

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

**DOCKET NO. DE 22-\_\_\_\_**  
**REGULATORY RECONCILIATION ADJUSTMENT**

**Vegetation Management and Reliability Reports**

**DIRECT TESTIMONY OF**

**ROBERT D. ALLEN**  
**JENNIFER J. HEBSCH**  
**RUSSEL D. JOHNSON**

**On behalf of Public Service Company of New Hampshire**  
**d/b/a Eversource Energy**

**March 1, 2022**

**TABLE OF CONTENTS**

**I. INTRODUCTION.....1**

**II. VEGETATION MANAGEMENT PROGRAM .....7**

**III. 2021 VEGETATION MANAGEMENT PROGRAM.....11**

**IV. 2022 VEGETATION MANAGEMENT PROGRAM PLAN .....12**

**V. 2021 RELIABILITY PERFORMANCE .....14**

**VI. CONCLUSION .....16**

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1 **I. INTRODUCTION**

2 **Q. Mr. Allen, please state your full name, position and business address.**

3 A. My name is Robert D. Allen. I am employed by Eversource Energy Service  
4 Company (“ESC”) as Manager of Vegetation Management. In that role I provide  
5 support to Public Service Company of New Hampshire d/b/a Eversource Energy  
6 (“Eversource” or the “Company”). My business address is 780 N. Commercial  
7 Street Manchester, New Hampshire 03105.

8 **Q. Please summarize your educational background.**

9 A. I have an Associate of Science in Arboriculture from Stockbridge School of  
10 Agriculture, University of Massachusetts Amherst, Massachusetts.

1 **Q. Please summarize your professional experience.**

2 A. I was appointed to my current position at ESC in August 2013. From 2009 to 2013,  
3 I held the position of Supervisor of Vegetation Management for the Company.  
4 From 1992 to 2009, I was Arborist for the Company's affiliate, The Connecticut  
5 Light and Power Company. Overall, I have approximately 40 years of experience  
6 in Arboriculture.

7 **Q. Have you previously testified before the New Hampshire Public Utilities**  
8 **Commission?**

9 A. Yes, I have testified before the New Hampshire Public Utilities Commission (the  
10 "Commission") in Eversource's last Reliability Enhancement Program ("REP")  
11 submission in Docket No. DE 18-177, Eversource's most recent rate case in Docket  
12 No. DE 19-057, and in support of the Company's 2021 Regulatory Reconciliation  
13 Adjustment filing in Docket No. DE 21-029.

14 **Q. Ms. Hebsch, please state your full name, position and business address.**

15 A. My name is Jennifer J. Hebsch. I am employed by ESC as Director-Reliability &  
16 Resiliency Planning and Standards Engineering. My business address is 247  
17 Station Drive, Westwood, Massachusetts.

18 **Q. What are your principal responsibilities in this position relevant to this filing?**

19 A. As the Director-Reliability & Resiliency Planning and Standards Engineering, I am  
20 responsible for the Reliability and Resiliency Team, which conducts data analytics  
21 associated with reliability and system performance, as well as reliability and

1           resiliency program development and resiliency enhancement planning.

2   **Q.    Please summarize your professional experience and educational background.**

3    A.    I graduated from Northeastern University in Boston, Massachusetts in 2005 with a  
4           Bachelor of Science in Civil Engineering. I also received a Master of Science in  
5           Power Systems Management from Worcester Polytechnic Institute in 2007. Upon  
6           graduation from Northeastern University, I was hired by the ESC and have held  
7           various positions within Engineering, including Transmission Engineering,  
8           Substation Performance and Reliability Engineering and Distribution Engineering.  
9           Each role came with increasing responsibility leading to my current position as  
10          Director-Reliability & Resiliency Planning and Standards Engineering.

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

12 A.    No, I have not.

13 **Q.    Mr. Johnson, please state your full name, position and business address.**

14 A.    My name is Russel D. Johnson. I am employed by ESC as Director-Distribution  
15          Engineering. My business address is 780 North Commercial Street, Manchester,  
16          New Hampshire.

17 **Q.    What are your principal responsibilities in this position?**

18 A.    As the Director-Distribution Engineering, I am responsible for optimizing the  
19          performance of the distribution system assets in New Hampshire that are operated

1 by the Company and to ensure customer needs for service and reliability are  
2 satisfied.

