

STATE OF NEW HAMPSHIRE
BEFORE THE
PUBLIC UTILITIES COMMISSION

Docket No. DE 23-039

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

DIRECT TESTIMONY

OF

HEATHER GREEN

AND

J. M. SPARKMAN, JR.

April 28, 2023



TABLE OF CONTENTS

<u>TITLE</u>	<u>PAGE</u>
LIST OF ATTACHMENTS	iii
LIST OF TABLES	iii
I. INTRODUCTION	1
II. Purpose of Testimony and Executive Summary	3
III. Current Vegetation Management Program	4
IV. Challenges facing the Vegetation Management Program	14
V. Liberty’s Vegetation Management Program Going Forward	18
VI. CONCLUSION	30

LIST OF ATTACHMENTS

ATTACHMENT HG-1	WITNESS CVS
ATTACHMENT HG-2	CY2023 VMP PLAN
ATTACHMENT HG-3	CLEARANCE SPECIFICATION
ATTACHMENT HG-4	RATE PLAN VMP FORECAST 2023-2026
ATTACHMENT HG-5	DEFINITIONS

LIST OF TABLES

TABLE 1. HISTORICAL VMP SPENDING BY YEAR	14
TABLE 2. ANNUAL FORECASTED VMP SPENDING	20
TABLE 3. IVM FORECASTED COSTS	26

1 **I. INTRODUCTION**

2 **Ms. Green**

3 **Q. Ms. Green, please state your full name and business address.**

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

6 **Q. On whose behalf are you submitting this testimony?**

7 A. I am employed by Liberty Utilities Service Corp. (“LUSC”) as the Manager of
8 Vegetation Management. LUSC provides services to Liberty Utilities (Granite State
9 Electric) Corp., d/b/a Liberty (“Liberty” or the “Company”). I submit this testimony on
10 behalf of Liberty.

11 **Q. Please describe your educational and professional background.**

12 A. I graduated from Purdue University in 1994 with a Bachelor of Science degree in
13 Forestry with an Urban Option. I joined LUSC in April 2018. Prior to joining LUSC, I
14 worked for the State of New Hampshire’s Division of Forests and Lands as a Community
15 Forest Specialist. I also have extensive experience working as a municipal forester and
16 contract arborist. As the Village Forester for Oak Lawn, Illinois, I led the management of
17 the young urban forestry program including planting, pruning, and removing trees while
18 also educating the public, staff, and elected officials.

19 **Q. Please describe your duties at Liberty.**

20 A. I support Liberty’s Electric Operations by planning, budgeting, auditing work in progress,
21 completed work and managing the inspection and vegetation management programs,

1 vendor performance, and storm and regulatory support on the Company's distribution and
2 sub-transmission assets.

3 **Q. Have you previously testified in regulatory proceedings before this Commission?**

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

9 **Mr. Sparkman**

10 **Q. Mr. Sparkman, please state your full name, company, and business address.**

11 A. My full name is J. M. Sparkman, Jr. and I am employed by Lakeside Environmental
12 Consultants, LLC d/b/a ECI ("ECI") as Manager, Consulting Services. My business
13 address is 12324 Hampton Way Drive, Suite 101, Wake Forest, North Carolina.

14 **Q. Please describe your educational and professional background.**

15 A. I received a Bachelor of Science degree in Forestry from Virginia Polytechnic Institute
16 and State University. Prior to joining ECI in 2010 as a Senior Project Manager, I was
17 employed by Florida Power & Light Company in its Vegetation Management Business
18 Unit from 1991 to August 2010 in several positions of increasing responsibility leading to
19 Regional Lead. I was promoted to my current position at ECI in December 2012. My
20 curriculum vitae is provided in Attachment HG-1.

1 **Q. Mr. Sparkman, what is your role in this docket?**

2 A. My role is to provide technical assistance with vegetation management best practices in
3 the industry and to provide support for how Liberty's VMP plan has been executed
4 historically.

5 **Q. Have you previously testified in regulatory proceedings before this Commission?**

6 A. No.

7 **II. PURPOSE OF TESTIMONY AND EXECUTIVE SUMMARY**

8 **Q. What is the purpose of your joint testimony?**

9 A. Our testimony will describe Liberty's current distribution vegetation management
10 program ("VMP"). The current VMP focuses on maintaining the Company's existing
11 rights-of-way identifying high-risk trees and removing these high-risk trees. Our joint
12 testimony will describe some of the challenges experienced by the Company in meeting
13 the objectives of its VMP. Finally, our joint testimony will propose modifications to the
14 current VMP, primarily including a move to a 5-year cycle and a recommended increase
15 to the amount of vegetation management costs collected in base rates.

16 **Q. How is your joint testimony organized?**

17 A. There are three substantive sections to our testimony. Section III provides an overview
18 of the Company's existing VMP. Section IV describes the challenges facing the
19 Company's VMP. Finally, Section V describes the Company's proposal for the VMP
20 going forward to address these challenges.

1 **III. CURRENT VEGETATION MANAGEMENT PROGRAM**

2 **Q. What is the Company's philosophy toward vegetation management?**

3 A. Liberty's philosophy is that a robust VMP will result in safety, reliability, and rate
4 benefits.

5 As an electric distribution Company, Liberty has an obligation to provide safe and
6 reliable power. With respect to reliability, vegetation management has the greatest
7 impact. As referenced by Company witness Strabone in his testimony, 42% of outages
8 on the Liberty distribution system are tree related. This is more than twice the percentage
9 of outages associated with the next (number two) outage cause. As a result, the Company
10 has a VMP that strives to enhance reliability through the most effective and efficient
11 vegetation management methods, systems, and processes available and achievable while
12 also balancing costs to customers.

