

**Liberty Utilities (Granite State Electric)
Corp. d/b/a Liberty Utilities**

**Reliability Enhancement Plan (REP) and
Vegetation Management Plan (VMP)
Report for Calendar Year 2015**

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Submitted by:



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Introduction

Liberty Utilities (Granite State Electric) Corp. (“Liberty” or the “Company”) hereby submits the results of the Reliability Enhancement Plan (“REP”) and Vegetation Management Plan (“VMP”) for the calendar year 2015, (“Calendar Year 2015 Plan”). These results for the Calendar Year 2015 Plan are submitted consistent with the requirements in Attachment F to the Settlement Agreement in Docket No. DE 13-063 (the “Settlement Agreement”) that was approved by the Commission in Order No. 25,638 (March 17, 2014). For ease of reference, a copy of Attachment F is included as Appendix 8 to this report. This report contains the following information:

- 1) A comparison of actual to budgeted spending on operating and maintenance (“O&M”) activities related to the VMP in CY 2015. Appendix 1, line 13, column (b), shows that total actual spending for this period was \$1,994,184¹ or \$421,902 more than the budgeted amount of \$1,572,282.
- 2) A comparison of actual investment to budgeted spending on capital projects for REP in CY 2015. Appendix 2, line 7, column (d) shows that the total capital investment recorded on Granite State’s books in CY 2015 was \$1,321,456. This actual investment is \$81,456 more than the budgeted amount of \$1,240,000.
- 3) A request to recover \$346,184 which is the incremental O&M spending over the \$1,360,000 base amount for CY 2015 and is broken down between two program years CY 2014 and CY 2015. The total carryover from CY 2014 was \$273,674 as

¹ This investment includes \$273,674 associated with CY 2014 VMP projects that was not booked until 2015 and is being included in the 2016 REP-VMP rate adjustment.

² This investment includes \$269,663 associated with CY 2014 capital projects that was not booked until 2015 and is being included in the 2016 REP-VMP rate adjustment.

- discussed in Section 1 of this report, and the total net VMP costs for 2015 was \$1,720,507. Included in those costs are only VMP O&M costs, as the Company does not have O&M related to capital expenditure costs.
- 4) A request to recover \$279,097 of revenue associated with a total of \$1,321,456 in capital investment, broken down between two program years CY 2014 and CY 2015. The total carryover from CY 2014 was \$269,663 as discussed in Section 2 of this report, and the total capital investment for 2015 was \$1,051,792; and
 - 5) A summary of reliability performance for CY 2015.

The Company is submitting the joint testimony of Christian Brouillard and Jeffrey Carney, which provides further information regarding the Company's actual O&M cost and capital investment made during CY 2015. In addition, the testimony of Heather Tebbetts addresses the Company's request for a net increase in distribution rates associated with the REP/VMP Adjustment Provision and the REP Capital Investment Allowance described above, and includes a proposed rate design and typical bill impacts.

Section 1: CY 2015 O&M Budget vs. Actual O&M Expenses for VMP

The proposed operating and maintenance ("O&M") budgets for VMP activities for 2015 are shown in Appendix 1, Line 13, Column (a). For calendar year 2015, Liberty proposed to spend \$1,860,397 on O&M expenses related to VMP activities. The VMP O&M spending included \$288,115 that Liberty would bill to FairPoint for its share of the planned vegetation maintenance work (Appendix 1, line 12³). As shown on Appendix 1, line 14, column (a), those

³ To date, FairPoint has not paid Liberty for maintenance trimming expense of \$172,685 for 2013, \$208,443 for 2014 or \$288,000 for 2015. Liberty is pursuing payment from Fair Point consistent with the process set forth in the September 30, 2007 Memorandum of Understanding between the two companies.

reimbursements were excluded from the total amount of VMP O&M expenses to be recovered, resulting in an adjusted total of VMP O&M expenses of \$1,572,282 (Appendix 1, line 16, column (a)). Consistent with Section III.b. of the Settlement Agreement, Liberty submitted this alternative budget for Staff's consideration as it exceeded the Base Plan O&M Budget amount of \$1,360,000 by \$212,282. Commission Staff subsequently expressed its support for the budget.

