Wildfire Mitigation Plan

Executive Summary

Wildfires are a risk for many areas of the country, and Capital Electric Cooperative (CEC) is not immune to the possibility of wildfires within our service territory. This plan was developed by CEC to minimize the possibility of starting a wildfire due to actions of its personnel and/or equipment.

Revision History

Rev 0 – Original review, March 2025

Rev 1 – Updates per ND legislation requirements, June 2025

Board of Directors Certification

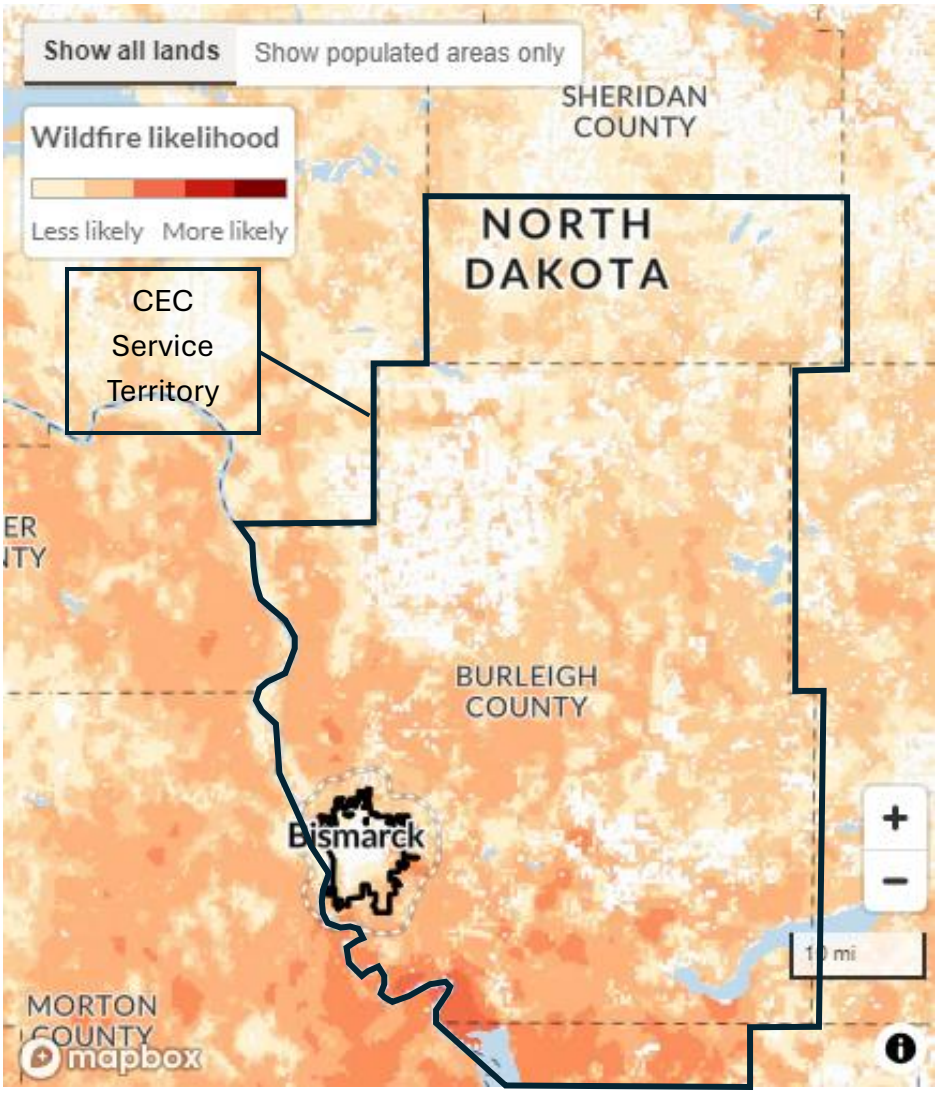
As Secretary of Capital Electric Cooperative, Inc. I do hereby certify that the Wildfire Mitigation Plan presented herein is adopted by the Board of Directors.