13 Tree-related outages also result in safety concerns for the general public, contractors, and
14 Liberty employees because downed trees and growing vegetation can impact wires.

15 Finally, a robust, proactive VMP is directly correlates with lower rates in the long run.
16 Planned tree removal is more efficient and less costly than restoration work required after
17 a tree falls. A prudent VMP avoids the replacement of larger priced assets, traffic
18 control, tree crews, line crews, and overtime. Taking a proactive approach to prune or
19 remove trees and other vegetation that may cause problems before service is affected
20 improves customer service and results in more affordable rates.

1 **Q. Please provide an overview of the current vegetation management program.**

2 A. Since 2007, the Company has followed the Vegetation Management and Reliability
3 Enhancement Programs approved in Order No. 24,777 (July 12, 2007) (as amended).¹

4 The most recent amendment included approval for recovery of \$2,200,000 through base
5 rates, with the ability to request an additional ten percent resulting in a cap of
6 \$2,420,000.²

7 To deliver safe and reliable electric service while also balancing costs to customers, the
8 Company's VMP implements industry best management practices for vegetation
9 management and also complies with the requirements of Puc 307.10, including ANSI
10 A300 standards.

11 **Q. Does the Company's VMP include planned and unplanned tree work?**

12 A. Yes. Meeting the Company's safety and reliability objectives requires annual spending
13 on Operation and Maintenance ("O&M") activities through both planned and unplanned
14 work. The planned work includes preventative cycle pruning and mowing (also referred
15 to as "flat cutting" or "brush cutting") of 870 roadside miles and 60 off-road supply
16 miles. Tasks related to this planned work include a review of field conditions, writeup of
17 prescriptive work orders, obtaining any necessary permissions and permits from
18 landowners and local governments and agencies, performing tree crew work, performing

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

² Order No. 26,376 at 13 (approving a settlement agreement including an increase in VMP cost recovery through base rates).

1 traffic control work, auditing and documenting these activities, and associated
2 administrative work supporting these activities. Planned work also includes tree
3 removals for grow-in and fall-in risk.

4 The unplanned work is work that occurs off-cycle. This off-cycle work can be identified
5 by customers, Liberty, or contractors. If the identified work is determined to be
6 necessary, it is addressed prior to the next cycle to ensure safety and reliability. Tasks
7 related to unplanned work include customer calls, make-safe assistance, spot tree
8 trimming, interim trim, and trouble work.

9 The VMP budget does not include the costs related to major storm events or new
10 construction work. Funding for major storm response is generally deferred for review and
11 recovery through the Company's major storm fund, and the costs of trimming for new
12 construction is charged to the specific capital project.

13 Consolidated Communications used to contribute toward the costs of this work under the
14 terms of legacy joint ownership maintenance agreements.

15 Attachment HG-2 provides Liberty's most recent report on the VMP as submitted to the
16 Commission on November 15, 2022.

17 **Q. Describe who performs Liberty's vegetation management work.**

18 A. The Company uses contract crews to perform its VMP work. The coordinated efforts of
19 one internal staff member and contracted arborist staff monitor the condition of the
20 Company's rights-of-way and apply various vegetation control practices to reduce,

1 manage, or eliminate incompatible growth. External contractors perform work in the
2 field for both planned and unplanned work as well as supplemental administrative
3 support and field review.

4 **Q. How does Liberty source its external vegetation management crews?**

5 A. In the past, the Company's VMP was based on one-year contracts with a primary vendor
6 to provide the bulk of the vegetation work. In 2017, the Company transitioned to multi-
7 year contracts. The Company moved to multi-year contracts to better insulate the
8 Company from economic changes and lock in competitive pricing, to increase stability
9 for crews, and to create greater certainty for budgeting forecasts, which all serve to
10 increase rate stability. The Company currently has two multi-year contracts in place,
11 which were obtained through a Request for Proposal ("RFP") process.

12 While the Company still finds multi-year contracts beneficial, current industry conditions
13 are impacting the ability to conduct successful RFPs for long term contracts. Tree care
14 contractors are not responding to multi-year RFPs or small project RFPs due to the sharp
15 price increases resulting from labor shortages, equipment maintenance availability, and
16 general inflation. To address this, the Company is preparing future multi-year RFPs that
17 include an escalation factor outside of the normal inflationary clauses common to multi-
18 year RFPs. This escalation factor is designed to address the increase in costs the
19 contractors are facing. Additionally, a fuel adjustment clause will be added to account
20 for large swings in fuel prices to limit contingencies for fuel escalation in contractor bid
21 prices.

1 **Q. How does Liberty ensure that contractors perform vegetation management work**
2 **safely?**

3 A. The Company onboards all new contractors and new employees of contractors. This
4 onboarding includes a review of all aspects of Liberty’s safety programs and
5 requirements and of contractor compliance with OSHA 1910.269, in addition to grades in
6 ISNET. The Company also offers mandatory annual safety reviews.³

7 **Q. What is the source of the current clearance requirements for the corridors through**
8 **which Liberty’s lines travel?**

9 A. The current minimum requirements are contained in Commission rule Puc 307.10.

10 **Q. Please describe the requirements of Puc 307.10?**

11 A. Puc 307.10, titled “Tree Pruning Standards” contains requirements for vegetation
12 management, as follows:

13 (a) With the land-owner’s consent, utilities shall prune trees adjacent to
14 all distribution circuits to the following minimum clearances on no more
15 than a 5-year cycle:

16 (1) 10 feet below the conductors;

17 (2) 8 feet to the side of the nearest conductor; and

18 (3) 15 feet above the conductors, at time of pruning.

