



Vegetation Management Program Manual

6/27/2017

"This document contains nonpublic transmission information and must be treated in accordance with the FERC Standards of Conduct"

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1 Introduction

This manual applies to NextEra Energy Inc., including Florida Power & Light, NextEra Energy Resources and NextEra Energy Transmission, designated overhead NERC Transmission lines operated at 200kV and above and lower voltage lines designated as an element of an IROL or WECC Transfer path. In addition, this manual addresses lower voltage, including NON-NERC facilities.

2 Objective

To define a vegetation program that ensures reliability to the electric system. The following is a list of program objectives:

- Managing vegetation, prior to encroachment, into Vegetation Action Threshold for NERC applicable lines and Trigger Distance for Non-NERC lines.
- Minimizing Fire Hazards by reducing fuel levels to acceptable limits.
- Compliance with governmental vegetation related regulations and restrictions.

3 Definitions

- Batches - The prescription(s) are prioritized and organized into batches of work which become the annual work plan.
- Clearance 1: Minimum approach distances to energized conductors for persons other than qualified line-clearance arborists and trainees as defined in Table 2 of ANSI Z133.1, 2012; See Appendix 1 and 5.
- Corridor: is a single line circuit or several lines circuits running parallel and organized in such a manner that can be managed together as one unit.
- Hazard Tree: A structurally unsound tree that could come within a flashover distance or strike a target when it fails. As used here, the target of concern is overhead power lines.
- Inspector: Individual assigned with the responsibility of evaluating the condition of the ROW and clearances between vegetation and the applicable line.
- Minimum Vegetation Clearance Distance (MVCD): The minimum distance to prevent flashover as specifically identified in FAC 003– Table 2; See Appendix 3 and 5.
- Mitigation Process: Process to manage vegetation that is located within Trigger Distance; Appendix 2 and 5.
- Prescription: Defines and quantifies the work activity to meet the objectives of the plan and identifies when the work should be completed.
- Right-of-Way (ROW): A type of legal right by ownership, grant or reservation over land for the operation of electrical transmission lines. The width of the ROW is established by engineering or construction standards and documented in either construction documents, pre-2007

vegetation maintenance records, or by the blowout standard in effect when the line was built. The ROW width in no case exceeds the Transmission Owner's legal rights but, may be less based on the aforementioned criteria.

- Short Cycle Prescription: A prescription used to mitigate vegetation that cannot be maintained under normal cycle lengths.
- Transmission Vegetation Management System (TVMS) - NextEra Energy's Geographic Information System (GIS) based inventory software.
- Trigger Distance: Minimum approach distance from energized conductors for qualified line-clearance arborists and trainees as defined in Table 1 of ANSI Z133.1, 2012; See Appendix 2 and 5. Vegetation conditions at or inside the Trigger Distance are classified as an Imminent threat prescription which starts the Vegetation Mitigation Process.
- Vegetation Action Threshold (VAT): Vegetation Program objective for NERC applicable lines is to keep vegetation clear of power lines by VAT distance and is calculated by adding MVCD to sag/blowout potential plus a buffer of two feet; Appendix 4 and 5.

4 System Structure/Work Prescriptions

4.1 Geographical Structure

The transmission system is organized by NERC Regions, sites and Corridors.

4.2 Practices and Prescriptions

NextEra Energy's vegetation management practices are to use an integrated vegetation management approach to achieve program objectives through:

- Identification of compatible and incompatible vegetation through inspection.
- Implementation of appropriate control methods to discourage incompatible vegetation.
- Promotion of compatible vegetation.

Control methods are based on environmental impact and anticipated effectiveness, along with site characteristics, security, economics, current land use and other factors. These methods include, but are not limited to pruning, removal, herbicide application and mowing.

Work identified through the inspection process requires creation of a prescription and is outlined as follows:

- Trim Trees to Standard - Branches removed from a tree in accordance with industry standards as they apply to utility pruning. Unit is number of trees.

