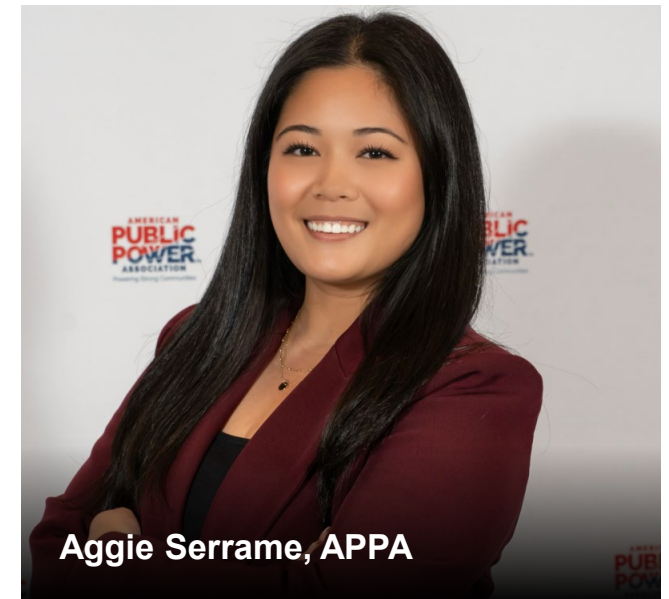


Utility Wildfire Mitigation Planning



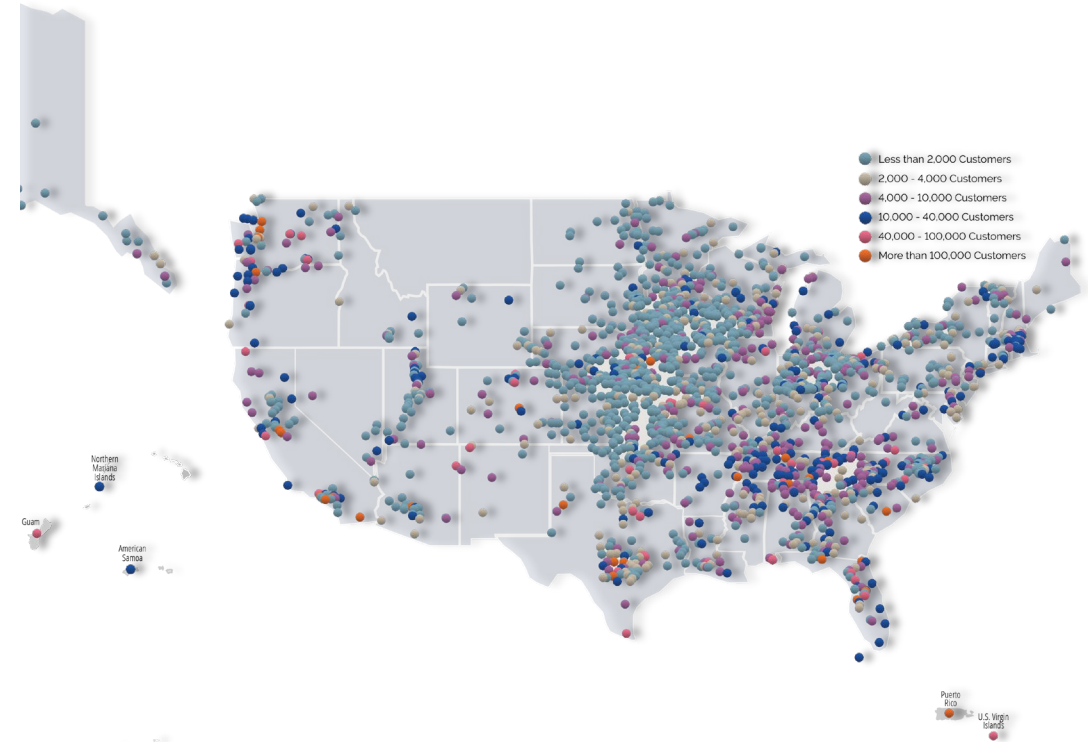
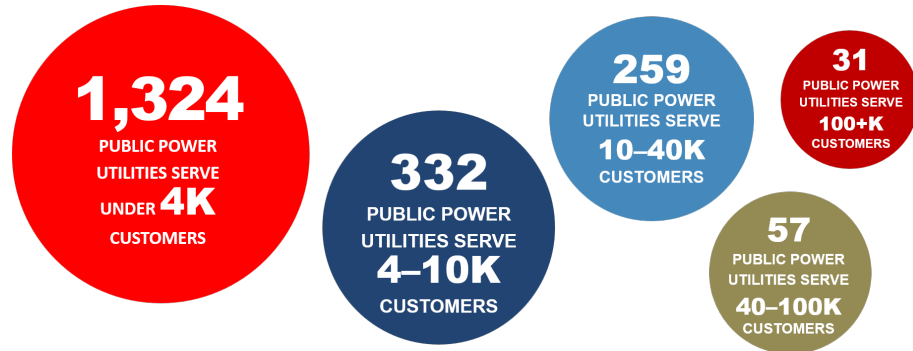
PNNL Wildfire Workshop

