

PSNH

Reliability Enhancement Program

Docket DE 09-035

2010 Year End Report

PSNH

Reliability Enhancement Program

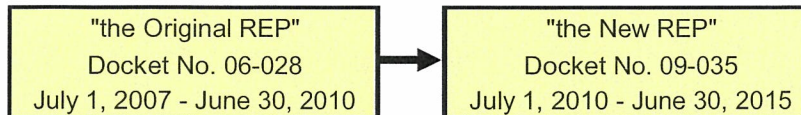
Docket DE 09-035

Executive Summary

Executive Summary
Reliability Enhancement Program
Docket DE 09-035

PSNH has completed six months of the new Reliability Enhancement Program (REP) ending December 31, 2010. The original REP was established as a 5-year effort under the settlement agreement approved by the Commission in Order No. 24,750 in Docket No. DE 06-028 and became effective July 1, 2007. (The results of the reliability work under the original REP are documented in the report submitted by PSNH on February 18, 2011.)

Reliability Enhancement Program (REP)



To replace the original REP program, Docket DE 09-035 was settled and the Commission issued Order No. 25,123 on June 28, 2010. The new rate settlement effective July 1, 2010, incorporated many aspects of the original REP and provided for other critical reliability projects and activities. This report provides results of the first six months of the new REP.

2009 RATE CASE	
Docket DE 09-035	
<u>Revenue Requirement Allocations</u>	
Original REP O&M	\$8,200,000
New O&M Programs	2,500,000
Capital Financing	1,500,000
Total	\$12,200,000

The REP provides PSNH with \$12.2 million in annual (program year) distribution revenue requirements to improve reliability through enhanced distribution capital and operation and maintenance (O&M) expenditures.

Annual revenue was allocated between the components shown in the table to the left pursuant to agreement reached during settlement discussions for docket DE 09-035. The capital component was designed to provide for between \$12.8 and 14 million of additional capital investment annually. The

O&M component was determined by assessing various existing maintenance and repair activities as well as new activities. The base component was also O&M-related, but focused specifically on vegetation management and National Electrical Safety Code (NESC) inspections. See *PSNH Rate Case DE No. 09-035 REP Revenue Allocations* for first year detail breakdown by area and activity.

The allocation among the O&M items has changed from the original plan. This is a result of using the actual cost for the different activities in the forecast. The following table shows the REP program year revenue allocation actual for the three year duration of the program:

Jul 2010 - Jun 2011	
<u>REP AREA</u>	<u>Program Year 1 Plan</u>
Vegetation Management	\$3,500,000
NESC Inspect/Repair	3,400,000
Other O&M Activities	1,300,000
Total Original REP O&M	\$8,200,000
New REP O&M Programs	2,500,000
Total O&M	\$10,700,000
New REP Specific Capital	\$1,000,000
Capital due to Base REP	500,000
Specific Capital Financing	\$1,500,000
Total REP	\$12,200,000

Executive Summary

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The table at right shows actual expenditures for the first six months of the current REP. The general REP areas represent multiple tracked programs and activities.

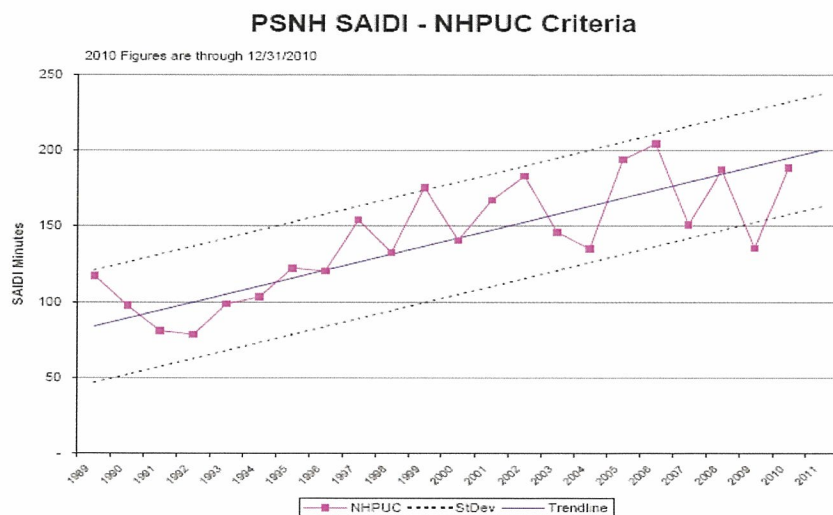
On a total program basis, PSNH maintained costs within budget and accomplished planned scope. Actual O&M results through December 31, 2010 show \$6.1 million spent, and 25,494 tasks completed. See Section 1, *Year End 2010 Summary of PSNH Reliability Enhancement Program – O&M* for details on individual activity cost and unit count.

For capital expenditures, PSNH spent \$6.8 million on the stipulated 15 budget line items or projects. See Section 5, *Year End 2010 Summary of PSNH Reliability Enhancement Program – Capital* for details on budget item/project descriptions and expenditures by item or project. PSNH tracks all reliability capital projects in order to ensure the funding allocated to REP is over and above what normally would have been accomplished.

REP AREA	6-mo Ending Dec 2010
Vegetation Management	\$3,280,131
NESC Inspect/Repair	1,533,600
O&M Activities	713,000
New REP O&M Programs	446,976
Total O&M	\$5,973,707
New REP Specific Capital	\$3,845,352
Capital due to Base REP	2,945,534
Specific Capital Projects	\$6,790,887
Capital Financing Required	\$814,906 *
* Annualized Carrying Charge	
Total REP Revenue Req'ts.	\$6,788,613

As a result of the recent rate case settlement DE 09-035 and Commission Order 25,123, the REP O&M activities discussed in this report are included in the new Reliability Enhancement Program. Funding for these activities is based on a level amount of revenues annually amounting to \$8.2M.

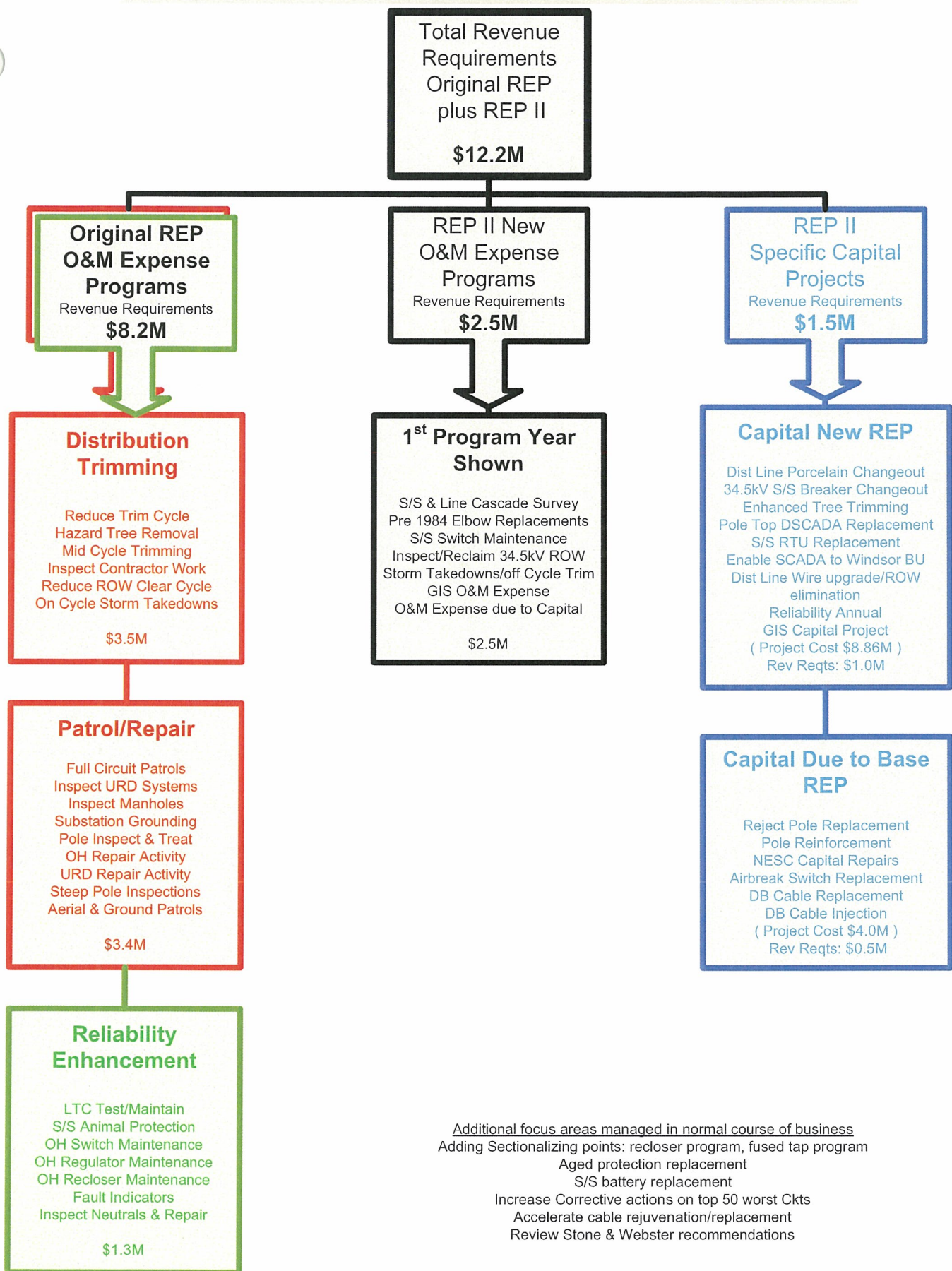
Reliability performance as measured by SAIDI shows continued stabilization through year end 2010. During 2010, New Hampshire experienced difficult weather with numerous storm days, including the February Windstorm. Storm related impacts to the electric system affected PSNH's absolute SAIDI performance. We



note however since the REP was implemented, the trend from 2006 onward has been markedly improved. We continue to see benefits from the REP activities and fully believe we are preventing problems from occurring and reducing repair effort and outage times by having the PSNH electric system work as designed. The REP activities are critical and important in concert with PSNH's continued efforts to maintain the system in the normal course of business. See Section on NHPUC SAIDI Graphs.