3 **Q. Please summarize your professional experience and educational background.**

4 A. I graduated from Clarkson University in Potsdam, New York in 1985 with a  
5 Bachelor of Science in Electrical and Computer Engineering. I also received a  
6 Master of Science in Electric Engineering with a concentration in Power  
7 Engineering from Clarkson University in 1987. Upon graduation from Clarkson  
8 University, I was hired by the Company and have held various positions in  
9 Distribution Engineering, Large Commercial and Industrial Sales, System Projects,  
10 and System Planning with increasing responsibility leading to my current position  
11 as Director-Distribution Engineering. I have also been a licensed Professional  
12 Engineer in the State of New Hampshire since 1990.

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

14 A. Yes, I have testified before the Commission in past proceedings, including Docket  
15 No. DE 09-035 (Reliability Enhancement Program), Docket No. DE 13-177 (Least  
16 Cost Integrated Resource Plan), and Docket No. 16-576 (Development of New  
17 Alternative Net Metering Tariffs and/or Other Regulatory Mechanisms and Tariffs  
18 for Customer-Generators).

19 **Q. What is the purpose of your testimony?**

20 A. The purpose of our testimony is to present the Company's reports on its vegetation  
21 management and reliability performance for calendar year 2021 as required by

1 Section 9.3 of the comprehensive settlement in the Company’s rate case, Docket  
2 No. DE 19-057, which was approved by the Commission in Order No. 26,433  
3 issued on December 15, 2020 (the “Settlement”). Specifically, the Settlement set  
4 out the requirements for a series of reports and information to be filed by March 1<sup>st</sup>  
5 of each year as the first step in the Company’s annual Regulatory Reconciliation  
6 Adjustment (“RRA”) filing. This testimony accompanies these required reports.

7 **Q. Would you please describe the specific reports that are included?**

8 A. Yes. Section 9.3 of the Settlement states:

9 By March 1 of each year the Company shall submit a filing  
10 containing reports on PSNH’s reliability statistics and vegetation  
11 management activities, and requesting the Commission open a new  
12 docket to consider the filing and other RRA issues. Such reports  
13 shall include information on reliability and vegetation management  
14 activities similar to information historically included in the  
15 Company’s Reliability Enhancement Plan filings. Further detail  
16 regarding the report contents is provided in Appendix 4. The  
17 Company shall also include as part of this annual filing the proposed  
18 adjustment to the August 1 RRA associated with prior calendar year  
19 vegetation management activities, as described in Section 9.1(b)  
20 above.

21  
22 In line with that requirement, this testimony includes the reports identified in  
23 Appendix 4 to the Settlement.

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

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

<b>Attachment</b>	<b>Description</b>
Attachment RDA/JJH/RDJ-1	2021 Vegetation Management Plan and Performance Report
Attachment RDA/JJH/RDJ-2	2022 Vegetation Management Plan Proposal
Attachment RDA/JJH/RDJ-3	Reliability Report

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We note that Attachment RDA/JJH/RDJ-2 includes the Company's 2022 vegetation management plan proposal, which is not among the reports identified in Appendix 4 to the Settlement. However, the Company provided a 2021 vegetation management plan as part of its 2021 RRA filing (submitted on March 1, 2021 in Docket No. DE 21-029). In the interest of consistency, and to aid the Commission's review of the Company's vegetation management activities, the 2022 Vegetation Management Plan, as filed in Docket No. DE 19-057 on November 15, 2021, is included here.

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

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

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- Section II provides an overview of Eversource's vegetation management program ("VMP"), including its key initiatives, objectives and performance;
- Section III discusses the Company's vegetation management activities and performance in 2021;



- 1           • Section IV discusses the Company’s vegetation management activities plan
- 2           for 2022;
- 3           • Section V discusses the Company’s reliability performance in 2021; and
- 4           • Section VI provides the conclusion to our testimony.

