

**STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION**

Docket No. DE 23-XXX

Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty
Vegetation Management Program

Calendar Year 2022 Reconciliation and Rate Adjustment Filing

**DIRECT TESTIMONY
OF
HEATHER GREEN,
ANTHONY STRABONE,
AND
HEATHER M. TEBBETTS**

March 15, 2023



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1 **I. INTRODUCTION**

2 **Heather Green**

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

4 A. My name is Heather Green, and my business address is 407 Miracle Mile, Lebanon, New
5 Hampshire.

6 **Q. By whom are you employed and in what position?**

7 A. I am employed by Liberty Utilities Service Corp. (“LUSC”) as the Manager of
8 Vegetation Management. In that capacity, I support Electric Operations and plan, budget,
9 and manage Liberty Utilities (Granite State Electric) Corp.’s (“Liberty” or “the
10 Company”) inspection and vegetation management programs, vendor performance, and
11 storm and regulatory support on the distribution and sub transmission assets.

12 **Q. Please describe your educational background.**

13 A. I graduated from Purdue University in 1994 with a Bachelor of Science degree in
14 Forestry with an Urban Option.

15 **Q. Please describe your professional experience.**

16 A. I joined LUSC in March 2018. Prior to that, I worked for the State of New Hampshire
17 Division of Forests and Lands as a Community Forester. I worked in the role of
18 Municipal Arborist from 1998 to 2013 in the Chicago suburbs in both a north shore
19 community of Park Ridge and a south shore community of Oak Lawn. I have also
20 worked for a variety of commercial tree care companies and gardens.

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1 I have been active in professional organizations. I held a variety of Board positions for
2 the New England Chapter of the International Society of Arboriculture (NEC-ISA) and
3 the Illinois Arborist Association (IAA), including President. I am a current member of
4 the New Hampshire Community Forestry Advisor Committee.

5 **Q. Have you previously testified before the Commission?**

6 A. Yes, I have testified on numerous occasions.

7 **Anthony Strabone**

8 **Q. Mr. Strabone, please introduce yourself.**

9 A. My name is Anthony Strabone, my business address is 15 Buttrick Road, Londonderry,
10 New Hampshire, and I am employed by LUSC. I am the Senior Director of Electric
11 Operations for LUSC. In that capacity, I am responsible for the safe and reliable
12 operation, design, and maintenance of the electric system for Liberty in New Hampshire.

13 **Q. Please describe your educational background and training.**

14 A. I graduated from Merrimack College in 2004 with a Bachelor of Science degree in
15 Electrical Engineering. I received a Master of Business Administration from Southern
16 New Hampshire University in 2006. I received a Project Management Professional
17 (PMP) Certification in 2017 from the Project Management Institute. In 2019, I received
18 my license as a Professional Engineer in the State of New Hampshire.

19 **Q. Please describe your professional background.**

20 A. I joined LUSC in November 2014. Prior to my employment at LUSC, I was employed
21 by Public Service Company of New Hampshire ("PSNH") as a Substation Supervisor in

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1 Substation Maintenance from 2010 to 2014. Prior to my position in Substation
2 Maintenance, I was a Substation Engineer in Substation Engineering for PSNH from
3 2008 to 2010 and an Engineer in PSNH's System and Planning Strategy department from
4 2004 to 2008.

5 **Q. Have you previously testified before the Commission?**

6 A. Yes, on numerous occasions.

7 **Heather M. Tebbetts**

8 **Q. Ms. Tebbetts, please state your full name, business address, position, and**
9 **responsibilities.**

10 A. My name is Heather M. Tebbetts, and my business address is 15 Buttrick Road
11 Londonderry, New Hampshire. I am the Director of Business Development for LUSC
12 and in this role I am responsible for strategic growth and technology opportunities for
13 Liberty in New Hampshire. In my previous role as the Manager of Rates and Regulatory
14 Affairs, I was responsible for filing the REP/VMP filing for many years and as such will
15 be assisting the Rates and Regulatory Affairs department with this filing.

16 **Q. Please describe your educational background and training.**

17 A. I graduated from Franklin Pierce University in 2004 with a Bachelor of Science degree in
18 Finance. I received a Master of Business Administration from Southern New Hampshire
19 University in 2007.

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Q. Please describe your professional background.

A. I joined LUSC in October 2014. Prior to my employment at LUSC, I was employed by PSNH as a Senior Analyst in NH Revenue Requirements from 2010 to 2014. Prior to my position in NH Revenue Requirements, I was a Staff Accountant in PSNH's Property Tax group from 2007 to 2010 and a Customer Service Representative III in PSNH's Customer Service Department from 2004 to 2007.

