

STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION

Docket No. DE 24-xxx

Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty
Vegetation Management Program
Calendar Year 2023 Reconciliation and Rate Adjustment Filing

DIRECT TESTIMONY

OF

HEATHER GREEN

AND

JEFFREY FABER

AND

ROBERT GARCIA

March 15, 2024



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Vegetation Management Program – 2023 Reconciliation and Rate Adjustment
Direct Testimony of Heather Green, Jeffrey Faber, and Robert Garcia
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I. INTRODUCTION

Heather Green

Q. Ms. Green, would you please state your full name, business address, and position?

A. My name is Heather Green. I am the Manager, Vegetation Management for Liberty Utilities Service Corp. (“LUSC”), which provides service to Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty (“Liberty” or the “Company”). My business address is 407 Miracle Mile, Lebanon, New Hampshire.

Q. On whose behalf are you submitting this testimony?

A. I am submitting testimony in this proceeding before the New Hampshire Public Utilities Commission (“Commission”) on behalf of Liberty.

Q. What is your educational and professional background?

A. I graduated from Purdue University in 1994 with a Bachelor’ Degree of Science in Forestry with an Urban Option. I joined LUSC in March 2018. Prior to that, I worked for the State of New Hampshire Division of Forests and Lands as a Community Forester. I worked in the role of Municipal Arborist from 1998 to 2013 in the Chicago suburbs in both a north shore community of Park Ridge and a south shore community of Oak Lawn. I have also worked for a variety of commercial tree care companies and gardens. I have been active in professional organizations. I held a variety of Board positions for the New England Chapter of the International Society of Arboriculture (NEC-ISA) and the Illinois Arborist Association (IAA), including President. I am a current member of the New Hampshire Community Forestry Advisor Committee.

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Q. What are your duties at LUSC?

A. As the Manager of Vegetation Management, I support the Company’s Electric Operations by planning, budgeting, auditing work in progress, completed work and managing the vegetation management programs, vendor performance, and storm and regulatory support on the Company’s distribution and sub-transmission assets.

Q. Have you previously testified in regulatory proceedings before the New Hampshire Public Utilities Commission (“Commission”)?

A. Yes, I previously testified before the Commission in support of the Company’s Vegetation Management Program in Docket Nos. DE 19-051, DE 20-036, DE 21-049, DE 21-138, DE 22-024, and DE 23-031. I also submitted written testimony in support of the Company’s rate cases in Docket No. DE 19-064 and DE-23-039 with respect to the Company’s vegetation management practices.

Jeffery Faber

Q. Mr. Faber, would you please state your full name, business address, and position?

A. My name is Jeffrey Faber, my business address is 15 Buttrick Road, Londonderry, New Hampshire, and I am employed by Liberty Utilities Service Corp. (“LUSC”). I am the Interim Senior Director of Operations for LUSC.

Q. On whose behalf are you submitting this testimony?

A. I am submitting testimony in this proceeding before the New Hampshire Public Utilities Commission (“Commission”) on behalf of Liberty Granite State Electric.

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Q. What is your educational and professional background?

A. I graduated from the University of New Hampshire, Durham, in 1988 with a Bachelor of Science degree in Electrical Engineering. In 1995, I received my license as a Professional Engineer in the State of New Hampshire. I joined Liberty in September 2023. Prior to my employment at Liberty, I was employed by National Grid for 35 years where I spent 17 years in Engineering, 7 years in Process Improvement, 5 years in Contract Management, and 6 years in Operations.

Q. What are your duties at LUSC?

A. As the Interim Senior Director of Operations, I am responsible for the safe and reliable operation, design, and maintenance of the electric system for the Company.

Q. Have you testified before the Commission?

A. No, this is my first testimony before the Commission. However, I have testified in Massachusetts before the Department of Public Utilities.

Robert Garcia

Q. Mr. Garcia, would you please state your full name, business address, and position?

A. My name is Robert Garcia. My business address is 15 Buttrick Road, Londonderry, New Hampshire. My title is Manager, Rates and Regulatory Affairs

Q. On whose behalf are you submitting this testimony?

A. I am submitting testimony in this proceeding before the Commission on behalf of the Company.

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Q. Would you describe your educational and professional background?

A. I have an Artium Baccalaureus (Bachelor of Arts) degree in Political Science and French from Wabash College (Crawfordsville, Indiana) and a Master of Public Administration degree from the School of Public and Environmental Affairs at Indiana University (Bloomington, Indiana) with concentrations in Policy (Quantitative) Analysis and International Affairs. I also obtained a Certificat De Langue Et Civilisation Française from the Université de Paris – Sorbonne (Paris, France) and, as part of my graduate studies, studied French and European government at the École Nationale D'Administration (Paris, France).

I was employed by ComEd from April 2001 to March 2023. I began my employment with ComEd in the Regulatory Department as a Regulatory Specialist and moved on to the positions of Senior Regulatory Specialist in 2004, Manager of Regulatory Strategies and Solutions in 2008, and Director of Regulatory Strategy and Services in 2013 before assuming my last position as Director of Regulatory Innovation & Initiatives in 2021.

Prior to joining ComEd, I worked for nearly nine years at the Illinois Commerce Commission (the “Illinois Commission”), beginning in 1992 as an intern in what was then the Office of Policy and Planning and ending in 2001 as the senior policy advisor to a commissioner. I initially joined the Illinois Commission Staff through the James H. Dunn Memorial Fellowship program, a one-year program sponsored by the Office of the Governor. Through this Fellowship, I also held short-term positions in the Bureau of the Budget and the Governor’s Legislative Office.

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Q. What are your duties at LUSC?

A. As Manager of Rates and Regulatory Affairs, I am primarily responsible for rate administration and regulatory affairs the Company.

Q. Have you previously testified in regulatory proceedings before the New Hampshire Public Utilities Commission?

A. Yes, I have testified before the Commission. Additionally, I have testified on several occasions before the Illinois Commission. What is the purpose of your testimony?

Q. What is the purpose of your testimony?

A. The purpose of our testimony is to describe Liberty’s Vegetation Management Program (“VMP”), to support the expenditures related to calendar year 2023 VMP activities, and to propose new rates for the Company’s recovery of costs associated with its VMP.

Q. Are you presenting any attachments in addition to your testimony?

A. Yes, we are presenting the following attachments in support of this testimony:

Attachment	Description
Attachment 1	2023 VMP Planned vs Actual Spending by Activity
Attachment 2	VMP Planned vs Actual Miles by Circuit
Attachment 3	“Report on CY 2023 Vegetation Management Program (VMP) Plan”, Includes: <ul style="list-style-type: none">• Appendix 1, 2023 O&M Expenses

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	<ul style="list-style-type: none"> • Appendix 2, CY 2023 Vegetation Management Activities • Appendix 3, Reliability Enhancement Program and Vegetation Management Program Description in Docket No. DE 13-063 • Appendix 4, Definitions
Attachment 4	2023 VMP Reconciliation and Rate Calculation

Attachment 1 provides a summary of the 2023 VMP actual spending by category as compared to the 2023 VMP budget and base level funding of \$2,200,000 for 2023 plus the 10 percent cap for prudently incurred costs for a total budget of \$2,420,000. The Company’s total VMP expenditures in calendar year 2023 are \$2,149,760, which is \$50,240 less than what is in base rates.

Attachment 2 provides the list of circuits with actual trim miles completed as compared to the estimated 2023 miles to be trimmed. A total of 146 miles were trimmed in 2023 versus the planned 165 miles.

Attachment 3 contains the CY2023 VMP Plan submitted to the New Hampshire Department of Energy on November 15, 2022.

Attachment 4 provides the reconciliation of collections from May 1, 2023, through April 30, 2024.

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Q. How is your testimony organized?

A. In addition to this introductory section, our testimony is organized into the following sections:

- Section II provides an overview of Liberty’s Vegetation Management Program (“VMP”).
- Section III discusses Liberty’s vegetation management activities and performance in 2023.
- Section IV provides support for the proposed rate changes and bill impacts.
- Section V provides the conclusion to our testimony.

