APPENDIX F
SANTEE COOPER VEGETATION MANAGEMENT PROGRAM AND
UNIT PLAN



April 21, 2022

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## SANTEE COOPER

### **Transmission Operations**

## TRANSMISSION VEGETATION MANAGEMENT PROGRAM AND UNIT PLAN

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## SOUTH CAROLINA PUBLIC SERVICE AUTHORITY

# TRANSMISSION VEGETATION MANAGEMENT PROGRAM AND UNIT PLAN



#### **Objectives**

To provide an integrated Transmission Vegetation Maintenance Program (TVMP) that protects transmission system availability, provides for public safety and promotes a positive public image. Additionally, to ensure compliance with NERC Standard FAC-003-4 as it relates to our bulk power transmission system.

To ensure that the following key components that make up Santee Cooper's Transmission Vegetation Management Program are systematically reviewed and implemented.

- Effective vegetation maintenance cycles
- Annual rights of way vegetation inspections
- Pro-active vegetation maintenance reporting
- Scheduling flexibility
- Utilization of best vegetation management practices
- Respect for individual property rights

#### Introduction

Santee Cooper is responsible for all ground floor maintenance on approximately 53,400 acres and the trees on the periphery of the easements along approximately 4,350 miles of transmission rights of way. Regional, geographical influences throughout the state such as topography, soil types, vegetation growth potentials (Appendix A), and weather patterns create several vegetation maintenance challenges. Santee Cooper considers each of these regional influences when planning vegetation maintenance to maintain appropriate clearances from vegetation to conductors at any given time.

Currently, the transmission system (Figure 1) is divided into three (3) transmission areas (Southern Transmission Area, Central Transmission Area, and Northern Transmission Area) from a line maintenance perspective. From a vegetation management viewpoint, this is important since line technician personnel are very knowledgeable of the changing vegetation conditions in their respective areas. Their annual right of way vegetation inspections and associated feedback provide a quality check that ensures established vegetation maintenance cycles continue to be effective. Further, they routinely recognize and report critical vegetation problems (e.g., dead, diseased or leaning trees) that were not present during scheduled vegetation maintenance activities.

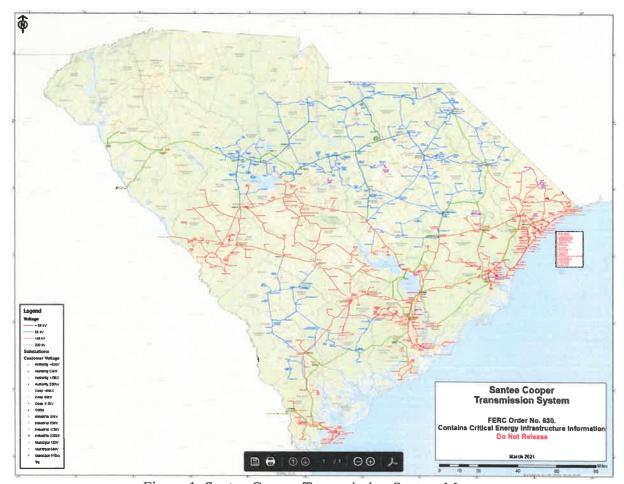


Figure 1. Santee Cooper Transmission System Map

#### Organization

The <u>Right of Way Management</u> section is divided into three maintenance units that are responsible for the physical and vegetation encroachment issues and the scheduling and completion of all vegetation maintenance activities located within and along transmission rights of way. Each unit is supported by individuals with varying degrees of professional work experience, educational backgrounds, and various professional certifications. The overall supervision and direction of this section is the responsibility of the Manager, Right of Way Management. Reporting directly to the Manager are three (3) Supervisors from each of the perspective maintenance units.

<u>Encroachment Management</u> is responsible for the physical encroachment program and defense of the transmission easements system wide. This unit is made up of one (1) Supervisor, and two (2) Land Agents.

<u>Ground Floor Management</u> is the largest of the three units with respect to the number of company personnel. This group is responsible for the mechanical reclearing and herbicide application on the entire ground floor of our transmission rights of way. This unit is made up of one (1) Supervisor, one (1) Crew Supervisor, seven (7) Equipment Operators, one (1) Engineering Technician and one (2) Contractor.

