to examine all UEC poles, conductors, and equipment. Visual aids assist with evaluating and detecting potential damage to above-ground components. Inspectors look for visible signs of defects, structural damage, broken hardware, abnormally sagging lines, and wildlife contacts. Any anomalies found are addressed based on the severity of the defect. The DLI also provides ground-level evaluation of right-of-ways, access roads and vegetation-to-conductor clearances. The information accumulated informs planning and scheduling future maintenance to avoid major faults and ignition potential.

5.2.3 Substation Inspections

The Preventive Maintenance Plan provides for regular inspections of substations. Qualified personnel will use prudent care while performing inspections following all required safety rules to protect themselves, other workers, the general public, and the system's reliability. Substations are inspected monthly, which exceeds OPUC regulations.

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

5.2.4 Wood Pole Intrusive Inspection

To maintain the District's wood poles, a formal Wood Pole Assessment Plan was initiated with the goal to inspect 10% of the system each year. The pole inspection program also includes visual inspections of non-wood poles. Wood pole inspections are carried out on a planned basis to determine whether they have degraded below National Electric Safety Code (NESC) design strength requirements with safety factors.

A third-party contractor inspects and tests all poles on a cycle meeting the interval recommended in RUS Bulletin 1730B-121. Circuits are identified, mapped, and scheduled for inspection and testing using latest industry standards and practices. Inspectors are instructed

to note any obvious deficiencies related to installed equipment in addition to the condition of the pole itself.

5.2.5 Aerial Vehicle/Infrared Inspections

Aerial inspections have been integrated into the UAC's asset inspection program to improve the speed and quality of the asset inspections. UEC contracts with an outside vendor to conduct Aerial inspections on its 69kV-230kV transmission network, using a high-resolution camera allowing for detailed examinations of structures and equipment not easily visible from the ground. The objective of routine Aerial patrols is to obtain information on facility conditions to determine actions necessary to maintain system reliability. Aerial inspections of 69kV-115kV assets a scheduled to occur every 4 years, and annually for the 230kV transmission circuits.

5.2.6 Instructions to Inspectors

[redacted] The inspector 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 inspections focus on any hazards that could affect the system's integrity or the safety of line workers and the public.

5.2.7 Standards for Record-Keeping and Reporting

Facilities meeting standards and not requiring maintenance will be recorded and filed for future reference. Conditions other than satisfactory go into UEC's asset management database, and the Operations Department generates a list of deficiencies and monitors the completion of repair work. Photos of the deficient asset accompany the inspection record.

OAR 860-024-0011(d) establishes records retention requirements for each level of inspection. The utility must maintain adequate written records of policies, plans, and schedules to show inspections and corrections meet compliance with this rule and OAR 860-024-0012. UEC makes these records available to the Commission upon its request.

5.2.8 GIS Mapping

An electrical utility uses a network of physical facilities to provide electric power and energy to customers connected to those facilities throughout a geographical area. Each component of the distribution system (i.e., asset) and each meter have an approximate physical location and associated data. To plan, construct, maintain, and operate the distribution network it is necessary to create, manage and utilize this geospatial data. UEC has integrated the ArcGIS Collector App into its inspection and maintenance program.

The Collector interface allows field workers to capture and return field data that integrates into ArcGIS mapping software. For any asset, inspectors, linemen, or VM crews can document any issues with equipment or vegetation clearance violations using handheld mobile devices. Photos are also collected during the asset and wood pole inspection process.

5.3 Vegetation Management

Trees that grow on or adjacent to powerline ROWs are a common cause of outages and damage to facilities and are a potential cause for wildfire. UEC maintains over 1,309 of distribution and transmission ROWs to minimize interruptions of services and to provide a safe and reliable supply of electricity to its members. This includes not only the maintenance of hardware, conductors, and poles, but trees and other vegetation that threatens to fall onto or grow into the electrical conductors. To this end, UEC has developed a comprehensive Vegetation Management Plan outlining VM best management practices, trimming standards and technical specifications.

UEC's VM program utilizes a mix of tools to accomplish the goal of reliability and public safety on its electrical system. Methods include a combination of mechanical pruning, mowing, tree removal, and herbicides for control of trees, seedlings, and protection of desirable low-growing shrubs and grasses to encourage a plant community under the powerlines that will never require or will require little maintenance. This management strategy is called Integrated Vegetation Management (IVM).

When work is well planned and completed, the overall impact on the desirable vegetation on the right-of-way will be reduced, and the neighboring landowners, the motoring public, and the wildlife that uses the right-of-way for nesting and foraging will benefit. With a prescriptive and balanced approach to VM, UEC will be able to focus more of its energy and resources on quality pruning of trees along the powerline ROW, replacement of undesirable urban trees under the lines, good customer service, while improving reliability and safety, and controlling maintenance costs.