II. VEGETATION MANAGEMENT PROGRAM

Q. What is Liberty’s Vegetation Management Program?

A. Since 2007, the Company has followed the Vegetation Management and Reliability Enhancement Programs approved in Order No. 24,777 (July 12, 2007), as subsequently amended.¹ While the Company’s Reliability Enhancement Program was terminated per the Settlement Agreement approved in Order No. 26,376, the Company continues to submit its annual VMP Plans for the coming calendar year by November 15th. The VMP Plan describes the activities to be performed and targeted expenditures, as well as provides the budgets for plan-related operations and maintenance expenses Pursuant to the process established in Order 24,777, each year on March 15, the Company makes a

¹ Order No. 24,777 was amended by Order Nos. 25,638 (March 17, 2014), 26,005 (April 12, 2017), and 26,376 (June 30, 2020).

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reconciliation filing with the Commission to either recover or refund to customers the difference between the Company's actual spending and an agreed base amount of spending. The current level of funding for recovery approved by the Commission, as described below, is \$2,200,000 through base rates, with the ability to request an additional ten percent resulting in a cap of \$2,420,000.

Liberty's comprehensive VMP Plan consists of: (1) planned cycle trimming, proactive identification and removal of high-risk trees to proactively prevent trees from interfering with utility lines and reduce the risk of outages on the distribution system; (2) outreach and education to the public; and (3) emergent work. Liberty's VMP is largely supported by a contracted workforce comprised of a team of trained arborists and tree crews with oversight and direction from Liberty management.

Q. Why does the Company need a comprehensive Vegetation Management Program?

A. The VMP is premised on the understanding that a certain amount of annual spending on O&M activities is necessary to maintain the safety and reliability of the Company's electric distribution system, while balancing costs. The VMP implements industry best management practices for vegetation management and complies with the requirements of Puc 307.10 (Tree-Pruning Standards), including the American National Standard Institute (ANSI) A300 Tree Care Standards

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Q. What level of funding supports Liberty’s comprehensive VMP?

A. Pursuant to the terms of the Settlement Agreement entered in Docket 19-064 (the Company’s last distribution rate case), and approved by the Commission, the Company’s total spending level for vegetation management is as follows:

Under the VMP, the Company shall maintain a four-year cycle for tree trimming and vegetation management and shall continue with the filings and reporting requirements currently in place. The base rate increase agreed to in this Agreement includes an increase in the VMP spending to \$2,200,000 for 2020, which shall continue until changed in a future base rate case. The Company shall not recover any VMP expenses that exceed 10% of that amount, or in excess of \$2,420,000, through the annual reconciliation filing, or otherwise. The VMP spending shall be reconciled each year, with any under spending carried into the next program year or returned to customers, as determined by the Commission.

Settlement Agreement in Docket No. DE 19-064, Hearing Exhibit 37, at 11.

Q. Have there been any changes to that level of funding since the last rate case?

A. No.

Q. What type of O&M expenses are included in the VMP?

A. In general, the VMP includes categories of O&M spending targeted to maintain and improve reliability performance on the Company’s distribution system. The VMP is premised on the understanding that a certain amount of annual spending on O&M activities is necessary to maintain the safety and reliability of the Company’s electric distribution system. The VMP activities consist of planned cycle trimming, interim, spot, and trouble tree trimming, work planning, traffic detail, tree removal, tree planting, and

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right of way work for floor and side as well as other program support. In rural areas, the Company seeks to obtain the clearance of all capable tree seedlings and lower branches of established trees to minimize future work. In urban areas, where work can be more customer-sensitive, Liberty seeks the same clearance as the rural areas but allows a reduced scope of work for concerns and sensitivities of the adjacent landowner where needed or requested. In urban areas, Liberty leaves lower branches under the communication wires, often referred to as a “shelf,” when requested or if previously established. The Company still seeks to remove young capable trees in this zone; however, in urban areas, if requested Liberty may trim the top of that capable brush to leave a requested screening.

Q. Please explain how the Company allocates funds and prioritizes work within a given year’s plan.

A. The Company develops a VMP Plan each year designed to achieve the overriding performance objectives of the business as it relates to safety, reliability, efficiency, customer satisfaction, and environmental responsibility.

The Company then prioritizes the work to achieve an optimized portfolio of projects considering the reliability performance data compared to the reliability improvements targeted by the various programs and the deliverability of vegetation management within the calendar year. The process is designed to ensure the Company arrives at a plan that provides the optimal balance to maintain and improve the performance of the system,

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while also ensuring cost-effective use of the Company's available resources as supported by the authorized funding levels.

III. REVIEW OF PROGRAM YEAR 2023 VMP EXPENDITURES

Q. Please provide an overview of the Company's vegetation management activities and expenditures for CY2023.

A. Appendix 1 provides a comparison of the 2023 budget and actuals activities in the categories of Planned and Unplanned Work. Unplanned Work are activities which are mainly a result of the Company responding to and addressing matters that arise in the field or are brought to its attention by customers or internally by the Company's operations or engineering departments. Planned Work consists of activities required for the execution of the pruning and removal of trees along the planned circuit and described in three buckets: Circuit Work (i.e., activities directly related to work on the circuits), Right-of Way ("ROW") work, and Other work that support the execution of the work required on the circuit. For example, the 2023 ROW activities are administrative in nature to prepare for the execution of future Planned Work. Appendix 2 provides a summary of planned and completed miles per circuit. As shown in Appendices 1 and 2, the Company trimmed 146 miles in 2023, which falls short of the original planned 165 miles by 18.75 miles. The cost of the 146 miles was approximately \$2.15 million, which was approximately \$50,240 lower than the \$2.2 million in base rates.

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Q. Please describe the significant VMP activities the Company executed in 2023 and the reasons for the variance as compared to Plan.

A. As stated above and shown in Appendices 1 and 2, the Company trimmed 146 miles in 2023, falling short of the 165-mile target by 18.75 miles. All the planned cycle trimming miles that were not completed were in the Salem area. The 2023 VMP Plan was designed to keep the Salem crew busy for the full year, such that they would be available for unplanned response work during the day and afterhours and would be available to assist with capital and storm work on the distribution system with minimal mobilization time. As the amount of capital and storm support required was greater than anticipated and could not be achieved with just the one tree crew on site, the Company was only able to complete two of the three Salem planned circuits. The third circuit was deferred to 2024. This was the main reason for the underspend (i.e., \$239,777) in CY 2023 VMP Plan.

The following is a description of the Company's execution of other VMP activities.

Work Planner Activities

Liberty employs trained contracted arborists, or work planners, to work in the field to determine and mark pruning and tree removal needs, record assets and parcel information. Additionally, the Company utilized the Asplundh tree contractor to perform some of this record keeping and work planning and prepare for the 2024 work. These contractors also were assigned to additional program need tasks and activities, such as trouble, spot, and interim work. In 2023, a significant amount of their time was utilized in designing and implementing process needs for the VMP support and SAP integration,

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invoicing and reporting, which resulted in the Work Planner activity expenditures to run \$101,803 over budgeted amounts.

Tree Removal

The Company spent \$41,837 less than budget on hazard tree removals due to the need to minimize the removal program to reallocate funds to other contracted work on the system.

Unplanned Work

The Company budgets for interim trimming, which is generally unplanned work, and targeted hot spot work along deferred/reconfigured circuit and restricted/refused areas. The Company experienced field conditions that caused costs to exceed the budget by \$20,251.

Spot tree trimming and Make Safe Removals are the result of demands for requested work of electric service orders and customer calls. The Make Safe Removals represent tree removals that do not meet our current threshold of action. While the Spot Tree Trimming line item was under budget by \$17,549, the Make Safe line item was over by \$24,161. The net of the two expenditures is slightly over budget by \$6,644.43 due to higher demands for requested work of electric service orders and customer calls.

The trouble and restoration activities are unplanned work based on actual occurrences for non-storm related trouble call volume and support of the overhead line department. The Company responds to actively failing or urgent off-cycle work requested by customers

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and interested parties. The Company's trouble and restoration work was \$38,718 over budget.