Utility Wildfire Mitigation Planning

August 12, 2026

About the American Public Power Association (APPA)

- The voice of not-for-profit, community-owned utilities that power 2,000 towns and cities nationwide
- We serve our nearly 1,500 utility members & 220 corporate members
- Public Power serves **1** in **7** Americans



Three Types of Electric Utilities



Public Power



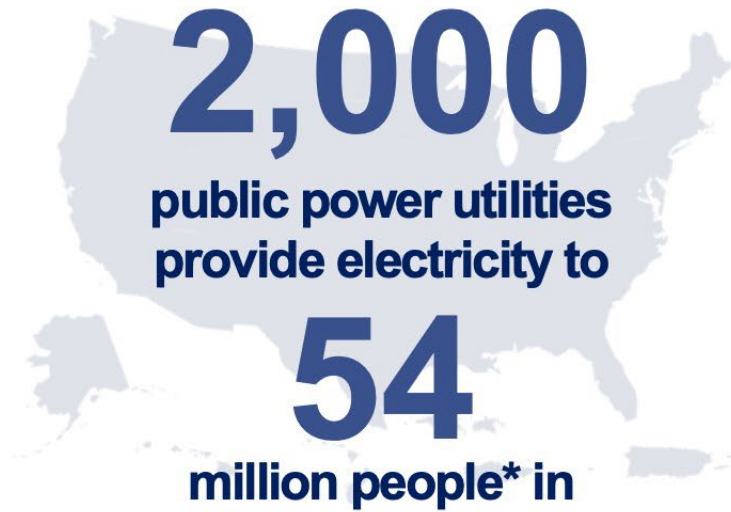
Rural Cooperatives



Investor-Owned Utilities

MODEL	Publicly owned, not for profit	Privately owned, not for profit	Publicly owned, for profit
ACCOUNTABLE TO	Community	Members	Shareholders
SHARE OF UTILITIES	60%	20%	6%
SHARE OF CUSTOMERS	14%	13%	68%
SHARE OF GENERATION	10%	5%	37%

Our Members

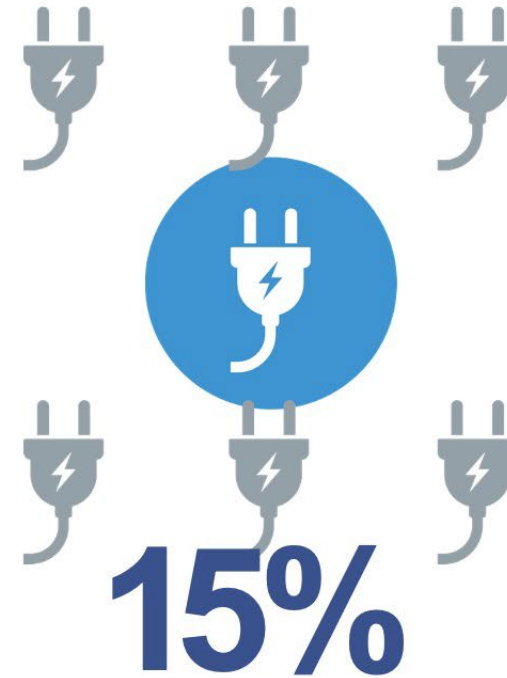


49
states and

5
U.S. territories

*Based on U.S. Census Bureau stats of 2.6 people per household/meter

&



**of electricity customers in the U.S.
are served by public power**

Public Power Utilities in North Carolina & Virginia



Virginia

UTILITIES

- Town of Bedford
- Virginia Tech Electric Service
- Town of Blackstone
- BVU Authority
- Town of Culpeper
- Danville Utilities
- Town of Elkton
- City of Franklin
- Town of Front Royal
- Harrisonburg Electric Commission
- City of Manassas
- Martinsville Electric Department
- City of Radford
- Town of Richlands
- City of Salem