5.3.1 Vegetation Management (VM) Trimming and Inspection Schedule

UEC contracts tree trimming crews for year-round vegetation management work. UEC line crews also address vegetation concerns in response to service calls or field observations by line crews. Proactive maintenance during routine operations and prompt action during emergency events maintain system reliability, a safe work environment, and reduces fire danger. Any VM issues that cannot be immediately handled by the line crews are referred to the VM contractor for priority trimming. 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.

5.3.2 Vegetation to Conductor Clearance

UEC's Vegetation Management Plan specifies clearance distances from any vegetation to the conductor. Since conductors move horizontally and vertically based on dynamics such as operating temperature, wind and loading, clearance is evaluated from all possible conductor positions. Clearance also accounts for vegetation that would grow into, bend into, swing into or fall into a clearance distance if not removed.

5.3.3 Controlling Incompatible Vegetation

In addition to the annual patrols by UEC field staff observing and reporting on incompatible uses and encroachments, UEC make efforts to educate public and private landowners about incompatible vegetation that can pose risks if planted under or near conductors. UEC's website provides guidance on "Correct Tree / Correct Place", as well as answers to tree trimming frequently asked questions. An online form for reporting hazardous trees is also provided on the website.

5.4 Emerging Technologies

UEC has initiated various pilot projects to explore new technologies and best management practices. These pilot projects will serve to evaluate the effectiveness of new technologies while controlling unwarranted expenditures on unproven methods. UEC may elect to integrate these technologies or practices into its ongoing maintenance programs based on the outcomes. These technologies include, but are not limited to non-expulsion fuses, thermal imaging cameras, electronic reclosers, and fire protective coatings for wood poles.

5.5 Fire Mitigation Construction

UEC is taking steps to harden the electrical system with several upgrades and design changes. These designs stem from many decades of engineering experience and the adoption of emerging technologies. UEC's design practices continue to advance with the addition of newer safety and reliability-related technologies. This advancement recognizes the importance of understanding and adapting to the challenges brought on by the use of public land, development in the WUI, and climate change.

5.5.1 Avian Protection Program

Birds tend to interact with overhead electrical assets by perching or nesting on utility poles or other electrical equipment such as substation transformers and switches. These interactions can lead to avian electrocutions and contacts, with the potential for outages and wildfire ignitions.

Since 2018, UEC has implemented design and construction standards to protect raptor and migratory birds throughout the service area. These measures, outlined in its 2018 Avian Protection Plan (APP), have substantially reduced the electrocution risk to raptors and the number of injured wildlife. Concurrently, these measures have reduced the incidence of fire ignitions while also improving compliance with the Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Protection Act (BGEPA), and the Endangered Species Act (ESA).

6 Emergency Response

6.1 Preparedness and Response Planning

UEC strives to minimize the impacts of any disruptive event regardless of the size or scope while consistently focusing attention on the community's most critical systems and infrastructure. UEC emergency preparedness and response planning is encapsulated in its long-

standing Emergency Response and Disaster Recovery Plan (ERP). The emergency plan establishes defined responsibilities, actions, and procedures to recover the UEC electrical and communications system in the event of an unexpected and unscheduled interruption. The plan is structured to attain the following objectives:

- To guide UEC management in coping more effectively with unusual situations that could cause confusion and misunderstanding.
- To provide a framework for prompt, accurate and effective communications with key audiences, including employees, members and the news media during crisis situations.
- Restore the physical network within the critical time frames established and accepted by management.
- Restore the applications within the critical time frames established and accepted by management.
- Restore the nominal course of UEC business operations within the critical time frames established and accepted by management.
- Minimize the impact on UEC and members with respect to dollar losses and operational interference.

UEC will conduct annual exercises of the ERP, document the results, and implement lessons learned. Procedures for the development of the ERP can be found in RUS Guide 1730B-2.

6.1.1 Jurisdictional Structure

UEC has considered the jurisdictional structure of the service area when developing or implementing its strategic plan, including those related to wildfires. UEC coordinate with various land ownership and management entities such as USFS, ODF, BLM, and Tribal Councils as needed.

6.1.2 Emergency Management Communication and Coordination

In response to active emergencies, UEC coordinates and collaborates with the local Offices of Emergency Management (OEM) and relevant state agencies as partners. During such emergencies, UEC provide a utility representative to the county and/or city OEM to ensure effective communication and coordination.

