

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

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Reliability Enhancement Plan (REP) and
Vegetation Management Plan (VMP)
Report for Calendar Year 2014

March 13, 2015

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 2014, (“Calendar Year 2014 Plan”). These results for the Calendar Year 2014 Plan are submitted consistent with the requirements in Attachment F to the Settlement Agreement in Docket No. DE 13-063 (the “Settlement Plan”) that was approved by the Commission in Order No. 25,638 (March 17, 2014). For ease of reference, a copy of that document 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 REP and VMP in CY 2014. Appendix 1, line 18, column (b), shows that total actual spending for this period was \$1,395,166 or \$37,534 less than the budgeted amount of \$1,432,700.
- 2) A comparison of actual investment to budgeted spending on capital projects for REP in CY 2014. Appendix 2, line 7, column (d) shows that the total capital investment recorded on Granite State’s books in CY 2014 was \$2,201,899¹. This actual investment is \$1,131,599 more than the budgeted amount of \$1,070,300.
- 3) A request to recover \$35,166 which is the incremental O&M spending over the \$1,360,000 base amount for CY 2014. Included in those costs are only VMP O&M costs, as the Company did not have any O&M related to capital expenditure costs for 2014.

¹ This investment includes \$1,230,601 associated with CY 2013 capital projects that was not booked until 2014 and is being included in the 2015 REP rate adjustment.

4) A request to recover the revenue requirement associated with a total of \$2,201,899 in capital investment, broken down between two program years CY 2013 and CY 2014.

The total carryover from CY 2013 was \$1,230,601 as discussed on pages 6 and 7 of this report, and the total capital investment for 2014 was \$971,298; and

5) A summary of reliability performance for CY 2014.

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 2014. 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 2014 O&M Budget vs. Actual O&M Expenses for REP/VMP

The proposed operating and maintenance ("O&M") budgets for REP and VMP activities for 2014 are shown in Appendix 1, Line 18, Column (a). For the calendar year 2014, Liberty proposed to spend \$1,432,700 on O&M expenses related to REP and VMP activities. The VMP O&M spending included \$225,700 that Liberty would bill to FairPoint for its share of the planned vegetation maintenance work (Appendix 1, line 16²). As shown on line 17, those 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 \$1,295,500.

The CY 2014 budget also included an O&M expense related to REP capital expenditures of \$137,000 (Appendix 1, line 3, column (a)). However, during 2014, the capitalization policy

² To date, FairPoint has not paid Liberty for maintenance trimming expense of \$198,691 for 2013 or \$245,751.19 for 2014. 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.

was revised to standardize the policy among the Liberty family of companies. Specific to the REP/VMP, the O&M expense related to capital projects was reviewed and it was determined that ancillary tasks performed on new capital projects are being performed to accommodate the asset installation and as such warrant inclusion as part of the capitalized cost. As expected, this revision has resulted in 2014 actual REP O&M costs to be below the budgeted amount as the change was made during the year.

The REP and VMP O&M budgeted expenses described above resulted in a total REP/VMP budgeted expense of \$1,432,700 (Appendix 1, line 18, column (a)). Consistent with Section III.b. of the Settlement Plan, Liberty submitted this alternative budget for Staff's consideration as it exceeded the Base Plan O&M Budget amount of \$1,360,000 by \$72,700. The Commission's Staff subsequently expressed its support for the budget.

As shown in Appendix 1, line 18, column (b), the Company's actual total spending level for CY 2014 was \$1,395,166 for O&M activities related to the REP and VMP, or \$37,534 less than the filed budgeted amount of \$1,432,700. Budget variances related to the total CY 2014 REP and 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 2014 plan. Overall, actual CY 2014 expenses incurred for VMP O&M activities amounted to \$1,395,166 or \$99,666 more than the proposed budget of \$1,295,500. The spending variance is the result of several factors. First, the Company spent \$99,666 of the \$225,000 anticipated FairPoint credits which were invoiced and not received. Second, bid prices for cycle pruning were lower than expected resulting in lower than forecast unit prices. Third, the Company spent

less than anticipated for spot tree trimming, trouble and restoration calls and tree planting which are demand driven. The Company spent less than anticipated on hazard tree removals as fewer trees on suburban/residential circuits were identified.