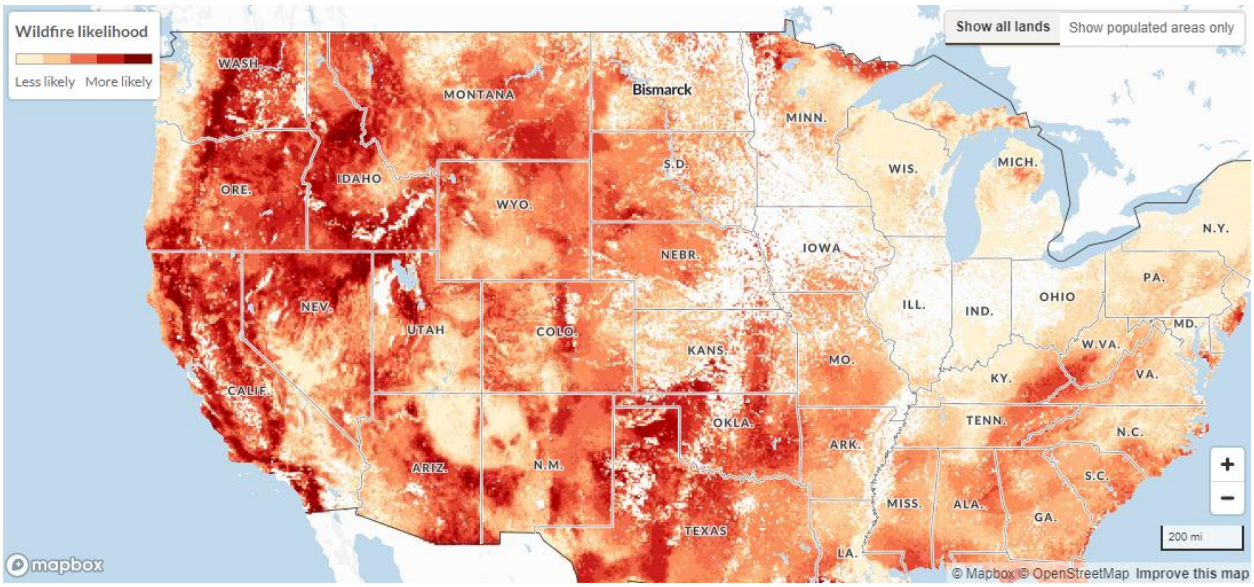
Secretary

6-27-25

Date

1. Overview of CEC
    a. CEC provides retail electrical distribution to nearly 22,000 services for member-consumers in Burleigh, Sheridan, Emmons, Kidder, and McLean counties, North Dakota. Central Power Electric Cooperative, located in Minot, North Dakota, owns and maintains the transmission and substation assets within CEC's service territory to provide power to CEC's distribution assets. Beginning at the substation 12.47kV regulated voltage bus, CEC owns and operates approximately 2,800 miles of medium and low voltage distribution lines, including stepdown transformers and associated service entry equipment. To date, approximately 1,500 miles of line are overhead, and 1,300 miles are underground.
2. Wildfire risks in CEC service territory
    a. Wildfire risks vary greatly over the course of the year as well as specifically within the service territory. Risks range from very low in cultivated cropland areas, with heightened risks within rangeland or forested areas near the Missouri River. Years of drought or periods of high temperatures and wind lead to more favorable conditions for wildfires, with highest risks seen after snow melt & before green-up (April-May) and during/after harvest & before snowfall (Sept-Oct).
    b. Wildfire Risk to Communities was created by the USDA Forest Service and maintains and updates a website with interactive maps, charts, and resources to help communities understand and reduce wildfire risk. (Wildfirerisk.org/explore). This is an example of an analysis tool CEC has utilized to summarize wildfire likelihood in each area. This analysis calculation is developed as follows: "Wildfire likelihood is the probability of a wildfire occurring based on fire behavior modeling across thousands of simulations of possible fire seasons. In each simulation, factors contributing to the probability of a fire occurring, including weather, topography, and ignitions, are varied based on patterns derived from observations in recent decades. Wildfire likelihood is not predictive and does not reflect any currently forecasted weather or fire danger conditions."
    c. The following maps, developed by the USDA Forest Service, show the calculated likelihood of wildfires in CEC's service territory, with the U.S. map included for comparison. While these data sources are helpful to be aware of higher wildfire risk areas, the probability models are one of many inputs into developing operational plans and capital project budgets.


