



Department of Energy

Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208-3621

FREEDOM OF INFORMATION ACT PROGRAM

March 2, 2021

In reply refer to: FOIA #BPA-2021-00426-F

Jerome Berryhill

(b) (6)

Dear Mr. Berryhill,

The Bonneville Power Administration (BPA) has received your request for agency records made under the Freedom of Information Act, 5 U.S.C. § 552 (FOIA). BPA received your records request on February 24, 2021, and assigned your request tracking number BPA-2021-00426-F. Please use that tracking number in any correspondence with the agency regarding your FOIA request.

Request

“On Tuesday, January 22, 2019, BPA employee Sandra Billings sent an e-mail to BPA employee Annette Talbott in regard to the BPA easement on my property at (b) (6) in which she wrote; ‘This land owner has been very difficult for Carlos, and since this vegetation hit the Lidar list, we do not trim we remove vegetation as we clearly have rights to do.’ My request is for the complete ‘Lidar list’ which ‘this vegetation hit,’ as well as for any policy documents regarding BPA’s use of lidar in vegetation management. To clarify; my request is not merely for the portion of the list pertaining to my property. It is for the entirety of any ‘Lidar list’ with one or more entries pertaining to my property.”

Acknowledgement

BPA has reviewed your request and has determined that it fulfills all of the criteria of a proper request under the FOIA and Department of Energy (DOE) FOIA regulations at Title 10, Code of Federal Regulations, Part 1004.

Response

My office contacted the agency’s Vegetation and Forestry Management office and they provided *Transmission Line Maintenance Standard: Danger Tree and Brush Selection Criteria: TLM-STD-7-2-1, Right of Way*. My office also contacted the agency’s Geomatics office, and they reported that they have no knowledge of any particular “LiDAR List” which is referenced in your FOIA request. However, based on the location of address (b) (6)

(b) (6) they determined that adjacent BPA corridor EUGE-ALVY-2 has been LiDAR surveyed three times to date in 2011, 2013 and 2019. Seven vegetation encroachments were identified upon subsequent clearance analysis found on/nearby the associated property. Geomatics provided records of the three LiDAR surveys and seven encroachments. All records are being released in full.

Fees

There are no fees associated with the response to your request.

Certification

Pursuant to 10 C.F.R. § 1004.7(b)(2), I am the individual responsible for the search and response detailed above. Your FOIA request BPA-2021-00426-F is now closed with all available responsive agency information provided.

Appeal

The adequacy of the search may be appealed within 90 calendar days from your receipt of this letter pursuant to 10 C.F.R. § 1004.8. Appeals should be addressed to:

Director, Office of Hearings and Appeals
HG-1, L'Enfant Plaza
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585-1615

The written appeal, including the envelope, must clearly indicate that a FOIA appeal is being made. You may also submit your appeal by e-mail to OHA.filings@hq.doe.gov, including the phrase "Freedom of Information Appeal" in the subject line. (The Office of Hearings and Appeals prefers to receive appeals by email.) The appeal must contain all the elements required by 10 C.F.R. § 1004.8, including a copy of the determination letter. Thereafter, judicial review will be available to you in the Federal District Court either (1) in the district where you reside, (2) where you have your principal place of business, (3) where DOE's records are situated, or (4) in the District of Columbia.

Additionally, you may contact the Office of Government Information Services (OGIS) at the National Archives and Records Administration to inquire about the FOIA mediation services they offer. The contact information for OGIS is as follows:

Office of Government Information Services
National Archives and Records Administration
8601 Adelphi Road-OGIS
College Park, Maryland 20740-6001
E-mail: ogis@nara.gov
Phone: 202-741-5770
Toll-free: 1-877-684-6448
Fax: 202-741-5769

Questions about this communication may be directed to the FOIA Public Liaison, Jason Taylor, at 503-230-3537 or jetaylor@bpa.gov. Thank you for your interest in the Bonneville Power Administration.

Sincerely,

A handwritten signature in black ink, appearing to read "Candice D. Palen". The signature is fluid and cursive, with the first name being the most prominent.

Candice D. Palen
Freedom of Information/Privacy Act Officer

SAUID, CORRIDOR, DATEFLOWNN
SA000381, EUGE-ALVY-2, 9/22/2011
SA000614, EUGE-ALVY-2, 9/25/2013
SA001549, EUGE-ALVY-2, 9/13/2019

TYPE, DISTANCE, STATUS, CORRIDOR, DATE_UPLOADED, DATE_FLOWN, XREF, SPAN, HEIGHT
DB, 9.359999999999999, C, EUGE-ALVY-2, 4/11/2012 0:00:00, 9/22/2011
0:00:00, EUGE-ALVY-2, 2/5, 18.170000000000002
HB, 10.020000000000000, C, EUGE-ALVY-2, 4/11/2012 0:00:00, 9/22/2011
0:00:00, EUGE-ALVY-2, 2/5, 17.989999999999998
HB, 19.329999999999998, C, EUGE-ALVY-2, 4/11/2012 0:00:00, 9/22/2011
0:00:00, EUGE-ALVY-2, 2/5, 5.410000000000000
HB, 12.970000000000001, C, EUGE-ALVY-2, 4/11/2012 0:00:00, 9/22/2011
0:00:00, EUGE-ALVY-2, 2/5, 17.070000000000000
HB, 18.930000000000000, C, EUGE-ALVY-2, 1/28/2014 0:00:00, 9/25/2013
0:00:00, EUGE-ALVY-2, 2/5, 7.000000000000000
HB, 17.980000000000000, C, EUGE-ALVY-2, 1/28/2014 0:00:00, 9/25/2013
0:00:00, EUGE-ALVY-2, 2/5, 10.970000000000001
HB, 14.359999999999999, C, EUGE-ALVY-2, 1/28/2014 0:00:00, 9/25/2013
0:00:00, EUGE-ALVY-2, 2/5, 14.230000000000000



Danger Tree and Brush Selection Criteria
TLM-STD-7-2-1 – Right of Way

(Old No. VII.B.1)

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NOTE: Highlighted Sections followed by the symbol (S) contain Standards that shall be adhered to.

1. INTENT

This Standard defines the clearance standards, selection criteria and removal response actions to be used for Danger Trees and Brush.