JOINT ACTION AGENCY

- Blue Ridge Power Agency

STATE & REGIONAL ASSOCIATION

- Municipal Electric Power Association of Virginia



North Carolina

UTILITIES

- | | | | |
|--|-----------------------------------|--------------------------|-------------------------|
| • City of Albemarle | • Town of Fremont | • City of Lexington | • City of Robersonville |
| • Town of Apex | • City of Gastonia | • City of Lincolnton | • City of Rocky Mount |
| • Town of Ayden | • Town of Granite Falls | • Town of Louisburg | • Town of Scotland Neck |
| • Town of Belhaven | • Greenville Utilities Commission | • City of Lumberton | • Town of Selma |
| • Town of Benson | • Town of Hamilton | • Town of Macclesfield | • City of Shelby |
| • New River Light & Power Co. | • Town of Hertford | • Town of Maiden | • Town of Smithfield |
| • Town of Bostic | • City of High Point | • City of Monroe | • City of Southport |
| • City of Cherryville | • Town of Hobgood | • City of Morganton | • Town of Stantonsburg |
| • Town of Clayton | • Town of Hookerton | • City of New Bern | • City of Statesville |
| • City of Concord | • Town of Huntersville | • City of Newton | • Town of Tarboro |
| • Town of Cornelius | • City of Kings Mountain | • Town of Oak City | • Town of Wake Forest |
| • Town of Drexel | • City of Kinston | • Town of Pikeville | • Town of Walstonburg |
| • Town of Edenton | • Town of La Grange | • Town of Pinetops | • City of Washington |
| • City of Elizabeth City | • Town of Landis | • Pineville Electric Co. | • Wilson Energy |
| • Town of Farmville | • City of Laurinburg | • Town of Red Springs | • Town of Winterville |
| • Fayetteville Public Works Commission | | | |

JOINT ACTION AGENCIES

- North Carolina Eastern Municipal Power Agency
- North Carolina Municipal Power Agency No. 1

STATE & REGIONAL ASSOCIATION

- ElectriCities of North Carolina, Inc.

Wildfire Mitigation Is Not One-Size-Fits-All

Utilities are at different starting points based on:



Current wildfire exposure



Existing operational practices



Staff capacity



Budget and funding availability



Governance and decision-making structure



Access to data, tools, and external support

Wildfire Planning Now Accounts for More Than Ever

In Planning Today

Conditions utilities already factor into wildfire mitigation planning

Vegetation Growth & Fuel Accumulation

Longer growing seasons and changing vegetation conditions increase fuel loads near utility infrastructure

Hotter and Drier Conditions

Drought, high temperatures, and dry fuels increase ignition potential and wildfire intensity

Wind-Driven Fire Behavior

High-wind events can rapidly spread wildfires and complicate suppression and response efforts

Equipment-Related Ignition Risk

Utility equipment operating under extreme conditions can become a potential ignition source, driving investments in system hardening and protection technologies

Operational Readiness & Situational Awareness

Utilities are increasingly relying on weather monitoring, fire forecasting, inspections, patrols, and emergency coordination to manage wildfire risk

Expanding the Planning Lens

Additional conditions some utilities are beginning to build into planning

Extended Growing Seasons & Longer Fire Seasons

More days without freezes may extend vegetation growth and lengthen the duration of wildfire-prone conditions

Higher Cooling Demand & Operational Stress

Increased electricity demand during extreme heat may coincide with wildfire conditions and strain operations

Workforce Heat Exposure & Productivity Impacts

Extreme heat may reduce safe working hours and slow vegetation management, inspections, and field work

Changing Precipitation Patterns & Snowpack Loss

Shifts in rainfall and snowpack may alter vegetation growth, fuel conditions, drought cycles, and water availability

Forest Health Decline, Pest Pressure & Invasive Species

Long-term changes in vegetation health may increase dead fuels, tree mortality, and invasive species pressure over time



Where Do We Even Begin?

With more conditions to account for, utilities need a practical place to start - scaled to their size, risk, and resources.