The Company had no sub-transmission right of way clearing planned. The Company utilized the budget line item to capture the opportunity and accelerate Salem Area sub transmission lines to get those lines all on the same cycle in an effort to balance the overall annual sub transmission schedule. The Company spent more than anticipated on interim trim activity in response to a number of tree interruptions requiring extensive off cycle tree trim and tree removal work on portions of the Pelham 14L2 circuit.

Section 2: CY 2014 Capital Budget vs. Actual Capital Investment for REP

The proposed Capital Investment budget for REP activities for 2014 is shown in Appendix 2, Line 6, Row (b). For the calendar year 2014, Liberty proposed to spend \$1,070,300 on capital investments related to REP activities. The CY 2014 REP capital investment budget included \$100,000 from previous CY 2013 carryover (Appendix 2, line 5, column (b)). As discussed with Commission Staff, the Company budgeted this amount to install two single phase reclosers, install 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 Plan, Liberty submitted this alternative budget for Staff's consideration as it exceeded the target level of REP capital investment of \$1,000,000 by \$70,300. The Commission's 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 the scene 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 2013 and the actual capital investment for 2014. The Company's actual total carryover from CY 2013 was \$1,230,601 (Appendix 2, line 5, column (d)) for Capital activities related to the REP, or \$1,130,601 more than the filed budgeted amount of \$100,000. A key factor contributing to this carryover from CY 2013 are timing differences due to budgeted amounts from CY 2013 being placed into service in CY 2014 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 a to review the status of pending capital projects.

As shown on line 4, column c of Appendix 2, the Company's total spending level for CY 2014 was \$971,298 for capital activities related to REP, or \$989 more than the filed budgeted amount of \$970,300.

Additional details of the variance in each of the CY 2014 REP projects are provided below:

Single Phase and "Trip Saver" Reclosing Applications: As shown in Appendix 2, lines 2-3, column (c), CY 2014 capital expenditures incurred for Single Phase and "Trip Saver" Reclosing applications amounted to \$233,400 or \$58,400 more than the proposed budget of \$175,000. The variance in this program was mainly due to issues with properly 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 cycle duration such as new business development and public requirements. This creates added time in where a job remains open and collects additional overhead and labor charges due to multiple crew visits to the job site.

Bare Conductor Replacement: As shown in Appendix 2, line 1, column (c), CY 2014 capital expenditures incurred for Bare Conductor Replacement amounted to \$737,898 or \$57,402 less than the proposed budget of \$795,300. 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.

Section 3: Reliability Results – Calendar Year 2014

Consistent with Section VII.b of the Settlement Plan, reliability metrics for CY 2014 are presented in the table below based on both the PUC Standard³ for excluding major weather events and the IEEE Standard 1366⁴ method for excluding major event days. In addition, metrics are presented on the next page excluding transmission supply outages, planned or notified outages and all other applicable exclusions⁵. 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).

³ PUC Major Storm: [(CI \geq 15 % of Customers Served and 30 concurrent events) or (45 concurrent events)], Using PUC criteria, two days were excluded in Calendar Year 2014: November 26-27, 2014.

⁴ IEEE Major Event Days: Using IEEE criteria, two days were excluded in Calendar Year 2014: April 23 and November 26 2014.

