Nodak ELECTRIC COOPERATIVE

A Touchstone Energy® Cooperative

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Wildfire Mitigation Plan

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1. Introduction Executive Summary

Nodak Electric Cooperative (NEC) is a member-owned electric cooperative providing service to all or parts of 13 counties in northeastern North Dakota with approximately 15,500 members. NEC manages an extensive network of overhead and underground distribution lines. The utility operates in areas with varying risk levels for wildfires, especially in locations where vegetation, topography, and weather conditions combine to increase the likelihood of ignition.

The purpose of this Wildfire Mitigation Plan (WMP) is to proactively reduce the risk of wildfires associated with NEC's electric utility infrastructure. This document outlines the strategies and operational measures implemented by NEC to safeguard the community while minimizing the effects of damaging wildfires. NEC is committed to preventing the occurrence of wildfires, minimizing the damage caused by fires, and ensuring quick and efficient response mechanisms in the event of a fire hazard.

The primary objective of this Wildfire Mitigation Plan is to outline the processes, systems, and practices designed to:

1. Prevent wildfires caused by NEC's electric utility infrastructure.
2. Respond effectively to wildfire threats.
3. Maintain situational awareness of fire risks.
4. Protect public safety, personnel, and the natural environment.
5. Maintain reliable service while adhering to safety standards.

Certain regions within NEC's service territory are more vulnerable to wildfires due to factors such as dry vegetation, high winds, and steep terrain. While these areas are constantly changing due to drought and vegetation growth, NEC utilizes a mapping tool to consistently keep on top of the drought map, vegetation management and wildfire risk. This map helps to better planning and situational awareness to prevent the ignition and spread of wildfires.

2. Operational Practices & Training

The immediate investigation of any outage calls are prioritized so any indication of faults or irregularities, particularly those related to potential fire risks are acted on rapidly. These calls are looked over by the dispatch operator and the engineering team and addressed by sending operations personnel out to patrol to ensure any hazards are mitigated before they escalate.

The field crews are extensively trained to handle electrical equipment in a safe manner and are educated on the importance of immediately calling for assistance if they encounter dangerous situations, such as equipment malfunctions in fire-prone areas. Employees are instructed to call 911 immediately. Fire extinguishers are available in vehicles for use only on small stage fires when safe. This ensures the safety of personnel and minimizes the potential for wildfires.

Personnel are trained to identify areas where electrical infrastructure may pose a higher risk of sparking a fire, such as faulty or damaged equipment and vegetation encroachment. They are empowered to report these issues immediately to ensure swift action.

3. Vegetation Management

Annual vegetation management is performed by both NEC contract crews and operations personnel. This is done to address potential tree and vegetation issues that would be in danger of contacting NEC lines. NEC uses the American National Standards Institute (ANSI) A300 Part 7 as the guide for vegetation management. The normal vegetation management cycle at NEC is 7-10 years on the distribution system. The annual tree trimming budget is set by the board of directors and approved prior to the next maintenance season.

NEC employs a competent, qualified and experienced Right-of-Way (ROW) contractor to handle vegetation management activities, ensuring that the work is done efficiently, safely, and in accordance with industry standards. Contract crews have a normal cycle to traverse NEC's distribution system but also are called upon to address areas of higher growth and known trouble spots outside of the normal schedule.

In addition to the vegetation management contractor, NEC operations personnel are also able to cut back vegetation in areas when required.

The following standards for vegetation management are as follows:

1. **Identification**: Line patrol is conducted on a three-year cycle for the entire distribution system. Line patrol is used as one source of identification of vegetation issues.
2. **Procedures**: Our maintenance and clearing procedures include trimming trees, removing dead vegetation, and ensuring clearances are maintained around power lines.
3. **Time Frames**: All vegetation management work is completed in a timely manner, with annual reviews to assess progress and identify areas requiring additional attention. Areas needing additional attention may be revisited prior to the normal maintenance cycle. This approach ensures that vegetation issues are addressed when needed, not just following the 7-10 year cycle.

During periods of high fire danger, we closely monitor areas with dense vegetation and take additional measures to clear or trim vegetation where necessary. Increased patrols and inspections are also conducted in these high-risk areas.

4. Design and Construction

The construction and design practices follow the National Electric Safety Code (NESC), Rural Utilities Services (RUS) Bulletins, The Institute of Electrical and Electronics Engineers (IEEE) and NEC's own design standards and specifications. NEC's operating procedure, includes using 10-foot crossarms for better conductor spacing and wildlife contact prevention. Using a fiberglass arm as a standard crossarm and utilizing covered jumper wires and animal cover ups on all new and retrofit installations to prevent a potential source of ignition.

The effectiveness of expulsion fuses in areas of high fire risk is continually being evaluated. Based on the risk level, NEC may opt for other technologies that better prevent fire ignition.

NEC is evaluating the replacement of oil-filled reclosers with circuit breakers that do not contain oil, which are safer and less likely to spark fires in the event of a fault. These devices would be prioritized in higher fire danger areas. These newer devices also allow for alternative overcurrent settings that will reduce the contact time and reduce exposure to ignition when vegetation contacts the line.

