MANAGEMENT EXPENDITURES INCLUDING STORM RESERVE		POINTS OF DELIVERY
$30,453,936	2,417,035	$12.60

(v) The vegetation management budget from the utility's last base-rate case.

The vegetation management budget from the last rate case with a 2009 test year was $18,849,952.

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PROJECT NO. 41381

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REPORT FOR VEGETATION MANAGEMENT PLAN PURSUANT TO P.U.C. SUBST. R. §25.96	§ § §	PUBLIC UTILITY COMMISSION OF TEXAS

PUBLIC UTILITY COMMISSION FILING CLERK

VEGETATION MANAGEMENT REPORT OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC PURSUANT TO P.U.C. SUBST. R. 25.96

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REPORT FOR VEGETATION MANAGEMENT PLAN PURSUANT TO P.U.C. SUBST. R. §25.96	**§**	**PUBLIC UTILITY COMMISSION OF TEXAS**

VEGETATION MANAGEMENT REPORT OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC PURSUANT TO P.U.C. SUBST. R. 25.96

Pursuant to P.U.C. Subst. R. 25.96, CenterPoint Energy Houston Electric, LLC submits the attached summary of its vegetation management plan to the Public Utility Commission of Texas.

Respectfully submitted

CHASTA MARTIN
Director of Regulatory Affairs
PO Box 1700
Houston, Texas 77251
713-207-5269

ATTACHMENT A

Vegetation Management Report

Submitted May 1, 2018

VEGETATION MANAGEMENT REPORT
OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
FOR 2018

Introduction

P.U.C. Subst. R. 25.96 requires each utility to file with the Public Utility Commission of Texas ("the Commission") by May 1st of each year a summary of its Vegetation Management Plan ("Plan") for the current calendar year and its progress in implementing its Plan for the preceding calendar year. CenterPoint Energy Houston Electric, LLC ("CenterPoint Energy" or "the Company") submits the following summary of its vegetation management plan pursuant to the Commission's rules.

I. P.U.C. Subst. R. 25.96(d)

P.U.C. Subst. R. 25.96(d) requires each utility to provide an explanation in the utility's annual report of deviations from several mandatory provisions in national standards. The following information is provided in compliance with the Commission's rule.

A. P.U.C. Subst. R. 25.96(d)(1)

ANSI Standard Z133.1, Arboricultural Operations – Pruning, or successor standard.

CenterPoint Energy's vegetation management contracts require its vendors to follow ANSI Standard Z133.1. Therefore, CenterPoint Energy does not have deviations from the provisions of ANSI Standard Z133.1.

B. P.U.C. Subst. R. 25.96(d)(2)

ANSI Standard A300 (Part 1), Tree Shrub, and Other Woody Plant Management – Standard Practices (Pruning); (Part 7), Integrated Vegetation Management a. Utility Rights-of Way practices; and (Part 9), Tree Risk Assessment a. Tree Structure Assessment, or successor standards.

CenterPoint Energy's vegetation management contracts require its vendors to follow ANSI Standard A300 (Parts 1 & 9) where applicable. CenterPoint Energy's vegetation management

policies for distribution facilities do not conform to all provisions of Part 7 of ANSI A300. Due to the numerous site alternatives in urban, suburban, or rural settings with limited utility control of long-term actions of the various stakeholders and utility rights unique for each site, full implementation is not practical due to the costs involved. However, various methods for specific situations may be utilized as appropriate to achieve limited objectives.

C. P.U.C. Subst. R. 25.96(d)(3)

National Electrical Safety Code Section 218, or successor standard.

CenterPoint Energy does not have known deviations from the provisions of Section 218 of the National Electrical Safety Code ("NESC").

II. P.U.C. Subst. R. 25.96(e)

P.U.C. Subst. R. 25.96 requires each utility to maintain a Plan that "describes the utility's objectives, practices, procedures, and work specifications for its distribution assets." The following information is provided in compliance with the Commission's rule.

A. P.U.C. Subst. R. 25.96(e)(1)

Tree pruning methodology, trimming clearances, and scheduling approach.

- Methodology

CenterPoint Energy's proactive vegetation management program for the distribution system prioritizes circuits for trimming based on each circuit's trim cycle and the reliability of each circuit. All circuits that initially meet the recommended trim cycle criteria are then ranked and prioritized based on reliability performance.

The recommended trim cycle for 35 kV circuits and those 12 kV circuits with narrow easements or restricted access is three years. The recommended trim cycle of 12kV circuits with normal easements is five years. Laterals along with the feeder-main are trimmed on circuits identified for trimming.

The distribution system has been divided into multiple regions to better distribute the work among the vegetation contractors and to provide an opportunity for the contractors to bid for a

larger portion of proactive work, allowing the best opportunity for the most efficient use of resources. The contractor that is awarded a specific region is responsible for the reactive tree trim maintenance, the proactive tree trim maintenance, the proactive hazard tree work, and tree maintenance associated with capital improvements in that region, providing for more overall efficiencies.

Approximately 80% of the proactive vegetation management work is on a fixed price basis with the remainder of the costs on a time and equipment basis. Fixed price work is primarily allocated to circuits with extensive feeder and lateral networks that are in outlying areas of the system or that are otherwise conducive to fixed price bids. Time and equipment work is allocated strategically for smaller circuits, which include those circuits close to vendor parking locations, those with problems that require quicker action than a bid process will allow, and for other situations not conducive to fixed price bids.

The vegetation management personnel at CenterPoint Energy prepare work maps of circuits identified for fixed price work. Once completed, these maps as well as trimming specifications are released to the vendors for field review. The vendors submit bids to complete tree trimming on the circuits for each region. The vegetation management personnel review the bids and award the work for each region to the best valued provider based on pricing, available resource capacity, and performance as determined from previous performance audits of the vendors' completed work. When the work is completed, the CenterPoint Energy forester inspects the job to ensure that it was completed satisfactorily and reviews the invoices to ensure accuracy. CenterPoint Energy foresters and vendors interface with the customers as needed to resolve issues and facilitate completion of the work.

Distribution vegetation management work is administered and coordinated by a staff of one manager, nine professional utility foresters, one compliance specialist, one mapping technician, and one support analyst. Currently, four professional Line Clearance vendors perform utility tree trimming services for CenterPoint Energy.

- Clearances

CenterPoint Energy trims trees for a minimum lateral clearance of seven feet from 12 kV and ten feet from 35kV primary conductors and equipment. This clearance pattern is followed vertically to achieve overhead clearance space above the conductors to a distance at least twice the

height of the pole if work is performed manually or as high as a lift truck or mechanized clearance equipment can reach. Trees beneath the primary conductors are trimmed a minimum clearance of 15 feet below the lines.

In addition, a radius of three feet is cleared for twisted-wire secondary and neutral wires or five feet for open-wire secondary. This is often achieved with the clearance attained for the primary conductors. Vines are either cut and the stump treated or basal treated with herbicides on poles and down guys. Trees may be cleared from guywires as necessary to maintain structural integrity of the facilities.

- Scheduling

CenterPoint Energy identifies circuits eligible for proactive work each calendar year based on recommended trim cycles. Circuits identified as eligible for proactive work are then prioritized by reliability performance. Once the list of planned circuits is generated for each region, actual scheduling for specific circuits during the year may vary based on developing reliability issues, optimizing for crew and equipment efficiencies, maintaining sensitivity to the community, and other issues historically unique to specific circuits.

B. P.U.C. Subst. R. 25.96(e)(2)

Methods used to mitigate threats posed by vegetation to applicable distribution assets.

Unscheduled or reactive tree trim maintenance is performed by CenterPoint Energy to address vegetation issues that require immediate attention. This work is done in response to specific requests from customers or CenterPoint Energy personnel located at the Service Centers. Customer requests are received by CenterPoint Energy personnel and routed to assigned vendors for inspection to ensure validity. If valid, the trees are trimmed or removed to clearance specifications. Vendors also receive work orders directly from the Service Centers and conduct work per standard line clearance specifications or specific instructions on the work request. Most reactive work is performed on a unit-priced basis.

C. P.U.C. Subst. R. 25.96(e)(3)

Tree risk management program.

In addition to those hazard trees identified and removed as part of scheduled and unscheduled circuit maintenance, CenterPoint Energy utilizes a proactive hazard tree removal program that involves Level 1 tree risk assessments as defined in Part 9 of ANSI Standard A300. In high-risk areas, hazard trees outside of the easement are proactively located and removed with the consent of the landowner. The intent of this initiative is to reduce the risk of falling trees impacting electrical facilities and to minimize impacts in an extreme storm event. CenterPoint Energy will perform a patrol of the feeder-mains for those circuits known for higher tree mortality or otherwise identified as high-risk areas. Frequency of inspections may vary based on conditions observed.

D. P.U.C. Subst. R. 25.96(e)(4)

Participation in continuing education by the utility's internal vegetation management personnel.

Most of CenterPoint Energy's utility vegetation management personnel are degreed foresters or otherwise degreed with extensive experience within the utility vegetation management industry. Company foresters are expected to maintain Texas Department of Agriculture Non-Commercial Pesticide Applicator licenses that require ongoing annual continuing education units. Several of the foresters independently maintain International Society of Arboriculture Certified Arborist status. The Company does not require this status due to the formal educational requirements for the positions; however, those foresters that maintain their certifications are supported in acquiring necessary continuing education units related to the work. The foresters also attend various industry related professional conferences, seminars, and training as available and beneficial to support educational development associated with vegetation management.

E. P.U.C. Subst. R. 25.96(e)(5)

Estimate of the miles of circuits along which vegetation is to be trimmed or method for planning trimming work for the coming year.

CenterPoint Energy estimates that 3,500 to 5,700 miles of distribution circuits will be identified as planned for trimming each year. The miles identified as planned for trimming are based on the recommended trim cycles and circuits with high reliability issues.

F. P.U.C. Subst. R. 25.96(e)(6)

Plan to remediate vegetation-caused issues on feeders which are on the worst vegetation-caused performing feeder list for the preceding calendar year's System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI).

While CenterPoint Energy currently ranks circuits per SAIDI and SAIFI, we are now using analytics in our model that includes vegetation caused outages to prioritize our work. Pursuant to P.U.C. Subst. R. 25.52, the Company tracks feeders for the 10% worst performing circuits based on SAIDI and SAIFI criteria, which includes forced interruptions.

G. P.U.C. Subst. R. 25.96(c)(7)

Customer education, notification, and outreach practices related to vegetation management.

CenterPoint Energy utilizes customer notifications and public awareness campaign strategies to provide customer education and notifications related to vegetation management. CenterPoint Energy intends to continue these efforts.

- Customer Notifications of Work to be Performed

CenterPoint Energy vendors are required to distribute customer notification door cards at residences and businesses at least seven days prior to planned tree pruning activities. CenterPoint Energy's door hanger notification is available to the Commission Staff upon request. It includes the vendor's contact information to allow the customer to set an appointment to provide access, discuss planned work activities and concerns, and arrange to be present while work is done. CenterPoint Energy also provides a *Tree Trimming Practices* brochure with the work notification door card. The brochure is available to the Commission Staff upon request. It explains general practices and responses to frequently asked questions. These two items are the primary method of pre-work notification.

The brochure has been a successful tool for answering questions and providing the public with an educational visual aid. In addition, CenterPoint Energy provides a *Palm Trees* brochure selectively to those customers with palm trees explaining issues unique to palms and power lines. These brochures and the door card provide significant information to the recipient, while also pointing them to additional information on the CenterPointEnergy.com/trees website. CenterPoint

Energy believes that these documents aide in setting expectations to minimize misconceptions and prompts discussions of concerns before the work is performed.

- Non-Print Media Used in Public Education Campaign

CenterPoint Energy utilizes a landing page on its website dedicated to vegetation management, which may be found at CenterPointEnergy.com/trees. This section of the main CenterPoint Energy website provides information on tree planting guides, how to plant and trim trees safely, power line friendly trees, Right Tree Right Place information, energy saving tips, vegetation management practices, frequently asked questions, the *Tree Trimming Practices, Palm Trees and Power Lines* brochures, and information on tree trimming vendors. Examples of information available from these sites include Power Line Clearance Standards, Recommended List of Low Growing Trees, and What My Pruned Trees Will Look Like. Each public education tool warns the public to use caution when pruning trees around power lines and to plant the right tree in the right place, which is away from power lines.

- Other Media Events

CenterPoint Energy partners with a number of parks, community groups, and other organizations around the Greater Houston area for tree planting events, which replace potentially hazardous trees near power lines with low-growing, power line-friendly trees. The events garner involvement from local parks and recreation departments, government officials and stakeholder organizations, as well as interested citizens in the communities. The resulting media coverage, community relationships, dissemination of collateral material, and permanent park signage help to reinforce the Right Tree Right Place message long after the completion of the event.

CenterPoint Energy has partnered with Trees for Houston to establish a Right Tree Right Place nursery on Company property as a source of low-growing power line compatible tree species for various events. The objectives are to further enhance key customer relationships, provide successful growing stock as examples of power line "friendly" trees, and build employee engagement.

CenterPoint Energy's Speakers Bureau employee volunteers are available to make presentations to area civic associations about vegetation management and provide materials. Employees who work directly with vegetation management and electric operations also make

similar presentations at meetings for municipal officials, homeowner's associations, landscape architects, builders, or other community groups, upon request.

III. P.U.C. Subst. R. 25.96(f)(1)

P.U.C. Subst. R. 25.96 requires each utility to file a Vegetation Management Plan Report that summarizes its Plan and provide its progress in implementing the Plan. The following information is provided in compliance with the Commission's rule.

A. P.U.C. Subst. R. 25.96(f)(1)(A)

Vegetation maintenance goals and the method the utility employs to measure its progress.

CenterPoint Energy's vegetation maintenance goal is to work between an estimated 3,500 to 5,700 miles of targeted distribution circuits annually to proactively maintain vegetation clearance on the distribution system. The Company will measure its progress by monitoring the completed miles worked within a given year to stay within the defined range of planned circuit miles.

B. P.U.C. Subst. R. 25.96(f)(1)(B)

Trimming clearances and scheduling approach.

- Clearances

CenterPoint Energy trims trees for a minimum lateral clearance of seven feet from 12 kV and ten feet from 35kV primary conductors and equipment. This clearance pattern is followed vertically to achieve overhead clearance space above the conductors to a distance at least twice the height of the pole if work is performed manually or as high as a lift truck or mechanized clearance equipment can reach. Trees beneath the primary conductors are trimmed a minimum clearance of 15 feet below the lines.

In addition, a radius of three feet is cleared for twisted-wire secondary and neutral wires or five feet for open-wire secondary. This is often achieved with the clearance attained for the primary conductors. Vines are either cut and the stump treated or basal treated with herbicides on

poles and down guys. Trees may be cleared from guywires as necessary to maintain structural integrity of the facilities.

- Scheduling

CenterPoint Energy identifies circuits eligible for proactive work each calendar year based on recommended trim cycles. Circuits identified as eligible for proactive work are then prioritized by reliability performance. Once the list of planned circuits is generated for each region, actual scheduling for specific circuits during the year may vary based on developing reliability issues, optimizing for crew and equipment efficiencies, maintaining sensitivity to the community, and other issues historically unique to specific circuits.

C. P.U.C. Subst. R. 25.96(f)(1)(C)

Plan to remediate vegetation-caused issues on feeders that are on the vegetation-caused worst performing feeder list for the preceding calendar year's SAIDI and SAIFI.

While CenterPoint Energy currently ranks circuits per SAIDI and SAIFI, we are now using analytics in our model that includes vegetation caused outages to prioritize our work. Pursuant to P.U.C. Subst. R. 25.52, the Company tracks feeders for the 10% worst performing circuits based on SAIDI and SAIFI criteria, which includes forced interruptions.

D. P.U.C. Subst. R. 25.96(f)(1)(D)

Tree risk management program.

CenterPoint Energy utilizes a proactive hazard tree removal program that involves Level 1 tree risk assessments as defined in Part 9 of ANSI Standard A300. In high-risk areas, hazard trees outside of the easement are proactively located and removed with the consent of the landowner. The intent of this initiative is to reduce the risk of falling trees impacting electrical facilities and to minimize impacts in an extreme storm event. CenterPoint Energy will perform a patrol of the feeder-mains for those circuits known for higher tree mortality or otherwise identified as high-risk areas. Frequency of inspections may vary based on conditions observed.