19 (b) Utilities shall implement measures such as mid-cycle reviews to
20 identify and mitigate elevated risk from tree exposure on circuits or sections
21 of circuits that are significantly and/or continually experiencing tree-related
22 interruptions, where it is practical to do so.

³ Per OSHA 1910.269(a)(3), the host company is required to share information with the contractor company and vice versa. This requirement is also stated in the Management of Contractors document (Section 5).

1 (c) Utilities shall not be required to prune to the clearance standards
2 specified in (a) of this section where:

3 (1) The land-owner has refused or restricted permission to prune;

4 (2) A municipality or other local governing body, by ordinance or
5 other official means, has refused or restricted permission to prune;
6 or

7 (3) Pruning to the standards specified in subpart (a) above would be
8 detrimental to the health of the tree, in which the utility shall adhere
9 to the guidelines provided in ANSI A300 Part 1– 2008 Edition,
10 available as noted in Appendix B.

11 Please see Attachment HG-3 for diagrams depicting the above clearance specifications.

12 In rural areas, the Company seeks to obtain the clearance of all capable tree seedlings and
13 of lower branches of established trees to minimize future work. In urban areas, work can
14 be more customer-sensitive (i.e., landowners may object to the preferred scope of work).

15 As a result, while the Company seeks the same clearance for urban areas as the rural
16 areas, a smaller corridor may be necessary to accommodate landowner requests
17 consistent with Puc 307.10(c). For example, the Company may leave lower branches
18 under the communication wires, often referred to as a “shelf,” or may top trim brush to
19 leave a requested screen. The result is the acceptable specification for work in an urban
20 setting depicted in Attachment HG-3.

21 **Q. Please describe how the Company views the maintained and unmaintained areas for**
22 **tree removals.**

23 A. The diagram in Attachment HG-3 shows where trees may be growing in the zone that
24 could affect distribution system assets if they are not removed. Pruning of the trees,
25 rather than removing them, may create issues including undesirable aesthetics, tree

1 instability, decline in tree health, and/or premature death of the tree. These issues can
2 result in increased costs as compared to the costs of removing the tree in the zone shown
3 in Attachment HG-3.

4 **Q. Beyond routine vegetation management pruning, what other activities does the**
5 **Company engage in to ensure system reliability?**

6 A. The Company's VMP also includes planned tree removals. These tree removals are
7 crucial to minimizing future reliability risks and can also lower future costs.

8 **Q. When does the Company engage in tree removal instead of pruning?**

9 A. Tree removals are necessary when pruning a tree will violate the recommendation of
10 ANSI A-300 Part 1, when the tree has been determined to have a defect that may pose an
11 imminent failure, or when removal may be more economical than pruning. Routine tree
12 removal reduces future tree density and lowers future costs.

13 Liberty removes trees for clearance or grow-in risk in to create the 8-foot conductor
14 clearance at the time of pruning as required by Puc 307, which is a shift from Liberty's
15 the historical corridor of 6 feet or less. It also includes those trees outside of the corridor
16 that are classified as having a high "fall in" risk as such trees exhibit a higher probability
17 and consequence of failure into the corridor.

18 The Company's VMP includes tree removals in response to customer requests and
19 customer safety as well as removal of risk trees along services and along secondary and
20 primary lines. Additionally, proactive tree removal to address risk trees causing or about
21 to cause interruptions and outages is addressed through responses to calls, findings in the

1 field, or reports from those who conduct feeder sweeps. Finally, as part of line extension
2 or new line installation for new construction, the Company performs vegetation
3 management work to establish the corridor and address high-risk fall-in trees for those
4 new services and performs make-safe removal to make the system or site safe for a
5 private contractor to perform their work.

6 **Q. Do you keep an inventory of the trees that need to be removed?**

7 A. Yes. The Company has an inventory of some, although not all, of the highest-risk trees
8 that need to be removed to clear the 8-foot corridor (grow-in) and all fall-in risks. The
9 Company is able to locate, log, and address a thorough inventory of clearance trees
10 through the use of trained work planners and the work management system, called Terra
11 Spectrum, Field Note. This check and balance allows the Company to identify and
12 eliminate future work, especially along the corridor edge. For example, a tree growing
13 out of the ground just outside the corridor, but heading straight toward the energized
14 lines, might not be easily identified and removed by a tree crew, as they are not trained to
15 identify such trees. However, when circuit is work planned, or pre-screened by the work
16 planners, those trees can be appropriately marked for removal. This reduces future work
17 of removals or unnecessary pruning. The Company also has a “permission” person on
18 the tree crew staff who has the positive personality, assertiveness, and mindfulness to
19 obtain permission from customers to flat cut or remove trees that have been previously
20 topped or damaged by the cycle Liberty strives to achieve.

