WILDFIRE MITIGATION PLAN

OREGON TRAIL ELECTRIC CO-OP

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OTEC

Wildfire Mitigation Plan

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Revisions

Revision	Date	Person	Description
20-1	9-2-20	Donna Speakman	Finalized the draft for review
20-2	9-3-20	Mike Pommarane	Finalized the document
20-3	11-10-20	Mike Pommarane	Added draft 2020 strategic initiative work process language for CEO/legal review
21-1	10-5-2021	Eric Wirfs	Annual review of operational elements
22-1	5-12-2022	Eric Wirfs	Annual review of operational elements
22-2	6-28-2022	Board of Directors	Plan approved by governing board
23.1	5-9-2023	Eric Wirfs	Annual review of operational elements
24.1	5-7-2024	Eric Wirfs	Annual review of operational elements
25.1	5-12-2025	Eric Wirfs	Updates to vegetation management program, analysis of fire risk areas, minor edits for readability.
25.2	6-24-2025	Board of Directors	Plan approved by governing board

Changes to this plan are approved by the OTEC Board of Directors then filed with the Oregon Public Utilities Commission.

1. Purpose

OTEC's Fire Mitigation Plan (hereinafter Plan) describes the range of activities the cooperative will or may take to mitigate the threat of OTEC equipment ignited wildfires and to mitigate damages to OTEC facilities in non-OTEC equipment ignited fires. Included in the Plan is an explanation of the various programs, practices, and procedures the cooperative utilizes to reduce or mitigate fire risk. The operations and maintenance plans, programs, and procedures exist outside of this Plan and may be updated or changed as needed.

The primary goal of this Plan is to ensure public safety and reduce or minimize the probability of OTEC's transmission and distribution system being an original or contributing source of ignition. The cooperative has evaluated the prudent and cost-effective improvements to its physical assets, operations, and training practices that can help OTEC reduce or mitigate fire risk, as documented under "Established Operational Practices" section below. Further, OTEC is updating operational practices to reflect its commitment to prudent system management. The cooperative will have ongoing exploration of new opportunities for improving the effectiveness of the Plan.

The secondary goal of this Plan is to ensure and improve system resiliency, defined by the National Infrastructure Advisory Council as the ability to reduce the magnitude and/or duration of disruptive events. As part of the development of this Plan, the cooperative assesses industry practices and evolving technologies that may reduce the likelihood of a disruption in electric service or improve the timeline for restoration of service.

The final goal for this Plan is to measure the effectiveness of specific fire reduction or mitigation strategies as they apply to OTEC. Where a particular action, program, or protocol is determined to be unnecessary, ineffective or inordinately expensive, OTEC will evaluate whether modification or replacement is suitable. This approach will help determine if a more cost-effective measure would produce the same or better results.

2. Background

As the frequency, intensity and duration of wildfires has increased in the West, so has the need to respond. OTEC has a long history of established operational practices that reduce the risk of wildfire within its service territory. The wildfire mitigation plan outlined below, memorializes a new level of situational awareness and operational readiness designed to mitigate the increased wildfire risk and impacts to the OTEC electric system.

3. Established Operational Practices

3.1 Underground Distribution Circuits

OTEC will identify high risk tap lines in fire risk areas based upon the annual multiple-outage report compiled by the Engineering department. The multiple-outage report will be completed by Engineering on or before June 15 each year. Once high risk tap lines are identified based off of age of facilities, number of members served, and historical reliability data, the process will locate projects/line segments and add these to the capital budget for planned undergrounding. Timing for completion will vary between public land, coordination with respective agencies, and private land.

3.2 Contract Vegetation Management

OTEC has documented Vegetation Management Program Standard Operating Procedures (VMP) to remove and trim trees out of its electric system right-of-way (ROW).. The cooperative budgets and plans to complete one-half of its entire electric system each year which is considered a two-year cycle. This time-of-trim guideline does not establish a mandatory standard, but instead provides guidance to the Contractor and managing OTEC personnel. Specific knowledge of local growth cycles, tree species and circuit intricacies are used to determine the appropriate time-of-trim clearance in each ROW clearing circumstance. Contractor employs a certified arborist who helps establish appropriate time-of-trim clearance.

