



**MEMORANDUM**  
EUGENE WATER & ELECTRIC BOARD  
*Rely on us.*

TO: Commissioners Schlossberg, Brown, Carlson, Barofsky and McRae  
FROM: Rod Price, Assistant General Manager, Tyler Nice, Electric Division Manager  
DATE: May 14, 2021 (Work Session May 18, 2021)  
SUBJECT: Wildfire Mitigation Planning at EWEB  
OBJECTIVE: Information

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**Issue**

Although programs and practices are already in place to help prevent wildfires, EWEB is developing a distinct Wildfire Mitigation Plan (WMP). This backgrounder provides an overview of the regulatory environment, EWEB's present practices, and anticipated approach to the development of this plan.

**Background**

Wildfires are becoming more frequent and severe as drought conditions have increased throughout the Western U.S. Electric utilities are being impacted, in some cases as potential ignition sources while in other cases suffering damages to infrastructure. Due to the increased risk and community impacts, the Oregon Public Utility Commission (PUC) is drafting new regulatory requirements that may be applicable to EWEB.

A wildfire is a destructive fire that spreads uncontrolled over the landscape, woodlands, or brush. Wildfires have three main components, including an ignition source, fuel, and "Red Flag" weather conditions (as defined by the National Weather Service – NWS). Although there are many potential sources of ignition for fires, EWEB's efforts are focused on mitigating electrical utility grid ignition sources.

Electric grids are highly dispersed energy sources with the potential to produce ignition anywhere they are installed. In support of two of EWEB's core values, Safety and Reliability, we prioritize that our system is maintained and operated to minimize the likelihood of being an ignition source and a danger to the community.

Fuels are everywhere as well, mainly in the form of vegetation as trees, brush, or grass. Decades of drought in the west have been creating an increasing number of flammable fuels with a low moisture content. A Red Flag weather event means warm temperatures, very low humidity, and stronger winds are expected to combine to produce an increased risk of wildfire danger. These warnings are classified and issued by the NWS. It is mainly the high winds that contribute to the uncontrolled nature of a wildfire, which can result in widespread damage.

**Discussion**

The EWEB WMP will have the following base elements:

- The plan will integrate present practices and build on them. EWEB has several preventative operations and maintenance practices. EWEB's ability to respond to all emergencies through use of the Incident Command Structure (ICS) system is also fully integrated into EWEB operations.
- Developed plans meeting and complying with applicable State and Federal requirements. Currently, there are no WMP requirements in place, although Oregon will likely have legislation in the next 18 months that may require utilities to have a WMP.

- Best practices will be followed from industry and other utilities. Barring specific requirements from the State of Oregon, the State of California wildfire plan requirements, built on over 20 years of experience with devastating wildfires, will serve as an initial blueprint for our work.
- The WMP will include a communication plan, guidelines and procedures for internal, interagency and community communication.

#### Current EWEB practices

A 2019 California study of wildfires caused by electric grids indicated that 60% were a result of wire contact by an object, most commonly by far was vegetation. Another 30% of ignitions resulted from equipment failures, mainly wire and clamping devices and connectors. From that data, maintaining vegetation compliance and keeping the electric grid inspected and maintained are key components to prevent ignition sources. EWEB has well established programs for both components as described below.

#### ***Vegetation Management Program***

EWEB has a robust vegetation management program, which is compliant with applicable Oregon Administrative Rules, National Electric Safety Code, and American National Standards Institute (ANSI) standards. A summary of this plan has been periodically presented to the Board. The plan includes a yearly focus on circuits identified as potential fire risks. EWEB's fire mitigation program focuses on forested areas in the McKenzie Valley, south Eugene, anywhere outside of city limits, and anywhere with one entry access to an area or neighborhood. Normally circuits are on a five-year trim cycle, but potential fire risk circuits get patrolled and trimmed to standards on an annual basis in the Spring. All trimming work includes ground vegetation, as well as trees, to ensure ground fuels are controlled.