As shown in Appendix 1, line 13, column (b), the Company's actual total spending level for CY 2015 was \$1,994,184 for O&M activities related to the VMP, or \$421,902 more than the filed budgeted amount of \$1,572,282. Budget variances related to the total CY 2015 VMP O&M spending are described below. In addition to Appendix 1, which shows total O&M expenses, Appendix 5 shows the actual VMP O&M expenses by month, while Appendix 4 contains the work plan of completed VMP O&M activities by feeder.

- The Company completed all of the vegetation management work contained in its CY 2015 plan. The spending variance is the result of the following factors:
- The Trouble and Restoration budget is need based. Spend exceeded budget by \$43,378 due to an increase in non-storm related trouble call volume.
- The actual cycle pruning spend includes a portion of the CY 2014 costs paid in CY 2015. When the FairPoint credit is applied spend only exceeded the budget by \$18,994.
- The Company spent significantly more than anticipated for traffic control. Overspend is due to the unpredictable nature of where traffic control will be required. The budget is based on the average of historical spend and cost per unit. Additional tree crews were brought on in the fourth quarter to complete the work plan, requiring additional police details.

- The Company spent more on hazard tree removals because additional risk trees with higher probability of failure resulting in a reliability impact were identified during the work planning process. A portion of the CY 2014 expense paid in CY 2015 is also included.
- The Company spent more than anticipated on interim trimming due to three phase patrol on several circuits scheduled for CY 2015 for enhanced reliability. The Company used a portion of the right-of-way clearing underspend.
- Lastly, the Company spent less than anticipated on right-of-way clearing. The budget was based on work being performed hourly but it was subsequently paid for as unit cost tree removals resulting in savings and a lower than anticipated spend.

Section 2: CY 2015 Capital Budget vs. Actual Capital Investment for REP

The proposed Capital Investment budget for REP activities for 2015 is shown in Appendix 2, Line 6, Column (b). For the calendar year 2015, Liberty proposed to spend \$1,240,000 on capital investments related to REP activities. The CY 2015 REP capital investment budget included \$100,000 from previous CY 2014 carryover (Appendix 2, line 5, column (b)). As discussed with Commission Staff, the Company budgeted this amount to install nine single phase reclosers, eighteen units of trip savers, and replace two miles of bare primary conductors. Details of the REP Capital Investment projects and costs are included in Attachment 3. Consistent with Section III.b. of the Settlement Agreement, Liberty submitted this alternative budget for Staff's consideration as it exceeded the \$1,000,000 target of REP capital investment by \$240,000. Commission Staff subsequently expressed its support for the budget.

Single phase reclosers and "Trip Saver" cutouts target circuit segments that would realize reliability benefits from single phase tripping and reclosing and from isolating faults down to the

smallest single phase segment possible. These devices are designed to interrupt circuit segments following a transient or temporary fault condition, then automatically restore the segment after a short period to allow the fault to clear. These devices not only improve reliability of service, but also avoid the cost of dispatching a trouble shooter or line crew to replace the fuse.

A significant portion of this budget was targeted towards the re-conductoring of two miles of bare mainline primary conductor with spacer cable in tree outage prone areas where it is too costly to rely on vegetation management practices alone to mitigate feeder lockouts. The application of spacer cable, a covered conductor resistant to tree related outages, significantly improves mainline circuit performance during windy and stormy conditions as well as affording protection against incidental tree-conductor contact at the end of the trim cycle and contact resulting from branches falling from above the trim zone.

In Appendix 2, the Company provides the carryover capital investment from 2014 and the actual capital investment for 2015. The Company's actual total carryover from CY 2014 was \$269,663 (Appendix 2, line 5, column (d)) for Capital activities related to the REP, or \$169,663 more than the filed budgeted amount of \$100,000. A key factor contributing to this carryover from CY 2014 are timing differences due to budgeted amounts from CY 2014 being placed into service in CY 2015 which can typically occur as capital work is performed, completed, invoiced to vendors, and processed through the accounting system. The Company has taken a number of steps to improve the timing of the accounting treatment of these jobs, including establishing and using an account 106 as well as holding monthly meetings between Accounting and Operations personnel to review the status of pending capital projects.