Q. Were there any budgeted activities that the Company did not complete this year?

A. Yes, there are two major activities that the Company did not achieve this year: (1) Tree Planting, and (2) ROW work activities. Each program is discussed further below.

Liberty's tree planting program utilizes the Arbor Day Foundation's Community Canopy and Energy-Saving Trees Program ("Arbor Day Program") for education on "The Right Tree in the Right Place" program, which focuses on the benefits of effectively choosing a species and location and the potential energy saving benefits of such choices, among other things. The Arbor Day Program also provides an opportunity to connect with customers and educate customers to help achieve future sustainable tree canopy. The Arbor Day Program allowed the Company to focus resources on executing other aspects of the VMP and, therefore, no funds (i.e., \$20,000 budget) from the VMP tree planting activities were used.

The Company's 2023 ROW activities were administrative in nature to prepare for the execution of planned work in the future. The Company underspent in this area by approximately \$82,000. The underspend was a result of managing work for the planned activities.

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Q. Are the VMP expenditures for which the Company is now seeking recovery reasonable?

A. Yes. These expenditures are necessary to maintain a safe, reliable, and resilient electric system and in accordance with the Settlement Agreement approved in Order No. 25,638 (March 17, 2014) in Docket DE 13-063. As such, the Commission should approve the recovery of these expenditures, and allow the Company to carry forward the 2023 underspend of \$50,240 to complete 2024 work.

IV. RATES AND BILL IMPACT

Q. Would you provide an overview of the Company's request?

A. The Company requests to carry over \$50,240 of unspent CY2023 money for use in 2024 to help catch up on the work missed during 2023 as described above. The Settlement Agreement in Docket No. DE 19-064² allows for the Commission to grant such a request:

The VMP spend shall be reconciled each year, with an under spending carried into the next program year or returned to customers, as determined by the Commission.

The Company requests to set the rate to \$0.00000 per kWh through the VMP Adjustment Factor for the period of May 1, 2024, through April 30, 2025. The Company also requests that the under collection of \$698 be carried over into the next year.

² Hearing Exhibit 37, at 11

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Q. Would you describe Attachment 4 attached to this testimony?

A. Attachment 4 provides: (1) a comparison of the actual CY 2023 VMP spend to the annual \$2.2 million program budget, which is the amount approved for recovery in base distribution rates (page 1);(2) a reconciliation of the VMP Adjustment Factor in effect from May 2023 through April 2024 with actual recoveries, including forecasted recoveries for the months of March and April 2024 (page 2); (3) calculation of the VMP Adjustment Factor for application during the period May 1, 2024 through April 30, 2025 (page 3); (4) updated distribution rates, inclusive of the proposed VMP Adjustment Factor for the period May 1, 2024 through April 30, 2025 (pages 4 through 5); and (5) residential customer (Rate D) rate impact analysis (page 6).

Q. How is the VMP adjustment factor calculated?

A. As shown on page 3 of Attachment 4, the VMP Adjustment Factor is calculated by dividing the sum of (a) over/under collections for the prior period and (b) amounts spent over \$2.2 million (up to \$2.42 million) by the forecasted kWh for the subsequent 12-month period beginning May 1.

Q. What is the proposed rate change associated with the 2023 spending?

A. The Company is proposing a VMP Adjustment Factor of \$0.00000 per kilowatt-hour (kWh), which is an increase of \$0.00002 per kWh from the (\$0.00002) per kWh Adjustment Factor calculated in Docket No. DE 23-031. As shown on Attachment 4, page 3, dividing the ending balance of \$698 by the forecasted kilowatt-hours (kWh) of 940,503,873 would produce a rate of \$0.00000 due to rounding.

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Q. How and when is the Company proposing that this rate change be implemented?

A. The Company proposes that these distribution rate changes be made effective for service rendered on and after May 1, 2024.

Q. When does the Company request an Order from the Commission to implement rate changes by May 1, 2024?

A. The Company requests a Commission Order by April 24, 2024, to allow time to implement and test the rate changes before the effective date.

Q. Has the Company determined the impact of these VMP rate changes on customers' bills?

A. Yes. For an Energy Service residential customer using 650 kWh per month, the total bill impact of the VMP rates proposed in this filing, as compared to rates in effect today, is a monthly bill increase of \$0.01, or 0.01%.

V. CONCLUSION

Q. Does that conclude your testimony?

A. Yes, it does.

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**Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty
 2023 Vegetation Management Program Plan
 Attachment 1 - O&M Expenses**

Line No.		CY 2023	CY 2023	Variance
		Budgeted Expenses	Actual Expenses	Budget Less Actuals
		(a)	(b)	(c)
1	Planned Miles	165.09	146.34	18.75
2				
3	VMP O&M Costs			
4	<u>UNPLANNED WORK</u>			
5	Spot Tree Trimming	\$46,500	\$28,951	\$17,549
6	Make Safe Removals	\$20,000	\$44,161	(\$24,161)
7	Trouble and Restoration Maintenance	\$46,500	\$85,218	(\$38,718)
8	Interim Trimming	\$46,500	\$66,751	(\$20,251)
9				
10	<u>PLANNED WORK</u>			
11	(a) Circuit Work			
12	Work Planners for Veg Plan	\$220,000	\$321,803	(\$101,803)
13	Planned Cycle Trimming	\$1,435,663	\$1,195,887	\$239,777
14	Hazard Tree Removal	\$50,000	\$8,163	\$41,837
15				
16	(b) Right of Way ("ROW")			
17	Herbicide	\$69,210	\$4,080	\$65,130
18	Pollinator Education/Habitat	\$5,000	\$0	\$5,000
19	Monarch Butterfly Conservation	\$20,000	\$0	\$20,000
20	Sub-Transmission Right of Way Clearing	\$0	\$8,459	(\$8,459)
21				
22	(c) OTHER			
23	Police Detail Expenses - Cycle Trimming & Other	\$324,836	\$312,066	\$12,769
24	Tree Planting	\$20,000	\$0	\$20,000
25	AI- Dash	\$42,000	\$42,000	\$0
26	Terra Spectrum	\$25,000	\$22,670	\$2,330
27	Mailers/ Permissions	\$3,500	\$8,303	(\$4,803)
28	Permit Fees	\$25,000	\$1,250	\$23,750
29	Training*	\$20,000	\$0	\$20,000
30	Total VMP O&M Expenses (Over)/Under	\$2,419,709	\$2,149,760	\$269,949
31	*Training was completed and reflected in line 13.			
32				
33	Base Distribution Rates per Order No. 26,376	\$2,200,000		
34	Authorized Increase/(Decrease) per Order No. 26,805	\$0		
35	10% Overage Cap per Order No. 26,376	\$220,000		
36	Total VMP with Cap	\$2,420,000		
37				
38	Total Allowed Recovery per DE 19-064 Settlement	\$2,420,000	\$2,420,000	
39	Difference from Total VMP O&M Expenses (Over)/Under	(\$291)	\$270,240	
40				
41	Total Collected in Rates	\$2,200,000	\$2,200,000	
42	Difference from Total VMP O&M Expenses (Over)/Under	\$219,709	\$50,240	
43				
44	Cost Per Mile	\$14,657	\$14,690	

Reference:
 Column (a): Original Budget for 2023
 Column (b): Actual Spending for 2023
 Column (c): Column (a) - Column (b)

**Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty
2023 Vegetation Management Program Plan
Attachment 2**

<u>Line No.</u>	<u>Activities</u>	<u>Program Plan (*)</u>	<u>Reference</u>
1	Spot Tree Trimming	As needed	See Appendix 4 of CY2023 VMP Plan for definitions
2	Trouble and Restoration Maintenance	As needed	See Appendix 4 of CY2023 VMP Plan for definitions
3	Planned Cycle Trimming	165.09	See Appendix 4 of CY2023 VMP Plan for definitions
4	Police Detail Expenses - Cycle Trimming & Other	As needed	See Appendix 4 of CY2023 VMP Plan for definitions
5	Hazard Tree Removal	As needed	See Appendix 4 of CY2023 VMP Plan for definitions
6	Enhanced Hazard Tree Removal	As needed	See Appendix 4 of CY2023 VMP Plan for definitions
7	Interim Trimming	As needed	See Appendix 4 of CY2023 VMP Plan for definitions
8	Tree Planting	As needed	See Appendix 4 of CY2023 VMP Plan for definitions
9			
10	Substation	Feeder	OH - Distribution Planned
11	Golden Rock #19	19L8	11.28
12	Spicket River #13	19L6	10.24
13	Spicket River #13	13L2	18.75
14	Villas Bridge #12	12L1	124.82
15		Total OH Miles - Distribution	165.09
16			
17	Sub transmission		OH Miles - Sub transmission
18		Total OH Miles - Sub transmission	0 Miles & 0 Acres
19			(Original Proposed)

OH- Distribution Completed
11.28
10.24
0.00
124.82
146.34
OH Miles - Sub transmission Completed
0 Miles & 0 Acres
(Final Completed)



CY2023 Vegetation Management Program (VMP) Plan

Report on CY2023 Vegetation Management Program (VMP) Plan

November 15, 2022





CY2023 Vegetation Management Program (VMP) Plan

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CY2023 Vegetation Management Program (VMP) Plan

1. Executive Summary

Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty (“Liberty” or the “Company”) hereby submits its proposed Vegetation Management Plan (“VMP”) for the calendar year 2023 (“CY2023 Plan”). This CY2023 Plan is submitted consistent with the requirements in Attachment F to the Settlement Agreement in Docket No. DE 13-063 which was approved by the Commission in Order No. 25,638 (March 17, 2014), as further amended by the Settlement Agreement in Docket No. DE 19-064 approved by Commission Order No. 26,376 (June 30, 2020). For convenience, a copy of the VMP Plan from DE 13-063 is included in Appendix 3 and the definitions are included in Appendix 4. Liberty is proposing to trim 165 miles in 2023 at a cost of \$2,419,709.

The following information contained within this plan will provide an outline of Liberty’s 2023 program.

2. Program History

Since 2007, the Company has followed the Vegetation Management and Reliability Enhancement Programs provided to the Company from Order No. 24,777 (July 12, 2007), as amended by Order No. 25,638 (March 17, 2014), as further amended by Order No. 26,005 (April 12, 2017), and the latest amendment which was part of a settlement agreement in Docket No. DE 19-064, which provided for \$2,200,000 included in base rates, with a cap of up to an additional ten percent, for a potential total annual spend of \$2,420,000.

In general, the VMP includes categories of O&M spending targeted to maintain and improve reliability performance. The program is premised on the understanding that a certain amount of annual spending on O&M activities is necessary to maintain the safety and reliability of the Company’s electric distribution system. The VMP activities consist of Planned Cycle Trimming, Interim, Spot, and Trouble Tree Trimming, Work Planning, Traffic Detail, Tree Removal, Tree Planting, and Right of Way work for floor and side.

The current VMP establishes the following corridor requirements for clearances under Puc 307.10 on no more than a five-year cycle:

- 10 feet below the conductors,
- 8 feet to the side of the nearest conductor, and
- 15 feet above the conductors, at the time of clearing.

In rural areas, the Company seeks to obtain the clearance of all capable tree seedlings and lower branches of established trees to minimize future work. In urban areas, where work can be more



CY2023 Vegetation Management Program (VMP) Plan

customer-sensitive, Liberty seeks the same clearance as the rural areas but allows a reduced scope of work for concerns and sensitivities of the adjacent landowner where needed or requested. In urban areas, Liberty leaves lower branches under the communication wires, often referred to as a “shelf,” when requested or if previously established. The Company still seeks to remove young capable trees in this zone; however, in urban areas, if requested Liberty may trim the top of that capable brush to leave a requested screening.

A. Right of Way (ROW) Maintenance

The Company’s first four-year cycle adjusted the scope of work to obtain improved corridor maintenance with improved sight line and reduced vegetation contact potential. The Company, now in its second four-year cycle, is now able to mow the supply ROW lines to provide the much-needed sight line visibility. This activity also prepares the corridors for Integrated Vegetation Management (IVM) of a variety of sustainable and cost-effective techniques as Liberty moves through the upcoming cycles of work. The 2023 budget includes plans to reinstate the selective herbicide treatment that National Grid previously incorporated into the VM program. Selective herbicide applications will be one of many necessary methods of addressing the ROW in the future.

The 2023 budget does not have mowing or sideline work budgeted for the ROWs. The Company adjusted most of the 2022 and 2023 ROW clearing and side work to be performed in CY2021 for the Lebanon ROWs to accommodate workforce availability and needs. Additionally, much of the Salem area ROWs were mowed as part of the 2020 and 2022 ROW maintenance and preparation of capital construction. The result is the ROWs in both areas have been addressed, thus the Company has a small budget for spot or emergency work to perform along the ROWs in 2023. Most of the budget allocation is for herbicide and other program needs as shown in Appendix 1 lines 13 through 20.

B. PUC 307.10 & ANSI Z133-2017 impacts to the Company VMP

Additional safety standards were created for tree pruning: Puc 307.10 in 2014, and ANSI Z133-2017 in 2017.

Prior to Puc 307.10, the Company’s tree removals were mostly Fall-In risks. Fall-in trees are those that are tall enough and within a distance from the conductor that their high risk is that they fall in. The corridor was fairly established, and unit price trees started at 9” Diameter at Breast Height (DBH) (diameter of tree four and one-half feet from ground). With the implementation of Puc 307.10 and its definition of a *narrower* corridor,



CY2023 Vegetation Management Program (VMP) Plan

the quantity of Grow-In/Corridor Creation trees was well beyond the quantity and scope and allocated funds required to remove these impacted trees within the newly defined corridor. The result of this to Liberty and its customers is the inability to achieve the 8' corridor given current funding.

Tree removal is necessary to move from the previous six-foot side clearance to the new eight-foot side clearance requirement of Puc 307.10 and to potentially decrease the number of future removals of five-inch to twelve-inch diameter trees in subsequent cycles.

C. Tree Risk Management

The best way to achieve the requirements of Puc 307.10 is through removal, rather than pruning or allowing the trees to remain in the corridor. These tree and limb removals align with best practices in the industry and follow professional standards of arboriculture, reliability concerns, and cost-effectiveness.

Under ANSI Z133-2017, if a property owner engaged a trained and skilled private tree care company to perform tree work within proximity to the wires, there are situations in which that contractor could not perform the work. While the contractor may be qualified to work for a utility when working for residential customers, their standards are different. These implications can lead to the Utility having to trim in locations where residential contractors would have been able to trim, therefore leading to increased costs for the utility.

3. Funding the VMP Program

The DE 19-064 Settlement Agreement provided for \$2,200,000 to be included in base rates, with a cap of up to an additional ten percent, for a potential total annual spend of \$2,420,000.

Up until 2020, the Company also received payment from Consolidated Communications for their portion of the VMP costs. The average Company spend on VMP from 2010 through 2019, when Consolidated reimbursements were included in the VMP filings, was approximately \$1,800,000, plus an average annual revenue from Consolidated Communications of approximately \$369,150, or 21%. In 2019, the Company was notified by Consolidated Communications that they would no longer pay their portion of the VMP Program due to language within the existing contract between the Company and Consolidated Communications dating back to the early 1980s when both telecommunications and utilities were regulated. A provision embedded within the contract provided for either company to cancel payment with notice provided. During the last rate case



CY2023 Vegetation Management Program (VMP) Plan

proceeding, (Docket No. DE 19-064), the Company included the revenue from Consolidated Communications within the calculations for required VMP funding. Therefore, without this incremental revenue provided by Consolidated Communications, the Company was left deficient in sufficient funding required to fully exercise the proposed VMP.