2. BACKGROUND

Identification and reporting of vegetation issues identified as Imminent Threats, Danger Brush, Danger Trees and Cycle Maintenance enables Vegetation Management to target, plan, acquire rights and remove out of compliance vegetation. Proper identification must consider conductor span length, operating temperature, and atmospheric conditions that can affect conductor sag. When making a determination on Danger Brush, consider that a conductor that has adequate clearance from vegetation in cold weather may be in violation of conductor clearances in warmer weather conditions. Proactive maintenance during routine operations and prompt action during critical events will maintain system reliability, a safe work environment, and reduced fire danger. Left unmitigated, Imminent Threats, Danger Brush, Danger Trees and Cycle Maintenance vegetation can pose a present or future hazard to BPA's power transmission lines and the public.

This Danger Tree and Vegetation Clearance Selection Criteria Standard and Guide defines the criteria, clearance standards, and response actions to be used by Transmission Line Maintenance (TLM) crews, Natural Resource Specialists (NRS), aerial observers, third-party contractors, and other BPA personnel or agents who are responsible for ensuring that the BPA transmission system remains free of out of compliance vegetation conditions, and remains in compliance with the most current version of FAC-003 and other related regulations.

3. DEFINITIONS

- 1) Agricultural and Crop Land: Lands grazed for pasture or under cultivation for annual or perennial crops including, but not limited to, fruit and nut orchards, Christmas tree farms, landscape nurseries, hop farms and vineyards.
- 2) Border Zone (BZ): That ground area from the edge of the wire zone to the edge of the managed right-of-way.
- 3) Brush: A close thicket of shrubs appearing to be a single plant that does not meet the criteria for tree.
- 4) Corridor Tree (CT):
 - A tree located in the ROW that is violating CM clearance or would violate CM clearance if it fell towards an energized conductor.

- Any tree that at full maturity would violate CM clearance any time during the next two scheduled maintenance cycles.
- 5) Cutting Rights: Danger Tree and brush cutting rights that either exist in easement documents or are acquired by Real Property Services.
 - 6) Cycle Maintenance Clearance (CM): Any vegetation that could become danger brush within the current growing season. Refer to Table 4.1.
 - 7) Danger Brush (DB): Any vegetation that is less than or equal to the defined clearance distance from the conductor as stated in Table 4.1.
 - 8) Danger Tree (DT): Any tree located outside of the ROW which is a present or future hazard to the transmission line. Characteristics are described in Section 4.3. Clearances are listed in Table 4.1 under Danger Brush and Danger Trees (DB, DT).
 - 9) Danger Tree, Grow Into (DTG): Any vegetation originating outside the ROW that has foliage that is less than or equal to the defined clearance distance from the conductor as illustrated in Fig. 4.4 and stated in Table 4.1 under Danger Brush (DB & DTG).
 - 10) Developed Residential and Commercial Properties: Population and industrial areas where existing property rights may include vegetation maintenance agreements made between landowners and BPA. .
 - 11) Diameter at Breast Height (DBH): Tree diameter outside of the bark at 4.5 feet above ground on the uphill side of a tree.
 - 12) Environmentally Sensitive Area: A site where vegetation is protected as critical habitat for endangered species or for other environmental reasons..
 - 13) Imminent Threat: The condition that exists when vegetation is now or soon will be violating MVCD plus 5 feet.
 - 14) Iso-Clearance Map: A graphic depiction using contour lines to portray the maximum permitted vegetation height above ground that does not violate the clearance thresholds or other prescribed clearance limits from conductors.
 - 15) Logging Fringe: Narrow row of trees, exposed, with a high probability to encroach into MVCD.
 - 16) Major Storm Event: The occurrence of storms and other significant weather phenomena having sufficient intensity to cause loss of life, injuries, significant property damage, and/or disruption to commerce.
 - 17) Maximum Sag (Max Sag): The calculated sag of the conductor when operating at a design prescribed electrical, thermal or mechanical load.
 - 18) Minimum Vegetation Clearance Distance (MVCD): The calculated minimum distance between conductors and vegetation to prevent flash-over between conductors and vegetation. Distances depend on altitudes and operating voltages. Refer to the current edition of Western Electricity Coordinating Council (WECC) FAC-003 Transmission Vegetation Management standards.

- 19) Rights-of-Way, Managed (ROW): The corridor of land under a transmission line(s) required to operate the line(s). The width of the corridor is established by engineering and construction standards, construction documents, or pre-2007 vegetation maintenance records. The ROW width in no case exceeds the applicable Transmission Owner's or applicable Generator Owner's legal rights but may be less based on the aforementioned criteria (Interpreted from NERC definition & FAC-003 defined). When ROW is used in TLM-STD-7-2-1 it refers to this definition.
- 20) Sag: As defined by the NESC is the distance measured vertically from a conductor to the straight line joining two points of support.
- 21) Scheduled Maintenance: An interval during which a recurring sequence of vegetation management functions occur.
- 22) Slash: All vegetative debris including but not limited to limbs, tops, un-merchantable logs, bark, wood chunks, pushed out stumps, damaged brush, and damaged residual trees.
- 23) Swing Into: Calculated lateral offset position of conductor, from the at rest position, when affected by 6 lb./ft² wind at 15.5 deg. C. Also referred to as "blow out".
- 24) System-of-Record: The current vegetation management database and software information-management system used by BPA Vegetation /Access Road management.
- 25) Timber: Any tree that has commercial value as lumber, chip, pulp, or veneer.
- 26) Tree: A woody stemmed perennial plant species, typically having a single stem or trunk with the potential to grow to a height greater than ten feet and bearing lateral branches at some distance from the ground.
- 27) Wire Zone (WZ): That ground area directly under the transmission line conductor from outer phase to outer phase and extending horizontally ten feet outside of each outer phase conductor.

4. PROGRAM

4.1 Vegetation Management Clearance Thresholds (DB, DTG)

Use the clearance distances in Table 4.1 to measure from vegetation to conductor at Max Sag and swing, to determine out of compliance vegetation conditions.

- BPA has established its own clearance threshold distances, which exceed MVCD in FAC-003 and are shown in Table 4.1.
- The distances are measured from vegetation to the conductor at all operating conditions. This is done to determine out of compliance vegetation conditions on and adjacent to the transmission line ROW.

4.2 **Field Determination of Vegetation Clearances (S)**

Determine the vegetation clearance by calculating the distance between the location of the conductor at Max Sag and the vegetation in question. There are two options for making a field determination and adjusting “as observed” clearances between vegetation and power lines.

Option A: Iso-Clearance Map.