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As shown on line 4, column c of Appendix 2, the Company's total spending for CY 2015 was \$1,051,792 for capital activities related to REP, or \$88,208 less than the filed budgeted amount of \$1,140,000.

Additional details of the variance in each of the CY 2015 REP projects are provided below:

Single Phase and "Trip Saver" Reclosing Applications: As shown in Appendix 2, lines 2-3, column (c), CY 2015 capital expenditures incurred for Single Phase and "Trip Saver" Reclosing applications amounted to \$312,995, or \$56,495 more than the proposed budget of \$256,500. The variance in this program was mainly due to issues with estimating overhead costs for in-house crews. Recloser and "Trip Saver" installations are mainly performed by in-house crews and in most cases these installations are done between other jobs of short duration, such as new business development and public requirements. This creates added time during which a job remains open and collects additional overhead and labor charges due to multiple crew visits to the job site.

As shown on Appendix 3, line 18, the installation of a single phase recloser at Seminary Hill Road was changed to Plainfield Road after a more suitable location was determined.

Bare Conductor Replacement: As shown in Appendix 2, line 1, column (c), CY 2015 capital expenditures incurred for Bare Conductor Replacement amounted to \$738,797 or \$144,703 less than the proposed budget of \$883,500. The variance in the Bare Conductor Replacement Program was driven primarily by bid prices being lower than expected which resulted in a lower than forecasted investment. In addition, bare conductor replacement which was planned for Bridge Street in Pelham was deferred to calendar

year 2016 due to issues with telephone set poles. This project is shown on Appendix 3, line 15. As shown on Appendix 3, lines 16-17, in its place, bare conductor was replaced along Bluff Street, Lake Street, and School Street in Salem.

Section 3: Reliability Results – Calendar Year 2015

Consistent with Section VII.b of the Settlement Agreement, reliability metrics for CY 2015 are presented in the table below based on both the PUC Standard⁴ for excluding major weather events and the IEEE Standard 1366⁵ method for excluding major event days. The metrics presented on the next page also exclude transmission supply outages, planned or notified outages, and all other applicable exclusions.⁶ The metrics include customers interrupted (“CI”), customer minutes interrupted (“CMI”), system average interruption frequency index (“SAIFI”), system average interruption duration index (“SAIDI”), customer average interruption duration index (CAIDI), and customers interrupted per interruption index (CIII).

⁴ PUC Major Storm: [(CI >= 15 % of Customers Served and 30 concurrent events) or (45 concurrent events)], Using PUC criteria, two days were excluded in Calendar Year 2015: August 3-4, 2015.

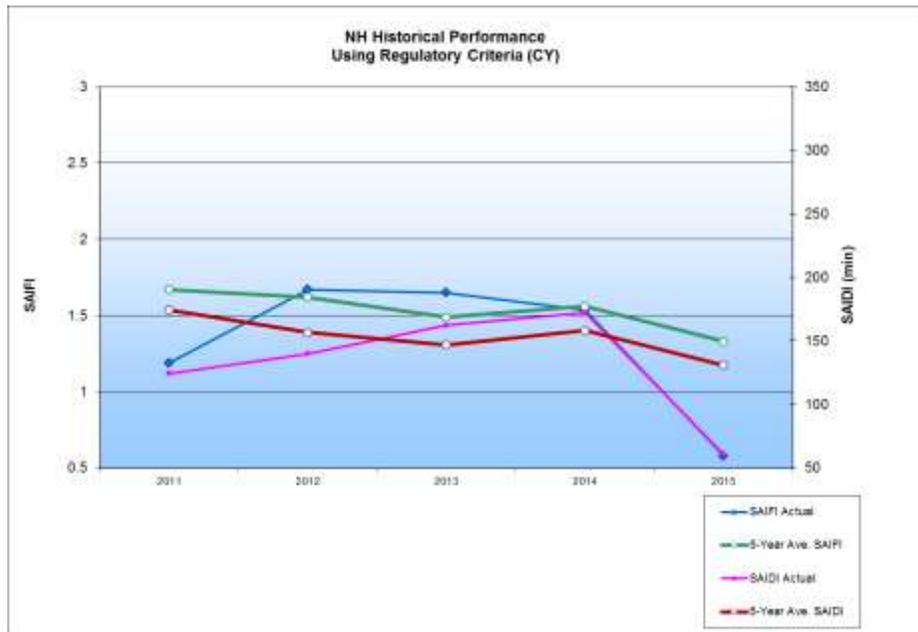
⁵ IEEE Major Event Days: Using IEEE criteria, one day was excluded in Calendar Year 2015: August 3 2015.