As described above, the DE 19-064 agreed-upon funding of \$2,200,000 plus an up to ten percent overage (\$2,420,000 total) does not fully fund the Liberty required four-year trim cycle nor its ability to meet Puc 307.10. The funding level agreed to within DE 19-064 including the Consolidated Communication revenue, which at the time the Agreement was negotiated, was sufficient. Given the circumstances that occurred beyond the ruling of DE 19-064, the Company has been unable to meet the current four-year trim cycle and Puc 307.10 clearances. Table 1 provides an overview of total costs and costs per mile since 2017.

Table 1 – Overall Costs 2017 – 2021

Overall Costs			
Year	Planned Cycle		Cost
	Trimming Cost ¹	Miles	Per Mile
2017	\$1,734,375	220.17	\$7,877
2018	\$1,853,064	219.54	\$8,441
2019	\$1,871,335	222.44	\$8,413
2020	\$2,252,131	194.13	\$11,601
2021	\$1,651,358	83.94	\$19,673

¹ Spot tree trimming, trouble & restoration maintenance, planned cycle trimming, police detail, hazard tree removal, interim trimming, sub transmission

A. Incremental Cost Drivers

When considering the above incremental cost factors, a cyclical cause-and-effect impact is occurring. The backlog miles and ANSI trimming requirements and fewer tree removals are leading to more “trim triage” where the Company is having to spend incremental dollars allocated to cycle trimming on “hot spots” to triage the current electrical distribution system. As the Company continues to have funding at current levels, this cyclical impact of “trim triage” will continue and have a much larger and more significant O&M impact on the Company.

B. Traffic Control

The field requirement for traffic control depends on the traffic visibility, volume, and speed of the work area. There are varying levels of control needs. The cost of traffic



CY2023 Vegetation Management Program (VMP) Plan

control is directly related to how many tree crews are performing various planned and unplanned maintenance activities and in which municipalities those crews are working. Liberty's Salem district towns, comprised of Salem, Pelham, Windham, and Derry, continue to require police details and at times require multiple units. Depending on what circuits are trimmed each year will dictate the traffic control costs. Table 2 provides an overview of traffic control costs incurred since 2017.

Table 2 – Summary of Traffic Control Costs

Traffic Control			
Year	Total	Miles	Cost
	Costs		Per Mile
2017	\$330,698	220.17	\$1,502
2018	\$402,083	219.54	\$1,831
2019	\$323,140	222.44	\$1,453
2020	\$267,960	194.13	\$1,380
2021	\$97,436	83.94	\$1,161

4. State of Liberty Utilities Vegetation Management Contractors

During the 2022 VMP proceeding, the Company stated that it would trim 153 miles for a cost of \$3,069,639. The Company also stated that its current contractor, Asplundh, was assessing the addition of a “mechanized” tree trimmer. The benefit of a mechanized tree trimmer was to address the workforce shortage plaguing the Vegetation Management industry. It functions as a workforce multiplier.

In the second quarter of 2022, the Company, in collaboration with Asplundh, was able to secure the mechanized tree trimmer along with a full-time permanent tree crew within its Salem territory in the third quarter. The Company is now fully staffed with full-time Vegetation Management tree crews in its operating areas (Salem, Lebanon/Charlestown). It is projected in 2023 that with full-time staffing and the mechanized trimmer, Liberty is on track to trim approximately 165 miles, which will get the Company close to a five-year trim cycle.

5. Deferred work

Based on the information provided above regarding the makeup of crews and revenue shortfall, the Company currently has 214 miles that are deferred. While the Company will trim 165 miles in 2023, this will not have an impact on the current backlog. It will however slow the growth of the



CY2023 Vegetation Management Program (VMP) Plan

backlog of a four-year cycle. The deferred pruning work, in addition to owner-restricted pruning sites and deferred removals, will adversely affect our reliability and expenses of unplanned work.

6. CY2023 Plan

The O&M costs for VMP activities for 2023 are shown in Appendix 1. As stated above, the costs include accommodations for the loss of monetary contribution from Consolidated Communications, the increased costs of the workforce, and the current costs related to vegetation management work to perform the work and meet a five-year cycle. The Company is committed to spending a total of \$2,419,709. This will allow the Company to complete 165 miles of trimming in 2023.

The cost offset to trim 165 miles in 2023 is a reduction in spending for tree removals and work planning. It costs approximately \$2,070 per mile to remove identified hazard trees on the circuits being trimmed. If the 165 miles of trimming included tree removals, the total tree removal cost would be \$341,736. To trim all of the 12L1 circuit in the Charlestown area, the Company will not be removing trees during the trimming process and has budgeted \$50,000 for limb removals during cycle pruning and whole tree removals in need of immediate attention due to safety. Liberty has also reduced its work planners from three to two to allow for more dollars to be allocated to trimming circuit miles.

Table 3 provides a summary of VMP costs for 2023. The table breaks down four scenarios, (A) trimming at the DE 19-064 approved amount, (B) five-year cycle, (C.) four-year cycle, and (D) four-year cycle plus catch up of previous years.

Table 3 – Summary of VMP 2023 Costs

	Summary of VMP Costs			
	(A)	(B)	(C)	(D)
	CY 2023	CY 2023	CY 2023	CY 2023 Trim Plus
	5+ Yr Cycle	5 Yr Cycle	4 Yr Cycle	Deferred Miles
Deferred Miles	0	0	0	214
2023 Miles	<u>165</u>	<u>194</u>	<u>214</u>	<u>194</u>
Total Miles	165	194	214	408
Total Cost	\$2,419,709	\$3,086,423	\$3,305,853	\$6,023,957

The approximate cost per mile is \$14,657 for 2023 as shown in Appendix 1 line 26.

The Company has also included the following items in Appendix 1:



CY2023 Vegetation Management Program (VMP) Plan

- Spot tree trimming/removals: \$46,500, single trees found that may need removal or trimming outside of planned cycle work.
- Herbicide treatment: \$69,210, most of the supply lines have been mowed so the Company is treating these sub-transmission areas with herbicide for efficient maintenance of the corridor; this was deferred from 2022.
- The company has entered a Pilot program with Ai-Dash to investigate the value of satellite imagery and artificial intelligence to assist in identifying the condition of the system as it related to vegetation and consider Condition Based Management viability. Liberty intends to review the findings and compare them to field findings and look to implement some of the priority work recommendations as samples to identify potential alternate work efficiencies. The total cost is \$42,000.

7. Conclusion

A. 2022 Successes

While a myriad of different challenges have created implications for the Company's VMP, the Company was able to adjust the program to allow for a local Salem crew to be on property full-time to address the required trimming miles in the Salem area. In collaboration with Asplundh, the Company was able to secure and approve the use and dedication of mechanized equipment, mechanical mower, and pruner (Jarraff) to function as workforce multipliers. This will stabilize resources and costs moving forward. The Company was also able to secure two incremental contracted resources in 2022, Enviro Arbor Solutions Tree Service and Wright Tree Service, to accomplish approximately 60 miles of vegetation in the Salem district.

B. 2023 Plan

Liberty believes that implementation of the vegetation management programs described herein, particularly including funding at the level exceeding the O&M budget, is necessary to ensure that Liberty remains on its current path targeted to maintaining and continually improving reliability performance, performing industry best practices and comply with Puc 307.10 and ANSI Z133-2017. These programs have contributed to actual performance improvements seen in recent years, and Liberty is committed to sustaining that improvement. Liberty intends to engage the Department of Energy to discuss the 2023 Plan as presented.



