Verendrye Electric Cooperative

A Touchstone Energy® Cooperative

Wildfire Mitigation Plan

Table of Contents

1. Cooperative Overview & Intent 1
2. Regulatory Alignment & Objectives 1
3. Wildfire Risks 1
4. Wildfire Mitigation Strategies 2
   - A. Vegetation Management 2
   - B. Strategic Cable Burial 3
   - C. Pole Inspection, Testing, and Replacement 3
   - D. Protective Devices 3
   - E. Line Patrol and Inspection 3
   - F. Vehicle & Fire Suppression Equipment 4
5. Operational Controls & Protection Philosophy 4
6. Dispatch Operations 4
7. Emergency Response, Patrols, & Post-Event Restoration 5
8. Community Outreach & First Responder Coordination 5
9. Plan Governance & Continuous Improvement 5
10. Cost of Implementation 5

1. Cooperative Overview & Intent

Verendrye Electric Cooperative (VEC) is a member owned electric cooperative providing service within Ward, McHenry, Sheridan, Renville, McLean, Pierce and Wells counties. VEC maintains and operates over 4,600 miles of line covering over 4,900 square miles, which consists of nearly equal portions of underground and overhead distribution line.

Verendrye Electric Cooperative is committed to delivering safe, affordable, and reliable electric service to its member-owners. While no electric utility can entirely eliminate the risk of wildfire, VEC proactively implements operational and mitigation strategies, system construction practices, and maintenance programs to minimize ignition risks without needlessly compromising reliability or safety.

This Wildfire Mitigation Plan (WMP) details the cooperative's balanced approach to mitigating wildfire threats while maintaining grid integrity, member safety, and operational continuity.

2. Regulatory Alignment & Objectives

This plan aligns with North Dakota Senate Bill 2339 to establish a formal standard of reasonable care in electrical utility wildfire mitigation. The primary objectives are:

- **Ignition Reduction:** Minimize the probability that VEC infrastructure becomes an origin or contributing source of wildfire ignition.
- **Grid Reliability & Resilience:** Protect critical grid infrastructure while avoiding blanket de-energization or overly sensitive protection schemes that disrupt essential services.
- **Balanced Protection:** Balance safety with reliability by maintaining service continuity for critical member needs (such as agricultural operations, water pumping, and communications).

3. Wildfire Risks

The wildfire risks vary greatly throughout the service territory and continuously change throughout the year. Fire risk is generally lowest in tilled or actively managed croplands and saturated wetlands, which naturally slow or stop fire spread. Fire risk is higher in sandy, well-draining soils, dry native prairies, and wooded areas, where light vegetation dries quickly and acts as rapid fuel.

Figure 1, developed and maintained by the USDA, provides a national visual baseline for evaluating wildfire risk. As shown, VEC's service territory primarily experiences low to sub-moderate wildfire risk. However, because wildfire risk is dynamic and influenced by rapidly changing weather, fuel loads, and environmental conditions, this map serves as just one of many analytical inputs used to guide system planning and mitigation strategies.