Q. Have you previously testified before the Commission?

A. Yes, I have testified on numerous occasions before the Commission.

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 2022 ("CY 2022") VMP activities, and to calculate proposed 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
Appendix 1	Planned vs Actual Spending by Activity
Appendix 2	Planned vs Actual Miles by Circuit
Appendix 3	CY 2023 Plan
Attachment HMT-1	VMP Reconciliation and Rate Calculation

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1 Appendix 1 provides a summary of the actual spending by category as compared to the
2 base level funding of \$2,200,000 for 2022, plus the 10 percent cap for prudently incurred
3 costs and the approved \$329,187 of carryover that was unspent for 2021 for a total budget
4 of \$2,749,187. The Company anticipates total spending of \$3,229,291, which is
5 \$480,104 more than the combination of what is in base rates, the additional 10% cap, and
6 the authorized carryover from 2021. At this time the Company is still receiving invoices
7 for program year 2022 so the actual total expenditures may be higher.

8 Appendix 2 provides the list of circuits with actual trim miles completed as compared to
9 the estimated 2022 miles to be trimmed. A total of 162 miles were trimmed in 2022
10 versus the planned 153 miles.

11 Appendix 3 contains the Report on CY2023 Vegetation Management Program (VMP)
12 Plan submitted to the New Hampshire Department of Energy on November 15, 2022.

13 Attachment HMT-1 provides the reconciliation of collections from May 1, 2022, through
14 April 30, 2023.

15 **Q. How is your testimony organized?**

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

- 18 • Section II provides an overview of Liberty's Vegetation Management Program
19 ("VMP").

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- Section III discusses Liberty's vegetation management activities and performance in 2022.
- 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. Please provide an overview of Liberty's Vegetation Management Program.

A. 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. 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.

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

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1 communication wires, often referred to as a “shelf,” when requested or if previously
2 established. The Company still seeks to remove young capable trees in this zone;
3 however, in urban areas, if requested Liberty may trim the top of that capable brush to
4 leave a requested screening.

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

6 A. A comprehensive VMP is a key element in meeting the Company’s obligation to
7 maintain a safe, reliable, and resilient electric distribution system. Trees falling into the
8 Company’s lines is a leading cause of outages, may give rise to unsafe conditions, and
9 requires a costly response. A comprehensive VMP lessens those risks by trimming or
10 removing those trees most likely to damage utility equipment and by managing the
11 vegetation to minimize the number of problem trees over the long term. The components
12 of Liberty’s VMP include planned cycle trimming (the regular trimming of a certain
13 percentage of the Company’s system each year), proactive identification and removal of
14 high-risk trees, and outreach and public education to foster community support for trees
15 and other vegetation compatible with a reliable distribution system. Liberty’s VMP is
16 largely supported by a contracted workforce comprised of a team of trained arborists and
17 tree crews with oversight and direction from Liberty management.

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

19 A. The Company’s last distribution rate case, Docket No. DE 19-064, set the total spending
20 level for vegetation management. Specifically, the Settlement Agreement in that
21 proceeding provided the following:

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1 Under the VMP, the Company shall maintain a four-year cycle for
2 tree trimming and vegetation management and shall continue with
3 the filings and reporting requirements currently in place. The base
4 rate increase agreed to in this Agreement includes an increase in the
5 VMP spending to \$2,200,000 for 2020, which shall continue until
6 changed in a future base rate case. The Company shall not recover
7 any VMP expenses that exceed 10% of that amount, or in excess of
8 \$2,420,000, through the annual reconciliation filing, or otherwise.
9 The VMP spending shall be reconciled each year, with any under
10 spending carried into the next program year or returned to
11 customers, as determined by the Commission.

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

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

14 A. While the base level of funding in distribution rates has not changed since the Company's
15 rate case, Commission Order No. 26,620 (April 28, 2022) authorized Liberty to carry
16 over \$329,187 for use in its 2022 VMP.

17 **Q. Please explain how the Company allocates funds and prioritizes work within a given**
18 **year's plan.**

19 A. The Company develops an Annual Work Plan each year that is designed to achieve the
20 overriding performance objectives of the business (safety, reliability, efficiency, customer
21 satisfaction, and environmental responsibility).

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

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

3 **III. REVIEW OF PROGRAM YEAR 2022 VMP EXPENDITURES**

4 **Q. Please provide an overview of the Company's vegetation management activities and**
5 **expenditures for 2022.**

6 A. As shown in Appendices 1 and 2, the Company trimmed 162 miles in 2022, exceeding
7 the original planned 153 miles by 9 miles. The cost of the 162 miles, including traffic
8 control, was \$2.6 million, which was \$0.6 million higher than the \$2.0 million in the
9 original plan.

10 In addition to planned cycle trimming, the Company executed several other VMP
11 activities including Interim, Spot, and Trouble Tree Trimming and Work Planning.
12 Three planned activities were not executed fully in 2022 to allow resources to focus on
13 executing the 2022 plan. These activities included Tree Removal, Tree Planting, and
14 Right of Way work.

15 The Company is including two appendices to aid in the review of the 2022 VMP and
16 further detail in the testimony below.

