

**Public Service Company of New Hampshire d/b/a Eversource Energy
2024 Vegetation Management Plan for review by the Department of Energy**

November 15, 2023

Consistent with the terms of the Settlement Agreement in Docket No. DE 19-057, Public Service Company of New Hampshire d/b/a Eversource Energy (“Eversource” or the “Company”) is providing the vegetation management plan for calendar year 2024 for review by and discussion with the Department of Energy (DOE) staff.¹

As required by Section 6.2 of the Settlement Agreement, in November of each year Eversource is to file a proposed vegetation management plan setting out the proposed vegetation management work for the coming calendar year. That plan filing shall include the following:

- A. A summary of budgeted costs by program (i.e. ETT/Hazard Tree Removal, SMT and Full-Width ROW Clearing).
- B. Detailed information on each program as follows:
 - i. ETT/Hazard Tree Removal: Town; Circuit Number; Total Circuit Miles; Scheduled Circuit Miles; and Circuit Ranking by SAIDI and SAIFI (Tree Related only).
 - ii. SMT (Scheduled Maintenance Trimming, Mid-Cycle Trimming, Side Trimming and Customer Request, Hot Spot, and Maintenance ETT): Town; Circuit Number; Total Circuit Miles; and Scheduled Circuit Miles.
 - iii. SMT (ROW Maintenance Mowing and Side Trimming): ROW Number; ROW Name; Voltage; and Total Acreage; and the percentage of the clearing attributable to distribution if transmission ROW.
 - iv. ROW Clearing: ROW Number; ROW Name; Voltage; and Total Miles; ROW Width; and the percentage of the clearing attributable to distribution if transmission ROW.

Included in the narrative below is a presentation of the proposed plan and estimated budgets using information known at this time. The detailed information on each program is provided at the end of the narrative and reflects the scheduled miles for the Company to maintain a 5-year maintenance cycle, in line with the 5-year cycle pruning requirements of the Commission’s rule Puc 307.10. This plan is based on the negotiated 2024 pricing with Eversource’s vendors.

Additionally, in the detailed plan at the end of this report the Company has included the relevant circuits and miles planned for 2024. The Company looks forward to discussing this plan with the Department of Energy.

2024 Projected Budget:

The table below provides a summary of the 2024 planned vegetation management program. The \$39.9 million budget is a gross budget and does not include any reimbursements received from telephone company providers related to scheduled maintenance trim and hazard tree removal activities.

¹ In light of the transfer of the much of the Commission’s personnel and responsibilities to the DOE as of July 1, 2021, Eversource is providing this plan to the DOE Staff instead of the Commission’s staff.

Eversource 2024 Planned Vegetation Management Activities	
<u>VM Activity</u>	<u>Cost</u>
Scheduled Maintenance Trim	\$19,292,598
METT	\$2,689,703
Mid Cycle	\$300,000
Customer Request	\$200,000
Hot Spot	\$200,000
Sub Transmission (Mowing/Side Trim)	\$2,000,000
Distribution SMT Total	\$24,682,301
Full Width Clearing	\$1,200,000
Hazard Tree Removal	\$12,000,000
Enhanced Tree Trimming	\$2,000,000
Vegetation Management Program Total	\$39,882,301

Scheduled Maintenance Trimming (“SMT”) Program

The Company’s SMT cycle is based on a 12,000-mile distribution overhead system. The Company’s plan for 2024 is to have tree contractors perform maintenance (SMT and METT) on 2,344 miles. The budgets were constructed around that plan. The table immediately below shows the proposed SMT trimming dollars and miles. The other programs will also each have a respective table.

<u>Eversource SMT Miles</u>		
<u>Total Miles = 2,047.84</u>	<u>Region</u>	<u>2024 Miles</u>
Budget \$19,292,598	SOUTHERN	152.08
	CENTRAL	348.77
	WESTERN	451.03
	EASTERN	453.43
	NORTHERN	642.53
	Total Annual Miles	2,047.84

Maintenance Enhanced Tree Trimming (“METT”) Program

METT is maintenance trimming performed on miles that were previously subject to Enhanced Tree Trimming (“ETT”). The amount of METT changes each year based on the circuit schedule. As with the SMT, this work was also part of the 4-year contract that was put out to bid in 2020 and the budget and miles reflect the current pricing.