<u>Tree Management</u> is responsible for all tree related maintenance throughout the transmission system. They manage the cycled side trimming program, the cutting of hazard trees (i.e. dead, diseased, or leaning tress), and the cutting of any danger trees that are able to be cut.

This unit is made up of one (1) Supervisor, one (1) Forester, one (1) Equipment Operator and one (1) Contractor.

#### Minimum Vegetation Clearance Distance (MVCD)

To ensure that the MVCD is not encroached within, Right of Way Management has developed a Vegetation Clearance Guide (Figure 2 below). This guide provides distances to monitor potential horizontal and vertical encroachments. The Vegetation Clearance Guide is prepared considering parameters such as:

- Voltage class
- Span length
- Conductor type
- Sag (based on span and operating temp.)
- Structure insulator type (I-string vs. fixed)
- Blowout (calculated using 6 psf wind as prescribed by NESC Medium Load case)
- MVCD per FAC-003-4, Table 2 (see Figure 3)

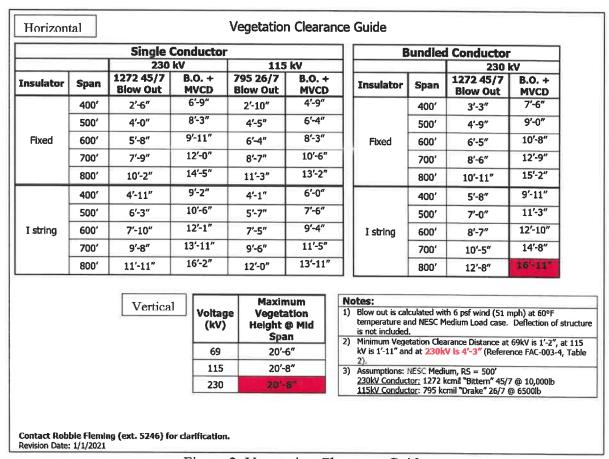


Figure 2. Vegetation Clearance Guide

				FAC-	003 — T	ABLE 2 -	– Minim	um Vege	etation C	learance	Distanc	es (MVC	(D) <sup>17</sup>				
						Fe	r Altern	ating Cu	rrent Vo	ltages (f	eet)						
(AC) Nominal	(AC) Maximu	MVCD (feet)	MVCD feet	MVCD	MWCD feet	MVCD	MVCD feet	MVCD feet	MVCD feet	MVCD feet	MVCD	MVCD	MVCD	MVCD feet	MVCD	MVCD feet	MVCI
System Voltage (KV)*	m System Voltage (kV) <sup>10</sup>	Over sea level up to 500 ft	Over 500 ft up to 1000 ft	Over 1000 ft up to 2000 ft	Over 2000 ft up to 3000 ft	Over 3000 ft up to 4000 ft	4000 ft up to \$000 ft	Over 5000 ft up to 5000 ft	Over 6000 ft up to 7000 ft	Over 7000 ft up to 8000 ft	Over 8000 ft up to 9000 ft	9000 ft up to 10080 ft	Over 10000 ft up to 11000 ft	Over 11000 ft up to 12000 ft	Over 12000 ft up to 13000 ft	Over 13000 ft up to 14000 ft	14000 up to 15000
765	800	11.6ft	11.7h	11.9ft	12.1h	12.2ft	12.4h	12.6ft	12.8h	13.0ft	13.1ft	13.3h	13.5ft	13.7ft	13.9h	14.1ft	14.36
500	550	7.0ft	7.1ft	7,2ft	7.4ft	7.5ft	7.6ft	7.8ft.	7,9ft	8.1fz	8.2ft	8.3h	#.5h	8.6/t	8.8ft	8.9ft	9.1ft
345	362×	4,3ft	4.3ft	4.4ft	4.5h	4.6ft	4.7ft	4.8lt	4.9ft	5.0ft	5.1ft	5.2h	5.3ft	5.4ft	5.5ft	5.6ft	5.7ft
287	302	5.2ft	5.3ft	5.4ft	5.Sft	5.6h	5.7ft	5.8ft	5.9R	6.1ft	6.2ft	6.3ft	6.4ft	6.5ft	6.6ft	6.8h	6.96
230	242	4,0ft	4.3ft	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	S.4ft
161*	169	2.7ft	2,78	2.8h	2.9ft	2.90	3.0ft	3.0ft	3.1ft	3.2H	3.3ft	3.3ft	3.4ft	3.5ft	3.6ft	3.7ft	3.80
138°	145	2.3ft	2.3ft	2.4h	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	1.9h	1.9ft	1.9ft	2.0ft	2.0ft	2.1ft	2.5ft	2.2ft	2.2ft	2.3ft	2.3ft	2.4ft	2.5ft	2.5ft	2.6ft	2.7h
884	100	1.5ft	1.5tt	1.6h	1.611	1.7h	1.7ft	1.8ft	1.8ft	1.8h	1.9h	1.9ft	2.0ft	2.0h	2.1ft	2.2ft	2.2ft
69*	72	1.1ft	1 1ft	1.1ft	1.2ft	1.2ft	1.2ft	1.2ft	1.3R	1.3ft	1.3ft	1,4ft	1.4ft	1.4ft	1.5ft	1.6h	1.6ft

