

National Grid

Granite State Electric Company

Fiscal Year 2011 Reliability
Enhancement Plan and
Vegetation Management Plan
Report

May 13, 2011 [\(Revised June 16, 2011\)](#)

Submitted by:

nationalgrid

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Attachment 1: Fiscal Year 2011 Actual Vegetation Management Program Operating and Maintenance Expenses by Month

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Introduction

Pursuant to the settlement agreement approved by the New Hampshire Public Utilities Commission (“Commission”) as part of the National Grid/KeySpan merger proceeding in Docket No. DG 06-107¹ (“Settlement Agreement”), Granite State Electric Company d/b/a National Grid (“National Grid” or “Company”) is submitting the results of the Reliability Enhancement Plan (“REP”) and Vegetation Management Plan (“VMP”) for Fiscal Year 2011 (“FY 2011”), representing the period, through April 1, 2010 - March 31, 2011. 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 FY 2011. Table 3 shows that total actual spending was \$1,249,814~~1,245,985~~, or \$302,186~~306,015~~ less than the budgeted amount of \$1,552,000.
- 2) A comparison of actual to budgeted spending on capital projects for REP in FY 2011. Table 4 shows that total capital spending for FY 2011 was \$697,226~~610,835~~. This actual spending is \$44,226~~42,165~~ ~~over~~below the budgeted amount of \$653,000.
- 3) A request to refund to customers \$754,284~~758,113~~, which is the amount of expense below the Base Plan O&M amount of \$1,360,000 that was defined by the Settlement Agreement. The refund amount consists of \$110,186~~114,015~~ of O&M spending for the REP and VMP below the Base Plan O&M amount of \$1,360,000 plus \$644,098 in credits for vegetation management reimbursements from FairPoint Communications (“FairPoint”), as discussed in more detail in Section 1 below. The refund of \$754,284~~758,113~~ represents a decrease of \$~~1,805,883~~1,802,054 below the incremental

¹ See Order No. 24,777 (July 12, 2007).

\$1,047,770 of REP/VMP O&M that is currently embedded in rates. The new O&M amount requested would be effective for usage on and after July 1, 2011;

- 4) A request for an incremental REP Capital Investment Allowance of \$~~118,188~~~~102,941~~, representing the revenue requirement associated with \$~~697,226~~~~610,835~~ of capital investment for FY 2011. The incremental REP Capital Investment Allowance would be included in rates effective for usage on and after July 1, 2011; and
- 5) A summary of reliability performance for FY 2011.

The Company is submitting the testimony of Jennifer Grimsley and Jeffrey Carney which provides further information regarding the Company's actual O&M cost and capital investment made during FY 2011. In addition, the testimony of David E. Tufts addresses the Company's request for a decrease in distribution rates associated with the REP/VMP Adjustment Provision and the REP Capital Investment Allowance described above, and includes a proposed rate design, typical bill impacts, and clean and revised tariff pages.

Section 1: FY 2011 Budget versus Actual O&M Expenses for Reliability Enhancement and Vegetation Management

As per the Settlement Agreement, the Company provides an O&M budget to Commission Staff that assumes the REP and VMP O&M spending for each fiscal year that is approximately equal to the Base Plan O&M of \$1,360,000 or an alternative O&M Budget that exceeds the O&M Base Amount for consideration by Commission Staff.

Combined with the expenses associated with inspections and REP capital improvements, the Company submitted an O&M budget for FY 2011 of \$1,552,000, which was \$855,770 less

than the total amount of \$2,407,770 embedded in rates². Commission Staff expressed their support for the budget, which was submitted to Staff on February 12, 2010 pursuant to the Settlement Agreement. The \$1,552,000 budget included a vegetation budget of \$1,418,000 for FY 2011, which was \$788,686 lower than the \$2,206,686 amount spent for vegetation management in fiscal year 2010 (“FY 2010”). The balance of the total O&M budget is associated with Inspection and Maintenance and the capital investments for REP.

As shown in Table 3, the Company’s actual total spending level for FY 2011 was \$~~1,249,814~~~~1,245,985~~ for O&M activities related to the REP and VMP, or \$~~302,186~~~~306,015~~ less than the filed budgeted amount of \$1,552,000. Partially offsetting the FY 2011 spending is \$644,098 in reimbursements from FairPoint related to its share of vegetation management expenses initially incurred by the Company and then billed to FairPoint, which are being passed back to customers. Budget variances related to the total FY 2011 REP and VMP O&M spending are described below. In addition, Attachment 1 shows the monthly expenses, while Attachment 2 contains the work plan of completed VMP O&M activities by feeder.