5           Mr. Allen is primarily responsible for Sections II, III and IV. Ms. Hebsch and Mr.

6           Johnson are primarily responsible for Section V.

7   **II. VEGETATION MANAGEMENT PROGRAM**

8   **Q. Mr. Allen, what is the overall design of the vegetation management work**  
9   **performed under the Eversource VMP?**

10   A. As discussed in the Company’s Settlement and Docket No. DE 21-029, the

11   Eversource VMP is structured as a comprehensive effort involving multiple

12   departments and significant amounts of data analysis. The plan is coordinated on

13   an individual circuit basis with the distribution engineering group and targets

14   specific areas to improve reliability and resiliency. The execution of the actual tree

15   work is managed by Eversource’s Vegetation Management Department utilizing a

16   staff of Company arborists, contract arborists and tree trimming and removal

17   contractors. The program covers all primary wires, with scheduling developed on

18   the basis of a combination of performance and circuit-specific cycle-based

19   trimming.

20   There are four aspects of the VMP. First, the program includes Scheduled

21   Maintenance Trimming (“SMT”), which follows an established trim cycle to ensure

1 that all circuits, regardless of current performance, are trimmed at least once every  
2 four to five years, subject to circuit-specific considerations. Second, the Company  
3 performs Enhanced Tree Trimming (“ETT”) to manage vegetation along the main  
4 backbone of the circuit. In contrast to standard trimming, ETT expands the zones  
5 of tree pruning activity to create additional clearances between tree growth and  
6 electrical facilities. With respect to ETT, the Company employs reliability-based  
7 prioritization methods to schedule vegetation management activity on specific  
8 circuits. The Company targets up to 150 miles per year on circuits with the worst  
9 tree-related reliability experienced in the previous year (*i.e.*, the top 50 list). If the  
10 Company determines that a poorly performing circuit is scheduled to be included  
11 in the SMT cycle for that year, the Company will consider including the circuit  
12 backbone under ETT. Third, the program includes hazard tree removal, which  
13 involves the identification, and complete removal, of trees determined to be in ill-  
14 health, or that otherwise pose a threat to electrical facilities or public safety, both  
15 within and outside standard trimming zones. The Company seeks to remove trees  
16 that are identified by trained arborists as a hazard to primary conductors. During  
17 the SMT cycle, the Company identifies trees that may fail and, because the  
18 Company usually will not revisit that circuit for another four to five years, includes  
19 the identified trees in the hazard tree removal program. Lastly, with respect to full-  
20 width rights-of-way (“ROW”) clearing, the Company researches its easements to  
21 confirm the easement boundaries and then works to clear the ROW to the full extent  
22 allowed under the easement. More specifically, full-width ROW clearing involves

1 the reclamation of existing ROW by the enhanced clearing of trees and brush to  
2 extend the clearances between vegetation and the Company's electrical facilities  
3 located in those ROWs.

4 **Q. What are the program specifications for SMT?**

5 A. The SMT is conducted on a four- to five-year cycle and the clearance specifications  
6 are 8 feet to the side, and 15 feet above and 10 feet below. This work is  
7 competitively bid to ensure it is performed in a cost-effective manner. The  
8 Company enters into longer term contracts for SMT work to ensure that contractor  
9 crew resources are available to do the work. As of the fourth quarter of 2020, the  
10 Company entered into new four-year contracts for SMT. The SMT is the core of  
11 the VMP and there are approximately ninety crews on the Company's distribution  
12 system every day performing this critical baseline clearance work.

13 **Q. What are the specifications for ETT and hazard tree removal?**

14 A. As noted above, the ETT is focused on circuit backbones and the specification are  
15 10 feet to the side from "ground-to-sky," though there can be equipment limitations  
16 that prevent workers from safely achieving the clearance. This aggressive  
17 clearance program targets overhanging branches that could break and fall onto the  
18 Company's power lines.

19 The ETT work is released for competitive bid annually and over the past decade  
20 this work has been awarded to five different tree contractors. The ETT work is  
21 discussed in-person with impacted tree owners before any work is commenced.

1 There are occasions where the ETT clearance work is not or cannot be achieved for  
2 reasons that can include but are not limited to: tree owner refusal of permission,  
3 equipment limitations, geographic logistics or access.

4 Hazard tree removal is conducted in parallel with scheduled cycle miles and priority  
5 is placed upon identifying risk and hazard trees along the three-phase primary, or  
6 circuit backbone, for removal. The Company may also evaluate single and two-  
7 phase lateral primary for hazard tree removal if the area has been identified as poor  
8 performing or during the performance of SMT work.