Such lines are applicable to this standard only if PC has determined such per FAC-014

Figure 3. FAC-003-4, Table 2

#### **Horizontal Encroachments**

For each span length, conductor type, and insulator type, a blowout (B.O.) distance is calculated. This blowout distance (in feet) is added to the FAC-003-4 prescribed MVCD (as prescribed in Table 2 of FAC-003-4; see Figure 3 above). For Santee Cooper, based on 230 kV and an elevation range of 1,000 feet -2,000 feet, a value of 4.2 feet is derived. 4.2 feet is converted to 4' - 3'' and is used as the NERC specified MVCD on the Vegetation Clearance Guide (Figure 2).

The Vegetation Clearance Guide is setup to account for both the blowout (B.O.) and the MVCD (B.O. + MVCD) and is to be used by in-house line technicians during inspections to determine if suspect vegetation may be an encroachment. The line technicians use the most conservative distance, which is calculated utilizing the longest span, furthest blowout, plus the MVCD. In Figure 2 above, that value is 16'-11" and is highlighted in red. It is calculated for an 800-foot span with maximum blowout of 12'-8" plus the NERC specified MVCD of 4'-3".

Figures 4 and 5 (below) are included to visually demonstrate the 16' - 11" most conservative horizontal clearance as highlighted in the Vegetation Clearance Guide.

<sup>(</sup>refer to the Applicability Section above)

\*\*Toble 2 – Toble of MYCD values or 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 Toble 2 on December 1, 2015, filed with the FAC-003-4 Petition at FERC)

<sup>17</sup> 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.

<sup>15 (</sup>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.

<sup>&</sup>lt;sup>25</sup> 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.

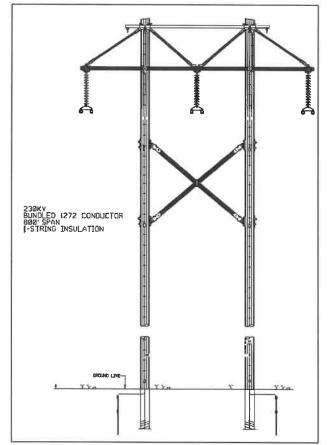


Figure 4. Typical Transmission Structure – Profile View

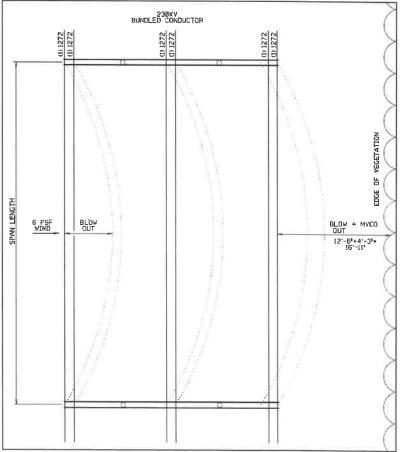


Figure 5. Plan View – 800' Span of Bundled Conductor

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#### **Vertical Encroachments**

When determining the maximum vertical height of vegetation under a transmission line, the following methodology is applied:

- The conductor is assumed to be at the lowest permitted elevation above ground that still meets the National Electric Safety Code (NESC) and Santee Cooper requirements. These are referred to as minimum allowable ground clearances:
  - o 69 kV = 21' 8"
  - o  $115 \text{ kV} = 22^{\circ} 7^{\circ}$
  - $\circ$  230 kV = 24' 11"
- These minimum allowable clearances above ground already assume that the conductor is at the maximum sag and operating temperature.
- The FAC-003-4 specified MVCD (from Table 2; see Figure 3) is subtracted from the minimum allowable clearances to determine the maximum vertical height of vegetation at mid span.
- Our in-house line technicians use a "worst case" conservative approach and subtract the 230 kV MVCD (4' 3") from the 230 kV minimum allowable ground clearance (24' 11") to get a maximum vertical height of vegetation at mid span of 20' 8". This is value is highlighted in red on the Vegetation Clearance Guide.
- Reference Figure 6 (below) for graphically explanation of this methodology.

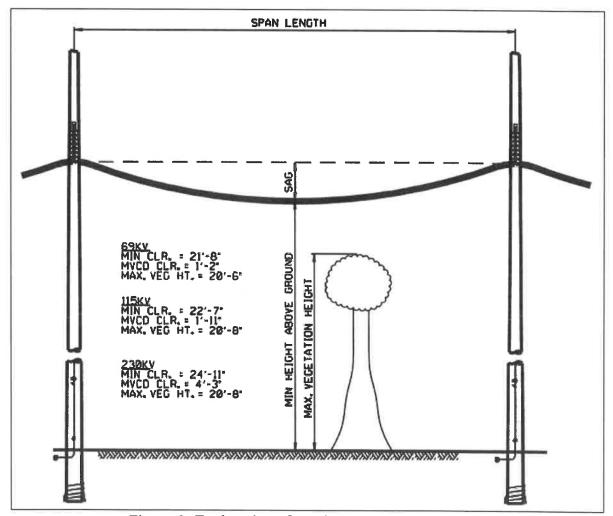


Figure 6. Explanation of Maximum Vegetation Height

#### Right of Way Vegetation Management Practices<sup>1</sup>

#### **Ground Floor Management**

- 1. Rights of way vegetation maintenance is scheduled, on average, every 2 ½ 3 ½ years to effectively maintain the different vegetation species and associated growth potentials (Appendix A) found throughout the transmission system in order to prevent an encroachment into the Minimum Vegetation Clearance Distance (MVCD). Mechanical reclearing equipment and/or herbicides are the primary tools that are used to achieve effective management.
- 2. Easements are reviewed prior to maintenance activities to understand rights of way widths and maintenance restrictions/provisions. Any atypical restrictions/provisions are provided to the appropriate maintenance personnel prior to beginning vegetation maintenance work.
- 3. All woody vegetation, capable of encroaching into the MVCD and growing within the bounds of the rights of way, are targeted by the appropriate maintenance personnel. To ensure this, maintenance personnel routinely measure and flag the edges of the rights of way to delineate the bounds of the rights of way.
  - a. Exceptions: Larger diameter trees that cannot be maintained during normal ground floor operations may be maintained by professional tree contract personnel at a later date. Width of rights of way, location, species, and health of the tree(s) are considered while deciding if or when maintenance is necessary. Where easement restrictions/provisions and/or landowner conflicts exclude tree removals within the rights of way, maintenance personnel ensure sufficient clearances are realized to prevent encroachment into the MVCD prior to the next maintenance cycle. In these cases, ANSI A300 (Tree, Shrub and Woody Plant Maintenance Standard Practices) can be applied. To ensure that any follow-up maintenance is not overlooked, lines are inspected annually to ensure there are no MVCD violations.
- 4. Progress sheets will be completed by the appropriate maintenance unit detailing when and where maintenance took place. This will include the current line name/voltage and location (pole numbers) where maintenance was completed. Completed progress sheets are reviewed by Santee Cooper personnel and then saved electronically into Enterprise Content Management (ECM) which acts as a corporate data warehouse.
- 5. Vegetation issues are entered into the ESRI ArcGIS based Collector App by using the referenced Vegetation Issues feature (Appendix B). Typically, these items (e.g., hazard tree, side trim, ground floor, etc.) are generated from line patrols and/or during normal ground maintenance activities. These issues, once entered into the Collector App, will then instantaneously appear on the ArcGIS Mobile Inspection Transmission Application (MITA) dashboard and the Vegetation Inspection Report. Ground Floor Management personnel then use these applications and reports to prioritize and schedule their work to complete these items.