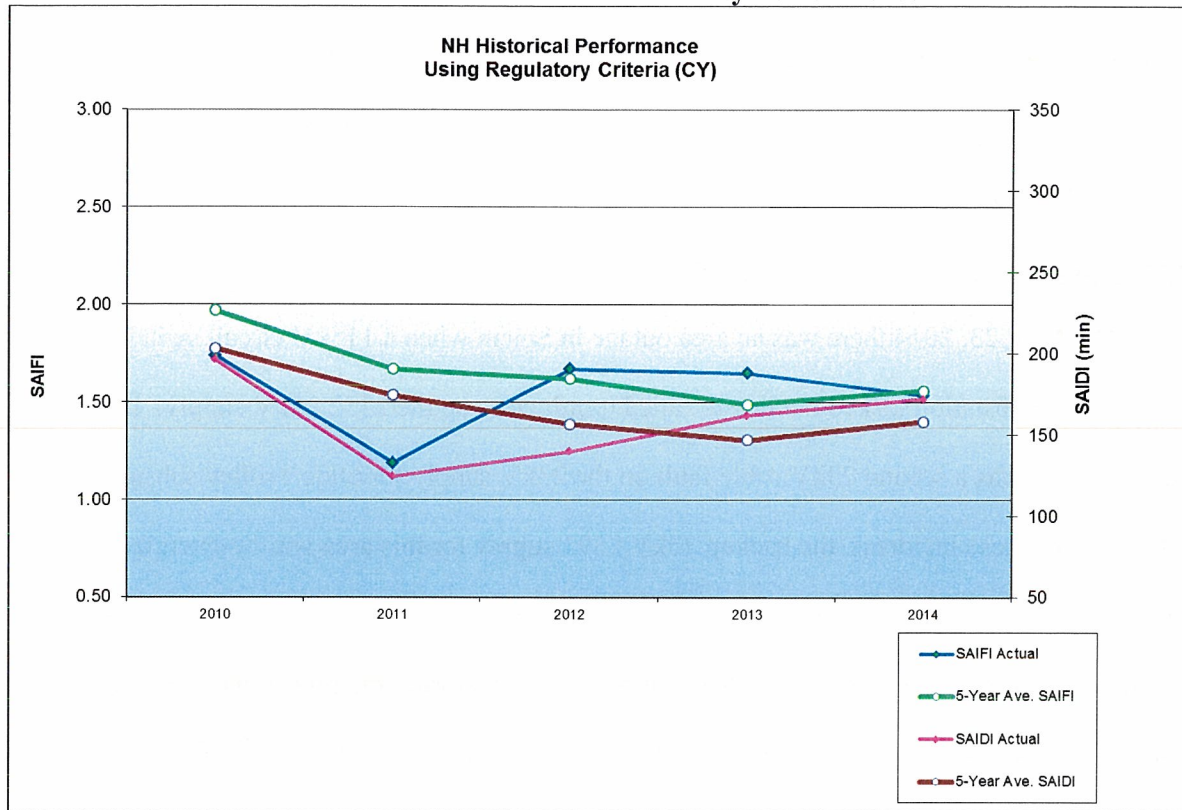
⁵ Events that are excluded are those involving loss of supply from another utility, customer-owned facilities, fire or police emergency requests, load shedding, planned maintenance, events whose duration was 5 minutes or less and/or events which involving only one customer.

*CY 2014 Reliability Enhancement Plan
and Vegetation Management Plan Report*

Calendar Year 2014 Reliability Results

No Exclusions							
Year	Customers Interrupted	Customer Minutes Interrupted	Customers Served	SAIFI	SAIDI	CAIDI	CIII
2014	89,184	9,809,406	41,483	2.15	235.82	109.99	131.93
Excludes Only IEEE Major Events							
Year	Customers Interrupted	Customer Minutes Interrupted	Customers Served	SAIFI	SAIDI	CAIDI	CIII
2014	79,771	7,860,269	41,483	2.06	217.04	98.54	123.68
Excludes Only PUC Major Events							
Year	Customers Interrupted	Customer Minutes Interrupted	Customers Served	SAIFI	SAIDI	CAIDI	CIII
2014	83,288	7,958,697	41,483	2.01	191.88	95.56	134.99
Excludes Only Loss of Supply by Other Utility							
Year	Customers Interrupted	Customer Minutes Interrupted	Customers Served	SAIFI	SAIDI	CAIDI	CIII
2014	71,364	9,083,008	41,483	1.83	220.55	127.28	106.83
Excludes Only Planned Maintenance							
Year	Customers Interrupted	Customer Minutes Interrupted	Customers Served	SAIFI	SAIDI	CAIDI	CIII
2014	88,114	9,759,802	41,483	2.12	234.63	110.76	142.35
All Exclusions: PUC MEDs, loss of supply, planned maintenance, Load Shedding, Single Customer Outag							
Year	Customers Interrupted	Customer Minutes Interrupted	Customers Served	SAIFI	SAIDI	CAIDI	CIII
2014	63,877	7,145,778	41,483	1.54	172.11	111.87	182.51