The OTEC VMP is an exhibit of the Right-Of-Way Vegetation Maintenance Agreement. The VMP is subject to updates from time to time as practices and technology evolve. Additionally, OTEC is required to follow the Oregon Public Utility Communion (OPUC) OAR 860-024-0016. This policy establishes the specifications and guidelines relating to tree trimming, tree removal, and line clearance to provide for reasonable service continuity, safety to the public, and to guard against forest fire damage caused by supply conductors.

An OTEC Operations representative is responsible for delivering the OTEC vegetation management budget and measure results under the Vegetation Management Contract.

3.2.1 Hazard Tree Mitigation Outside ROW

OTEC, upon internal inspection results, public or private notifications, removes trees outside of the prescriptive right-of-way where the trees have been deemed a high potential hazard to OTEC's electric facilities.

OTEC will use best effort to eliminate hazard trees that are identified during the normal vegetation management trimming cycles. Electric lines that are deemed to have a greater risk of power outages and/or potential to cause a fire in forested areas will be patrolled annually. Lines of greater risk include but are not limited to Anthony Lakes, Sumpter, Fall Mountain, and the 69 kV and 138 kV

transmission lines between Austin and Burns. Hazard/danger trees may be identified either through aerial and/or ground patrols.

Hazard trees will be identified and felled which are located within or adjacent to the power line, or may lay just outside the ROW boundaries, and which have potential to fall into contact with the line and potentially cause power outages and fires. These trees also have the potential to make direct contact with the conductor or pass by the conductor close enough to cause flash over of electricity. Normally the trees are very isolated and scattered along the lines, and individual trees are felled and left on the ground. Concentrations of slash are either hand piled, lopped, or scattered.

Hazard trees can be placed into three categories:

- **Fall-into trees** – are unstable trees that are dead, dying, diseased, weak, brittle, structurally damaged, leaning, subject to wind throw, and those with damaged or eroded root systems.
- **Bend-into trees** – are trees located in or adjacent to the ROW that have tops or branches that when broken or bent by the wind or underload of wind, snow, ice, another fallen limb, etc. could violate the minimum safe distance to the conductor.
- **Grow-into trees** – are trees located in or adjacent to the ROW with branches that have grown or will grow horizontally and/or vertically towards the conductors.

Maintaining the existing ROW and removing the hazard trees adjacent to power lines will provide for the safe transmission and distribution of electricity and minimize the interruptions caused by trees and other vegetation. Hazard tree inspections will occur during normal trim cycles as well as spot checks as needed in areas where high risk of fire has been identified.

Hazard trees that are identified as green marketable timber require authorization by the governing agency prior to removal. Snags are removed as soon as practical and dependent upon urgency, but no more than 120 days from the date they are identified, weather and access, permitting.

See procedure 804.010 Vegetation Management and 804.021 Tree Management, for detailed internal vegetation management procedures.

3.2.2 Internal Vegetation Management

OTEC leverages outside contracted services in conjunction with internal resources. The labor is predominately focused on service work between the transformer and the meter. Trees that breach clearances or have the potential to fall through service wires are often called in by an OTEC member or recognized through OTEC's Distribution System Inspection and Public System Inspection processes. Service orders are created and sent to field personnel to be worked in a timely basis. OTEC line crews are trained to recognize potential tree threats and are equipped to eliminate hazards.

3.3 Electrical System Maintenance Program

OTEC conducts an electrical system maintenance and inspection program in compliance with OPUC regulations. The program is broken into two parts described below.