E. P.U.C. Subst. R. 25.96(f)(1)(E)

Approach to monitoring, preparing for and responding to adverse environmental conditions such as drought and wildfire danger that may impact its vegetation management policies and practices.

CenterPoint Energy does not have a specific drought and wildfire danger plan. However, the Company continuously monitors and adjusts plans as needed for adverse conditions to address impacts unique to nature of the occurrences. This includes updating and maintaining mutual assistance contracts with vegetation management vendors to supplement current resources as conditions require.

F. P.U.C. Subst. R. 25.96(f)(1)(F)

Total overhead distribution miles in its system, excluding service drops.

As of December 31, 2017, CenterPoint Energy has 28,015 miles of overhead distribution lines. This includes 12 kV and 35 kV overhead feeder-main, laterals, and secondary conductor, excluding service drops.

G. P.U.C. Subst. R. 25.96(f)(1)(G)

Total number of electric points of delivery.

As of December 31, 2017, CenterPoint Energy has 2,468,148 electric points of delivery.

H. P.U.C. Subst. R. 25.96(f)(1)(H)

Amount of vegetation-related work it plans to accomplish in the current calendar year to achieve it vegetation management goals described in subparagraph (A) of this paragraph.

During 2018, CenterPoint Energy plans to target an estimated 3,500 to 5,700 miles of distribution circuits to proactively maintain vegetation clearance on the distribution system.

I. P.U.C. Subst. R. 25.96(f)(1)(I)

Vegetation management budget, divided into the categories listed in clauses (i)-(iv) of this subparagraph. The utility should, within the confines of its own budgeting practices, assign subcategories and list them under these categories where appropriate. If a utility does not budget

amounts under any specific category, the utility shall provide a brief explanation of why it does not do so. The utility shall title the budget with the dates it covers and provide a total for each category or subcategory.

Distribution Vegetation Management Budget for January 1, 2018 – December 30, 2018

(i) Scheduled Vegetation Maintenance (Proactive Tree Trimming)	$28,000,000
(ii) Unscheduled Vegetation Maintenance (Reactive Tree Trimming/Removal)	$5,411,570
(iii) Tree Risk Management (Proactive Hazard Tree Removal)	$750,000
(iv) Emergency and Post Storm Activities	$819,500
Total	$34,981,070

IV. P.U.C. Subst. R. 25.96(f)(2)

P.U.C. Subst. R. 25.96(f)(2) requires each utility to file an implementation summary for the preceding year of its Plan. The following information is provided in compliance with the Commission's rule.

A. P.U.C Subst. R. 25.96(f)(2)(A)

Whether the utility met its vegetation maintenance goals and how its goals have changed for the coming calendar year based on the results.

For 2017, CenterPoint Energy proactively worked approximately 3,900 miles of distribution circuits. The Company met its goal by proactively completing the number of circuit miles within the defined annual range for the 2017 annual strategy.

For 2018, CenterPoint Energy's vegetation maintenance goal is to work between an estimated 3,500 to 5,700 miles of targeted distribution circuits to proactively maintain vegetation clearance on the distribution system.

B. P.U.C. Subst. R. 25.96(f)(2)(B)

Successes and challenges with the utility's strategy, including obstacles faced, such as property owner interference, and methods employed to overcome them.

CenterPoint Energy successfully met its 2017 goals as noted in the previous section; however, there were challenges.

Cost increases by vegetation management contractors remain as the greatest challenge for the Company's vegetation management program. CenterPoint Energy plans to continue to research new ways to identify improvements in optimizing vegetation investments throughout 2018 while insuring the distribution system vegetation is proactively maintained.

The vegetation management contractors continued to express difficulties hiring and retaining qualified, experienced workers capable of performing tree clearing work near energized power lines. This is a common theme within the industry the last few years and is one of the issues affecting costs. The Company continues to conduct meetings with contractors to identify further opportunities to improve efficiencies.

Negative public perceptions surrounding utility vegetation management activities are an ongoing challenge. CenterPoint Energy's Community Relations Department helped coordinate vegetation management public education efforts and to further support the vegetation management program staff. These efforts, along with those of the Company's vegetation management staff, have maintained positive perceptions and enhanced working relationships with various interested stakeholders. This work has been acknowledged by the Arbor Day Foundation's annual recognition of CenterPoint Energy as a TreeLine USA Utility for fourteen consecutive years.

Property owner interference is an ongoing challenge inherent to the work activities. As previously noted, the Company employs a staff of professional foresters who work with these individuals daily to resolve conflicts.

CenterPoint Energy is currently working to develop analytics to identify areas across the service area with the greatest risk for vegetation caused outages. The analytics may utilize contributing factors such as: distribution network and outage data, weather data, comprehensive vegetation data, and soil characteristics. This research is still currently underway. Better understanding of the factors contributing to vegetation growth along distribution circuits may result in the establishment of appropriate trimming cycles to better match the need of each individual circuit.

C. P.U.C. Subst. R. 25.96(f)(2)(C)

The progress and obstacles to remediating issues on the vegetation-caused, worst performing feeders list as submitted in the preceding year's report.

CenterPoint Energy does not track feeder performance based on vegetation-caused outages; therefore, the Company does not have a plan to remediate these issues. Pursuant to P.U.C. Subst. R. 25.52, the Company tracks feeders for the 10% worst performing circuits based on SAIDI and SAIFI criteria, which includes forced interruptions.

D. P.U.C. Subst. R. 25.96(f)(2)(D)

The number of continuing education hours logged for the utility's internal vegetation management personnel, if applicable;

CenterPoint Energy vegetation management personnel participated in 214.25 hours of continuing education in 2017.

E. P.U.C. Subst. R. 25.96(f)(2)(E)

The amount of vegetation management work the utility accomplished to achieve its vegetation management goals described in paragraph (1)(A) of this subsection.

CenterPoint Energy completed approximately 3,900 miles of proactive vegetation maintenance in 2017.

F. P.U.C. Subst. R. 25.96(f)(2)(F)

The separate SAIDI and SAIFI scores for vegetation-caused interruptions for each month and as reported for the calendar year in its Service Quality Report filed pursuant to 25.52 of this title (relating to Reliability and Continuity of Service) and 25.81 of this title (relating to Service Quality Reports), at both the feeder and company level.

While CenterPoint Energy currently ranks circuits per SAIDI and SAIFI, we are now using analytics in our model that includes vegetation caused outages to prioritize our work. Pursuant to P.U.C. Subst. R. 25.52, the Company tracks feeders for the 10% worst performing circuits based on SAIDI and SAIFI criteria, which includes forced interruptions.

G. P.U.C. Subst. R. 25.96(f)(2)(G)

The vegetation management budget, including, at a minimum:

(i) A single table with columns representing:

(I) The budget for each category and subcategory that the utility provided in the preceding year pursuant to paragraph(1)(I) of this subsection, with totals for each category and subcategory;

(II) The actual expenditures for each category and subcategory listed pursuant to sub clause (I) of this clause, with totals for each category or subcategory.

(III) The percentage of actual expenditures over or under the budget for each category or subcategory listed pursuant to sub clause (I) of this clause; and

(IV) The actual expenditures for the preceding reporting year for each category or subcategory listed pursuant to sub clause (I) of this clause, with totals for each category or subcategory.

(i) BUDGET CATEGORY	**(I) PROJECTED COST 2017**	**(II) ACTUAL COST 2017**	**(III) %OVER/(UNDER) 2017**	**(IV) ACTUAL COST 2016**
Scheduled Vegetation Management (Proactive Tree Trimming)	$22,730,000	$21,734,520	-4.4%	$24,175,318
Unscheduled Vegetation Management (Reactive Tree Trimming)	$4,067,000	$5,856,281	44%	$4,937,178
Tree Risk Management (Proactive Hazard Tree Removal)	$750,000	$311,401	-58.5%	$339,213
Emergency and Post Storm Activities (Storm Restoration: AD86, AD07)	$892,280	$586,175	-34.3%	$677,180
TOTAL	**$28,439,280**	**$28,488,377**	**0.2%**	**$30,128,889**

(ii) An explanation of the variation from the preceding year's vegetation management budget where actual expenditures in any category or subcategory fell below 98 percent or increased above 110 percent of the budget for that category.

(i) BUDGET CATAGORY	(ii) EXPLANATION
Scheduled Vegetation Management (Proactive Tree Trimming)	• One of the four tree trimming contractors that was awarded vegetation region work for 2017 failed to meet expectations of work completed within assigned timelines. Much of their work was re-assigned and distributed to the remaining tree trimming contractors that had available capacity. The result was that less work was completed than planned, but tree trimming work was managed throughout the year to ensure the amount of circuit miles completed met established annual mileage completion goals. The tree trimming contractor that did not meet expectations in 2017 has not been awarded work on CenterPoint system in 2018. • Hurricane Harvey impacted proactive tree trimming for several weeks, and Hurricane Irma diverted tree resources to Florida for several weeks.
Unscheduled Vegetation Management (Reactive Tree Trimming)	• Unplanned expenditures continued to be high to address miscellaneous reliability issues caused by localized weather events and fast-growing tree species (i.e. "cycle-busters") as identified by Company operations personnel. • Circuit reconfigurations made to balance distribution load caused portions of distribution circuits to require unplanned trimming to match the vegetation clearance for the current circuit configuration. • There were a significant number of non-standard unplanned projects requiring premium pricing and overtime to provide the labor resources capable of addressing identified reliability issues.
Tree Risk Management (Proactive Hazard Tree Removal)	• There continued to be a lower hazard tree identification rate than anticipated.
Emergency and Post Storm Activities (Storm Restoration: AD86, AD07)	• Other than a few isolated heavy rainfall events, less restoration work was experienced throughout 2017 than anticipated.

(iii) The total vegetation management expenditures divided by the number of electric points of delivery on the utility's system, excluding service drops.

TOTAL 2017 VEGETATION MANAGEMENT EXPENDITURES	ELECTRIC POINTS OF DELIVERY	(iii) VM COST/ELECTRIC POINTS OF DELIVERY
$28,488,377	2,468,148	$11.54

(iv) The total vegetation management expenditures, including expenditures from the storm reserve, divided by the number of customers the utility served.

TOTAL 2017 VEGETATION MANAGEMENT EXPENDITURES INCLUDING STORM RESERVE	ELECTRIC POINTS OF DELIVERY	(iii) VM COST/ELECTRIC POINTS OF DELIVERY
$30,769,813	2,468,148	$12.47

(v) The vegetation management budget from the utility's last base-rate case.

The vegetation management budget from the last rate case with a 2009 test year was $18,849,952.

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PROJECT NO. 41381

REPORT FOR VEGETATION	§	**PUBLIC UTILITY COMMISSION**
MANAGEMENT PLAN PURSUANT TO	§	
16 TEX. ADMIN. CODE §25.96	§	**OF TEXAS**

VEGETATION MANAGEMENT REPORT OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC PURSUANT TO 16 TEX. ADMIN. CODE § 25.96

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REPORT FOR VEGETATION MANAGEMENT PLAN PURSUANT TO 16 TEX. ADMIN. CODE §25.96	**§ § §**	**PUBLIC UTILITY COMMISSION OF TEXAS**

VEGETATION MANAGEMENT REPORT OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC PURSUANT TO16 TEX. ADMIN. CODE § 25.96

Pursuant to 16 Tex. Admin. Code § 25.96, CenterPoint Energy Houston Electric, LLC submits the attached summary of its vegetation management plan to the Public Utility Commission of Texas.

Respectfully submitted

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ATTACHMENT A

Vegetation Management Report
Submitted May 1, 2019

VEGETATION MANAGEMENT REPORT
OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
FOR 2018

Introduction

16 Tex. Admin. Code § 25.96 ("TAC") requires each utility to file with the Public Utility Commission of Texas ("the Commission") by May 1st of each year a summary of its Vegetation Management Plan ("Plan") for the current calendar year and its progress in implementing its Plan for the preceding calendar year. CenterPoint Energy Houston Electric, LLC ("CenterPoint Energy" or "the Company") submits the following summary of its vegetation management plan pursuant to the Commission's rules.

I. 16 Tex. Admin. Code § 25.96(d)

16 TAC § 25.96(d) requires each utility to provide an explanation in the utility's annual report of deviations from several mandatory provisions in national standards. The following information is provided in compliance with the Commission's rule.

A. 16 Tex. Admin. Code § 25.96(d)(1)

ANSI Standard Z133.1, Arboricultural Operations – Pruning, or successor standard.

CenterPoint Energy's vegetation management contracts require its vendors to follow the American National Standards Institute ("ANSI") Standard Z133.1. Therefore, CenterPoint Energy does not have deviations from the provisions of ANSI Standard Z133.1.

B. 16 Tex. Admin. Code § 25.96(d)(2)

ANSI Standard A300 (Part 1), Tree Shrub, and Other Woody Plant Management – Standard Practices (Pruning); (Part 7), Integrated Vegetation Management a. Utility Rights-of Way practices; and (Part 9), Tree Risk Assessment a. Tree Structure Assessment, or successor standards.

CenterPoint Energy's vegetation management contracts require its vendors to follow ANSI Standard A300 (Parts 1 & 9) where applicable. CenterPoint Energy's vegetation management

policies for distribution facilities do not conform to all provisions of Part 7 of ANSI A300. Due to the numerous site alternatives in urban, suburban, or rural settings with limited utility control of long-term actions of the various stakeholders and utility rights unique for each site, full implementation is not practical due to the costs involved. However, various methods for specific situations may be utilized as appropriate to achieve limited objectives.

C. 16 Tex. Admin. Code § 25.96(d)(3)

National Electrical Safety Code Section 218, or successor standard.

CenterPoint Energy does not have known deviations from the provisions of Section 218 of the National Electrical Safety Code ("NESC").

II. 16 Tex. Admin. Code § 25.96(e)

16 TAC § 25.96 requires each utility to maintain a Plan that "describes the utility's objectives, practices, procedures, and work specifications for its distribution assets." The following information is provided in compliance with the Commission's rule.

A. 16 Tex. Admin. Code § 25.96(e)(1)

Tree pruning methodology, trimming clearances, and scheduling approach.

- Methodology

CenterPoint Energy's proactive vegetation management program for the distribution system prioritizes circuits for trimming based on each circuit's trim cycle and the reliability of each circuit. All circuits that initially meet the recommended trim cycle criteria are then ranked and prioritized based on reliability performance.

The recommended trim cycle for 35 kV circuits and those 12 kV circuits with narrow easements or restricted access is three years. The recommended trim cycle of 12kV circuits with normal easements is five years. Laterals along with the feeder-main are trimmed on circuits identified for trimming.

The distribution system has been divided into multiple regions to better distribute the work among the vegetation contractors and to provide an opportunity for the contractors to bid for a

larger portion of proactive work, allowing the best opportunity for the most efficient use of resources. The contractor that is awarded a specific region is responsible for the reactive tree trim maintenance, the proactive tree trim maintenance, the proactive hazard tree work, and tree maintenance associated with capital improvements in that region, providing for more overall efficiencies.

Approximately 80% of the proactive vegetation management work is on a fixed price basis, with the remainder of the costs on a time and equipment basis. Fixed price work is primarily allocated to circuits with extensive feeder and lateral networks that are in outlying areas of the system or that are otherwise conducive to fixed price bids. Time and equipment work is allocated strategically for smaller circuits and circuits with narrow easements, as well as circuits that require quicker action than a bid process will allow or other situations not conducive to fixed price bids.

The vegetation management personnel at CenterPoint Energy prepare work maps of circuits identified for proactive work. Once completed, these maps as well as trimming specifications are released to the vendors for field review. The vendors submit bids to complete tree trimming on the circuits for each region. The vegetation management personnel review the bids and award the work for each region to the best valued provider based on pricing, available resource capacity, and performance as determined from previous performance audits of the vendors' completed work. When the work is completed, the CenterPoint Energy forester inspects the job to ensure that it was completed satisfactorily and reviews the invoices to ensure accuracy. CenterPoint Energy foresters and vendors interface with the customers as needed to resolve issues and facilitate completion of the work.