Calendar Year Historical Reliability Performance



The graph shown above contains actual results for SAIDI and SAIFI for the last 5 years. To minimize the impact of uncontrollable factors the graph above also contains results for SAIDI and SAIFI based on a rolling five-year average. See Appendix 7 for historical 5-year average reliability metrics. As shown in the figure above, the SAIFI performance of 1.54 for the Company continues to track on an improving, downward trend with the 2014 performance slightly better than that of 2013. While the SAIFI trend is encouraging, the 172 minutes for SAIDI reflects a moderate increase in SAIDI indices over the past few years. In summary, the Company did not meet its SAIFI and SAIDI targets of 1.49 and 146.86 minutes respectively. These targets are based on a 5-year rolling average for both SAIFI and SAIDI. Some level of variability is to be expected in the year to year metrics, typically rooted in weather pattern

changes, year to year. However, the Company will strive to sustain an overall positive performance trend and meet or exceed these goals going forward. Details of significant outages in 2014 are described below along with mitigation measures that will allow the company to meet future reliability goals.

Description of Significant Outages in 2014

On April 23, 2014 there was an area outage in Salem when a 115kV circuit switcher at Golden Rock substation locked out due to failed terminators on the 2352 23kV supply. In addition, there was a second 23kV cable fault on the 23kV supply for Olde Trolley substation. At the time of these incidents, the backup 23kV 2393 supply for this area was de-energized for the installation of a pole top recloser. Given that the backup supply was out of service, this prevented the auto throw over scheme from automatically restoring the power and required manual field switching to restore the load. This event impacted approximately 5,600 customers and contributed to a SAIDI of 27.91 and a SAIFI of 0.135. As a corrective action, the 23kV supply for Olde Trolley Substation has been inspected and the cables have been tested utilizing partial discharge testing to identify any weak splices. In addition, the bonding and grounding for the Olde Trolley 23kV supply manhole and duct system was reinforced to enhance the surge protection. Finally, as a work practice, any future supply work will require the availability of the line during a contingency.

On March 20, 2014, there was an area outage in Lebanon, Enfield and Canaan. A failed splice in the Lebanon 1L1 right of way caused one primary phase to come down. At the Lebanon substation, the 1L1 circuit breaker did not clear the fault due to slow breaker operation. This prompted the breaker failure relay to operate and resulted in the loss of supply to the 1L1 and the 1L2 feeders out of Lebanon substation. This event impacted approximately 7,000

customers and contributed to a SAIDI of 17.95 and a SAIFI of 0.17. As a corrective action, the Company has upgraded all circuit breakers at the Lebanon #1 substation which were approximately 25 years old.

On May 27, 2014, there was an area outage in Canaan and Enfield as a result of a fatal vehicle accident on Route 4 that caused a pole top recloser to lock out. Given the nature of the accident, the state investigation team required the area to remain “as is” until all evidence was gathered. The state police team allowed the area to be worked and reenergized after approximately 2 ½ hours of standing by. This event impacted approximately 1,800 customers and contributed to a SAIDI of 10.59 and a SAIFI of 0.043.

In summary the top 3 outages in 2014 contributed to 33% of the total SAIDI and 23% of the total SAIFI. Mitigation measures were implemented in 2014 to further improve future SAIDI performance, specifically addressing the drivers to SAIDI performance in 2014. The measures included replacement of Lebanon circuit breakers; inspection, maintenance, and asset replacement on the Golden Rock 23kV underground cable supply system; and changes and upgrades to the Pelham substation and distribution system, Future upgrades at the Pelham substation and re-conductoring of bare conductor with spacer cable are also planned for the Pelham area over the next few years.

