

# U.S. Department of Energy



## ORDER

WAPA O 430.1A

DATE: 03-18-08

SUBJECT: RIGHT-OF-WAY MANAGEMENT GUIDANCE FOR VEGETATION,  
ENCROACHMENTS, AND ACCESS ROUTES

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1. PURPOSE. This Order delegates and clarifies responsibilities and establishes Right of Way (ROW) guidance and organizational support for the safe and reliable operation of the power system owned and/or maintained by the Western Area Power Administration (Western).
2. CANCELLATION. This Order cancels WAPA Order 430.1, Right-of-Way Management Guidance for Danger Trees, Encroachments, and Access Routes, dated 11-21-01.
3. SCOPE. The provisions of this Order apply to all organizational elements of Western.
4. DEFINITIONS.
  - a. Danger Trees. Trees located within or adjacent to the easement or permit area that present a hazard to employees, the public, or power system facilities. Characteristics used in identifying a danger tree include but are not limited to the following:
    - encroachment within the safe distance to the conductor as a result of the tree bending, growing, swinging, or falling toward the conductor;
    - deterioration or physical damage to the root system, trunk, stem or limbs and/or the direction and lean of the tree;
    - vertical or horizontal conductor movement and increased sag as a result of thermal, wind, and ice loading;
    - exceeding facility design specifications;
    - fire risk;
    - other threats to the electric power system facilities or worker/public safety.

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INITIATED BY:  
CSO Natural  
Resources Office

- b. Emergency Situations. An emergency situation occurs when a danger tree or encroachment poses an immediate danger to Western's facility as well as the welfare of the public and Western's maintenance personnel. For these situations it is not necessary to notify a landowner or government entity prior to removing the danger tree or encroachment.
  - c. Encroachments. Encroachments are conditions or developments that occur within the transmission line ROW that impair Western's rights to operate and maintain the facilities or present a hazard to the safe operation of the power system. Examples of potential encroachments are houses, businesses, signs, light structures, outbuildings, landfills, roadways, vegetation, etc.
  - d. Maintenance Manager. The individual located in the Regional or Field Office who is accountable for managing maintenance and/or operations functions. For example, in the Rocky Mountain Region this would be the Maintenance Manager; in the Bismarck Office this would be the North Dakota Maintenance Manager.
  - e. Right-Of-Way (ROW). Western acquires easements across State and private lands, is issued grants, permits or easements across Federal lands, and assumed the Bureau of Reclamation (Reclamation) responsibilities set forth in various agreements historically negotiated between Reclamation and other Federal agencies, such as the Bureau of Land Management, Bureau of Indian Affairs, National Park Service and U.S. Forest Service. As applied to a specific situation, ROW refers to rights acquired by Western as set forth in the applicable granting document.
  - f. Western Authorized Representative. The Western field representative in the Region who has the authority to take a maintenance action (this will be the Regional Manager or his designee).
5. POLICY. Maintenance Managers have the authority and responsibility for implementing and overseeing the proper maintenance of Western's ROWs. This includes all activities within ROWs that ensure the safe and reliable operation of the power system, as well as protection of the environment, the public, and Western's maintenance personnel. These activities include routine maintenance of access routes; vegetation management; identification of potential encroachments; and development of positive landowner relations. Regional Realty Officers, Environmental Managers, and Safety Managers, and, when necessary, the Corporate Services Office (CSO) Office of General Counsel (OGC) and CSO Natural Resources Office (NRO), will provide support to Maintenance Managers.
6. BACKGROUND. Western acquires easements across State and private lands, is issued grants, permits or easements across Federal lands, and assumed the Bureau of Reclamation (Reclamation) responsibilities set forth in various agreements

historically negotiated between Reclamation and other Federal agencies, such as the Bureau of Land Management, Bureau of Indian Affairs, National Park Service and U.S. Forest Service. Western's rights to maintain vegetation, to challenge a use that is considered to impair or encroach upon Western's rights, and to access the power facilities are dictated by the language contained in these agreements.

- a. State and Private Land. Generally, the easement agreement provides for the perpetual right to access, construct, operate, and maintain the power system facility in a manner that ensures safe operation and system integrity.
  - (1) Vegetation Management and Control. Responsibility for these functions is often Western's and may, based upon the terms of the easement contract, or other agreements, require compensation to the landowner for damages to crops or trees. Contracts are generally reviewed by the Regional Realty Officers to determine the extent of Western's right to maintain or clear vegetation.
  - (2) Landowner's Use of the Easement Area. Easement provisions specify Western's rights to operate and maintain the power facilities. Where landowners add uses or developments in the easement area, the Maintenance Managers must determine, through the review of the easement contract, whether the use or development must cease, or be removed or mitigated some other way to protect Western's rights.
  - (3) General Access Rights Language. Language defining Western's access rights is usually provided in the easement agreement. To ensure that open and safe access is available across private land, the easement agreement must be thoroughly researched and verified to identify access routes and any restrictions that regulate their use.
- b. Federal Land. ROW agreements are sometimes limited to a specific term and specify stipulations or conditions associated with vegetation management, compatible land uses, and access rights.
  - (1) Vegetation Management and Control. Responsibility for these functions is Western's, but is affected by land and resource plans, resource management plans, or other planning instruments approved by the land management agency, and these dictate tree removal or trimming criteria within and adjacent to the ROW, as well as other uses allowed on the same lands traversed by the power facility.
  - (2) ROW Use and Development. Uses or developments within Western's ROWs are authorized by the government entity managing the land and are usually reviewed and concurred upon by a Western authorized representative prior to the use being authorized.

