

2023

Vegetation Management Plan



Nick Reed/Andy Eakle
Kiamichi Electric Coop.
6/19/2023

FOREWORD

The information provided is intended to help our members and other stakeholders better understand necessary maintenance procedures in KEC's power line easements. We hope this will answer some of the most common questions regarding trimming and re-clearing of vegetation and removal of trees in or near KEC's overhead and underground electrical system.

The primary goal of any electric utility is to provide safe, economical, and reliable service for its members. If we do our job well, members don't even think about their power—it is simply there on demand, whenever they need it, to power their computers, appliances, and other needs.

Achieving this goal, however, involves a diverse set of programs managed by the utility. One of the most important—and most visible—of these is the Vegetation Management Program. Vegetation management is unique among reliability programs because of its direct impact on members.

Although most members understand and accept vegetation management as a necessary task, there will always be cases where KEC's responsibility to prune trees or remove vegetation creates conflict with members who object. This is a universal issue for electric utilities and one KEC has experienced from its early days.

We are sensitive to members' concerns about this issue and have invested significant effort and resources in developing the vegetation management program. As a result, it has become a coordinated, consistent, and professional program driven by national standards. Our commitment includes a focused communication effort and a continuous improvement plan based on our past successes, failures, future needs, and increased one-on-one interactions with our members. Even the very best program, however, will face resistance when its standards conflict with the wishes of an individual member. It is important to understand that regardless of the changes we make in our program, there will always be the potential for conflict when any given member objects to our work. No Vegetation Management Program can be designed to eliminate impacts on every member.

In the end, however, KEC has an obligation to all members to maintain safe and reliable electric service. Vegetation management is an important component of that requirement and must continue. KEC is continually working to improve its performance as an electric utility in the areas of reliability, fiscal responsibility, safety, member education, and satisfaction. Our hope is that the efforts we have made and will make in the future will help our members better understand the KEC vegetation management guidelines.

SAFETY

For decades, trees and power lines have shared the same space. Unfortunately, trees growing near power lines can be dangerous and cause power outages, especially when we have wet snow, ice, or severe wind conditions. Right-of-way clearing is an important part of KEC's goal of delivering safe, reliable, cost-effective, and environmentally responsible power. Tree and brush clearing can help reduce the number and length of outages. By keeping the trees and brush out of the right of way, emergency repairs can be completed safely and in less time. In order to maintain an adequate level of reliability and to ensure a high standard of quality service for our members, KEC manages vegetation growth that may create a problem.

Existing overhead lines and equipment are evaluated to ensure appropriate clearances are maintained. The growth cycle of trees and brush is also considered, as some faster-growing vegetation may require more clearance than others. KEC crews exercise due diligence in removing and trimming only what is necessary. In some cases, a tree may not look as though it will not create a line conflict, but when loaded with snow or ice, it can contact the overhead lines.

Remember always to look up and look out for power lines when working outdoors. Coming into contact with energized equipment or power lines will result in serious injury or death. Avoid power lines when using aluminum ladders, tree-trimming equipment, or other tools that extend above your head. When cutting or trimming trees on your property, always be aware and locate any electric lines and utility equipment that may come in contact with the tree or branches being cut. If a tree falls on a power line, please keep everyone away from the tree and call KEC to report the issue so that KEC can respond.

Trees, tree branches, vines, and brush can be a conductor of electricity. Electrical shock or electrocution can occur through indirect contact when trees or tree branches have grown into or close to energized power lines or equipment. It is extremely important to keep children from climbing trees that have power lines running through them due to the risk of shock or electrocution.

OBJECTIVES

No plan can succeed without clear, concise goals or objectives. The following objectives have been identified as crucial to the success of the KEC Vegetation Management Plan.

- Ensure safe, reliable, and sound economical electric service.
- Consider associated costs and the impact on KEC members.
- Appropriately maintain trees within power line rights-of-way.
- Support good arboricultural practices to ensure healthy trees.
- Ensure effective communication with members regarding vegetation management and dispute resolution.
- Strengthen community, member, and contractor education.
- Balance the rights and responsibilities of property owners and KEC, ensuring all members are treated equitably.
- Respond quickly to any questions or complaints from our members relating to vegetation management.