9 **Q. Does the Company monitor the performance of its vegetation management**  
10 **contractors to ensure compliance with the Company's specifications?**

11 A. Yes. The Company routinely audits all vegetation management work performed  
12 on its system and reviews contractor work for adherence to the standards for  
13 vegetation management. Arborists conduct field reviews of all work areas and  
14 document any areas of non-compliance by location, correlating the locations onto  
15 circuit maps. This information is sent to the contractors performing the work and  
16 they are required to complete any necessary re-work in accordance with the  
17 standards. All the SMT miles are audited for quality control annually. In the event  
18 proper clearances have not been achieved, the contractor is responsible for re-  
19 trimming at no additional cost for a period of 12 months.

1 **III. 2021 VEGETATION MANAGEMENT PROGRAM**

2 **Q. Mr. Allen, please explain the Company's vegetation management activities for**  
3 **2021 and its performance.**

4 A. As reflected in Attachment RDA/JJH/RDJ-1, the Company trimmed 2,594 miles of  
5 SMT/METT in 2021 at a cost of \$13,769,608. The original budgeted miles were  
6 2,675 miles. Overall, Eversource's plan was successfully executed to keep the  
7 Company on track for meeting the cycle trimming requirements of the Commission.

8 Of note, the Company's SMT contracts were up for renewal in 2020 and were put  
9 out to bid consistent with past practice. The responses received were significantly  
10 higher than past years reflecting the tight market for people to perform this kind of  
11 work. In the interest of trying to expand the pool of qualified people for this work,  
12 Eversource has encouraged its tree contractors to host job fairs and increase their  
13 social media presence. The Company has also asked its contractors to explore new  
14 and different types of tree clearing/trimming equipment to be used on scheduled  
15 work. Currently, however, the new contracts have put significant pressure on the  
16 budgets for 2021 and forward and will likely result in significant adjustments to the  
17 Company's plans in the future to assure that the SMT continues to meet the  
18 Commission's requirements.

19 Within Attachment RDA/JJH/RDJ-1, the Company has also included information  
20 on its ETT, Hazard Tree Removal, and ROW clearing activities, including the 2021  
21 plan budget, as filed on March 1, 2021 in Docket No. DE 21-029 Exhibit  
22 RDA/LGL-3, Page 7 of 16, and the 2021 actual costs incurred for those programs,

1 as well as the amount of work completed.

2 **Q. Have you proposed an adjustment consistent with the Settlement, which**  
3 **directs Eversource to include a proposed adjustment to the August 1 RRA**  
4 **associated with prior calendar year vegetation management activities?**

5 A. It is my understanding that the Company’s full RRA adjustment will be filed later  
6 in 2022 and therefore this filing only provides preliminary information that is  
7 subject to change. As of March 1, 2022, the preliminary information available  
8 shows an over-recovery of \$822,947. The 2021 over-recovery was due to storm  
9 restoration efforts and the severe weather, which played a significant part in the  
10 work completed. In 2021, several major storm events that resulted in vegetation  
11 management (“VM”) crews being deployed for restoration efforts across the  
12 Eversource Energy franchise. The VM crews are usually the first crews to respond  
13 and often among the last to leave. This dedication to prioritizing restoration efforts  
14 for our customers can and often does impact productivity for the workdays  
15 immediately following the major storm event. The long hours of demanding and  
16 hazardous work require time to recover and become ready to safely return to normal  
17 work. This led to a reduction in miles completed versus plan, totaling 81 miles in  
18 2021.

19 **IV. 2022 VEGETATION MANAGEMENT PROGRAM PLAN**

20 **Q. Mr. Allen, please describe the Company’s vegetation management program**  
21 **plan for 2022.**

22 A. As reflected in Attachment RDA/JJH/RDJ-2, which was filed in Docket No. DE  
23 19-057 on November 15, 2021, the Company anticipates trimming 2,553 miles of

1 SMT/METT in 2022. The 2022 Distribution SMT Total estimated cost is  
2 \$24,848,120, which was not adjusted for expected reimbursements to be received  
3 from telephone company providers related to SMT activities. This plan reflects the  
4 scheduled miles for the Company to maintain a 5-year maintenance cycle, in line  
5 with the “no more than 5-year cycle” tree-pruning requirements of the  
6 Commission’s rule Puc 307.10. As noted above, the major storms that hit New  
7 England in 2021 prevented the contracted VM crews from completing the  
8 scheduled miles that calendar year. While the Company is still within the  
9 Commission’s mandate of a 5-year cycle schedule for SMT, the 2021 scheduled  
10 miles that were not achieved were included in the 2022 plan to get back on track.