UEC's primary coordination point is Umatilla County OEM. UEC's Member Services Administrator (MSA) contacts the local OEM and establishes themselves as the duty officer for coordination. The MSA acts as the communications officer during an emergency, and is responsible for responding to public agencies, key accounts, the news media, and general membership.

Contact information for the Offices of Emergency Management for all counties served, including the Confederated Tribes of Umatilla Indian Reservation, are contained in UEC's ERP. Emergency responders and local, state, and federal agencies have direct access to UEC operations department for information.

6.1.3 Coordination with Stakeholders

UEC understands the importance of proactive planning and coordinating closely with local governments, agencies, and key accounts including critical infrastructure, emergency first responders, utility districts, confederated tribes, customers, and business groups. Contact information and coordination protocols are contained in UEC's ERP.

6.1.3 Public Agency and Customer Communications for Outages

For scheduled maintenance outages, UEC provides as much advance notice as possible, depending on the number of customers impacted. Depending on the scope of the project and the length of time prior to the outage, customers receive personal or automated telephone calls advising of the outage and information is posted on UEC's Facebook page and website.

For unplanned outages and emergencies, staff in the Member Services Department respond by following guidelines in UEC's Emergency Restoration Plan (ERP) to provide ongoing updates including safety messages as needed.

The Member Services Department calls key stakeholders and accounts including health care facilities affected by a de-energization of the power lines. County government officials are contacted prior to major planned outages.

6.1.4 Defensible Space / Community Outreach

Fuel reduction projects and vegetation treatments have been identified as an effective means of mitigating wildfire hazards. Each year, wildland fires consume hundreds of homes in the Wildland-Urban Interface. Studies show that as many as 80% of the homes lost to wildland fire could have been saved if their owners had only followed a few simple fire-safe practices. Projects of this type include fuel breaks, thinning, pruning, landscape modifications, etc. Homeowners and local government bear much of the responsibility for improving the defensibility of homes in the WUI but may lack knowledge and information regarding what needs to be done and how to do it.

UEC encourages its members to take proactive measures to safeguard their homes from wildfire danger and to prepare for emergency events. To help create an awareness of fire danger, UEC provides information on prevention and mitigation in its Ruralite Magazine publications, social media accounts (especially Facebook), and company website.

At umatillaelectric.com, UEC provide information and guidance on:

- Electrical safety
- Avoiding wildfire damage
- Outage preparation
- Vegetation concern reporting
- Tree planting tips

6.2 Actions Taken to Support Customers During and After A Wildfire

For customers who have experienced catastrophic losses to homes or businesses due to natural disaster, UEC will take specific actions to support affected members from the date of a disaster event included in a *Governor's State of Emergency Proclamation*. Members can contact UEC for additional information.

6.3 Restoration of Service

If an outside emergency management/emergency response agency requests a power shutdown, or if UEC elects to de-energize segments of its system due to extreme weather, UEC 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 UEC 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.

6.3.1 Service Restoration Process

After a wide-spread outage, UEC 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. UEC 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, UEC staff meet to plan the needed work. Rebuilding commences as soon as the affected areas become safe. Repair plans prioritize substations and transmission 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 UEC's website. After repairs are made, power is restored to homes and businesses as quickly as possible. Members, local news, and other agencies receive notification of restored electric service.

7 Performance Metrics and Monitoring

In addition to a robust mitigation strategy, UEC has developed performance metrics to monitor its efforts over time. The goal of these metrics is to provide a data-driven evaluation of plan

performance to help determine the effectiveness of various programs and to identify areas for improvement.

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

7.1 Plan Accountability

The Board of Directors makes policy decisions for UEC – they will be responsible for approving the Wildfire Mitigation Plan.

- The Vice President of Engineering and Operations (VP of E&O) is 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. Staff will be directed as to their roles and responsibilities.
- The General Manager/ Chief Executive Officer (GM/CEO) and Vice President of Engineering and Operations determine when and how to notify outside agencies in cases of wildfire emergency events.
- The Vice President of Administration leads the UEC Communications Team, which is responsible for communicating with public safety, media outlets, public agencies, first responders, local offices of emergency management, and health agencies during an emergency or planned maintenance outages.
- The GM/CEO and VP's direct management staff responsible for operations, customer service, information technology, and finance.
- The Manager of Operations oversees the Field Personnel.
- The Manager of Engineering oversees the engineers and technical systems.
- The Manager of Operations is responsible for oversight of the contracted VM operations.
- The VP of Administration oversees the Customer Service Representatives.