3.3.1 Detailed System Inspections (DSI)

DSI is a systematic "pole-to-pole" inspection process where field personnel physically stop and visually/mechanically inspect OTEC distribution facilities for compliance with construction standards, joint use clearance breaches, and/or hazards. OTEC is required to complete individual "facility point" DSI on $1/10^{th}$ of is electric distribution system annually. Each of the four OTEC districts have a Serviceman/Inspector position who is responsible for completing the DSI within their District Servicemen/Inspectors document and correct all one-man issues that they come across during the inspection process. Any issue requiring more than one person to fix independently is documented and either written up on a service order or a work order for timely crew follow-up and correction. The OPUC has field auditors that check the DSI process through a random sample of DSI completed and reported to them. Variances found are reported back to OTEC personnel for correction. The OPUC requires documented proof of DSI completion at the end of each five-year cycle. Failure to comply with the OPUC DSI program are subject to warnings and/or fines to the cooperative.

3.3.2 Public Safety Inspections

PSI is a systematic drive-by "pole-to-pole" inspection process where OTEC field personnel visually inspect OTEC distribution facilities for compliance with construction standards, joint use clearance breaches and/or hazards. Additionally, OTEC facilities are inspected with a focus on public hazards which may include facilities not owned by the cooperative and/or beyond the meter. OTEC is required to complete individual PSI on 50% of its electric distribution system annually. Each of the four districts have a Serviceman/ Inspector position who are predominately responsible for completing the PSI in their area of responsibility. All journeymen qualified personnel have been trained to conduct PSI and crews complete the drive-by inspections when they are working in an established annual PSI area for efficiency Operations field personnel document and correct issues that they come across during the inspection process. Any issue requiring additional resources to fix is documented and either written up on a service order or a work order for timely crew follow-up and correction. The OPUC has field auditors that check the PSI process through a random sample of PSI circuits completed and reported to them. Variances found are reported back to OTEC personnel for correction. The OPUC requires documented proof of PSI completion at the end of each five-year cycle. Failure to comply with the OPUC PSI program are subject to warnings and/or fines to the cooperative.

3.3.3 Transmission Maintenance and Inspection Plan (TMIP)

Line inspections are completed biennially on OTEC's Hines – West John Day line and prescribed by the Transmission Maintenance and Inspection Plan. Inspections are done by ground or air to obtain information on the condition of transmission facilities and to ensure the integrity of the line. The information collected from these inspections is used for planning and scheduling maintenance work so defects can be repaired before major problems occur. Ground inspections are made using four-wheel-drive vehicles, all-terrain vehicles (ATV), utility terrain vehicles (UTV), small unmanned aircraft systems (SUAS), and / or on foot. Air inspections are done by plane and helicopter as well as SUAS assist. These ground and aerial inspections are performed by Superintendents, Supervisors, Managers, Journeymen Linemen, and/or other qualified personnel, as determined by the cooperative, usually from the district in which the line is located.

A completed transmission line patrol and maintenance entry in OTEC's reporting software, containing the following elements, shall be submitted to the Engineering and Operations and Loss Control departments:

- The person responsible for performing the inspection
- The dates the inspection was performed
- The transmission line on which the inspection was performed
- A description of the type of inspection that was performed - ground and / or aerial
- A list of defects with priorities assigned to each defect

If scheduling circumstances allow, inspections should be scheduled prior to heavy electrical load periods so defects can be repaired when outages are available. Lines located in seasonally inaccessible areas, such as in high mountains or agriculture lands, should be patrolled and inspected before the lines become inaccessible due to weather conditions.

3.3.4 Pole-by-Pole System Hardening

OTEC determines worst performing circuits annually in high-risk fire areas. The worst performing circuit will be broken down to the worst performing sections (field reclosure to field reclosure, or isolating device, or end of line) where system hardening will be conducted. These worst performing sections will be inspected pole by pole with operations personnel (Superintendent or designee) and Engineering personnel (staking technician or designee) to examine this section for items to be addressed pertaining to fire mitigation, reliability, and public safety. Staking will generate a work order to capture all capital work included in this section of line (i.e. pole change outs, cross arm change outs, reconductors, etc.). Labor hours needed for performing the system hardening "pole by pole" will be charged against 593.02 (fire mitigation) and associated material to 593.05. The work order will allow for OTEC to have an accurate estimate which will be submitted in the following year Capital Budget for approval under Fire

Mitigation work and charging 593.02 will capture accurate costs against labor and maintenance.