1 **Q. Explain why removals for risk are necessary.**

2 A. Removal are risk trees is necessary because such removals have a significant impact on
3 reliability and help avoid future restoration costs if the risk tree was not removed. It is
4 thus a necessity that Liberty removes trees for potential risk to its assets. Liberty has
5 incorporated the industry best practice of using consulting utility arborists to closely
6 evaluate the trees along the corridor. These arborists are assigned the task of finding and
7 marking the highest risk trees. It is expected in the future, as seen in the past few years,
8 that there will be an increase in removals from this activity. Removals for fall-in risk are
9 important because the fall-in risk cannot be mitigated by pruning. The larger the tree,
10 often the more impact on the system. For example, a fall-in tree can result in broken
11 poles or damaged transformers.

12 Further risks to the trees are Gypsy Moth, Emerald Ash Borer, old age, past storm
13 damage, and a variety of other natural pests and pathogens causing decline and death
14 among the tree canopy. The Company is seeing a higher volume of trees dying and
15 failing on the system from natural and cultural causes. Merely pruning these trees, as
16 opposed to removing them, creates more risk to the assets and these issues are not
17 diminishing.

18 Trees whose lead and canopy are to the side of the corridor can be managed with minimal
19 directional pruning. Trees whose lead is below and inside the corridor will have a
20 constant energy to grow toward the conductors. Where sound directional pruning cannot

1 be achieved, there will be both future work and risk of grown in, but also increased decay
2 and increased poor structure/poor structural stability giving rise to a higher risk to fail.

3 **Q. Is customer service an important part of vegetation management?**

4 A. Yes, it is one of the most important parts of the vegetation management program. To
5 provide the best customer service, the Company needs to perform some tree work to
6 assist customers with the safe removal of their trees. While the Company removes trees
7 to meet system goals and needs, providing the customer with aesthetically pleasing
8 landscapes is a result of sound utility vegetation management practices. There are cases
9 when a customer requests tree removal that is outside the scope of safety or scope of
10 work; the Company will not perform that work. However, there are other cases where it
11 is reasonable and in the best interest to perform the requested removal.

12 Further, setting and meeting customer expectations directly correlates with future consent
13 to perform planned reliability-based vegetation work. Many restrictions or refusals are
14 related to a lack of understanding of the current need and/or where past expectations were
15 not met or clarified.

16 **Q. Summarize the amounts spent for the Company's vegetation management program**
17 **for the past five years, the miles trimmed for each of those years, and the total cost**
18 **per mile line for each of the five years.**

19 A. Please see Table 1 for the historical spending.

1

Table 1. Historical VMP Spending by Year

	Summary of Annual Spending				
	<u>Incremental VMP and REP O&M Spend</u>				
	Actual CY 2018	Actual CY 2019	Actual CY 2020	Actual CY 2021	Actual CY 2022
Actual VMP	\$ 2,422,443	\$ 2,096,528	\$ 2,461,057	\$ 1,870,813	\$ 3,229,291
Annual Program Budget	\$ 2,157,086	\$ 2,307,000	\$ 2,200,000	\$ 2,420,000	\$ 2,420,000
Amount Subject to Recovery	\$ 2,422,443	\$ 2,096,528	\$ 2,420,000	\$ (549,187)	\$ 2,420,000
VMP and REP Base Spending Level	<u>\$ 1,500,000</u>	<u>\$ 1,500,000</u>	<u>\$ 1,850,000</u>	<u>\$ 2,420,000</u>	<u>\$ 2,420,000</u>
Total Revenue Requirement	\$ 922,443	\$ 596,528	\$ 570,000	\$ -	\$ -
Less Reimbursements from Consolidated	\$ (478,142)	\$ (495,381)	-	-	-
Total Incremental Revenue Requirement	\$ 444,301	\$ 101,147	\$ 570,000	-	-
Total O&M Recovery	<u>\$ 1,944,301</u>	<u>\$ 1,601,147</u>	<u>\$ 2,420,000</u>	<u>\$ (549,187)</u>	<u>\$ 2,420,000</u>
Miles Trimmed	\$ 220	\$ 222	\$ 194	\$ 84	\$ 162
Cost per Mile w/o Consolidated	\$ 11,034	\$ 9,425	\$ 12,678	\$ 22,288	\$ 19,884
Cost per Mile w/Consolidated	\$ 8,856	\$ 7,198	N/A	N/A	N/A

2

3 **IV. CHALLENGES FACING THE VEGETATION MANAGEMENT PROGRAM**

4 **Q. Please provide a summary of the challenges that the Company is facing with respect**
5 **to the existing VMP.**

6 A. Liberty is challenged to meet its commitment to maintaining its VMP on a four-year trim
7 cycle within the currently allowed fixed budget. The Company has experienced
8 increased costs of its VMP as fuel costs, labor costs, and traffic control requirements and
9 costs have all been increasing, allowing fewer trimming activities to occur within the
10 fixed budget. This has been exacerbated by the loss of the Consolidated
11 Communications' contribution to trimming costs.

12 **Q. Explain why the expense to maintain a clear corridor has increased.**

13 A. The cost to maintain the corridor has increased for several reasons. First, as discussed
14 above, all VMP costs have increased due to labor shortages and inflation. Second, in
15 2014 the Commission adopted Puc 307.10 and its corridor requirements that were wider
16 than what Liberty had maintained before 2014. Puc 307.10 mandated an 8 foot wide

1 corridor, 2 feet wider than Liberty had previously maintained before.⁴ Compliance with
2 Puc 307.10 requires Liberty to expand its existing corridor by 4 feet (two feet on each
3 side of the conductors to increase the clearance from 6 to 8 feet). Given Liberty's four-
4 year trim cycle, this means that Liberty must expand over 200 miles of its corridor every
5 year for four years. And where Liberty's existing corridor did not meet the previous 6
6 foot clearance requirement, the Company will need to increase the corridor by more than
7 2 feet of the outside conductors. This is well beyond the scope of work necessary to
8 maintain a corridor, and is substantially more expensive as it requires cutting many more
9 and larger trees.