17 **Q. Please provide an overview of the Company's planned and actual O&M spending**
18 **for CY 2022.**

19 A. As filed in Docket No. DE 21-138, and as shown in Appendices 1 and 2, the Company's
20 VMP activities consisted of Planned Cycle Trimming; Interim, Spot, and Trouble Tree
21 Trimming; Work Planning; Traffic Detail; Tree Removal; Tree Planting; and Right of

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Way work for the floor and sides of the corridors. Appendix 1, summarized in Table 1 below, provides a summary of planned and actual spending by activity. For reasons described in the testimony below, the Company was unable to achieve several components of its plan due to increased costs to meet required trimming and a focus on executing the plan.

Table 1: O&M CY 2022 Actual vs. Budget Spending

Line		CY 2022 Budgeted Expenses	CY 2022 Actual Expenses	Variance
		(a)	(b)	(c)
1	Deferred Miles	203	203	0
2	Planned Miles	153	162	9
3	VMP O&M			
4	Work Planners for Veg Plan	\$350,750	\$299,761	(\$50,989)
5	Spot Tree Trimming	\$40,000	\$47,471	\$7,471
6	Trouble and Restoration Maintenance	\$60,000	\$53,242	(\$6,758)
7	Planned Cycle Trimming	\$1,665,839	\$2,027,508	\$361,669
8	Police Detail Expenses - Cycle Trimming & Other	\$299,000	\$552,952	\$253,952
9	Hazard Tree Removal	\$452,000	\$242,531	(\$209,469)
10	Interim Trimming	\$62,000	\$3,095	(\$58,905)
11	Tree Planting	\$11,000	\$2,731	(\$8,269)
12	Sub-Transmission Right of Way Clearing	\$109,050	\$0	(\$109,050)
13	Sub-Transmission Right of Way Sideline	\$0	\$0	\$0
14	Make Safe Removals	\$20,000	\$0	(\$20,000)
15	Total VMP O&M Expenses (Over)/Under	\$3,069,639	\$3,229,291	\$159,652
16	Base Distribution Rates per Order No. 26,376	\$2,200,000		
17	Authorized Increase per Order No. 26,624	\$329,187		
18	10% overage cap per Order No. 26,376	\$220,000		
19	Total VMP Cap	\$2,749,187		

The Company anticipates total spending of \$3,229,291, which is \$480,104 more than the combination of the amount included in base rates (\$2,200,000), the additional 10% cap

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1 (\$220,000), and the authorized carryover from 2021 (\$329,187), for a total budget of
2 \$2,749,187. At this time, the Company is still receiving invoices for program year 2022
3 so the actual total expenditures may be higher. The Company is requesting approval of
4 the \$2,749,187 capped expenditures.

5 **Q. Please describe the VMP activities the Company executed in 2022 and the reasons**
6 **for the variance as compared to the plan.**

7 A. As shown in Appendices 1 and 2, the Company trimmed 162 miles in 2022, exceeding
8 the plan by 9 miles. The Company completed more planned cycle trimming miles than
9 planned in the Salem area to maintain an on-site presence in the Salem area to respond to
10 emergent issues. The Salem tree crews were able to complete a portion of 2023 miles in
11 the 2022 calendar year leading to the additional miles completed in 2022.

12 Liberty employs trained contracted arborists, or work planners, to work in the field to
13 determine and mark trimming and tree removal needs, and record assets and parcel
14 information. While much of their time was specifically on work planning, the work
15 planners are assigned to additional program need tasks and activities. Their time was
16 allocated to other VMP activities such as trouble, customer calls (spot tree), construction,
17 or emergent work, leading to the under-budget performance shown in the work planner
18 activity line item.

19 The Company plans for interim trimming, which is generally unplanned work, and
20 targeted hot spot work along deferred/reconfigured circuit and restricted/refused areas. In
21 2022, the Company performed limited interim trimming and hot spot work as resources

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1 were focused on supporting the additional contractors on property this year resulting in
2 the under-budget performance in this activity in 2022. The additional contractors needed
3 support nearly daily on scope of work clarifications, customer expectations, crew and
4 operation logistics, and more as they were new to the system and geographic footprint.

5 Spot tree trimming was slightly over budget due to higher demands for requested work of
6 electric service orders and customer calls.

7 The trouble and restoration activities are unplanned work based on actual occurrences for
8 non-storm related trouble call volume and support of the overhead line department. The
9 Company responds to actively failing or urgent off-cycle work requested by customers
10 and interested parties. The Company's trouble and restoration work were only slightly
11 under plan.

12 The Company spent \$209,469 less than budget on hazard tree removals due to the need to
13 suspend the removal program to reallocate funds to other contracted work on the system
14 that came in higher than anticipated.

15 **Q. Were there any planned activities that the Company did not complete this year?**

16 A. Yes, there were three major activities that the Company did not achieve this year: Tree
17 Planting, Sub-Transmission Right of Way ("ROW") Clearing, and Make Safe Removals.
18 Each program is discussed further below.

19 Liberty's tree planting program utilizes the Arbor Day Foundation's Community Canopy
20 and Energy-Saving Trees Program for education of "The Right Tree in the Right Place"
21 program and the power of effectively choosing a species and location and the potential

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1 energy-saving benefits, and more. The program also provides an opportunity to connect
2 with customers and educate customers to help achieve future sustainable tree canopy.