3.4 Multiple Outages/Device Recognition

OTEC Engineering department produces a report that lists all devices with two or more outages on it over the last calendar year. Root cause analysis is conducted between engineering and operations personnel. Servicemen/Inspectors complete a site visit to each device and make recommendations to prevent further outages. Recommendations are reviewed by Engineering/Operations management and approved or rejected, depending on the merit of the field recommendation and outage mitigation probability.

3.5 System Protection

OTEC performs a Reliability & Coordination Study on each circuit in the system every 15 years, or earlier. These studies help identify lowest performing areas, deteriorating line condition, or other potential risks such as tree hazards. These studies also include a detailed system protection analysis, including the calculation of fault currents throughout the circuit. Recloser trip settings and tap fuse sizes are then set based on both the available fault current and load current, which will determine the fault sensitivity and clearing times for varying fault impedances throughout the protective zone. Note that not all faults will produce enough fault current to operate a protective device and de-energize the line, which can result in extended burn times and increased risk of fire beyond OTEC's control. This could include line contact with a dry or dead tree limb, or a line laying on a high impedance surface, such as rock or asphalt. The "perfect" protective scheme would be sensitive enough to detect all likely faults and clear them as soon as possible, yet secure enough not to create any nuisance outages due to peak loading, cold load pickup, or momentary outages. Since the "perfect" protective scheme is not possible due to real world variables, protection remains a continuous balancing act between sensitivity vs security (reliability). OTEC places a higher emphasis on sensitivity in high risk fire areas during the fire season, which could result in reduced reliability in some cases. Other system protection factors include:

3.5.1 Fire Season Recloser Settings

OTEC typically operates breakers and reclosers with 2-4 trips to lockout in effort to improve reliability for momentary faults. This is common industry practice. More recloses increase the likelihood for restoring power due to the fault "clearing" itself, but also increase the chance for fire by closing back into a fault. For areas exposed to high fire risk area such as forests, timber, and grasslands, OTEC will limit the number of trips to 2. Three trips may be used under special circumstances, if instantaneous high-speed tripping is used. When fast curve coordination is possible, the first trip shall be a fast curve in effort to minimize fault clearing time on the first trip, and also provide the fast curve with an opportunity to "save" the downstream tap fuse during a momentary fault. Expulsion fuses can emit showers of molten metal as they blow, thus introducing another fire hazard.

Therefore, if the fast curve clears the momentary fault before blowing a downstream expulsion fuse blows, this also reduces the fire risk.

OTEC sets all protecting reclosers and circuit breakers to modified fire season settings between July 1st and October 15th or as otherwise deemed prudent by current weather conditions for line sections in forested and dryland areas. Setting changes will normally be completed during routine monthly sub inspections in the months of June and October or through the SCADA operating system. These fire settings will limit the total number of trips to lockout to 2, also typically operating with a fast trip on the first operation.

3.5.2 Transmission Distance Relaying

OTEC has recently replaced older transmission relays with high-speed distance (impedance) relays, which are capable of detecting and clearing faults much faster, and consequently, further reducing the fire risk. Several transmission breakers look at forested land and help reduce fire risk on these lines.

3.5.3 Increased Patrol Before Re-energizing Line

Following an open recloser, breaker, or fuse during the fire season in high fire risk areas, lineman shall perform a mandatory patrol on the line to the next protective device before re-energizing. This helps minimize the likelihood of closing back into a faulted line, which could be a higher risk for starting a fire.

3.6 Sparkless Sand Fuses

Each year OTEC will identify the areas of each circuit deemed to be the worst performing sections in fire risk areas. A detailed list will be provided to Operations of locations Engineering is recommending installation of fire compliant fuses during the pole-by-pole system hardening project.

3.7 Recloser Fire Risk Analysis

OTEC Engineering, in conjunction with district personnel, conduct annual fire risk analysis prior to the start of fire season, that includes a comprehensive review of each distribution circuit and individual reclosers.