The Reliability Enhancement Program is a valuable portfolio of maintenance and capital activities which provide improved service quality for our customers. The programs have proven to be appropriate with repairs and deficiencies identified and repaired in timely fashion, preventing outages, ensuring faster trouble identification and repair and reducing customer outage duration.

PSNH Reliability Enhancement Program (REP) Effective July 1, 2010
Rate Case DE 09-035 REP Revenue Allocations



NHPUC

RELIABILITY GRAPHS

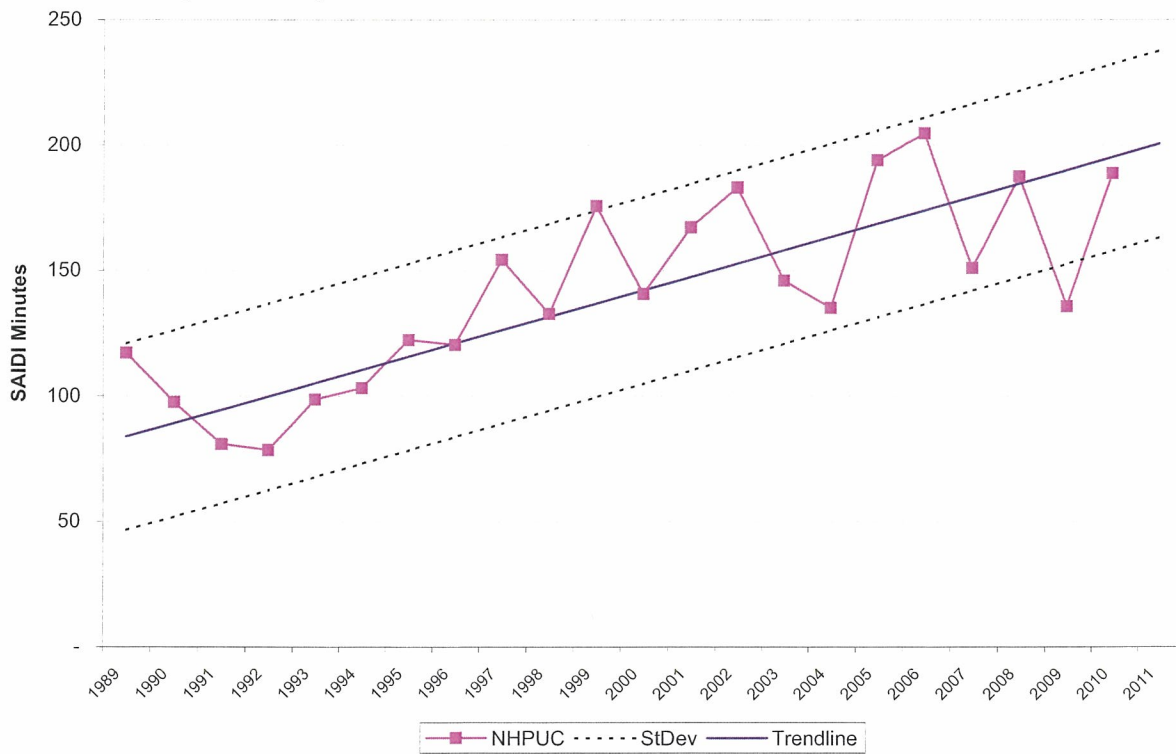
NHPUC SAIDI Graphs Summary
Reliability Enhancement Program
Docket DE 09-035

The following is a brief description of the SAIDI Graphs contained in this section and the related REP activities for them:

1. PSNH SAIDI – NHPUC Criteria. The company SAIDI went up in 2010 due to a large number of weather related events. While greater than last year performance trend since 2005 is declining and we are establishing a new improving trend. Trend lines shown are for 1989 through 2005.
2. Top 50 Hit List SAIDI Contribution from Year to Year. Each year PSNH reviews SAIDI by circuit and determines which have contributed the most minutes according to the NHPUC Criteria. Shown on this graphic are the total SAIDI minutes for the top 50 circuits in a year, the amount of SAIDI minutes for those circuits remaining on the top 50 list from the previous year, and the % of SAIDI these carry forward circuits represent compared to the Top 50 total. In 2010 we had an increase in SAIDI contribution coming from the top 50, and an increase in SAIDI from circuits remaining in the top 50 from 2009 to 2010.
 - a. *See section 6 Other summary for specific actions taken on each circuit*
3. PSNH SAIDI – NHPUC Criteria With and Without Storms. NHPUC SAIDI does not include emergency events which are booked to the storm reserve. These are catastrophic events and are shown on this chart over and above the NHPUC reported SAIDI. 2008 shows the off-scale impact of the December Ice Storm, and 2010 similarly for the February wind storm. A major storm is declared when there are 200 concurrent power outages affecting 10% of customers served or, 300 concurrent power outages. PSNH also tracks minor storms when 100 or more power outages occur within a 24 hour period and not deemed a NHPUC major storm. PSNH experienced 14 minor storm events in 2010, typical annual average is 9. This minor storm component subtracted from NHPUC reported SAIDI leaves a Weather normalized SAIDI. As shown that component continues to be below levels present when REP was initiated in July of 2007.
4. PSNH Tree Related SAIDI. The largest cause group for SAIDI is trees and limbs either in the clearance area or outside of it. Tree related SAIDI variation the NHPUC reported SAIDI very closely and is sensitive to weather. Weather adjusted SAIDI continues trending upward slightly with a slowing trend in recent years. There is a cumulative effect for vegetation management and we believe the effort from last half of 2007 through year end 2010 is showing results. Our efforts to establish the target 4.5 year trimming cycle for the distribution system will require an additional 2 years. REP activities relating to this are:
 - a. O&M expense Vegetation Management activities including Scheduled Maintenance trimming to shorten the maintenance cycle, Hazard tree removals, Mid cycle trimming
 - b. Capital trimming at Enhanced Tree Trimming specifications for establishing larger clearance both for existing lines and whenever new additions and upgrades are made to the system.
5. PSNH Equipment Related SAIDI. The second largest cause group for SAIDI is equipment failures in substations and on distribution lines. There is much less weather effect and the difference between them is small. A significant decrease has occurred in this area in 2010 establishing a new low since 2002. A variety of REP actions affect this and include:
 - a. Porcelain changouts
 - b. Switch maintenance and replacement programs
 - c. Recloser Maintenance, Cable testing and replacement
6. PSNH SAIDI – NHPUC Criteria Substation Reliability. Power outages caused by actions or problems inside substations are typically large and widespread. The amount of SAIDI minutes relating to these events is declining and there is essentially no difference due to weather. We continue to track a very low SAIDI contribution in this area through 2010. This can be associated with REP activities such as:
 - a. Remove Brown Glass insulators from Substations
 - b. 34.5Kv Substation Breaker replacement program
 - c. Animal Protection in Substations
 - d. Efforts made reducing the corrective maintenance backlog to zero.