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Appendix 1 - O&M Expenses

CY2023 Vegetation Management Program Plan
 Appendix 1
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Line	(A)	(B)	(C)	(D)
	CY 2023 5 Yr Cycle	CY 2023 5 Yr Cycle	CY 2023 4 Yr Cycle	CY 2023 Tr m P us Deferred M es
1				214.00
2	165.09	194.38	213.79	194.00
3	165.09	194.38	213.79	408.00
4	<u>VMP Costs</u>			
5	\$220,000	\$330,000	\$330,000	\$660,000
6	\$46,500	\$61,500	\$61,500	\$61,500
7	\$46,500	\$46,500	\$46,500	\$46,500
8	\$1,435,663	\$1,535,750	\$1,661,779	\$1,610,335
9	\$324,836	\$414,096	\$434,774	\$746,345
10	\$50,000	\$402,367	\$442,545	\$844,477
11	\$46,500	\$46,500	\$46,500	\$46,500
12	\$20,000	\$20,000	\$20,000	\$20,000
13	\$69,210	\$69,210	\$69,210	\$69,210
14	\$5,000	\$5,000	\$5,000	\$5,000
15	\$20,000	\$20,000	\$20,000	\$20,000
16	\$42,000	\$42,000	\$42,000	\$42,000
17	\$3,500	\$3,500	\$3,500	\$3,500
18	\$25,000	\$25,000	\$25,000	\$25,000
19	\$25,000	\$25,000	\$25,000	\$25,000
20	\$20,000	\$20,000	\$20,000	\$20,000
21	\$0	\$0	\$31,545	\$96,811
22	\$20,000	\$20,000	\$20,000	\$20,000
23	\$2,419,709	\$3,086,423	\$3,304,853	\$4,362,178
24	\$2,420,000	\$2,420,000	\$2,420,000	\$2,420,000
25	\$291	\$666,423	\$884,853	\$1,942,178
26	\$14,657	\$15,878	\$15,458	\$10,692

Appendix 2 - O&M Expenses

CY 2022 Vegetation Management Activities

	(A)		(B)		(C)		(D)	
Line	<u>Circuit</u>	<u>Miles</u>	<u>Circuit</u>	<u>Miles</u>	<u>Circuit</u>	<u>Miles</u>	<u>Circuit</u>	<u>Miles</u>
1								
2	19L8	11.28	12L1	124.82	1L1	13.35	12L1	124.82
3	19L6	10.24	14L3	33.60	6L3	26.79	1L3	8.07
4	13L2	18.75	19L6	11.28	13L2	23.75	11L2	5.41
5	12L1	124.82	19L8	10.24	14L3	33.60	6L4	0.96
6	Tota	165.09	6L4	0.96	14L4	16.49	7L2	33.39
7			11L2	5.41	15 1	11.41	13L2	23.75
8			1L3	8.07	16L1	41.74	14L3	33.60
9			Tota	194.38	16L3	9.24	19L8	11.28
10					16L5	9.29	19L6	10.24
11					18L2	10.91	1L1	13.35
12					18L3	5.95	6L3	26.79
13					39L1	1.87	14L4	16.49
14					40L1	9.40	15 1	11.41
15					Tota	213.79	16L1	41.74
16							16L3	9.24
17							16L5	9.29
18							18L2	10.91
19							18L3	5.95
20							39L1	1.87
21							40L1	9.40
22							Tota	407.96

Granite State Electric Company

Reliability Enhancement Program and Vegetation Management Program

Docket No. DE 13-063

I. REP and VMP Commitment

Beginning April 1, 2014 and until the conclusion of the Company's next distribution rate case, the Company will continue its Reliability Enhancement Program ("REP") and a Vegetation Management Program ("VMP") (collectively, the "Program"), as set forth below.

II. Definitions of REP and VMP Activities

- a. Activities included in the REP are the following:
 - i. Spacer Cable Expansion/Bare Conductor Replacement
 - ii. Single Phase Recloser Replacement/Expansion
 - iii. Trip Saver Applications

- b. **Activities and expenses included in the VMP are set forth below:**
 - i. Spot Tree Trimming;
 - ii. Trouble & Restoration Maintenance;
 - iii. Planned Cycle Trimming;
 - iv. Cycle Trimming Police Details Expenses;
 - v. Hazard Tree Removal;
 - vi. Interim Trimming;
 - vii. Tree Planting;
 - viii. Subtransmission Right of Way Clearing; and
 - ix. Other Police Detail Expenses.

III. REP and VMP for FY 2014 and Thereafter

- a. Beginning with November 15, 2014, the Company will provide its REP and VMP plan (the "Plan") to Staff for the following calendar year for Staff's review. The Company will meet with Staff in technical sessions to discuss the Plan, obtain comments, and answer any questions regarding the plan to be implemented for the subsequent calendar year. After review by Staff, the Company will take all reasonable steps it deems appropriate to carry out and implement the Plan, taking into account the comments of Staff. Review by Staff of the Plan does not relieve the Company of its obligation to operate its business and maintain safe, reliable service through expenditures and other capital investments in the ordinary course of business that are not set forth in the Plan, nor does it bind Staff to a particular position regarding the adequacy and/or effectiveness of the Plan.

- b. The Plan shall provide a description of the activities along with targeted expenditures and investments of the proposed Plan to be implemented during the following calendar year. The Plan will itemize the proposed activities by general category and provide budgets for both operation and maintenance ("O&M") expenses and capital investments expected from implementation of the Plan. The O&M budget will be \$1,360,000 (the "Base Plan O&M") for the calendar year ("Base Plan O&M Budget"). The Company may also provide for consideration an alternative Plan with O&M budgets that exceed the O&M Base Amount for the calendar year. The Company will reconcile actual expenditures and investments with the Base Plan O&M amount of \$1,360,000 and shall be subject to the REP/VMP Adjustment Provision, as set forth in Section IV below. All of the combined expenses will be counted against the Base Plan O&M amount, along with any REP-related O&M that does not relate to a VMP category.

IV. **REP/VMP Adjustment Provision**

- a. During each calendar year, the Company shall track all O&M expenses incurred in implementing the components of the REP and VMP Plan. By March 15 of each year, the Company will make a reconciliation filing with the Commission. To the extent that the Company, in implementing the Plan, incurs expenses in an amount less than the Base Plan O&M amount, the difference between the Base Plan O&M amount and the amount of expenses actually incurred shall be refunded to customers or credited to customers for future REP/VMP program O&M expenditures, as the Commission determines is appropriate, with interest accruing at the customer deposit rate.
- b. To the extent the Plan submitted for review prior to the calendar year includes a budget higher than the Base Plan O&M Budget and the Company incurs expenses over the Base Plan O&M amount (consistent with the alternative budget reviewed by Staff), the incremental expense above the Base Plan O&M amount shall be included in rates, subject to Commission approval, through a uniform adjustment factor on a per kilowatt-hour basis and recovered over a twelve month period, commencing for usage on and after May 1, with interest accruing at the customer deposit rate. Any over or under-recoveries at the end of the twelve month period shall be taken into account in the next REP/VMP Adjustment Provision reconciliation period.

V. **REP Capital Investment Allowance**

The REP capital investment target shall be \$1 million annually. The Company shall track all capital investments made in accordance with the REP for each calendar year. At the same time that the Company makes its reconciliation filing for the REP/VMP Adjustment reconciliation, Granite State shall file a report detailing the actual amount of capital investments made in accordance with implementing the REP during the prior calendar year. The report shall include a calculation of the revenue requirement for adding these additional capital investments into rate

base, using the Company's current Commission approved capital structure and debt and equity. Provided that the investments were made in accordance with the REP, the Company will be allowed, subject to Commission approval, a permanent increase in its base distribution rates to recover the annual revenue requirement for those investments. This permanent REP Capital Investment Allowance will take effect for usage on and after May 1, at the same time as any REP/VMP Adjustments are implemented for the preceding calendar year as discussed in Section IV above.

VI. **Procedure for Adjusting Base Distribution Rates for the REP Capital Investment Allowance**

Base distribution rates shall be increased by the ratio of: (i) the incremental revenue requirement associated with the REP capital investment; and (ii) forecasted base distribution revenue for the prospective year.