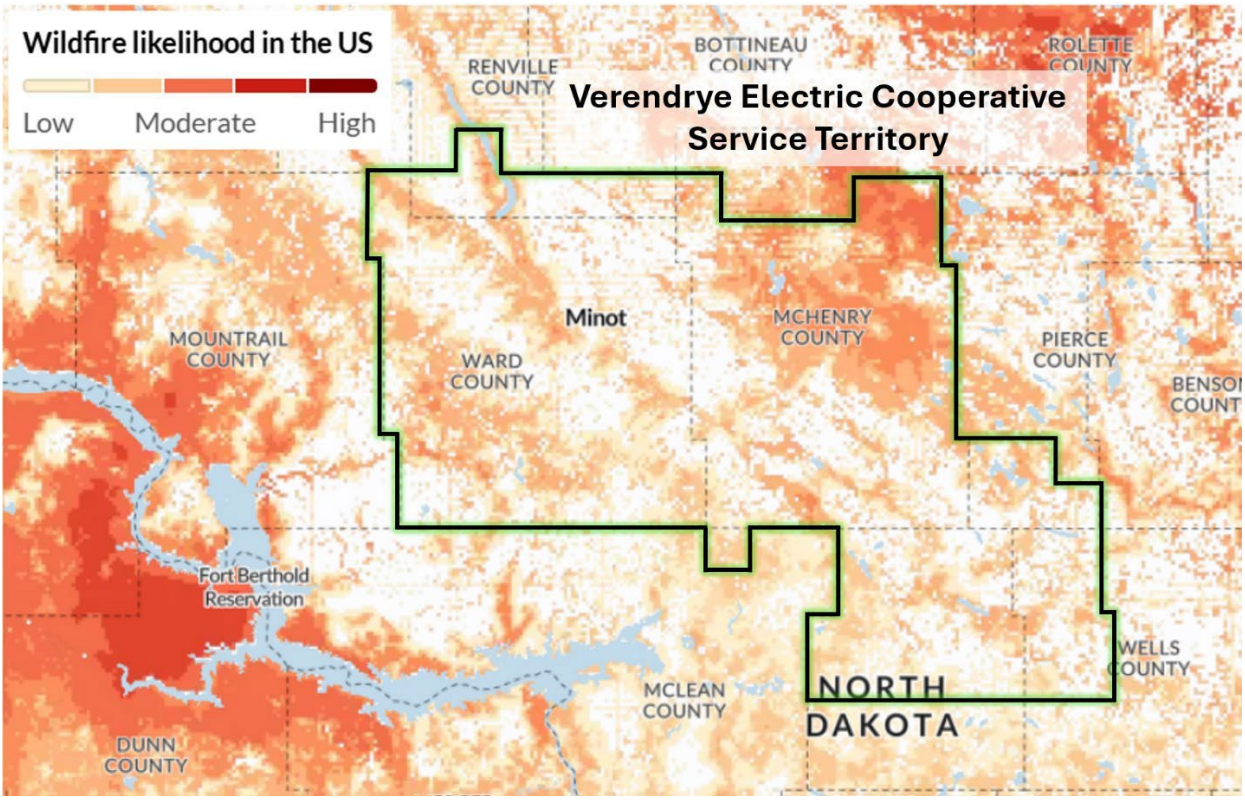


Figure 1: USDA Wildfire Likelihood Map for VEC Service Territory

4. Wildfire Mitigation Strategies

Verendrye Electric Cooperative focuses its capital and operational resources on long-term infrastructure hardening and proactive maintenance through the following:

A. Vegetation Management

Annual tree and brush trimming programs focus on maintaining safe right-of-way (ROW) clearance in compliance with ANSI A300, Clause 11 (formerly Part 7), the 2023 National Electrical Safety Code (NESC), and Rural Utilities Service (RUS) guidelines. Routine or annual patrols identify high-risk areas within and outside the ROW that present a threat of falling into energized conductors. Hazardous trees are trimmed or removed promptly upon identification.

B. Strategic Cable Burial

Undergrounding line is the primary long-term strategy for completely eliminating overhead ignition risks and vegetation hazards. All new residential and commercial developments are being constructed using underground cable. A designated portion of the annual construction work plan (CWP) is committed to systematically converting high-risk overhead three-phase, single-phase, and rural distribution lines to underground cable.

C. Pole Inspection, Testing, and Replacement

To prevent structural failures, VEC executes a structured pole testing program using an independent contractor. All poles are inspected on a 10-year rotation cycle. Testing includes visual assessment, sound testing, and bore/excavation checks. Poles failing inspection are scheduled for replacement according to risk level. This program significantly reduces overhead infrastructure failure, typically during weather related events, that could cause outages, fire, or electrical contact.

D. Protective Devices

Verendrye adheres to a maintenance and replacement policy to prevent issues or failure of protective devices. Oil circuit reclosers (OCRs) are removed in accordance with manufacturer recommendations to change oil, inspect internal parts, and test their performance. Maintenance records are maintained for each tested device.

OCRs may be put in “one-shot” (non-reclose) protection setting, if determined by operations and/or engineering personnel. If a fault occurs, this setting will de-energize a line immediately without any attempts to re-energize. In making that decision, operations and engineering personnel consider whether the OCR can be reasonably reached and its setting changed and whether crews can reasonably access the line if it becomes de-energized.

In addition, all switchgear is routinely inspected and tested in accordance with VEC’s policy and the type of switchgear. Maintenance records are maintained for each tested device.