- 6. Vegetation maintenance items that could not be completed by Ground Floor Management personnel will be entered into the MITA dashboard via the Collector App and work will be scheduled by contract tree professionals and/or aerial devices (Appendix B).
- 7. Maintenance production (e.g., acreage and line miles) is reconciled annually for existing rights of way, while any new rights of way acreage and line miles information is added to the total. This information is used to support future maintenance resources and ensure that the current maintenance cycle is not compromised by new responsibilities.

#### Tree Management

- 1. Contract tree professionals and aerial devices are used primarily to maintain trees and tree limbs growing along approximately 4,350 miles of transmission rights of way that traverse potentially forested areas. Typically, multi-year ground based and aerial contracts (3 5 years) are awarded to companies who have established resources that can complete each of the annual work plans for tree management.
- 2. Lines are patrolled annually by in-house Transmission Operations Personnel to prevent tree limb encroachment into the MVCD. These maintenance cycles vary in length between 2 20 years and are dependent on the width of the rights of way, predicted vegetation growth (Appendix A), rights of way utilization, and line design.
- 3. Easements are researched for maintenance restrictions/provisions and if necessary landowners are contacted prior to tree maintenance activities.
- 4. Vegetation issues are entered into the Collector App by using the referenced Vegetation Issues feature (Appendix B). Typically, these items (e.g., hazard tree, side trim, ground floor, etc.) are generated from annual line patrols and/or during normal ground maintenance activities. These issues, once entered into the Collector App, will then instantaneously appear on ArcGIS MITA dashboard and the Vegetation Inspection Report. Tree Management personnel then use these applications and reports to prioritize and schedule patrol crew(s) and aerial devices to complete these items. When completed, the crew foreman (Aerial Pilot or tree crew Foreman) completes the item in the Collector App and Ground Floor Management and/or Tree Management units audit the completions to ensure accuracy.
- 5. Completed progress sheets are reviewed by Santee Cooper personnel and then saved electronically into ECM.

#### Landowner Constraints<sup>2</sup>

In the event a landowner prohibits vegetation maintenance from being performed on an easement that could result in an encroachment into the MVCD prior to the implementation of the next scheduled maintenance plan, these steps shall be followed:

1. Right of Way Management personnel and the Legal department (if necessary) review all applicable easements and any other documentation to ensure Santee Cooper has the legal rights to perform required vegetation maintenance.

<sup>&</sup>lt;sup>2</sup> FAC-003-4 R5

- 2. Right of Way Management personnel shall communicate (verbal or certified letter) said rights and vegetation maintenance responsibilities that need to be performed.
- 3. Right of Way Management will involve Santee Cooper Law Enforcement & Security or local law enforcement, if necessary, to perform required vegetation maintenance.

#### Work Specifications and Guidelines

Contract and work specifications are prepared by supervisor(s) in Right of Way Management for each of the contractor supported vegetation maintenance activities (e.g., herbicide spray, aerial & ground side trimming, etc.) in advance of awarding a contract. When necessary (e.g., new contract, contract extensions, etc.), supervisors update the appropriate documents and track their changes using a revisions table.

Vegetation maintenance guidelines (e.g., Guideline 03-03-02: "Tree/Vegetation Removal within Transmission Rights of Way") designed to prevent an encroachment into the MVCD are kept on the Transmission Operations iPort page.

#### Right of Way Inspection<sup>3</sup>

In-house transmission line technicians inspect rights of way annually to identify any potential vegetation related issues including any potential encroachments into the MVCD. These inspections are conducted with no more than eighteen (18) calendar months in-between. Inspection methods include ground-based patrol with in-house line technicians and/or aerial patrol via helicopter with an in-house line technician as an observer. In addition to these annual inspections, Right of Way Management personnel inspect rights of way during routine vegetation maintenance. Data from annual inspections is input into the Collector App. Then the data is placed into the MITA dashboard and made available by a report named the Completed Line Inspection. Starting in 2021, the Right of Way Management group started keeping Google Earth .kmz files of the helicopter flight paths as additional documentation of annual aerial patrols.