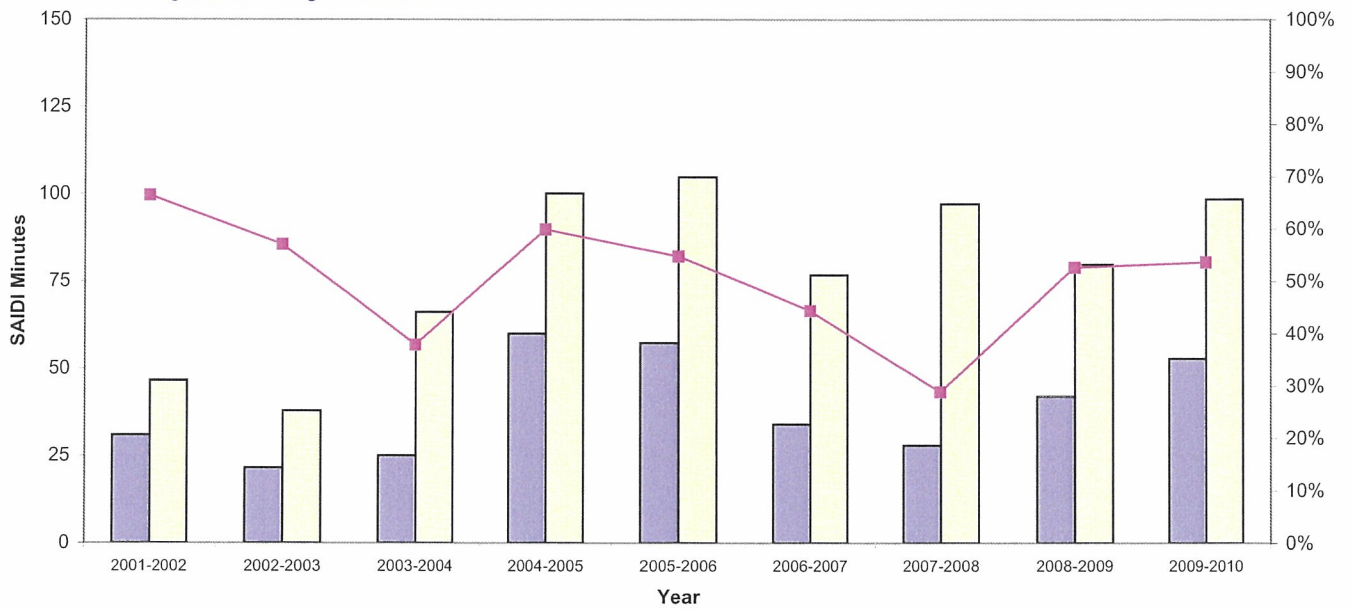
PSNH SAIDI - NHPUC Criteria

2010 Figures are through 12/31/2010



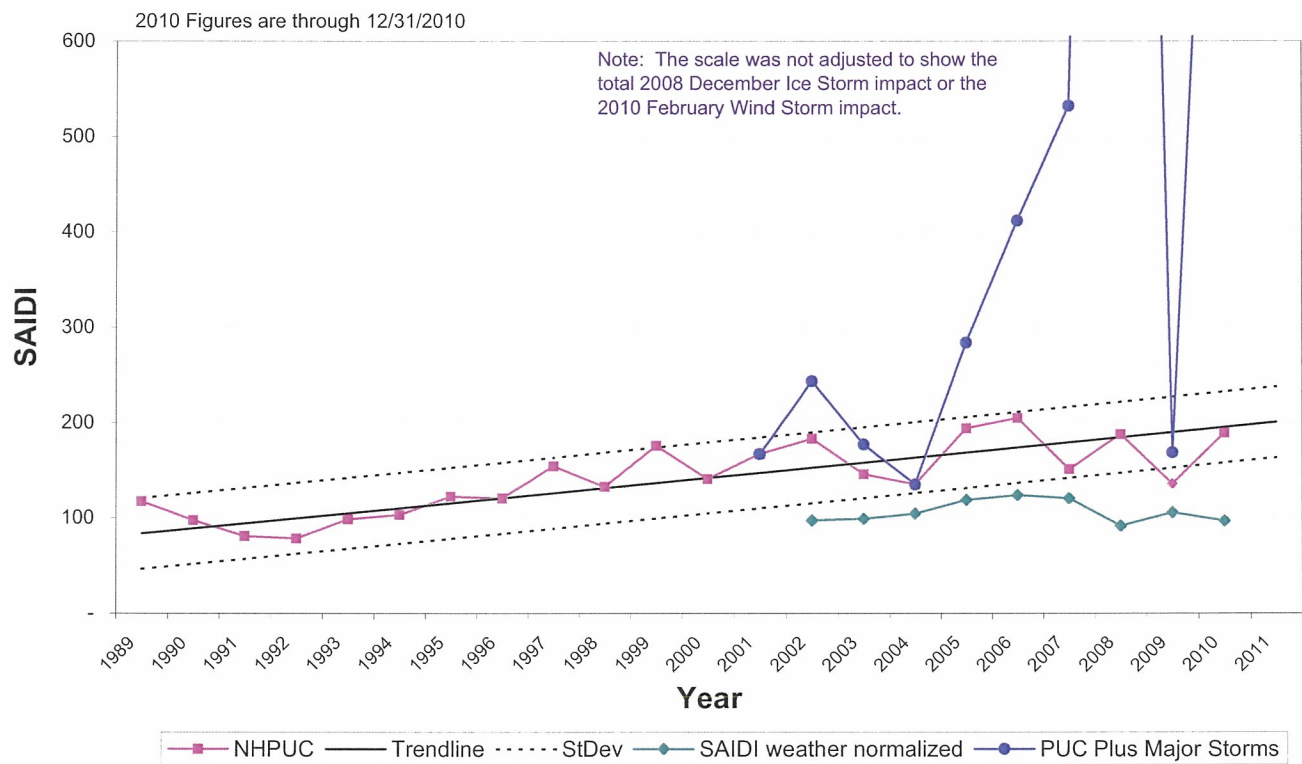
Top 50 Hit List SAIDI Contribution from year to year NHPUC Criteria

2010 Figures are through 12/31/2010



Year-to-year SAIDI Contribution to Top 50 SAIDI Top 50 SAIDI Year-to-year % of SAIDI Contribution to Top 50 SAIDI

PSNH SAIDI - NHPUC Criteria With and Without Storms

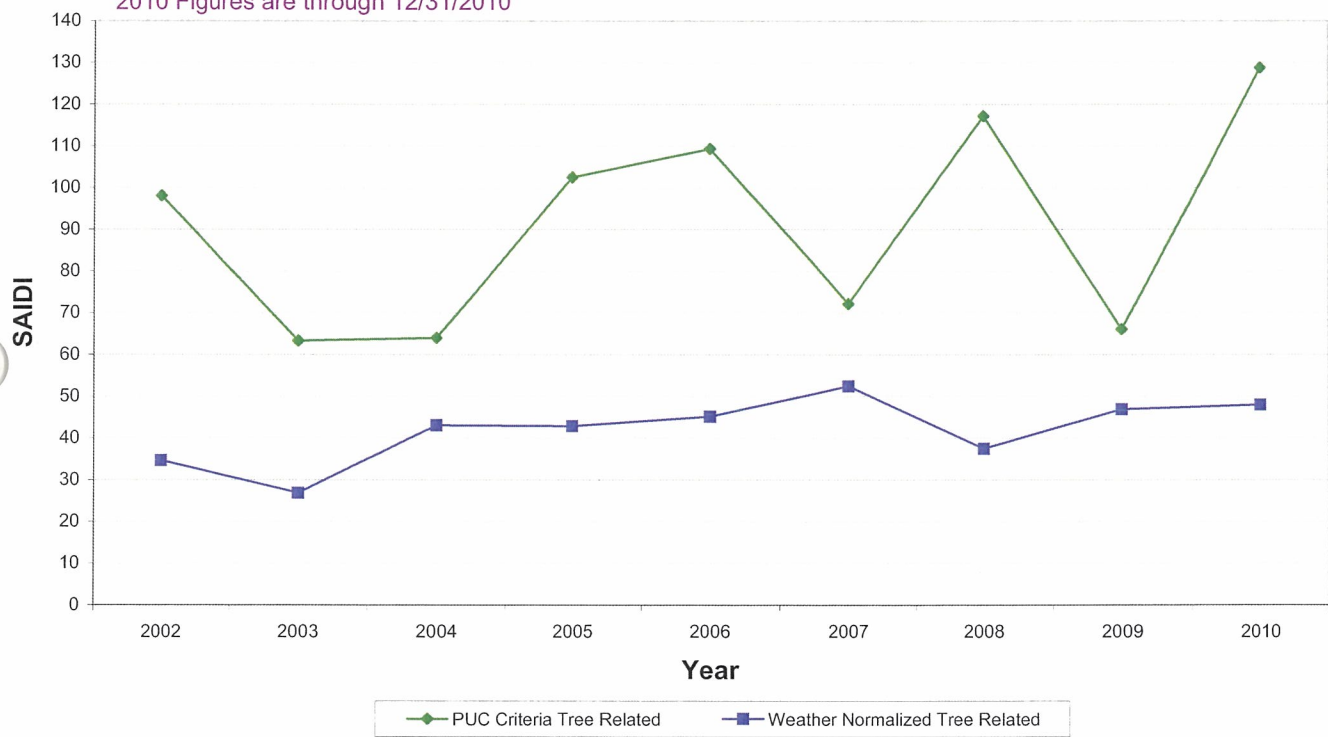


PSNH Tree Related SAIDI

NHPUC Criteria

(100% of Trees/Limbs, 50% of Ice/Sleet/Snow & Wind and 40% of Patrolled Nothing Found related troubles)

