Oregon Public Utility Commission

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COMPANY NAME: COOS-CURRY ELECTRIC COOPERATIVE, INC.

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Wildfire Mitigation Plan

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TITLE: WILDFIRE MITIGATION PLAN

I. OBJECTIVE

Establish operations, maintenance and construction practices and standards designed to protect public safety, reduce risk to Coos-Curry Electric Cooperative's (CCEC) customers, and promote CCEC's electric distribution and transmission facilities' resilience to wildfire damage.

II. OVERVIEW

To meet this objective, while still providing safe and reliable power to our members, CCEC will document and evaluate existing wildfire mitigation practices, as well as monitoring emerging practices and technologies, and will update this Wildfire Mitigation Plan (WMP) as determined by the CCEC board. This WMP addresses the following categories:

A. Geographic area wildfire risk assessment - this assessment will focus on risk factors unique to the various micro-climates, diverse terrain, and vegetation impacting CCEC electric plant.

B. Electric plant ignition risk assessment – this assessment will examine CCEC electric plant components and assemblies, their condition and wildfire risks associated with the same.

C. Electric plant system hardening – uses the electric plant ignition risk assessment results to plan ways to harden (upgrade or improve) the electric plant, thereby minimizing its potential to ignite a fire.

D. Right-of-way (ROW) vegetation management – uses the above assessments to develop a vegetation management plan within the electric plant footprint to minimize risks potential that can lead to a wildfire and is consistent with applicable regulatory requirements.

E. Operations practices to mitigate wildfire risk – considers tools, equipment, work methods, and coordination with other entities that work to minimize the potential for the electric plant to cause or accelerate a wildfire while performing its primary function of serving electricity to CCEC members.

F. CCEC's Wildfire Mitigation Plan is updated every five years.

III. DEFINITIONS

- Right-of-Way (ROW) – a legal agreement that allows access to the property directly beneath and to either side of an electric power line. The right-of-way allows CCEC to enter the property at any time, to perform inspections, maintenance or repairs on the electric plant.

- Geographic Information System (GIS) – a framework for gathering, managing, and analyzing data. It analyzes spatial location and organizes layers of information into visualizations using maps and 3D scenes.

- Global Positioning System (GPS) – a satellite navigation system used to determine the ground position of an object.

- Access Points (AP) - access points in the GIS map identify ROW entry locations. The access points also identify which poles, by number, are accessible from that location. Each AP is identified by GPS coordinates for ease of relaying location information to others who may need to find the access.

- Outage Management System (OMS) – A computer software used by CCEC's dispatch center and operations staff. The OMS identifies outages, provides instant alerts, and aids in the restoration of power.

- Red Flag Warning – the highest alert issued by the National Weather Service signaling warm temperatures, very low humidity, and strong winds are expected to combine and produce severe fire danger.

- Fire Season – as annually announced by the Coos Forest Protection Association (CFPA)or as otherwise determined by CCEC.

- Hot Spots – vegetation that is encroaching or making contact with an energized conductor prior to regular cycle trimming.

- Electric Plant – any facility used for or in connection with the transmission or distribution of electricity.

IV. GEOGRAPHIC AREA WILDFIRE RISK ASSESSMENT

CCEC will perform a geographic wildfire risk assessment of its overhead transmission and distribution system Right of Ways (ROW).

CCEC will use the following factors to assess the geographic wildfire risk to any given ROW or access point (AP) along a ROW.

A. CLIMATE

1. CCEC's physical plant resides within the Coos Forest Protective Association (CFPA) Zones CS (Coos)-1, CS-2, CS-4, CS-5, SK-1 (Siskiyou) and SK-2. The CFPA determines these zones by weather patterns and fuel loading. CCEC conforms to the Industrial Fire Precaution Levels (IFPL) I, II, III, IV (as defined on CFPA's website www.coosfpa.net) set by the CFPA for each of the geographic zones.
   a. Level I - Fire Season – Fire precaution requirements are in effect.
   b. Level II - Limited Shutdown – Only certain operations may continue between the hours of 8 pm – 1 pm.
   c. Level III - Restricted Shutdown – Only certain operations may continue between the hours of 8 pm – 1 pm where mechanized equipment capable of constructing a fire line is immediately available to quickly reach and effectively attack a fire start.
   d. Level IV - Complete Shutdown – All operations are prohibited.

2. Operations staff use the IFPL information to assist in the evaluation of potential fire risk based upon the CFPA zone a ROW is located within. Fieldwork in a given zone is modified based upon the current prescribed fire level within that zone, and on CCEC's judgement based on prudent utility practices.

3. CCEC will use Wildfire Risk maps to determine geographic high risk zones.

B. VEGETATION

1. CCEC conducts routine fieldwork and inspections consistent with Oregon regulatory requirements.

2. During routine fieldwork and inspections, in and around CCEC's ROW, visual observations of the type, density, and health of vegetation are made. If a ROW area has significant changes from prior observations, information about the change is documented and evaluated to determine the necessary course of action (e.g. will the tree crew be needed, what type of equipment is needed, etc.).

3. Reports of vegetation concerns from members are delivered to Operations staff for evaluation and to determine the necessary course of action to mitigate wildfire risk.

C. TERRAIN

ROW's and AP's are evaluated and documented based on the type of terrain in that geographic area. These descriptions (flat, hilly, uneven, etc.) along with the surface/road type (hard, paved, 4x4, gravel, etc.) and mode of entry (foot access, side by side, or vehicle) are documented in the GIS system and are viewable by field personnel. This data provides immediate awareness of the ease (low risk) or difficulty (high risk) of access to the ROW.