Appendix 1 - O&M Expenses

Line	(a) CY 2014 Budgeted Expenses	(b) CY 2014 Actual Expenses	(c) Reference	(d) CY 2014 Actual Variances
1	REP O&M			
2	O&M Related to REP Capital Expenditures	\$ 137,200	\$ -	
3	Total REP O&M	\$ 137,200	\$ -	
4	VMP O&M			
5	Spot Tree Trimming	\$ 63,500	\$ 62,404	Appendix 5, line 7
6	Trouble and Restoration Maintenance	\$ 63,500	\$ 45,516	Appendix 5, line 8
7	Planned Cycle Trimming	\$ 760,000	\$ 729,772	Appendix 5, line 4
8	Police Detail Expenses - Cycle Trimming	\$ 182,200	\$ 164,977	Appendix 5, line 5
9	Hazard Tree Removal	\$ 325,000	\$ 280,466	Appendix 5, line 1
10	Interim Trimming	\$ 62,000	\$ 91,627	Appendix 5, line 2
11	Tree Planting	\$ 5,000	\$ -	Appendix 5, line 9
12	Sub-Transmission Right of Way Clearing	\$ 60,000	\$ 19,427	Appendix 5, line 3
13	ROW Vegetation Management	\$ -	\$ 977	Appendix 5, line 10
14	Fairpoint Credits	\$ -	\$ -	Appendix 5, line 11
15	Total VMP O&M Expenses	\$ 1,521,200	\$ 1,395,166	
16	Less: Reimbursements from Fairpoint	\$ (225,700)	\$ -	
17	VMP O&M Expenses Net of Fairpoint Credits	\$ 1,295,500	\$ 1,395,166	Appendix 5, line 12
18	Total REP and VMP O&M Expenses	\$ 1,432,700	\$ 1,395,166	

(*)

(*) From CY 2014 Plan submitted to Staff on December 30, 2013

Appendix 2 - REP Capital Investments - Summary

<u>Line</u>	<u>Projects</u>	<u>(a) 2014 Goal</u>	<u>(b) CY 2014 Capital Investment Budget(*)</u>	<u>(c) CY 2014 Actual Capital Investment</u>	<u>(d) CY 2013 Capital Carryover Investment</u>	<u>Reference</u>
1	Bare Conductor Replacement	2 mi	\$ 795,300	\$ 737,898		Appendix 3, line 7-9
2	Single Phase Reclosing Installations	2 Locations	\$ 100,000	\$ 150,763		Appendix 3, lines 10-11
3	Single Phase Trip Saver Installations	18 Units	\$ 75,000	\$ 82,637		Appendix 3, lines 12-20
4	Calendar Year 2014 Totals		\$ 970,300	\$ 971,298		
5	Previous CY Carryover		\$ 100,000		\$ 1,230,601	Appendix 3, lines 1-6
6	Subtotal		\$ 1,070,300	\$ 971,298	\$ 1,230,601	
7	Total				\$ 2,201,899	