Table 1. Fiscal Year 2011 REP O&M Activities

Activities	FY 2011 O&M Cost Proposal	FY 2011 Actual O&M Cost
Inspection and Maintenance	\$20,000	\$6,738
O&M related to Capital Expenditures	\$114,000	\$ 47,623 43,794
Total	\$134,000	\$54,36150,532

² The annual recovery of REP/VMP O&M currently in rates consists of \$1,360,000 in base rates plus the incremental \$1,047,770 currently being recovered through the REP/VMP Adjustment Factor that took effect July 1, 2010.

Table 2. Fiscal Year 2011 VMP O&M Activities

Activities	FY 2011 O&M Cost Proposal	FY 2011 Actual O&M Cost
Spot Tree Trimming	\$60,000	\$26,456
Trouble and Restoration Maintenance	\$60,000	\$12,785
Planned Cycle Trimming	\$762,000	\$634,533
Cycle Trimming Police Detail Expenses	\$67,000	\$120,163
Hazard Tree Removal	\$287,500	\$318,607
Interim Trimming	\$58,000	\$0
Tree Planting	\$500	\$1,137
Other Police Detail Expenses	\$23,000	\$16,793
Optional Enhanced Hazard Tree Removal	\$100,000	\$64,979
Total	\$1,418,000	\$1,195,453

Table 3. Fiscal Year 2011 Total O&M Costs

Activities	FY 2011 O&M Cost Proposal	FY 2011 Actual O&M Cost
REP O&M	\$134,000	\$54,361 50,532
VMP O&M	\$1,418,000	\$1,195,453
Total O&M	\$1,552,000	\$1,249,814 1,245,985
Less Reimbursements from FairPoint	-----	\$644,098
Total	\$1,552,000	\$605,716 601,887

The Company completed all of the vegetation management work contained in its FY 2011 plan. Overall, actual FY 2011 expenses incurred for base VMP O&M activities amounted to \$1,195,453, or \$222,547 less than the proposed budget of \$1,418,000. The spending variance is the result of two factors. First, bid prices for cycle pruning were lower than expected resulting in lower than forecast unit prices. Second, the Company spent less than anticipated for spot tree trimming, trouble and restoration calls, and interim trimming. This is due to the fact that these activities are demand driven and the Company experienced lower demand for these activities during FY 2011 than forecasted. However, cycle pruning police detail expenses and hazard tree removal exceeded the anticipated spending levels.

The Company spent \$~~50~~54,361,~~532~~ in O&M costs associated with the REP programs, or \$~~79,639~~83,468 less than the proposed budget of \$134,000. This decrease in O&M costs was driven by the lower than forecasted amount of equipment that needed repair or replacement in the Feeder Hardening program.

Finally, as previously noted, partially offsetting the total O&M spending of \$~~1,249,814~~1,245,985 were reimbursements from FairPoint of \$644,098 for its share of vegetation management costs, resulting in total O&M costs for FY 2011 of \$~~605,716~~601,887.

Section 2: Fiscal Year Capital Budget versus Investment for Reliability Enhancement

In addition to the \$134,000 in O&M costs associated with the REP, as shown above, the Company proposed a \$653,000 REP capital budget in FY 2011. As discussed with Commission Staff, the Company budgeted this amount to perform hardening activities along 25 miles of the Vilas Bridge 12L1 feeder, install four reclosers, and replace/install 400 cutouts on various feeders. As shown in Table 4 below, the Company met or exceeded each of these targets while spending less than the total budget.

Table 4. Summary of Fiscal Year 2011 REP Capital Investment

Projects	FY 2011 Goal	FY 2011 Actual	FY 2011 Capital Investment Budget	FY 2011 Actual Capital Investment (FERC 101/106)
Feeder Hardening (miles)	25	25	\$283,000	\$136,569
Asset Replacement				
- Reclosers	4	4	\$206,000	\$250,270 <u>\$336,661</u>
- Cutouts: Installing new cutouts on side taps and replacing potted porcelain cutouts	400	774	\$164,000	\$223,996
Total			\$653,000	\$610,835 <u>\$697,226</u>

In FY 2011, 25 miles of feeder hardening were completed on the Vilas Bridge 12L1 feeder. Four (4) new line reclosers were installed to improve feeder sectionalization. A recloser was installed on the Vilas Bridge 12L1 feeder, the Craft Hill 11L1 feeder, the Enfield 7L2 feeder, and the Lebanon 1L2 feeder. The Company was then able to accelerate its program to replace potted porcelain cutouts with the proposed budget and replaced a total of 774 potted porcelain cutouts, or 374 more than originally planned.

