

Managing vegetation around electric transmission lines

Our vegetation management practices focus on public safety and keeping the lights on.

To help ensure public safety and the safe and reliable operation of the electric transmission system, American Transmission Co. removes incompatible vegetation from the right-of-way. Tall-growing trees and other incompatible vegetation near power lines can be hazardous to public and worker safety. They also can threaten electric service reliability and risk damage to the electric system. Dense, woody vegetation can impede access to poles and structures for crews to inspect, maintain and make repairs.

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Vegetation management practices guided by industry standards

Power outages that occur on high-voltage transmission lines are much more serious than those that occur on lower-voltage distribution lines because many thousands of homes and businesses can be impacted. Further, an outage on one transmission line can trigger outages on other lines across a large geographic area. This cascading effect can result in significant damage to the facilities and create challenges in restoring power in a timely manner. Equally important are the hazards associated with the risk of arcing and fires when power lines and trees are in close proximity.

Between 1996 and 2003, the number and serious nature of transmission grid failures increased as a result of vegetation contacts with high-voltage power lines. The 2003 east coast blackout affected 50 million people in the eastern U.S. and Canada. The federal government responded by developing mandatory reliability standards requiring transmission utilities to establish vegetation management programs with the goal of preventing outages caused by trees and vegetation. ATC developed and implemented a program that has been successful in accomplishing this goal using practices that align with easements rights and industry standards.

Pruning and trimming has proven to be ineffective

ATC's vegetation management program is applied at all voltage levels and helps ensure that adequate clearances between transmission lines, trees and other vegetation are maintained at all times. It was common practice in the past for utilities to allow certain trees and vegetation to remain, or to use trimming and pruning to help manage clearance requirements.

This practice has proven to be risky, inefficient and ineffective in preventing outages, fires and other hazardous conditions. To avoid



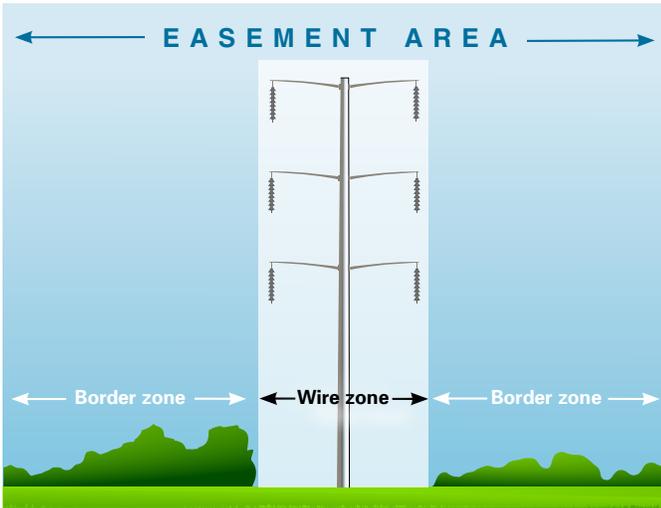
The 2003 east coast blackout affected 50 million people in the eastern U.S. and Canada. Mandatory reliability standards requiring transmission utilities to establish vegetation management programs with the goal of preventing outages caused by trees and vegetation were implemented.

these issues, ATC now removes, rather than trims, to achieve the necessary clearances and minimize risk.

ATC's program takes into account tree and vegetation growth rates, line sagging and blowing, maintenance cycles, extreme weather conditions, and the potential for arcing electricity—a dangerous situation that occurs when electricity “jumps” from the wires to another source that can conduct electricity. When all of these factors are combined, the safe clearances between trees and power lines are larger than past practices or than some property owners believe are necessary.

Removing woody vegetation is the prudent approach

A transmission line right-of-way or easement typically includes the area directly beneath the wires (wire zone) and the area outside the wire zone to the edge of the right-of-way (border zone). In most situations, landowners should expect that all trees and dense woody vegetation will be removed from the easement during forestry maintenance work. Occasionally small shrubs may be allowed to remain in the border zone. Crews may also remove dead, dying, diseased or leaning trees or branches outside the easement if they threaten the safe and reliable operation of the transmission line. With landowner consent, vegetation that is likely to re-sprout after cutting may be chemically treated to inhibit further re-growth, lessening the need for extensive clearing and mowing in the future. Native grasses are generally not affected by this application of herbicides, which is conducted by qualified applicators using U.S. EPA-registered herbicides. Dense woody brush that can hinder access to the facilities is removed, usually with mowing equipment.



Easements grant rights to remove vegetation

An easement is a permanent interest in real property that gives ATC the legal right to use the property for the specific purpose of constructing, operating and maintaining a transmission line facility. The property within the easement is often referred to as the transmission line right-of-way. The easement limits the use of the right-of-way and allows for the removal of trees, vegetation and other obstacles that could interfere with the operation of the power line. As the property is transferred and sold to new owners, the easement remains in place.

ATC notifies landowners of right-of-way maintenance work

ATC notifies landowners in advance to make them aware that right-of-way maintenance is scheduled in their area. This notification,

which may be in the form of a personal visit by one of ATC's forestry contractors, describes the plans, the reason for the work, the trees and vegetation that will be removed or trimmed, and the time frame. ATC also uses mail and correspondence in advance of the contractor visit to notify landowners of scheduled work. By discussing plans with property owners, trees or vegetation that may be eligible for relocation by the property owner can be evaluated and other landowner concerns can be addressed. Compensation is not offered for relocation or maintenance work. In emergency situations, it is not always possible to alert property owners that crews will be on site.

Learn what to plant near power lines

ATC's vegetation management program does not prohibit all plantings in the right-of-way. Transmission line corridors cultivated with **low-growing, native vegetation** are most compatible with the operation and maintenance of a high-voltage transmission line. Native vegetation provides habitat to wildlife and also has deep root systems, making these plants resilient, and therefore, more likely to easily recover from maintenance and repair work in the right-of-way. Visit www.atc-growsmart.com to review our planting guide, which highlights the native species of grasses and flowers that are compatible with transmission facilities in the Upper Midwest. Be aware that guidelines for planting vegetation near lower-voltage distribution lines operated by your local distribution utility may be vastly different from those recommended by ATC. Also, be sure to contact Wisconsin's Diggers Hotline or Michigan's MISS Dig at 811 before digging. A locating service will mark your property for underground utilities at no cost to you.



Natural areas re-establish themselves

Crews often need to use mowing equipment to clear the easement area. When a dense area is cleared using mowing equipment, the appearance immediately following the work is often dramatically different. The following series of photos shows the appearance of a transmission line corridor before and after dense, invasive vegetation is cleared from the right-of-way.



Right-of-way shortly after clearing work was completed



Cleared area after one year



After five years the area is populated with native grasses and ground cover



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www.atcllc.com ■ 866.899.3204
P.O. Box 47 ■ Waukesha, WI 53187