(*) From CY 2014 Plan submitted to Staff on December 30, 2013

Appendix 3 - Reliability Enhancement Program Capital Costs

Line	(a) Activities	(b) Project Description	(c) CY 2014 Budgeted Capital Investment (107)	(d) CY 2014 Capital Investment Closed to Plant (101/106/108)	(e) CY2014 Capital Investment Closed to Plant from CY2013 carryover	(f) CY 2014 Total	(g) Estimated Capital Investment to be Booked in CY 2015 (107)
1	Recloser Installations - Prospect Hill Rd Single Phase Reclosing - 12L1	Replace Form 3 vintage recloser on Prospect Hill Rd Walpole NH with three single phase reclosers.		\$ -	\$ 108,100	\$ 108,100	\$ -
2	Recloser Installations - School St. Single Phase Reclosing - 13L3	Install three single phase reclosers on School St Salem NH		\$ -	\$ 24,273	\$ 24,273	\$ -
3	Trip Saver Installations - Dutton Rd Single Phase Reclosing - 14L1	Install one 3-phase trip saver cutout on Dutton Rd Pelham NH		\$ -	\$ 8,973	\$ 8,973	\$ -
4	Pocket of Poor Performance - Zion Hill Rd Single Phase Reclosing - 13L2	Replace Form 3 vintage recloser on Zion Hill Rd Salem with three single phase reclosers		\$ -	\$ 116,761	\$ 116,761	\$ -
5	Pocket of Poor Performance - Wentworth Rd Single Phase Reclosing - 12L1	Install three single phase reclosers on Wentworth Rd Walpole NH		\$ -	\$ 155,434	\$ 155,434	\$ -
6	Bare Conductor Replacement Program -East Main St- 13L3	Replace approximately 1.8 miles of bare conductors along North Main St. Salem with 477 Spacer Cable.		\$ -	\$ 817,060	\$ 817,060	\$ -
7	Bare Conductor Replacement Program -Mammoth Rd- 14L2	Replace approximately 0.85 miles of bare conductors along Mammoth Rd Pelham with 477 Spacer Cable.	\$ 317,373	\$ 280,950	\$ -	\$ 280,950	\$ 310
8	Bare Conductor Replacement Program -Cemetery Pine Tree Rd - 11L1	Replace approximately 0.28 miles of bare conductors along Cemetery Pine Tree Rd Lebanon with 477 Spacer Cable.	\$ 104,546	\$ 108,814	\$ -	\$ 108,814	\$ 1,361
9	Bare Conductor Replacement Program -East Main St / North Main St Salem - 13L3	Replace approximately 1 mile of bare conductors along North Main St Salem with 477 Spacer Cable.	\$ 373,380	\$ 348,134	\$ -	\$ 348,134	\$ 11,522
10	Recloser Installations - Acworth Rd Single Phase Reclosing - 12L1	Install Vyper ST with SEL-651R control on Acworth Rd Alstead NH for single phase tripping.	\$ 50,000	\$ 82,656	\$ -	\$ 82,656	\$ 194
11	Recloser Installations -Bridge St Salem Single Phase Reclosing - 13L3	Install Vyper ST with SEL-651R control on Bridge St. Salem NH for single phase tripping.	\$ 50,000	\$ 68,107	\$ -	\$ 68,107	\$ 14
12	Trip Saver Installations - Route 123A / Forest Rd Acworth - 12L1	Install 1 single phase trip saver on Route 123A and Install 1 single phase trip saver on Forest Rd Acworth NH.	\$ 8,333	\$ 10,217	\$ -	\$ 10,217	\$ -
13	Trip Saver Installations - Atkinson Rd Salem - 13L3	Install 2 single phase trip saver on Atkinson Rd Salem NH.	\$ 8,333	\$ 9,500	\$ -	\$ 9,500	\$ -
14	Trip Saver Installations - Shannon Rd / Hooker Farm Rd Salem - 13L3	Install 1 single phase trip saver on Shannon Rd and install 1 single phase trip saver on Hooker Farm Rd Salem NH	\$ 8,333	\$ 11,512	\$ -	\$ 11,512	\$ -
15	Trip Saver Installations - West Shore Rd Windham - 9L3	Install 3 single phase trip savers on West Shore Rd Windham NH	\$ 12,500	\$ 12,631	\$ -	\$ 12,631	\$ -
16	Trip Saver Installations - Mammoth Rd Pelham - 14L3	Install 3 single phase trip savers on Mammoth Rd Windham NH	\$ 12,500	\$ 12,825	\$ -	\$ 12,825	\$ -
17	Trip Saver Installations - Sherburne Rd Pelham - 14L2	Install 3 single phase trip savers on Sherburne Rd Pelham NH	\$ 12,500	\$ 8,319	\$ -	\$ 8,319	\$ -
18	Trip Saver Installations - Bush Hill Rd Pelham - 14L2	Install 1 single phase trip saver on Bush Hill Rd Pelham NH	\$ 4,167	\$ 7,300	\$ -	\$ 7,300	\$ -
19	Trip Saver Installations -Pond St. Salem - 10L1	Install 1 single phase trip saver on Pond St Salem NH	\$ 4,167	\$ 4,796	\$ -	\$ 4,796	\$ -
20	Trip Saver Installations -Valley Rd Walpole - 12L1	Install 1 single phase trip saver on Valley Rd Walpole NH	\$ 4,167	\$ 5,537	\$ -	\$ 5,537	\$ -
21	Budgeted Capital Investment Carryover from CYS 2013		\$ 100,000				\$ 13,400
22	Totals		\$1,070,300	\$ 971,298	\$ 1,230,601	\$ 2,201,899	\$ 13,400