Iso-clearance maps will show the vegetation height from ground that will violate clearance thresholds at a targeted geospatial location. These maps are available from Geospatial Services, in both hard copy format and a GIS overlay. An iso-clearance line will represent maximum allowable vegetation height that will not violate clearance thresholds. This is the preferred and most accurate method available.

Following is the procedure to use:

- 1) Order iso-clearance data based on clearance thresholds in Table 4.1
- 2) Determine target vegetation’s geospatial location.
- 3) Interpolate iso-clearance vegetation maximum allowable height from ground on iso-clearance map at that location.
- 4) Measure vegetation height and compare to iso-clearance value.
- 5) Vegetation height must be less than the iso-clearance value in order to not violate prescribed clearance thresholds.

Option B: Manual Field Determination of Clearance.

Profile maps determine ground to conductor distances. On the profile map, scale from ground to vegetation height, then scale from top of vegetation to wire and compare to clearance threshold.

- 1) Ensure that the profile map is on hand either electronically or as a hard copy.
- 2) Maps are frequently updated with revised information. Ensure that the profile maps are the most current. Confirm this with Survey and Mapping group.
- 3) Know the horizontal and vertical scales. They are different. Maps are frequently enlarged or reduced, so determine scale by direct measuring.
- 4) If the conductor profiles are drafted at Max Sag (see reference on Plan and Profile) the observer will:
 - a. Determine the vegetation’s stationing, offset and height above ground.
 - b. Measure vegetation height with a laser range finder.
 - c. Scale, on the profile, the vertical distance from ground profile to the top of the vegetation (vegetation height).
 - d. Scale the distance from top of vegetation to the conductor profile.

- e. Compare the distance from vegetation to conductor with the clearance thresholds in Table 4.1.

If the conductor profile is not drafted at Max Sag, use an Adder. The vertical distance from ground to conductor must be adjusted with an “adder.”

- 1) Adders are available from the Transmission Engineering Lines Conductor group.
- 2) Adders should never be added to a conductor in an observed position.
- 3) Use the Adder to adjust for Sag.
 - a. Scale the distance from the top of the vegetation to the adjusted profile after applying the adder.
 - b. Compare the distance from vegetation to conductor with the clearance threshold in Table 4.1.
- 4) At **no** time **shall** an arbitrary or default adder be applied.

4.3 Vegetation Condition Identification

Vegetation condition identification entered into the system-of-record is based on the proximity of the vegetation to the transmission line. Lines move horizontally and vertically based on conductor operating temperature, wind and loading. Assess all possible line positions when evaluating clearances.

4.3.1 Fall-Into Danger Tree (DT)

- 1) Characteristics: Fall-into Danger Trees are unstable, with a 50 percent or greater probability of structural failure within five years. Structural failure may be due to physical damage or environmental conditions.
 - Physical damage includes, but are not limited to fire, fork tops, multi-stems, declining vigor, snow damage and root rot.
 - Environmental conditions include but are not limited to tree fringes left from logging, erosion from recent storms, mass-wasting, flooded or saturated ground and slides or evidence of unstable ground.
- 2) Identification: Identification of a fall-into danger trees is based on;
 - Its instability characteristics.
 - If it were to fall, it could violate the clearance threshold distances for Danger Trees as identified in Table 4.1 and as shown in Figure 4.1.
- 3) Recording: Record, in the System of Record, location, species, height, DBH, defects, conditions and any other defining characteristics.

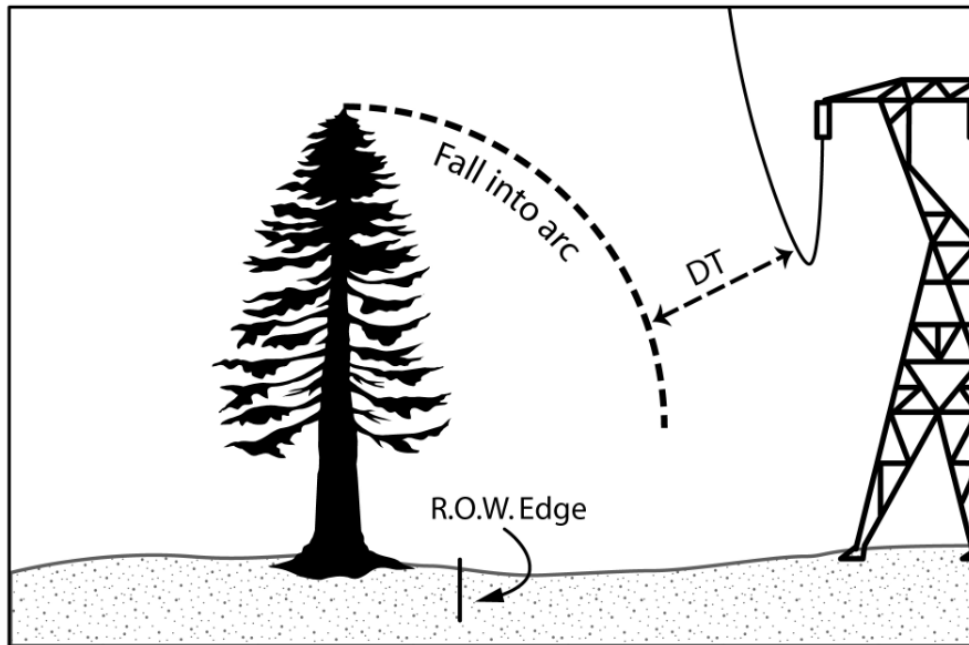


Figure 4.1 Example of Danger Tree “Fall-Into”.

4.3.2 Bend-Into Danger Tree

- 1) Characteristics: Trees that can violate clearance threshold distance if they bend toward the conductor and have the following characteristics;
 - Tall and Skinny: These trees are tall with a small diameter. The stem is not rigid enough to support the top and branches in an upright position, and the tree could bend down and touch the transmission line during windy, snowy or icy weather. These trees are easy to identify along the edge of the ROW, but may be harder to identify when further from the edge of the ROW.
 - Tall Fast-Growing: Trees that are tall with upward-growing branches like Lombardy poplar. The branches are easily displaced (sway) in the slightest breeze and can move sideways more than 10 feet in moderate to strong winds, and can violate DT clearance thresholds.
- 2) Identification: Identification of bend-into danger trees is based on two factors;
 - Unstable as described above.
 - If it bends toward the conductor, it would violate the clearance threshold distances identified in Table 4.1 and as shown in Figure 4.2 below.