#### Vegetation Maintenance Reporting & Scheduling<sup>4</sup>

Vegetation maintenance issues identified by Santee Cooper personnel in the field are collected in Mobile GIS via the Collector App on an iPad. Information on the ArcGIS Collector App include potential encroachments into the MVCD, location of the issue (transmission pole number), and a vegetation clearance that sets a recommended time frame in which the issue is to be mitigated. Once the vegetation issues have been created, Right of Way Management personnel can view maintenance items in real time. Each Right of Way unit is responsible for completing the maintenance items in their area of operation. Supervision utilizes ArcGIS. MITA dashboard and the Vegetation Inspection Report to schedule the work. Designated personnel are then able to view maintenance items with provided pole/structure number. description of the maintenance issue, and a recommended completion date. All vegetation maintenance issues are prioritized by Right of Way personnel based on vegetation clearance and comments. Hazard Trees are required to be cut within 60 days. Side trim items that are less than 5' from MVCD have 60 days to complete. Side trim items that are between 5' and 10' from MVCD have 90 days to complete. When completed, qualified personnel complete the item in the Collector App. Right of Way Management personnel audit the progress sheets for items that have been completed to ensure accuracy and completion of issues reported.

<sup>&</sup>lt;sup>3</sup> FAC-003-4 R6

<sup>&</sup>lt;sup>4</sup> FAC-003-4 R7

#### Imminent Threat Reporting<sup>5</sup>

In the event a vegetation threat (e.g., leaning tree close to conductor) is identified as likely to cause a fault at any moment, on-site personnel shall notify the Energy Control Center (ECC) and the proper Right of Way Management personnel without any intentional delay in accordance with FAC003i. The appropriate Right of Way Management and/or line technician personnel will be dispatched to mitigate the threat. If required, line technicians will work with ECC to obtain the proper line clearance (e.g., hot line tag) to ensure the safety of maintenance personnel. Once the threat has been mitigated, ECC will be notified and line conditions can be restored to normal operations. Right of Way Management personnel will maintain a log of such notifications. In addition, ECC keeps a log of these notifications.

#### Annual Vegetation Work Plan<sup>6</sup>

Annual work plans for normal cycled / rotational vegetation maintenance (e.g., mowing, spraying, side trimming, etc.) are developed by each unit in Right of Way Management. Factors such as the current maintenance cycle length, species composition, historical maintenance problems in each area, and typical growth rates (Appendix A) are taken into account when determining a proposed maintenance date. This ensures scheduling flexibility in the event of deteriorating ground conditions (i.e., a significant rain event), landowner conflicts, easement restrictions, and/or major storm events (e.g., hurricane) that requires all maintenance resources to aid in the restoration efforts. All vegetation maintenance issues are captured in the Collector App. Based on established vegetation maintenance cycles and field inspections, selected rights of way are placed on an annual maintenance schedule that is developed in late December for the upcoming year. Proposed schedules will be available no later than January 15th and can be viewed on the Right of Way Management iPort page (access instructions below). Any scheduling changes made after January 15th as well as the actual maintenance completion dates for specific line sections will be available on the Right of Way Management iPort page and updated by the 2<sup>nd</sup> Monday of each month. Except for documented changes that preclude a potential encroachment into the MVCD, 100% of the annual work plan will be completed or modifications will be made during the calendar year. If for some reason the schedule cannot be met due to constraints, a corrective action will be taken with a high priority. Before any line section gets moved to the following year, that line is inspected by Right of Way personnel to ensure there is no violation of the MVCD.

#### Electronic Access to Right of Way Maintenance Schedules

To access the Right of Way Maintenance schedules located on iPort:

- Select "Departments" Tab
- Select "Transmission Operations" under the "Customer Service" listing
- Select the "Right of Way" under Transmission Operations Links
- Under the "Right of Way Schedule Year" list, select the appropriate maintenance operation