- Remove Trees - Trees or shrubs cut (4" or greater at DBH, 5" caliper or greater stump) at ground level and the stumps treated with the appropriate herbicide where necessary to prevent re-sprouting. Unit is number of trees.
- Short Cycle Trim – Trees trimmed to standard on a cycle less than 12 months. Unit is number of trees.
- Tree Group - Trim – Trees trimmed to standard in a specified area. Unit is number of trees.
- Tree Group - Remove – Trees removed and stumps treated with appropriate herbicide in a specified area. Unit is number of trees.
- Trim Area – Vegetation trimmed to standard in a specific area that is. Unit is number of acres
- Clear Area – Vegetation removed in a specified area. Unit is number of acres.
- Linear Trim - Specifically identified spans of trees trimmed of high enough density that it is not practical to obtain a tree count in advance of trimming. In many cases, there will be some trees that require removal during the linear trimming process. It is not necessary to document the count of these removals during linear trimming because linear trimming is based on length of work (not tree counts). Unit is linear foot for each side of right-of-way.
- Mechanical Trim - Specifically identified spans of trees trimmed with a mechanical tree trimmer, such as a Jarraffe.
- Clear and Treat Brush - Woody species removed and herbicide applied to stumps or stems from around poles, guys, fence right-of-ways, ditch banks as directed. Unit is number of acres.
- Widen ROW Edge – Extend the existing ROW wall beyond the point that it is currently cleared.
- Mow - Normal - Grass and brush in right-of-way mowed or cut to a height of less than six (6) inches. Brush DBH in right-of-way is less than two (2) inches. Unit is number of acres.
- Mow - Heavy - Grass and brush in right-of-way mowed or cut to a height of less than six (6) inches. Brush DBH in right-of-way is greater than two (3) inches. Unit is number of acres.
- Mow - Wet - Grass and brush in right-of-way mowed or cut to a height of less than six (6) inches. The average soil in right-of-way is sufficiently wet to require low ground pressure equipment (ground pressure ratio of less than 4 pounds per square foot). Unit is number of acres.
- Mow - Specialized – Vegetation cleared using unique methods with specialized equipment. Unit is number of acres.
- Mow Roads & Pads - Grass and brush mowed or cut thirteen (13) feet on each side of the center line of the road or structure to a height of less than six (6) inches. Unit is number of acres.
- Roll ROW – Grass in right-of-way rolled down using the tracks and a chopper (under wet conditions).
- Chop ROW – Grass and brush in right-of-way chopped to a height of less than eighteen (18) inches. Unit is Number of acres.
- Spot Treat - Light - Plant specific application of an approved herbicide to the target species. The application shall achieve a 90% kill after three months of all target species. Care should be taken to minimize over spray and drift so as to retain the native plant

community. Excessive kill of non-target species will not be permitted. Target species density is less than two hundred (200) stems per acre or less than thirty percent (30%) of the area of the span. Unit is number of acres.

- Spot Treat - Heavy - Plant specific application of an approved herbicide to the target species. The application shall achieve a 90% kill after three months of all target species. Care should be taken to minimize over spray and drift so as to retain the native plant community. Excessive kill of non-target species will not be permitted. Target species density is greater than two hundred (200) stems per acre or greater than thirty percent (30%) of the area of the span. Unit is number of acres.
- Broadcast Spray - Plant specific application of an approved herbicide to the entire right-of-way to achieve a species shift in the right-of-way diversity (necessary when one or two incompatible species dominate the right-of-way). Contractor shall achieve a 90% kill after three months of those target species. The process of broadcast spray recognizes that the entire right-of-way will brown-out. Unit is number of acres.
- Aerial Spray – Plant specific application of an approved herbicide broadcast across the entire right-of-way using helicopters or fixed wing aircraft.
- Pad Treatment – Plant specific application of an approved herbicide on the structure pad to the target species for a minimum distance of ten (10) feet around the structure and one and one-half feet (1.5) around down guys. The area may vary. Unit is number of acres.
- TGR - Specific application of approved tree growth regulator to a tree in order to slow its growth. Results should be evident within six (6) months and last for three years. Unit is number of trees.
- Tree Group – TGR – Same as TGR but includes multiple trees at one location. Unit is number of acres.
- Remove Vines – The severing of vines at the base of the pole or above ground line and plant specific application of an approved herbicide. (Under no circumstances are vines to be removed from the pole if they are closer in elevation than ten (10) feet below energized facilities).
- Critical Trim - A tree or group of trees that are approaching trigger distance. Unit is number of trees.
- Critical Removal – To remove a tree that is designated as critical (tree must be removed out of cycle and on short notice).
- Imminent Threat – Trimming of vegetation that is at or inside the Trigger Distance or is considered a safety concern. Reference in vegetation mitigation process.
- VAT Trim – A tree or group of trees that is at or inside the Vegetation Action Threshold distance.
- Restricted Work – Vegetation work being done under restrictions placed on the site or job by a governmental agency.
- Special – Unique vegetation work that is not currently in the prescription List.
- Aerial – Check – Location identified during an aerial inspection for ground follow-up.
- Aerial – RT (Dead) – A dead tree identified for removal from an aerial inspection.
- Aerial – RT (Leaner) – A hazard tree identified for removal from an aerial inspection.
- Aerial – TTS – A hazard tree identified for trimming from an aerial inspection.
- LiDAR – Check – A location identified from LiDAR for ground follow-up by an inspector.