Look for burn damage on the top or upper branches indicating they may have contacted the conductor.

- 3) Recording: Record, in the system of record as a Bend- into Danger Tree, and record location, species, height, DBH, defects, conditions, clearance from the conductor and any other defining characteristics.

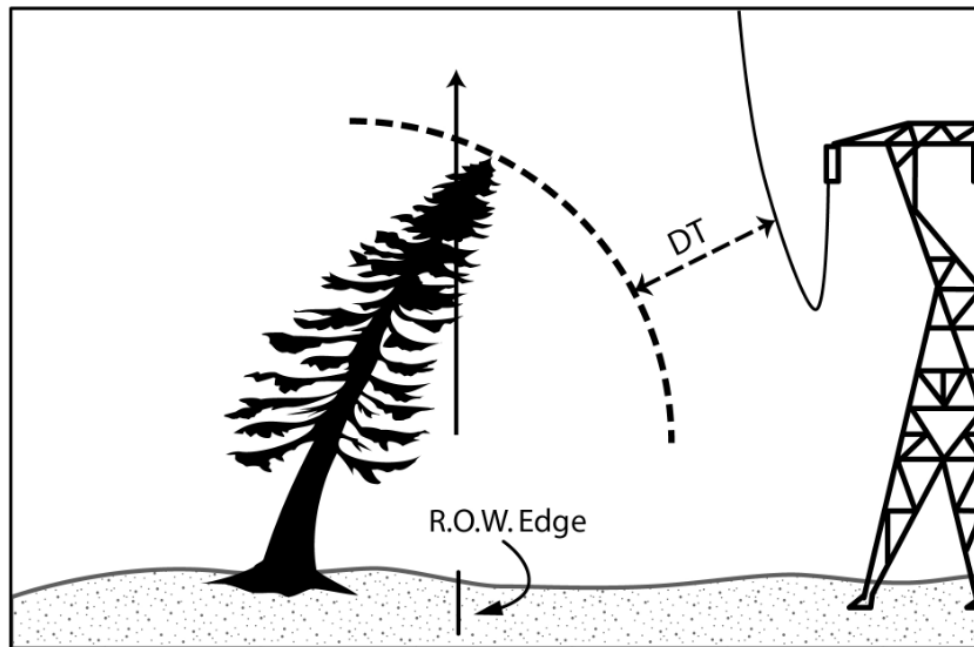


Figure 4.2 Example of “Bend-Into” Tree.

4.3.3 Swing-Into Danger Tree

- 1) Characteristics: Swing-Into Danger Trees have the potential to violate clearance thresholds when the conductor is influenced by the forces as defined for Swing Into as noted below in 4.3.3, No. 2). Be aware of the following:
- Swing-into contacts are rare because the sheltering effect of bordering trees suppresses conductor swing.
 - TLM and NRS will identify spans with a history of swing-into contacts for tree clearing within the calculated swing distance.
 - They are most common on long spans where the middle part of the span is exposed and the ends of the span are closely bordered by trees, or where isolated trees have grown up alongside a long span.
 - Trees that have been contacted by a conductor or “arced” may show burn damage on the top leader or upper branches.

- Swing-into situations may result from:
 - Logging activity that removes trees previously acting as a wind break for the transmission line.
 - An isolated tree growing adjacent to the transmission line.
- 2) Identification: A tree exhibits any of the above characteristics and the conductor could enter MVCD.
- 3) Recording: Record as a Swing-Into Danger Tree and record the at rest clearance from the conductor, tree height and DBH into the system-of-record.

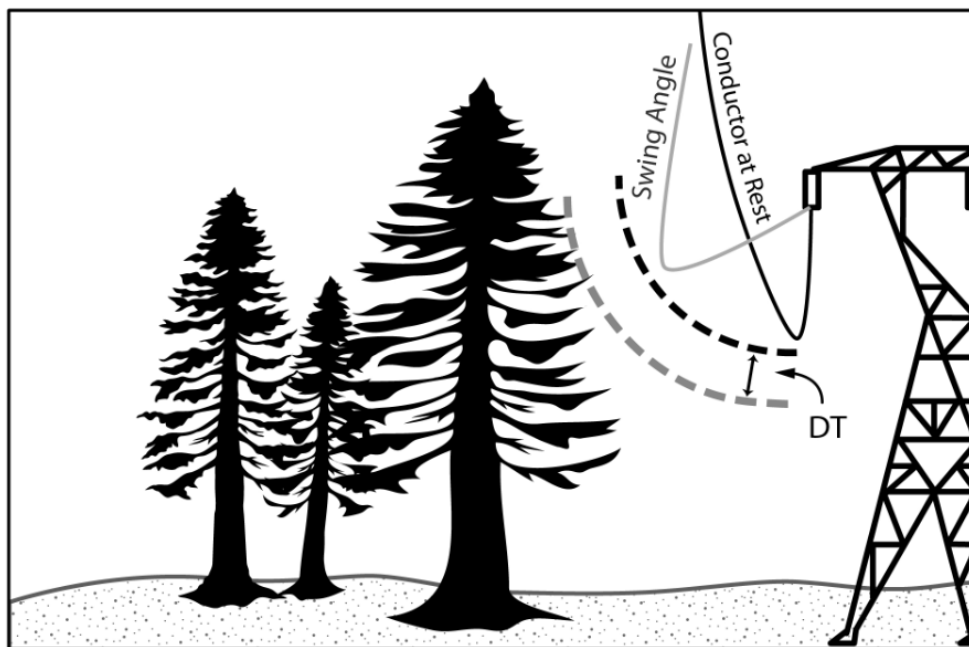


Figure 4.3 Example of “Swing-Into” Tree.

4.3.4 Danger Brush (DB)

For vegetation that violates clearance thresholds, refer to Table 4.1 and Figure 4.4.

- Danger Brush (DB): All trees and brush that violates MC from below, from the side or from above the conductor that originates inside the ROW boundary.
- Grow-Into Danger Tree (DTG): Vegetation that meets the criteria for DB, but is from vegetation that originates outside of the ROW boundary.

- **Recording:** Record Danger Brush and Grow-Into Danger Trees in the system-of-record based on the clearance distances listed in Table 4.1 and Figure 4.4. Note and record the position of trees that are violating Danger Brush clearance distances, and respond accordingly.