Distribution vegetation management work is administered and coordinated by a staff of two managers, ten professional utility foresters, and one support analyst. Currently, four professional Line Clearance vendors perform utility tree trimming services for CenterPoint Energy.

- Clearances

CenterPoint Energy trims trees for a minimum lateral clearance of seven feet from 12 kV and ten feet from 35kV primary conductors and equipment. This clearance pattern is followed vertically to achieve overhead clearance space above the conductors to a distance at least twice the height of the pole if work is performed manually or as high as a lift truck or mechanized clearance

equipment can reach. Trees beneath the primary conductors are trimmed a minimum clearance of 15 feet below the lines.

In addition, a radius of three feet is cleared for twisted-wire secondary and neutral wires or five feet for open-wire secondary. This is often achieved with the clearance attained for the primary conductors. Vines are either cut and the stump treated or basal treated with herbicides on poles and down guys. Trees may be cleared from guy wires as necessary to maintain structural integrity of the facilities.

- Scheduling

CenterPoint Energy identifies circuits eligible for proactive work each calendar year based on recommended trim cycles. Circuits identified as eligible for proactive work are then prioritized by reliability performance. Once the list of planned circuits is generated for each region, actual scheduling for specific circuits during the year may vary based on developing reliability issues, optimizing for crew and equipment efficiencies, maintaining sensitivity to the community, and other issues historically unique to specific circuits.

B. 16 Tex. Admin. Code § 25.96(e)(2)

Methods used to mitigate threats posed by vegetation to applicable distribution assets.

Unscheduled or reactive tree trim maintenance is performed by CenterPoint Energy to address vegetation issues that require immediate attention. This work is done in response to specific requests from customers or CenterPoint Energy personnel located at the Service Centers. Customer requests are received by CenterPoint Energy personnel and routed to assigned vendors for inspection to ensure validity. If valid, the trees are trimmed or removed to clearance specifications. Vendors also receive Distribution Maintenance Request (DMR) work orders identified by the Service Centers and conduct work per standard line clearance specifications or specific instructions on the work request. Most reactive work is performed on a unit-priced basis.

C. 16 Tex. Admin. Code § 25.96(e)(3)

Tree risk management program.

In addition to those hazard trees identified and removed as part of scheduled and unscheduled circuit maintenance, CenterPoint Energy utilizes a proactive hazard tree removal program that involves Level 1 tree risk assessments as defined in Part 9 of ANSI Standard A300. In high-risk areas, hazard trees outside of the easement are proactively located and removed with the consent of the landowner. The intent of this initiative is to reduce the risk of falling trees impacting electrical facilities and to minimize impacts in an extreme storm event. CenterPoint Energy will perform a patrol of the feeder-mains for those circuits known for higher tree mortality or otherwise identified as high-risk areas. Frequency of inspections may vary based on conditions observed.

D. 16 Tex. Admin. Code § 25.96(e)(4)

Participation in continuing education by the utility's internal vegetation management personnel.

Most of CenterPoint Energy's utility vegetation management personnel are degreed foresters or otherwise degreed with extensive experience within the utility vegetation management industry. Company foresters are encouraged to maintain Texas Department of Agriculture Non-Commercial Pesticide Applicator licenses that require ongoing annual continuing education units. Several of the foresters independently maintain International Society of Arboriculture Certified Arborist status. The Company does not require this status due to the formal educational requirements for the positions; however, those foresters that maintain their certifications are supported in acquiring necessary continuing education units related to the work. The foresters also attend various industry related professional conferences, seminars, and training as available and beneficial to support educational development associated with vegetation management.

E. 16 Tex. Admin. Code § 25.96(e)(5)

Estimate of the miles of circuits along which vegetation is to be trimmed or method for planning trimming work for the coming year.

CenterPoint Energy estimates that 3,500 to 5,800 miles of distribution circuits will be identified as planned for trimming each year. The miles identified as planned for trimming are based on the recommended trim cycles and circuits with high reliability issues.

F. 16 Tex. Admin. Code § 25.96(e)(6)

Plan to remediate vegetation-caused issues on feeders which are on the worst vegetation-caused performing feeder list for the preceding calendar year's System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI).

While CenterPoint Energy currently ranks circuits per SAIDI and SAIFI, we are now using analytics in our model that includes vegetation caused outages to prioritize our work. Pursuant to 16 TAC § 25.52, the Company tracks feeders for the 10% worst performing circuits based on SAIDI and SAIFI criteria, which includes forced interruptions.

G. 16 Tex. Admin. Code § 25.96(e)(7)

Customer education, notification, and outreach practices related to vegetation management.

CenterPoint Energy utilizes customer notifications, social media, and public awareness campaign strategies to provide customer education and notifications related to vegetation management. CenterPoint Energy intends to continue these efforts.

- Customer Notifications of Work to be Performed

CenterPoint Energy vendors are required to distribute customer notification door cards at residences and businesses at least seven days prior to planned tree pruning activities. CenterPoint Energy's door hanger notification is available to the Commission Staff upon request. It includes the vendor's contact information to allow the customer to set an appointment to provide access, discuss planned work activities and concerns, and arrange to be present while work is done. CenterPoint Energy also provides a *Tree Trimming Practices* brochure with the work notification door card. The brochure is available to the Commission Staff upon request. It explains general practices and responses to frequently asked questions. These two items are the primary method of pre-work notification.

The brochure has been a successful tool for answering questions and providing the public with an educational visual aid. In addition, CenterPoint Energy provides a *Palm Trees and Power Lines* brochure selectively to those customers with palm trees. The *Palm Trees* brochure explains issues unique to palms and power lines. These brochures and the door card provide significant information to the recipient, while also pointing them to additional information on the CenterPointEnergy.com/trees website. CenterPoint Energy believes that these documents aide in

setting expectations to minimize misconceptions and prompts discussions of concerns before the work is performed.

- Non-Print Media Used in Public Education Campaign

CenterPoint Energy utilizes a landing page on its website dedicated to vegetation management, which may be found at CenterPointEnergy.com/trees. This section of the main CenterPoint Energy website provides information on tree planting guides, how to plant and trim trees safely, power line friendly trees, Right Tree Right Place information, energy saving tips, vegetation management practices, frequently asked questions, the *Tree Trimming Practices, Palm Trees and Power Lines* brochures, and information on tree trimming vendors. Examples of information available from these sites include Power Line Clearance Standards, Recommended List of Low Growing Trees, and What My Pruned Trees Will Look Like. Each public education tool warns the public to use caution when pruning trees around power lines and to plant the right tree in the right place, which is away from power lines.

- Other Media Events

CenterPoint Energy partners with a number of parks, community groups, and other organizations around the Greater Houston area for tree planting events, which replace potentially hazardous trees near power lines with low-growing, power line-friendly trees. The events garner involvement from local parks and recreation departments, government officials and stakeholder organizations, as well as interested citizens in the communities. The resulting media coverage, community relationships, dissemination of collateral material, and permanent park signage help to reinforce the Right Tree Right Place message long after the completion of the event.

CenterPoint Energy has partnered with Trees for Houston to establish a Right Tree Right Place nursery on Company property as a source of low-growing power line compatible tree species for various events. The objectives are to further enhance key customer relationships, provide successful growing stock as examples of power line "friendly" trees, and build employee engagement.

CenterPoint Energy's Speakers Bureau employee volunteers are available to make presentations to area civic associations about vegetation management and provide materials. Employees who work directly with vegetation management and electric operations also make

similar presentations at meetings for municipal officials, homeowner's associations, landscape architects, builders, or other community groups, upon request.

III. 16 Tex. Admin. Code § 25.96(f)(1)

16 TAC § 25.96 requires each utility to file a Vegetation Management Plan Report that summarizes its Plan and provide its progress in implementing the Plan. The following information is provided in compliance with the Commission's rule.

A. 16 Tex. Admin. Code § 25.96(f)(1)(A)

Vegetation maintenance goals and the method the utility employs to measure its progress.

CenterPoint Energy's vegetation maintenance goal is to work between an estimated 3,500 to 5,800 miles of targeted distribution circuits annually to proactively maintain vegetation clearance on the distribution system. The Company will measure its progress by monitoring the completed miles worked within a given year to stay within the defined range of planned circuit miles.

B. 16 Tex. Admin. Code § 25.96(f)(1)(B)

Trimming clearances and scheduling approach.

- Clearances

CenterPoint Energy trims trees for a minimum lateral clearance of seven feet from 12 kV and ten feet from 35kV primary conductors and equipment. This clearance pattern is followed vertically to achieve overhead clearance space above the conductors to a distance at least twice the height of the pole if work is performed manually or as high as a lift truck or mechanized clearance equipment can reach. Trees beneath the primary conductors are trimmed a minimum clearance of 15 feet below the lines.

In addition, a radius of three feet is cleared for twisted-wire secondary and neutral wires or five feet for open-wire secondary. This is often achieved with the clearance attained for the primary conductors. Vines are either cut and the stump treated or basal treated with herbicides on

poles and down guys. Trees may be cleared from guywires as necessary to maintain structural integrity of the facilities.

- Scheduling

CenterPoint Energy identifies circuits eligible for proactive work each calendar year based on recommended trim cycles. Circuits identified as eligible for proactive work are then prioritized by reliability performance. Once the list of planned circuits is generated for each region, actual scheduling for specific circuits during the year may vary based on developing reliability issues, optimizing for crew and equipment efficiencies, maintaining sensitivity to the community, and other issues historically unique to specific circuits.

C. 16 Tex. Admin. Code § 25.96(f)(1)(C)

Plan to remediate vegetation-caused issues on feeders that are on the vegetation-caused worst performing feeder list for the preceding calendar year's SAIDI and SAIFI.

While CenterPoint Energy currently ranks circuits per SAIDI and SAIFI, we are now using analytics in our model that includes vegetation caused outages to prioritize our work. Pursuant to 16 TAC § 25.52, the Company tracks feeders for the 10% worst performing circuits based on SAIDI and SAIFI criteria, which includes forced interruptions.

D. 16 Tex. Admin. Code § 25.96(f)(1)(D)

Tree risk management program.

CenterPoint Energy utilizes a proactive hazard tree removal program that involves Level 1 tree risk assessments as defined in Part 9 of ANSI Standard A300. In high-risk areas, hazard trees outside of the easement are proactively located and removed with the consent of the landowner. The intent of this initiative is to reduce the risk of falling trees impacting electrical facilities and to minimize impacts in an extreme storm event. CenterPoint Energy will perform a patrol of the feeder-mains for those circuits known for higher tree mortality or otherwise identified as high-risk areas. Frequency of inspections may vary based on conditions observed.

E. 16 Tex. Admin. Code § 25.96(f)(1)(E)

Approach to monitoring, preparing for and responding to adverse environmental conditions such as drought and wildfire danger that may impact its vegetation management policies and practices.

CenterPoint Energy does not have a specific drought and wildfire danger plan. However, the Company continuously monitors and adjusts plans as needed for adverse conditions to address impacts unique to nature of the occurrences. This includes updating and maintaining mutual assistance contracts with vegetation management vendors to supplement current resources as conditions require.

F. 16 Tex. Admin. Code § 25.96(f)(1)(F)

Total overhead distribution miles in its system, excluding service drops.

As of December 31, 2018, CenterPoint Energy has 28,215 miles of overhead distribution lines. This includes 12 kV and 35 kV overhead feeder-main, laterals, and secondary conductor, excluding service drops.

G. 16 Tex. Admin. Code § 25.96(f)(1)(G)

Total number of electric points of delivery.

As of December 31, 2018, CenterPoint Energy has 2,517,201 electric points of delivery.

H. 16 Tex. Admin. Code § 25.96(f)(1)(H)

Amount of vegetation-related work it plans to accomplish in the current calendar year to achieve it vegetation management goals described in subparagraph (A) of this paragraph.

During 2019, CenterPoint Energy plans to target an estimated 3,500 to 5,800 miles of distribution circuits to proactively maintain vegetation clearance on the distribution system.

I. 16 Tex. Admin. Code § 25.96(f)(1)(I)

Vegetation management budget, divided into the categories listed in clauses (i)-(iv) of this subparagraph. The utility should, within the confines of its own budgeting practices, assign subcategories and list them under these categories where appropriate. If a utility does not budget

amounts under any specific category, the utility shall provide a brief explanation of why it does not do so. The utility shall title the budget with the dates it covers and provide a total for each category or subcategory.

Distribution Vegetation Management Budget for January 1, 2019 – December 30, 2019

(i) Scheduled Vegetation Maintenance (Proactive Tree Trimming)	$27,100,000
(ii) Unscheduled Vegetation Maintenance (Reactive Tree Trimming/Removal)	$3,800,500
(iii) Tree Risk Management (Proactive Hazard Tree Removal)	$425,000
(iv) Emergency and Post Storm Activities	$517,400
Total	$31,842,900

IV. 16 Tex. Admin. Code § 25.96(f)(2)

16 TAC § 25.96(f)(2) requires each utility to file an implementation summary for the preceding year of its Plan. The following information is provided in compliance with the Commission's rule.

A. 16 Tex. Admin. Code § 25.96(f)(2)(A)

Whether the utility met its vegetation maintenance goals and how its goals have changed for the coming calendar year based on the results.

For 2018, CenterPoint Energy proactively worked approximately 5,400 miles of distribution circuits. The Company met its goal by proactively completing the number of circuit miles within the defined annual range for the 2018 annual strategy.

For 2019, CenterPoint Energy's vegetation maintenance goal is to work between an estimated 3,500 to 5,800 miles of targeted distribution circuits to proactively maintain vegetation clearance on the distribution system.

B. 16 Tex. Admin. Code § 25.96(f)(2)(B)

Successes and challenges with the utility's strategy, including obstacles faced, such as property owner interference, and methods employed to overcome them.

CenterPoint Energy successfully met its 2018 goals as noted in the previous section; however, there were challenges.

Cost increases by vegetation management contractors remain as the greatest challenge for the Company's vegetation management program. CenterPoint Energy plans to continue to research new ways to identify improvements in optimizing vegetation investments throughout 2019 while ensuring the distribution system vegetation is proactively maintained.

The vegetation management contractors continued to express difficulties hiring and retaining qualified, experienced workers capable of performing tree clearing work near energized power lines. This is a common theme within the industry the last few years and is one of the issues affecting costs. The Company continues to conduct meetings with contractors to identify further opportunities to improve efficiencies.

Negative public perceptions surrounding utility vegetation management activities are an ongoing challenge. CenterPoint Energy's Community Relations Department helped coordinate vegetation management public education efforts and to further support the vegetation management program staff. These efforts, along with those of the Company's vegetation management staff, have maintained positive perceptions and enhanced working relationships with various interested stakeholders. This work has been acknowledged by the Arbor Day Foundation's annual recognition of CenterPoint Energy as a TreeLine USA Utility for fifteen consecutive years.

Property owner interference is an ongoing challenge inherent to the work activities. As previously noted, the Company employs a staff of professional foresters who work with these individuals daily to resolve conflicts.

CenterPoint Energy is currently working to develop analytics to identify areas across the service area with the greatest risk for vegetation caused outages. The analytics may utilize contributing factors such as: distribution network and outage data, weather data, comprehensive vegetation data, and soil characteristics. This research is still currently underway. Better understanding of the factors contributing to vegetation growth along distribution circuits may result in the establishment of appropriate trimming cycles to better match the need of each individual circuit.

C. 16 Tex. Admin. Code § 25.96(f)(2)(C)

The progress and obstacles to remediating issues on the vegetation-caused, worst performing feeders list as submitted in the preceding year's report.

CenterPoint Energy does not track feeder performance based on vegetation-caused outages; therefore, the Company does not have a plan to remediate these issues. Pursuant to 16 TAC § 25.52, the Company tracks feeders for the 10% worst performing circuits based on SAIDI and SAIFI criteria, which includes forced interruptions.

D. 16 Tex. Admin. Code § 25.96(f)(2)(D)

The number of continuing education hours logged for the utility's internal vegetation management personnel, if applicable;

CenterPoint Energy vegetation management personnel participated in 217.5 hours of continuing education in 2018.

E. 16 Tex. Admin. Code § 25.96(f)(2)(E)

The amount of vegetation management work the utility accomplished to achieve its vegetation management goals described in paragraph (1)(A) of this subsection.