5 Vegetation Management Program (NERC Standard FAC-003-4, Requirement R1, R2 and R3)

5.1 Program Description

The NextEra Energy vegetation management program is designed to manage vegetation from encroaching into MVCD. The key elements of the program are to inspect the applicable ROWs, document vegetation, prescribe a work plan, and execute the work plan prior to the vegetation encroaching into the VAT for NERC lines and Trigger Distance for Non-NERC lines.

Based on the inspections, work prescriptions are defined and inventoried in TVMS, including the work types (i.e., maintenance strategies and vegetation control methods) based on vegetation growth rates and environmental conditions. The identified work prescriptions are then prioritized and organized into batches of work which become the annual work plan which is managed in TVMS.

5.2- Layers of Protection (Clearance 1, VAT and Trigger Distance)

NextEra Energy Vegetation Management has established layers of protection to prevent encroachment into MVCD. The following are factors that are considered when determining when to execute on work:

- Elevation – Clearance to wire requirements will increase as elevation increases per ANSI Z133.1, 2012. It is determined using topographical maps, siting information, and real time elevation detection (i.e. GPS technology).
- Sag and Sway potential of the line – as measured in typically constructed span lengths using 239 degrees F and 6 psf blowout Growth and bend-in potential of the vegetation - Growth and bend-in potential are gauged through the course of patrol/inspection by inspectors who are trained in the identification and plausible growth and bend-in potential of vegetation.
- Minimum Approach Distance for unqualified persons (Clearance 1) as defined in Section 3.
- Trigger Distance as defined in Section 3.

5.3 Quarterly Reporting to the Regional Entity (RE)

NextEra Energy shall report, at least quarterly to the RE, qualifying sustained transmission line outages determined to have been caused by vegetation.

If outages have occurred that meet the NERC requirements for reporting, NextEra Energy Vegetation Management will review with the Compliance group for submission.

6 Communicating the existence of a vegetation condition that is inside the Trigger Distance (NERC Standard FAC-003-4, Requirement R4)

NextEra Energy shall communicate to the appropriate control center, without intentional delay, vegetation conditions that are inside the Trigger Distance as defined in Appendix 2 and 5,. Reference the Vegetation Mitigation Process.

7 Mitigation Measures (NERC Standard FAC-003-4, Requirement R5)

Restrictions on scheduled work may include refusals by property owners to access or perform work, orders to stop work by local authorities, or restrictions by federal and state agencies. These restrictions will be brought to leadership for action. While negotiations or legal action with governmental entities or landowners is underway, the Inspectors will manage the restriction to prevent encroachment into MVCD.

If NextEra is constrained from performing vegetation work, the following actions should be taken and documented to prevent vegetation from encroaching MVCD on applicable lines:

- Short cycle Prescription created for identified work
- Increased inspection frequency to monitor the vegetation as warranted.

8 ROW Inspection Schedule (NERC Standard FAC-003-4, Requirement R6)

Generally, scheduled work will be determined by the inspection process. Routine inspections will occur via ground patrols, aerial patrols or LiDAR. Applicable lines and lines designated as critical to the reliability of the electrical system in the region shall be inspected, at a minimum, annually with no more than 18 months between inspections. The inspection schedule is documented in TVMS.

For corridors designated 200kV and above, an independent patroller will perform a peer patrol to create prescriptions and ensure vegetation management practices are aligned with the Vegetation Management Program expectations.