4.3.5 Cycle Maintenance (CM)

Vegetation that violates Cycle Maintenance (CM) clearance thresholds as listed in Table 4.1, shown in Figure 4.4 and

- Has the potential to violate Danger Brush (DB) Clearance Thresholds before next Scheduled Maintenance.

Recording: Record Cycle Maintenance in the system-of-record based on the clearance distances identified in Table 4.1 and Figure 4.4

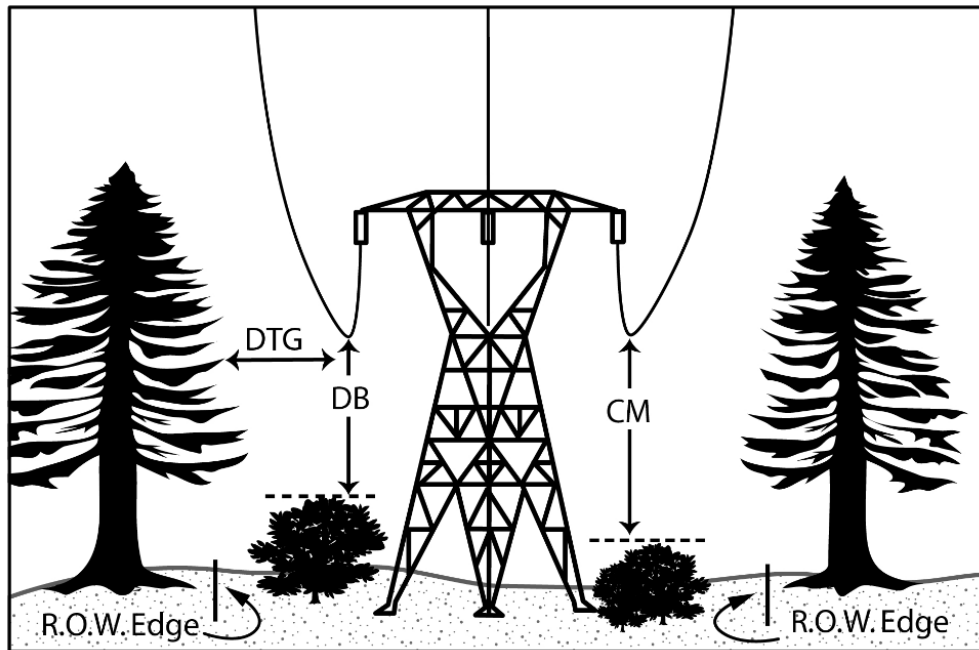


Figure 4.4 Danger Brush, Cycle Maintenance and Danger Tree Grow-Into Identification.

Table 4.1 Danger Brush, Cycle Maintenance and Danger Tree Clearance Thresholds at all operating conditions				
Voltage	Imminent Threat (As Observed)	Danger Trees (DT)	Danger Brush (DB & DTG)	Cycle Maintenance (CM)
200 kV & above	MVCD+5 ft.	MVCD+5 ft.	Less than 15 feet	15-20 feet
below 200 kV	MVCD+5ft.	MVCD+5 ft.	Less than 10 feet	10-15 feet
Fiber optic	N/A	N/A	Less than 3 feet	3-10 feet

4.3.6 Exceptions to Danger Brush and Cycle Maintenance Recording

This section outlines the exceptions to Danger Brush and Cycle Maintenance Recording and Response.

Engineering sets thermal line rating limits and Operations operates the system to comply with these limits. Thermal line rating limits are designed to keep the conductors above the NESC clearance thresholds at all times.

As a result, the following vegetation with a mature height of less than 10 feet is deemed NON-THREATENING and is not considered Danger Brush or Cycle Maintenance.

- Low-Profile Residential Landscaping: Within developed residential or commercial properties there are many low-growing plants that will not reach a mature height of 10 feet. Examples include ornamental shrubs, grasses, and forbs (e.g., low rhododendrons, azaleas, rose bushes, flower beds, vegetable gardens, lawns, etc.).
- Rangeland: Much of BPA’s ROW, especially east of the Cascades, crosses open expanses of rangeland with low-growing vegetation that will not reach a mature height of 10 feet, such as sagebrush and grass.

4.4 TLM Response to Vegetation Conditions During Working Patrols

4.4.1 Record Hazard

Record vegetation in the system-of-record as required in Section 4.3, Vegetation Condition Identification. Early identification and reporting will allow the information to be appropriately routed for immediate action or follow-up evaluation.

- Document the date the vegetation was identified.
- Record information about the vegetation including species and height.
- For working patrols record any cutting activity including brush removed and brush left to be cut later.

4.4.2 Removal Response Time

Follow the removal response times listed below and listed in Table 4.2.

1) Imminent Threat: Within 24 hours.

- If the NRS cannot facilitate the immediate removal, then the NRS will report the hazard to the TLM Foreman III to arrange removal within 24 hours of initial observation.
- If it is not possible to remove the threat within 24 hours, due to the following factors, then document the situation in the system-of-record and remove the vegetation as soon as possible.
 - Scheduling issues to obtain a required line clearance.
 - Cannot obtain traffic restriction permits for removal of vegetation along state and county highways within 24 hours.
 - Cannot obtain required third party approval within 24 hours.
- A fall-into, bend-into, grow-into, and swing-into danger tree or logging fringe can be an imminent threat.
- Once the threat is removed, the NRS will follow-up with any property owner and/or environmental entity, if necessary.
- Exceptions to the 24-hour imminent threat removal requirement will be allowed under certain conditions. See Section 4.8; Response to Danger Brush & Cycle Maintenance (Special Conditions) for the annual maintenance field season.

2) Danger Brush and Grow into Danger Trees: Within 15 days.

This is vegetation growing toward the conductor originating from on or off the ROW.

- TLM can remove danger brush encountered while on working patrol, if work can be accomplished within their work schedule.
- If removal cannot be accomplished within the TLM work schedule, the NRS should be notified and mitigation responsibility passes to NRS.

3) Danger Brush with Special Conditions: Within 15 days. See section 4.8.

4.5 Helicopter Observer Response to Vegetation Conditions.

- **Record Condition:** Record out of compliance vegetation in the system-of-record. Document the date the vegetation was identified and information about the vegetation (e.g., species, acres, danger/Cycle Maintenance, fall-, bend- and swing-into danger trees, etc.).
 - If an Imminent Threat is observed during aerial patrol, report the hazard to the TLM Foreman III and the Vegetation Management Program Manager immediately.
 - If Danger Brush/Danger Trees are observed during aerial patrol, report the hazard to the TLM Foreman III and the Vegetation Management Program Manager as soon as possible.