- (c) Appendix 2, line 5, column (b)
- (d) Appendix 2, line 1-3, column (c)
- (e) Appendix 2, line 4 column (c)
- (f) Appendix 2, line 5 column (c)

Appendix 4 - Vegetation Management Activities

		CY 2014		
<u>Line</u>	<u>Activities</u>	<u>Program Plan (*)</u>	<u>Reference</u>	
1	Spot Tree Trimming	As needed	See Appendix 6 Definitions	
2	Trouble and Restoration Maintenance	As needed	See Appendix 6 Definitions	
3	Planned Cycle Trimming	175.12 miles	See Appendix 6 Definitions	
4	Cycle Trimming Police Detail Expenses	As needed	See Appendix 6 Definitions	
5	Hazard Tree Removal	As needed	See Appendix 6 Definitions	
6	Enhanced Hazard Tree Removal	As needed	See Appendix 6 Definitions	
7	Interim Trimming	As needed	See Appendix 6 Definitions	
8	Tree Planting	As needed	See Appendix 6 Definitions	
		As needed from patrols/ there were no lines scheduled for floor or sideline CY2014		
	Subtransmission Right of Way Clearing			
9			See Appendix 6 Definitions	
10	Other Police Detail Expenses	As needed	See Appendix 6 Definitions	
			Planned OH Miles -	Completed OH
	<u>Substation</u>	<u>Feeder</u>	<u>Distribution</u>	<u>Miles-Distribution</u>
11				
12	Craft Hill #11	11L2	4.62	4.62
13	Vilas Bridge #12	12L1	44.75	44.75
14	Charlestown #8	8L2	0.03	0.03
15	Vilas Bridge #12	12L2	55.48	55.48
16	Spicket River #13	13L1	28.63	28.63
17	Barron Ave #10	10L1	9.64	9.64
18	Barron Ave #10	10L4	9.49	9.49
19	Olde Trolley #18	18L1	0	0.00
20	Olde Trolley #18	18L2	9.1	9.10
21	Olde Trolley #18	18L4	13.39	13.39
22		Total OH Miles - Distribution	175.13	175.13
			Planned Acres -	Completed Acres -
	<u>Subtransmission</u>	<u>Supply Line</u>	<u>Subtransmission</u>	<u>Subtransmission*</u>
23				
24	Subtransmission Right of Way Clearing	Massachusetts S/L to Spicket River-2376 Line	0	10.67
25	Subtransmission Right of Way Clearing	Massachusetts S/L to Barron Ave.-2393 Line	0	6.57
26	Subtransmission Right of Way Clearing	Massachusetts S/L to Barron Ave to Salem Depot-2352 Line	0	30.13
27		Total Acres - Subtransmission		47.37

* No subtransmission lines were scheduled. There is a budget for patrol/as needed items. In order to balance the subtransmission schedule match, these lines were accelerated to CY2014 going forward so there is approximately the same amount annually and a budget to

