Rappahannock Electric Cooperative

Integrated Vegetation Management Plan
to Accompany SUP 2020-00007

December 11, 2020

This Integrated Vegetation Management Plan (this "IVM Plan") is prepared by Rappahannock Electric Cooperative ("REC") in connection with its proposed 115 kV transmission line in Albemarle County.

Background:

Unmanaged vegetation growing near power lines can damage electric facilities and cause problems with public safety, power supply, access, emergency service restoration, security, and lines of sight. It can also compromise compliance with environmental, legal, regulatory, and other requirements. Vegetation interference with power lines is one of the most common causes of electrical outages, as it can cause electric service interruptions when it contacts or comes sufficiently close to overhead high-voltage conductors to create an arc. Vegetation and conductors can come too close together when they are blown into one another by high wind or when lines stretch and sag due to high temperatures or heavy snow or ice buildup. Trees may also provide access for children and others to lines, potentially resulting in contacts that can cause serious injury or death.

In light of the effect that tree-power line conflicts can have on public safety and service reliability, utilities are required to control vegetation growing in proximity to electric facilities. Proper vegetation management along utility rights-of-way ("ROW") is particularly essentially for avoiding problems attributed to poorly managed vegetation and overgrowth

Integrated Vegetation Management ("IVM") is a practice of promoting desirable, stable, low-growing plant communities that will resist invasion by tall growing tree species, through the use of appropriate, environmentally sound and cost-effective control methods. IVM strategies are both integrative and site-specific and can reduce the environmental impacts on land, water, habitat and wildlife, and reduce environmental and human health risks in a more effective, safe, and cost-effective manner.

Objectives

REC's objectives in this IVM Plan are:

- Implement environmentally sound, cost-effective control of vegetative species that potentially conflict with REC's electric facilities and infrastructure, while promoting compatible, early successional, sustainable plant communities which have myriad environmental, health, and social benefits.

- Prevent outages caused by vegetation. Execute a proactive approach to prevent and reduce exposure to tree-caused power outages that balance all other Objectives.

- Maintain access for its employees and contractors to safely carry out maintenance and repairs within the ROW, and minimize injuries due to slips, trips, and falls.

- Facilitate prompt and safe restoration of electric service during emergencies and outages

- Protect its infrastructure (including poles, wires, and transformers, among others).

- Proactively manage to promote native Virginia meadows, low growing shrub landscapes, and native species pollinators in the existing and proposed utility easement areas by suppressing forest succession.

- Promote lower growing trees, certain amounts of brush, grasses, wildflowers, and other compatible vegetation that is compatible with safety needs and regulations, and that is visually pleasing when viewed from the Entrance Corridor.

Site Evaluation:

After managing this portion of its territory for many years, REC is very familiar with the site characteristics and conditions, which vary along the 1.6-mile span of the project. Some areas are wooded, some are developed with private residences and associated lawns and accessory structures, others are developed with small businesses and associated improvements such as buildings and parking lots. One parcel includes a house of worship and areas that are wooded and others that are open.

There is a variety of Virginia upland mixed hardwoods, with excellent growing site conditions (excellent soil, drainage, and water). REC has assessed the height of its poles and lines, density of stems per acre, species, voltage, loading, and other site conditions.

Trees adjacent to the line will be pruned based on projected growth which varies dramatically depending on species. For example, a maple tree may grow six to ten feet per year on a favorable site, while a cedar tree may only grow six inches.

Trees within the right-of-way will be allowed to remain if they are low growing, compatible species such as redbuds, dogwoods, winterberry, serviceberry, etc. Trees that are incompatible, such as yellow-poplars, oaks, maples and other “timber-sized” species will be removed every five years. In addition, trees outside the right-of-way may be periodically assessed for health and vigor and selectively removed if they are found to be potentially dangerous.

Some of the areas that currently have a “tunnel” effect created by trees that hang partially over Rt. 29, will be more open and be more visually pleasing after the vista is created between the road and new tree canopy line.

Based on this site evaluation, REC has determined that a five-year maintenance cycle is appropriate, along with a mid-cycle hazard tree inspection. The mid-cycle inspection will assess whether any hazardous situations have developed since the maintenance was carried out, and provide an opportunity to conduct appropriate remedial action to correct those situations. REC has a fiduciary responsibility to its member owners to minimize expenses associated with maintenance cycles, but the site characteristics of the project area are such that there is the potential for hazards to develop in less than five years. The mid-cycle assessment is designed to reduce these hazard risks.