4.6 Third Party Contract Patrol and LiDAR Analysis Response (S)

If a third-party contract patrol observer or a Geospatial LiDAR analyst identifies out of compliance vegetation clearance issues, including Imminent Threats, Danger Brush, and Danger Trees the following actions **shall** be taken.

4.6.1 Imminent Threat Notification by Observer and NRS Response (S)

- 1) The observer **shall** notify the NRS as soon as possible via the most immediate medium. In most cases this will be via cell phone. If the observer does not have cell service at the field location, they **shall** drive to a suitable spot to make the call. The Observer **shall** not leave a message. The Observer shall continue down the phone tree until live contact is made in the following order:
 - a. District NRS.
 - b. District TLM Foreman III.
 - c. District TLM Foreman I.
 - d. Vegetation Management Program Manager.
 - e. Supervisory NRS.
- 2) The observer **shall** immediately follow-up the initial notification with an email to the NRS including an attached picture of the hazard, copying the District TLM Foreman III, TLM Foreman I, and the Supervisory NRS.
- 3) Each Imminent Threat email notification **shall** be sent in a separate email. No other notifications will be included in the email. The observer **shall** submit one notification per span.
- 4) The Imminent Threat email notification will contain this message in the subject line; “**ALERT – IMMEDIATE THREAT NOTIFICATION (LINE NAME)**”.
- 5) The NRS **shall** inspect the Imminent Threat location within 24 hours (sooner, if possible) to verify the validity of the hazard identification.

- 6) If the Imminent Threat is valid, the NRS will take responsibility for mitigation by:
- a. Contacting the TLM Foreman III to coordinate mitigation.
And either:
 - Ensure that TLM will mitigate the hazard within 24 hours of notification.
 - Assign the mitigation task to a vegetation contractor. A vegetation contractor **shall** mitigate the hazard within 24 hours of initial phone notification (sooner if possible).
 - b. Verify mitigation has been successfully accomplished by eliminating the Imminent Threat.
 - c. Once the Imminent Threat has been mitigated, the NRS will notify the TLM Foreman III, the TLM Foreman I, and the Supervisory NRS, by email.
 - d. If the Imminent Threat is from off Right of Way vegetation the NRS will notify the Realty Specialist requesting that the underlying landowner be notified.
- 7) If the Imminent Threat is not valid:
- a. The NRS will notify the Supervisory NRS and, when appropriate, critical TLM staff.
 - b. The Supervisory NRS will solicit a report from the observer and determine why the risk was identified as Imminent.
 - c. Supervisory NRS will report findings to the NRS.
 - d. The NRS **shall** document in database of record.

4.6.2 **Danger Brush Notification from Observer and NRS Response (S)**

The observer will notify the NRS as soon as possible. Notification will include locations of Danger Brush, heights, DBH and reason for its being classified Danger Brush such as DB, DTG, and Bend Into.

- 1) The observer will follow up the initial notification with an email to the NRS and Supervisory NRS. Observer **shall** include a picture of the out of compliance vegetation, if possible.
- 2) Each Danger Brush email notification will be sent in a separate email. No other notifications such as DT or CT will be included in the email. The observer can submit one notification per span.
- 3) The Danger Brush email notification will contain this message in the subject line; **ALERT – DANGER BRUSH NOTIFICATION (LINE NAME)**.
- 4) The NRS will inspect the Danger Brush location within 48 hours from the time it is reported to the NRS to verify the validity of the condition.
- 5) The NRS **shall** submit a Danger Brush report into the VIR reporting system.

- 6) If the Danger Brush condition originates from off ROW vegetation and is valid, the NRS will:
 - a. Notify the underlying landowner.
 - b. Contact a hotspot contractor to have the Danger Brush removed.
 - c. Once the threat is removed, the NRS will notify the Supervisory NRS by VIR reporting system.
- 7) If the Danger Brush condition is not valid.
 - a. The NRS will notify the Supervisory NRS via VIR reporting system.
 - b. The NRS will contact the observer to determine why the risk was identified as Imminent and report to Supervisory NRS.

4.6.3 All Other Vegetation Clearance Related Issue Reporting

All other vegetation clearance-related issues will be recorded in the system-of-record, in the observer's report, and/or in BPA's LiDAR database.

4.7 NRS Response to Vegetation Conditions

4.7.1 Imminent Threat Reports by Aerial Patrol (S)

- 1) Imminent Threat Reports by Aerial Patrol The aerial patrol will notify both TLM foreman III and NRS immediately.
- 2) Reports will be logged into the system-of-record.
- 3) The NRS **shall** field-verify the report and mitigate the hazard within 24 hours of reporting.

4.7.2 Removal Response Time (S)

Follow the removal response times listed below.

- 1) Imminent Threat Reported During non TLM Patrol: Fall-into, bend-into, grow-into, and swing-into danger trees or logging fringes may also pose an imminent threat.
 - Immediately notify the TLM Foreman III and NRS.
 - Removal within 24 hours.
 - See Table 4.2 in Section 4.10 for response times.
 - If it is not possible to remove the threat within 24 hours:
 - Document the reason for the delay in the Database of Record.
 - Remove Imminent Threat vegetation at the earliest opportunity.
 - System-of-Record: Once the threat is removed, the NRS will;
 - Notify TERG so GIS database can be updated.

- Notify property owner if applicable.
 - Notify environmental entities, if applicable.
 - Update system of record.
- 2) Danger Brush Reported During non TLM Patrols:
- Mitigate within 15 calendar days.
 - See section Table 4.2 in Section 4.10 for details and procedures.
- 3) Cycle Maintenance Reporting During All Patrols:
- Cycle Maintenance requires mitigation by May 31 of following calendar year. (Example: discovered April 2016 will be mitigated by May 31, 2017)
 - Corridor Tree (CT): CT **shall** be cut by next scheduled maintenance contract or no more than 2 years from identification, whichever comes first.
- 4) Grow Into Danger Trees(DTG) Reported During Patrols:
- Cut TDG's within 10-15 feet of clearance on lines <200kV by May 31 of following calendar year.
 - Cut DTG's within 15-20 feet of clearance on lines >200kV by May 31 of following calendar year.
- 5) For Bend Into, Fall Into, and Swing Into Danger Trees During all Patrols the NRS **shall** review danger tree reports and will schedule field evaluations.
- Allow adequate time for Valuation and Forestry to research landowner easements and agreements.
 - Acquisition of cutting rights may be required before Danger Trees can be cut.
 - Where Danger Tree rights have already been acquired according to easement documents, Danger Trees may be removed during the current fiscal year.
 - NRS compiles a Danger Tree list and submits it annually to Valuation and Forestry.
 - Valuation and Forestry notifies the NRS of the Notice of Rights Secured (NORS).
 - NRS schedules removal during the next fiscal year's vegetation clearing program or earlier as schedule and budget allow.
- 6) Other Vegetation Reported during All Patrols: TLM working patrol will only report imminent threat or Danger Brush. All other patrols can report other observed conditions such as invasive plants, slash piles, and other potential issues.