Show all lands
Show populated areas only
Wildfire likelihood
Less likely More likely
SHERIDAN COUNTY
NORTH DAKOTA
CEC Service Territory
BURLEIGH COUNTY
Bismarck
MORTON COUNTY
mapbox


Wildfire likelihood
Less likely More likely
Show all lands
Show populated areas only
WASH.
MONTANA
Bismarck
MINN.
S.D.
WIS.
MICH.
ORE.
IDAHO
WYO.
N.Y.
NEBR.
IOWA
PA.
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© Mapbox © OpenStreetMap Improve this map

3. On-going Mitigation Efforts
    a. Routine line patrol
        i. CEC performs visual patrol of distribution assets whenever personnel are driving to/from jobsites as well as while working at a given location. Maintenance items that are noted by personnel are converted to electronic service orders, which track the scope of work, date the work is completed, and any notes specific to the resolution. Notifications of potential concerns, including vegetation encroachment to overhead lines, are also communicated from our member-consumers, upon which a line crew is dispatched to assess and evaluate any necessary actions.
    b. Annual line inspection
        i. CEC performs a focused visual inspection of the overhead distribution system over a two-year period; in the first year, half of the service territory (based on substation boundaries) is inspected, and in the second year the remaining substation areas in the service territory are inspected. This results in the entire system receiving a visual inspection every two years; inspections are conducted annually, such that half of the system is inspected every year. During the inspection of distribution assets, vegetation growth is observed within the inspection area. Electronic inspection records dictate the areas to be inspected, requiring line crews to note deficiencies and maintenance items, which then follow the same service order process as previously noted for tracking and completion.
    c. Vegetation management
        i. Annual vegetation management is performed by CEC line crews and contractors to address potential hazardous vegetation, including tree and shrub contacts and any trees or shrubs that are at risk of falling into distribution lines. Routine and annual line patrol notes are sources of data to develop a given year's tree trimming plan, ensuring that identified hazardous vegetation is addressed when needed. CEC adheres to utility best practices in vegetation management, referencing Rural Utilities Services (RUS) and National Electric Safety Code specifications as well as American National Standards Institute (ANSI) standard A300, Part 7.
    d. Pole testing
        i. CEC hires a third-party inspection company to annually test 1/12 of the system's poles, or approximately 2,000 poles, and thereafter

continuing tests with the goal of a documented test result within 12-years of today's date for every pole in CEC's system. These tests include visual, sound partial excavation, and/or bore testing. Poles failing inspection are noted as danger and are promptly replaced. Poles unlikely to retain sufficient integrity for another 12 years are marked as rejected, and after receiving the test report CEC or its contractors begins to change out rejected poles with new ones. Proactively testing poles on a 12-year cycle increases the likelihood of replacing poles before failure, which decreases the chances of igniting fires due to a broken pole.

e. Rural rebuilding
    i. CEC's construction plans include rebuilding approximately 25 miles of overhead distribution line each year. This includes new poles, hardware, and conductor, mostly applied to single-phase rural lines. The rebuilt line is improved to current construction standards, utilizing minimum of #2 ACSR conductor, shortening spans between poles, minimum of Class-5 pole strength, and using neutral offset brackets.
f. Conversion of overhead lines to underground conductors
    i. CEC converts existing overhead lines to underground as part of standard construction activities; a portion of annual work plan projects are typically dedicated to these conversions. Often these projects are selected to avoid future maintenance costs such as vegetation management. Conversion of overhead lines eliminates the potential for hazardous vegetation contact as a source of possible wildfire ignition, as well as the reliability impacts of high winds and ice.
g. Sectionalizing equipment
    i. CEC uses many types of protective devices to isolate and clear system faults. Substations with electronic controls have remote control capabilities, including non-reclose and hot line tag modes. Underground circuits have interrupters to clear what are typically permanent fault conditions. Overhead lines use electronic reclosers with the ability to try one or more operations to open and close, typically clearing temporary faults; these can also be locally set to non-reclose mode. Fuses are also used on underground and overhead taps, although more commonly applied to overhead lines. CEC no longer deploys oil-filled reclosers on distribution lines. In all cases, CEC analyzes the need for and appropriate type of

sectionalizing device to apply to balance the needs for reliability and security.

h. Coordination with emergency response
    i. CEC coordinates emergency response activities in multiple ways. Internally, mobile radios are used between line crews to ensure communication of activities and locations (also utilized in mutual aid events with outside contractors and cooperatives); automatic vehicle locating GPS tools also monitor locations of crew vehicles and refresh positions on electronic system maps, including on tablets using cellular data. After normal business hours, CEC uses dispatch services to receive outage messages and relay details to on-call crews. For large outage events after hours, operations staff return to headquarters to provide additional management of the restoration activities. CEC communicates with local transmission system operators (ex. WAPA, Otter Tail, and MDU) for larger system events. In the event of accidents and natural disasters, CEC coordinates with local officials and emergency management services, responding to requests to disconnect power. When presented with opportunities to collaborate or coordinate with state or local agencies, CEC actively participates and would do so for wildfire mitigation planning.