10 **Q. Does pruning trees rather than removing them create negative implications for the**
11 **program?**

12 A. Yes. Without additional funding and due to the increased cost of tree removal, the
13 Company must rely on only the lower-cost pruning method to meet the requirements of
14 Puc 307.10. However, pruning is a short-sighted solution that is not professionally
15 appropriate or aesthetically desired.

16 Pruning a tree to limit costs may help meet the requirements of Puc 307.10, but can lead
17 to higher long-term costs because the same tree will need to be removed in the future
18 when it is larger and more expensive to remove. And pruning in lieu of tree removal can
19 impact the health or structure of a tree. When a tree's health or structure is impacted, it is
20 best industry practice to remove the whole tree. Pruning increases the number of these

⁴ The other electric utilities in New Hampshire had traditionally maintained an 8 foot corridor, which is likely why the rule chose this distance and is why the new rule did not materially impact them.

1 trees that must be remove, which will again happen in the future when they are larger and
2 more expensive to remove. An exception is where pruning is performed on customer
3 request or refusal to remove the tree. In these instances, there is no choice but to prune
4 the tree. However, if the customer is not limiting the work, Liberty should be afforded
5 adequate funding to be able to follow industry best practices. Otherwise, Liberty will be
6 compelled to prune trees to the point of damage in health and/or structure, at which time
7 a more expensive removal will be required.

8 **Q. Does pruning trees that should otherwise be removed also increase risk and**
9 **liability?**

10 A. Yes. Pruning instead of removing will create future risk and liability with respect to the
11 Company's distribution system assets or other potential targets on private property.
12 Vegetation management practices that focus on short term costs before best practices
13 create situations of poor customer relations because these pruning practices can lead to
14 damage to a customer's trees or cause the trees to become unsightly. This will also
15 increase the likelihood that customers will not grant permission for future cycle pruning.

16 **Q. Are there increased costs associated with delayed tree removal?**

17 A. Yes. As mentioned above, when trees grow, the costs of their future removal increase
18 exponentially. For example, removing small 5 to 8-inch trees found in or at the edge of
19 the corridor are good investments as they eliminate future work at minimal operational
20 and aesthetic costs. Removal of these small trees also provides for better current and
21 future customer relations. Removal of these 5 to 8" diameter trees represents an

1 approximate annual cost of \$114,200. However, if the tree is of good health and it is
2 over-pruned to achieve the clearance, the result could be significantly unstable and poorly
3 attached sprouts with growth that will require more pruning work in the future, which can
4 further increase future costs and damage the tree causing increased future costs.

5 Since the Company has not had sufficient funding to meet this clearance, Liberty is not in
6 compliance with Puc 307.10. The Company has a backlog of marked trees that it has not
7 been removing due to limited funding and has thus deferred those removals. The
8 Company has not even been able to identify all trees that need to be removed for the full
9 8 foot corridor clearance. Deferring removals for the future results in higher costs to the
10 program, therefore the Company is requesting additional funding to eliminate the deferral
11 backlog.

12 **Q. Please provide a detailed overview of the Company's challenges with its vegetation**
13 **management contractors.**

14 A. As detailed in Docket No. DE 21-138, in the Direct Testimony of C. Steele, H. Green,
15 and Heather Tebbetts, in 2021, a four-year contract was awarded to ClearWay, the only
16 bidder that appeared to be able to meet the budget for a 4-year cycle designated in the
17 2019 Rate Case. However, that contractor defaulted three months into the first year of
18 the contract, citing the inability to pay contractor employees and financial issues arising
19 from other contracts.

20 Liberty revisited the prior RFP responses and awarded the contract to the next lowest
21 bidder, Asplundh, which happened to be the incumbent contractor that just completed its

1 four-year contract with Liberty. However, Asplundh returned with reduced crews and
2 increased costs. To fill in the gaps in the vegetation management schedule associated
3 with these reduced crews, Liberty had to work with additional vendors. This further
4 raised the costs of the Company's vegetation management from approximately
5 \$12,000/mile to \$22,000/mile and allowed the Company to complete only 84 miles in
6 2021 and stay under the fixed budget. As a result, Liberty has had to defer 243 miles in
7 the current four-year cycle (including 2023 expected trim miles).

8 In 2022, Liberty released mini bids for cycle work in the Salem service area and the 115
9 kV maintenance corridor. The Company also worked to incorporate dedicated
10 mechanized equipment, a mechanical mower, and a Jarraff All-Terrain Tree Trimmer as
11 well as additional local crews to collectively function as workforce multipliers in the
12 Salem area in an effort to stabilize resources and costs moving forward.

13 The Company is now fully staffed with full-time Vegetation Management tree crews and
14 expects that in 2023 approximately 165 miles will be trimmed, which is well short of the
15 mileage required for a 4-year cycle, but will allow the Company to be in line with a 5-
16 year trim cycle.