Appendix 5 - VMP Spend by Month

Line	Sum of Amount	January	February	March	April	May	June	July	August	September	October	November	December	Subtotal	Budgeted Amount	Variance
1	Hazard Tree Removal	\$24,327	\$18,181	\$7,366	\$19,544	\$16,691	\$18,180	\$33,619	\$23,906	\$46,967	\$7,127	\$29,452	\$35,108	\$280,466	\$ 325,000	\$ (44,534)
2	Interim Trimming	\$2,413	\$0	\$0	\$2,947	\$0	\$0	\$11,574	\$25,361	\$23,834	\$17,096	\$218	\$8,185	\$91,627	\$ 62,000	\$ 29,627
3	Perform Dist Row Clearing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$19,427	\$19,427	\$ 60,000	\$ (40,573)
4	Planned Cycle Trimming	\$0	\$0	\$0	\$145,756	\$2,523	\$0	\$134,826	\$76,059	\$0	\$25,512	\$133,765	\$211,331	\$729,772	\$ 760,000	\$ (30,228)
5	Police Detail Expenses - Cycle Trimming	\$1,440	\$14,944	\$0	\$0	\$0	\$52,546	\$0	\$0	\$44,601	\$10,030	\$0	\$41,416	\$164,977	\$ 182,200	\$ (17,223)
7	Spot Tree Trimming	\$4,930	\$5,893	\$9,625	\$5,402	\$9,003	\$0	\$1,409	\$9,799	\$7,421	\$2,469	\$6,002	\$451	\$62,404	\$ 63,500	\$ (1,096)
8	Trouble and Restoration Maintenance	\$8,892	\$2,259	\$0	\$5,004	\$1,968	\$655	\$4,191	\$4,422	\$1,302	\$436	\$3,797	\$12,590	\$45,516	\$ 63,500	\$ (17,984)
9	Tree Planting	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 5,000	\$ (5,000)
10	ROW Veg Management	\$0	-	-	-	-	-	\$19,829	\$12,594	-\$31,445	-	-	-	\$977	\$ -	\$ 977
11	Less Reimbursements from Fairpoint	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ (225,700)	\$ 225,700
12	Subtotal	\$42,002	\$41,277	\$16,991	\$178,653	\$30,185	\$71,380	\$205,447	\$152,140	\$92,680	\$62,671	\$173,234	\$328,507	\$1,395,166	\$ 1,295,500	\$ 99,666

Appendix 6 - VMP O&M Definitions

Inspection and Maintenance: The inspection and maintenance component of the REP involves a comprehensive overhead assessment of the Company's equipment and feeders prior to performance of the REP work.

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 outside of residential areas. 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: 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: 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: This 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: 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.

*CY 2014 Reliability Enhancement Plan
and Vegetation Management Plan Report*

Appendix 7 – 5 Year Rolling Average for SAIDI/SAIFI

CY	Sum of CI	Sum of CMI	Sum of SAIFI	5-Year Ave. SAIFI	Sum of SAIDI	5-Year Ave. SAIDI
2000	75,896	4,079,729	2.00		107.76	
2001	85,017	8,219,366	2.22		214.39	
2002	65,099	6,042,438	1.68		155.28	
2003	56,341	3,971,111	1.43		100.86	
2004	67,956	8,313,277	1.71	1.81	207.53	157.16
2005	84,188	12,085,278	2.08	1.82	301.25	195.86
2006	106,935	10,363,197	2.70	1.92	263.83	205.75
2007	79,070	9,196,797	1.96	1.98	228.36	220.37
2008	93,197	8,609,475	2.30	2.15	212.05	242.60
2009	47,270	4,763,099	1.17	2.04	115.94	224.29
2010	72,089	8,156,936	1.74	1.97	196.44	203.32
2011	49,176	4,997,759	1.17	1.67	119.60	174.48
2012	69,677	5,829,537	1.70	1.62	140.06	156.82
2013	68,033	6,792,013	1.65	1.49	162.28	146.86
2014	63,878	7,145,798	1.54	1.56	172.12	158.10
2015 Projection	61,888	6,143,962	1.49	1.55	147.42	156.32

Appendix 8

**Liberty Utilities (Granite State Electric) Corp.
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 Liberty's next distribution rate case, Liberty 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, Liberty will provide its REP and VMP plan (the "Plan") to Staff for the following calendar year for Staff's review. Liberty 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, Liberty 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 Liberty 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"). Liberty may also provide for consideration an alternative Plan with O&M budgets that exceed the O&M Base Amount for the calendar year. Liberty 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, Liberty shall track all O&M expenses incurred in implementing the components of the REP and VMP Plan. By March 15 of each year, Liberty will make a reconciliation filing with the Commission. To the extent that Liberty, 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 Liberty 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. Liberty shall track all capital investments made in accordance with the REP for each calendar year. At the same time that Liberty 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 Liberty's current Commission approved capital structure and debt and equity. Provided that the investments were made in accordance with the REP, Liberty 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 Liberty makes its reconciliation and rate adjustment filing (by March 15 of each year), Liberty 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, Liberty would include an explanation of any deviations in the report. For cost recovery purposes, Liberty 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, Liberty will report its SAIDI and SAIFI results for the prior calendar year.
- b. Liberty 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 Liberty'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).