CenterPoint Energy completed approximately 5,400 miles of proactive vegetation maintenance in 2018.

F. 16 Tex. Admin. Code § 25.96(f)(2)(F)

The separate SAIDI and SAIFI scores for vegetation-caused interruptions for each month and as reported for the calendar year in its Service Quality Report filed pursuant to 25.52 of this title (relating to Reliability and Continuity of Service) and 25.81 of this title (relating to Service Quality Reports), at both the feeder and company level.

While CenterPoint Energy currently ranks circuits per SAIDI and SAIFI, we are now using analytics in our model that includes vegetation caused outages to prioritize our work. Pursuant to 16 TAC § 25.52, the Company tracks feeders for the 10% worst performing circuits based on SAIDI and SAIFI criteria, which includes forced interruptions.

G. 16 Tex. Admin. Code § 25.96(f)(2)(G)

The vegetation management budget, including, at a minimum:

(i) A single table with columns representing:

(I) The budget for each category and subcategory that the utility provided in the preceding year pursuant to paragraph(1)(I) of this subsection, with totals for each category and subcategory;

(II) The actual expenditures for each category and subcategory listed pursuant to sub clause (I) of this clause, with totals for each category or subcategory.

(III) The percentage of actual expenditures over or under the budget for each category or subcategory listed pursuant to sub clause (I) of this clause; and

(IV) The actual expenditures for the preceding reporting year for each category or subcategory listed pursuant to sub clause (I) of this clause, with totals for each category or subcategory.

(i) BUDGET CATEGORY	(I) PROJECTED COST 2018	(II) ACTUAL COST 2018	(III) %OVER/(UNDER) 2018	(IV) ACTUAL COST 2017
Scheduled Vegetation Management (Proactive Tree Trimming)	$28,000,000	$28,023,054	0.1%	$21,734,520
Unscheduled Vegetation Management (Reactive Tree Trimming)	$5,411,570	$6,699,952	23.8%	$5,856,281
Tree Risk Management (Proactive Hazard Tree Removal)	$750,000	$299,033	-60.1%	$311,401
Emergency and Post Storm Activities (Storm Restoration: AD86, AD07)	$819,500	$689,335	-15.9%	$586,175
TOTAL	**$34,981,070**	**$35,711,374**	**2.1%**	**$28,488,377**

(ii) An explanation of the variation from the preceding year's vegetation management budget where actual expenditures in any category or subcategory fell below 98 percent or increased above 110 percent of the budget for that category.

(i) BUDGET CATAGORY	(ii) EXPLANATION
Scheduled Vegetation Management (Proactive Tree Trimming)	• Within range for 2018 expenditures in this category. No explanation required.
Unscheduled Vegetation Management (Reactive Tree Trimming)	• Unplanned expenditures continued to be high to address miscellaneous reliability issues caused by localized weather events and fast-growing tree species (i.e. "cycle-busters") as identified by Company operations personnel. • Circuit reconfigurations made to balance distribution load caused portions of distribution circuits to require unplanned trimming to match the vegetation clearance for the current circuit configuration.
Tree Risk Management (Proactive Hazard Tree Removal)	• There continued to be a lower hazard tree identification rate than anticipated.
Emergency and Post Storm Activities (Storm Restoration: AD86, AD07)	• Other than a few isolated heavy rainfall events, less restoration work was experienced throughout 2018 than anticipated.

(iii) The total vegetation management expenditures divided by the number of electric points of delivery on the utility's system, excluding service drops.

TOTAL 2018 VEGETATION MANAGEMENT EXPENDITURES	ELECTRIC POINTS OF DELIVERY	(iii) VM COST/ELECTRIC POINTS OF DELIVERY
$35,711,374	2,517,201	$14.19

(iv) The total vegetation management expenditures, including expenditures from the storm reserve, divided by the number of customers the utility served.

TOTAL 2017 VEGETATION MANAGEMENT EXPENDITURES INCLUDING STORM RESERVE	ELECTRIC POINTS OF DELIVERY	(iii) VM COST/ELECTRIC POINTS OF DELIVERY

$35,517,307	2,517,201	$14.11

(v) The vegetation management budget from the utility's last base-rate case.

The vegetation management budget from the last rate case with a 2009 test year was $18,849,952.

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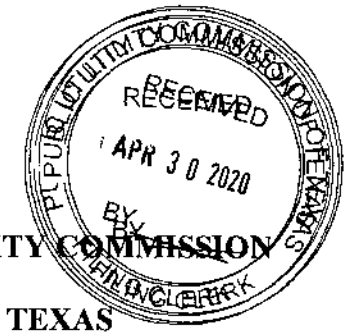

PROJECT NO. 41381

REPORT FOR VEGETATION MANAGEMENT PLAN PURSUANT TO 16 TEX. ADMIN. CODE §25.96	**§**	**PUBLIC UTILITY COMMISSION OF TEXAS**

VEGETATION MANAGEMENT REPORT OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC PURSUANT TO 16 TEX. ADMIN. CODE § 25.96

Contact: Stacey Murphree
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VEGETATION MANAGEMENT REPORT OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC PURSUANT TO16 TEX. ADMIN. CODE § 25.96

Pursuant to 16 Tex. Admin. Code § 25.96, CenterPoint Energy Houston Electric, LLC submits the attached summary of its vegetation management plan to the Public Utility Commission of Texas.

Respectfully submitted,

Stacey Murphree
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ATTACHMENT A

Vegetation Management Report

Submitted May 1, 2020

VEGETATION MANAGEMENT REPORT
OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
FOR 2019

Introduction

16 Tex. Admin. Code § 25.96 ("TAC") requires each utility to file with the Public Utility Commission of Texas ("the Commission") by May 1st of each year a summary of its Vegetation Management Plan ("Plan") for the current calendar year and its progress in implementing its Plan for the preceding calendar year. CenterPoint Energy Houston Electric, LLC ("CenterPoint Houston" or "the Company") submits the following summary of its vegetation management plan pursuant to the Commission's rules.

I. 16 Tex. Admin. Code § 25.96(d)

16 TAC § 25.96(d) requires each utility to provide an explanation in the utility's annual report of deviations from several mandatory provisions in national standards. The following information is provided in compliance with the Commission's rule.

A. 16 Tex. Admin. Code § 25.96(d)(1)

ANSI Standard Z133.1, Arboricultural Operations – Pruning, or successor standard.

CenterPoint Houston's vegetation management contracts require its vendors to follow the American National Standards Institute ("ANSI") Standard Z133.1. Therefore, CenterPoint Houston does not have deviations from the provisions of ANSI Standard Z133.1.

B. 16 Tex. Admin. Code § 25.96(d)(2)

ANSI Standard A300 (Part 1), Tree Shrub, and Other Woody Plant Management – Standard Practices (Pruning); (Part 7), Integrated Vegetation Management a. Utility Rights-of Way practices; and (Part 9), Tree Risk Assessment a. Tree Structure Assessment, or successor standards.

CenterPoint Houston's vegetation management contracts require its vendors to follow ANSI Standard A300 (Parts 1 & 9) where applicable. CenterPoint Houston's vegetation

management policies for distribution facilities do not conform to all provisions of Part 7 of ANSI A300. Due to the numerous site alternatives in urban, suburban, or rural settings with limited utility control of long-term actions of the various stakeholders and utility rights unique for each site, full implementation is not practical due to the costs involved. However, various methods for specific situations may be utilized as appropriate to achieve limited objectives.

C. 16 Tex. Admin. Code § 25.96(d)(3)

National Electrical Safety Code Section 218, or successor standard.

CenterPoint Houston does not have known deviations from the provisions of Section 218 of the National Electrical Safety Code ("NESC").

II. 16 Tex. Admin. Code § 25.96(e)

16 TAC § 25.96 requires each utility to maintain a Plan that "describes the utility's objectives, practices, procedures, and work specifications for its distribution assets." The following information is provided in compliance with the Commission's rule.

A. 16 Tex. Admin. Code § 25.96(e)(1)

Tree pruning methodology, trimming clearances, and scheduling approach.

- Methodology

CenterPoint Houston's proactive vegetation management program for the distribution system prioritizes circuits for trimming based on each circuit's trim cycle and the reliability of each circuit. All circuits that initially meet the recommended trim cycle criteria are then ranked and prioritized based on reliability performance.

The recommended trim cycle for 35 kV circuits and those 12 kV circuits with narrow easements or restricted access is three years. The recommended trim cycle of 12kV circuits with normal easements is five years. Laterals along with the feeder-main are trimmed on circuits identified for trimming.

The distribution system has been divided into multiple regions to better distribute the work among the vegetation contractors and to provide an opportunity for the contractors to bid for a larger portion of proactive work, allowing the best opportunity for the most efficient use of

resources. The contractor that is awarded a specific region is responsible for the reactive tree trim maintenance, the proactive tree trim maintenance, the proactive hazard tree work, and tree maintenance associated with capital improvements in that region, providing for more overall efficiencies.

Approximately 90% of the proactive vegetation management work is on a fixed price basis, with the remainder of the costs on a time and equipment basis. Fixed price work is primarily allocated to circuits with extensive feeder and lateral networks that are in outlying areas of the system or that are otherwise conducive to fixed price bids. Time and equipment work is allocated strategically for smaller circuits and circuits with narrow easements, as well as circuits that require quicker action than a bid process will allow or other situations not conducive to fixed price bids.

The vegetation management personnel at CenterPoint Houston prepare work maps of circuits identified for proactive work. Once completed, these maps as well as trimming specifications are released to the vendors for field review. The vendors submit bids to complete tree trimming on the circuits for each region. The vegetation management personnel review the bids and award the work for each region to the best valued provider based on pricing, available resource capacity, and performance as determined from previous performance audits of the vendors' completed work. When the work is completed, the CenterPoint Houston forester inspects the job to ensure that it was completed satisfactorily and reviews the invoices to ensure accuracy. CenterPoint Houston foresters and vendors interface with the customers as needed to resolve issues and facilitate completion of the work.

Distribution vegetation management work is administered and coordinated by a staff of one manager, ten professional utility foresters, and one support analyst. Currently, four professional Line Clearance vendors perform utility tree trimming services for CenterPoint Houston.

- Clearances

CenterPoint Houston trims trees for a minimum lateral clearance of seven feet from 12 kV and ten feet from 35kV primary conductors and equipment. This clearance pattern is followed vertically to achieve overhead clearance space above the conductors to a distance at least twice the height of the pole if work is performed manually or as high as a lift truck or mechanized clearance

equipment can reach. Trees beneath the primary conductors are trimmed a minimum clearance of 15 feet below the lines.

In addition, a radius of three feet is cleared for twisted-wire secondary and neutral wires or five feet for open-wire secondary. This is often achieved with the clearance attained for the primary conductors. Vines are either cut and the stump treated or basal treated with herbicides on poles and down guys. Trees may be cleared from guy wires as necessary to maintain structural integrity of the facilities.

- Scheduling

CenterPoint Houston identifies circuits eligible for proactive work each calendar year based on recommended trim cycles. Circuits identified as eligible for proactive work are then prioritized by reliability performance. Once the list of planned circuits is generated for each region, actual scheduling for specific circuits during the year may vary based on developing reliability issues, optimizing for crew and equipment efficiencies, maintaining sensitivity to the community, and other issues historically unique to specific circuits.

B. 16 Tex. Admin. Code § 25.96(e)(2)

Methods used to mitigate threats posed by vegetation to applicable distribution assets.

Unscheduled or reactive tree trim maintenance is performed by CenterPoint Houston to address vegetation issues that require immediate attention. This work is done in response to specific requests from customers or CenterPoint Houston personnel located at the Service Centers. Customer requests are received by CenterPoint Houston personnel and inspected to ensure validity. If valid, the trees are trimmed or removed to clearance specifications. Vendors also receive Distribution Maintenance Request (DMR) work orders identified by the Service Centers and conduct work per standard line clearance specifications or specific instructions on the work request. Most reactive work is performed on a unit-priced basis.

C. 16 Tex. Admin. Code § 25.96(e)(3)

Tree risk management program.

In addition to those hazard trees identified and removed as part of scheduled and unscheduled circuit maintenance, CenterPoint Houston utilizes a proactive hazard tree removal program that involves Level 1 tree risk assessments as defined in Part 9 of ANSI Standard A300. In high-risk areas, hazard trees outside of the easement are proactively located and removed with the consent of the landowner. The intent of this initiative is to reduce the risk of falling trees impacting electrical facilities and to minimize impacts in an extreme storm event. CenterPoint Houston will perform a patrol of the feeder-mains for those circuits known for higher tree mortality or otherwise identified as high-risk areas. Frequency of inspections may vary based on conditions observed.

D. 16 Tex. Admin. Code § 25.96(e)(4)

Participation in continuing education by the utility's internal vegetation management personnel.

Most of CenterPoint Houston's utility vegetation management personnel are degreed foresters or otherwise degreed with extensive experience within the utility vegetation management industry. Company foresters are encouraged to maintain Texas Department of Agriculture Non-Commercial Pesticide Applicator licenses that require ongoing annual continuing education units. Several of the foresters independently maintain International Society of Arboriculture Certified Arborist status. The Company does not require this status due to the formal educational requirements for the positions; however, those foresters that maintain their certifications are supported in acquiring necessary continuing education units related to the work. The foresters also attend various industry related professional conferences, seminars, and training as available and beneficial to support educational development associated with vegetation management.

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Estimate of the miles of circuits along which vegetation is to be trimmed or method for planning trimming work for the coming year.

CenterPoint Houston estimates that 3,500 to 5,800 miles of distribution circuits will be identified as planned for trimming each year. The miles identified as planned for trimming are based on the recommended trim cycles and circuits with high reliability issues.

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Plan to remediate vegetation-caused issues on feeders which are on the worst vegetation-caused performing feeder list for the preceding calendar year's System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI).

While CenterPoint Houston currently ranks circuits per SAIDI and SAIFI, we are now using analytics in our model that includes vegetation caused outages to prioritize our work. Pursuant to 16 TAC § 25.52, the Company tracks feeders for the 10% worst performing circuits based on SAIDI and SAIFI criteria, which includes forced interruptions.

G. 16 Tex. Admin. Code § 25.96(e)(7)

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CenterPoint Houston utilizes customer notifications, social media, and public awareness campaign strategies to provide customer education and notifications related to vegetation management. CenterPoint Houston intends to continue these efforts.

- Customer Notifications of Work to be Performed

CenterPoint Houston vendors are required to distribute customer notification door cards at residences and businesses at least seven days prior to planned tree pruning activities. CenterPoint Houston's door hanger notification is available to the Commission Staff upon request. It includes the vendor's contact information to allow the customer to set an appointment to provide access, discuss planned work activities and concerns, and arrange to be present while work is done. CenterPoint Houston also provides a *Tree Trimming Practices* brochure with the work notification door card. The brochure is available to the Commission Staff upon request. It explains general practices and responses to frequently asked questions. These two items are the primary method of pre-work notification.

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Lines brochure selectively to those customers with palm trees. The *Palm Trees* brochure explains issues unique to palms and power lines. These brochures and the door card provide significant information to the recipient, while also pointing them to additional information on the CenterPointEnergy.com/trees website. CenterPoint Houston believes that these documents aide in setting expectations to minimize misconceptions and prompts discussions of concerns before the work is performed.

- Non-Print Media Used in Public Education Campaign

CenterPoint Houston utilizes a landing page on its website dedicated to vegetation management, which may be found at CenterPointEnergy.com/trees. This section of the main CenterPoint Houston website provides information on tree planting guides, how to plant and trim trees safely, power line friendly trees, Right Tree Right Place information, energy saving tips, vegetation management practices, frequently asked questions, the *Tree Trimming Practices, Palm Trees and Power Lines* brochures, and information on tree trimming vendors. Examples of information available from these sites include Power Line Clearance Standards, Recommended List of Low Growing Trees, and What My Pruned Trees Will Look Like. Each public education tool warns the public to use caution when pruning trees around power lines and to plant the right tree in the right place, which is away from power lines.