- (3) Access Routes. Access routes can be authorized in the same ROW agreement or in a separate permit or agreement. These authorizations may contain specific terms and conditions that restrict the season of use and/or construction or road improvement activities allowed on the authorized access routes.

## 7. RESPONSIBILITIES.

- a. Regional Managers. Provide oversight of the ROW maintenance program in their respective Regions.
  - b. Regional Maintenance Managers. Develop long-term strategies and programs, in coordination with Regional safety, environment, and realty personnel, to resolve vegetation, encroachment, and access problems in and along Western's transmission line ROWs.
  - c. Regional Safety Managers. Support the Maintenance Managers in providing guidance for resolution of safety concerns as well as ensuring the Regional ROW program meets Western's safety goals and objectives.
  - d. Regional Environmental Managers. Support the Maintenance Managers in ensuring that maintenance activities employed to resolve vegetation, encroachment, and access problems comply with environmental laws and regulations.
  - e. Regional Realty Officers. Support the Maintenance Managers in the identification and resolution of vegetation, encroachment, public relations, and access problems. The Regional Realty Officers also provide coordination in working with the landowners and have the responsibility of identifying land rights, including vegetation control rights.
  - f. Office of General Counsel (OGC). Provides legal advice, counsel, and representation.
  - g. CSO Natural Resources Office (NRO). Provides advice and support to the Regional Maintenance Managers, Realty Officers and Environmental Managers in order to resolve vegetation, encroachment, and access problems.
8. GENERAL GUIDANCE. As a component of each Regional Office's routine maintenance activities, Maintenance Managers will develop a ROW management program, including performance measures and will coordinate its development and implementation with Regional safety, environment, and realty personnel as well as CSO NRO and OGC, when necessary. This program will include a long-term strategy to inventory Western's rights as they pertain to vegetation management,

use restrictions, encroachments and access. The program will identify potential problem areas or situations to be resolved and the resolution process.

- a. Vegetation Management. It shall be the responsibility of the Regional Realty Officers to inventory the vegetation management rights, including any compensation rights to landowners, for a power facility on an as needed basis. The following guidance is provided for vegetation management practices within and adjacent to the ROW. Prior to vegetation management activities, an effort will be made to notify landowners. Such notifications or attempts to notify landowners shall be documented.

- (1) Easements on State and Private Lands.

- (a) Where provided in the easement agreement, Maintenance Managers shall manage the vegetation within and adjacent to the easement in accordance with WAPA Order 450.3A (latest version).
- (b) Where the easement agreement does not provide for the rights to manage vegetation in or adjacent to the easement area, or if the rights are limited, the following shall apply in accordance with each Region's Vegetation Management Plan:
  - 1) **Emergency Situations.** If the vegetation is creating an emergency situation, the Maintenance Managers have the discretion to address emergency situations, including removing danger trees.
  - 2) **Non-Emergencies.** If vegetation is not causing an emergency situation, Western will work with the landowner to conduct the required vegetation management activity. If necessary, Western will expand its land rights to manage the vegetation within or adjacent to the easement.
- (c) CSO OGC and NRO will provide assistance and consultation to support the Maintenance Managers and support the future expansion of easement rights to include all required vegetation management activities.

- (2) ROW Agreements on Federal Lands.

- (a) Where provided in the ROW agreement, the Maintenance Managers shall manage vegetation within the ROW.
- (b) Where land use plans or terms contained in the agreement with the Federal land management agency and Western dictate trees may only be trimmed (sides or on top) within the ROW, the NRO will assist the

Maintenance Manager and Realty Officer in obtaining modifications to the ROW agreement to allow for all required vegetation management activities.