<sup>&</sup>lt;sup>5</sup> FAC-003-4 R4

<sup>&</sup>lt;sup>6</sup> FAC-003-4 R7

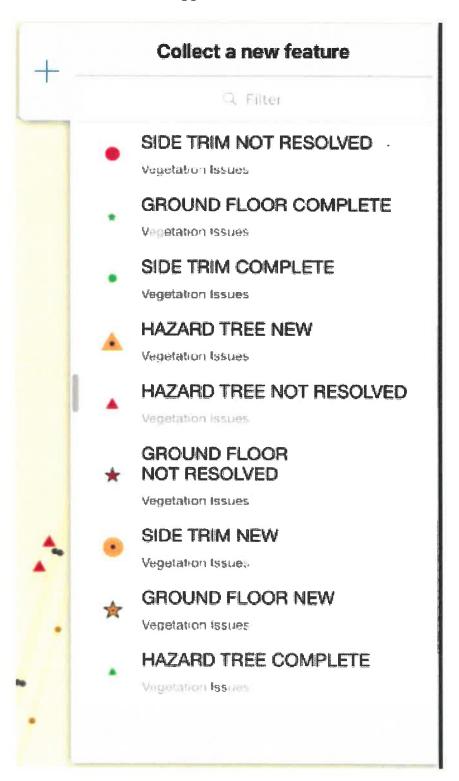
# Appendix A<sup>7</sup> Vegetation Growth Rates

Santee Cooper has established vegetation maintenance cycles coupled with annual vegetation inspections to prevent vegetation encroachments into the Minimum Vegetation Clearance Distance (MVCD).

Listed below are the predominant undesirable woody species that are commonly targeted during vegetation maintenance activities along with their associated growth rates. The associated growth rates in this table are based on the fastest growing regions within Santee Cooper's service territory across the state and as such are conservative.

Species	Growth Per Year (ft)				
	Vertical	Horizontal			
Sweet Gum	6	1.7			
Black Willow	6	N/A			
Cherry	5	N/A			
Oaks	4	2.3			
Red Maple	4	2.2			
Pine	3	1.5			

Appendix B



Reference: Vegetation Maintenance Reporting & Scheduling (page 8)

## Revisions

REVISION	DATE	COMMENTS
0	MARCH 24, 2006	ORIGINAL DOCUMENT
1	JULY 24, 2006	2006 SERC AUDIT RECOMMENDATIONS
2	MAY 31, 2007	GENERAL INFORMATIONAL UPDATE
3	MAY 22, 2008	OPERATIONAL MAP & GENERAL
		INFORMATIONAL UPDATES
4	MAY 11, 2009	OPERATIONAL MAP & GENERAL INFORMATIONAL UPDATES
5	AUGUST 3, 2009	GENERAL ADMINISTRATIVE & APPENDIX B UPDATES
6	MAY 13, 2010	GENERAL ADMINISTRATIVE UPDATES: SYSTEM STATISTICS (MILEAGE & PRODUCTION), EMPLOYEE RESPONSIBILITY/SERVICE TIME AND APPENDIX A & B
7	MAY 11, 2011	GENERAL ADMINISTRATIVE UPDATES: SYSTEM STATISTICS (MILEAGE & PRODUCTION), EMPLOYEE EDUCATION & SERVICE TIME (APPENDIX A) AND BLOW OUT TABLE (APPENDIX B)
8	APRIL 16, 2012	GENERAL ADMINISTRATIVE UPDATES: SYSTEM STATISTICS (MILEAGE & PRODUCTION), EMPLOYEE EDUCATION/TITLES & SERVICE TIME (APPENDIX A) AND VEGETATION TEMPLATE REVISION FOR PRIORITY CODE 3B & 3C DESCRIPTIONS (APPENDIX B)
9	MAY 17, 2013	GENERAL ADMINISTRATIVE UPDATES: SYSTEM STATISTICS (MILEAGE & PRODUCTION), EMPLOYEE EDUCATION/TITLES & SERVICE TIME (APPENDIX A) AND ADDED A SAG TABLE (APPENDIX B).  PAGE 2 (LAST PARAGRAPH): CHANGED COLOR REFERENCE FOR CENTRAL TRANSMISSION AREA TO MATCH THE UPDATED SYSTEM MAP LABELED FIGURE 1.  PAGE 3: UPDATED FIGURE 1 TO MATCH CURRENT TRANSMISSION AREA BOUNDARIES.  PAGE 6 & 7 (SECTIONS 5): REMOVED REFERENCE TO INPUTTING PROGRESS INFORMATION INTO GIS AND REPLACED WITH REFERENCE TO USING ENTERPRISE CONTENT MANAGEMENT.