7.2 Monitoring and Auditing of the WMP

The WMP will be included as a discussion item on the agenda of regularly scheduled management meetings. UEC monitors the WMP and reports on its effectiveness to the Board of Directors on an annual basis or after major events. Reports of the Plan's progress and risk reduction impacts are developed annually and circulated to appropriate utility staff to generate collaborative discussions. The VPE&O monitors the WMP's implementation and audits the specified objectives. The VPE&O, or their designee, updates leadership with recommendations or proposed actions to enhance the Plan's objectives and strategies over time.

The WMP annual review aligns with UEC's existing business planning process which includes budgeting and strategic planning for a 3-5-year planning horizon.

7.2.1 Identify Deficiencies in the WMP

The VPE&O is responsible for ensuring the WMP meets all the applicable State of Oregon guidelines[8]. Staff responsible for assigned mitigation areas must vet current procedures and recommend changes or enhancements to build upon the Plan's strategies. Due to unforeseen circumstances, regulatory changes, emerging technologies, or other rationales, deficiencies within the WMP are reported to the VPE&O.

The VPE&O or designee are responsible for spearheading discussions on addressing deficiencies and collaborating on solutions when updating the WMP. When deficiencies are identified, the VPE&O and designated staff evaluate each reported deficiency to determine its validity. The GM/CEO and VPE&O record the agreed upon corrective actions, plan steps for implementation and inclusion in future iterations of the plan.

7.3 Performance Metrics

UEC is developing performance metrics intended to gauge the effectiveness of UEC's various programs and strategies for mitigating wildfire ignitions. The annual tracking of these metrics will help identify circuits most susceptible to unexpected outages, time-of-year risks, and the adequacy of the VM and asset inspection schedules. UEC will reassess its operations and identify areas for improvement as more data becomes available and refine the WMP as needed. The selected metrics, as with other aspects of the plan, will likely evolve in future iterations of the WMP.

7.3.1 Monitor and Audit the Effectiveness of Inspections

UEC's compliance with OPUC, Rural Utility Services (RUS), and NESC regulations ensures facilities are inspected in accordance with current industry standards as well as federal and state mandated timeframes. Any issues found impacting safety and reliability are addressed as outlined in those regulations. In addition to the maintenance program, UEC continuously evaluates its facilities while performing other activities such as outage patrols, new business planning, replacements, and related fieldwork.

Monitoring the effectiveness of inspection practices will occur through ongoing tracking and annual review of findings resulting from internal processes. The OM supervises the EOS and together review concerns found during routine field work and equipment and line inspections. UEC will use this information as a method to assess the effectiveness of inspection procedures.

The review process occurs annually, where reviews of inspection records, identification of deficiencies, and corrective actions are determined. An internal report assists the utility's leadership in the deliberation of future strategies. Related strategies to mitigate wildfire risk are identified and proposed within the Plan's next iteration. Aggregating this data guides future decision-making on the direction of wildfire mitigation strategy with the intention that incidents will occur less frequently.

[8] https://oregon.public.law/rules/oar_chapter_860_division_24

7.3.2 Programmatic Metrics

UEC outlines and schedules required work on an annual basis. Any incomplete work behind schedule is flagged for review or field verification. UEC aims to complete 95-100% of the work within the initially scheduled time frame, however, emergencies or other unforeseen contingencies can occur, requiring material and labor resources to be otherwise assigned. When this happens, the delayed work receives prioritization for future time frames and completed allowing for safe and reliable operation following industry safety standards.

7.4 Programmatic QA/QC processes

7.4.1 Transmission and Distribution System Inspection QC Process

The Manager of Operations manages the T&D line and substation assets and develops comprehensive inspection and maintenance programs following industry best practices. These programs ensure the safe operation of the T&D line and substation facilities. The VPE&O or designated managers regularly monitor inspection and corrective maintenance records and diagnostic test results to adjust maintenance plans and develop new programs.

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.

UEC's Engineering & Operations Department is responsible for performing the inspections and corrective maintenance. If deficiencies are found, service orders are created. The priority for corrective maintenance is to remove safety hazards immediately and repair minor deficiencies according to the type of defect, severity of the risk level associated with the location of the asset. Service orders are monitored throughout the year to ensure timely completion via regular internal reports.

7.4.2 Vegetation Management QC Process

Distribution system related VM work is field audited. Quality control efforts monitor program effectiveness, overall tree work performance, and determine the adequacy of the VM work schedule. GIS mapping software is used to track the quality assurance work and to monitor the VM program. The quality control results go under review, and deficient work is reissued to the contractor for corrective action.

Wildfire Mitigation Plan
Version history

Version #	Change	By	Date
1	This is the first 2021 Version	BKI/ Operations	Jun-21
2	WMP Reviewed and no changes are needed	Operations	21 April, 2022