4. Additional steps taken during high risk of wildfire conditions
    a. Carry water cans on trucks
        i. Line crews carry dry chemical fire extinguishers in vehicles all year round. In addition, these vehicles carry water cans during spring/summer/fall months when freezing conditions are not present. This provides additional response options for combating wildfires, including those where ignition was unrelated to CEC, but crews happened to be first responders.
    b. Patrol every span before attempting reclose
        i. In addition to driving a line out with a visual inspection before attempting a reclose, CEC crews pursue visual inspections for all segments of line downstream of a protective device before re-energizing the line, where practical. This may include the use of ATVs, foot patrol, or other methods to access off-road terrain. The use of motorized vehicles on non-improved trails or right of way during high-risk conditions is evaluated to ensure outage restoration activities do not pose additional threats to igniting wildfires.

c. Fire watch during and after work
    i. Line crews utilize a designated jobsite supervisor, which observes for potential ignition of wildfires during and after work is completed. The supervisor is the last to leave a job site, ensuring reasonable care in areas where work was performed and monitoring for signs of potential ignition.
d. Trim grass before driving or parking vehicle
    i. When work must be performed on non-improved roadways, tall grass may be trimmed prior to parking a work vehicle on the vegetation. This minimizes the possibility of a fuel source contacting high temperature areas of the work vehicle.
e. Situational Awareness—Red Flag conditions
    i. When notified of Red Flag conditions, CEC purposes to avoid work activities on the distribution system unless lack of action poses more risk than completing the work. Vehicles are expected to remain on improved roadways except for outage response activities. Protective device settings may be changed to non-reclose or hot line tag to avoid potential ignition of wildfires, at the expense of potentially increasing outage minutes experienced by member consumers.
    ii. CEC understands the magnitude of impacts due to wildfires and to be mindful of system operation that can contribute to wildfires. As a provider of an essential service, CEC prefers to avoid public safety power shutoff (PSPS) actions unless directed by local emergency management directors. By otherwise keeping lines energized, critical needs for first responders can be maintained, including communication sites, fire department buildings, and water pumping stations.
f. Contractors' activities
    i. Third parties hired by CEC to work on system assets are expected to abide by the same standards of care as noted for CEC.
g. Community outreach and public awareness
    i. CEC has many methods of communicating with member consumers, including print, email, website, social media, text, and phone messaging. A common method of broadly reaching member consumers on a topic is to include a highlighted article within the monthly publication, North Dakota Living. This magazine is provided to member-consumers, where articles and/or inserts can focus on fire safety messaging. Notifications can be tailored to specific services via

email and text alerts; based on conditions, such as the need to de-energize line, member consumers can be alerted to CEC activities. These notification methods are presently utilized to inform member-consumers of peak alerts, planned maintenance activities, and power market emergencies.

5. Cost considerations for implementation of the wildfire mitigation plan
    a. Operational and maintenance activities
        i. Annual budget considerations assume costs of line patrol and vegetation management activities. CEC crews perform inspections, which are necessary inputs for multiple reporting and planning activities. Performance of vegetation management activities is divided among contractors and CEC crews. Evaluation of completed and anticipated vegetation management is performed during annual budget development, where funding adjustments are made to satisfy requirements. The inspection and vegetation management activities stated within this plan are presently accounted for and are not likely to require additional revenue to support.
    b. Capital project activities
        i. Upgrades to CEC's system as noted above, which include pole testing/replacement, rural rebuilding of overhead lines, and conversion of overhead to underground are presently incorporated into annual construction budgets. Funding for these system improvements is obtained via RUS as part of an approved four-year construction work plan. Based on CEC's historical construction activities, the current and future construction work plans will include funding to support system improvements as part of this plan and will not cause significant increases in lending requirements.
    c. Future opportunities
        i. As new technologies develop to combat wildfire risks, CEC will continue to evaluate and review for potential adoption of new technologies.
6. Reporting
    a. CEC will review efforts set forth in this plan annually and prepare a report for its board of directors, noting the performance of practiced mitigation efforts as well as providing an opportunity for updates to the plan. CEC will publish this plan and the annual report on its website. This plan is to be either updated or reapproved by the board of directors every two years.