A Staged Approach to Wildfire Mitigation Planning



Stage	What It Looks Like
Stage 1 – Starting Out	Understand risk, document existing controls, and establish basic processes and decision-making
Stage 2 – Existing Program	Strengthen existing controls, improve coordination, and prioritize actions using risk information
Stage 3 – Advanced Program	Integrate wildfire mitigation into long-term planning, governance, and targeted investments

Stage 1 – Starting Out

Starting out is for utilities with little or no formal program yet. Focus is on low-cost, operationally feasible actions that establish basic structure and clarity (i.e., steps any utility can act on now)

Wildfire Planning Challenge	What to Consider (low–moderate cost/effort)
 Vegetation growth & fuel load	• Start with a basic vegetation-management SOP focused on critical assets and access constraints • Prioritize clearance where ignition consequence is highest
 Forest health, pests, invasive species	• Treat forest health as an operational flag, not a science exercise • Flag corridors where die-off or invasives raise inspection frequency or removal priority
 Fire weather & extreme-day risk	• Define clear thresholds for high-risk days and what changes operationally (patrols, work restrictions, notifications)
 Operational stress during fire season	• Implement low-cost operating adjustments on highest-risk days (e.g., no hot work, modified schedules)
 PSPS / de-energization & coordination	• Develop a minimum viable framework even if rarely used: who decides, who communicates, and how re-energization occurs
 Prioritization under constraints	• Develop a foundational Wildfire Mitigation Plan (WMP) documenting controls, decision authority, and a short list of priority actions • Use APPA peer-learning groups to gauge what is realistic at similar utilities

Stage 2 – Existing Program

Existing program builds on baseline controls already in place. Focus is on risk-informed planning and more formal internal and external coordination, while keeping steps cost-conscious and achievable.

Wildfire Planning Challenge		What to Consider (moderate cost/effort)
 Vegetation growth & fuel load	• Move to data-informed prioritization • Use tools like LiDAR or enhanced inspections to build a multi-year vegetation workplan tied to risk	
 Forest health, pests, invasive species	• Shift from awareness to targeted treatments • Categorize vegetation or tree health and align removal criteria and partner coordination	
 Fire weather & extreme-day risk	• Use external weather or wildfire-risk expertise to define triggers and operational responses when in-house capacity is limited	
 Operational stress during fire season	• Formalize cross-functional coordination so operations, planning, power supply, and communications act together during high-risk periods	
 PSPS / de-energization & coordination	• Pressure-test plans through tabletop exercises and expand stakeholder awareness using CWPP or similar networks	
 Prioritization under constraints	• Use the WMP to sequence actions and justify selective outsourcing rather than trying to do everything in-house	

Stage 3 – Advance Program



Advanced program integrates wildfire mitigation into broader planning, operations, and investment. Focus is on durability and continuous improvement, scaled to what each community can realistically sustain.

Wildfire Planning Challenge	What to Consider (moderate–high cost/effort)
 Vegetation growth & fuel load	• Integrate vegetation risk into dashboards and long-term funding plans • Track asset-level and tree-level condition over multiple years
 Forest health, pests, invasive species	• Build strategic partnerships (e.g., universities, state climatologists) to anticipate changes that will alter future wildfire risk
 Fire weather & extreme-day risk	• Implement multi-source situational awareness (e.g., AI + fire-detection cameras + weather + dispatch workflows)
 Operational stress during fire season	• Deploy real-time monitoring (e.g., line sensors, weather stations) using phased, multi-year investment plans
 PSPS / de-energization & coordination	• Stand up customer-continuity supports such as community resource centers backed by MOAs and repeatable activation procedures
 Prioritization under constraints	• Clearly define how wildfire actions are prioritized and phased over time, and where external or shared support supplements internal capacity

Key Takeaways



Wildfire mitigation looks different for every utility



Utilities should first understand the risks most relevant to their system



Existing controls can often be strengthened before new investments are made



Prioritization should be driven by risk, not by what other utilities are doing



A phased approach helps utilities build programs that are realistic and sustainable

Public Power Wildfire Mitigation Planning Resources

Wildfire Mitigation Plan Template for Public Power Utilities



A foundational WMP template designed to help public power utilities begin their wildfire mitigation planning. Includes:

- Scalable sections: governance, risk, strategies, response
- Editable prompts and sample language
- ClimRR integration for future risk forecasting
- Designed for all utility sizes and risk levels

Wildfire Mitigation Strategies and Resources for Public Power Utilities



Guide for public power utilities to identify and apply wildfire mitigation strategies. Includes:

- Categorized mitigation strategies
- Real-world case studies from public power utilities to illustrate practical applications
- Implementation guidance tailored to utility size, geography, and risk profile
- Resource list from various agencies and sources

<https://www.publicpower.org/wildfire-mitigation-planning>

Thank you!