THE CHALLENGES

KEC faces a daunting task in the effort to manage vegetation over the entire distribution system properly. KEC must maintain the following miles of line:

	Overhead Distribution	Underground Distribution
Total	4059 Miles	178 Miles

It is important to remember that KEC's system continues to grow as new lines are built each year.

Some of the major challenges encountered in KEC's vegetation management efforts are listed below.

1. **Weather**--The weather in Oklahoma presents challenges not seen in many other areas of the United States. Wind conditions can cause extensive damage to the electrical system in a very short period of time. Snow and ice buildup on trees cause many trees outside of KEC's easement to lean into power lines causing more damage and more outages.
2. **Access issues created by members**--Placement of fences, planted vegetation and other obstructions in the right of way or around pad-mounted equipment create access issues for our clearing and line crews.
3. **Rapid vegetation growth**--Several species of trees in Southeast Oklahoma thrive in the moisture and soil conditions, creating very fast-growing trees. These species of trees, however, are very susceptible to breaking with wind or ice loading.

Why Does KEC Clear?

We clear for several basic reasons:

- Safety for KEC employees and the public. Each year in the United States, members of the public are injured cutting trees onto power lines or attempting to remove trees from power lines. In addition, children are sometimes injured climbing trees that have grown into overhead power lines.
- A clear right of way enables our line crews to quickly access power lines, identify outage causes, and make repairs. Maintaining cleared rights of way helps shorten the length of outages considerably.
- To prevent **danger trees** from falling into the lines. **Danger trees** are standing trees that present a hazard due to conditions such as deterioration or physical damage. Trees falling into power lines are one of the leading causes of power outages. *A **danger Tree** is defined by ANSI A300 Part 7 as A tree on or off the right-of-way that could encounter electric supply lines by growing into, falling into, swaying into, or sagging.*
- To prevent trees from growing into power lines which energizes the tree and creates a hazard to people, pets, and equipment. Also, electricity going into the tree and then into the ground costs us all money, like leaving the water running while no one uses it.
- KEC, as an electric cooperative, strives to comply with applicable legal standards, including those set forth by the Rural Utilities Service and adopted by the State of Oklahoma. One of these standards is to build and maintain lines according to the National Electrical Safety Code (NESC).
- Mitigate the risk of wildfire by reducing the available fuel source in the event of a down power line.

What does KEC Clear?

KEC starts by establishing a clear path when new electric lines are installed. Trees are removed, underbrush is cleared, and nearby trees are trimmed from ground to sky, so the line has adequate clearance. Just as it is KEC's responsibility to clear the path at the time a new line is built, it is also our responsibility to keep the path clear by trimming and removing trees near high-voltage lines and applying herbicide regularly after the line is built.

At the time a new line is built, written permission to place electrical facilities on the property in the form of an easement is granted by the current property owner. Easement rights enable the line to be placed and KEC to access the property for maintenance and repair in the future. These Easements are intended to last for the lifetime of the electric line, even if the property is transferred to a new owner.

The width of the easement is determined by the type of line or equipment KEC will place on the property. Typical easement widths for overhead distribution lines are 30 feet or 40 feet, depending upon whether the line is single phase (one energized conductor and one grounded conductor) or 3 phases (three energized conductors and one grounded conductor).

Easement rights also allow KEC to come back as needed to re-clear vegetation. When KEC re-clears the easement, it is cleared back to the original width established when the power lines were installed. Easements are considered ground to sky.

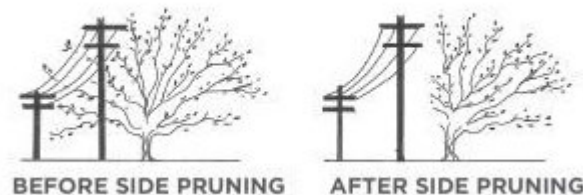
How Does KEC Clear?