⁶ Events that are excluded are those involving loss of supply from another utility, customer-owned facilities, fire or police emergency requests, load shedding, planned maintenance, events whose duration was 5 minutes or less and/or events which involving only one customer.

Calendar Year 2015 Reliability Results

No Exclusions								
Year	Events	Customers Interrupted	Customer Minutes Interrupted	Customers Served	SAIFI	SAIDI	CAIDI	CIII
2015	546	34,496	5,614,879	42,911	0.8030	130.570	162.77	63.18
Excludes Only IEEE Major Events								
Year	Events	Customers Interrupted	Customer Minutes Interrupted	Customers Served	SAIFI	SAIDI	CAIDI	CIII
2015	518	30,751	3,230,818	42,911	0.7163	75.366	105.06	59.36
Excludes Only PUC Major Events								
Year	Events	Customers Interrupted	Customer Minutes Interrupted	Customers Served	SAIFI	SAIDI	CAIDI	CIII
2015	508	29,971	3,180,959	42,911	0.6982	74.211	106.13	59.00
Excludes Only Loss of Supply by Other Utility or Transmission Outage								
Year	Events	Customers Interrupted	Customer Minutes Interrupted	Customers Served	SAIFI	SAIDI	CAIDI	CIII
2015	540	31,745	5,131,372	42,911	0.7388	119.263	161.64	58.79
Excludes Only Planned Maintenance								
Year	Events	Customers Interrupted	Customer Minutes Interrupted	Customers Served	SAIFI	SAIDI	CAIDI	CIII
2015	508	33,841	5,574,512	42,911	0.7878	129.631	164.73	66.62
All Exclusions: IEEE Major Events, loss of supply, transmission, planned maintenance, Load Shedding, Single Customer Outages, Fire/Police Request								
Year	Events	Customers Interrupted	Customer Minutes Interrupted	Customers Served	SAIFI	SAIDI	CAIDI	CIII
2015	358	25,673	2,667,933	42,911	0.5981	62.2045	103.92	71.71
All Exclusions: PUC MEDs, loss of supply, transmission, planned maintenance, Load Shedding, Single Customer Outages, Fire/Police Request								
Year	Events	Customers Interrupted	Customer Minutes Interrupted	Customers Served	SAIFI	SAIDI	CAIDI	CIII
2015	348	24,893	2,618,074	42,911	0.5800	61.050	105.17	71.53

Calendar Year Historical Reliability Performance



As shown on the Calendar Year Historical Reliability Performance graph above, the SAIFI performance of 0.58 for CY 2015 continues on an improving, downward trend, with the 2015 performance significantly better than that of 2014. Similar to the SAIFI trend, the 61.05 minutes for SAIDI reflects a significant improvement in SAIDI indices over the past few years. For 2015, there were a very limited number of non-recurring events, greater than 5 minutes in duration that drove our improvement in SAIDI performance. The top 3 events made up 24% of our SAIDI performance indices. Mitigation measures, both inside and outside of the REP, were also implemented in 2015 to further improve our SAIDI performance, specifically addressing the drivers to SAIDI performance in 2015. The measures included addressing pockets of poor performance and underperforming feeders. In summary, the Company met its SAIFI and SAIDI targets of 1.56 and 158.10 minutes respectively, which are based on a 5-year rolling average and are shown on Appendix 7. 2015 was the best reliability year since the Company began tracking reliability performance some twenty years ago. However, it is worth noting that in general,

electric delivery system reliability performance in the New England region, as well as nationally, was favorable in 2015. Some level of variability is to be expected in the year to year metrics, typically rooted in weather pattern changes. We expect this overall positive performance in SAIFI and SAIDI to continue, albeit at more historical levels, as we experience further positive impact from our reliability initiatives.