3.8 Weather Monitoring

OTEC Dispatch monitors current and forecasted weather data from the National Interagency Fire Center - Predictive Services for Blue Mountain Dispatch Center. Each day OTEC Dispatch will assign one of four operating conditions based on the relevant weather data and knowledge of local conditions and document Industrial Fire Precaution Levels on the daily crew location report by different forest districts and zones (Malheur North and South zone, Wallowa Whitman, etc.). Stipulations of each level per IFPL are normally the same for Forest Service, Oregon Department of Forestry, and BLM. Conditions are defined as:

(1) Normal: During normal conditions, no changes are made to operations or work procedures.

(2) Elevated: During elevated fire-risk conditions, OTEC employees will perform normal work with an elevated level of observation for environmental factors that could lead to an ignition.

(3) Extreme: During extreme fire-risk conditions, OTEC may delay routine work on energized primary lines. The cooperative may perform necessary work to preserve facilities or property. Extreme weather is defined as: weather phenomena that are at the extremes of the historical distribution and are rare for a particular place and/or time, or especially severe or unseasonal weather. Such extremes include severe thunderstorms, severe snowstorms, ice storms, blizzards, flooding, high winds, or heat waves.

(4) Red: If the National Weather Service declares a Red Flag Warning (RFW) for any portion of cooperative's service territory, the District will delay all routine work on energized primary lines. OTEC may perform necessary work to preserve facilities or property.

3.9 Public Safety Power Shutoff

OTEC may shutoff or otherwise curtail power to members when various environmental or power supply elements indicate that it is necessary to do so to protect our member's property and enhance public safety within certain, defined fire risk areas within OTEC's service territory. Either the Chief Executive Officer, the Director of Operations, or the Director of Engineering may declare an OTEC PSPS Forecast Level, as described below, with the exception of declaring a PSPS Event. The decision to declare a PSPS Event shall be made by the Chief Executive Officer, or only in the event that the Chief Executive Officer is unavailable, by either the Director of Operations or the Director of Engineering, and based on the following criteria:

- National Weather Service Fire Danger Rating System Extreme – Red (red flag warning), and
- Immediately predicted winds of 50 mph or higher within the vicinity of OTEC facilities subject to shutoff.

A Red Flag Warning (also known as a Fire Weather Warning) is a forecast warning issued by the United States National Weather Service to inform firefighting and land management agencies that conditions are conducive to the ignition and rapid spread of wildland fires. During drought conditions, or when humidity is very low, and especially when there are high or erratic winds, the Red Flag Warning becomes a critical statement for firefighting agencies. These agencies often alter their staffing and equipment resources dramatically in response to the heightened forecast risk. To OTEC members, a Red Flag Warning can mean the probability of high fire danger with increased probability of a quickly spreading vegetation fire in the area within 24 hours.

3.11.1 Monitoring and Internal Communications

An employee of the Operations or Engineering department will monitor weather conditions and wildfire potential forecasts using several data sources. Data will be shared on the Wildfire Forecast intranet page and in OTEC's Futura Catalyst map. Red Flag warnings, current wind speeds, and other relevant fire weather data will be visible in both locations.

Operations/engineering staff, the communications manager, duty supervisors, and dispatchers will be subscribed to weather underground, iNWS alerts, iAlert weather monitoring or similar push notification alerts on their OTEC issued mobile devices. Red Flag alerts will be sent to these mobile devices when issued by the National Weather Service. Wind speed alerts will begin being pushed when 40 mph wind gusts are detected at a local weather station.

Forecast Levels:

- Normal – No Public Safety Power Shutoff events are anticipated.
- Elevated – An upcoming event (a period of gusty winds, dry conditions, heightened National Weather Service Fire Danger) is being monitored for a higher potential of a PSPS Event.
- PSPS Watch – OTEC personnel are activated based on a reasonable chance of executing a PSPS Event based on the OTEC criteria of conditions and forecast. A PSPS Watch is typically only issued 72 hours before the anticipated start of an PSPS Event.
- PSPS Warning – Additional OTEC personnel are activated and members in potentially affected PSPS Event areas have been or shall be notified as per the protocol in Section 3.11.2, below. This level indicates execution of PSPS is probable given the latest conditions and forecast . This level does not guarantee a PSPS Event as conditions and forecasts may change.
- PSPS Event – A PSPS Event has been declared and power to specific fire risk areas is either shutoff or curtailment in process as provided in Section 3.11.3, below.