Vegetation Management at KEC is accomplished using a combination of KEC employees and contractors. KEC maintains an in-house Vegetation Management Department, which works year-round to control vegetation. During most years, two or three vegetation management contract crews are also working on KEC's system.

Clearing Methods

Listed below are the methods utilized in KEC's vegetation management program.

- **Tree Pruning and Trimming** - All pruning practices follow modern guidelines as published by the International Society of Arboriculture (ISA) and are consistent with ANSI 300 standards. Correct tree trimming should promote tree growth away from electrical conductors, provide longer periods of clearance, and reduce future work. Tree pruning is accomplished by KEC or contract personnel climbing trees or using aerial lifts to access limbs that must be removed.
- **Side-pruning:** Side pruning is pruning where tree growth is steered to one side or another of the power lines by removing branches on just one side. This will be accomplished to achieve the correct right-of-way clearance.



- **Tree Removal** - Tree removal is an important element of KEC's Vegetation Management Program. Tree removal eliminates hazardous conditions, improves access to facilities and reduces future work. Tree removals will be pursued wherever feasible. When performing our vegetation management duties, we do our best to preserve the trees you have. But in some cases, problem trees or improperly planted trees pose an unacceptable risk to safety and reliability if left standing. In those cases, KEC will inform you that the tree needs to be removed and will remove it at no cost to you.

Tree Removal Candidates

- Trees that are located within KEC's easement.
- Trees located at homes, schools, parks, and businesses, or other areas, which children may climb easily and contact primary conductors.
- Climbable trees or trees with tree houses close to primary conductors.
- Fast growing trees that may interfere with primary conductors before the next maintenance trimming.
- Immature trees that are not interfering with primary conductors now but could at their mature height.
- Dead, dying, diseased, deformed, and unstable trees that have a high probability of falling and contacting primary or secondary conductors. This may include trees located outside of KEC's easement. (Danger trees)
- Trees that require extensive trimming.
- Trees blocking access to overhead and underground easements.

Tree Removal Conditions

- Tree removals are normally limited to 20 feet either side of distribution conductors, excluding danger trees.
- Danger trees (outside of the right of way) will in the opinion of KEC be removed if there is a threat of the tree or limbs falling and contacting the primary conductor.
- Stumps will be cut as close to the ground as practical (6'-18') in all areas.

Mechanical Methods - Mechanical equipment is currently the primary method by which KEC clears easements and includes the following methods:"

- Hand Cutting - Hand cutting is the mechanical cutting of vegetation using chain saws, brush saws, loppers, or hand pruners. Hand cutting may be conducted at any time of the year. Target species are cut as close to the ground as practical. Hand cutting is used to protect environmentally sensitive or wet areas, as well as around structures, gates, or access roads and on sites where terrain, site sensitivity or site size makes mowing impractical.
- Mowing - Mowing is the mechanical cutting of vegetation using large tree/brush mowers mounted on rubber-tired tractors or tracked vehicles. Mowing may be used at any time of the year except when conditions prevent safe operation. Selection of specific equipment is based on terrain, vegetation size, location, and equipment availability. Mowing is restricted by steep slopes, rocky terrain, obstructions, wet sites with deep soft soils and debris on the right of way.
- Skytrim - A machine with a large boom and a circular saw on the end.

Member Requests for Tree Removal

Every year, KEC receives several hundred requests from members to remove trees or limbs that the member feels are dangerous to KEC power lines. KEC reserves the right to refuse to cut or remove any trees which pose no danger to KEC's facilities or can be safely cut or removed by a private tree company with no damage to KEC power lines.

Herbicide Application

This section covers the methods, procedures, and other information necessary to guide those engaged in target brush species control through the application of herbicides. All line clearance target brush species control work shall be completed in compliance with this document, in addition to all other relevant specifications contained in this document.

Herbicides used for vegetation management will be registered for use by the United States Environmental Protection Agency and approved for use by the Oklahoma Department of Agriculture. The Certified Applicator will be responsible for ensuring compliance with all federal, state, and local regulations governing herbicide use. Herbicides shall not be used in violation of any applicable law or regulation.

