

# Vegetation Management for PSC Jurisdictional Utilities

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Presentation: Local Government Interim Joint Committee  
June 21, 2022



## **PSC Mission**

To foster the provision of safe and reliable service at a reasonable price to the customers of jurisdictional utilities while providing for the financial stability of those utilities by setting fair and just rates, and supporting their operational competence by overseeing regulated activities.

# Reliability—Service and Rates

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- Since 1934, the primary statutory directive of utility regulation in Kentucky revolves around:
  - Rates
    - Fair, just and reasonable
  - Service
    - Adequate, efficient and reasonable
- Most everything in utility regulation comes back to these principles.

# Relevant Statutes and Regulations

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**KRS 278.042—Service adequacy and safety standards for electric utilities—National Electrical Safety Code**

**KRS 278.010(14)—Definitions**

"Adequate service" includes assurance that customers have reasonable continuity of service.

**807 KAR 5:041**

Utilities are required to make all reasonable efforts to prevent interruptions of service and restore service as promptly as possible.

# Utility Vegetation Management

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*“It is generally accepted that the single largest cause of electric power outages occurs when trees, or portions of trees, grow or fall into overhead power lines . Virtually every electric customer in the US and Canada has, at one time or another, experienced a sustained electric outage as a direct result of a tree and power line conflict. While this is a more common problem on distribution lines, transmission tree-related outages are also experienced on a regular basis.”*

Federal Energy Regulatory Commission (FERC) report following the Aug. 14, 2003, Northeast Blackout

# Utility Vegetation Management—PSC Role

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- Ensure jurisdictional utilities provide reliable service to their customers.
- Utilities submit vegetation management plans and reliability reports—these documents are posted online.
- Persistent problems might require more oversight.
- Vegetation Management costs—most expenses, if deemed prudent/reasonable, are eligible for recovery in customer rates.
- Utilities are required to provide details regarding vegetation management expenses—but the PSC does not oversee vegetation management operations.

# PSC Role: Utility Vegetation Management

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- Relevant Cases
  - Case No. 2006-00494—Reliability Measures and Maintenance Practices for Electric Utilities
  - Case No. 2011-00450: Reliability Measures of Kentucky’s Jurisdictional Electric Distribution Utilities
  - Administrative case— Report on the September 2008 Wind Storm and the 2009 Ice Storm (“Ike and Ice”).
    - Almost all damage was to the distribution system, and most of that was due to falling trees and limbs.
    - “These storms highlighted the effect vegetation management practices have on electric system reliability.”
    - Undergrounding all of the existing transmission and distribution lines would be cost-prohibitive (estimated to be in the many billions of dollars).

# Federal Guidelines & Requirements

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- Tree contact with transmission lines—leading cause of electric power outages and a common cause of past regional blackouts, including the August 2003 blackout that affected 50 million people in the Northeast United States and Canada.
- Electric Reliability Standard FAC-003-4 requires trees/vegetation growing in or adjacent to the power line right-of-way be trimmed to prevent power outages.
- Regular pruning beyond the minimum clearance distance necessary to account for continuous growth and sway with the wind. ***Power lines sag due to high usage, heat, or snow/ice build-up, thus prudent right-of-way maintenance requires a greater clearance distance than may appear to be necessary.***
- Each utility develops and implements its own tree trimming or vegetation management plan that must conform to requirements of state or local authorities and any applicable right-of-way or easement agreement with the property owner.

Source: [www.ferc.gov/industries-data/resources/tree-trimming-and-vegetation-management](http://www.ferc.gov/industries-data/resources/tree-trimming-and-vegetation-management)



# Excerpts from Actual Reliability Report

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- The majority of the Vegetation outage minutes are due to a large live locust tree 15 feet from the centerline that uprooted & fell across the conductor.
- The majority of the Vegetation outage minutes were on the same day when a large, live Bradford Pear tree 15 feet from the centerline split above the base & fell across the conductor. All repairs were made at the time of the outage.
- All of the Vegetation outage minutes were on the same day when vegetation brought down wire & a transformer fuse had to be opened to safely make repairs.

# Vegetation Management Costs

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- Escalating expenditures are occurring among all utilities because of significant increase in labor, fuel, and equipment costs.
- Costs vary across utilities—urban versus rural service territories, miles of lines, topography, etc.
- Costs can range from hundreds of thousands to \$20 million or more a year.

“Vegetation management is frequently the single largest line item in annual operating budgets.”

National Association of Utility Commissioners

# Costs of Deferred Vegetation Management

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- Degraded service reliability
- Increased restoration costs
- Increased cost as vegetation/trees grow and become more difficult to control
- Increased disposal costs of vegetation/tree removal
- Increased costs for conducting maintenance outside of regular VM cycle
- Increased liability costs for when damages/outages occur
- Increased insurance premiums to cover risks

Source: *Utility Arborist Association*

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