<u>Eversource METT Miles</u>		
<u>Total Miles = 295.76</u>	<u>Region</u>	<u>2024 Miles</u>
Budget \$2,689,703	SOUTHERN	33.77
	CENTRAL	61.84
	WESTERN	41.93
	EASTERN	60.72
	NORTHERN	97.50
	<u>Total Annual Miles</u>	<u>295.76</u>

Mid-Cycle

Mid-cycle refers to additional trimming that may be completed on a circuit in between the standard cycle under the SMT. This can include vine removal and hazard trees. This program is an emergent one. If the need arises to address circuit miles with this application, the Company will work within the allocated budget to redistribute these funds. In 2024, the Company plans on utilizing analytics such as Power BI to assist with this program. Circuit patrols will be performed by company Arborists to determine vegetative growth since last trim, along with a windshield survey of tree health.

<u>Eversource Mid-cycle Miles</u>		
<u>Total Miles = TBD</u>	<u>Region</u>	<u>2024 Miles</u>
Budget \$300,000	SOUTHERN	
	CENTRAL	
	WESTERN	
	EASTERN	
	NORTHERN	
	<u>Total Annual Miles</u>	<u>TBD</u>

Customer Requests

Customer Requests are generated or instigated to address an issue identified by a customer rather than as part of the scheduled or planned circuit miles. Most often, these are service trimming requests. The amount of Customer Request work changes every year. Eversource has encouraged customers through social media and the Company's website to consider hiring professionals to handle their tree concerns. However, due to the prevalence of invasive insects and diseases in New Hampshire, the Company sometimes learns about problematic trees, or groups of trees from customers. The work needed to mitigate the issues posed by these trees is often performed by Eversource's contractors. Eversource has estimated \$200,000 of expense related to customer work for 2024.

<u>Eversource Customer Request</u>		
<u>Total Miles = TBD</u>	<u>Region</u>	<u>2024 Miles</u>
Budget \$200,000	SOUTHERN	
	CENTRAL	
	WESTERN	
	EASTERN	
	NORTHERN	
	<u>Total Annual Miles</u>	<u>TBD</u>

Hot Spot Program

The Hot Spot program addresses tree growth in between cycles. The Company has not allocated funds for this program, and any proposed circuit miles have not yet been identified. This type of program can also be called "just in time" trimming. The Company will utilize Power BI, as well as the ESRI platform applications that are used to track tree related outages. These two programs will help us to strategize and plan hot spot trimming when needed on impacted circuits.

<u>Eversource Hot Spot</u>		
<u>Total Miles = TBD</u>	<u>Region</u>	<u>2024 Miles</u>
Budget \$200,000	SOUTHERN	
	CENTRAL	
	WESTERN	
	EASTERN	
	NORTHERN	
	<u>Total Annual Miles</u>	<u>TBD</u>

ROW Maintenance

The ROW maintenance program includes mowing and side trimming. The acres listed will be mowed. During the Quality Control inspection of the mowing, any tree limbs that are within 20 feet of the line will be noted and a crew will be sent to remove the limb(s).

Eversource ROW Maintenance		
<u>Total Acres = 1,723</u>	<u>Region</u>	<u>2024 Acres</u>
Budget \$2,000,000	SOUTHERN	24
	CENTRAL	15
	WESTERN	413
	EASTERN	240
	NORTHERN	1,031
	Total Annual Acres	1,723

Full Width Clearing of ROW

This program identifies ROWs where enhanced clearing will benefit customer reliability and increase safety for our workers. This work is competitively bid annually. The tree contractor clears brush and trees to the full easement width. At the edge of the easement, the bordering trees are trimmed from ground to sky. The Company's arborists work closely with abutting property owners to communicate the work needed.