		PAGE 6 (SECTION 1): REWORDED LAST SENTENCES TO FORM ONE SENTENCE – NO CONTENT CHANGE.
10	APRIL 9, 2014	GENERAL ADMINISTRATIVE UPDATES: SYSTEM STATISTICS (MILEAGE & PRODUCTION), EMPLOYEE EDUCATION/TITLES & SERVICE TIME (APPENDIX A).
11	JUNE 26, 2014	GENERAL ADMINISTRATIVE UPDATES: SYSTEM STATISTICS (MILEAGE & PRODUCTION), AND EMPLOYEE TITLES. ADDED "WORK CONSTRAINTS "AND "WORK SPECIFICATIONS AND GUIDELINES" SECTIONS. APPENDIX A REMOVED EDUCATION REQUIREMENTS AND REPLACED WITH "VEGETATION GROWTH RATES" TABLE. UPDATED APPENDIX B TO REFLECT FAC-003-3 REQUIREMENTS TO IDENTIFY ENCROACHMENTS INTO THE MVCD.
12	JUNE 22, 2015	GENERAL ADMINISTRATIVE UPDATES: SYSTEM STATISTICS – MILEAGE (PAGES 2 & 5), AND ACREAGE (PAGE 2). EMPLOYEE TITLE CHANGE (FORESTER III TO FORESTER I) ON PAGES 5 -7.
13	June 23, 2016	GENERAL ADMINISTRATIVE UPDATES: SYSTEM STATISTICS – MILEAGE (PAGES 2 & 5), AND ACREAGE (PAGE 2). EMPLOYEE TITLE CHANGE (FORESTER I TO FORESTER III) ON PAGES 5 -7.
14	November 2, 2016	UPDATED GENERAL INFORMATION IN THE RIGHT OF WAY VEGETATION PATROL DESCRIPTION TEMPLATE (PAGE 10) AND THE VEGETATION CLEARANCE GUIDE (PAGE 11) TO REFLECT A NEW MVCD VALUE PER FAC-003-4.
15	APRIL 17, 2017	GENERAL ADMINISTRATIVE UPDATES: SYSTEM STATISTICS – MILEAGE (PAGES 2 & 5), AND ACREAGE (PAGE 2). UPDATE EMPLOYEE TITLE INFORMATION.
16	APRIL 2, 2018	GENERAL ADMINISTRATIVE UPDATES: SYSTEM STATISTICS – MILEAGE (PAGES 2 & 5), AND ACREAGE (PAGE 2). UPDATE EMPLOYEE TITLE INFORMATION.

17	APRIL 22, 2019	GENERAL ADMINISTRATIVE UPDATES: SYSTEM STATISTICS – MILEAGE (PAGES 6), AND ACREAGE (PAGE 7). UPDATE EMPLOYEE TITLE INFORMATION.
18	MARCH 19, 2020	GENERAL ADMINISTRATIVE UPDATES: SYSTEM STATISTICS – MILEAGE (PAGES 6), AND ACREAGE (PAGE 7). UPDATE EMPLOYEE TITLE INFORMATION. UPDATED MAP (PAGE 8) UPDATED MOBILE TECHNOLOGY (PAGES 11-13)
19	NOVEMBER 23, 2020	GENERAL ADMINISTRATIVE UPDATES: SYSTEM STATISTICS – MILEAGE (PAGES 6), AND ACREAGE (PAGE 6). UPDATE EMPLOYEE TITLE INFORMATION. UPDATED MAP (PAGE 7), EMPLOYEE HEAD COUNT (PAGE 8)
20	APRIL 21, 2021	GENERAL ADMINISTRATIVE UPDATES: SYSTEM STATISTICS – MILEAGE AND ACREAGE (PAGE 3), UPDATE EMPLOYEE TITLE INFORMATION (PAGE 4), UPDATED MAP (PAGE 4), EMPLOYEE HEAD COUNT (PAGE 4), ADDED MINIMUM VEGETATION CLEARANCE DISTANCE SECTION (PAGE 5), ADDED REFERENCE TO FACOO3I (PAGE 11)
21	APRIL 21, 2022	GENERAL ADMINISTRATIVE UPDATES: SYSTEM STATISTICS – MILEAGE AND ACREAGE (PAGES 3), EMPLOYEE HEAD COUNT (PAGE 4 AND 5), MILES (PAGE 10) AND WORDING (PAGE 11).