3 The program was suspended in 2022 to focus resources on executing the plan.

4 The Company trims its sub-transmission ROW areas to ensure safe and reliable service in
5 those areas. The 2022 plan was for Integrated Vegetation Management Practices to
6 promote native, compatible species, to incorporate educational programs, and a selective
7 herbicide program. However, the ROW clearing activities were suspended to focus
8 resources to execute the plan within the funding constraints.

9 **Q. Did the Company experience workforce issues in 2022?**

10 A. The Company was able to secure contractors to perform vegetation management work in
11 2022, employing contractors from Asplundh Tree Experts, Wright Tree Service, Enviro
12 Arbo Solutions, and Environmental Consultants, Inc. to execute the VMP. However, the
13 Company spent \$361,669 more on planned cycle pruning due to workforce issues,
14 constraints, change in contractors, and changes in price that did not allow for the on-
15 property resources to complete the work. The work that was completed was performed at
16 a higher cost per mile.

17 **Q. How did the Company address the workforce issues in 2022?**

18 A. The Company addressed the workforce issues in three ways:

- 19 1) The Company worked with the contractor on property to encourage mechanized
20 equipment including mowers and pruners. Liberty was able to secure a Jaraffe
21 and two mechanical mowers on property.

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1 2) In June 2022, additional contractors were secured to work in the Salem area.

2 Both Wright Tree and Enviro Arbor Solutions worked on projects in Salem to
3 continue to complete planned miles while a local contractor and the Company
4 worked on a longer-term solution to replace the local Salem crew.

5 3) In August, Liberty secured a dedicated on-property crew in Salem for reliable
6 year-round work in the Salem area, trouble response both during work hours and
7 after hours, and the ability to respond to weather issues as needed on property
8 moving forward.

9 The Salem miles already had been awarded at the time the dedicated Salem crew was
10 available, so additional miles were pulled forward from 2023 to keep the Salem crew
11 working.

12 **Q. How much more did the Company spend on traffic control?**

13 A. The Company overall spent \$253,952 greater than anticipated for traffic control. In
14 particular, Walpole Police significantly increased their hourly rates and location
15 requirements for traffic control as compared to previous years. In 2022, Liberty was
16 billed approximately \$150,000 for traffic control by the Walpole Police Department,
17 about \$2,700 per mile. In comparison, 2017 was the last time the 12L2 was trimmed and
18 the total traffic control costs in Walpole were about \$32,000, or about \$582 per mile.

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

3 A. Yes. These expenditures were made for programs that are specifically described in the
4 Settlement Agreement and are necessary to maintain a safe, reliable, and resilient electric
5 system. As such, the Commission should approve the recovery of these expenditures up
6 to the allowed cap, including the additional funding from the prior calendar year, and
7 permit the requested rate adjustments to become effective on May 1, 2023.

8 **Q. Has the Company provided a VMP for 2023?**

9 A. Yes, consistent with the requirements in Attachment F to the Settlement Agreement in
10 Docket No. DE 13-063 which was approved by the Commission in Order No. 25,638
11 (March 17, 2014), as further amended by the Settlement Agreement in Docket No. DE
12 19-064 approved by Commission Order No. 26,376 (June 30, 2020), Liberty submitted its
13 2023 Plan to the New Hampshire Department of Energy (“DOE”) on November 15,
14 2023. While not required to be filed, the Company is providing a copy of the 2023 VMP
15 as Appendix 3.

16 **IV. RATES AND BILL IMPACT**

17 **Q. Please provide an overview of the Company’s rate request.**

18 A. The reconciliation provides the costs associated with the VMP activities along with a
19 calculation of the over-collection from the previous reconciliation.

20 **Q. Please describe Schedule HMT-1 attached to this testimony.**

21 A. Schedule HMT-1 provides the calculation of the O&M reconciliation for CY 2022.

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1 **Q. How is the VMP adjustment factor calculated?**

2 A. The Company calculated an overcollection for the prior period of May 1, 2022, through
3 April 30, 2023. The ending balance of (\$18,723) was divided by the forecasted kilowatt-
4 hours (kWh) of 924,515,841 for a rate of (\$0.00002) per kWh added to the base
5 distribution rate for each rate class, as shown on HMT-1, page 4.

6 **Q. Please summarize the Company's actual results from the CY 2022 VMP activities**
7 **and the level of recovery the Company is requesting.**

8 A. The Company is requesting to refund \$18,723 to customers through the VMP factor for
9 the period of May 1, 2023, through April 30, 2024.

10 **Q. What is the rate change associated with the 2022 spending?**

11 A. The Company is proposing a VMP Adjustment Factor of (\$0.00002) per kilowatt-hour
12 (kWh), a decrease of \$0.00003 per kWh from the \$0.00001 per kWh Adjustment Factor
13 calculated in Docket No. DE 22-014.

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

15 A. The Company is proposing that these distribution rate changes be made effective for
16 service rendered on and after May 1, 2023.