11 As discussed in Docket No. DE 21-029, the last 4-year contract for SMT ended in  
12 December 2020. The new 4-year contract has resulted in a significant increase in  
13 the cost per mile for all the awarded work. This has resulted in a larger budget  
14 needed to complete the anticipated tree work than the one that was agreed to in the  
15 Settlement. The Company will invest in VM at the necessary level to complete the  
16 programs that it believes are foundational to a strong VMP. These programs include  
17 SMT, METT, Hazard Tree Removal, ETT, and Full Width Clearing of ROWs. This  
18 investment will also consider the current operating procedures with the various  
19 telephone companies, along with the 10 percent “overage” identified in Section 6.2  
20 of the Settlement.

1 **V. 2021 RELIABILITY PERFORMANCE**

2 **Q. Ms. Hebsch and Mr. Johnson, please describe the Company's reliability**  
3 **performance in 2021.**

4 A. For many years as part of the Company's REP filings, Eversource provided  
5 information on numerous reliability statistics and performance metrics. Those  
6 reports showed the impact of the REP and the generally improving trends in  
7 reliability performance that came from the REP as well as other company initiatives  
8 aimed at improving the reliability and resiliency of the Company's distribution  
9 system.

10 Included as Attachment RDA/JJH/RDJ-3 is the 2021 Annual Reliability Report  
11 providing information similar to, but more expansive than, what had previously  
12 been included in the REP reports. This attachment is consistent with the format  
13 used for this report in Docket No. DE 21-029.

14 Pages 7 through 17 of Attachment RDA/JJH/RDJ-3 contain the various graphs and  
15 charts agreed to by the parties to the Settlement to demonstrate the general trends  
16 and outcomes regarding reliability in 2021. The graphs and charts show various  
17 reliability indices as specified in Appendix 4 of the Settlement and are based on  
18 IEEE reporting criteria.

19 Pages 18 to 27 of Attachment RDA/JJH/RDJ-3 explain the various operations and  
20 maintenance ("O&M") activities conducted by the Company in 2021 aimed at  
21 reliability issues. These activities include patrols of overhead distribution lines,



1 inspections of underground developments and padmounted equipment, inspections  
2 of wood distribution poles for decay, and repairs of non-capital items on  
3 distribution lines related to the National Electrical Safety Code. These activities  
4 are intended to identify potential problems or failures so that they may be addressed  
5 before they impact customers.

6 Pages 28 to 42 of Attachment RDA/JJH/RDJ-3, contain the capital expenditures on  
7 various reliability-related activities. This report provides information on “routine”  
8 capital projects targeting reliability as well as specific projects, with information on  
9 the replacement of wooden distribution poles found to be defective through  
10 inspection, replacement of direct buried underground cable with new cable in  
11 conduit, and other capital reliability projects with spending greater than \$100,000  
12 in the calendar year. This last category is further broken down into new projects  
13 initiated in 2021, and projects with spend in 2021 over the threshold but which were  
14 established in prior years.

15 Lastly, pages 44 and 45 of Attachment RDA/JJH/RDJ-3 contain the Company’s  
16 “Worst Performing Circuits” list, previously referred to at times as the “Hit List.”  
17 This list is adjusted annually to track the circuits with the worst reliability  
18 performance and helps to set some of the Company’s priorities for reliability work  
19 to ensure the best reliability possible for the greatest number of customers at the  
20 lowest reasonable cost.

1 **VI. CONCLUSION**

2 **Q. Do you have any concluding remarks?**

3 A. The reports and related information included with this filing show that the  
4 Company was generally successful in its vegetation management activities in  
5 2021 and that the Company has also demonstrated continuing improvement in  
6 customer reliability over time, all of which are beneficial to customers in New  
7 Hampshire.

8 **Q. Does this conclude your testimony?**

9 A. Yes, it does.