- Other Media Events

CenterPoint Houston partners with a number of parks, community groups, and other organizations around the Greater Houston area for tree planting events, which replace potentially hazardous trees near power lines with low-growing, power line-friendly trees. The events garner involvement from local parks and recreation departments, government officials and stakeholder organizations, as well as interested citizens in the communities. The resulting media coverage, community relationships, dissemination of collateral material, and permanent park signage help to reinforce the Right Tree Right Place message long after the completion of the event.

CenterPoint Houston has partnered with Trees for Houston to establish a Right Tree Right Place nursery on Company property as a source of low-growing power line compatible tree species for various events. The objectives are to further enhance key customer relationships, provide

successful growing stock as examples of power line "friendly" trees, and build employee engagement.

CenterPoint Houston's Speakers Bureau employee volunteers are available to make presentations to area civic associations about vegetation management and provide materials. Employees who work directly with vegetation management and electric operations also make similar presentations at meetings for municipal officials, homeowner's associations, landscape architects, builders, or other community groups, upon request.

III. 16 Tex. Admin. Code § 25.96(f)(1)

16 TAC § 25.96 requires each utility to file a Vegetation Management Plan Report that summarizes its Plan and provide its progress in implementing the Plan. The following information is provided in compliance with the Commission's rule.

A. 16 Tex. Admin. Code § 25.96(f)(1)(A)

Vegetation maintenance goals and the method the utility employs to measure its progress.

CenterPoint Houston's vegetation maintenance goal is to work between an estimated 3,500 to 5,800 miles of targeted distribution circuits annually to proactively maintain vegetation clearance on the distribution system. The Company will measure its progress by monitoring the completed miles worked within a given year to stay within the defined range of planned circuit miles.

B. 16 Tex. Admin. Code § 25.96(f)(1)(B)

Trimming clearances and scheduling approach.

- Clearances

CenterPoint Houston trims trees for a minimum lateral clearance of seven feet from 12 kV and ten feet from 35kV primary conductors and equipment. This clearance pattern is followed vertically to achieve overhead clearance space above the conductors to a distance at least twice the height of the pole if work is performed manually or as high as a lift truck or mechanized clearance equipment can reach. Trees beneath the primary conductors are trimmed a minimum clearance of 15 feet below the lines.

In addition, a radius of three feet is cleared for twisted-wire secondary and neutral wires or five feet for open-wire secondary. This is often achieved with the clearance attained for the primary conductors. Vines are either cut and the stump treated or basal treated with herbicides on poles and down guys. Trees may be cleared from guywires as necessary to maintain structural integrity of the facilities.

- Scheduling

CenterPoint Houston identifies circuits eligible for proactive work each calendar year based on recommended trim cycles. Circuits identified as eligible for proactive work are then prioritized by reliability performance. Once the list of planned circuits is generated for each region, actual scheduling for specific circuits during the year may vary based on developing reliability issues, optimizing for crew and equipment efficiencies, maintaining sensitivity to the community, and other issues historically unique to specific circuits.

C. 16 Tex. Admin. Code § 25.96(f)(1)(C)

Plan to remediate vegetation-caused issues on feeders that are on the vegetation-caused worst performing feeder list for the preceding calendar year's SAIDI and SAIFI.

While CenterPoint Houston currently ranks circuits per SAIDI and SAIFI, we are now using analytics in our model that includes vegetation caused outages to prioritize our work. Pursuant to 16 TAC § 25.52, the Company tracks feeders for the 10% worst performing circuits based on SAIDI and SAIFI criteria, which includes forced interruptions.

D. 16 Tex. Admin. Code § 25.96(f)(1)(D)

Tree risk management program.

CenterPoint Houston utilizes a proactive hazard tree removal program that involves Level 1 tree risk assessments as defined in Part 9 of ANSI Standard A300. In high-risk areas, hazard trees outside of the easement are proactively located and removed with the consent of the landowner. The intent of this initiative is to reduce the risk of falling trees impacting electrical facilities and to minimize impacts in an extreme storm event. CenterPoint Houston will perform

a patrol of the feeder-mains for those circuits known for higher tree mortality or otherwise identified as high-risk areas. Frequency of inspections may vary based on conditions observed.

E. 16 Tex. Admin. Code § 25.96(f)(1)(E)

Approach to monitoring, preparing for and responding to adverse environmental conditions such as drought and wildfire danger that may impact its vegetation management policies and practices.

CenterPoint Houston does not have a specific drought and wildfire danger plan. However, the Company continuously monitors and adjusts plans as needed for adverse conditions to address impacts unique to nature of the occurrences. This includes updating and maintaining mutual assistance contracts with vegetation management vendors to supplement current resources as conditions require.

F. 16 Tex. Admin. Code § 25.96(f)(1)(F)

Total overhead distribution miles in its system, excluding service drops.

As of December 31, 2019, CenterPoint Houston has 28,414 miles of overhead distribution lines. This includes 12 kV and 35 kV overhead feeder-main, laterals, and secondary conductor, excluding service drops.

G. 16 Tex. Admin. Code § 25.96(f)(1)(G)

Total number of electric points of delivery.

As of December 31, 2019, CenterPoint Houston has 2,564,204 electric points of delivery.

H. 16 Tex. Admin. Code § 25.96(f)(1)(H)

Amount of vegetation-related work it plans to accomplish in the current calendar year to achieve it vegetation management goals described in subparagraph (A) of this paragraph.

During 2020, CenterPoint Houston plans to target an estimated 3,500 to 5,800 miles of distribution circuits to proactively maintain vegetation clearance on the distribution system.

I. 16 Tex. Admin. Code § 25.96(f)(1)(I)

Vegetation management budget, divided into the categories listed in clauses (i)-(iv) of this subparagraph. The utility should, within the confines of its own budgeting practices, assign subcategories and list them under these categories where appropriate. If a utility does not budget amounts under any specific category, the utility shall provide a brief explanation of why it does not do so. The utility shall title the budget with the dates it covers and provide a total for each category or subcategory.

Distribution Vegetation Management Budget for January 1, 2020 – December 30, 2020

(i) Scheduled Vegetation Maintenance (Proactive Tree Trimming)	$21,614,760
(ii) Unscheduled Vegetation Maintenance (Reactive Tree Trimming/Removal)	$5,825,000
(iii) Tree Risk Management (Proactive Hazard Tree Removal)	$425,000
(iv) Emergency and Post Storm Activities	$517,400
Total	$28,382,160

IV. 16 Tex. Admin. Code § 25.96(f)(2)

16 TAC § 25.96(f)(2) requires each utility to file an implementation summary for the preceding year of its Plan. The following information is provided in compliance with the Commission's rule.

A. 16 Tex. Admin. Code § 25.96(f)(2)(A)

Whether the utility met its vegetation maintenance goals and how its goals have changed for the coming calendar year based on the results.

For 2019, CenterPoint Houston proactively worked approximately 4,500 miles of distribution circuits. The Company met its goal by proactively completing the number of circuit miles within the defined annual range for the 2019 annual strategy.

For 2020, CenterPoint Houston's vegetation maintenance goal is to work between an estimated 3,500 to 5,800 miles of targeted distribution circuits to proactively maintain vegetation clearance on the distribution system.

B. 16 Tex. Admin. Code § 25.96(f)(2)(B)

Successes and challenges with the utility's strategy, including obstacles faced, such as property owner interference, and methods employed to overcome them.

CenterPoint Houston successfully met its 2019 goals as noted in the previous section; however, there were challenges.

Cost increases by vegetation management contractors remain as the greatest challenge for the Company's vegetation management program. CenterPoint Houston plans to continue to research new ways to identify improvements in optimizing vegetation investments throughout 2020 while ensuring the distribution system vegetation is proactively maintained.

The vegetation management contractors continued to express difficulties hiring and retaining qualified, experienced workers capable of performing tree clearing work near energized power lines. This is a common theme within the industry the last few years and is one of the issues affecting costs. The Company continues to conduct meetings with contractors to identify further opportunities to improve efficiencies.

Negative public perceptions surrounding utility vegetation management activities continue to be an ongoing challenge. CenterPoint Energy's Community Relations Department helped coordinate vegetation management public education efforts and to further support the vegetation management program staff. These efforts, along with those of the Company's vegetation management staff, have maintained positive perceptions and enhanced working relationships with various interested stakeholders. This work has been acknowledged by the Arbor Day Foundation's annual recognition of CenterPoint Houston as a TreeLine USA Utility for sixteen consecutive years.

Property owner interference is an ongoing challenge inherent to the work activities. As previously noted, the Company employs a staff of professional foresters who work with these individuals daily to resolve conflicts.

CenterPoint Houston is currently working to develop analytics to identify areas across the service area with the greatest risk for vegetation caused outages. The analytics may utilize contributing factors such as: distribution network and outage data, weather data, comprehensive vegetation data, and soil characteristics. This research is still currently underway. Better understanding of the factors contributing to vegetation growth along distribution circuits may

result in the establishment of appropriate trimming cycles to better match the need of each individual circuit.

C. 16 Tex. Admin. Code § 25.96(f)(2)(C)

The progress and obstacles to remediating issues on the vegetation-caused, worst performing feeders list as submitted in the preceding year's report.

CenterPoint Houston does not track feeder performance based on vegetation-caused outages; therefore, the Company does not have a plan to remediate these issues. Pursuant to 16 TAC § 25.52, the Company tracks feeders for the 10% worst performing circuits based on SAIDI and SAIFI criteria, which includes forced interruptions.

D. 16 Tex. Admin. Code § 25.96(f)(2)(D)

The number of continuing education hours logged for the utility's internal vegetation management personnel, if applicable;

CenterPoint Houston vegetation management personnel participated in 259.8 hours of continuing education in 2019.

E. 16 Tex. Admin. Code § 25.96(f)(2)(E)

The amount of vegetation management work the utility accomplished to achieve its vegetation management goals described in paragraph (1)(A) of this subsection.

CenterPoint Houston completed approximately 4,500 miles of proactive vegetation maintenance in 2019.

F. 16 Tex. Admin. Code § 25.96(f)(2)(F)

The separate SAIDI and SAIFI scores for vegetation-caused interruptions for each month and as reported for the calendar year in its Service Quality Report filed pursuant to 25.52 of this title (relating to Reliability and Continuity of Service) and 25.81 of this title (relating to Service Quality Reports), at both the feeder and company level.

While CenterPoint Houston currently ranks circuits per SAIDI and SAIFI, we are now using analytics in our model that includes vegetation caused outages to prioritize our work.

Pursuant to 16 TAC § 25.52, the Company tracks feeders for the 10% worst performing circuits based on SAIDI and SAIFI criteria, which includes forced interruptions.

G. 16 Tex. Admin. Code § 25.96(f)(2)(G)

The vegetation management budget, including, at a minimum:

(i) A single table with columns representing:

(I) The budget for each category and subcategory that the utility provided in the preceding year pursuant to paragraph(1)(I) of this subsection, with totals for each category and subcategory;

(II) The actual expenditures for each category and subcategory listed pursuant to sub clause (I) of this clause, with totals for each category or subcategory.

(III) The percentage of actual expenditures over or under the budget for each category or subcategory listed pursuant to sub clause (I) of this clause; and

(IV) The actual expenditures for the preceding reporting year for each category or subcategory listed pursuant to sub clause (I) of this clause, with totals for each category or subcategory.

(i) BUDGET CATEGORY	(I) PROJECTED COST 2019	(II) ACTUAL COST 2019	(III) %OVER/(UNDER) 2019	(IV) ACTUAL COST 2018
Scheduled Vegetation Management (Proactive Tree Trimming)	$27,100,000	$26,164,934	-3.5%	$28,023,054
Unscheduled Vegetation Management (Reactive Tree Trimming)	$3,925,145	$5,314,637	35.4%	$6,699,952
Tree Risk Management (Proactive Hazard Tree Removal)	$425,000	$319,825	-24.7%	$299,033
Emergency and Post Storm Activities (Storm Restoration: AD86, AD07)	$514,400	$778,760	50.5%	$689,335
TOTAL	**$31,967,545**	**$32,578,156**	**1.9%**	**$35,711,374**

(ii) An explanation of the variation from the preceding year's vegetation management budget where actual expenditures in any category or subcategory fell below 98 percent or increased above 110 percent of the budget for that category.

(i) BUDGET CATEGORY	(ii) EXPLANATION
Scheduled Vegetation Management (Proactive Tree Trimming)	• 2019 proactive vegetation work production was less than anticipated. This work was impacted in part by contract labor constraints caused by increase demand for utility arborist labor in California to assist with utility vegetation management in wildfire areas.
Unscheduled Vegetation Management (Reactive Tree Trimming)	• Unplanned expenditures continued to be high to address miscellaneous reliability issues caused by localized weather events and fast-growing tree species (i.e. "cycle-busters") as identified by Company operations personnel. • Circuit reconfigurations made to balance distribution load caused portions of distribution circuits to require unplanned trimming to match the vegetation clearance for the current circuit configuration.
Tree Risk Management (Proactive Hazard Tree Removal)	• There continued to be a lower hazard tree identification rate than anticipated.
Emergency and Post Storm Activities (Storm Restoration: AD86, AD07)	• More restoration work was experienced throughout 2019 than anticipated.

(iii) The total vegetation management expenditures divided by the number of electric points of delivery on the utility's system, excluding service drops.

TOTAL 2019 VEGETATION MANAGEMENT EXPENDITURES	ELECTRIC POINTS OF DELIVERY	(iii) VM COST/ELECTRIC POINTS OF DELIVERY
$32,578,156	2,564,204	$12.70

(iv) The total vegetation management expenditures, including expenditures from the storm reserve, divided by the number of customers the utility served.

TOTAL 2019 VEGETATION MANAGEMENT EXPENDITURES INCLUDING STORM RESERVE	ELECTRIC POINTS OF DELIVERY	(iii) VM COST/ELECTRIC POINTS OF DELIVERY
$33,108,582	2,564,204	$12.91

(v) The vegetation management budget from the utility's last base-rate case.

The vegetation management budget from the last rate case (Docket No. 38339) with a 2009 test year was $18,849,952. CenterPoint Houston filed a rate case (Docket No. 49421) in April 2019 based on a test year ended 2018. A "blackbox" settlement agreement was filed on January 23, 2020, and a final order approving the settlement was issued on March 9, 2020. There were no specific findings regarding vegetation management in that final order.

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PROJECT NO. 41381

REPORT FOR VEGETATION	§	**PUBLIC UTILITY COMMISSION**
MANAGEMENT PLAN PURSUANT TO	§	
16 TEX. ADMIN. CODE §25.96	§	**OF TEXAS**

VEGETATION MANAGEMENT REPORT OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC PURSUANT TO 16 TEX. ADMIN. CODE § 25.96

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Stacey.Murphree@CenterPointEnergy.com

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VEGETATION MANAGEMENT REPORT OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC PURSUANT TO16 TEX. ADMIN. CODE § 25.96

Pursuant to 16 Tex. Admin. Code § 25.96, CenterPoint Energy Houston Electric, LLC submits the attached summary of its vegetation management plan to the Public Utility Commission of Texas.

Respectfully submitted,

Stacey Murphree
Manager, Regulatory & Rates
CenterPoint Energy Service Company LLC
1111 Louisiana St.
Houston, Texas 77002
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(713) 207-9840 (fax)
Stacey.Murphree@centerpointenergy.com

ATTACHMENT A

Vegetation Management Report
Submitted April 30, 2021

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VEGETATION MANAGEMENT REPORT
OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
FOR 2020

Introduction

16 Tex. Admin. Code § 25.96 ("TAC") requires each utility to file with the Public Utility Commission of Texas ("the Commission") by May 1st of each year a summary of its Vegetation Management Plan ("Plan") for the current calendar year and its progress in implementing its Plan for the preceding calendar year. CenterPoint Energy Houston Electric, LLC ("CenterPoint Houston" or "the Company") submits the following summary of its vegetation management plan pursuant to the Commission's rules.

I. 16 Tex. Admin. Code § 25.96(d)

16 TAC § 25.96(d) requires each utility to provide an explanation in the utility's annual report of deviations from several mandatory provisions in national standards. The following information is provided in compliance with the Commission's rule.

A. 16 Tex. Admin. Code § 25.96(d)(1)

ANSI Standard Z133.1, Arboricultural Operations – Pruning, or successor standard.