VII. **Annual Report, Plan Deviations, and SAIDI/SAIFI Results**

- a. At the same time the Company makes its reconciliation and rate adjustment filing (by March 15 of each year), the Company will file an annual report on the prior calendar year's activities. In implementing the Plans, the circumstances encountered during the year may require reasonable deviations from the original Plans reviewed by Staff. In such cases, the Company would include an explanation of any deviations in the report. For cost recovery purposes, the Company has the burden to show that any deviations were due to circumstances out of its reasonable control or, if within its control, were reasonable and prudent. Included in the annual report, the Company will report its SAIDI and SAIFI results for the prior calendar year.
- b. The Company shall also report SAIDI/SAIFI results:
 - i. Inclusive of all events identified in items ii, iv and v below;
 - ii. Using the criteria for major storm exclusions set forth by the Commission and IEEE Standard 1366.
 - iii. On a rolling five-year average for each metric in order to minimize the impact of uncontrollable factors;
 - iv. Excluding the effect on performance by supply assets owned by others given the potential impact of transmission on the Company's reliability performance;
 - v. Excluding planned and notified outages from its calculation of SAIDI and SAIFI, and;
 - vi. Consistent with the Puc 300 rules.
- c. The Commission's definition of a major storm qualifying for exclusion from SAIDI and SAIFI reporting is 30 concurrent troubles and 15% of customers interrupted, or 45 concurrent troubles. (Troubles are defined as interruption events occurring on either primary or secondary lines).

Definitions

Augmented Tree-Trimming and Clearing: This program involves the removal of hazard trees and limbs beyond what is normally included in tree trimming to reduce the risk of interruptions on the overhead distribution system. In addition to removing dead, dying, and damaged limbs from above the conductor, we also increase overhead clearances to fifteen feet where practical. This additional work is integrated into routine scheduled trimming program to create a more aggressive approach to removing tree hazards and overhang.

Spot Tree Trimming: (Unplanned Work)

This captures all charges for field follow up, review and execution of corrective action required, if any, to mitigate vegetation management concerns requested or reported by a customer.

Trouble and Restoration Maintenance: (Unplanned Work)

This captures all charges for response and corrective action to mitigate isolated tree related trouble, overhead line requests to mitigate tree related trouble and storm responses not covered by a storm specific charge number.

Planned Cycle Trimming:

This captures all charges for annual fiscal year planned cycle pruning activities but does not include police detail expenses.

Cycle Trimming Police Detail Expenses:

This captures all charges for police detail expenses associated with annual planned cycle trim and tree removals.

Tree Hazard Removal:

This captures all charges for removal of dead, dying and/or structurally weak trees, limbs and leads.

Enhanced Hazard Tree Removal –EHTM: captures all charges for the hazard tree removal program directed at improving reliability of on and off cycle poor performing circuits based on removing dead, dying and/or structurally weak trees, limbs and leads on the three phase portions of those targeted circuits using a Customer Served approach beyond each major reliability device point including the lockout section or station breaker to the first reliability device.

Interim Trimming: (Unplanned work)

This captures all charges for mitigation of tree conditions that threaten reliability of one or more sections of primary conductor on a circuit or circuits not contained in the current fiscal year's annual plan of work.

Tree Planting:

This captures all charges for tree replacements in exchange for tree removals of full clearance, tree replacement to remediate property owner complaints, trees planted for Arbor Day events.

Sub-transmission Right of Way Clearing:

This captures all charges for activities related to cutting, clearing, herbicide application and danger tree removal on substation supply lines up to 46 kV.

Other Police Detail Expenses:

This captures charges for all O&M police detail expenses not associated with Planned Cycle Trim.

**Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty
2023 Vegetation Management Program Plan
VMP O&M Adjustment Factor - Summary of Annual Spending**

Line No.	Incremental VMP and REP O&M Spend Description	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	
		FY 2008 (a)	FY 2009 (b)	FY 2010 (c)	FY 2011 (d)	FY 2012 (e)	FY 2013 (f)	CYS 2013 (f)	CY 2014 (g)	CY 2015 (h)	CY 2016 (i)	CY 2017 (j)	CY 2018 (k)	CY 2019 (l)	CY 2020 (m)	CY 2021 (n)	CY 2022 (o)	CY 2023 (p)
1	Actual VMP	\$2,169,258	\$1,477,916	\$2,556,530	\$1,245,985	\$1,467,486	\$1,560,973	\$1,055,861	\$1,395,166	\$1,994,184	\$1,633,896	\$2,495,406	\$2,422,443	\$2,096,528	\$2,461,057	\$1,870,813	\$3,229,291	\$2,149,760
2																		
3	Annual Program Budget	\$1,950,000	\$1,473,832	\$2,556,530	\$1,552,000	\$1,556,000	\$1,721,585	\$1,238,200	\$1,521,200	\$1,860,397	\$1,948,000	\$2,281,803	\$2,157,086	\$2,307,000	\$2,200,000	\$2,200,000	\$2,200,000	\$2,200,000
4																		
5	Amount Subject to Recovery	\$1,950,000	\$1,473,832	\$2,556,530	\$1,245,985	\$1,467,486	\$1,560,973	\$1,055,861	\$1,395,166	\$1,994,184	\$1,633,896	\$2,495,406	\$2,422,443	\$2,096,528	\$2,420,000	(\$329,187)	\$2,749,187	(\$50,240)
6																		
7	VMP and REP Base Spending Level	\$1,950,000	\$1,360,000	\$1,360,000	\$1,360,000	\$1,360,000	\$1,360,000	\$1,020,000	\$1,360,000	\$1,360,000	\$1,360,000	\$1,500,000	\$1,500,000	\$1,500,000	\$1,850,000	\$2,200,000	\$2,749,187	\$2,200,000
8																		
9	Total Revenue Requirement	\$0	\$113,832	\$1,196,530	(\$114,015)	\$107,486	\$200,973	\$35,861	\$35,166	\$634,184	\$273,896	\$995,406	\$922,443	\$596,528	\$570,000	\$0	\$0	\$0
10																		
11	Less Reimbursements from Consolidated	\$0	\$0	(\$148,760)	(\$644,098)	(\$402,693)	(\$253,054)	(\$311,701)	(\$245,751)	(\$288,000)	(\$350,000)	(\$442,992)	(\$478,142)	(\$495,381)	\$0	\$0	\$0	\$0
12																		
13	Total Incremental Revenue Requirement	\$0	\$113,832	\$1,047,770	(\$758,113)	(\$295,207)	(\$52,081)	(\$275,840)	(\$210,585)	\$346,184	(\$76,104)	\$552,414	\$444,301	\$101,147	\$570,000	\$0	\$0	\$0
14																		
15	Total O&M Recovery / Carryover	\$1,950,000	\$1,473,832	\$2,407,770	\$601,887	\$1,064,793	\$1,307,919	\$744,160	\$1,149,415	\$1,706,184	\$1,283,896	\$2,052,414	\$1,944,301	\$1,601,147	\$2,420,000	(\$329,187)	\$2,749,187	(\$50,240)

Reference:
 Line No. 1: 2023 Actual VMF
 Line No. 3: Annual Program Budget
 Line No. 5: Line 3 minus Line 1. If Line 1 is greater than Line 3, Line 5 will be zero
 Line No. 7: Per Docket No. DE 19-064, if Line 1 is greater than Line 3, Add 10% to Line 5
 Line No. 9: Line 7 minus Line 5
 Line No. 11: Reflects reimbursements related to Vegetation Management Expenses from Consolidated Communication
 Line No. 13: Line 9 plus Line 11
 Line No. 15: Line 5 plus Line 11

**Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty
2023 Vegetation Management Program Plan
Rate Calculation Effective May 1, 2024 - April 30, 2025**

<u>Line No.</u>	<u>Description</u>	<u>Amount</u>
1	CY 2023 O&M Expense Above Base O&M Expense	\$0
2		
3	Final Balance of Reconciliation Calendar Year Incremental O&M (Over)/Under Collection	<u>\$698</u>
4		
5	Total (Over)/Under collection	\$698
6		
7	Estimated kWh deliveries May 1, 2024 - April 30, 2025	<u>940,503,873</u>
8		
9	Vegetation Management Plan Adjustment Factor	\$0.00000

Reference:

Line No. 1: If Unspent Budget is not Carried Over - Attachment 4, Page 1, Line 15, Column (p)

Line No. 2: Attachment 4, Page 2, Line 21

Line No. 5: Line 1 + Line 3

Line No. 7: Per Company Forecast

Line No. 9: Line 5 / Line 7

**Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty
2023 Vegetation Management Program Plan
Rates Effective May 1, 2024**