17 **V. LIBERTY'S VEGETATION MANAGEMENT PROGRAM GOING FORWARD**

18 **Q. Explain the Company's proposal to modify its vegetation management plan.**

19 A. The Company is recommending that beginning in 2024, the 4-year cycle be changed to a
20 5-year cycle and the amount included in base rates be based upon the forecasted
21 vegetation management budget to meet that 5-year cycle, to establish and maintain the 8-

1 foot corridor, and to allow the Company to eliminate the inventory of trees for which
2 removals have been deferred and other additional funding needs. The Company is also
3 requesting full reconciliation of the cost to execute the VMP against the amount in the
4 Rate Years.

5 **Q. Please explain the VMP funding level included in the Company’s Multi-Year Rate**
6 **Plan.**

7 A. The Company included \$4.1 million in Rate Year 1, \$4.3 million in Rate Year 2, and \$4.6
8 million in Rate Year 3 related to the vegetation management program. This level of
9 funding supports a 5-year scheduled maintenance trimming cycle as well as funding for
10 risk trees and activities to support a well-balanced vegetation management program. The
11 Company will prepare an annual reconciliation report detailing the expenditures related
12 to vegetation management along with supporting documentation. The variances in
13 spending will be fully reconciled for certain identified programs within the VMP as part
14 of the Revenue Adjustment Charge (“RAC”) in the Electric Reconciliation Adjustment
15 Mechanism (“ERAM”), as discussed in other testimonies in this docket. Each annual
16 reconciliation filing will include a calculation of the variances from the amount included
17 in base rates, which will be recovered or refunded the following year through the RAC.
18 There will be no limit on the reconciliation of the VMP.

19 Table 2 below is a summary of the costs the Company is requesting to maintain a robust
20 VMP. A complete budget can be found in Attachment HG-4.

Table 2. Annual Forecasted VMP Spending

	RY 1	RY 2	RY 3
Total VMP O&M Expenses	\$ 4,050,563	\$ 4,292,202	\$ 4,559,578
Cost Per Mile @175 miles	\$ 23,146	\$ 24,527	\$ 26,055

Q. Why is the Company recommending a significant increase in funding for the VMP?

A. In DE 19-064, the Settlement Agreement provided for recovery of up to \$2,420,000. Expenses that exceeded the agreed amount would not be recovered. Any underspending would be reconciled each year and either carried into the next program year or returned to customers. Except for 2021 when the contractor defaulted, Liberty has spent more than \$2,420,000 each year, as illustrated in Table 1 above.

The proposed VMP budget is necessary to align with current market costs. There are a limited number of contractors for which multiple companies compete. This competition, combined with a shortage in the labor market, results in a market price that is significantly higher than the costs approved in Docket No. DE 19-064. In addition, Liberty no longer receives contribution from Consolidated Communications (through a joint pole ownership agreement) and the cost of traffic control is increasing annually.

Q. What factors caused the increased vegetation management costs?

A. Several factors that contributed to the increase in required funding for the Company to continue to meet its VMP targets and continue to provide safe and reliable service. The first is the loss of payments from Consolidated Communications. This loss represents approximately 20% of the overall pruning costs and 50% of the tree removal costs, and

1 results in either a 20% reduction in the work to be performed, or increased costs of about
2 20% to complete the work.

3 The second factor is the deferred work referenced above. To meet the unexpected loss of
4 Consolidated Communications payments, in 2020 the Company deferred 30 miles of
5 planned cycle trimming and the majority of tree removals. The Company deferred an
6 additional 74 miles to 2022 as a result of the vegetation management contract issues and
7 subsequent workforce issues in 2021. And in 2022, an additional 139 miles were
8 deferred, for a total of 243 deferred miles.

9 The third factor is the workforce issues and the increased cost to do the work as discussed
10 in Section IV. The tree care industry continues to experience a shift and loss of
11 workforce in general, amplified by the effects of the COVID-19 pandemic. Alternate
12 choices for employment are driving the tree care workforce to higher paying locations, or
13 other firms in other trades or sectors (i.e., out of the tree care industry). As a result, the
14 cost of retaining a workforce has been increasing. Liberty was shielded from this
15 industry trend in recent years because of multi-year contracts, but such contracts have
16 since expired.

17 In 2018, the contractor was able to keep ten crews on property. In 2020, there were seven
18 or eight crews on property, with losses of long-time crews occurring. In 2021, the
19 contractor had difficulty keeping six crews on property. Liberty's vegetation
20 management contractor was not able to establish a consistent local crew and had a
21 rotation of crews when on property that generally did not exceed three crews at a time.

1 Workforce retention for tree crews and quality work is a frequent topic of discussion and
2 concern at many utilities. It continues to be the theme in various presentations by
3 industry groups.

4 The workforce issue is not a phenomenon limited to a New Hampshire, New England, or
5 the East Coast. It is nationwide. Potential applicants are not responding to job
6 opportunities as currently posted – regardless of the reputation of the company, scope of
7 work, location, and pay.

8 The fourth cost driver is the increased quantity of needed tree removals. There are three
9 types of removals: Fall-In, Grow In/Corridor Creation, and Make Safe. Before the
10 implementation of Puc 307.10, most of the tree removals were Fall-In risks. The corridor
11 was fairly established and the unit price trees (those that were too large to be part of the
12 “trimming” price) started at 9” Diameter at Breast Height (“DBH”) (diameter of a tree at
13 four and half feet from ground). When the Commission changed the corridor through
14 Puc 307.10 and Liberty had to expand its side clearance from six to eight feet, the
15 quantity of these larger, more expensive trees that needed to be cut was well beyond the
16 quantity and scope that could be achieved with the allocated funds. The result is the
17 inability to achieve the 8-foot corridor under current funding.