CenterPoint Houston's vegetation management contracts require its vendors to follow the American National Standards Institute ("ANSI") Standard Z133.1. Therefore, CenterPoint Houston does not have deviations from the provisions of ANSI Standard Z133.1.

B. 16 Tex. Admin. Code § 25.96(d)(2)

ANSI Standard A300 (Part 1), Tree Shrub, and Other Woody Plant Management – Standard Practices (Pruning); (Part 7), Integrated Vegetation Management a. Utility Rights-of Way practices; and (Part 9), Tree Risk Assessment a. Tree Structure Assessment, or successor standards.

CenterPoint Houston's vegetation management contracts require its vendors to follow ANSI Standard A300 (Parts 1 & 9) where applicable. CenterPoint Houston's vegetation

management policies for distribution facilities do not conform to all provisions of Part 7 of ANSI A300. Due to the numerous site alternatives in urban, suburban, or rural settings with limited utility control of long-term actions of the various stakeholders and utility rights unique for each site, full implementation is not practical due to the costs involved. However, various methods for specific situations may be utilized as appropriate to achieve limited objectives.

C. 16 Tex. Admin. Code § 25.96(d)(3)

National Electrical Safety Code Section 218, or successor standard.

CenterPoint Houston does not have known deviations from the provisions of Section 218 of the National Electrical Safety Code ("NESC").

II. 16 Tex. Admin. Code § 25.96(e)

16 TAC § 25.96 requires each utility to maintain a Plan that "describes the utility's objectives, practices, procedures, and work specifications for its distribution assets." The following information is provided in compliance with the Commission's rule.

A. 16 Tex. Admin. Code § 25.96(e)(1)

Tree pruning methodology, trimming clearances, and scheduling approach.

- Methodology

CenterPoint Houston's proactive vegetation management program for the distribution system prioritizes circuits for trimming based on each circuit's trim cycle and the reliability of each circuit. All circuits that initially meet the recommended trim cycle criteria are then ranked and prioritized based on reliability performance.

The recommended trim cycle for 35 kV circuits and those 12 kV circuits with narrow easements or restricted access is three years. The recommended trim cycle of 12kV circuits with normal easements is five years. Laterals along with the feeder-main are trimmed on circuits identified for trimming.

In 2020, the distribution system was divided into four regions to better distribute the work among the vegetation contractors and to provide an opportunity for the contractors to bid for a larger portion of proactive work, allowing the best opportunity for the most efficient use of

resources. The contractors that were awarded a specific region were responsible for the reactive tree trim maintenance, the proactive tree trim maintenance, the proactive hazard tree work, and tree maintenance associated with capital improvements in that region, providing for more overall efficiencies.

Approximately 90% of the proactive vegetation management work is on a fixed price basis, with the remainder of the costs on a time and equipment basis. Fixed price work is primarily allocated to circuits with extensive feeder and lateral networks that are in outlying areas of the system or that are otherwise conducive to fixed price bids. Time and equipment work is allocated strategically for smaller circuits and circuits with narrow easements, as well as circuits that require quicker action than a bid process will allow or other situations not conducive to fixed price bids.

In 2020, the vegetation management personnel at CenterPoint Houston prepared work maps of circuits identified for proactive work. Once completed, these maps as well as trimming specifications were released to the vendors for field review. The vendors submitted bids to complete tree trimming on the circuits for each region. The CenterPoint Energy Sourcing Department evaluated and awarded the bids to the best valued provider based on pricing, available resource capacity, and performance as determined from previous performance audits of the vendors' completed work. When the work was completed, the CenterPoint Houston foresters inspected the jobs to ensure they were completed satisfactorily and reviewed the invoices for prudency. CenterPoint Houston foresters and vendors interface with the customers as needed to resolve issues and facilitate completion of the work.

Distribution vegetation management work plan is administered by the Asset Planning and Optimization Department and executed by the Vegetation Management and Grid Inspection Departments. For 2020, four professional Line Clearance vendors performed utility tree trimming services for CenterPoint Houston.

- Clearances

CenterPoint Houston trims trees for a minimum lateral clearance of seven feet from 12 kV and ten feet from 35kV primary conductors and equipment. This clearance pattern is followed vertically to achieve overhead clearance space above the conductors to a distance at least twice the height of the pole if work is performed manually or as high as a lift truck or mechanized clearance

equipment can reach. Trees beneath the primary conductors are trimmed a minimum clearance of 15 feet below the lines.

In addition, a radius of three feet is cleared for twisted-wire secondary and neutral wires or five feet for open-wire secondary. This is often achieved with the clearance attained for the primary conductors. Vines are either cut and the stump treated or basal treated with herbicides on poles and down guys. Trees may be cleared from guy wires as necessary to maintain structural integrity of the facilities.

- Scheduling

The Asset Planning and Optimization Department for CenterPoint Houston identifies circuits eligible for proactive work each calendar year and prioritizes the circuits based on a number of factors that may include time interval and reliability performance. Circuits identified as eligible for proactive work are then scheduled to be performed on a quarterly basis.

B. 16 Tex. Admin. Code § 25.96(e)(2)

Methods used to mitigate threats posed by vegetation to applicable distribution assets.

Unscheduled or reactive tree trim maintenance is performed by CenterPoint Houston to address vegetation issues that require immediate attention. This work is done in response to specific requests from customers or CenterPoint Houston personnel located at the Service Centers. Customer requests are received by CenterPoint Houston personnel and inspected to ensure validity. If valid, the trees are trimmed or removed to clearance specifications. Vendors also receive Distribution Maintenance Request (DMR) work orders identified by the Service Centers and conduct work per standard line clearance specifications or specific instructions on the work request. Most reactive work is performed on a unit-priced basis.

C. 16 Tex. Admin. Code § 25.96(e)(3)

Tree risk management program.

In addition to those hazard trees identified and removed as part of scheduled and unscheduled circuit maintenance, CenterPoint Houston utilizes a proactive hazard tree removal program that involves Level 1 tree risk assessments as defined in Part 9 of ANSI Standard A300. In high-risk areas, hazard trees outside of the easement are proactively located and removed with the consent of the landowner. The intent of this initiative is to reduce the risk of falling trees impacting electrical facilities and to minimize impacts in an extreme storm event. CenterPoint Houston will perform a patrol of the feeder-mains for those circuits known for higher tree mortality or otherwise identified as high-risk areas. Frequency of inspections may vary based on conditions observed.

D. 16 Tex. Admin. Code § 25.96(e)(4)

Participation in continuing education by the utility's internal vegetation management personnel.

Most of CenterPoint Houston's utility vegetation management personnel are degreed foresters or otherwise degreed with extensive experience within the utility vegetation management industry. Company foresters are encouraged to maintain Texas Department of Agriculture Non-Commercial Pesticide Applicator licenses that require ongoing annual continuing education units. Several of the foresters independently maintain International Society of Arboriculture Certified Arborist status. The Company does not require this status due to the formal educational requirements for the positions; however, those foresters that maintain their certifications are supported in acquiring necessary continuing education units related to the work. The foresters also attend various industry related professional conferences, seminars, and training as available and beneficial to support educational development associated with vegetation management.

E. 16 Tex. Admin. Code § 25.96(e)(5)

Estimate of the miles of circuits along which vegetation is to be trimmed or method for planning trimming work for the coming year.

CenterPoint Houston estimates that a minimum of 3,500 miles of distribution circuits will be identified as planned for trimming each year. The circuits identified as planned for trimming are prioritized based on time interval and reliability performance.

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G. 16 Tex. Admin. Code § 25.96(e)(7)

Customer education, notification, and outreach practices related to vegetation management.

CenterPoint Houston utilizes customer notifications, social media, and public awareness campaign strategies to provide customer education and notifications related to vegetation management. CenterPoint Houston intends to continue these efforts.

- Customer Notifications of Work to be Performed

CenterPoint Houston vendors are required to distribute customer notification door cards at residences and businesses at least seven days prior to planned tree pruning activities. CenterPoint Houston's door hanger notification is available to the Commission Staff upon request. It includes the vendor's contact information to allow the customer to set an appointment to provide access, discuss planned work activities and concerns, and arrange to be present while work is done. CenterPoint Houston also provides a *Tree Trimming Practices* brochure with the work notification door card. The brochure is available to the Commission Staff upon request. It explains general practices and responses to frequently asked questions. These two items are the primary method of pre-work notification.

The brochure has been a successful tool for answering questions and providing the public with an educational visual aid. In addition, CenterPoint Houston provides a *Palm Trees and Power*

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- Other Media Events

CenterPoint Houston partners with a number of parks, community groups, and other organizations around the Greater Houston area for tree planting events, which replace potentially hazardous trees near power lines with low-growing, power line-friendly trees. The events garner involvement from local parks and recreation departments, government officials and stakeholder organizations, as well as interested citizens in the communities. The resulting media coverage, community relationships, dissemination of collateral material, and permanent park signage help to reinforce the Right Tree Right Place message long after the completion of the event.

CenterPoint Houston has partnered with Trees for Houston to establish a Right Tree Right Place nursery on Company property as a source of low-growing power line compatible tree species for various events. The objectives are to further enhance key customer relationships, provide

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III. 16 Tex. Admin. Code § 25.96(f)(1)

16 TAC § 25.96 requires each utility to file a Vegetation Management Plan Report that summarizes its Plan and provide its progress in implementing the Plan. The following information is provided in compliance with the Commission's rule.

A. 16 Tex. Admin. Code § 25.96(f)(1)(A)

Vegetation maintenance goals and the method the utility employs to measure its progress.

CenterPoint Houston's vegetation maintenance goal is to work an estimated minimum of 3,500 miles of targeted distribution circuits annually to proactively maintain vegetation clearance on the distribution system. The Company will measure its progress by monitoring the completed miles worked within a given year to stay within the defined range of planned circuit miles.

B. 16 Tex. Admin. Code § 25.96(f)(1)(B)

Trimming clearances and scheduling approach.

- Clearances

CenterPoint Houston trims trees for a minimum lateral clearance of seven feet from 12 kV and ten feet from 35kV primary conductors and equipment. This clearance pattern is followed vertically to achieve overhead clearance space above the conductors to a distance at least twice the height of the pole if work is performed manually or as high as a lift truck or mechanized clearance equipment can reach. Trees beneath the primary conductors are trimmed a minimum clearance of 15 feet below the lines.

In addition, a radius of three feet is cleared for twisted-wire secondary and neutral wires or five feet for open-wire secondary. This is often achieved with the clearance attained for the primary conductors. Vines are either cut and the stump treated or basal treated with herbicides on poles and down guys. Trees may be cleared from guywires as necessary to maintain structural integrity of the facilities.

- Scheduling

The Asset Planning and Optimization Department for CenterPoint Houston identifies circuits eligible for proactive work each calendar year and prioritizes the circuits based on a number of factors that may include time interval and reliability performance. Circuits identified as eligible for proactive work are then scheduled to be performed on a quarterly basis.

C. 16 Tex. Admin. Code § 25.96(f)(1)(C)

Plan to remediate vegetation-caused issues on feeders that are on the vegetation-caused worst performing feeder list for the preceding calendar year's SAIDI and SAIFI.

While CenterPoint Houston currently ranks circuits per SAIDI and SAIFI, we are now using analytics in our model that includes vegetation caused outages to prioritize our work. Pursuant to 16 TAC § 25.52, the Company tracks feeders for the 10% worst performing circuits based on SAIDI and SAIFI criteria, which includes forced interruptions.

D. 16 Tex. Admin. Code § 25.96(f)(1)(D)

Tree risk management program.

CenterPoint Houston utilizes a proactive hazard tree removal program that involves Level 1 tree risk assessments as defined in Part 9 of ANSI Standard A300. In identified risk areas, hazard trees outside of the easement are proactively located and removed with the consent of the landowner. The intent of this initiative is to reduce the risk of falling trees impacting electrical facilities and to minimize impacts in an extreme storm event. CenterPoint Houston will perform a patrol of the feeder-mains for those circuits known for higher tree mortality or otherwise identified as risk areas. Frequency of inspections may vary based on conditions observed.

E. 16 Tex. Admin. Code § 25.96(f)(1)(E)

Approach to monitoring, preparing for and responding to adverse environmental conditions such as drought and wildfire danger that may impact its vegetation management policies and practices.

The Company continuously monitors and adjusts plans as needed for adverse conditions, including adverse environmental conditions such as drought and wildfire, to address impacts unique to nature of the occurrences. This includes updating and maintaining mutual assistance contracts with vegetation management vendors to supplement current resources as conditions require and preparing to respond to a wide variety of adverse conditions.

F. 16 Tex. Admin. Code § 25.96(f)(1)(F)

Total overhead distribution miles in its system, excluding service drops.

As of December 31, 2020, CenterPoint Houston has 28,625 miles of overhead distribution lines. This includes 12 kV and 35 kV overhead feeder-main, laterals, and secondary conductor, excluding service drops.

G. 16 Tex. Admin. Code § 25.96(f)(1)(G)

Total number of electric points of delivery.

As of December 31, 2020, CenterPoint Houston has 2,610,562 electric points of delivery.

H. 16 Tex. Admin. Code § 25.96(f)(1)(H)

Amount of vegetation-related work it plans to accomplish in the current calendar year to achieve it vegetation management goals described in subparagraph (A) of this paragraph.

During 2021, CenterPoint Houston plans to target an estimated minimum of 3,500 miles of distribution circuits to proactively maintain vegetation clearance on the distribution system.

I. 16 Tex. Admin. Code § 25.96(f)(1)(I)

Vegetation management budget divided into the categories listed in clauses (i)-(iv) of this subparagraph. The utility should, within the confines of its own budgeting practices, assign subcategories and list them under these categories where appropriate. If a utility does not budget amounts under any specific category, the utility shall provide a brief explanation of why it does not do so. The utility shall title the budget with the dates it covers and provide a total for each category or subcategory.

Distribution Vegetation Management Budget for January 1, 2021 – December 30, 2021

(i) Scheduled Vegetation Maintenance (Proactive Tree Trimming)	$27,244,200
(ii) Unscheduled Vegetation Maintenance (Reactive Tree Trimming/Removal)	$4,320,398
(iii) Tree Risk Management (Proactive Hazard Tree Removal)	$300,000
(iv) Emergency and Post Storm Activities	$150,000
Total	$32,014,598

IV. 16 Tex. Admin. Code § 25.96(f)(2)

16 TAC § 25.96(f)(2) requires each utility to file an implementation summary for the preceding year of its Plan. The following information is provided in compliance with the Commission's rule.

A. 16 Tex. Admin. Code § 25.96(f)(2)(A)

Whether the utility met its vegetation maintenance goals and how its goals have changed for the coming calendar year based on the results.

For 2020, CenterPoint Houston proactively worked approximately 4,200 miles of distribution circuits. The Company met its goal by proactively completing the number of circuit miles within the defined annual range for the 2019 annual strategy.

For 2021, CenterPoint Houston's vegetation maintenance goal is to work an estimated minimum of 3,500 miles of targeted distribution circuits to proactively maintain vegetation clearance on the distribution system.

B. 16 Tex. Admin. Code § 25.96(f)(2)(B)

Successes and challenges with the utility's strategy, including obstacles faced, such as property owner interference, and methods employed to overcome them.

CenterPoint Houston successfully met its 2020 goals as noted in the previous section; however, there were challenges.

Cost increases by vegetation management contractors remain as the greatest challenge for the Company's vegetation management program. CenterPoint Houston plans to continue to research new ways to identify improvements in optimizing vegetation investments throughout 2021 while ensuring the distribution system vegetation is proactively maintained.

The vegetation management contractors continued to express difficulties hiring and retaining qualified, experienced workers capable of performing tree clearing work near energized power lines. This is a common theme within the industry the last few years and is one of the issues affecting costs. The Company continues to conduct meetings with contractors to identify further opportunities to improve efficiencies.

Negative public perceptions surrounding utility vegetation management activities continue to be an ongoing challenge. CenterPoint Energy's Community Relations Department helped coordinate vegetation management public education efforts and to further support the vegetation management program staff. These efforts, along with those of the Company's vegetation management staff, have maintained positive perceptions and enhanced working relationships with various interested stakeholders. This work has been acknowledged by the Arbor Day Foundation's annual recognition of CenterPoint Houston as a TreeLine USA Utility for seventeen consecutive years.