- (c) Where the ROW agreement does not provide for the removal of trees in or adjacent to the ROW, the Maintenance Managers have discretion in removing danger trees without notification to the Federal land managers. Western will contact the Federal agency following removal of danger trees. The CSO NRO will provide assistance to the Maintenance Managers to expand ROW rights to allow more extensive vegetation management activities consistent with current industry standards and requirements as provided for in Western's Transmission Vegetation Management Program.
- (3) Tree Removal Criteria. Criteria that will be used to determine the need for tree removal activities include either of the following two conditions:
- (a) Any tree classified as being a "Danger Tree" as defined in 4a above.
  - (b) Requirements established in WAPA Order 450.3A (latest version).
- (4) Vegetation Management Clearances. The following table provides the minimum clearance distances (lateral and vertical) to be achieved at the time of transmission vegetation management work as required by the North American Electric Reliability Council (NERC) Standard FAC-003-1 ("Clearance 1" values). However, it is Western's policy to proactively manage to a desired condition of much lower growth and low vegetation density. The desired condition considers the reduction of fuel loading to reduce the risk and intensity of wildfire on and adjacent to the ROW. It is also Western's policy to encourage the land management agencies to manage lands adjacent to the ROWs in a manner which further reduces vegetation and wildfire hazards that are a threat to the safe and reliable operation of the power facility.<sup>1</sup>

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<sup>1</sup> The minimum clearance is based on the OSHA 29 CFR § 1910.333 minimum approach distance for non-electrical workers (rounded up to the nearest foot) plus 5 feet to account for conductor and tree movement due to wind and ice loading or increased conductor sag as a result of thermal loading. In addition, another 5 feet is added to allow for an average tree growth of 12 inches per year and a re-treatment interval of not less than 5 years. In situations where more rapid tree growth can be expected because of species or better than average growing conditions, a distance (either horizontal or vertical) greater than 5 feet is required.

<b>TRANSMISSION LINE ROW MINIMUM CLEARANCE<sup>1</sup> REQUIREMENTS FOR VEGETATION AFTER TREATMENT</b>	
Line Voltage	Minimum Clearance <sup>1</sup> Between Conductor and Vegetation
69 kV	20 feet
115 kV	21 feet
138 kV	22 feet
161 kV	22 feet
230 kV	23 feet
345 kV	26 feet
500 kV	29 feet

- (5) Customer Focus. It is Western's policy that landowners are our customers. Maintenance Managers have the responsibility to ensure early notification to the private landowner or government entity prior to the vegetation management or encroachment removal activities within or adjacent to the ROW. Where emergency removal of danger trees is necessary within or adjacent to the ROW and prior notice is not possible, the Maintenance Manager is responsible for initiating or coordinating notification after the fact. The Regional Realty Officers will provide support in mitigating such actions.

b. Encroachments.

- (1) State and private land. The Maintenance Managers shall be accountable for identifying potential encroachments. The Regional Realty Officer is accountable for verification and resolution. Where encroachments are found to be compatible with Western's rights, a license will be issued by the Western authorized representative. Where the encroachment is found to be incompatible, the Realty Officer shall coordinate the removal or mitigate the use or development. The Regional Realty Officer may consult or ask assistance from the NRO and OGC in those cases involving complex legal issues and landowner investments.
- (2) Federal land. For situations where uses or developments are located within ROWs on Federal lands that appear to impair Western's rights to operate and maintain its facilities, the Regional Realty Officer will be responsible for contacting the government entity and resolving the problem. If necessary, the Regional Realty Officer may consult with or ask assistance from the NRO and OGC.

c. Access Routes.

- (1) To ensure safe, reliable access to Western's facilities for maintenance purposes, it shall be the responsibility of the Maintenance Managers to

identify and locate access routes in support of facility maintenance programs across private, State and Federal lands, where necessary. Maintenance Managers have the discretion to reopen blocked access routes where Western's right of access is being impeded. Regional Realty Officers will be responsible to respond to the Maintenance Managers when requested to coordinate the reopening of such routes with the landowners and/or land management agency and will be supported by the NRO and OGC, when necessary.

- (2) Where new access is needed across State or private land, the Regional Realty Officer must consult with the Environmental Manager and the NRO to develop an acquisition plan to obtain access easements. Where access is needed across Federal lands, the Regional Realty Officer shall perform the same coordination as for State or private lands except that Western will obtain an amendment to its ROW authorization. In either case, Western will strive to obtain access routes with the fewest restrictions as to season of use or impacts to resources.

## 9. REFERENCES.

- a. WAPA 450.1B, Environmental Considerations in the Planning, Design, Construction, and Maintenance of Power Facilities and Activities, latest version.
- b. WAPA Engineering Manual (EM) 6460.3, Property Damage Investigation Appraisal and Settlement, latest version.
- c. WAPA EM 6404, Construction Management Practices and Procedures, Chapter V, Real Estate, of 02-20-90, latest version.
- d. Transmission Line Right-of-Way Handbook, latest version.
- e. WAPA Order 450.3A, Transmission Vegetation Management Program, latest version.
- f. [www.arborday.org/treeguide](http://www.arborday.org/treeguide)
- g. Code of Federal Regulations (CFR) 29 CFR § 1910.333.
- h. Alcoa Conductor Accessories Sag 10, version 3.0 Software.
- i. National Electric Safety Code (NESC).

10. CONTACT. Questions concerning this Order should be addressed to the CSO NRO at (720) 962-7272.

A handwritten signature in black ink, appearing to read "T. J. Meeks", with a stylized flourish at the end.

Timothy J. Meeks  
Administrator