The timing and number of inspections is flexible in order to respond to changing conditions such as fuel loading, heavy rain falls, high winds, and landowner intervention and tree mortality.

A significant change (over 45 days from scheduled date and not exceeding 18 months from previous inspection) to the inspection schedule shall be approved by the T/S Vegetation Management lead.

8.1 Inspection Purpose

- To inventory vegetation conditions that may impact the safe reliable operation of the electrical system.
- To prioritize work appropriate to species and site specific conditions.
- To adjust schedule for changes in vegetation growth to prevent encroachment into either VAT or Trigger Distance.

8.2 Inspection Records

Each inspection shall be documented in TVMS with the date of completion and the name of the Inspector. Data records and/or evidence will be maintained for at least three calendar years to show compliance with FAC-003-4. Inspection elements are defined in 4.2 Practices and Prescriptions.

9 Annual Work Plan (NERC Standard FAC-003-4, Requirement R7)

9.1 Annual Work Plan

Annually, NextEra Energy Vegetation Management shall review prescriptions and associated batches to ensure completion of the annual work plan. NextEra Energy Vegetation Management shall certify that the NextEra Energy applicable lines are in compliance with the NERC Standard FAC 003-4 as required by each RE.

The Annual Work Plan is created, maintained and modified in TVMS. Periodically, the plan is reviewed and adjusted. These changes shall be documented at the prescription level. Reasons for change may include:

- Change in expected growth rate/ environmental factors
- Circumstances that are beyond control of NextEra Energy, such as natural disasters
- Rescheduling work
- Crew or contractor availability
- Identified unanticipated high priority work
- Weather conditions/Accessibility
- Permitting delays
- Customer changes/issues

9.2 Work Specifications

The methods utilized for vegetation management at NextEra Energy are further described in NextEra Energy contract specifications. Specifications will be developed for work that is bid or assigned and will be in compliance with the standards set forth for Clearance 1, VAT and Trigger Distance.

All work specifications will comply with the following industry standards:

- ANSI Z133.1-2012 Safety Requirements for Arboricultural Operations.
- OSHA 1910.269 Electric Power Generation, Transmission and Distribution.
- ANSI A300 (Part 1) 2012 Pruning for Tree Care Operations—Tree, Shrub and Other Woody Plant Maintenance—Standard Practices
- ANSI A300 (Part 7) 2012 IVM Tree, Shrub, and Other Woody Plant Maintenance—Standard Practices (Integrated Vegetation Management a. Electric Utility Rights-of-way)

9.3 Implementation (NERC Standard FAC-003-4, Requirement R7)

9.3.1 Tracking

Periodically, NextEra Energy Vegetation Management will review the progress of inspections and work scheduled in the Annual Work Plan. Resource movements and schedule adjustments will be made as necessary to ensure work plan objectives are met. The Annual Work Plan completion is due at the end of the calendar year.

9.3.2 Documentation

The work plan is maintained in TVMS. Reports are monitored to ensure work plan is complete and past due exceptions are documented, the vegetation condition is re-evaluated and the action plan is noted in weekly exception report.

9.3.3 Quality Assurance, Quality Control, and Independent Inspection

- Quality Assurance and Quality Control (QAQC): A random, statistically representative sample of open, scheduled and completed work will be selected and reviewed annually to assess performance and identify improvement opportunities.

10 Appendixes

Appendix 1 –ANSI Z133.1 Table 2 (Clearance 1)

Table 2. Minimum approach distances to energized conductors for persons other than qualified line-clearance arborists and qualified line-clearance arborist trainees.		
Nominal voltage in kilovolts (kV) phase-to-phase *	Distance	
	feet- inches	meters
0.0 to 1.0	10-00	3.05
1.1 to 15.0	10-00	3.05
15.1 to 36.0	10-00	3.05
36.1 to 50.0	10-00	3.05
50.1 to 72.5	10-09	3.28
72.6 to 121.0	12-04	3.76
138.0 to 145.0	13-02	4.00
161.0 to 169.0	14-00	4.24
230.0 to 242.0	16-05	4.97
345.0 to 362.0	20-05	6.17
500.0 to 550.0	26-08	8.05
785.0 to 800.0	35-00	10.55
* Exceeds phase to ground. Per 29 CFR 1910.333		