17 **Q. When does the Company request an Order from the Commission to implement rate**
18 **changes by May 1, 2023?**

19 A. The Company requests a Commission Order by April 24, 2023, to allow time to
20 implement and test the rate changes before the effective date.

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

3 **A.** Yes. For an Energy Service residential customer using 650 kWh per month the total bill
4 impact of the VMP rates proposed in this filing, as compared to rates in effect today, is a
5 monthly bill decrease of (\$0.02), or -0.01%.

6 **V. CONCLUSION**

7 **Q. Does that conclude your testimony?**

8 **A.** Yes, it does.

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Line		CY 2022 Budgeted Expenses	CY 2022 Actual Expenses	Variance
		(a)	(b)	(c)
1	Deferred Miles	203	203	0
2	Planned Miles	153	162	9
3	VMP O&M			
4	Work Planners for Veg Plan	\$350,750	\$299,761	(\$50,989)
5	Spot Tree Trimming	\$40,000	\$47,471	\$7,471
6	Trouble and Restoration Maintenance	\$60,000	\$53,242	(\$6,758)
7	Planned Cycle Trimming	\$1,665,839	\$2,027,508	\$361,669
8	Police Detail Expenses - Cycle Trimming & Other	\$299,000	\$552,952	\$253,952
9	Hazard Tree Removal	\$452,000	\$242,531	(\$209,469)
10	Interim Trimming	\$62,000	\$3,095	(\$58,905)
11	Tree Planting	\$11,000	\$2,731	(\$8,269)
12	Sub-Transmission Right of Way Clearing	\$109,050	\$0	(\$109,050)
13	Sub-Transmission Right of Way Sideline	\$0	\$0	\$0
14	Make Safe Removals	\$20,000	\$0	(\$20,000)
15	Total VMP O&M Expenses (Over)/Under	\$3,069,639	\$3,229,291	\$159,652
16	Base Distribution Rates per Order No. 26,376	\$2,200,000		
17	Authorized Increase per Order No. 26,624	\$329,187		
18	10% overage cap per Order No. 26,376	\$220,000		
19	Total VMP Cap	\$2,749,187		

- (a) Original budget for 2022
(b) Actual Spending for 2022
(c) Column (a) - Column (b)

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Appendix 2 - O&M Expenses
CY 2022 Vegetation Management Activities

Line	Activities	Program Plan (*)	Reference
1	Spot Tree Trimming	As needed	See Appendix 6 for definitions
2	Trouble and Restoration Maintenance	As needed	See Appendix 6 for definitions
3	Planned Cycle Trimming	152.93	See Appendix 6 for definitions
4	Police Detail Expenses - Cycle Trimming & Other	As needed	See Appendix 6 for definitions
5	Hazard Tree Removal	As needed	See Appendix 6 for definitions
6	Enhanced Hazard Tree Removal	As needed	See Appendix 6 for definitions
7	Interim Trimming	As needed	See Appendix 6 for definitions
8	Tree Planting	As needed	See Appendix 6 for definitions
9			
10	Substation	Feeder	OH Miles - Distribution Planned
11	Spicket River #13	13L1	29.06
12	Spicket River #13	13L3	16.29
13	Pelham #14	14L1	28.65
14	Villas Bridge #12	12L2	55.22
15	Mount Support #16	16L2	3.72
16	Lebanon #1	1L2	20.00
17	Baron Ave #18	18L4	0.00
18	Golden Rock #19	19L8	0.00
19	Villas Bridge #12	12L1	0.00
20			
21		Total OH Miles - Distribution	152.93
22			162.41
23	Sub transmission		OH Miles - Sub transmission
24		Total OH Miles - Sub transmission	0 Miles & 0 Acres
25	+ Only off-road portion treated		(Original Proposed)
26	++ Added work		(Final Completed)
27			



CY2023 Vegetation Management Program (VMP) Plan

Report on CY2023 Vegetation Management Program (VMP) Plan

November 15, 2022



2023



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	Cost	
	Costs	Miles	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