4.8 Response to Danger Brush & Cycle Maintenance (Special Conditions)

Actions to remove or cut vegetation may be impacted by legal constraints such as private property rights, pre-existing maintenance agreements, the Endangered Species Act, and other environmental laws.

- Working patrols and non-TLM patrols will apply the response actions in Sections 4.8.1 and 4.8.2 during the annual field season.
- All vegetation reported prior to the annual field season is subject to the reporting and response standards in place at the time of the report.

4.8.1 **Danger Brush With Special Conditions (S)**

Perform the following within 15 calendar days.

- 1) Agricultural and Crop Land: Report the Danger Brush minimum clearance violations to TLM Foreman III and NRS.
 - The NRS will arrange with the landowner, TLM, or a qualified line clearance tree trimmer contractor to top or trim the brush to ensure it is no longer violating Clearance Threshold requirements.
 - NRS **shall** document the action taken and enter it into the system-of-record.
 - NRS **shall** notify the Realty Specialist to initiate land rights analysis on the property.
 - Real Property Services will initiate work with Transmission Engineering, Legal and senior management to initiate a rights review analysis to determine whether to purchase rights, condemn property, or consider design changes.
 - If the Danger Brush is allowed to violate minimum clearance (DB) , the NRS will:
 - a. Document the allowable vegetation height in the system-of-record.
 - b. Continue monitoring until the rights to remove the vegetation are secured or the assets are removed.
 - c. Monitor the property frequently enough to ensure the vegetation does not become an imminent threat.
- 2) Developed Residential or Commercial Property: Document action taken in system-of-record.
 - Record, in system-of record, violations of any agreements in place such as violations of allowed vegetation clearance or height.
 - Report the violations to the Realty Specialist for cancellation.

- Report the Danger Brush to the TLM Foreman III and NRS, who will respond as follows:
 - a. If there is no vegetation agreement the NRS will arrange removal of vegetation within 15 calendar days and document action taken in the system-of-record.
 - b. If the vegetation agreement is violated the NRS will correct the vegetation encroachment after the notification period required in the agreement.
- 3) Vegetation Agreement “Heights Adhered To”: Within 15 calendar days the NRS will negotiate for full removal, topping or trimming of the vegetation to mitigate the Danger Brush Clearance threshold threat so it is re-classified as Cycle Maintenance. The NRS will:
 - Document the action taken in the system-of-record and;
 - Notify the appropriate Realty Specialist so they can modify the agreement if required.
- 4) Environmentally Sensitive Areas:
 - TLM working patrols will report the Danger Brush to the TLM Foreman III so arrangements can be made with Environment and the NRS for follow-up.
 - For other patrols the NRS will contact Environment. Within 15 calendar days Environment will provide recommendations to the NRS on how to minimize or avoid impacts to sensitive resources.
 - If the impact can be minimized or avoided, the vegetation will be removed as soon as possible.
 - If the impact cannot be minimized or avoided, the vegetation will be monitored monthly by the NRS and removed when the impact can be mitigated, or when the Danger Brush becomes an Imminent Threat to safety and reliability, whichever occurs first.

4.8.2 Cycle Maintenance & Danger Trees with Special Conditions

Response times are the same as in Section 4.7, with the following additional actions or exceptions:

- 1) Agricultural and Crop Land: All vegetation covered under agriculture, Land Use Agreements (LUA), and Tree and Brush Agreements (T&B) will be allowed to grow no closer than Cycle Maintenance. Refer to 4.8.1 a-e for procedures when observers or patrols find a situation where vegetation is growing into Cycle Maintenance.
- 2) If the vegetation is allowed to remain:
 - Document the allowable vegetation height in the system-of-record and eGIS.

- The NRS will monitor the vegetation each subsequent growing season to ensure the vegetation does not violate Clearance threshold Danger Brush (DB).
 - Monitoring and topping or pruning will continue until the rights to remove the vegetation are secured or the assets are moved.
- 3) Developed Residential or Commercial Property:
- Vegetation Agreement Violated: NRS may negotiate full removal within the required timeframes. If this is not possible and a notification period has been identified in the agreement then the NRS will;
 - Notify the Realty Specialist who will notify the landowner and cancel the agreement.
 - Arrange for the removal of the vegetation as soon as possible following notification.
 - Vegetation Agreement Heights Adhered To: NRS may negotiate full removal within required timeframes. If this is not possible and a notification period has been identified in the existing agreement then;
 - The NRS will notify the Realty Specialist who will review BPA's rights and, if appropriate, notify the landowner and cancel or modify the agreement.
 - If BPA has the appropriate rights, the NRS will facilitate the removal of the vegetation as soon as possible after notification.
 - If BPA does not have the rights to remove the vegetation, the Supervisory NRS will be notified and a plan will be developed to monitor vegetation clearance until mitigation can be accomplished.
- 4) Environmentally Sensitive Areas: If removal conflicts with environmental restrictions then;
- The NRS will contact Environment.
 - Request that within 15 calendar days Environment will provide recommendations to the NRS on how to minimize or avoid impacts to sensitive resources.
 - If the impact can be minimized or avoided, the vegetation will be removed as soon as possible.
 - If the impact cannot be minimized, the vegetation will be monitored by the NRS and removed when the impact can be mitigated or when the vegetation violates Danger Brush minimum clearance, whichever comes first.

4.9 Response Exceptions for Unsafe Conditions

The following describes response exceptions for unsafe conditions, action requiring purchase of property and other legal requirements.