KEC's ROW Supervisor will specify the location of all herbicides used and review and approve the type of herbicide, mixtures, and method of application. In all situations, herbicides shall be applied in strict conformance to label requirements and the requirements of any state or federal agency having jurisdiction, except in situations where utility experience and/or generally accepted practices within the industry indicate the need for a more restrictive application.

Herbicides shall be applied only by trained applicators certified by the Oklahoma Department of Agriculture.

Herbicides shall be applied to target species as directed by the KEC ROW Supervisor along the entire length and width of identified rights of way, excepting any required buffers on water supplies and/or sensitive areas.

Herbicides shall be applied at the minimum label rate known to be effective for the target species, brush density, and site. Herbicides shall not be used at locations where or during times when they may pose an unreasonable risk of off-target dispersion. Applicators must assess surroundings and evaluate weather conditions to determine if the application should be performed. This includes consideration of wind speed and precipitation conditions.

Record-keeping of herbicide applications will be done at the direction of the ROW Supervisor in accordance with applicable state and federal regulations.

Herbicides are typically applied one year after each right-of-way section has been trimmed/cleared during the growing season.

Herbicide Application Methods

The following briefly describes the available herbicide application techniques acceptable for use on KEC's system.

- Selective Low-Volume Foliar Application. Undesirable woody vegetation in rural areas below a height specified by KEC's Vegetation Management Coordinator shall be treated with a solution of herbicide, a surfactant (if required) and water. Application is made with a hand-powered sprayer. The leaf surface is lightly wet. The applicator is to walk the right of way and treat each target plant. Care shall be taken not to apply the herbicide to desirable or non-target species. This herbicide treatment shall be performed only during the active growing season.
- Select Low-Volume Hardwood application is a process called "hacking" a cut through the bark of the tree where the herbicide can be applied to the fibers of the tree.

Communicating With Our Members

As a member-owned electric service provider, KEC is committed to serving our members effectively and efficiently by utilizing sound business practices and appropriate technology. Effective communication is crucial to the success of any endeavor, especially one that impacts as many members as our Vegetation Management Plan. Communicating with this number of members can be challenging since one method of communication is not guaranteed to reach everyone.

KEC's communications strategy is to use the following methods.

- KEC website, at kiamichielectric.org, will have a copy of our Vegetation Management Plan as well as maps of the areas where clearing will occur. The Vegetation Management Department's phone number and email address can also be found here.
- Facebook will also be utilized to provide clearing information.
- Phone/Text for specific areas to be cut.
- Door hangers are installed at each residence impacted by clearing activities. Typically clearing activities are performed by the tree services contracted by KEC. These are installed approximately two (2) days prior to the start of clearing activities.
- Look in the latest edition of Light Post.
- **The KEC Vegetation Management Department can be reached at 918-465-2338 ext. 5672 any time there is an issue.**

How Can Our Members Help?

KEC supports the philosophy of “the right tree in the right place” to have a more attractive community to live in and a more dependable electrical system to serve our members. Our members can take several relatively simple steps to assist KEC in properly maintaining power line easements.

- Keep the easement clear of debris and obstacles which create an obstruction.
- Make any perspective buyer aware of existing power line locations and applicable KEC easements.
- Plant trees out of the easement where they will not cause a problem with power lines in the future.
- Place all plants and landscaping a sufficient distance from underground electrical equipment to allow access by KEC personnel.
- Stay clear of areas where KEC clearing activities are occurring.
- Please treat our crews with respect. Our crews are there to perform their job and are required to treat everyone they encounter with dignity and respect. If there is a concern, our crews are instructed to contact a supervisor to assist in resolving the concern.
- Report any hazardous trees you see to our Vegetation Management Department so we can determine if the tree needs to be removed.

We look forward to working with all our members to continue to provide safe, economical, and reliable electric service. Please get in touch with us at 918-465-2338 ext. 5672 with any questions or concerns.