18 The last significant driver is the increased cost of third-party traffic control for both the
19 private sector and the government sector (police). This industry is not shielded from the
20 workforce issues mentioned above. It is also influenced by communities implementing
21 new ordinances (or interpreting existing ordinances differently) so that Liberty is required

1 to have more expensive police personnel provide the traffic control. The increase is seen
2 both in cost per hour and in the number of locations requiring police for traffic control.
3 For example, Walpole Police has adjusted their definitions of when a traffic detail is
4 required. In 2017, the traffic detail charges were \$38,000, while in 2022, the traffic detail
5 charges were approximately \$500,000.

6 **Q. Are there any other rules that have increased the cost of vegetation management?**

7 A. Yes. The ANSI Z133-2017 standard created additional situations that require the System
8 Operator, or the utility, to clear trees in a certain area, increasing the Make Safe removal
9 costs. This standard also exposed the Company to higher costs of otherwise private tree
10 removal and “Make Safe” situations.

11 Previously, if Liberty’s scope of work did not require the tree work, the Company would
12 assist a private tree contractor in making the situation safe for them to perform the work.
13 Changes in the language of the ANSI Z133-2017, Safety Requirements for Arboricultural
14 Operations, now limit some tree work such that it can only be performed by the utility.

15 Under these new standards, if a property owner engaged a trained and skilled private tree
16 care company to perform tree work within close proximity to the wires that were not
17 otherwise required by the utility, there are situations in which that contractor could not
18 perform the work. To say it another way, a contractor qualified to work for a utility and
19 also works in the residential sector has two different abilities of work pursuant to the
20 ANSI standards. If hired by the utility, they have one chart to abide by and can perform
21 the work. When hired by a residential customer, they have another chart to abide by and

1 may not be able to perform the work. There are situations where the tree work can only
2 be performed by a contractor hired by the utility. Liberty has already experienced
3 impacts from this change and anticipates it will increase the costs of tree work and has
4 allocated \$20,000 of the budget for these costs. The costs are unplanned and dependent
5 on the volume and scope of the customer request.

6 **Q. Why is the Company proposing to move from a 4-year to a 5-year cycle?**

7 A. Due to the contractor issues and the revenue shortfall, the Company currently has 243
8 miles that are deferred. While the Company's contractor is now fully staffed, the 165-
9 mile annual trim will not address this backlog. And the current level of approved
10 spending is not adequate to maintain even a 5-year cycle. Maintaining a 4-year cycle
11 would require an even larger increase to the VMP budget than what the Company is
12 proposing. Therefore, the Company believes moving to a 5-year cycle is a prudent
13 decision as it will balance the affordability for our customers while adequately addressing
14 reliability and safety issues.

15 **Q. Explain in detail the funding level to support the management of high-risk trees.**

16 A. The Company's MYRP for VMP includes approximately \$476,000 per year to remove
17 the backlog of high-risk trees, as these trees are classified as Grow-In (Corridor
18 Establishment), Fall-in (Enhanced Risk Tree Removal or Storm Hardening), Make Safe
19 (Customer Assisted Work), and Removal/Replacement (Landscape planted trees).

20 The Company has included approximately \$147,000 per year to remove the underlying
21 brush that includes small trees with a 5" to 8" diameter because once this area of

1 vegetation is removed, the annual upkeep will be a minimum cost. The Company
2 believes this level of funding is adequate to address and eliminate the inventory of trees
3 for which removals have been deferred.

4 **Q. Are there other initiatives the Company wants to undertake?**

5 A. Yes, the Company maintains off-road distribution/supply lines in the communities of
6 Lebanon, Hanover, Enfield, and Salem. Transmission corridors (often leased rights-of-
7 way) convert terrestrial forest habitat to low-growing shrub/scrub/grassland habitat that is
8 conducive to the safe and reliable transmission of energy. Periodic Utility Vegetation
9 Management (“UVM”) is required to maintain vegetation in a state that promotes safe
10 and reliable transmission and distribution for our customers. UVM seeks to establish and
11 conserve early successional grassland habitat which has benefits beyond regulatory
12 compliance. As a subpart of the UVM, the Company is also looking to return to
13 Integrated Vegetation Management (“IVM”) which simultaneously maintains
14 infrastructure security and benefits wildlife conservation initiatives, including pollinator
15 habitat. Currently, the Company performs vegetation management using only
16 mechanical means which promotes invasive woody material, thereby hampering visibility
17 and movement along the corridor. Implementing IVM can discourage the aggressive,
18 invasive woody material as well as invasive brush. By encouraging native local shrubby
19 habitats and pollinator habitats, it will require fewer resources in the future to keep the
20 corridor safe and reliable while promoting natural and healthy wildlife and pollinator
21 habitats.

1 To accomplish the IVM, the Company wants to

- 2 • Support selective herbicide use;
- 3 • Support biodiversity focus and incorporation;
- 4 • Support pollinator and wildlife habitat incorporation;
- 5 • Support educational programs; and
- 6 • Support movement into the roadside land management program where possible –
7 this includes adding a resource to educate customers about the types of vegetation
8 to plant near the roadside where the lines reside for long-term partnership and
9 cooperation between the Company and the customer.