2010 Figures are through 12/31/2010

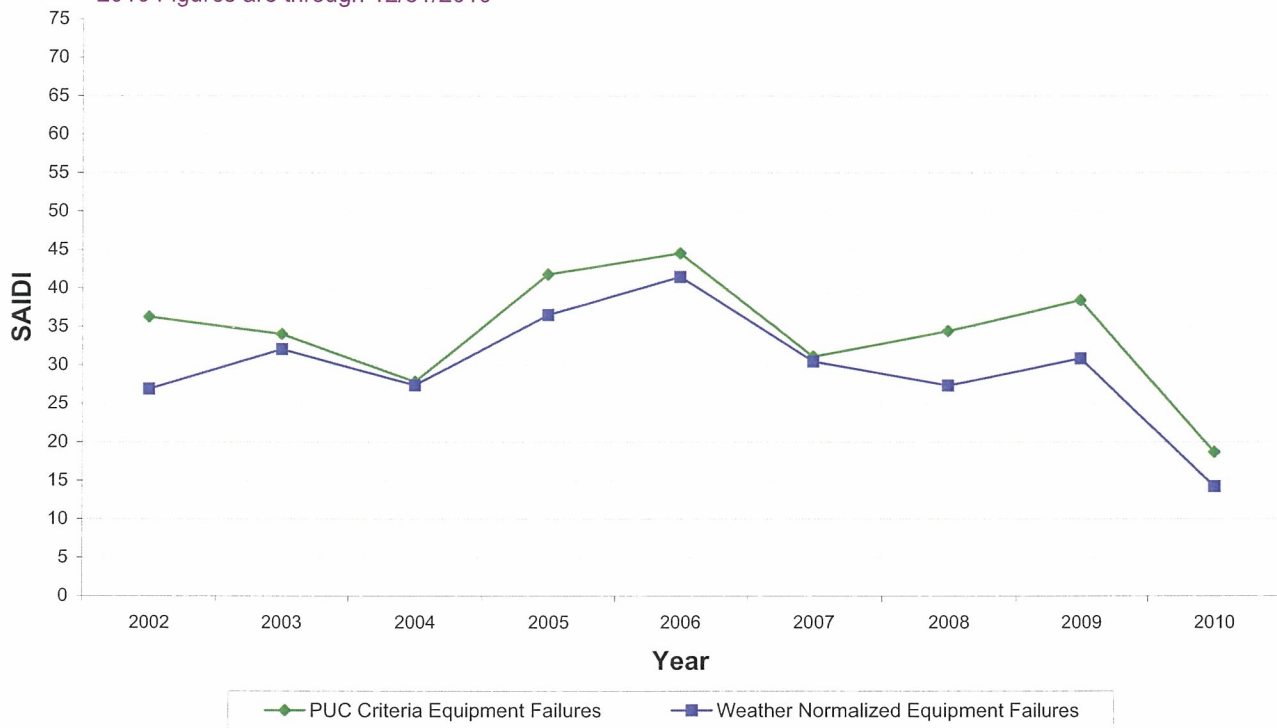


PSNH Equipment Related SAIDI

NHPUC Criteria

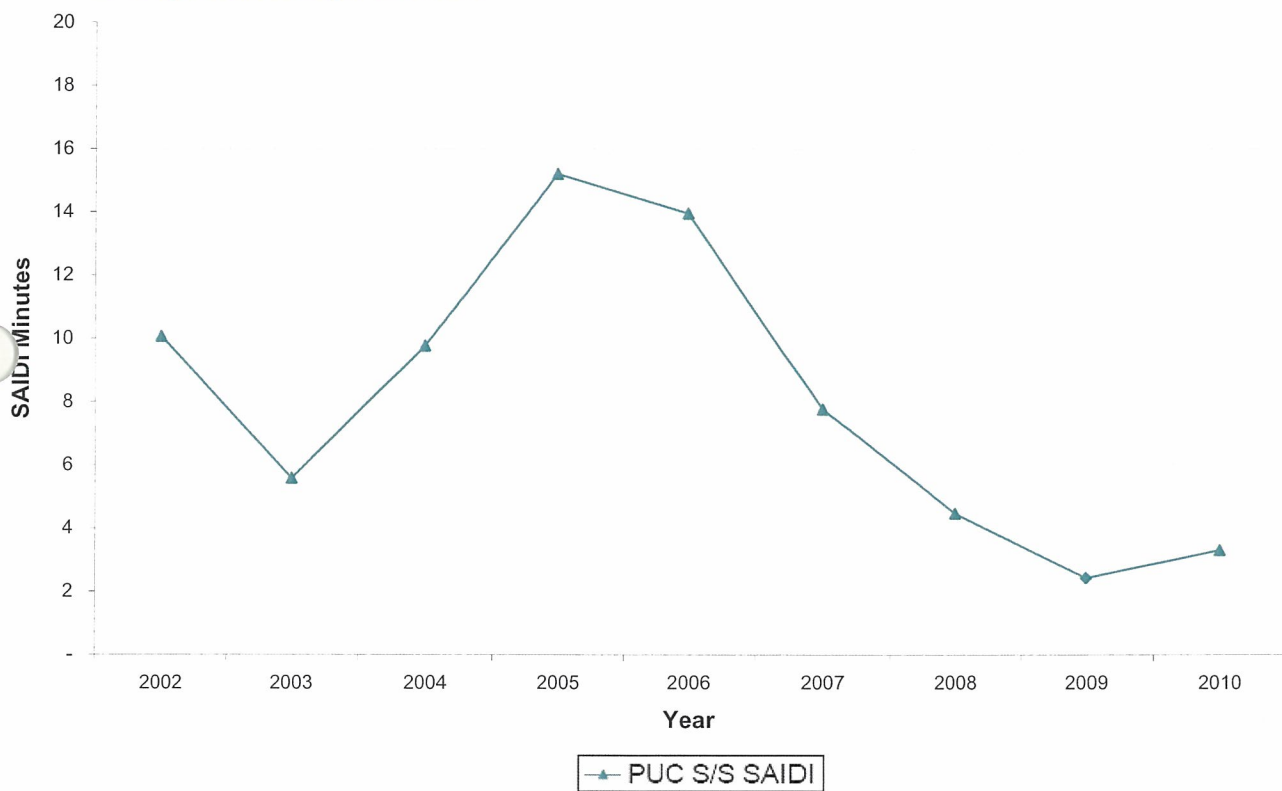
(100% of Equipment Failure, Improper Install, Loose Connection, Open Neutral and Overload related troubles)

2010 Figures are through 12/31/2010



PSNH SAIDI - NHPUC Criteria Substation Reliability

2010 figures are through: 12/31/2010



PSNH 2010 YEAR END RELIABILITY ENHANCEMENT PROGRAM

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Section 1

2010 O&M Summary



**Public Service
of New Hampshire**
The Northeast Utilities System

Year End 2010 Summary of PSNH Reliability Enhancement Program – O&M

Docket No. DE 09-035

Jul 1 2010 - Dec 31 2010



TRIMRC - VEGETATION MANAGEMENT (O&M)

	Units	\$ Expended	Units Completed	Cost Per Unit
Reduce Scheduled Maintenance Trim Cycle	# Miles	\$1,192,231	206	\$5,788
Hazard Tree Removal	# Trees	\$1,171,350	3,165	\$370
Mid Cycle Trimming	# Miles	\$724,253	46	\$15,745
Inspect Contractor	# Miles	N/A	147	N/A
Reduce Distribution Rights-of-Way Cycle	# Acres	\$192,297	251	\$766
Storm Damage Premium	N/A	N/A	N/A	N/A
Takedowns and Cycle Impact	N/A	N/A	N/A	N/A
Inspect/Reclaim ROWs	# Miles	\$90,497	9	\$10,055
Total TRIMRC		\$3,370,628	3,824	

NESCRC - National Electrical Safety Code (O&M)

	Units	\$ Expended	Units Completed	Cost Per Unit
Full Circuit Patrol	# Miles	\$81,700	1,693	\$48
Inspect and Repair Underground Systems	# Maps	\$93,800	166	\$565
Inspect Manholes	# Manholes	\$0	0	-
<small>363 manholes inspected prior to July 2010 45 manholes inspected in 2011 thus far</small>				
Substation Grounding	# Substations	\$64,600	27	\$2,393
Pole Inspection and Treatment	# Poles	\$456,000	18,681	\$24
Overhead Repair Activity	# Miles	\$834,300	548	\$1,522
Foot Patrol ROW	# Miles	\$3,200	5	\$640
TOTAL NESCRC		\$1,533,600	21,120	

RELIOM - RELIABILITY (O&M)

	Units	\$ Expended	Units Completed	Cost Per Unit
Substation Animal Protection	# Substations	\$0	0	-
Overhead Switch Maintenance	# Switches	\$194,600	81	\$2,402
Recloser Maintenance Backlog	# Reclosers	\$336,300	133	\$2,529
Fault Indicators	# Fault Ind.	\$28,300	58	\$488
Test & Repair Direct Buried Unjacketed Cable	# Runs	\$153,800	174	\$884
Cascade Database Field Survey	N/A	\$17,300	N/A	N/A
RTE Elbow Replacement	# Elbows	\$58,000	102	\$569
GIS O&M	N/A	\$1,900	N/A	N/A
O&M Portion of Capital	N/A	\$279,279	N/A	N/A
TOTAL RELIOM		\$1,069,479	548	

TOTAL O&M ONGOING FROM ORIGINAL REP

\$5,526,731

25,381

NEW O&M FOR NEW REP

\$446,976

111

TOTAL O&M

\$5,973,707

25,492

VEGETATION MANAGEMENT- O&M

REDUCE SCHEDULED MAINTENANCE TRIM CYCLE:

Program Description: Reduce the schedule maintenance trimming (SMT) cycle to an average of 4 years for the 35 kV system, 5 years for the 15 kV system and 6 years for the 5 kV system.