Property owner interference is an ongoing challenge inherent to the work activities. As previously noted, the Company employs a staff of professional foresters who work with these individuals daily to resolve conflicts.

CenterPoint Houston is currently working to develop analytics to identify areas across the service area with the greatest risk for vegetation caused outages. The analytics may utilize contributing factors such as: distribution network and outage data, weather data, and comprehensive vegetation growth data. This research is still currently underway. Better understanding of the factors contributing to vegetation growth along distribution circuits may

result in the establishment of appropriate trimming cycles to better match the need of each individual circuit and/or circuit section.

C. 16 Tex. Admin. Code § 25.96(f)(2)(C)

The progress and obstacles to remediating issues on the vegetation-caused, worst performing feeders list as submitted in the preceding year's report.

CenterPoint Houston currently tracks feeder performance based on vegetation-caused outages to prioritize our proactive work. Pursuant to 16 TAC § 25.52, the Company tracks feeders for the 10% worst performing circuits based on SAIDI and SAIFI criteria, which includes forced interruptions.

D. 16 Tex. Admin. Code § 25.96(f)(2)(D)

The number of continuing education hours logged for the utility's internal vegetation management personnel, if applicable;

CenterPoint Houston vegetation management personnel participated in 168 hours of continuing education in 2020.

E. 16 Tex. Admin. Code § 25.96(f)(2)(E)

The amount of vegetation management work the utility accomplished to achieve its vegetation management goals described in paragraph (1)(A) of this subsection.

CenterPoint Houston completed approximately 4,200 miles of proactive vegetation maintenance in 2020.

F. 16 Tex. Admin. Code § 25.96(f)(2)(F)

The separate SAIDI and SAIFI scores for vegetation-caused interruptions for each month and as reported for the calendar year in its Service Quality Report filed pursuant to 25.52 of this title (relating to Reliability and Continuity of Service) and 25.81 of this title (relating to Service Quality Reports), at both the feeder and company level.

While CenterPoint Houston currently ranks circuits per SAIDI and SAIFI, we are now using analytics in our model that includes vegetation caused outages to prioritize our work.

Pursuant to 16 TAC § 25.52, the Company tracks feeders for the 10% worst performing circuits based on SAIDI and SAIFI criteria, which includes forced interruptions.

G. 16 Tex. Admin. Code § 25.96(f)(2)(G)

The vegetation management budget, including, at a minimum.

(i) A single table with columns representing:

(I) The budget for each category and subcategory that the utility provided in the preceding year pursuant to paragraph(1)(I) of this subsection, with totals for each category and subcategory;

(II) The actual expenditures for each category and subcategory listed pursuant to sub clause (I) of this clause, with totals for each category or subcategory.

(III) The percentage of actual expenditures over or under the budget for each category or subcategory listed pursuant to sub clause (I) of this clause; and

(IV) The actual expenditures for the preceding reporting year for each category or subcategory listed pursuant to sub clause (I) of this clause, with totals for each category or subcategory.

(i) BUDGET CATEGORY	(I) PROJECTED COST 2020	(II) ACTUAL COST 2020	(III) %OVER/(UNDER) 2020	(IV) ACTUAL COST 2019
Scheduled Vegetation Management (Proactive Tree Trimming)	$21,614,760	$25,210,054	16.63%	$26,164,934
Unscheduled Vegetation Management (Reactive Tree Trimming)	$5,851,531	$3,577,442	-38.86%	$5,314,637
Tree Risk Management (Proactive Hazard Tree Removal)	$425,000	$60,575	-85.75%	$319,825
Emergency and Post Storm Activities (Storm Restoration: AD86, AD07)	$150,000	$718,863	379.24%	$778,760
TOTAL	**$28,041,291**	**$29,566,934**	**5.44%**	**$32,578,156**

(ii) An explanation of the variation from the preceding year's vegetation management budget where actual expenditures in any category or subcategory fell below 98 percent or increased above 110 percent of the budget for that category.

(i) BUDGET CATEGORY	(ii) EXPLANATION
Scheduled Vegetation Management (Proactive Tree Trimming)	• 2020 proactive vegetation work production was less than anticipated. This work was impacted in part by contract labor constraints caused by increase demand for utility arborist labor in California wildfire areas as well as 6 major storm events requiring mutual assistance.
Unscheduled Vegetation Management (Reactive Tree Trimming)	• Unplanned expenditures were reduced due to enhanced efforts to provide more tactical remediation of identified threats.
Tree Risk Management (Proactive Hazard Tree Removal)	• There continued to be a lower hazard tree identification rate than anticipated. This was driven by favorable precipitation conditions
Emergency and Post Storm Activities (Storm Restoration: AD86, AD07)	• More restoration work was experienced throughout 2020 than anticipated.

(iii) The total vegetation management expenditures divided by the number of electric points of delivery on the utility's system, excluding service drops.

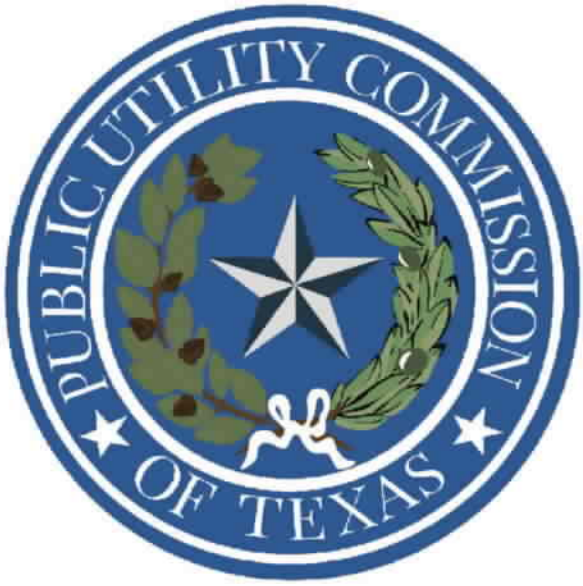
TOTAL 2020 VEGETATION MANAGEMENT EXPENDITURES	ELECTRIC POINTS OF DELIVERY	(iii) VM COST/ELECTRIC POINTS OF DELIVERY
$29,566,934	2,610,562	$11.32

(iv) The total vegetation management expenditures, including expenditures from the storm reserve, divided by the number of customers the utility served.

TOTAL 2020 VEGETATION MANAGEMENT EXPENDITURES INCLUDING STORM RESERVE	ELECTRIC POINTS OF DELIVERY	(iii) VM COST/ELECTRIC POINTS OF DELIVERY
$29,863,058	2,610,562	$11.43

(v) The vegetation management budget from the utility's last base-rate case.

The Company's last base-rate case was filed in 2019 in Docket No. 49421 based on a 2018-ended test year. A settlement agreement was filed in that case on January 23, 2020, and a final order approving the settlement was issued on March 9, 2020. There were no specific findings regarding vegetation management in either the settlement or the final order.



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PROJECT NO. 41381

REPORT FOR VEGETATION MANAGEMENT PLAN PURSUANT TO 16 TEX. ADMIN. CODE §25.96	**§ § §**	**PUBLIC UTILITY COMMISSION OF TEXAS**

VEGETATION MANAGEMENT REPORT OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC PURSUANT TO 16 TEX. ADMIN. CODE § 25.96

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REPORT FOR VEGETATION MANAGEMENT PLAN PURSUANT TO 16 TEX. ADMIN. CODE §25.96	**§ § §**	**PUBLIC UTILITY COMMISSION OF TEXAS**

VEGETATION MANAGEMENT REPORT OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC PURSUANT TO16 TEX. ADMIN. CODE § 25.96

Pursuant to 16 Tex. Admin. Code § 25.96, CenterPoint Energy Houston Electric, LLC submits the attached summary of its vegetation management plan to the Public Utility Commission of Texas.

Respectfully submitted,

Stacey Murphree
Manager, Regulatory & Rates
CenterPoint Energy Service Company LLC
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ATTACHMENT A

Vegetation Management Report
Submitted April 29, 2022

VEGETATION MANAGEMENT REPORT
OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC
FOR 2021

Introduction

16 Tex. Admin. Code § 25.96 ("TAC") requires each utility to file with the Public Utility Commission of Texas ("the Commission") by May 1st of each year a summary of its Vegetation Management Plan ("Plan") for the current calendar year and its progress in implementing its Plan for the preceding calendar year. CenterPoint Energy Houston Electric, LLC ("CenterPoint Houston" or "the Company") submits the following summary of its vegetation management plan pursuant to the Commission's rules.

I. 16 Tex. Admin. Code § 25.96(d)

16 TAC § 25.96(d) requires each utility to provide an explanation in the utility's annual report of deviations from several mandatory provisions in national standards. The following information is provided in compliance with the Commission's rule.

A. 16 Tex. Admin. Code § 25.96(d)(1)

ANSI Standard Z133.1, Arboricultural Operations – Pruning, or successor standard.

CenterPoint Houston's vegetation management contracts require its vendors to follow the American National Standards Institute ("ANSI") Standard Z133.1. Therefore, CenterPoint Houston does not have deviations from the provisions of ANSI Standard Z133.1.

B. 16 Tex. Admin. Code § 25.96(d)(2)

ANSI Standard A300 (Part 1), Tree Shrub, and Other Woody Plant Management Standard Practices (Pruning); (Part 7), Integrated Vegetation Management a. Utility Rights-of Way practices; and (Part 9), Tree Risk Assessment a. Tree Structure Assessment, or successor standards.

CenterPoint Houston's vegetation management contracts require its vendors to follow ANSI Standard A300 (Parts 1 & 9) where applicable. CenterPoint Houston's vegetation

management policies for distribution facilities do not conform to all provisions of Part 7 of ANSI A300. Due to the numerous site alternatives in urban, suburban, or rural settings with limited utility control of long-term actions of the various stakeholders and utility rights unique for each site, full implementation is not practical when compared to the costs involved. However, various methods for specific situations are utilized as appropriate to achieve limited strategic objectives.

C. 16 Tex. Admin. Code § 25.96(d)(3)

National Electrical Safety Code Section 218, or successor standard.

CenterPoint Houston does not have known deviations from the provisions of Section 218 of the National Electrical Safety Code ("NESC").

II. 16 Tex. Admin. Code § 25.96(e)

16 TAC § 25.96 requires each utility to maintain a Plan that "describes the utility's objectives, practices, procedures, and work specifications for its distribution assets." The following information is provided in compliance with the Commission's rule.

A. 16 Tex. Admin. Code § 25.96(e)(1)

Tree pruning methodology, trimming clearances, and scheduling approach.

- Methodology

CenterPoint Houston's proactive distribution vegetation management program for the distribution system prioritizes circuits for trimming based on each circuit's trim cycle and the reliability of each circuit. All circuits that initially meet the recommended trim cycle criteria are then ranked and prioritized based on reliability performance.

The recommended trim cycle for all circuits is dependent upon multiple factors, such as: last trim date, vegetation caused outages, potential impact on critical loads, and overall customer count impacted. Additionally, laterals along with the feeder-main are trimmed on circuits identified for trimming.

In 2021, to more efficiently manage the distribution vegetation management program, the plan was divided into four regions for the following reasons: to better distribute the work among the vegetation contractors; to provide an opportunity for the contractors to bid for proactive work

based on vegetation in each service center territory; and to for the most efficient deployment and use of resources. The contractors that were awarded a specific region were responsible for both the reactive and proactive tree trim maintenance, the proactive hazard tree work, and any other tree maintenance associated with capital improvements in that region, providing for more overall efficiencies.

Approximately 95% of the proactive distribution vegetation management program work is on a unit price basis, with the remainder of the costs on a time and equipment basis. Fixed price work is primarily allocated to circuits with extensive feeder and lateral networks that are in outlying areas of the system or that are otherwise conducive to fixed price bids. Time and equipment work is allocated strategically for smaller circuits and circuits with narrow easements, as well as circuits that require quicker action than a bid process will allow or other situations not conducive to fixed price bids.

The distribution vegetation management program work plan is administered by the Asset Planning and Optimization Department and executed by the Vegetation Management and Grid Inspection Departments. For 2021, four professional Line Clearance vendors performed utility tree trimming services for CenterPoint Houston.

- Clearances

CenterPoint Houston trims trees for a minimum lateral clearance of seven feet from 12 kV and ten feet from 35kV primary conductors and equipment. This clearance pattern is followed vertically to achieve overhead clearance space above the conductors to a distance at least twice the height of the pole if work is performed manually or as high as a lift truck or mechanized clearance equipment can reach. Trees beneath the primary conductors are trimmed a minimum clearance of 15 feet below the lines.

In addition, a radius of three feet is cleared for twisted-wire secondary and neutral wires or five feet for open-wire secondary. This is often achieved with the clearance attained for the primary conductors. Vines are either cut and the stump treated or basal treated with herbicides on poles and down guys. Trees may be cleared from guy wires as necessary to maintain structural integrity of the facilities.

- Scheduling

The Asset Planning and Optimization Department for CenterPoint Houston identifies circuits eligible for proactive work plan each calendar year and prioritizes these circuits based on several factors that may include last trim date, vegetation caused outages, potential impact on critical loads, and overall customer count impacted. Circuits identified as eligible for the proactive work plan are then scheduled to be performed on a quarterly basis.

B. 16 Tex. Admin. Code § 25.96(e)(2)

Methods used to mitigate threats posed by vegetation to applicable distribution assets.

Mid-Cycle or reactive tree trim maintenance is performed by CenterPoint Houston to address vegetation issues that require immediate attention. This work is done in response to specific requests from customers or CenterPoint Houston personnel located at the Service Centers. Customer requests are received by CenterPoint Houston personnel and inspected to ensure validity. If valid, the trees are trimmed or removed to clearance specifications. Vendors also receive Distribution Maintenance Request (DMR) work orders identified by the Area Service Centers and conduct work per standard line clearance specifications or specific instructions on the work request. Most reactive work is performed on a unit-priced basis.

C. 16 Tex. Admin. Code § 25.96(e)(3)

Tree risk management program.

In addition to those hazard trees identified and removed as part of scheduled and unscheduled circuit maintenance, CenterPoint Houston utilizes a proactive hazard tree removal program that involves Level 1 tree risk assessments as defined in Part 9 of ANSI Standard A300. In high-risk areas, hazard trees outside of the easement are proactively located and removed with the consent of the landowner. The intent of this initiative is to reduce the risk of falling trees impacting electrical facilities and to minimize impacts in an extreme storm event. CenterPoint Houston will perform a patrol of the feeder-mains for those circuits known for higher tree mortality or otherwise identified as high-risk areas. Frequency of inspections may vary based on various conditions observed.

D. 16 Tex. Admin. Code § 25.96(e)(4)

Participation in continuing education by the utility's internal vegetation management personnel.

Most of CenterPoint Houston's utility distribution vegetation management program personnel are degreed foresters or otherwise degreed with extensive experience within the utility vegetation management industry. Company foresters are encouraged to maintain Texas Department of Agriculture Non-Commercial Pesticide Applicator licenses that require ongoing annual continuing education units. Several of the foresters independently maintain International Society of Arboriculture Certified Arborist status. The Company does not require this status due to the formal educational requirements for the positions; however, those foresters that maintain their certifications (currently 80%) are supported in acquiring necessary continuing education units related to the work. The foresters also attend various industry related professional conferences, seminars, and training as available and beneficial to support educational development associated with vegetation management.

E. 16 Tex. Admin. Code § 25.96(e)(5)

Estimate of the miles of circuits along which vegetation is to be trimmed or method for planning trimming work for the coming year.

CenterPoint Houston estimates that a minimum of 3,500 miles of distribution circuits will be identified as planned for trimming each year. The circuits identified as planned for trimming are prioritized based multiple factors, such as last trim date, vegetation caused outages, potential impact on critical loads, and overall customer count impacted.

F. 16 Tex. Admin. Code § 25.96(e)(6)

Plan to remediate vegetation-caused issues on feeders which are on the worst vegetation-caused performing feeder list for the preceding calendar year's System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI).

CenterPoint Houston currently ranks circuits per SAIDI and SAIFI. Since 2019, we also now using predictive analytics in our model that includes vegetation caused outages to better prioritize our work plan. Pursuant to 16 TAC § 25.52, the Company tracks feeders for the 10% worst performing circuits based on SAIDI and SAIFI criteria, which includes forced interruptions.