V. ELECTRIC PLANT IGNITION RISK ASSESSMENT

CCEC will perform a physical inspection of the electric plant for potential wildfire risk due to equipment type or failure, in accordance with Oregon regulatory requirements and its own policies. Operations field personnel will complete the initial assessment by the end of 2022. After the initial assessment, CCEC will review and revise the assessment on a schedule determined by the Board consistent with prudent utility practices and applicable regulatory requirements.

A. CCEC's system health and age are evaluated and reported by assessing the age and condition of poles, conductor, and equipment. This report will be utilized for system hardening, construction works plans, and budgeting.

B. Protection equipment settings are reviewed to determine their ability to inhibit reenergizing power lines following an overcurrent event.

C. Drones are used to patrol lines capturing aerial and infrared photos of CCEC's physical plant, searching for deficiencies in energized and structural components of the electric plant.

D. Handheld Flir infrared cameras are used to capture ground photos to identify equipment emitting excessive heat that could fail and become a fire ignition source.

E. CCEC also monitors emerging practices and technologies to assist in physical inspections of electric plant and may use alternative practices and technologies to assist in electric plant ignition risk assessments.

F. Physical Patrols and Inspections

1. CCEC's line inspector conducts detailed facility inspections of its system in accordance with Oregon regulatory requirements, evaluating the system's NESC compliance and looking for potential safety hazards.

2. Post-storm patrols are conducted by field personnel who patrol lines after a storm in search of potential hazards.

3. CCEC's line inspector conducts safety inspections to identify any potential public safety hazards in accordance with the Oregon regulatory requirements.

VI. SYSTEM HARDENING

CCEC will continue to evaluate and upgrade overhead and underground facilities based upon the wildfire risks identified in the electric plant ignition risk assessment.

A. Evaluate the benefits of rebuilding underground for fire mitigation when an overhead line replacement is planned due to age.

B. Evaluate the condition and age of all transmission and distribution facilities for repair, replacement, and upgrades.

C. Consult the Long-Range Plan (LRP) to prioritize upgrades based on age and health of system components and fire risk area where the equipment is located. Fire risk posed by the equipment is then evaluated to determine if it will influence replacement timing.

D. Engineering staff review the current Coordination study to evaluate protection measures and make recommendations for protection device schemes.

E. Evaluate and implement new technology (Trip-savers, non-expulsion fuse types, recloser settings, grid/fault monitoring, etc.) to mitigate fire ignition risk posed by the system.

F. CCEC maintains a pole test and treat program to evaluate the integrity and extend the life of electric plant poles. Test and treat program data is used to help prioritize pole replacement.

G. Substation inspections are conducted on a weekly and monthly basis to identify and mitigate fire ignition risk from substation equipment failure.

H. CCEC will continue to monitor emerging practices and technologies related to best practices in system hardening.

VII. ROW VEGETATION MANAGEMENT

CCEC has an aggressive ROW vegetation management program. The focus has been to prevent vegetation contact with overhead conductors. Now additional attention is being given to reduce the fuel load within the ROW's.

A. CCEC utilizes contract crews to clear the ROW through mowing and hand cutting of vegetation, removing danger trees, along and outside of the ROW. Crews also apply herbicide to prevent re-growth of vegetation.

B. Operations field personnel trim ROW "hot spots", as needed, to control vegetation contact with overhead lines.

C. ROW clearing cycle times are adjusted based on patrols and historical trimming/mowing records and are consistent with Oregon regulatory requirements.

D. Field personnel conduct inspections outside of the ROW, utilizing drone technology, to find snags and dangerous trees that pose a threat of falling into the energized electric plant. Any such findings are scheduled for removal.

V. OPERATIONS PRACTICES

As fire season approaches each year and fire precaution levels increase, the operations department adjusts work practices and system operations. These adjustments are coordinated with the IFPL and escalate with the increasing wildfire danger. Some practices are intended to mitigate risk

of fire ignition and others are in place to control and extinguish an accidental fire before it grows out of control.

A. All CCEC field personnel have CFPA required fire suppression equipment on-site during fire season.

B. During high fire risk CCEC locates its 300-gallon truck-mounted fire skid adjacent to field work.

C. During CFPA elevated fire levels CCEC, field personnel have a 65-gallon fire skid on-site during fieldwork. This equipment provides additional fire suppression capability when crews are working in off-road locations.

D. CCEC field personnel receive annual OSHA training/refresher course on wildland fire fighting.

E. Protective relays on the distribution system are normally set to "reclose" following a fault on the system. This automatically restores power if the cause of the fault was temporary. During fire season protective relay settings are changed to be more sensitive and to limit or inhibit automatic reclosing. This limits the possibility of an automatic reclosing operation igniting a fire. Line inspections will be performed during an event prior to re-energizing line.

F. Operations personnel monitor the weather daily for the CFPA fire levels and the National Weather Service for red flag warnings during fire season.

G. CCEC's ROW access roads are maintained for vehicle and physical access to the ROW. Access points are mapped in GIS.

H. Contract tree crews can transition to work in low risk areas that typically become high fire danger areas during fire season.

I. CCEC field personnel are restricted to the use of battery and hydraulic powered tools when the IFPL reaches Level III, except for emergencies involving large trees.

J. Off-road work during fire danger periods will be limited according to CCEC's Fire Season Working Prescription as submitted to CFPA.

John Herzog, Secretary
Date: June 16, 2022

Date Adopted: **01/28/2021**