<u>Eversource Full Width ROW</u>	<u>Region</u>	<u>2024 Miles</u>
Total Miles = 2.19	SOUTHERN	
Budget \$1,200,000	CENTRAL	1.55
	WESTERN	0.64
	EASTERN	
	NORTHERN	
	Total Annual Miles	2.19

ETT Program

The Company has identified miles of three phase circuits for ETT in 2024. These miles will be competitively bid annually. If the pricing allows for additional miles to be done, the Company will review the circuit list and identify more miles.

<u>Eversource ETT Miles</u>		
<u>Total Miles = 23.87</u>	<u>Region</u>	<u>2024 Miles</u>
Budget \$2,000,000	SOUTHERN	0
	CENTRAL	6.8
	WESTERN	7.86
	EASTERN	5.4
	NORTHERN	3.81
	Total Annual Miles	23.87

Hazard Tree Program

The Company profiles the SMT circuits for hazard trees. Hazard trees are trees that should be removed rather than trimmed due to their potential to impact the electric system. It is a best practice to remove the dead, diseased and dying trees while trimming the circuit. The customers on whose property the hazard trees grow, and who, therefore, own the hazard trees, are engaged in a conversation for both programs. The total number of trees removed will be compiled monthly.

Additionally, the trees of New Hampshire have been impacted by many biotic factors over the last several years. These issues include repeated drought years, Emerald Ash Borer (EAB), Spongy Moth, Hemlock Wooly Adelgid, Hemlock Looper, Elongate Hemlock Scale, White Pine Needle Disease (WPND), Beech Bark Disease, and Beech Leaf Disease the residual effect of the listed factors, plus other, at this time; lesser impact issues, will mean more trees that are standing dead or in declining health along the roadside forest. The company believes that adherence to a maintenance cycle, along with an aggressive hazard tree removal program are the key components to a successful and reliable Vegetation Management program. In 2022 the company collaborated with the state of New Hampshire Forests and Lands to share mapping data. Forest health personnel shared aerial photography of Spongy Moth, and EAB infestations. The maps that included the data were overlayed on our circuit maps which we then used to target the affected trees that would impact our lines. This is an innovation that Eversource vetted last year and is now included into our maintenance program. We expect to have similar 2023 data from the New Hampshire Division of Forest and Lands in December.

Eversource Hazard Tree Miles		
<u>Total Miles = 2,343.6</u>	<u>Region</u>	<u>2024 Miles</u>
Budget \$12,000,000	SOUTHERN	185.85
	CENTRAL	410.61
	WESTERN	492.96
	EASTERN	514.15
	NORTHERN	740.03
	Total Annual Miles	2,343.6

2024 plan overview

There are several topics that we will address in this update. They are the contracted workforce, the 4 year contract (which expires on 12/31/24), the cost drivers, technology, and strategy

Eversource has experienced professionals managing its Vegetation Management programs. However, there are some longer-term concerns with the work force. There are very few programs in high school or college to attract students to Arboriculture/Forestry. This has had a direct impact on the work the Company does and the availability of trained individuals to do it, as has been seen in recent bids, has had a material impact on costs.

It is a difficult job performed in all types of weather, usually aloft. The salary for tree trimmers is

not commensurate with many other professions. The tree worker contingent in both New Hampshire and New England has shrunk, which oftentimes requires the larger contractors to bring in outside workers to complete their assigned work. There are additional costs associated with “travel crews”. Another issue, which is hard to quantify monetarily is the speed in which the travel crews get acclimated to New Hampshire trees, terrain, and weather. The workplan for 2024 includes eight tree contractors which should provide a workforce large enough to complete the work.

As noted above, the Company commenced a 4-year contract for SMT in NH and the pricing was dramatically higher than expected. Eversource’s procurement agents worked diligently with the tree contractors to refine their bid prices. However, the final pricing in this competitive process required the Company to adjust the budget for SMT and METT. The first two years of that contract (2021, 2022) the prices were “locked in.”