G. 16 Tex. Admin. Code § 25.96(e)(7)

Customer education, notification, and outreach practices related to vegetation management.

CenterPoint Houston utilizes customer notifications, social media platforms, and various public awareness campaign strategies to provide customer education and notifications related to vegetation management. CenterPoint Houston intends to continue these efforts and where possible expand or improve its customer education programs.

- Customer Notifications of Work to be Performed

CenterPoint Houston vendors are required to distribute customer notification door cards at residences and businesses at least seven days prior to commencing planned tree pruning activities. CenterPoint Houston's door hanger notification is available to the Commission Staff upon request. It includes the vendor's contact information to allow the customer to set an appointment to provide access, discuss planned work activities and concerns, and arrange to be present while work is done should the customer prefer. CenterPoint Houston also provides a *Tree Trimming Practices* brochure with the work notification door card. The brochure is available to the Commission Staff upon request. It explains general practices and responses to frequently asked questions. These two items are the primary method of pre-work notification.

The brochure has been a successful tool for answering customers questions and providing the public with an educational visual aid. In addition, CenterPoint Houston provides a *Palm Trees and Power Lines* brochure selectively to those customers with palm trees on their property. The *Palm Trees* brochure explains issues unique to palms and power lines. These brochures and the door card provide significant information to the customer, while also pointing them to additional information that can be found on the CenterPointEnergy.com/trees website. CenterPoint Houston believes that these documents and web address aide in setting customer expectations, minimize misconceptions, and prompt customer engagement discussions to answer customer concerns before the work is performed in their area or neighborhood.

- Non-Print Media Used in Public Education Campaign

CenterPoint Houston utilizes a landing page on its website dedicated to vegetation management, which may be found at CenterPointEnergy.com/trees. This section of the main

CenterPoint Houston website provides information on tree planting guides, how to plant and trim trees safely, power line friendly trees, Right Tree Right Place information, energy saving tips, vegetation management practices, frequently asked questions, the *Tree Trimming Practices* and *Palm Trees and Power Lines* brochures, and information on tree trimming vendors. Examples of information available from these sites include Power Line Clearance Standards, Recommended List of Low Growing Trees, and What My Pruned Trees Will Look Like. Each public education tool warns the public to use extreme caution when pruning trees around power lines and to plant the right tree in the right place, which is away from power lines.

- Other Media Events

CenterPoint Houston partners with a number of parks, community groups, and other organizations around the Greater Houston area for tree planting events, which replace potentially hazardous trees near power lines with low-growing, power line-friendly trees. The events garner involvement from local parks and recreation departments, government officials and stakeholder organizations, as well as interested citizens in the communities. The resulting media coverage, community relationships, dissemination of collateral material, and permanent park signage is designed to reinforce the Right Tree Right Place message long after the completion of the specific event.

CenterPoint Houston has partnered with Trees for Houston to establish a Right Tree Right Place nursery on Company property as a source of low-growing power line compatible tree species for various events. The objectives are to further enhance key customer relationships, provide successful growing stock as examples of power line "friendly" trees, and build employee engagement.

CenterPoint Houston's Speakers Bureau employee volunteers are available to make presentations to area civic associations about proper vegetation management, vegetation placement and to provide supporting educational materials. Employees who work directly with vegetation management and electric operations also make similar presentations at meetings for municipal officials, homeowner's associations, landscape architects, builders, or other community groups, upon request.

III. 16 Tex. Admin. Code § 25.96(f)(1)

16 TAC § 25.96 requires each utility to file a Vegetation Management Plan Report that summarizes its Plan and provide its progress in implementing the Plan. The following information is provided in compliance with the Commission's rule.

A. 16 Tex. Admin. Code § 25.96(f)(1)(A)

Vegetation maintenance goals and the method the utility employs to measure its progress.

CenterPoint Houston's vegetation maintenance goal is to work an estimated minimum of 3,500 miles of targeted distribution circuits annually to proactively maintain proper vegetation clearance on the distribution system. The Company measures its progress quarterly by monitoring the completed miles worked in accordance with the distribution vegetation management program work plan within a given calendar year to ensure it executing on its plan and staying within the defined range of planned circuit miles.

B. 16 Tex. Admin. Code § 25.96(f)(1)(B)

Trimming clearances and scheduling approach.

- Clearances

CenterPoint Houston trims trees for a minimum lateral clearance of seven feet from 12 kV and ten feet from 35kV primary conductors and equipment. This clearance pattern is followed vertically to achieve overhead clearance space above the conductors to a distance at least twice the height of the pole if work is performed manually or as high as a lift truck or mechanized clearance equipment can reach. Trees beneath the primary conductors are trimmed a minimum clearance of 15 feet below the lines.

In addition, a radius of three feet is cleared for twisted-wire secondary and neutral wires or five feet for open-wire secondary. This is often achieved with the clearance attained for the primary conductors. Vines are either cut and the stump treated or basal treated with herbicides on poles and down guys. Trees may be cleared from guywires as necessary to maintain structural integrity of the facilities.

- Scheduling

The Asset Planning and Optimization Department for CenterPoint Houston identifies circuits eligible for proactive work each calendar year and prioritizes the circuits based on several factors that may include last trim date, vegetation caused outages, potential impact on critical loads, and overall customer count impacted. Circuits identified as eligible for proactive work are then scheduled to be performed on a quarterly basis.

C. 16 Tex. Admin. Code § 25.96(f)(1)(C)

Plan to remediate vegetation-caused issues on feeders that are on the vegetation-caused worst performing feeder list for the preceding calendar year's SAIDI and SAIFI.

While CenterPoint Houston currently ranks circuits per SAIDI and SAIFI, we are now using analytics in our model that includes vegetation caused outages to prioritize our work. Pursuant to 16 TAC § 25.52, the Company tracks feeders for the 10% worst performing circuits based on SAIDI and SAIFI criteria, which includes forced interruptions.

D. 16 Tex. Admin. Code § 25.96(f)(1)(D)

Tree risk management program.

CenterPoint Houston utilizes a proactive hazard tree removal program that involves Level 1 tree risk assessments as defined in Part 9 of ANSI Standard A300. In identified risk areas, hazard trees outside of the easement are proactively located and removed with the consent of the landowner. The intent of this initiative is to reduce the risk of falling trees impacting electrical facilities and to minimize impacts in an extreme storm event. CenterPoint Houston will perform a patrol of the feeder-mains for those circuits known for higher tree mortality or otherwise identified as risk areas. Frequency of inspections may vary based on conditions observed.

E. 16 Tex. Admin. Code § 25.96(f)(1)(E)

Approach to monitoring, preparing for and responding to adverse environmental conditions such as drought and wildfire danger that may impact its vegetation management policies and practices.

The Company continuously monitors and adjusts plans as needed for adverse conditions, including adverse environmental conditions such as drought and wildfire, to address impacts unique to nature of the occurrences. This includes updating and maintaining mutual assistance

contracts with vegetation management vendors to supplement current resources as conditions require and preparing to respond to a wide variety of adverse conditions.

F. 16 Tex. Admin. Code § 25.96(f)(1)(F)

Total overhead distribution miles in its system, excluding service drops.

As of December 31, 2021, CenterPoint Houston has 28,844 miles of overhead distribution lines, excluding streetlight miles. This includes 12 kV and 35 kV overhead feeder-main, laterals, and secondary conductor, excluding service drops.

G. 16 Tex. Admin. Code § 25.96(f)(1)(G)

Total number of electric points of delivery.

As of December 31, 2021, CenterPoint Houston has 2,667,346 electric points of delivery.

H. 16 Tex. Admin. Code § 25.96(f)(1)(H)

Amount of vegetation-related work it plans to accomplish in the current calendar year to achieve it vegetation management goals described in subparagraph (A) of this paragraph.

During 2022, CenterPoint Houston plans to target an estimated minimum of 3,500 miles of distribution circuits to proactively maintain vegetation clearance on the distribution system.

I. 16 Tex. Admin. Code § 25.96(f)(1)(I)

Vegetation management budget divided into the categories listed in clauses (i)-(iv) of this subparagraph. The utility should, within the confines of its own budgeting practices, assign subcategories and list them under these categories where appropriate. If a utility does not budget amounts under any specific category, the utility shall provide a brief explanation of why it does not do so. The utility shall title the budget with the dates it covers and provide a total for each category or subcategory.

Distribution Vegetation Management Budget for January 1, 2022 – December 31, 2022

(i) Scheduled Vegetation Maintenance	$26,324,194

(Proactive Tree Trimming)	
(ii) Unscheduled Vegetation Maintenance (Reactive Tree Trimming/Removal)	$3,727,664
(iii) Tree Risk Management (Proactive Hazard Tree Removal)	$226,000
(iv) Emergency and Post Storm Activities	$520,840
Total	$30,798,698

IV. 16 Tex. Admin. Code § 25.96(f)(2)

16 TAC § 25.96(f)(2) requires each utility to file an implementation summary for the preceding year of its Plan. The following information is provided in compliance with the Commission's rule.

A. 16 Tex. Admin. Code § 25.96(f)(2)(A)

Whether the utility met its vegetation maintenance goals and how its goals have changed for the coming calendar year based on the results.

For 2021, CenterPoint Houston proactively worked approximately 3,700 miles of distribution circuits. The Company met its goal by proactively completing the number of circuit miles within the defined annual range for the 2021 vegetation management workplan strategy.

For 2022, CenterPoint Houston's vegetation maintenance goal is to work an estimated minimum of 3,500 miles of targeted distribution circuits to proactively maintain vegetation clearance on the distribution system.

B. 16 Tex. Admin. Code § 25.96(f)(2)(B)

Successes and challenges with the utility's strategy, including obstacles faced, such as property owner interference, and methods employed to overcome them.

CenterPoint Houston successfully met its 2021 goals as noted in the previous section; however, there were challenges.

Resource constraints by vegetation management contractors remains the greatest challenge for the Company's current vegetation management program. CenterPoint Houston plans to continue researching new ways to identify improvements in optimizing vegetation management investments throughout 2022 while ensuring the distribution system vegetation is proactively maintained.

The vegetation management contractors continued to express difficulties hiring and retaining qualified, experienced workers capable of performing tree clearing work near energized power lines. This is a common theme within the industry the last few years and is one of the issues negatively affecting program costs. The Company continues to conduct meetings with contractors to identify further opportunities to improve efficiencies.

Negative public perceptions surrounding utility vegetation management activities also continues to be an ongoing challenge. CenterPoint Energy's Community Relations Department helped coordinate vegetation management public education efforts and to further support the vegetation management program staff. These efforts, along with those of the Company's vegetation management staff, have maintained positive perceptions and enhanced working relationships with various interested stakeholders. This work has been acknowledged by the Arbor Day Foundation's annual recognition of CenterPoint Houston as a TreeLine USA Utility for eighteen consecutive years.

Property owner interference is an ongoing challenge inherent to the work activities. As previously noted, the Company employs a staff of professional foresters who work with these individuals daily to resolve conflicts.

CenterPoint Houston is currently working to develop better predictive analytics to help identify areas across the service area with the greatest risk for vegetation caused outages. The analytics program may utilize contributing factors such as: distribution network and outage data, weather data, and comprehensive vegetation growth data. This research is still currently underway. Better understanding of the factors contributing to vegetation growth along distribution circuits may result in the establishment of appropriate trimming cycles to more efficiently use contractor resources and strategically predict better vegetation management timing for each individual circuit and/or circuit section.

C. 16 Tex. Admin. Code § 25.96(f)(2)(C)

The progress and obstacles to remediating issues on the vegetation-caused, worst performing feeders list as submitted in the preceding year's report.

CenterPoint Houston currently tracks feeder performance based on vegetation-caused outages to prioritize our proactive work. Pursuant to 16 TAC § 25.52, the Company tracks feeders for the 10% worst performing circuits based on SAIDI and SAIFI criteria, which includes forced interruptions.

D. 16 Tex. Admin. Code § 25.96(f)(2)(D)

The number of continuing education hours logged for the utility's internal vegetation management personnel, if applicable;

CenterPoint Houston vegetation management personnel participated in 209.5 hours of continuing education in 2021.

E. 16 Tex. Admin. Code § 25.96(f)(2)(E)

The amount of vegetation management work the utility accomplished to achieve its vegetation management goals described in paragraph (1)(A) of this subsection.

CenterPoint Houston completed approximately 3,700 miles of proactive vegetation maintenance in 2021.

F. 16 Tex. Admin. Code § 25.96(f)(2)(F)

The separate SAIDI and SAIFI scores for vegetation-caused interruptions for each month and as reported for the calendar year in its Service Quality Report filed pursuant to 25.52 of this title (relating to Reliability and Continuity of Service) and 25.81 of this title (relating to Service Quality Reports), at both the feeder and company level.

While CenterPoint Houston currently ranks circuits per SAIDI and SAIFI, we are now using predictive analytics in our model that includes vegetation caused outages to more efficiently prioritize our scheduled work. Pursuant to 16 TAC § 25.52, the Company tracks feeders for the 10% worst performing circuits based on SAIDI and SAIFI criteria, which includes forced interruptions.

G. 16 Tex. Admin. Code § 25.96(f)(2)(G)

The vegetation management budget, including, at a minimum:

(i) A single table with columns representing:

(I) The budget for each category and subcategory that the utility provided in the preceding year pursuant to paragraph(1)(I) of this subsection, with totals for each category and subcategory;

(II) The actual expenditures for each category and subcategory listed pursuant to sub clause (I) of this clause, with totals for each category or subcategory.

(III) The percentage of actual expenditures over or under the budget for each category or subcategory listed pursuant to sub clause (I) of this clause; and

(IV) The actual expenditures for the preceding reporting year for each category or subcategory listed pursuant to sub clause (I) of this clause, with totals for each category or subcategory.

(i) BUDGET CATEGORY	(I) PROJECTED COST 2021	(II) ACTUAL COST 2021	(III) %OVER/(UNDER) 2021	(IV) ACTUAL COST 2020
Scheduled Vegetation Management (Proactive Tree Trimming)	$27,244,200	$26,479,583	-2.8%	$25,210,054
Unscheduled Vegetation Management (Reactive Tree Trimming)	$4,320,398	$3,512,095	-18.7%	$3,577,442
Tree Risk Management (Proactive Hazard Tree Removal)	$300,000	$164,182	-45.3%	$60,575
Emergency and Post Storm Activities (Storm Restoration: AD86, AD07)	$150,000	$1,232,902	721.9%	$718,863
TOTAL	**$32,014,598**	**$31,388,762**	**-2.0%**	**$29,566,934**

(ii) An explanation of the variation from the preceding year's vegetation management budget where actual expenditures in any category or subcategory fell below 98 percent or increased above 110 percent of the budget for that category.

(i) BUDGET CATEGORY	(ii) EXPLANATION
Scheduled Vegetation Management (Proactive Tree Trimming)	• 2021 proactive vegetation work production was on target even though this work was impacted in part by contract labor constraints caused by increase demand for utility arborist labor in major storm events requiring mutual assistance. Additional contract resources were added to the system to ensure plan was met.
Unscheduled Vegetation Management (Reactive Tree Trimming)	• Unplanned expenditures were reduced due to enhanced efforts to provide more tactical remediation of identified threats.
Tree Risk Management (Proactive Hazard Tree Removal)	• There continued to be a lower hazard tree identification rate than anticipated. This was driven by favorable precipitation conditions
Emergency and Post Storm Activities (Storm Restoration: AD86, AD07)	• More restoration work was experienced throughout 2021 than anticipated.

(iii) The total vegetation management expenditures divided by the number of electric points of delivery on the utility's system, excluding service drops.

TOTAL 2021 VEGETATION MANAGEMENT EXPENDITURES	ELECTRIC POINTS OF DELIVERY	(iii) VM COST/ELECTRIC POINTS OF DELIVERY
$31,388,762	2,667,346	$11.77

(iv) The total vegetation management expenditures, including expenditures from the storm reserve, divided by the number of customers the utility served.

TOTAL 2021 VEGETATION MANAGEMENT	ELECTRIC POINTS OF DELIVERY	(iii) VM COST/ELECTRIC POINTS OF DELIVERY