Appendix 2 –ANSI 133.1 Table 1 (Trigger Distance)

Table 1. Minimum approach distances from energized conductors for qualified line-clearance arborists and qualified line-clearance arborist trainees.						
Nominal voltage in kilovolts (kV) phase-to-phase	Includes 1910.269 elevation factor, sea level to 5,000 ft (1524 m)*		Includes 1910.269 elevation factor, 5,000–10,000 ft (1524–3048 m)*		Includes 1910.269 elevation factor, 10,001–14,000 (3048–4267 m)*	
	ft-in	m	ft-in	m	ft-in	m
0.051 to 0.3	<i>Avoid contact</i>		<i>Avoid contact</i>		<i>Avoid contact</i>	
0.301 to 0.75	1-01	0.33	1-03	0.38	1-04	0.41
0.751 to 15.0	2-05	0.70	2-09	0.81	3-00	0.88
15.1 to 36.0	3-00	0.91	3-05	1.04	3-09	1.00
36.1 to 46.0	3-04	1.01	3-10	1.16	4-02	1.09
46.1 to 72.5	4-02	1.26	4-09	1.44	5-02	1.30
72.6 to 121.0	4-06	1.36	5-02	1.55	5-07	1.68
138.0 to 145.0	5-02	1.58	5-11	1.80	6-05	1.96
161.0 to 169.0	6-00	1.80	6-10	2.06	7-05	2.23
230.0 to 242.0	7-11	2.39	9-00	2.73	9-09	2.95
345.0 to 362.0	13-02	3.99	15-00	4.56	16-03	4.94
500.0 to 550.0	19-00	5.78	21-09	6.60	23-07	7.16
765.0 to 800.0	27-04	8.31	31-03	9.50	33-10	10.29
*Exceeds phase-to-ground; elevation factor per 29 CFR 1910.269.						

Appendix 3 – FAC 003 – Table 2 Minimum Vegetation Clearance Distance

FAC-003 — TABLE 2 — Minimum Vegetation Clearance Distances (MVCD)¹⁷
For Alternating Current Voltages (feet)

(AC) Nominal System Voltage (kV) ^a	(AC) Maximum System Voltage (kV) ¹⁸	MVCD (feet) Over sea level up to 500 ft	MVCD (feet) Over 500 ft up to 1000 ft	MVCD (feet) Over 1000 ft up to 2000 ft	MVCD (feet) Over 2000 ft up to 3000 ft	MVCD (feet) Over 3000 ft up to 4000 ft	MVCD (feet) Over 4000 ft up to 5000 ft	MVCD (feet) Over 5000 ft up to 6000 ft	MVCD (feet) Over 6000 ft up to 7000 ft	MVCD (feet) Over 7000 ft up to 8000 ft	MVCD (feet) Over 8000 ft up to 9000 ft	MVCD (feet) Over 9000 ft up to 10000 ft	MVCD (feet) Over 10000 ft up to 11000 ft	MVCD (feet) Over 11000 ft up to 12000 ft	MVCD (feet) Over 12000 ft up to 13000 ft	MVCD (feet) Over 13000 ft up to 14000 ft	MVCD (feet) Over 14000 ft up to 15000 ft
765	800	11.6ft	11.7ft	11.9ft	12.1ft	12.2ft	12.4ft	12.6ft	12.8ft	13.0ft	13.1ft	13.3ft	13.5ft	13.7ft	13.9ft	14.1ft	14.3ft
500	550	7.0ft	7.1ft	7.2ft	7.4ft	7.5ft	7.6ft	7.8ft	7.9ft	8.1ft	8.2ft	8.3ft	8.5ft	8.6ft	8.8ft	8.9ft	9.1ft
345	362 ¹⁹	4.3ft	4.3ft	4.4ft	4.5ft	4.6ft	4.7ft	4.8ft	4.9ft	5.0ft	5.1ft	5.2ft	5.3ft	5.4ft	5.5ft	5.6ft	5.7ft
287	302	5.2ft	5.3ft	5.4ft	5.5ft	5.6ft	5.7ft	5.8ft	5.9ft	6.1ft	6.2ft	6.3ft	6.4ft	6.5ft	6.6ft	6.8ft	6.9ft
230	242	4.0ft	4.1ft	4.2ft	4.3ft	4.3ft	4.4ft	4.5ft	4.6ft	4.7ft	4.8ft	4.9ft	5.0ft	5.1ft	5.2ft	5.3ft	5.4ft
161*	169	2.7ft	2.7ft	2.8ft	2.9ft	2.9ft	3.0ft	3.0ft	3.1ft	3.2ft	3.3ft	3.3ft	3.4ft	3.5ft	3.6ft	3.7ft	3.8ft
138*	145	2.3ft	2.3ft	2.4ft	2.4ft	2.5ft	2.5ft	2.6ft	2.7ft	2.7ft	2.8ft	2.8ft	2.9ft	3.0ft	3.0ft	3.1ft	3.2ft
115*	121	1.9ft	1.9ft	1.9ft	2.0ft	2.0ft	2.1ft	2.1ft	2.2ft	2.2ft	2.3ft	2.3ft	2.4ft	2.5ft	2.5ft	2.6ft	2.7ft
88*	100	1.5ft	1.5ft	1.6ft	1.6ft	1.7ft	1.7ft	1.8ft	1.8ft	1.9ft	1.9ft	2.0ft	2.0ft	2.1ft	2.1ft	2.2ft	2.2ft
69*	72	1.1ft	1.1ft	1.1ft	1.2ft	1.2ft	1.2ft	1.2ft	1.3ft	1.3ft	1.4ft	1.4ft	1.4ft	1.4ft	1.5ft	1.6ft	1.6ft