10 The total cost for the IVM includes the items in the following table:

11 *Table 3. IVM Forecasted Costs*

			Escalator	Rate Year 1	Rate Year 2	Rate Year 3
Vegetation Management		5 Yr				
# Miles	165.09	175.00		175.00	175.00	175.00
IVM/ Herbicide in ROW	\$69,210	\$69,210	Specific	\$175	\$32,500	\$5,000
Polinator Education/Habitat	\$5,000	\$5,000	5%	\$64,605	\$5,381	\$5,650
Monarch Butterfly Conservation	\$20,000	\$20,000	5%	\$5,125	\$21,525	\$22,601
Sub-Transmission Right of Way Clearing	\$0	\$80,000	5%	\$20,500	\$86,100	\$90,405
Total VMP O&M Expenses	\$94,210	\$174,210		\$82,000	\$145,506	\$123,657

13 **Q. What other programs are funded in the VMP in the MYRP term?**

14 A. Liberty has included funding to engage an outside expert to review the current vegetation
15 management program and provide recommendations on improving the efficiency and
16 effectiveness of the program.

1 Liberty would conduct this assessment in the first and second quarters of 2025 and utilize
2 its results in the next rate case. Attachment HG-4 provides the scope of the services to be
3 provided in support of this effort. At a high level, the assessment would include the
4 following:

- 5 • A review of the customer relations practices and process for responding to
6 customer inquiries and methods to improve communication and expectations.
- 7 • Review of current contract methodologies. Define pros and cons of different bid
8 methodologies (cost plus vs. units) and how they relate to different types of crews
9 (schedule cut/service orders/mowing/spraying).
- 10 • Recommendations for the most efficient crew and equipment makeup of the
11 projected workforce.
- 12 • Recommendation of member engagement ROW programs to consider (Customer
13 maintain ROW program, replace a tree program, social media member education).
- 14 • Organization and management practice recommendations including appropriate
15 staffing levels.
- 16 • Review of current vegetation management program metrics.
- 17 • Overall efficiency of the current program (tree pruning and removal, brush control
18 methods, etc.).
- 19 • Effectiveness of the current approach to planning, scheduling, and completing
20 maintenance.
- 21 • General field performance of the existing tree crews from the standpoint of
22 industry best practices, productivity, and effectiveness.

- 1 • General tree and vegetation conditions in relation to clearance guidelines and the
2 ability of the system to perform under these clearances.
- 3 • Review of the current vegetation management budget and recommendations for
4 cost savings.
- 5 • Detailed review of the data collection and record-keeping systems.
- 6 • Audit recommendations to ensure work quality and contract compliance.
- 7 • Program organizational structure including contractor crew size and makeup and
8 appropriate supervision levels.
- 9 • Customer contact and public relations practices.
- 10 • Identification of opportunities to reduce the vegetation workload in future cycles.
- 11 • Benchmarking of cost, tree-related outages, and production based on available
12 data from Liberty.
- 13 • Opportunities for reliability improvement.
- 14 • Suggested specification modifications to drive efficiencies and effectiveness.
- 15 • Methods for control of brush including IVM enhancements.
- 16 • Work scheduling recommendations to maximize reliability improvements.
- 17 • Evaluation of productivity and work quality.
- 18 • Post-outage investigation program recommendations.
- 19 • Appropriateness of existing cycle(s) based on field observations and system
20 reliability with recommendations for modification where appropriate.

1 **Q. Is the funding level included in the MYRP the same as the budget provided in the**
2 **November 15, 2022, report on CY2023 VMP?**

3 A. No. Since the November 2022 filing, Liberty has received updated costs from its
4 contractors which included inflationary impacts. The revised plan includes a more robust
5 and effective program aimed at minimizing costs in the long run.

6 **Q. Explain the escalation factors**

7 A. The budget includes an annual 5% inflation factor. For a few line items, some volume
8 and industry trend factors have replaced the 5% inflation factor.

9 For example, the unplanned Spot, Trouble, and Interim work is expected to see higher
10 volumes because of the volume of deferred work and added growth between cycles. This
11 is hard to project, as it is based on field conditions, field findings, and customer calls. A
12 2% volume factor has been added for these line items.

13 The planned cycle work and Sub-Transmission Right of Way Clearing are expected to
14 see a higher escalator factor of 10% to 12% for labor costs alone. Additionally, as there
15 is additional growth of vegetation that is now closer proximity to the conductor, the
16 volume of debris has also likely increased. Therefore, the previously provided bids are
17 not comparable in either amount of time to meet scope of work, the cost per hour for
18 labor to manage to scope of work, the equipment maintenance, or the debris management.

19 And lastly, the IVM/Herbicide in the ROW plan is varied from year to year and it is
20 identified specifically.

1 **VI. CONCLUSION**

2 **Q. Please summarize the total costs associated with a robust vegetation management**
3 **program.**

4 A. The funding level included in the MYRP supports a 5-year planned trim cycle in
5 compliance with the requirements of Puc 307.10, including ANSI A300 standards. The
6 Company's VMP implements industry best management practices for vegetation
7 management and supports maintaining and continually improving reliability
8 performance, performing industry best practices, and providing good customer service.
9 The annual reconciliation process allows for the review of all costs incurred by the
10 Company in support of the VMP and allows the Company to focus on achieving the work
11 identified in the MYRP.

12 **Q. Does the Company believe that the proposal, as outlined in this testimony, will allow**
13 **Liberty to continue to provide safe and reliable service?**

14 A. Yes.

15 **Q. Does this conclude your pre-filed direct testimony?**

16 A. Yes.