Table 4 compares the budgeted capital expenditures against the value of electric plant additions placed in-service to the FERC 101/106 accounts. These FY 2011 additions form the basis for the REP capital-related revenue requirement calculation in this filing. Factors contributing to the difference between the FY 2011 budgeted amount and the FY 2011 actual capital investment typically are associated with (1) timing differences due to budgeted amounts from the prior fiscal year being placed into service in FY 2011, which can typically occur as capital work is performed, completed, and processed through the accounting system, and (2) the changes in actual verses estimated costs as site specific requirements are determined by inspection or detailed design. The variance in each of the REP projects is described below:

Feeder Hardening: Feeder Hardening is a remedial program in which worst performing feeders are targeted for replacement or installation of equipment such as fuse cutouts, crossarms, poles, transformers, reclosers, lightning arresters, and animal guards. Variance in the total versus estimated cost for the feeder hardening program in FY 2011 reflects the lower unit cost associated with working in a rural area, such as the area where the Vilas Bridge 12L1 feeder is located. Rural area work requires fewer repairs and fewer replacements in the field per mile than suburban or urban areas. This resulted in lower than average cost per mile and lower total cost than the estimated unit cost per mile used for the proposed budget.

Reclosers: The variance in the recloser program in FY 2011 was driven by the design scope specific to the site of installation. Two of the four reclosers installed in FY 2011 were installed on the Enfield 7L2 and Lebanon 1L2 feeders rather than the Olde Trolley 18L2 and 18L4 feeders, the latter two installations being amongst those originally planned. The decision to change two of the feeders on which reclosers were installed was made in an attempt to respond directly to significant service interruptions that had occurred in the Lebanon area during FY 2010 and FY 2011. The two reclosers installed on the Enfield 7L2 feeder and the Lebanon 1L2 feeders were made part of a single loop scheme rather than simple radial scheme. Using reclosers in a loop scheme allows distribution automation to be implemented between two feeders. Automatic backup from a second feeder is a reliability benefit that does not occur with simple radial schemes. The loop scheme reclosers require sensing transformer banks, which required pole height increases to maintain proper clearances, as well as secondary wire installations to the

recloser itself. In addition, loop scheme recloser controls are more expensive than the radial installations. These factors described above, account for the budget variance.

Cutouts: The variance in the cutout program in FY 2011 was driven by the decision to exceed the budgeted number of cutouts to be replaced. After recognizing in the fiscal year that the Feeder Hardening program goal would be met under budget, the Company accelerated the cutout replacement program as opposed to increasing Feeder Hardening mileage because the cutout replacement program better aligned with availability of resources and material in the last quarter of FY 2011.

The Company was able to meet all of its REP goals and exceed the cutout replacement goal. ~~while still keeping the total expenditure for all REP activities under the total REP budget for FY 2011 by \$42,165.~~ As set forth in Mr. Tufts' testimony, the revenue requirement associated with FY 2011 capital investment of \$~~697,226~~^{10,835} is \$~~118,888~~^{102,941}.