Line	(A)	(B)	(C)	(D)
	CY 2023 5 Yr Cycle	CY 2023 5 Yr Cycle	CY 2023 4 Yr Cycle	CY 2023 Trim Plus Deferred Measures
1 Deferred Measures Catch Up				214.00
2 Planned Measures	165.09	194.38	213.79	194.00
3 Total	165.09	194.38	213.79	408.00
4 <u>VMP Costs</u>				
5 Work Planners for Veg Plan	\$220,000	\$330,000	\$330,000	\$660,000
6 Spot Tree Trimming	\$46,500	\$61,500	\$61,500	\$61,500
7 Trouble and Restoration Maintenance	\$46,500	\$46,500	\$46,500	\$46,500
8 Planned Cycle Trimming	\$1,435,663	\$1,535,750	\$1,661,779	\$1,610,335
9 Police Detail Expenses Cycle Trimming & Other	\$324,836	\$414,096	\$434,774	\$746,345
10 Hazard Tree Removal	\$50,000	\$402,367	\$442,545	\$844,477
11 Interim Trimming	\$46,500	\$46,500	\$46,500	\$46,500
12 Tree Planting	\$20,000	\$20,000	\$20,000	\$20,000
13 Herbicide in ROW	\$69,210	\$69,210	\$69,210	\$69,210
14 Pollinator Education/ Abatement	\$5,000	\$5,000	\$5,000	\$5,000
15 Monarch Butterfly Conservation	\$20,000	\$20,000	\$20,000	\$20,000
16 A-Dash	\$42,000	\$42,000	\$42,000	\$42,000
17 Meters/ Permits	\$3,500	\$3,500	\$3,500	\$3,500
18 Permits	\$25,000	\$25,000	\$25,000	\$25,000
19 Terra Spectrum	\$25,000	\$25,000	\$25,000	\$25,000
20 Training	\$20,000	\$20,000	\$20,000	\$20,000
21 Sub Transmissions Right of Way Clearing	\$0	\$0	\$31,545	\$96,811
22 Make Safe Removals	\$20,000	\$20,000	\$20,000	\$20,000
23 Total VMP O&M Expenses	\$2,419,709	\$3,086,423	\$3,304,853	\$4,362,178
24 Total Allowed Recovery per DE 19 064 Settlement	\$2,420,000	\$2,420,000	\$2,420,000	\$2,420,000
25 Difference	\$291	\$666,423	\$884,853	\$1,942,178
26 Cost Per Mile	\$14,657	\$15,878	\$15,458	\$10,692

Appendix 2 – O&M Expenses

CY 2022 Vegetation Management Activities

	(A)		(B)		(C)		(D)	
Line								
1	<u>Circuit</u>	<u>Miles</u>	<u>Circuit</u>	<u>Miles</u>	<u>Circuit</u>	<u>Miles</u>	<u>Circuit</u>	<u>Miles</u>
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	<u>165.09</u>	6L4	0.96	14L4	16.49	7L2	33.39
7			11L2	5.41	15 1	11.41	13L2	23.75
8			1L3	<u>8.07</u>	16L1	41.74	14L3	33.60
9			Tota	<u>194.38</u>	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	<u>9.40</u>	15 1	11.41
15					Tota	<u>213.79</u>	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	<u>407.96</u>

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
DE 23-XXX
CY 2022 VMP
Attachment HMT-1
Page 1 of 7

Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty
VMP O&M Adjustment Factor
Summary of Annual Spending

	Actual FY <u>2008</u>	Actual FY <u>2009</u>	Actual FY <u>2010</u>	Actual FY <u>2011</u>	Actual FY <u>2012</u>	Actual FY <u>2013</u>	Actual CYS <u>2013</u>	Actual CY <u>2014</u>	Actual CY <u>2015</u>	Actual CY <u>2016</u>	Actual CY <u>2017</u>	Actual CY <u>2018</u>	Actual CY <u>2019</u>	Actual CY <u>2020</u>	Actual CY <u>2021</u>	Actual CY <u>2022</u>
	(a)	(b)	(c)	(d)	(e)	(f)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
<u>Incremental VMP and REP O&M Spend</u>																
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 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
3 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
4 VMP and REP Base Spending Level	<u>\$1,950,000</u>	<u>\$1,360,000</u>	<u>\$1,360,000</u>	<u>\$1,360,000</u>	<u>\$1,360,000</u>	<u>\$1,360,000</u>	<u>\$1,020,000</u>	<u>\$1,360,000</u>	<u>\$1,360,000</u>	<u>\$1,360,000</u>	<u>\$1,500,000</u>	<u>\$1,500,000</u>	<u>\$1,500,000</u>	<u>\$1,850,000</u>	<u>\$2,200,000</u>	<u>\$2,749,187</u>
5 Total Revenue Requirement	<u>\$0</u>	<u>\$113,832</u>	<u>\$1,196,530</u>	<u>(\$114,015)</u>	<u>\$107,486</u>	<u>\$200,973</u>	<u>\$35,861</u>	<u>\$35,166</u>	<u>\$634,184</u>	<u>\$273,896</u>	<u>\$995,406</u>	<u>\$922,443</u>	<u>\$596,528</u>	<u>\$570,000</u>	<u>\$0</u>	<u>\$0</u>
6 Less Reimbursements from Consolidated	<u>\$0</u>	<u>\$0</u>	<u>(\$148,760)</u>	<u>(\$644,098)</u>	<u>(\$402,693)</u>	<u>(\$253,054)</u>	<u>(\$311,701)</u>	<u>(\$245,751)</u>	<u>(\$288,000)</u>	<u>(\$350,000)</u>	<u>(\$442,992)</u>	<u>(\$478,142)</u>	<u>(\$495,381)</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
7 Total Incremental Revenue Requirement	<u>\$0</u>	<u>\$113,832</u>	<u>\$1,047,770</u>	<u>(\$758,113)</u>	<u>(\$295,207)</u>	<u>(\$52,081)</u>	<u>(\$275,840)</u>	<u>(\$210,585)</u>	<u>\$346,184</u>	<u>(\$76,104)</u>	<u>\$552,414</u>	<u>\$444,301</u>	<u>\$101,147</u>	<u>\$570,000</u>	<u>\$0</u>	<u>\$0</u>
8 Total O&M Recovery	<u>\$1,950,000</u>	<u>\$1,473,832</u>	<u>\$2,407,770</u>	<u>\$601,887</u>	<u>\$1,064,793</u>	<u>\$1,307,919</u>	<u>\$744,160</u>	<u>\$1,149,415</u>	<u>\$1,706,184</u>	<u>\$1,283,896</u>	<u>\$2,052,414</u>	<u>\$1,944,301</u>	<u>\$1,601,147</u>	<u>\$2,420,000</u>	<u>(\$329,187)</u>	<u>\$2,749,187</u>