- 1) Vegetation Agreement Violated: NRS may negotiate full removal within the required timeframe. If this is not possible and a notification period has been identified in the agreement, the NRS will;
 - a. Notify the Realty Specialist who will notify the landowner and cancel the agreement.
 - b. Facilitate the removal of the vegetation as soon as possible after the cancellation.
- 2) General: Deviations from these response actions and timeframes are acceptable when conditions outside the control of BPA prohibit a response. In these cases, changing conditions will be regularly monitored so that removal occurs as soon as it is reasonable and safe.

Examples of these conditions are:

- Inaccessibility due to weather or other unsafe conditions.
 - Inaccessibility due to threat of bodily injury or legal action. In situations in which a BPA employee or contractor is threatened or refused access by a property owner, it is acceptable for a delay to occur in order to obtain appropriate law enforcement assistance and, if necessary, a court order to gain access to the property. Information on these incidents is recorded in TFBV's Public Relations Escalation Process.
- 3) Legal Constraints: In cases when the necessity of acquiring property rights or property owner litigation restricts BPA's ability to remove non-compliant vegetation, action will be taken to ensure that no Danger Brush exists and that the vegetation is adequately monitored until rights to remove the vegetation can be assured.
 - 4) Documentation: Document the reason for deviating from the response timeframe in the system-of-record.

4.10 Correction Response Summary Table

<p align="center">Table 4.2 CORRECTON RESPONSE</p>						
Category of Vegetation	Patrol Type	Correction Responsibility	Clearance (ft.): Max Sag- to- Vegetation	Voltage or Designation	Priority	Correction Time
Imminent Threat	All	NRS	MVCD+5 ft. (as observed)	≤ 200 >200	1	24 hours**
Danger Brush	All	NRS*	≤10 ≤ 15	≤ 200 >200	2	15 calendar days
Danger Brush	All	NRS*	<3	Fiber optic	2	15 calendar days
Danger Brush* (Special Conditions re: 4.8)	Non-TLM	NRS*	≤10 ≤15	≤ 200 >200	2	15 calendar days
Cycle Maintenance	All	NRS	<10-15>15-20	≤200 >200	3	By May 31of following calendar year

* TLM working patrol may correct if it reports Danger Brush that can be treated in less than 2 man-hours total time.

** Or as soon as possible. Refer to Section 4.9.

4.11 Role Base Response

Once notified, the NRS will assume Lead responsibilities for all Imminent Threat reports.

Observed by:		TABLE 4.3 Expected Response(s)				
		Aerial	LiDAR	TLM	NRS	Contractor
Imminent Threat (Priority 1)						
Aerial		Notify TLM & NRS, record in System-of-Record	No response	<ul style="list-style-type: none"> Notify and/or coordinate with NRS to arrange removal within 24 hours See Section 4.9 for Exceptions and subsequent responses Record in Cascade 	<ul style="list-style-type: none"> Work with TLM to remove threat within 24 hours of reporting Record in system-of-record NRS will assume Lead responsibilities as soon as notified. 	No response
Contractor		No response	No response	<ul style="list-style-type: none"> Coordinate with NRS as <u>needed</u> to arrange removal within 24 hours. 	<ul style="list-style-type: none"> NRS assumes Lead responsibilities Notify and coordinate with TLM as needed to remove threat within 24 hours Immediately notify Supervisory NRS & Supervisory NRS See Section 4.9 for Exceptions and subsequent responses Record in system of record 	Follow process as identified in Section 4.6.1
LiDAR		No response	Follow process identified in Section 4.6.1			No response
NRS		No response	No response			No response
TLM		No response	No response	<ul style="list-style-type: none"> TLM takes initial lead Notify Control Center per "TLM-STD-4-8, Reporting of Encroachments and Hazardous Conditions, Sect 4.2.3. Notify and/or coordinate with NRS to arrange removal within 24 hours See Section 4.9 for Exceptions and subsequent responses. Record in System-of Record. 	<ul style="list-style-type: none"> Work with TLM to remove threat Record in system-of-record TLM may transfer lead to NRS to treat 	No response

Danger Brush (Priority 2)						
Observed by:		Aerial	LiDAR	TLM	NRS	Contractor
Aerial		No response	No response	<ul style="list-style-type: none"> TLM Foreman notified via VVIR 	<ul style="list-style-type: none"> NRS TAKES LEAD Validate the Danger Brush on site within 2 days If it is not valid, notify Supervisory NRS and Vegetation Program NRS, along with entering into system-of-record If valid, arrange removal within 15 calendar days & record in system-of-record 	
Contractor		No response	No response	No response		<ul style="list-style-type: none"> Follow process identified in Section 4.6.2 Report in system-of-record
LiDAR		No response	<ul style="list-style-type: none"> Notify Supervisory NRS & Veg Program Manager Record in system-of-record 	No response		No response
NRS		No response	No response	No response		No response
TLM		No response	No response	<ul style="list-style-type: none"> Cut if less than 2 man-labor hrs. per Section 4.4.2 and/or notify NRS for further assessment Record in Cascade 		No response

Cycle Maintenance (Priority 3)						
Aerial		No response	No response	No response	No response	No response
Contractor		No response	No response	No response	<ul style="list-style-type: none"> Validate input data and conduct Scheduled Assessment 	<ul style="list-style-type: none"> Record in data collector.
LiDAR		No response	Record in GIS.	No response		No response
NRS		No response	No response	No response		No response
TLM		No response	No response	Optional: Record in TLM data collector		No response

5. SUMMARY OF CHANGES

09/22/2015

Dave Baldwin Revised

1. Pages 1-23 - Converted the document from the Roman Numeral format to the BPA Standards Group document format.

August 2015

Alan DeJong Revised

1. The Vegetation/Access Road Management Group (TFBV) performed an extensive revision to this Standard. (Too many changes to list).

02/08/2017

Vegetation / Access Road Management Group (TFBV) has continued with revisions to the 2015 edition of TLM-STD-7-2-1.

1. Format changes include but not limited to:

- Eliminating non-essential content.
- Clarifying ambiguous directives.
- Extensively reformatting to make the document easier to read and follow.

2. Quantifiable changes to the Standards are:

- Change from two Cycle Maintenance (CM) clearance zones to one. CM Clearance Thresholds are noted in the text, tables and diagrams.
- Establishing Swing-Into clearance threshold to be MVCD.

04/19/2017

Steve Duncan revised

1. Page 3 – Added definition - “Major Storm Event: The occurrence of storms and other significant weather phenomena having sufficient intensity to cause loss of life, injuries, significant property damage, and/or disruption to commerce”.