Section 3: Fiscal Year 2011 Reliability Results

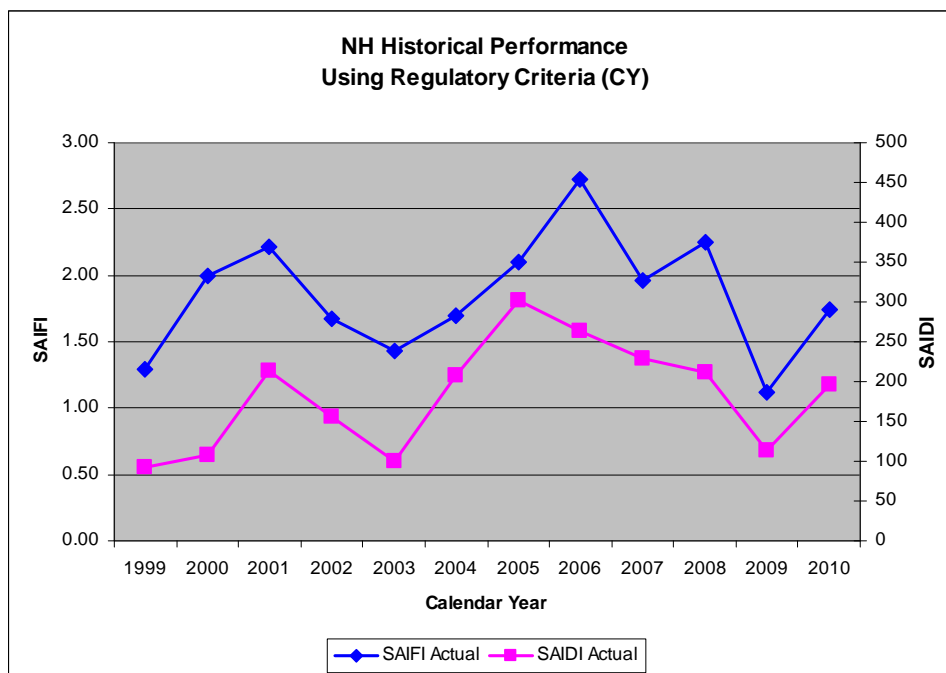
In previous years, this report has presented reliability results on a calendar year ("CY") basis. Metrics for CY 2010 are presented in Table 5 based on both the regulatory standard for excluding major weather events and the IEEE Standard 1366 method for excluding major weather events. The metrics include customers interrupted ("CI"), customer minutes interrupted ("CMI"), system average interruption frequency index ("SAIFI"), and system average interruption duration index ("SAIDI").

Table 5. Calendar Year 2010 Reliability Results³

Major Storm Criterion	CI	CMI	SAIFI	SAIDI
PUC Major Event Day ⁴ Standard	72,089	8,156,936	1.74	196.43
IEEE 1366 Major Event Day ⁵ Standard	72,089	8,156,936	1.74	196.43

As shown in Figure 1 below, the reliability performance metrics in CY 2010 were above the metrics of CY 2009. Despite the increase in CY 2010, however, the metrics remained below the peak that occurred in 2006 and the multi-year trend in performance since 2005 remains on a downward trajectory.

Figure 1. Calendar Year Historical Reliability Performance



³ Only events involving 1 or more customers and more than 5 minutes are included in the calculated statistics.

⁴ PUC Major Storm: [(CI >= 15 % of Customers Served and 30 concurrent events) or (45 concurrent events)], Using PUC criteria, three days was excluded in Calendar Year 2010: February 25 and 26, 2010.

⁵ IEEE Major Event Days: Using IEEE criteria, three days was excluded in Calendar Year 2010: February 25 and 26, 2010.

As set forth in Exhibit GSE-8 of the Settlement Agreement, the REP and VMP are being implemented by National Grid in order to bring the Company's reliability performance back to historical performance levels that existed prior to 2005⁶, with the goal of meeting those historical performance levels by the end of fiscal year 2013⁷. Therefore, beginning in this report, the Company's reliability performance metrics are presented on a fiscal year basis in order to be in alignment with the terms of the 2013 goal. Metrics for FY 2011 are presented in Table 5.

Table 6. Fiscal Year 2011 Reliability Results⁸

Major Storm Criterion	CI	CMI	SAIFI	SAIDI
PUC Major Event Day ⁹ Standard	61,728	6,803,781	1.49	163.76
IEEE 1366 Major Event Day ¹⁰ Standard	61,728	6,803,781	1.49	163.76

As shown in Figure 2 below, the reliability performance metrics in FY 2011 were slightly above the metrics of FY 2010. Despite the increase in FY 2011, however, the metrics again remained below the peak that occurred in 2006 and the multi-year trend in performance since 2005 remains on a downward trajectory. The Company remains vigilant with its REP and VMP activities to sustain this overall trend and to meet the 2013 goals.

⁶ See Exhibit GSE-8 of the Settlement Agreement at p. 1.

⁷ Historical performance levels that existed prior to 2005 are defined as average SAIDI and SAIFI performance, plus one standard deviation over the period 1996 to 2004, excluding storms that meet the IEEE criteria. The goal by the end of fiscal year 2013 is to achieve average SAIFI of 1.8 and average SAIDI of 126.

⁸ Only events involving 1 or more customers and more than 5 minutes are included in the calculated statistics.

⁹ PUC Major Storm: [(CI >= 15 % of Customers Served and 30 concurrent events) or (45 concurrent events)], Using PUC criteria, one day was excluded in FY 2011 – March 7, 2011.

¹⁰ IEEE Major Event Days: Using IEEE criteria, one day was excluded in FY 2011 – March 7, 2011.

Figure 2. Fiscal Year Historical Reliability Performance