3.11.2 Member and Community Notification

Contingent upon OTEC's criteria of conditions and forecast that necessitates a PSPS Warning or PSPS Event, OTEC will use its best efforts to proactively communicate with likely impacted members and key stakeholders/partner agencies prior to disconnecting specific circuits. The means of communications include direct phone contact, IVR call placement, email, mass notification, text/phone messaging, and public service messaging through direct calls to members of the media, social media, radio, and print.

During the duration of a PSPS Event, OTEC will use its best efforts to provide updated information through all reasonably available channels to members on the status of the PSPS Event, the projected length of the PSPS Event, and to reiterate that the outage may be extended. OTEC shall strive for consistency and transparency in its messaging during a PSPS Event.

Once the PSPS Event ends, members, the general public, and key stakeholders/partner agencies will be informed that the PSPS Event has ended and that power is being restored as quickly as safety

allows. An After-Action Review will be conducted following all the steps of the PSPS Event, and an Improvement Plan will emerge based on the results of the After-Action Review. The After-Action Review will include feedback from members and consider ways for improving communications.

Timeline for PSPS Notifications:

- **1 to 4 days before:** In the event of a Red Flag Warning that may necessitate a PSPS Event, whether it be 24-96 hours before the weather system is forecasted to hit, the Communications Manager will begin notifying key partner agencies and vulnerable members of the potential of a PSPS Event and that they need to prepare. This includes county emergency services, law enforcement, fire agencies, hospitals, and nursing homes. The Communications Manager will then send the warning of a potential PSPS Event to the general membership via press release, direct calls to media members, social media, website and print. Message priority is reiterating that an outage may occur and provide an estimate of the outage duration so members can begin preparing for it. Preparations will begin for a mass notification to the members of the area affected, including use of IVR call back, text, and email.

- **Zero Hour Power Shutoff:** In the event that a PSPS Event is declared, the Communications Manager and support staff will initiate a mass notification to members in the affected areas. The notifications will be released via all available media channels. Message priority is to notify members of the outage, location of the outage, to estimated duration of the outage, and urge members to pay attention to local media for potential wildfire activity and response measures by the proper authorities. Messaging should also remind members to follow all required safety precautions related to Auxiliary Power Units (e.g. generators), including proper connection and operation instructions, and remind them of the potential dangers not only to them but to OTEC workers and firefighters.

- **24 Hours or More Without Power:** Communications Manager will perform check-ins and provide updates as needed with affected partners/stakeholders. Continue consistent messaging and transparency with members using all available channels. Urge members to pay attention to local media for potential wildfire activity and response measures.

- **Power Restoration:** Power lines will be re-energized as per Section 3.11.4 below. Once lines are re-energized, the Communications Manager will notify members that power has been restored.

3.11.3 PSPS Event Deployment

All four districts within OTEC's service territory have designated fire risk areas. Forecast Levels as per Section 3.11.1 may be declared for each fire risk area independently.

The criteria for identifying fire risk areas qualifying for PSPS Forecast Levels are as follows:

- **Forest exposure**. Line sections exposed to forested timber capable of blowing over into the line during high winds are evaluated for PSPS consideration.

- **Distance from fire support**. Areas furthest away from cities and rural fire districts are considered higher risk.
- **Containment**. Areas without any containment boundaries such as roads, waterways, or irrigated lands are considered higher risk.
- **Outage history**. Line sections with known history of tree related outages are considered higher risk.

PSPS Event shutoff or curtailment based on fire risk are implemented as follows:

- **Moderate Fire Risk**
  Description: These line sections are on the fringes of forested areas and consist mostly of dryland areas with limited forested exposure.
  Action: Set protecting recloser to non-reclose. These areas are not de-energized.
- **High Fire Risk**
  Description: These line sections are in heavily forested areas and pose the greatest risk of starting a forest fire.
  Action: De-energize

Due to timeliness, SCADA is the preferred method for setting reclosers to non-reclose and de-energizing for PSPS. Not all line sections are controlled by SCADA-enabled devices and will require manual action in the field.