Notes:

Line 1 2022 Actual VMP

Line 4 VMP base spending level per Docket No. DE 19-064

Line 5 Line 4 minus line 2

Line 6 Reflects reimbursements related to vegetation management expenses from Consolidated Communications

Line 7 Line 5 plus Line 6

Line 8 Line 3 plus Line 6

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**Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty
Reconciliation of CY 2022 O&M Expense**

		Beginning Balance With Interest	Revenue	Ending Balance	Balance Subject to Interest	Effective Interest Rate	Interest	Cumulative Interest
		(a)	(b)	(c)	(d)	(e)	(f)	(g)
1	May-22	\$11,645	\$21,180	(\$9,535)	\$1,055	3.50%	\$3	\$3
2	Jun-22	(\$9,532)	\$1,442	(\$10,973)	(\$10,253)	4.00%	(\$34)	(\$31)
3	Jul-22	(\$11,007)	\$903	(\$11,910)	(\$11,459)	4.75%	(\$44)	(\$75)
4	Aug-22	(\$11,955)	\$1,007	(\$12,962)	(\$12,458)	5.50%	(\$56)	(\$131)
5	Sep-22	(\$13,018)	\$908	(\$13,925)	(\$13,471)	5.50%	(\$60)	(\$191)
6	Oct-22	(\$13,985)	\$523	(\$14,508)	(\$14,247)	6.25%	(\$72)	(\$263)
7	Nov-22	(\$14,581)	\$521	(\$15,102)	(\$14,841)	6.25%	(\$75)	(\$338)
8	Dec-22	(\$15,177)	\$722	(\$15,898)	(\$15,538)	7.00%	(\$88)	(\$426)
9	Jan-23	(\$15,986)	\$764	(\$16,750)	(\$16,368)	7.50%	(\$99)	(\$525)
* 10	Feb-23	(\$16,849)	\$855	(\$17,705)	(\$17,277)	7.75%	(\$108)	(\$633)
* 11	Mar-23	(\$17,813)	\$745	(\$18,557)	(\$18,185)	7.75%	(\$113)	(\$746)
* 12	Apr-23	(\$17,924)	\$686	(\$18,609)	(\$18,267)	7.75%	(\$114)	(\$860)
13		(Over)/Under Recovery:		(\$18,723)				

(a) Line 1: Per Company Records

(a) Lines 2 - 12: Prior month Column (c) + Prior month Column (f)

(b) Revenues per the Company's Records

(c) Column (a) - Column (b)

(d) Average of Column (a) and Column (c)

(e) Interest rate on customer deposits

(f) $\text{Column (d)} \times [(1 + \text{Column (e)}) ^ { (1 \div 12) } - 1]$

(g) Prior month Column (g) + Current month Column (f)

* Estimate

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Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty
Calculation of Vegetation Management Plan Adjustment Factor
Rates Effective May 1, 2023

(1)	CY 2022 O&M Expense Above Base O&M Expense	\$0
(2)	Final Balance of Reconciliation Calendar Year Incremental O&M (Over)/Under Collection	<u>(\$18,723)</u>
(3)	Vegetation Management Plan Expense	(\$18,723)
(4)	Estimated kWh deliveries May 1, 2023 - April 30, 2024	924,515,841
(5)	Vegetation Management Plan Adjustment Factor	(\$0.00002)

- (1) Schedule HMT-1, Page 2, Line 7, Col (o)
- (2) Schedule HMT-1, Page 2, Line 13
- (3) Line (1) + Line (2)
- (4) Per Company forecast
- (5) Line (3) ÷ Line (4), truncated after 5 decimal places

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Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty
VMP Rate Presentation
Rates Effective May 1, 2023