Total Unit Population: PSNH is responsible for trimming approximately 11,000 miles of overhead distribution lines.

Maintenance Cycle: The current maintenance cycle ranges from 4 to 6 years for the 35 kV system, 5 to 7 years for the 15 kV system and 6 to 8 years for the 5 kV system.

Approximately 2,200 miles are trimmed each year resulting in the average trim cycle of 5 years. The Reliability Enhancement Program will reduce the trimming cycles for each voltage class, resulting in an average cycle of 4.5 years.

Reliability Benefit: Increasing the number of miles trimmed annually will reduce the number of growing seasons between maintenance trimming cycles. This will result in less tree growth toward the conductors between trimming operations. This will also result in a circuit being inspected for hazard trees more frequently, which will reduce the number of "outside the trim zone" outages.

O&M Cost:

\$ Expended	Miles Trimmed	Cost Per Mile
\$1,192,231	206	\$5,788

HAZARD TREE REMOVALS:

Program Description: Increase the number of hazard trees removed concurrent with the scheduled maintenance trimming (SMT) cycle.

Total Unit Population: PSNH is responsible for trimming approximately 11,000 miles of overhead distribution line. Hazard trees are field identified during the planning phase in scheduled maintenance trimming of a circuit. Additional hazard trees are identified during the trimming process. These include dead and dying trees, trees growing too close to phase conductors, and trees with defects that make them susceptible to causing a power outage.

Maintenance Cycle: The current maintenance program primarily follows the scheduled maintenance trimming cycle and removes approximately 3,500 hazard trees annually. The plan of the Reliability Enhancement Program targets the removal of additional hazard trees in each.

Reliability Benefit: Increasing the number of hazard trees removed will reduce the number of "outside the trim zone" outages.

O&M Cost:

\$ Expended	Trees Removed	Cost Per Tree
\$1,171,350	3,165	\$370

MID CYCLE TRIMMING:

Program Description: Perform mid-cycle trimming in areas where vegetation problems develop between maintenance cycles.

Total Unit Population: PSNH is responsible for trimming approximately 11,000 miles of overhead distribution line. Vegetation problems develop between maintenance cycles in areas where tree growth is excessive and where owners have not given permission to trim to full clearance specification.

Maintenance Cycle: The current maintenance program does not identify areas that could benefit from trimming between cycles. The Reliability Enhancement Program will target a limited mid-cycle program of approximately 50 miles in 2010 and 100 miles annually thereafter.

Reliability Benefit: Mid-cycle inspections will identify areas of vegetation problems resulting from owner refusals for full clearance trimming. More frequent trimming in these problem areas will reduce "inside the zone" outages. The mid-cycle trimming was more extensive than original estimated and thus the cost per mile was higher than budgeted. Fewer miles were completed because budgeted funds were expended.

O&M Cost:

\$ Expended	Miles Trimmed	Cost Per Mile
\$724,253	46	\$15,745

INSPECT ALL CONTRACTOR WORK:

Program Description: Inspect 100% scheduled maintenance trimming to ensure that the contractor is trimming to specification within the bounds of owner permissions.

Total Unit Population: PSNH is responsible for trimming approximately 11,000 miles of overhead distribution line. Inspections will be made of 100% of the miles trimmed under the scheduled maintenance trimming program.

Inspection Cycle: The current maintenance program trims approximately 2,200 miles annually with an additional 300 miles trimmed annually under the Reliability Enhancement Program. The quality assurance program currently targets inspections on approximately 80% of the circuit miles. The Reliability Enhancement Program will target inspecting 100% of the circuit miles trimmed annually.

Reliability Benefit: Performing contractor inspections on 100% of the circuit miles trimmed will ensure that trimming specifications are being met and that no area is skipped or trimmed below standards which could cause "inside the zone" outages. Additionally, it will ensure that danger trees identified for removal have been addressed.

Results: 147 miles

O&M Cost: No expenditures are reported here because the cost for these inspections is included within the maintenance trimming budget.

REDUCE DISTRIBUTION RIGHTS-OF-WAY (ROW) MOWING CYCLE:

Program Description: Reduce the average maintenance mowing cycle of 34.5 kV rights-of-way to an average of 4 years. Vegetative growth is close to conductors at the end of the current 5 year maintenance cycle. Reducing the mowing cycle to 4 years will also identify hazard trees and potential problems in wetlands, buffers and backyards on a shortened schedule. This includes mowing the deck of the rights-of-way, removal of hazard trees outside the rights-of-way and manual cutting for buffers, wetlands and other sensitive areas. This will also bring the maintenance schedule of 34.5 kV right-of-ways more in line with the transmission mowing schedule of 3 to 4 years.

Total Unit Population: PSNH is responsible for mowing approximately 7,930 acres of 34.5 kV right-of-ways. Approximately 6,641 acres are in "distribution only" rights-of-way and approximately 1,289 acres in rights-of-way shared with transmission lines.

Inspection Cycle: The current maintenance budget for mowing "distribution only" rights-of-way results in approximately 1,300 acres to be mowed every 5 years, although this varies from year to year based on the number of acres mowed in the shared rights-of way. The number of acres maintained in rights-of-way shared with transmission varies each year with an average of 230 acres per year. The Reliability Enhancement Program will reduce the mowing cycle for distribution rights-of-way to 4 years by increasing the annual number of acres to be mowed by about 330 acres annually.

Reliability Benefit: Increasing the number of rights-of-way acres maintained annually will reduce the number of growing seasons between maintenance mowing cycles. This will result in less tree growth toward the conductors and more frequent inspections for hazard trees.

O&M Cost:

\$ Expended	Acres Mowed	Cost Per Acre
\$192,297	251	\$766

STORM DAMAGE PREMIUM:

Program Description: The extensive damage of the December 2008 ice storm has added to the cost of planned maintenance trimming. This item will offset that cost and allow maintenance trimming to remain on cycle. This item serves to increase the Vegetation Management Budget by \$250,000 for 2010.

Total Unit Population: There are approximately 11,000 miles of overhead lines along the street.

Inspection Cycle: 4.5 years

Reliability Benefit: Reduce the potential for outages by maintaining the maintenance trimming cycle.

O&M Cost: Included in "Reduce Scheduled Maintenance Cycle" item.

TAKEDOWNS AND CYCLE IMPACT:

Program Description:	Additional tree takedowns are required due to the recent December Storm. While post storm cleanup has eliminated immediate problems, damage to vegetation will continue to cause decay and disease. This program will attempt to target the hardest hit areas during the storm and proactively remove trees and limbs outside of the normal trim zone. Additional Mid Cycle Trimming is required due to expected problems following the December Storm. This effort is used for those circuits that will not be trimmed in the next two years. The 50 miles of added mid cycle will be used in areas hardest hit during the storm coincident with our request for added takedowns. This program is limited to two years and targets those circuits which will not have scheduled maintenance trimming performed. Additionally, we expect that customer appreciation for the need to trim or clear will decline with time and vegetation will grow out and disguise problems reducing our ability to get permissions. This item serves to increase the Vegetation Management Budget by \$300,000 for 2010.
Total Unit Population:	Approximately 11,000 miles of overhead line along the street.
Inspection Cycle:	4.5 years
Reliability Benefit:	Remove hazard trees and branches that resulted from the 2008 ice storm. Perform mid cycle trimming on those circuits hardest hit during the storm.
O&M Cost:	Included in "Hazard Tree Removal" and "Mid Cycle Trimming" items.

INSPECT & RECLAIM RIGHTS-OF-WAY:

Program Description:	The Full Width ROW Clearing project requires infield and easement/ROW records assessment of PSNH's 650 miles of rights and line position within those rights. We anticipate that nearly 100 miles of our 650 miles of ROW would require added clearing to re-establish the edge. Some of this is expected to require in field survey to delineate the centerline amounting to approximately 50 miles or half of the expected clearing. Reclamation clearing is accomplished by acre. However, due to the unpredictable nature of the amount of area to be cleared, a more manageable unit of measure is miles of ROW.
Total Unit Population:	650 miles of line in ROW
Inspection Cycle:	One time inspection and assessment.
Reliability Benefit:	Clear ROW to full width of easement will reduce outages caused by trees and limbs from within the ROW.
O&M Cost:	Note: PSNH believes that some of the costs to reclaim rights-of-way were charged to the general Vegetation Management budget.