Risk Analysis

In 2024, OTEC engaged Cloudfire, Inc., to perform a wildfire risk analysis across the electrical system. The analysis involved two main elements:

- Ignition modeling to quantify the probability of ignition along overhead electric lines based on environmental conditions. The task measured the ignition rate (ignitions per line mile per hour) as a function of environmental variables (wind gust, relative humidity, temperature), operating voltage, and presence/absence of canopy. OTEC's outage data was analyzed along with publicly available fire ignition data. For each outage or reportable ignition, wind/weather conditions at the time and place of ignition was estimated using Real Time Mesoscale Analysis (RTMA) data. Weather conditions for each outage/ignition was compared to historical conditions at the same location, with correlates developed that provided an estimate of outage and ignition rate depending on environmental variables such as wind gust speed, relative humidity, and temperature.
- Fire consequence and risk modeling to quantify potential impacts to assets at risk quantified the risk from utility-caused fires across OTEC's service territory by modeling the spread of millions of fires ignited near overhead lines under historical wind and weather conditions. The inputs for this analysis include:
  - Historical wind and weather conditions from the RTMA dataset used in Task 1 (the period of record spans 13 years, from 2011-2023).
  - Ignition rate as a function of environmental factors as determined in element 1.
  - Topography, surface fuel, and canopy fuel layers at 30-meter resolution from 2023-capable LANDFIRE data.
  - Timber layers from the LANDFIRE fuel mapping.

- Building footprints and structure density layers (including residential, commercial, and industrial occupancies) from 2020 census data and the Microsoft Building footprint dataset.
- Critical or sensitive habitat for endangered species from US Fish and Wildlife.
- The analysis proceeds by igniting virtual fires near overhead electrical assets under historical wind and weather conditions. The ignition model developed in element 1 was used to estimate the probability of fire ignition across the service territory for each hour in the fire weather climatology. Fire progression was modeled for each ignition location and time, with impacts on assets at risk (structures, timber, and sensitive habitats) quantified. This process was repeated for millions of ignitions across the service territory under various historical wind and weather conditions.

This analysis confirmed the fire risk areas designated by this plan and will allow further planning to reduce risk and impact to members in the event of extreme weather conditions.

3.11.4 Power Restoral

OTEC will consider employee safety, wildfire hazard, and member need when directing the restoration effort. After severe weather has passed and it is safe to do so, crews will take all reasonable measures to patrol lines to inspect for damage and make repairs. Reasonable measures shall include examining actual weather data at specific facility locations, where available, to determine the risk of damage to such facilities.

Restoration Steps:

- **Weather All Clear**: After severe weather has passed and it is safe to do so, OTEC will begin patrols and inspections.
- **Patrol and Inspect**: OTEC will work to visually inspect for potential weather-related damage to the lines, poles, and equipment. This is done by vehicle, foot, air or by examining actual weather data at specific facility locations, where available, to determine the risk of damage to such facilities.
- **Isolate and Repair Damage**: Where equipment damage is found, OTEC will work to isolate the damaged area from the rest of the system so other parts of the system can be restored, and shall begin repairs when and how reasonable.
- **Restore Power**: Once poles, lines and, equipment are reasonably determined to be safe to energize, power will be restored to affected areas.
- **Notify Members**: Members are notified that power has been restored.

3.10 Fire Suppression Equipment

From June 1 to November 1, OTEC field vehicles will be stocked with fire suppression equipment. Vehicles may include, but not be limited to, 4-wheeler, pickup, man lift, digger, backhoe, or combination of these. Vehicles will be equipped—at a minimum—with the following items readily available and kept in serviceable condition:

a. Either one fire extinguisher UL rating 10-BC or two fire extinguishers UL rating of 5-BC or greater (except 4-wheeler where one 5-BC fire extinguisher will suffice).

b. One "D" handled or long handled round point shovel, size 0 or larger.

c. One Pulaski, 3-½ pounds or larger.

d. One 5-gallon wildland fire can with spray nozzle.