#### ***Inspection & Maintenance Program***

EWEB has a ten-year inspection and correction program focused on distribution and transmission system condition to meet PUC requirements. This program uses qualified inspectors to identify problems with wire, poles, and other hardware, as well as clearances to surrounding objects or structures. A process to note potential issues and put them on project lists that are grouped by priority is an established workflow within EWEB.

#### ***Emergency Circuit Shut-Off***

EWEB has established procedures to de-energize any circuit under emergency conditions. Typically, de-energization would be in response to an unsafe event and/or at other first responder's request, such as a car hit pole or a house fire.

#### ***"Red Flag" Operating Practices***

EWEB also has established criteria to trigger operational changes in the event of Red Flag warnings to decrease the risk of ignition and increase response staff safety. These changes are available at five EWEB substations and include disabling reclosers, changing protection time delays to instantaneous tripping, and requiring complete circuit patrols prior to re-energizing "opened" circuits following an active fire check by dispatch. Given no regulatory or statutory requirement, presently EWEB does not have - established Public Safety Power Shutoff (PSPS) criteria, or a documented process to de-energize lines in the event of a Red Flag warning, with no active fire or circuit disturbance. This will be part of the WMP development.

#### Continuance and Refinement of Practices

As EWEB completes and documents the WMP, the existing Red Flag operational criteria and vegetation management practices will continue, which are currently on track for completion ahead of fire season. A public communication plan is being prepared as well, which will include public outreach and education of present EWEB practices, and what future changes are planned. The goals of the Communications Plan are to educate our customers and the community at-large about:

- 1) EWEB's proactive Vegetation Management Program, which includes an annual focus on trimming circuits in potential high-risk fire areas; and

- 2) The steps to be taken when there is a high risk of wildfire, such as modifying protection settings on power lines to make them more sensitive; and
- 3) The dangerous combination of high winds, warm temperatures, low humidity and the potential for extended outages when protective settings are made more sensitive

#### Compliance Requirements

EWEB complies with applicable Oregon PUC requirements that help ensure the electric grid is maintained and safe for the public. The State of Oregon is in the process of drafting new legislation to focus on wildfire ignitions, including adopting temporary rules around PSPS criteria. Staff are participating and engaged in the drafting process, which is currently targeted at Investor-Owned Utilities but does request Customer Owned Utilities to submit a copy of their de-energization plans in 2021. A complete draft WMP will likely be required by the end 2022.

The United States Forest Service (USFS) also has guidelines and requirements related to powerline normal operations and activities in Federal forest lands. These rules are becoming more restrictive on work performed during fire seasons and are increasing requirements about operating and maintaining powerlines in their territories. Main areas of USFS impact to EWEB are at the Carmen and Stone Creek generation facilities, and the associated connected transmission lines.

#### Best Practice and Moving Forward

Based on utility and regulatory experience, California has developed requirements and experience preparing and responding to wildfires that is transferable to the Pacific Northwest. We will be using this experience and engaging a consultant with a history in developing WMP plans.

As state and local requirements evolve, we will develop and adapt the plan. There will be some strategic components to the WMP plan, along with commitments to funding programs, as well as likely State of Oregon requirements. Staff will be requesting Board feedback and endorsement of the documented WMP plan later in the year.

In general, the WMP will contain the following components listed and detailed below:

- Goals and objectives (Roles and Responsibilities)
- Risk analysis and risk drivers (Risk Mitigation)
- Operation and maintenance
- Wildfire prevention strategies and programs
- Performance metrics and monitoring
- Stakeholder involvement
- Community outreach
- PSPS (Public Safety Power Shutoff)

Staff are in the process of retaining a Consultant experienced with constructing and documenting WMPs and will be appointing an EWEB project manager to organize and prioritize the WMP as well as identify which mitigation programs to prioritize. The following is a brief description of each major section in the proposed WMP.