* Such lines are applicable to this standard only if PC has determined such per FAC-014 (refer to the Applicability Section above)

^a Table 2 – Table of MVCD values at a 1.0 gap factor (in U.S. customary units), which is located in the EPRI report filed with FERC on August 12, 2015. (The 14000-15000 foot values were subsequently provided by EPRI in an updated Table 2 on December 1, 2015, filed with the FAC-003-4 Petition at FERC)

¹⁷ The distances in this Table are the minimums required to prevent Flash-over; however prudent vegetation maintenance practices dictate that substantially greater distances will be achieved at time of vegetation maintenance.

¹⁸ Where applicable lines are operated at nominal voltages other than those listed, the applicable Transmission Owner or applicable Generator Owner should use the maximum system voltage to determine the appropriate clearance for that line.

¹⁹ The change in transient overvoltage factors in the calculations are the driver in the decrease in MVCDs for voltages of 345 kV and above. Refer to pp.29-31 in the Supplemental Materials for additional information.

Appendix 4 – Vegetation Action Threshold

Voltage	Span Length	Vegetation Action Threshold (VAT)
230kV	350' (sag & blowout)	9.92'
230kV	650' (sag and blowout)	12'
230kV	1320' (sag)	15'
230kV	1320' (blowout)	24'
345kV	350' (sag & blowout)	15.17'
345kV	650' (sag & blowout)	15.17'
345kV	1320' (sag)	15.3'
345kV	1320' (blowout)	24.3'
500kV	350' (sag & blowout)	21'
500kV	650' (sag and blowout)	21'
500kV	1320' (sag)	21'
500kV	1320' (blowout)	27'
VAT consists of MVCD + Sag/Sway @ 6 PSF; 230 Degrees plus a 2' buffer		