Incorporate avian protection measures such as bird-friendly equipment to prevent wildlife contact with electrical infrastructure, which can sometimes cause sparks or fires.

To minimize fire risk in critical areas, the following design considerations are made.

1. We will analyze the costs of undergrounding in key areas, balancing the long-term benefits against initial investment versus the ongoing cost of vegetation management of that section of line.
2. A specific portion each year of the construction work plan budget is earmarked for strategic undergrounding of lines in areas of the highest fire danger risk.
3. Replacing oil circuit reclosers and expulsion fuses with dielectric reclosers that do not contain oil and are able to internally contain an arc.

Annual investments in design improvements and vegetation management may approach $2 million, depending on system needs and budget approval.

5. Inspection and Maintenance

The line crews patrol NEC's distribution system on a three-year rotation to identify and address any issues that could pose a fire risk, including vegetation encroachment, equipment failure, or damaged poles. This is a primary source of information on what areas need more attention for tree trimming and vegetation management.

Pole testing is conducted on a 10-year rotation to ensure the structural integrity of utility poles, which are critical to the safety of the power grid. The testing includes a visual inspection, sounding and bore testing if required. Poles that fail the inspection are marked as rejects and are changed out in the same year as inspection. Any pole considered a "danger" pole after inspection will be changed immediately.

6. Situational Awareness

In the event of a Red Flag Warning from the National Weather Service (NWS), NEC will increase patrols in areas within the warning and identified as higher fire danger from the internally developed wildfire potential map. NEC may change overcurrent device settings or reclose cycles if equipped in those areas as well to reduce the possibility of ignition time if there is an issue. These changes will be done in the field when equipment allows for it. It is recognized that if these settings changes are made, it may dramatically increase outages and outage restoration times in the event of an operation.

NEC would consider Public Safety Power Shutoffs, depending on the risk level and the overall impact on public safety. Considerations would be given first to public safety in regard to first responders, health, communications and water infrastructure needed to help assist during a wildfire. If such a process is implemented, a structured process would be followed to safely patrol out the lines and restore power. This would be an elongated restoration process due to the critical nature of not reigniting a wildfire.

Restoration efforts after a wildfire event would consist of the following:

- Line Patrol: Safety is the number one priority after a wildfire event. All line affected would need to be patrolled visually to identify any new hazards that may have arisen during a fire or planned outage
- Isolation: Any damaged line sections or hazards would be isolated from the main line to prevent potential to re-ignite a fire
- Repair: Damages and hazards would be repaired systematically from the substation working downline to get the most members back online quickly. Priority would be given to critical services such as life safety and critical infrastructure.
- Restoration: Line sections will be gradually restored as all hazards have been cleared and lines have been deemed safe

Best efforts would be given to keep trucks traveling on improved roadways except for outage response activities. Effort will be given to reduce idling in areas that have exposed vegetation. All trucks are equipped with fire extinguishers for fire suppression but employees are trained to call for help first before fighting a potential ignition source with extinguishers.

To assist in NEC's situational awareness of fire danger, NEC is working to develop an internal map that overlays the North Dakota drought map, NEC's distribution plant, vegetation management history, along with a Wildfire Risk layer. This information overlayed on each other would give the most critical points to monitor as well as where to change overcurrent settings if necessary. Fire danger maps provided by the North Dakota Department of Emergency Services (NDDES) are also utilized to assist in monitoring localized fire risks.

7. Planning

Wildfire mitigation efforts will be integrated into several levels of the NEC distribution planning efforts. The maps developed internally will be used to better plan vegetation management cycles in locations of higher risk. These areas of higher risk will also be considered first both for undergrounding of overhead lines during the construction work plan process and identification of where to put non-expulsion fuses or reclosers without oil. All of this can be used in the long range plan to better address areas of vegetation and limit their wildfire potential within the distribution system.

8. Community Outreach & Communication

In the event of a wildfire, NEC would utilize all communications channels available including social media, website updates (www.nodakelectric.com), local media, and automated calling and text messaging. This will provide timely updates on service interruptions, safety information and any restoration progress.

Work closely with local fire departments, providing training on our systems, response plans, and fire safety measures to enhance coordination during wildfire events.

We promptly report any work performed on United States Forest Service (USFS) land and map areas under USFS jurisdiction within our service area.

9. Accountability

NEC is committed to ensure accountability, this plan will be reviewed annually to make sure that all sections are up to date and procedures are being followed. This review will also include identifying any areas of improvement or changes to best practices to make sure the plan is being implemented to best serve NEC's members and operational needs. Any recommended changes, reviews or suggestions from local fire departments will be taken into account as part of a continual improvement process of this document. An updated report will be given to NEC's board of directors regarding any changes or updates.

NEC will also participate in and or aid in the development of any state or local wildfire protection or mitigation plans.

Per ND Senate Bill 2339, preparation, approval, and publication of this plan and annual reports establishes a rebuttable presumption of reasonable care in wildfire mitigation. This plan will be reviewed and reapproved by the Board of Directors every two years, with updates published on the cooperative website within 30 days of approval.