<u>Line No.</u>	<u>Rate Class</u>	<u>Distribution Rate Component</u>	March 1, 2024 Current Distribution <u>Rates</u> (a)	Current RDAF <u>Rate</u> (b)	Proposed May 1 2024 REP/VMP Adjustment <u>Factor</u> (c)	Total Net Distribution May 1, 2024 <u>Rates</u> (d)
1						
2						
3	D	Customer Charge	\$14.74			\$14.74
4		All kWh	\$0.06752	\$0.00281	\$0.00000	\$0.07033
5		16 Hour Off Peak kWh	\$0.05829	\$0.00281	\$0.00000	\$0.06110
6		Farm kWh	\$0.06374	\$0.00281	\$0.00000	\$0.06655
7		D-6 kWh	\$0.04949	\$0.00281	\$0.00000	\$0.05230
8	D-10	Customer Charge	\$14.74			\$14.74
9		On Peak kWh	\$0.14355	\$0.00180	\$0.00000	\$0.14535
10		Off Peak kWh	\$0.00190	\$0.00180	\$0.00000	\$0.00370
11	D-11	Customer Charge	\$14.74			\$14.74
12		Off Peak	\$0.05262		\$0.00000	\$0.05262
13		Mid Peak	\$0.07887		\$0.00000	\$0.07887
14		Critical Peak	\$0.11230		\$0.00000	\$0.11230
15	EV	Customer Charge	\$11.35			\$11.35
16		Off Peak	\$0.05262		\$0.00000	\$0.05262
17		Mid Peak	\$0.07887		\$0.00000	\$0.07887
18		Critical Peak	\$0.11230		\$0.00000	\$0.11230
19	EV-L	Customer Charge	\$502.08			\$502.08
20		Demand Charge	\$5.32			\$5.32
21		Off Peak	\$0.02698		\$0.00000	\$0.02698
22		Mid Peak	\$0.02900		\$0.00000	\$0.02900
23		Critical Peak	\$0.03376		\$0.00000	\$0.03376
24	EV-M	Customer Charge	\$83.66			\$83.66
25			\$5.34			\$5.34
26		Off Peak	\$0.04002		\$0.00000	\$0.04002
27		Mid Peak	\$0.04138		\$0.00000	\$0.04138
28		Critical Peak	\$0.04736		\$0.00000	\$0.04736
29	G-1	Customer Charge	\$502.08			\$502.08
30		Demand Charge	\$10.63			\$10.63
31		On Peak kWh	\$0.00679	\$0.00104	\$0.00000	\$0.00783
32		Off Peak kWh	\$0.00199	\$0.00104	\$0.00000	\$0.00303
33		Credit for High Voltage Delivery > 2.4 kv	(\$0.57)			(\$0.57)
34	G-2	Customer Charge	\$83.66			\$83.66
35		Demand Charge	\$10.67			\$10.67
36		All kWh	\$0.00267	\$0.00151	\$0.00000	\$0.00418
37		Credit for High Voltage Delivery > 2.4 kv	(\$0.57)			(\$0.57)
38	G-3	Customer Charge	\$19.20			\$19.20
39		All kWh	\$0.06093	\$0.00253	\$0.00000	\$0.06346

**Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty
2023 Vegetation Management Program Plan
Rates Effective May 1, 2024**

			March 1, 2024 Current Distribution <u>Rates</u> (a)	Current RDAF <u>Rate</u> (b)	Proposed May 1 2024 REP/VMP Adjustment <u>Factor</u> (c)	Total Net Distribution May 1, 2024 <u>Rates</u> (d)
40	<u>Rate Class</u>	<u>Distribution Rate Component</u>				
41						
42	M	Luminaire Charge Description				
43		HPS 4,000	\$9.81			\$9.81
44		HPS 9,600	\$11.35			\$11.35
45		HPS 27,500	\$18.86			\$18.86
46		HPS 50,000	\$23.47			\$23.47
47		HPS 9,600 (Post Top)	\$13.32			\$13.32
48		HPS 27,500 Flood	\$19.07			\$19.07
49		HPS 50,000 Flood	\$25.46			\$25.46
50		Incandescent 1,000	\$12.61			\$12.61
51		Mercury Vapor 4,000	\$8.70			\$8.70
52		Mercury Vapor 8,000	\$9.79			\$9.79
53		Mercury Vapor 22,000	\$17.51			\$17.51
54		Mercury Vapor 63,000	\$29.62			\$29.62
55		Mercury Vapor 22,000 Flood	\$20.04			\$20.04
56		Mercury Vapor 63,000 Flood	\$38.86			\$38.86
57	LED-1	LED-1 Fixtures				
58		30 Watt Pole Top	\$6.36			\$6.36
59		50 Watt Pole Top	\$6.63			\$6.63
60		130 Watt Pole Top	\$10.24			\$10.24
61		190 Watt Pole Top	\$19.65			\$19.65
62		30 Watt URD	\$14.85			\$14.85
63		90 Watt Flood	\$10.08			\$10.08
64		130 Watt Flood	\$11.60			\$11.60
65		30 Watt Caretaker	\$5.70			\$5.70
66		Rates M, LED-1 & LED-2 Pole Accessory Charge				
67		Pole -Wood	\$11.14			\$11.14
68		Fiberglass - Direct Embedded	\$11.61			\$11.61
69		Fiberglass w/Foundation <25 ft	\$19.59			\$19.59
70		Fiberglass w/Foundation >=25 ft	\$32.75			\$32.75
71		Metal Poles - Direct Embedded	\$23.35			\$23.35
72		Metal Poles with Foundation	\$28.17			\$28.17
73		Rate M, LED-1				
74		All kWh	\$0.04686		\$0.00000	\$0.04686
75		Rate LED-2	\$0.04686		\$0.00000	\$0.04686
76	T	Customer Charge	\$17.01			\$17.01
77		All kWh	\$0.05469	\$0.00285	\$0.00000	\$0.05754
78	V	Minimum Charge	\$19.20			\$19.20
79		All kWh	\$0.06266	\$0.00291	\$0.00000	\$0.06557

* Proposed Rates pending Commission Approval for Docket DE 22-035- Step Adjustment

**Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty
2023 Vegetation Management Program Plan
Bill Calculation - Residential Rate D**

<u>Line No.</u>				Rate Effective March 1, 2024	May 1, 2024 Proposed Rates	Current Bill	May 1, 2024 Proposed Bill
	Usage	650	kWh	(a)	(b)	(c)	(d)
2							
3	Customer Charge			\$14.74	\$14.74	\$14.74	\$14.74
4	Distribution Charge			\$0.06752	\$0.06752	\$43.89	\$43.89
5	Revenue Decoupling Adjustment Factor			\$0.00281	\$0.00281	\$1.83	\$1.83
6	REP/VMP			(\$0.00002)	\$0.00000	(\$0.01)	\$0.00
7	Storm Recovery Adjustment			\$0.00000	\$0.00000	\$0.00	\$0.00
8	Transmission Charge			\$0.03334	\$0.03334	\$21.67	\$21.67
9	Stranded Cost Charge			(\$0.00031)	(\$0.00031)	(\$0.20)	(\$0.20)
10	System Benefits Charge			\$0.00727	\$0.00727	\$4.73	\$4.73
11	Electricity Consumption Tax			\$0.00000	\$0.00000	<u>\$0.00</u>	<u>\$0.00</u>
12	Subtotal Retail Delivery Services					\$86.64	\$86.65
13	Energy Service Charge			\$0.09758	\$0.09758	<u>\$63.43</u>	<u>\$63.43</u>
14			Total Bill			\$150.06	\$150.08
15							\$0.01
16							0.01%

Reference:

(a) Order No. 26,777 in Docket No. DE 23-006, dated February 23, 2023 & Order No. 26,913 in Docket No. DE 23-044, dated December 15, 2023.

(b) Does not include the proposed step adjustment rates, effective December 1, 2023, in Docket No. 22-035.