Goals and objectives will be outlined along with definitions of roles and responsibilities for maintenance of the plan and management of each element.

In the Risk analysis section, the WMP will outline overall philosophies and methodology about how to quantify wildfire costs, mitigation costs and the likelihood a wildfire will occur. Risk analysis will help prioritize and direct spending associated with wildfire mitigation projects and programs. The WMP will also document the high fire risk areas within our service territories.

In the Operations and maintenance section, the WMP will identify and document in detail our current

programs and practices.

The wildfire and prevention strategies and programs section will identify and prioritize projects and programs that will increase EWEB's wildfire resiliency and reduce ignition risks. Examples could include increasing vegetation program scope, increasing inspections, adding weather monitoring, system hardening like underground conversions or changing framing standards. This section will include a roster and schedule of wildfire mitigation projects. These projects will be included in both capital and O&M budgets, which the Board will be able to have visibility of through normal budget approval processes.

A key part of any program is accountability to meeting the stated goals. The performance metrics and monitoring section of the plan will describe how we will monitor progress and report out progress. Potentially, Board and State of Oregon requirements will be key drivers for our reporting plans.

Stakeholder collaboration is one of the most important components to the plan. The better EWEB plans tie with State and local agencies, especially the local Emergency Management community, the more successful we will be as a community. EWEB is continuously improving our emergency management, including to work with external partners, and as a region, to develop a larger WMP plan.

The Community outreach section will include our current wildfire communication plan that is in development.

#### PSPS Section

California regulations, and likely emerging Oregon requirements, will specify that a WMP address Public Safety Power Shutoffs (PSPS). A PSPS is when a utility pre-emptively de-energizes a circuit (i.e., power lines) based on predicted Red Flag warnings and/or other observed/confirmed conditions to eliminate potential sources of ignition from the electric utility. While the elimination of a potential ignition source can have intended benefits, there are additional impacts to consider, such as maintaining power for emergency response. Collaboration and planning with other agencies are key to managing the communication and life safety issues that come along with de-energizing the electric system.

The loss of the electric grid or individual circuits can hamper emergency response systems for wildfires started by other means as well as impact other emergency responses. Power outages create traffic control issues as well as disrupt normal internet, TV, radio, and other communication systems. In addition, customers in vulnerable situations, such as in hospitals or on home hospice, are more vulnerable when the power is disrupted. PSPS programs need to consider these impacts.

EWEB has the authority to disconnect electric service and does so occasionally. For example, immediate life and safety concerns in emergencies or planned shut offs for construction projects. Service disruptions also create real economic impacts such as spoiled food, inability to pump gas, and operate a business. Customers in California, where implementing PSPS is more common, are expressing concerns and exploring legal options related to the impacts of these type of service disruptions. Customer response to preventative shutoffs is even more pronounced when they are not witnessing directly high winds, damage, or other threatening conditions.

In rural areas, customers, including fire departments, rely on water systems powered by electricity, so their ability to have running water for life and fighting fires becomes compromised under PSPS conditions. Some rural homeowners will install generators to help when the power is out, which now creates multiple alternate potential sources of ignition. During a PSPS event, the ignition risk may inadvertently be shifted to homeowners who are not aware of these constraints.

PSPS's are a potential tool to be used in wildfire mitigation, but careful planning and coordination with our partner agencies is critical to the successful implementation of proactively de-energizing circuits. Regardless of any of the effort deployed to mitigate wildfires by EWEB, careful and thorough collaboration with our partner agencies, along with clear and consistent communications to our customers will be needed.

**Requested Board Action**

This information is provided for background context, and to facilitate initial Board feedback on the WMP development and principles. Given the public impact associated with wildfire mitigation practices and plans, EWEB Staff will be asking the Board to periodically provide guidance on the policies, plans, and investments associated with wildfire mitigation efforts.