



EPRI Wildfire Mitigation Planning: Research and Applications

Research and Application Priorities

In addition to these priorities, EPRI's research and analysis provides insight on wildfire and worker safety, air quality modeling and health impacts, and vulnerable communities.

Wildfires present an increasing risk to the safety and resiliency of our communities and energy systems. Energy providers must be proactive and forward-thinking to ensure their operations, workforce, and long-term strategic plans are prepared for and equipped to handle this growing external threat.

For more than a decade, the Electric Power Research Institute (EPRI) has conducted industry-leading research to help energy providers develop strategies to prevent and prepare for wildfires, and increase resiliency to these events. From seasonal readiness guides, fuel removal, and environmental management to the recently launched Wildfire Advisory Group bringing together experts for analysis and best practices, EPRI leverages a deep and diverse portfolio of research and applications to help energy companies forecast and mitigate risks, build safer, more resilient operations, and incorporate new technologies and processes to deliver a more reliable customer experience. EPRI's breadth of expertise on these topics and many more provide members with a unique advantage as they navigate complex, emerging, and highly-specific needs.



Grid Resiliency and Reliability

Wildfires pose an increasing risk to the electric power system in terms of both the infrastructure that delivers energy to customers and the availability of that energy. As the associated threats persist and, in some locations, escalate, there is an increasing need to harden assets and develop forward-looking operational plans and proactive safety measures to support long-term resiliency. EPRI's research focuses on incident avoidance, system resiliency, response and recovery, and risk metrics to identify system vulnerabilities, develop cost-effective mitigation strategies, and explore the latest adaptation measures, monitoring technologies, and leading practices.

Improving Grid Safety and Resilience During Extreme Weather Events and Wildfires: Pre-Incident Mitigation, Event Response, & Post-Incident Recovery. Evaluation of utility structure vulnerability to wildfires, including effectiveness of heat damage mitigation techniques.	Doug Dorr, Transmission & Distribution ddorr@epri.com
Assessing Transmission Resilience to Future Climate Risk and High Impact, Low Frequency (HILF) Events	Anish Gaikwad, Transmission Planning agaikwad@epri.com Laura Fischer, Energy Systems and Climate Analysis lfischer@epri.com
Increased Transmission Resiliency by Improved Restoration for HILF Events	Anish Gaikwad, Transmission Planning agaikwad@epri.com
Evaluating Wildfire Suppressant Chemicals for Efficiency and Application Methods	Lea Millet, Transmission and Distribution Environmental Issues lmillet@epri.com



Environmental Mitigation

Proactive environmental management is a key mitigation effort to reduce the potential for and impacts from wildfire events. EPRI provides resources to incorporate ecosystem impacts and sustainability into financial analysis, risk management, and long-term planning. Research focuses scientific evaluation of existing fuel removal and vegetation management practices, identifying new, innovative methods, technologies, and approaches, and designing company-specific criteria to support wildfire mitigation priorities and stakeholder engagement. Complementary analytical capabilities include interpreting and applying global climate model projection data, specifically localized climate variables of interest for evaluating potential exposure and vulnerability of generation and transmission and distribution assets.

Fuel Removal for Wildfire Management: Evaluation and Options	Nalini Rao, Ecosystem Risk and Resiliency nr Rao@epri.com
Fuel Removal for Wildfire Management: Measuring Performance	
Fuel Removal for Wildfire Management: Priority Research	
Using Data Analytics to Understand Extreme Events	
Climate Data Repository for Localized Vulnerability Assessments	Delavane Diaz, Energy Systems and Climate Analysis ddiaz@epri.com
Using IVM to Reduce Invasive Species and Fire Risks	Jonathan Black, Transmission & Distribution Environmental Issues jblack@epri.com
Avian-caused Outage Risk Modeling	



Enabling Customer Resiliency

Proactive utility power shutoffs have been employed to reduce ignition of wildfires, but these measures challenge community health, safety, and economics. EPRI's research explores a number of avenues to support community resilience including microgrids, mobile and transportable storage, electric vehicle-to-home standby power solutions, fire-resilient manufactured homes with smart energy management, and customer programs.

Energy Storage for Customer Resilience	Morgan Smith, Energy Storage & Distributed Generation, mdsmith@epri.com
Transportable and Mobile Energy Storage	Peggy Ip, Energy Storage & Distributed Generation, pip@epri.com
Residential Battery Storage Operations in Rolling Blackouts: Can Customer Energy Storage Improve Grid Reliability	Erin Minear, Energy Storage and Distributed Generation eminear@epri.com
Incorporating Resilience into Customer Programs: Smart Panels and Building Envelope	Sara Beaini, Advanced Buildings sbeaini@epri.com
Smart Power Integrated Node (SPIN) Enabling Electric Vehicle-to-Grid and Resiliency Functions	Sunil Chhaya, Electric Transportation schhaya@epri.com



Plant Operation and Risk Management

EPRI's research provides insight to enhance or develop robust emergency plant operations and seasonal readiness to support safe, reliable operation despite extreme weather conditions. Assessments and guides help to reduce risks and uncertainty and ensure the safety and resiliency of nuclear, fossil, gas, or oil-fired power plants in the face of weather-related emergencies, seasonal issues and other external threats.

Seasonal Readiness Guideline for Fossil, Gas, or Oil-Fired Power Plants	Dwayne Coffey, Plant Management Essentials, Generation I dcoffey@epri.com
Resiliency of Nuclear Plants in the Face of Climate Change	Rob Choromokos, Risk & Safety Management, Nuclear I rchoromokos@epri.com
COMING SOON: Wildfire Smoke Health and Safety Hazards	Annette Rohr, Health and Safety, arohr@epri.com

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 U.S. Accounts, 704.533.4531

Other Core Competencies

Energy, Environment, and Climate Policy

Analysis: Provides modeling, analysis, and information on potential costs and benefits of policies, regulations, emerging technologies and shifting market drivers.

Health and Safety: Produces actionable tools and insights to reduce injuries and illnesses and improve the quality of life, productivity, and job satisfaction of employees. Research includes investigating the health impacts of air quality, including wildfire smoke, in both the workforce and the community.

Air Quality Modeling and Measurements:

State of the art air quality modeling tools and ambient measurement techniques combined with staff expertise to provide electric power companies with knowledge into the impacts of wildfires on air pollutant concentrations.

Resource Adequacy: Provides research and guidance to enable utilities to meet critical energy demand in all scenarios while using variable and/or distributed energy resources.

Climate Resilience and Adaptation Initiative (Climate READi);

EPRI is strengthening the power sector's collective approach to managing climate risk to the power system. Through Climate READi, EPRI is working to build a common framework for physical climate risk assessment in the electric power sector. Energy companies, regulators, policymakers, and other industry stakeholders require science-based insights about the future power system and the environment in which it will operate to identify optimal adaptation and resilience investments. EPRI's collaborative model has convened the global thought leaders and scientific researchers necessary to build an informed and consistent approach. For more information, visit www.epri.com/readi.



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