Rate Class	Distribution Rate Component	Current Rates	REP/VMP	
			Adjustment Factor	May 1, 2023 Rates
D	Customer Charge	\$14.74		\$14.74
	All kWh	\$0.05627	(\$0.00002)	\$0.05625
	16 Hour Off Peak kWh	\$0.04858	(\$0.00002)	\$0.04856
	Farm kWh	\$0.05311	(\$0.00002)	\$0.05309
	D-6 kWh	\$0.04949	(\$0.00002)	\$0.04947
D-10	Customer Charge	\$14.74		\$14.74
	On Peak kWh	\$0.11990	(\$0.00002)	\$0.11988
	Off Peak kWh	\$0.00160	(\$0.00002)	\$0.00158
D-11	Customer Charge	\$14.74		\$14.74
	Off Peak	\$0.03878	(\$0.00002)	\$0.03876
	Mid Peak	\$0.05813	(\$0.00002)	\$0.05811
	Critical Peak	\$0.08277	(\$0.00002)	\$0.08275
EV	Customer Charge	\$11.35		\$11.35
	Off Peak	\$0.03878	(\$0.00002)	\$0.03876
	Mid Peak	\$0.05813	(\$0.00002)	\$0.05811
	Critical Peak	\$0.08277	(\$0.00002)	\$0.08275
EV-L	Customer Charge	\$422.90		\$422.90
	Demand Charge	\$4.48		\$4.48
	Off Peak	\$0.02462	(\$0.00002)	\$0.02460
	Mid Peak	\$0.02647	(\$0.00002)	\$0.02645
	Critical Peak	\$0.03081	(\$0.00002)	\$0.03079
EV-M	Customer Charge	\$70.47		\$70.47
		\$4.50		\$4.50
	Off Peak	\$0.03830	(\$0.00002)	\$0.03828
	Mid Peak	\$0.03960	(\$0.00002)	\$0.03958
	Critical Peak	\$0.04532	(\$0.00002)	\$0.04530

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Rate Class	Distribution Rate Component	Current Rates	REP/VMP Adjustment Factor	May 1, 2022 Rates
G-1	Customer Charge	\$422.90		\$444.70
	Demand Charge	\$8.96		\$9.43
	On Peak kWh	\$0.00573	(\$0.00002)	\$0.00571
	Off Peak kWh	\$0.00169	(\$0.00002)	\$0.00167
	Credit for High Voltage Delivery > 2.4 kv	(\$0.48)		(\$0.48)
G-2	Customer Charge	\$70.47		\$74.11
	Demand Charge	\$9.00		\$9.48
	All kWh	\$0.00226	(\$0.00002)	\$0.00224
	Credit for High Voltage Delivery > 2.4 kv	(\$0.48)		(\$0.48)
G-3	Customer Charge	\$16.19		\$17.03000
	All kWh	\$0.05133	(\$0.00002)	\$0.05131
M	Luminaire Charge Description			
	HPS 4,000	\$8.28		\$8.72
	HPS 9,600	\$9.58		\$10.08
	HPS 27,500	\$15.90		\$16.73
	HPS 50,000	\$19.78		\$20.81
	HPS 9,600 (Post Top)	\$11.24		\$11.83
	HPS 27,500 Flood	\$16.07		\$16.91
	HPS 50,000 Flood	\$21.46		\$22.58
	Incandescent 1,000	\$10.64		\$11.19
	Mercury Vapor 4,000	\$7.35		\$7.74
	Mercury Vapor 8,000	\$8.26		\$8.69
	Mercury Vapor 22,000	\$14.77		\$15.54
	Mercury Vapor 63,000	\$24.96		\$26.26
	Mercury Vapor 22,000 Flood	\$16.89		\$17.78
	Mercury Vapor 63,000 Flood	\$32.74		\$34.44

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Rate Class	Distribution Rate Component	Current Rates	REP/VMP Adjustment Factor	May 1, 2022 Rates
LED-1	LED-1 Fixtures			
	30 Watt Pole Top	\$5.37		\$5.66
	50 Watt Pole Top	\$5.60		\$5.90
	130 Watt Pole Top	\$8.64		\$9.10
	190 Watt Pole Top	\$16.57		\$17.44
	30 Watt URD	\$12.52		\$13.18
	90 Watt Flood	\$8.51		\$8.96
	130 Watt Flood	\$9.79		\$10.31
	30 Watt Caretaker	\$4.82		\$5.07
	Rates M, LED-1 & LED-2 Pole Accessory Charge			
	Pole -Wood	\$9.39		\$9.87
	Fiberglass - Direct Embedded	\$9.78		\$10.28
	Fiberglass w/Foundation <25 ft	\$16.50		\$17.35
	Fiberglass w/Foundation >=25 ft	\$27.59		\$29.01
	Metal Poles - Direct Embedded	\$19.67		\$20.68
	Metal Poles with Foundation	\$23.73		\$24.95
	Rate M, LED-1			
	All kWh	\$0.03948	(\$0.00002)	\$0.03946
	Rate LED-2	\$0.03948	(\$0.00002)	\$0.03946
T	Customer Charge	\$14.74		\$14.74
	All kWh	\$0.04577	(\$0.00002)	\$0.04575
V	Minimum Charge	\$16.19		\$17.03
	All kWh	\$0.05279	(\$0.00002)	\$0.05277

Rates D-11, EV-L, EV-M and EV are calculated through the TOU models approved in Dockets DE 17-189, DE 19-064 and DE 20-170.