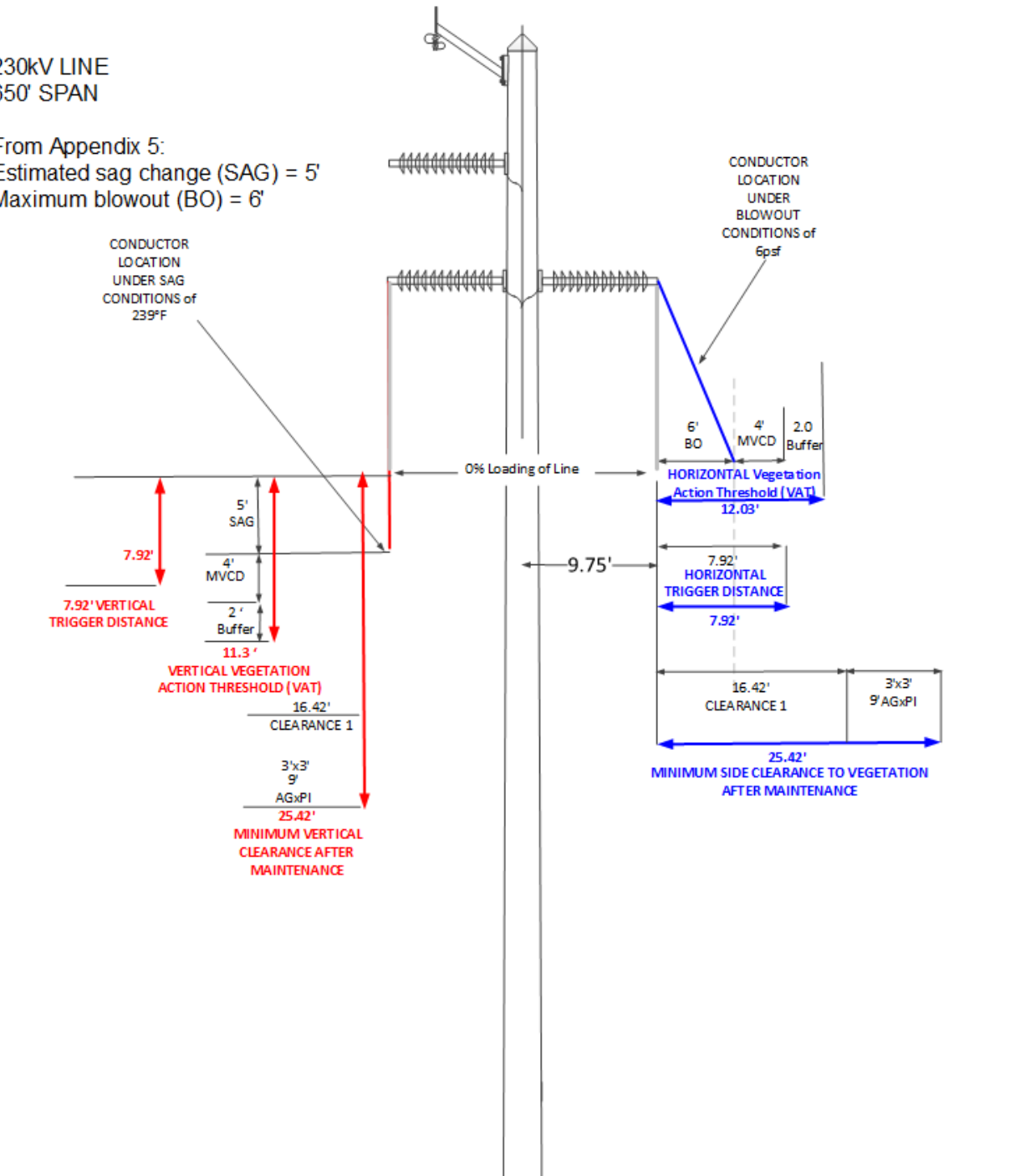
Appendix 5 – Diagram of various clearance requirements

- Maximum conductor sag case
- Everyday wind case

3' = AG - Expected Annual Growth
 3yr = PI - Anticipated Prescription or remedial Interval
 2' = Buffer - Expected tree movement at rated design
 4' = MVCD - Minimum Vegetation Clearance Distance for 230kV
 12.3' = VAT - Vegetation Action Threshold

230kV LINE
650' SPAN

From Appendix 5:
 Estimated sag change (SAG) = 5'
 Maximum blowout (BO) = 6'



1. Buffer shall be increased in the case of expected tree movement

11 Revision History

Revision	Date	Author(s)	Description
1.0	6/18/14	Steve Jolly	Finalized Structure/Content
2.0	8/18/14	Steve Jolly	Added references to appendices and NERC requirements
3.0	11/27/14	Steve Jolly	Added GO list validation
4.0	2/10/15	Steve Jolly	Added Definition of Applicable line, replaced FPL with NEE
5.0	10/29/2015	Jose Medina	10.1.1 Added section "Quality Assurance, Quality Control, and Independent Patrol".
			10.1.2 Also updated Appendix #3 VEL table in which distances were expanded in anticipation of NERC FAC-003-3 GAP factor adjustment.
			10.1.3 Minor grammatical edits
6.0	5/23/2017	Dan Marsh	General update throughout
7.0	06/27/2017	Dan Marsh	Additional updates and clarification