All vehicles or equipment will be equipped with factory-installed muffler and exhaust systems or spark arrestors as appropriate and in good working condition.

Where operations require the use of chainsaws only (felling operation), the operator shall have:

a. One 8 oz. (by weight) capacity fire extinguisher in their possession at all times,

b. One round-nose shovel, O size or larger, within 1-minute retrieval time.

See procedure 804.011 Vehicle and Equipment Operations for Rights of Way for detailed internal vehicle and equipment operation procedures on rights of way under the jurisdiction of private or government agencies where special use permits or easements have been granted.

3.11 Infrared Scanning

OTEC Substations are checked with infrared cameras annually to detect hot spots on all equipment inside the substation fence line. The infrared findings are documented, and hot spots are mitigated in a timely fashion. Additionally, substations are visually inspected monthly by field personnel and findings are documented on the Monthly Substation Inspection Report.

Designated personnel will perform annual inspections with an infrared camera of all stepdown transformers, field regulators, field reclosers, and primary metered locations in OTEC's designated "forested" areas.

3.12 Aerial Patrol

OTEC currently owns and maintains 281 miles of transmission line 69kV or higher (66 miles 138kV and 215 miles of 69kV). The cooperative completes an annual aerial patrol inspection of 100% of its transmission facilities. The aerial patrol normally occurs in the Spring prior to fire season and is completed by helicopter. Deficiencies, hot spots, and maintenance issues are identified and documented. Internal crews and tree contract crews follow up on all subsequent work through the service order process and by priority.

3.13 Fire Investigation Professional Services

OTEC consults with Great Pacific Fire Investigation (Great Pacific) in Pendleton, Oregon. Great Pacific, or other companies offering similar services, are utilized to investigate fires at or near OTEC electrical facilities on public lands. The investigation services of Great Pacific, or other professional fire investigators, provide information about cause of fire near utility facilities and add an additional

professional investigative perspective and opinion as to the cause or causes of wildfire. Contract fire investigators, such as Great Pacific, can also act as "Incident Command" in the event of a fire.

3.14 Avian Protection

OTEC's Avian Protection Plan outlines operational standards and procedures regarding avian protection from the cooperative's electric facilities. Electrocuted birds can fall from OTEC facilities and be the cause of a fire. Bird covering or other avian mitigation tools placed on OTEC electrical facilities helps reduce that risk. Line spacing, and apparatus cover up to protect the birds under certain conditions reduce this potential.

3.15 Fire Mitigation Training and Hazard Recognition

OTEC field personnel are trained annually on fire suppression. This normally takes place as a formal program during a specific safety meeting and every other year local fire department personnel come to the cooperative facilities to provide enhanced training in handling fire suppression equipment.

All field personnel are trained to identify, report, and mitigate fire hazards on OTEC's electric facilities. The cooperative's Servicemen/Inspectors and Staker positions receive supplemental/enhanced training every other year at the OPUC JACT training on DSI/PSI inspection process.

3.16 Awareness of Emerging Fire Mitigation, Technologies, Laws, etc.

Operations and Engineering personnel review new technologies and legislation related to fire mitigation during the annual review of this Plan.

3.17 Partner with USFS Districts

OTEC recognizes the need for good working relationships and open communications with the two Forest Service districts within our service territory to reach mutually agreeable results directly related to wildfire prevention efforts. OTEC will coordinate and plan any work in collaboration with the USFS to address concerns in advance of proposed vegetation management activities or proposed fire mitigation projects. It is OTEC's hope through better working relationships with USFS personnel that they will play a role in helping OTEC navigate through challenges and requirements in obtaining necessary permits. Construction obstacles such as heritage site requirements, nesting season restrictions, hazard tree removal restrictions, IPFL level restrictions, and other federal regulations impede OTEC's ability to deliver projects. Emergency work will continue to be handled as specified in the Special Use Permits filed with the USFS. This process will be updated annually to reflect changes of accepted O&M work plans submitted to the USFS and mandated rules set forth by Oregon Legislature.