Action Thresholds

Action thresholds for this project area are as follows:

- Any plant species that has an ability to attain a height of 10 feet will be treated and/or removed at the time of the 5-year maintenance cycle.
    - This clearance height will be sufficient to prevent flashover between trees and conductors, considering the combined movement of vegetation and conductors in high wind and sagging of conductors due to elevated temperatures and icing.

- Trees and other vegetation that are a compatible species and that do not typically attain a height of 10 feet may be left in place and pruned if necessary.

- These guidelines will at all times be subject to the rights of, and shall not limit the rights of any person or entity other than REC, such as the owners of the subject parcels and any lessee, tenant, or easement holder other than REC or its successors, within the utility easement areas to carry . For any period of time during which such other persons or entities maintain their land by use of an alternative practice (such as mowing), Rappahannock Electric Cooperative's obligation to implement Integrated Vegetation Management shall be deemed satisfied with respect to any portion of the existing and proposed utility easement areas that is so maintained.

- Most dead or dying trees will be removed, and the wood will be left for the property owner, unless it is possible to leave a habitat tree that will not fall into a roadway or be a risk to the public.

- If any dead or dying tree is not adjacent to a roadway or it would not otherwise create a safety hazard, there shall be consideration for leaving all or a portion of the dead or dying tree in place as wildlife habitat for raptors and other nesting animals. Trees occasionally can be left at 10-12 feet to become hunting perches for raptors or cavity nesting birds, if they will not pose a safety threat.

- This requirement is subject to, and does not limit, the land use rights of any person or entity other than Rappahannock Electric Cooperative or its successors. Such other persons or entities include the owners and any lessee, tenant, or easement holder other than Rappahannock Electric Cooperative or its successors, of any underlying parcel(s)

of land within the existing and proposed utility easement areas, who may desire to manage the land using alternative methods (such as mowing), provided that such alternative methods are consistent with REC's easement rights.

Evaluation and Control Methods

REC will work to achieve the Objectives of this Plan using the following control methods:

Manual Control Methods. Manual methods are performed by maintenance workers with hand-carried tools, such as chain saws, hand saws, pruning shears, and other devices to control incompatible vegetation. These methods are selective and can be used where other methods are not appropriate.

- Manual methods will be used in any environmentally sensitive areas within the project area, such as stream banks and critical slopes.

Mechanical Control. Mechanical control methods are carried out using machines. REC will utilize mechanical controls where appropriate, such as bucket trucks with hydraulic saws combined with other mechanical pruning equipment.

- Mechanical methods will not be used in any environmentally sensitive areas within the project area, such as stream banks and critical slopes.

Trees adjacent to the line will be pruned based on projected growth which varies dramatically depending on species. For example, a maple tree may grow six to ten feet per year on a favorable site, while a cedar tree may only grow six inches.

Trees within the right-of-way will be allowed to remain if they are low growing, compatible species such as redbuds, dogwoods, winterberry, serviceberry, etc. Trees that are incompatible, such as yellow-poplars, oaks, maples and other "timber-sized" species will be removed every five years. In addition, trees outside the right-of-way may be periodically assessed for health and vigor and selectively removed if they are found to be potentially dangerous.

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Implementation

Based on REC's assessment of the site and experience with the project area, it proposes a regular work schedule to achieve the Objectives of this Plan.

REC will implement this Plan on a regular 5-year maintenance schedule with a mid-year inspection cycle.

This schedule will include prompt monitoring and quality assessment as discussed in more detail below.

Monitoring and Quality Assurance

Following each 5-year maintenance cycle, REC will continue to implement an inspection and quality control process to ensure that the Implementation of this Plan is consistent with the stated Objectives.

- The entire length of the project area will be inspected on foot by an ISA certified arborist.
- The inspection will assess whether any remaining hazards exist and confirm that this Plan has been effectively implemented
- Monitoring may also be carried out by aerial assessment as well as foot patrols
- Any areas not in compliance with this Plan will be promptly addressed and corrected, typically Inspection of completed work.
- REC will utilize an electronic documentation system to confirm remedial actions comply with this Plan and are promptly carried out.

As new information becomes available and as site conditions and circumstances evolve, REC shall reassess this Plan as appropriate, and provide any updated plan to the Director of Community Development or his or her designee.

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