Aggie Serrame
American Public Power Association
Resilience Program Sr Manager
aserrame@publicpower.org



Find APPA's wildfire
mitigation resources
here!

Duke Energy Service Areas

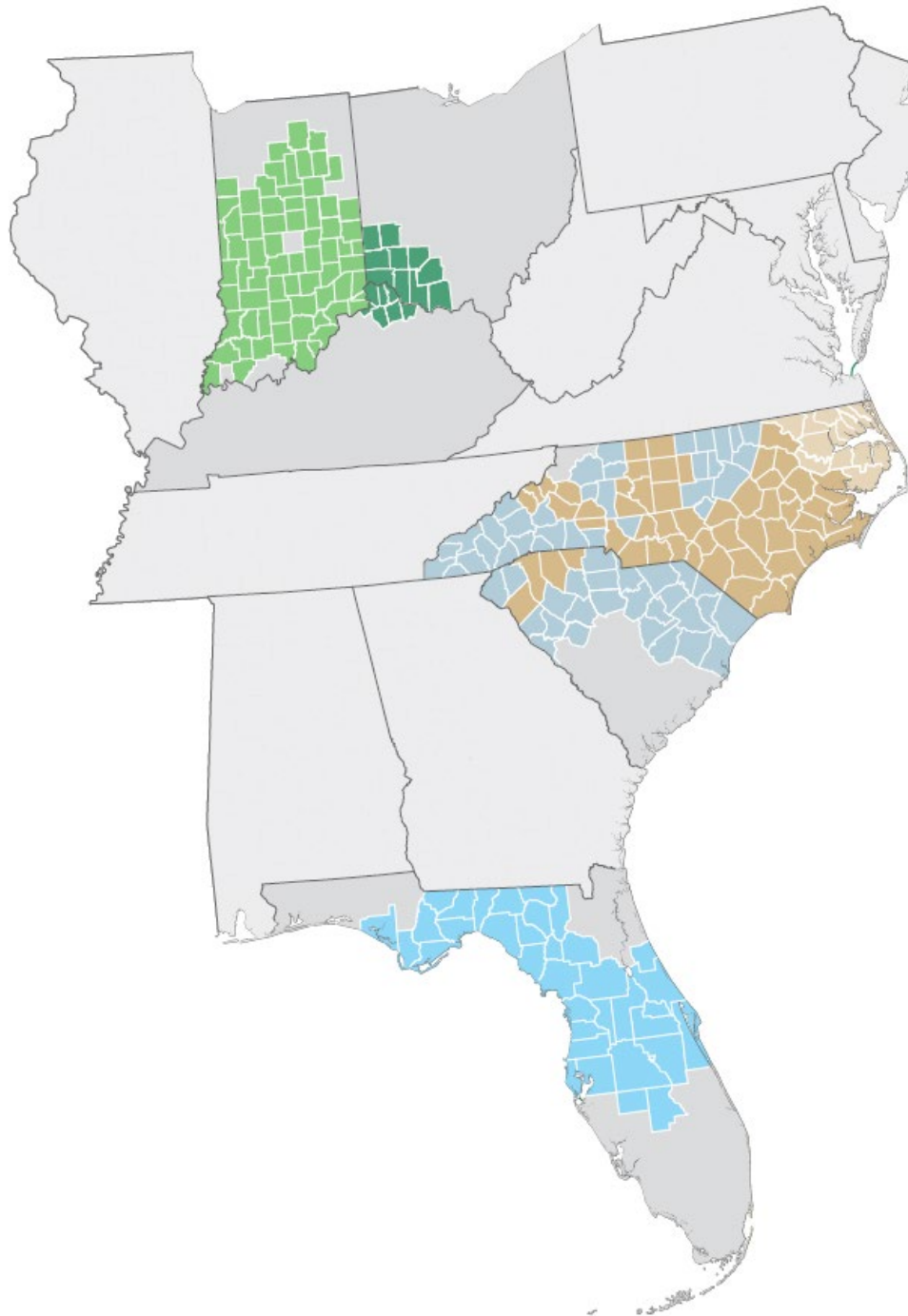
90,000+ Square Miles

54,800 Megawatts of Generation

31,400 Miles of Transmission

282,900 Miles of Distribution

8.5 Million Retail Customers



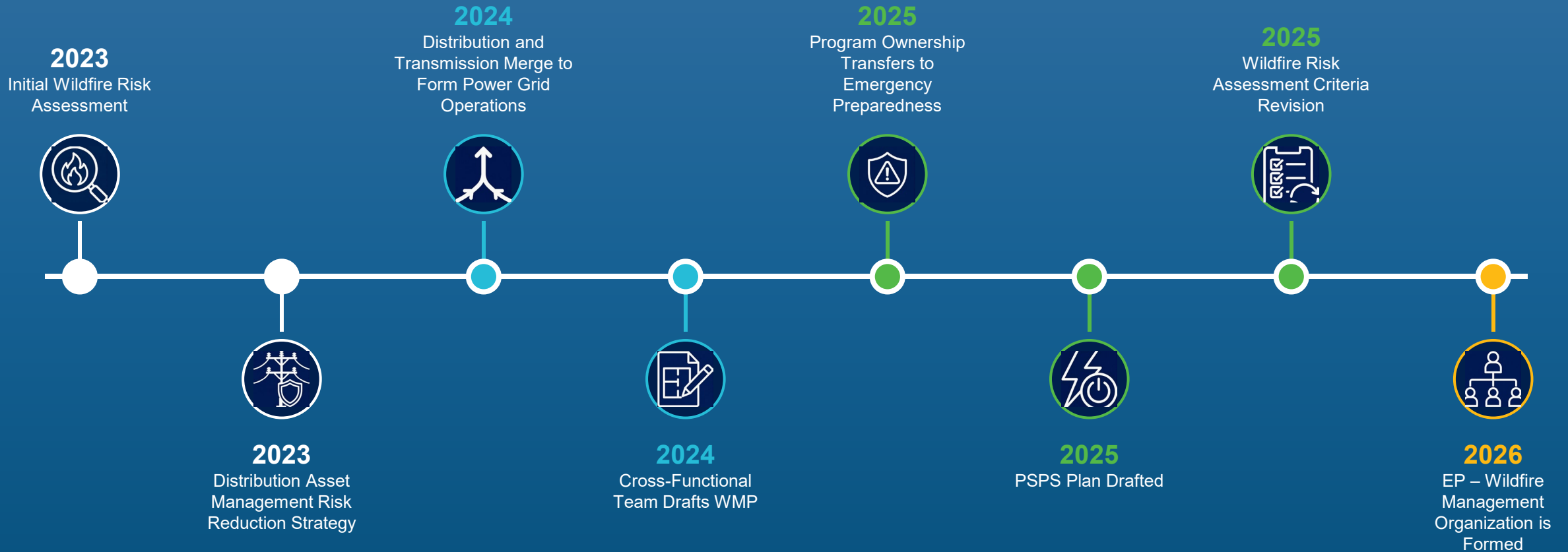
Service Territory Counties Served*

- Duke Energy Indiana
- Duke Energy Ohio/Kentucky
- Duke Energy Carolinas/Progress
- Piedmont Natural Gas
- Overlapping Territory
- Duke Energy Florida

*Portions may be served by other utilities.



Wildfire Program Evolution



Building a Wildfire Management Plan for Rappahannock Electric Cooperative

Protecting Members, Assets, and Reliability in a Changing Risk Landscape



Rappahannock Electric Cooperative



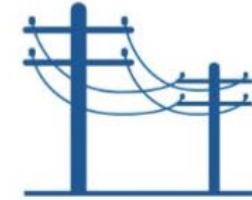
22
Counties



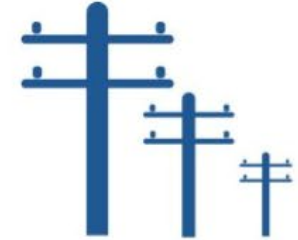
\$1.6B
Assets



4,000
Square-Mile
Territory



18,000
Miles of Power
Lines



186,000+
Primary Poles



100,000+
Transformers



185,000+
Accounts



\$575M
Revenue



465+
Employees



820
Miles of
Backbone Fiber



2,650
Miles of
Leased FTTH



Wildfire Risk Is No Longer a Western Issue

- Climate and weather trends increasing ignition potential and fire behavior in eastern forests and mixed-use landscape.
- Common for overhead distribution lines through wooded, rural, and suburban areas; Wildland – Urban Interface (WUI) increasingly significant in north central VA where more people and structures are being placed close to flammable vegetation. Outer suburban and rural interface zones prevalent.
- Reality check: Absence of state or federal mandate does not equal absence of risk or consequence.