\$ Expended	Miles Completed	Cost Per Mile
\$90,497	9	\$10,055

NATIONAL ELECTRICAL SAFETY CODE (NESC) – O&M

FULL CIRCUIT PATROL:

Program Description:	Establish a full circuit patrol cycle for distribution lines to inspect for adherence to the National Electrical Safety Code including primary distribution lines, secondaries and services. Identify and log all issues requiring maintenance, additions or replacement including animal protection within a reasonable time period.
Total Unit Population:	PSNH is responsible for approximately 11,000 circuit miles of distribution lines.
Maintenance Cycle:	Initially, complete a full circuit patrol of the 11,000 miles in four years. Beyond the initial cycle, perform full circuit patrols on a cycle similar to vegetation management - scheduled maintenance trimming (SMT).
Reliability Benefit:	Proactive identification of potential problems related to safety, grounding, clearance, attachments, asset maintenance and replacement.
Results:	Most common repair items have been grounding guys, adding squirrel guards, and repairing clearance problems to communications equipment.
O&M Cost:	

\$ Expended	Miles Completed	Cost Per Mile
\$81,700	1,693	\$48

INSPECT & REPAIR UNDERGROUND SYSTEMS:

Program Description:	Establish an inspection cycle for underground systems to identify any issues and to install fault indicators – refer to next section on “Other Reliability – O&M – Install Fault Indicators”.
Total Unit Population:	PSNH is responsible for approximately 2,142 underground system maps.
Maintenance Cycle:	Initially, a complete cycle of the 2,142 underground system maps will be completed in 4 years. Beyond the initial cycle, perform inspections on a ten year cycle as specified in the NU Maintenance Manual (NUMM) similar to vegetation management - scheduled maintenance trimming (SMT) but less than 12 years due to the battery life in fault indicators.
Results:	Mostly minor repair items, corrected at the time of inspection. Some of the other items included ornamental shrubs planted in front of the doors, minor rusting of the cabinets, and updates needed to the URD maps. PSNH uses its own crews to perform these inspections. Due to crews working on other types of work, the planned quantity of inspections was not attained.
Reliability Benefit:	Proactive identification of potential problems related to transformer assets.
O&M Cost:	

\$ Expended	Maps Completed	Cost Per Map
\$93,800	166	\$565

INSPECT MANHOLES:

Program Description:	Establish a cycle program to inspect manholes. A rating is given to each manhole to indicate the structural condition. A program has been established to replace the structurally deficient manholes.
Total Unit Population:	PSNH has approximately 632 manholes.
Maintenance Cycle:	Inspect on a 10 year cycle except those designated at a specific date.
Reliability Benefit:	National Electrical Safety Code (NESC) requires facilities to be inspected on a periodic basis. Expected reliability benefits are proactively correcting structural problems and repairing cable and switch equipment prior to failure.
Results:	363 manholes had been inspected prior to July 2010. Because PSNH was ahead of schedule during the Original REP, no inspections were performed during the second half of 2010. 45 manholes have been inspected in 2011.
O&M Cost:	

\$ Expended	Manholes Inspected	Cost Per Manhole
\$0	0	-

SUBSTATION GROUNDING:

Program Description:	Test substation ground grids up to two nodes distant from infrastructure capacity additions. Populate a computer software program (WinIGS) with the model of each PSNH substation ground grid. These models will be utilized to test the adequacy of each substation's grid.
Total Unit Population:	Approximately 195 locations.
Maintenance Cycle:	Once the population of all substations in the computer program is complete, the update of computer models for new substation additions or major upgrades shall be included in the project scope.
Method:	The process includes visiting and testing yards, using WinIGS software for geometric ground grid modeling, network analysis grid modeling and developing conceptual remedial grid improvements.
Reliability Benefit:	This will ensure personnel safety as identified in the rate case. It may benefit reliability if insufficient grounding is found and corrected. Insufficient grounding may effect the proper operation of the system.
Results:	Approximately 75% of the substation yard ground grids were found to exceed maximum allowable touch potential. 12% of the substation yards analyzed required no improvements, 37% required minor upgrades, and 51% required ground grid upgrades. This work will include additional ground rods and perimeter ground loops. 27 of the remaining 31 substations were completed in the second half 2010. The remaining four will be completed in 2011.
O&M Cost:	

\$ Expended	Substations Analyzed	Cost Per Substation
\$64,600	27	\$2,393

POLE INSPECT AND TREAT:

Program Description:	Establish a long-term preventive maintenance cycle for roadside distribution poles to inspect, treat, reinforce or replace decayed or damaged poles to ensure reliable and safe use of this asset.
Total Unit Population:	PSNH is responsible for 220,000 poles to inspect and treat. PSNH performs pole inspect and treatment in PSNH set areas, only.
Maintenance Cycle:	10 years at 22,000 poles annually to inspect and treat (220,000 divided by 10).
Reliability Benefit:	Reliable performance and safety of poles in high winds, heavy wet snow, pole accidents or other events that cause undo stress in addition to normal service of this asset.
Results:	Inspection has determined that approximately 2% of the poles require either reinforcement or replacement.
O&M Cost:	

\$ Expended	# Poles Inspected	Cost Per Pole
\$456,000	18,681	\$24

OVERHEAD REPAIR ACTIVITY:

Program Description:	Complete maintenance orders generated from National Electrical Safety Code (NESC) inspection including work associated with animal guards.
Total Unit Population:	Dependent on program inspection results.
Maintenance Cycle:	Complete maintenance orders within a reasonable period of time from initial identification.
Reliability Benefit:	Proactive identification of potential problems related to safety, grounding, clearance, attachments, asset maintenance and replacement.
Results:	Approximately 50% of the repair orders have been completed.
O&M Cost:	

\$ Expended	# Miles Completed	Cost Per Mile
\$834,300	548	\$1,522

FOOT PATROL RIGHT-OF-WAY:

Program Description: Inspect from the ground the 841 miles of overhead line in ROW. Identify for correction all NESC code violations and reliability issues.

Total Unit Population: 841 miles

Maintenance Cycle: NU Maintenance Manual requires a yearly routine inspection. Based upon the results of the foot patrol, future inspections may be by helicopter.

Reliability Benefit: Identify for correction items that may cause an outage or an NESC violation.

Results: A sample was patrolled in late November 2010 to determine reasonable per day expectations. The balance of foot patrol of ROW's will take place in the Spring and Summer of 2011 in conjunction with the Inspect and Reclaim ROW's.

O&M Cost:

\$ Expended	Miles Patrolled	Cost Per Mile
\$3,200	5	\$640



**Public Service
of New Hampshire**
The Northeast Utilities System



OTHER RELIABILITY – O&M

SUBSTATION ANIMAL PROTECTION:

Program Description:	Install animal protection systems in distribution substations, preventing intrusions that cause a variety of problems and faults, which can result in power outages, reduced equipment life, or severely damage equipment.
Total Unit Population:	181 substations to complete.
Maintenance Cycle:	Based on major pieces of equipment in a substation yard and the associated maintenance frequency. 10 years for substations with transformers. 12 years for switching only substations with circuit breakers.
Reliability Benefit:	Reliable performance of substations due to the blockage of wildlife entry into high voltage areas. This could equate to a 3 minute reduction in the System Average Interruption Duration Index (SAIDI) based on historical experience.
Results:	Approximately, 91% of the substations were retrofitted with animal protection equipment under the Original REP. No substations were fitted with this equipment in the second half of 2010. The remaining substations will be completed in 2011.

O&M Cost:

\$ Expended	Substations Completed	Cost Per Substation
\$0	0	-

OVERHEAD LINE SWITCH MAINTENANCE:

Program Description:	Establish program to maintain and exercise overhead switches to ensure reliable operation when needed. Bypass switching will be installed as needed to facilitate this program going forward.
Total Unit Population:	PSNH has approximately 592 switches to be included in this program.
Maintenance Cycle:	NUMM specifies a six year maintenance cycle.
Reliability Benefit:	Proactive identification of potential problems related to switching. Maintenance will minimize failure of the switch to operate when called on.
Results:	Approximately 79% of overhead line switches have been maintained to date. During the past year, there were no switch failures due to lack of maintenance.