The contract was designed to include negotiated prices in 2023 and 2024. The tree contractors requested increases for contracted tree work have been again much higher this year than anticipated. We have seen such exorbitant increases by incumbent contractors that in one case, we have reduced their market share of the maintenance work due to the cost. One of the benefits of a multi year contract is thought to be workforce stability. Whether it has been the pandemic, inflation, or other pressures that have caused the contractors to struggle with obtaining a loyal roster of crews, the fact remains it is more expensive to contract vegetation management than ever before.

Our Procurement team along with the Eversource Vegetation Management leadership across Connecticut, Massachusetts, and New Hampshire met with each tree contractor individually to discuss pricing. Inflation is currently a fact of life in our region, which means the cost of most goods and services have risen.

Each contractor listed the same items for cost increase justification: labor, fuel, equipment, supply chain, and the biggest driver; police traffic control. The “police detail” work is the largest risk for the contractor when bidding- every town is different. Factors include how many officers on each road, for what duration, do they require a cruiser, the hourly rate increases annually, and in some communities can approach \$125/hour per officer. One of our contractors suggested that they estimate over \$3000/mile for police details in some towns.

These cost increases will result in significant budget pressure. The cost of performing traditional tree maintenance on 20% of the miles in 2024 will impact the funding of other important Vegetation Management programs. Our team is brainstorming solutions to this by reviewing analytics, technology, equipment, and processes.

The New Hampshire team has utilized the ESRI platform to create mobile applications which streamline our work. ESRI tools are easy to use and modify. We are confident that our Arborists and contractor personnel will adapt to this technology quickly.

Power BI is a program that our Arborist team uses every week. The data about circuit performance is available both historically and real time. The tree reliability issues for each circuit are analyzed prior to sending crews out to trim and/or remove trees.

Both of the above programs will be part of the redefining of workloads and crew resources for our team is necessary to achieve cost containment where possible. Included in this adjustment, will be a

strategy to implement circuit patrols to identify areas of immediate need for maintenance. These patrols will focus on the backbones of the circuits first, as a tree related outage on backbone would impact more customers. Arborists will also patrol the laterals of each circuit starting with devices that have a high customer count. Maintenance will be performed on the proper miles to comply with the 5-year cycle mandate, however, due to these unprecedeted cost/mile increase requests from the contractor; we will utilize our internal field personnel, our vendor Arborists, and technology in concert to maintain the system.

Eversource continued to look for solutions with different types of equipment in 2023. Three separate contractors brought mechanical trimmers (aka Jaraff, or SkyTrim) onto the system which were utilized for selected miles of SMT. These units consist of a hydraulic boom mounted on a large tractor. At the end of the boom is an articulating circular saw. This tool works well in the right application, but it will probably not replace human occupied bucket trucks. Another new tool was a Rotor Blade helicopter unit. The helicopter has 10 saws attached to the helicopter and the unit can be used to "hedge/side trim" difficult- to- access ROW lines. We also contracted with tree companies for "grapple saw boom trucks" and "knuckle boom cranes" All of these units have a future in New Hampshire as "work force multipliers" and the Company will continue to explore other tools/innovations as they become available to improve vegetation management in New Hampshire.

Eversource 2024 Planned Vegetation Management Activities Detail

Eversource 2024 Vegetation Management Activities Budget Summary	
<u>VM Activity</u>	<u>Cost</u>
Scheduled Maintenance Trim	\$19,292,598
METT	\$2,689,703
Mid Cycle	\$300,000
Customer Work	\$200,000
Hot Spot Work	\$200,000
Sub Transmission (Mowing/Side Trim)	\$2,000,000
<u>Distribution SMT Total</u>	\$24,682,301
Full Width Clearing	\$1,200,000
Hazard Tree Removal	\$12,000,000
Enhanced Tree Trimming	\$2,000,000
<u>Vegetation Management Program Total</u>	\$39,882,301