E. Line Patrol and Inspection

Distribution lines undergo regular visual patrols on a cycle to identify structural damage, hardware degradation, or any other safety or reliability concerns. Once identified, service orders are produced to repair any issues.

Thermal Imaging (Infrared): Field crews utilize thermal imaging cameras during inspections to identify localized overheating, failing splices, hot connectors, and overloaded equipment before a thermal breakdown occurs.

Acoustic/Ultrasonic Testing: Line inspections incorporate industrial acoustic imaging cameras to detect partial discharge, arcing, tracking, and micro-cracks in porcelain or composite insulators that are invisible to the naked eye. Early detection allows for planned replacement before an arc can create a potential fire hazard.

F. Vehicle & Fire Suppression Equipment

All cooperative work vehicles are equipped with rated fire extinguishers that are regularly inspected and maintained. Additionally, all employees receive proper training on their operation. This prevents minor spot ignitions or immediate assistance as first responders.

5. Operational Controls & Protection Philosophy

VEC does not implement Public Safety Power Shutoffs (PSPS) or default to "one-shot" (non-reclose) settings across the system during elevated fire danger. Blanket de-energization or hyper-sensitive trips create significant secondary public safety risks, including:

- Loss of power to municipal, rural, and farmstead water pumping systems required for firefighting.
- Disruption of critical telecommunications, cellular towers, and emergency response infrastructure.
- Increased hazards for agricultural producers, livestock operations, and first responders.
- Loss of power to infrastructure that requires the ability to dispatch vehicles or large equipment needed for slowing or stopping the spread of fire.

6. Dispatch Operations

Active Monitoring: VEC Dispatch monitors supervisory control and data acquisition (SCADA) alarms and load conditions during standard operating hours and responds dynamically to specific field indicators.

After-Hours Response: After business hours, an automated and manned call/dispatch setup routes critical SCADA alerts and outage notifications directly to the designated on-call operations personnel, ensuring rapid response.

Adverse Weather & Red Flag Protocol:

- During National Weather Service (NWS) Red Flag Warnings, dispatch and foremen assess high-risk work activities.
- Non-essential hot work in dry vegetation is postponed.
- Field vehicles are instructed to remain on paved or improved roads whenever possible to prevent hot exhaust systems from contacting dry grass.
- Targeted SCADA adjustments (such as temporary hotline tags or localized protection adjustments) may be selectively evaluated by dispatch and engineering for specific high-risk line segments rather than applied broad scale.

7. Emergency Response, Patrols, & Post-Event Restoration

In the event of an outage or fault during dry or elevated fire conditions, field restoration follows strict safety protocols:

- **System Patrols:** Operations personnel visually inspect line segments—utilizing vehicles or specialized equipment—to identify the cause of a fault before re-energization, ensuring no downed conductors or damaged equipment remain in dry fuel sources.
- **Sectionalizing & Isolation:** If a fault or hazard is identified, SCADA or manual line sectionalizing is used to isolate the damaged segment while keeping unaffected members energized.
- **Targeted Repair & Sequential Restoration:** Repairs are prioritized, focusing on life-safety facilities, critical member infrastructure, and main feeder circuits before restoring tap lines.

8. Community Outreach & First Responder Coordination

Member Education: Safety and preparedness articles are routinely published via member communications, social media, and the North Dakota Living magazine. Members are encouraged to report ROW vegetation hazards.

First Responder Collaboration: VEC dispatch coordinates with local fire departments and county emergency managers during active fire incidents. VEC will participate in state or local wildfire protection or mitigation plans and planning when invited.

9. Plan Governance & Continuous Improvement

Annual Review: VEC will review the WMP annually to ensure all sections are followed and record updates, as needed.

Board Approval & Re-Certification: This Wildfire Mitigation Plan is submitted to the Verendrye Electric Cooperative Board of Directors for formal review and adoption every two years. An updated copy is maintained on the cooperative's public website.

10. Cost of Implementation

VEC estimates that it will spend approximately $3,500,000 per year to implement this plan. This estimate includes approximately $2,500,000 per year for system improvements and upgrades, mainly the conversion of overhead line to underground cable described in Section 4.B. The remainder covers vegetation management, pole testing, inspections, protective device maintenance, and equipment. Actual amounts are set each year through VEC’s budget and construction work plan, which the board approves.