O&M Cost:

\$ Expended	Switches Maintained	Cost Per Switch
\$194,600	81	\$2,402

OVERHEAD RECLOSER MAINTENANCE:

Program Description:	Reclosers are scheduled to be maintained on a time based frequency of 6, 8, or 12 years or an operation based trigger relating to number of fault operations. A backlog of recloser maintenance has grown and is in need of addressing to ensure reliable system operation.
Total Unit Population:	PSNH has 1701 reclosers installed.
Maintenance Cycle:	NUMM specifies 12 years for vacuum and six years for oil type reclosers.
Reliability Benefit:	Improved reliability due to improved operational performance of equipment.
Results:	PSNH is now back on prescribed maintenance cycle.
O&M Cost:	

\$ Expended	Reclosers Maintained	Cost Per Recloser
\$336,300	133	\$2,529

INSTALL FAULT INDICATORS:

Program Description:	Install fault indicators on equipment and at locations which will facilitate the locations of faults on the distribution system. On the underground system, they will be installed at transformers and sector cabinets on outgoing primary cables. Refer to previous section on "NESC – O&M – Inspect & Repair Underground Systems". On the overhead system, locations will be determined by the Circuit Owners during trouble report, top 50 worst circuits, three or more outages, and 200 or more customer out analysis installation will reduce the outage duration.
Total Unit Population:	Underground - 1:1 ratio with single phase padmount transformers, overhead to be determined.
Maintenance Cycle:	Battery life is in excess of 20 years. Fault indicators will be replaced before the end of its useful life. Underground replacement will be performed during underground inspections, within an appropriate timeframe. Overhead fault indicator locations will be entered into CASCADE maintenance data base with an appropriate trigger for replacement.
Reliability Benefit:	Expedited recognition of faults locations in the underground and overhead systems.
Results:	Equipped PSNH underground system with fault indicators. Fault indicators are installed in conjunction with the underground systems inspection item. Because fewer underground systems were inspected, fewer fault indicators were required than planned.
O&M Cost:	

\$ Expended	Fault Indicators Installed	Cost Per F.I. Installed
\$28,300	58	\$488

TEST & REPAIR DIRECT BURIED UNJACKETED CABLE - CONCENTRIC NEUTRALS:

Program Description:	Testing of direct buried unjacketed cable concentric neutral to determine if there is a sufficient neutral path. Determine if the underground system cable is a candidate for cable rejuvenation.
Total Unit Population:	PSNH has approximately 2,000,000 feet or 5,764 runs of direct buried cable. Not all direct buried cable is a candidate for rejuvenation. Cable which is not a candidate for rejuvenation will not be tested.
Maintenance Cycle:	Once.
Reliability Benefit:	Replacement or rejuvenation of direct buried cable will save outages to customers by preventing faults on the cable.
Results:	Approximately 20% of the cable tested required immediate replacement or repair because of open concentric neutral conductors.
O&M Cost:	

\$ Expended	# Runs Completed	Cost Per Run
\$153,800	174	\$884

CASCADE DATABASE FIELD SURVEY AND ENTRY:

Program Description:	The CASCADE Database Field Survey requires infield survey of key equipment in substations and on distribution lines. The information about these components, manufacturer, size, rating, model, date of manufacture, location, and other items will be recorded in the CASCADE Database which is used to plan and execute maintenance and perform analysis for vintage and product problem mitigation. At the same time, these key pieces of equipment will be compared to the operating drawings used for switching and tagging, and property records for asset accuracy. It is anticipated that many of these components will require qualified electrical workers to disconnect or work within energized areas to obtain this information. Database entry and updates, map and drawing updates and property record updates will also be required.
Reliability Benefit:	Provide accurate records to ensure proper execution of the Northeast Utilities Maintenance Manual (NUMM). Provide a firm basis for the operating characteristics of key components in the electric system that will be used by a GIS or other network models. Capture basic GPS coordinate information.
Results:	A suitable vendor was not acquired until late in 2010 and therefore expenditures were below the amounts planned.
O&M Cost:	\$17,300

RTE ELBOW REPLACEMENT:

Program Description: The Replacement of Pre-1987 RTE Elbow Terminators will require the retrofit of these devices located on deadfront transformers. Internal or dedicated contract line crews will be utilized. The terminator is the connection between the underground primary voltage cable and the transformer. 200 amp, 21.1kV to 36.6kV, load-break elbows and connectors manufactured prior to and including 1987 are prone to premature failure. We expect to replace 1975 of these units on a customer exposure basis, approximately 1/3 of the population.

Total Unit Population: 1975

Results: PSNH uses its own crews to perform this underground work because it requires outages to customers.

Reliability Benefit: This program will replace elbow terminators which may otherwise fail in the future causing outages to customers. Due to crews working on other types of work, the planned quantity of elbow replacements was not attained.

O&M Cost:

\$ Expended	# Elbows Replaced	Cost Per Elbow
\$58,000	102	\$569

GEOSPACIAL INFORMATION SYSTEM (GIS) O&M PORTION OF CAPITAL:

Program Description: This item represents the O&M portion (allocation) from Capital work related to the GIS project at PSNH.

Results: Significant effort and time has been dedicated to selecting appropriate vendors and coordinating the overall installation within the NU organization. See description under the Section 5 – 2010 Capital Summary – GIS Capital Project item.

O&M Cost: \$1,900

O&M PORTION OF CAPITAL:

Program Description: This represents the O&M portion (allocation) from Capital work related to the Reliability Enhancement Program.

Results: More REP capital work was completed than anticipated.

O&M Cost: \$279,279

Section 2

2010 O&M VEGM Programs



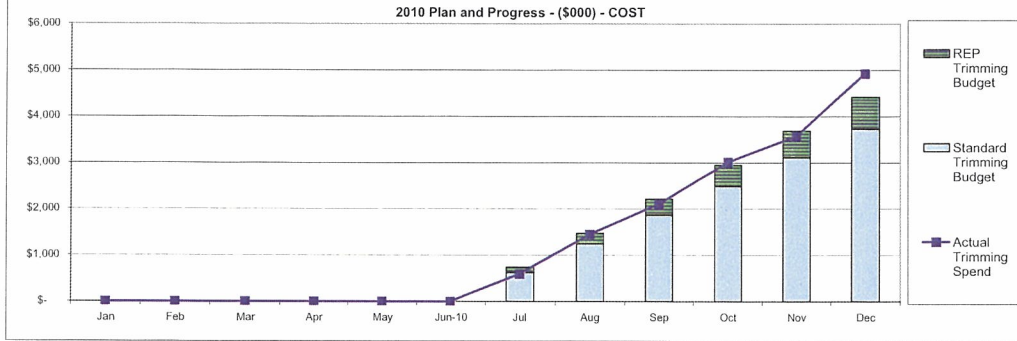
RELIABILITY ENHANCEMENT PROGRAM - VEGETATION MANAGEMENT



2010 PLAN AND PROGRESS

<u>PROGRAMS:</u>	<u>PAGE</u>
REDUCE TRIMMING CYCLE	1
HAZARD TREE REMOVAL	2
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INSPECT CONTRACTOR	4
REDUCE DISTRIBUTION RIGHTS-OF-WAY CYCLE	5
STORM DAMAGE PREMIUM	6
TAKEDOWNS & CYCLE IMPACT	7
INSPECT/RECLAIM RIGHTS-OF-WAY	8

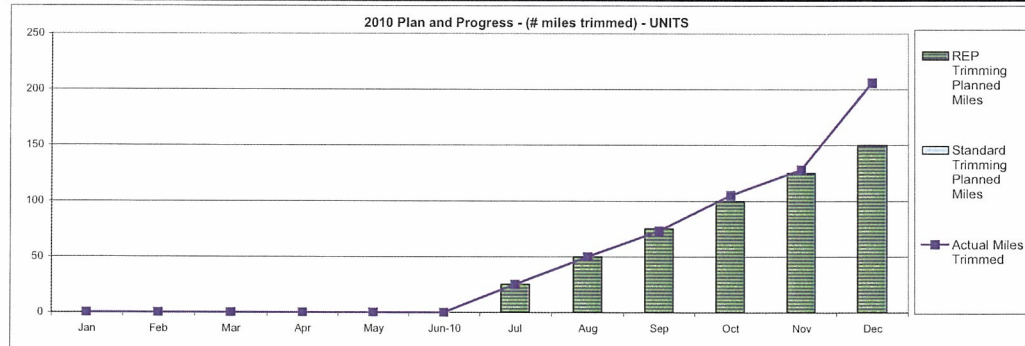
TRIMRC - RELIABILITY ENHANCEMENT PROGRAM - REDUCE TRIMMING CYCLE



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 7WA												
Scheduled Maintenance Trimming (SMT) Plan \$000 Monthly							\$ 622	\$ 622	\$ 622	\$ 622	\$ 622	\$ 622
Scheduled Maintenance Trimming (SMT) Plan \$000 YTD							\$ 622	\$ 1,243	\$ 1,865	\$ 2,487	\$ 3,109	\$ 3,730
Scheduled Maintenance Trimming (SMT) Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 505	\$ 723	\$ 556	\$ 759	\$ 477	\$ 710
Scheduled Maintenance Trimming (SMT) Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 505	\$ 1,228	\$ 1,784	\$ 2,543	\$ 3,020	\$ 3,730
Scheduled Maintenance Trimming (SMT) Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (117)	\$ (15)	\$ (81)	\$ 56	\$ (89)	\$ (0)
CCC 7WA REP												
REP-Reduce Trim Cycle Plan \$000 Monthly							\$ 114	\$ 114	\$ 114	\$ 114	\$ 114	\$ 114
REP-Reduce Trim Cycle Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 114	\$ 229	\$ 343	\$ 458	\$ 572	\$ 687
REP-Reduce Trim Cycle Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 93	\$ 133	\$ 102	\$ 140	\$ 88	\$ 636
REP-Reduce Trim Cycle Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 93	\$ 226	\$ 328	\$ 468	\$ 556	\$ 1,192
REP-Reduce Trim Cycle Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (21)	\$ (3)	\$ (15)	\$ 10	\$ (16)	\$ 505
TOTAL												
Total Trim Cycle Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 736	\$ 1,472	\$ 2,209	\$ 2,945	\$ 3,681	\$ 4,417
Total Trim Cycle Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 598	\$ 1,454	\$ 2,112	\$ 3,011	\$ 3,576	\$ 4,922
Total Trim Cycle Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (138)	\$ (18)	\$ (96)	\$ 66	\$ (105)	\$ 505