CORE REASONS TO CREATE A PLAN

Risk Reduction

Provide visibility for all stakeholders in the organization; aids decision making

Operational Continuity

Reduce the frequency, scale and duration of events

Liability

Demonstrate due diligence, limit exposure to claims

Member & Community Trust

Show leadership in safety and resilience; align with cooperative principles

Safety

Clear guidance; reduce confusion and ad-hoc decision making

The power of a single, centralized document is key:

- One source of truth
- Easily distributable
- Designed to inform employees and stakeholders across the organization
- Strengthens the organization's ability to demonstrate good-faith compliance efforts

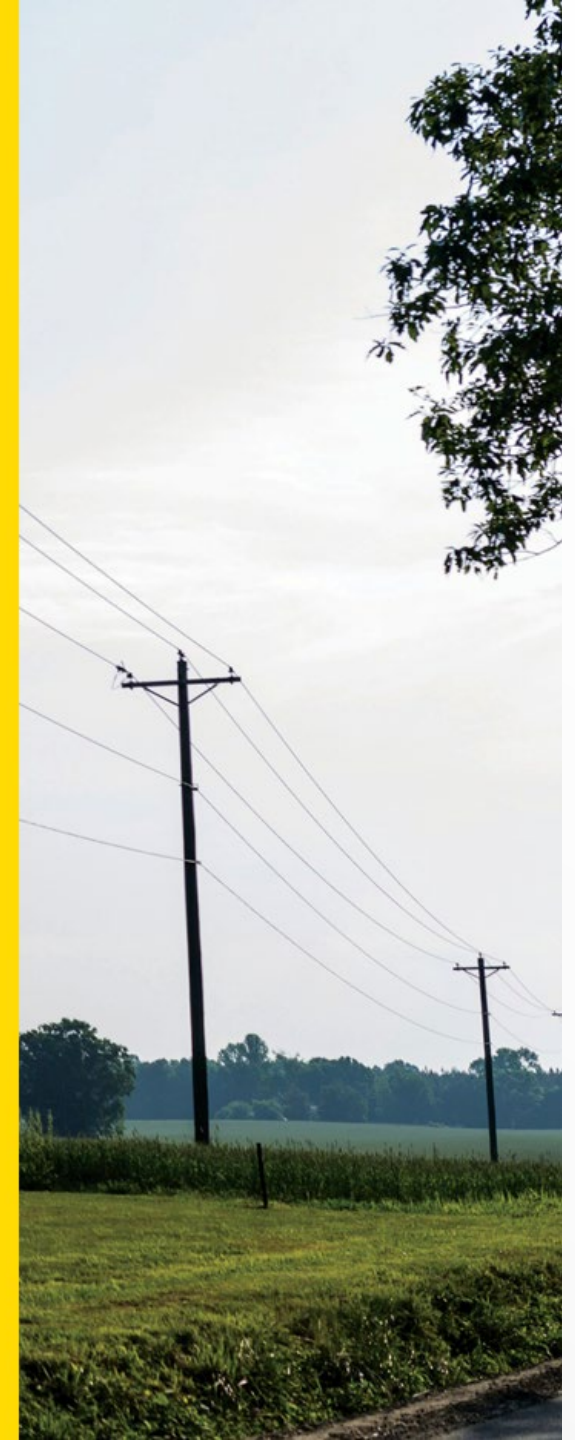


Plan Outline

- Purpose
- Objectives
- Risk Analysis
- Overview of Preventive Methods and Programs
 - Design and Construction
 - Inspection and Maintenance
 - Operational Practices
 - Situational/Conditional Awareness
- Emerging Technologies and Practices
- Emergency Preparedness and Response
- Event Communications
- Restoration of Service
- Monitoring the Wildfire Mitigation Plan
- *13 total pages*



WILDFIRE MITIGATION PLAN





End-state vision:

- Current, complete and accessible outline of preventative measures, roles, responsibilities, and responses
- Employees confident in where to find guidance
- Strong foundation for compliance, culture & risk management
- REC positioned as a best-practice, industry-leading organization