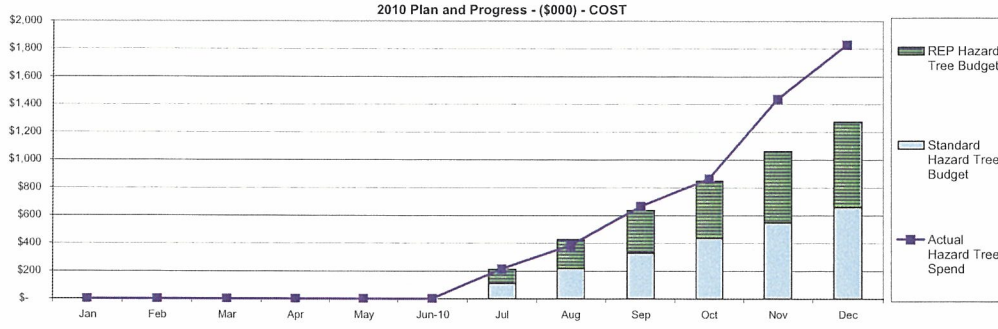
See Section 1 for Description and Comments

TRIMRC - RELIABILITY ENHANCEMENT PROGRAM - REDUCE TRIMMING CYCLE



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 7WA												
Scheduled Maintenance Trimming (SMT) Planned Miles Monthly	-	-	-	-	-	-	-	-	-	-	-	-
Scheduled Maintenance Trimming (SMT) Planned Miles YTD	-	-	-	-	-	-	-	-	-	-	-	-
Scheduled Maintenance Trimming (SMT) Actual Miles Monthly	-	-	-	-	-	-	-	-	-	-	-	-
Scheduled Maintenance Trimming (SMT) Actual Miles YTD	-	-	-	-	-	-	-	-	-	-	-	-
Scheduled Maintenance Trimming (SMT) Variance Miles YTD	-	-	-	-	-	-	-	-	-	-	-	-
CCC 78U												
REP-Reduce Trim Cycle Planned Miles Monthly	-	-	-	-	-	-	25	25	25	25	25	25
REP-Reduce Trim Cycle Planned Miles YTD	-	-	-	-	-	-	25	50	75	100	125	150
REP-Reduce Trim Cycle Actual Miles Monthly	-	-	-	-	-	-	25	25	23	32	23	78
REP-Reduce Trim Cycle Actual Miles YTD	-	-	-	-	-	-	25	50	73	105	128	206
REP-Reduce Trim Cycle Variance Miles YTD	-	-	-	-	-	-	-	-	(2)	5	3	56
TOTAL												
Total Trim Cycle Plan Miles YTD	-	-	-	-	-	-	25	50	75	100	125	150
Total Trim Cycle Actual Miles YTD	-	-	-	-	-	-	25	50	73	105	128	206
Total Trim Cycle Variance Miles YTD	-	-	-	-	-	-	-	-	73	105	128	206

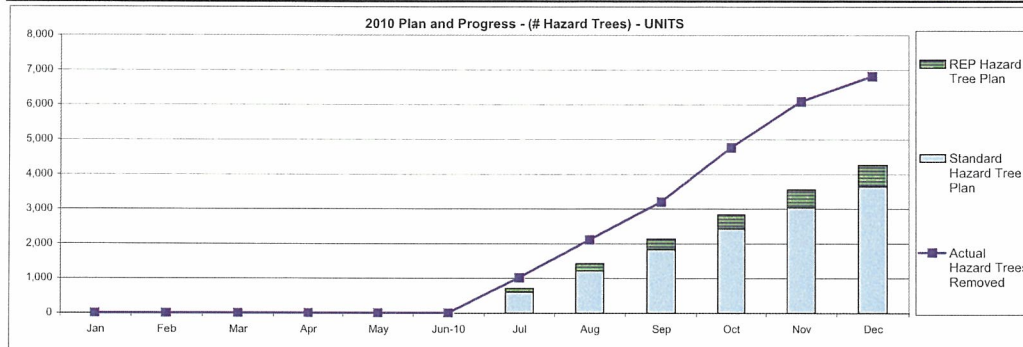
TRIMRC - RELIABILITY ENHANCEMENT PROGRAM - HAZARD TREE REMOVAL



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 7WA												
Hazard Tree Removal Plan \$000 Monthly							\$ 110	\$ 110	\$ 110	\$ 110	\$ 110	\$ 110
Hazard Tree Removal Plan \$000 YTD							\$ 110	\$ 220	\$ 329	\$ 439	\$ 549	\$ 659
Hazard Tree Removal Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 110	\$ 110	\$ 110	\$ 110	\$ 110	\$ 110
Hazard Tree Removal Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 110	\$ 220	\$ 329	\$ 439	\$ 549	\$ 659
Hazard Tree Removal Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CCC 78U												
REP-Incremental Hazard Tree Removal Plan \$000 Monthly							\$ 102	\$ 102	\$ 102	\$ 102	\$ 102	\$ 102
REP-Incremental Hazard Tree Removal Plan \$000 YTD							\$ 102	\$ 205	\$ 307	\$ 410	\$ 512	\$ 615
REP-Incremental Hazard Tree Removal Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 106	\$ 59	\$ 171	\$ 90	\$ 464	\$ 281
REP-Incremental Hazard Tree Removal Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 106	\$ 165	\$ 336	\$ 426	\$ 890	\$ 1,171
REP-Incremental Hazard Tree Removal Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3	\$ (40)	\$ 29	\$ 16	\$ 377	\$ 556
TOTAL												
Total Hazard Tree Removal Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 212	\$ 425	\$ 637	\$ 849	\$ 1,061	\$ 1,274
Total Hazard Tree Removal Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 216	\$ 385	\$ 665	\$ 865	\$ 1,439	\$ 1,830
Total Hazard Tree Removal Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3	\$ (40)	\$ 29	\$ 16	\$ 377	\$ 556

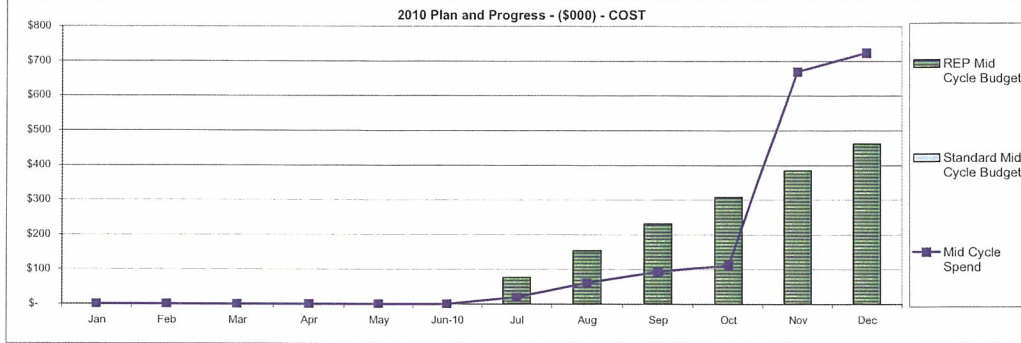
See Section 1 for Description and Comments

TRIMRC - RELIABILITY ENHANCEMENT PROGRAM - HAZARD TREE REMOVAL



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 7WA												
Hazard Tree Removal Plan # Trees Monthly	-	-	-	-	-	-	608	608	608	608	608	608
Hazard Tree Removal Plan # Trees YTD	-	-	-	-	-	-	608	1,216	1,824	2,432	3,040	3,648
Hazard Tree Removal Actual # Trees Monthly	-	-	-	-	-	-	608	608	608	608	608	608
Hazard Tree Removal Actual # Trees YTD	-	-	-	-	-	-	608	1,216	1,824	2,432	3,040	3,648
Hazard Tree Removal Variance # Trees YTD	-	-	-	-	-	-	-	-	-	-	-	-
CCC 78U												
REP-Incremental Hazard Tree Removal Plan # Trees Monthly	-	-	-	-	-	-	102	102	102	102	102	102
REP-Incremental Hazard Tree Removal Plan # Trees YTD	-	-	-	-	-	-	102	205	307	410	512	615
REP-Incremental Hazard Tree Removal Actual # Trees Monthly	-	-	-	-	-	-	410	487	483	958	715	112
REP-Incremental Hazard Tree Removal Actual # Trees YTD (78U)	-	-	-	-	-	-	410	897	1,380	2,338	3,053	3,165
REP-Incremental Hazard Tree Removal Variance # Trees YTD	-	-	-	-	-	-	308	692	1,073	1,928	2,541	2,550
TOTAL												
Total Hazard Tree Removal Plan # Trees YTD	-	-	-	-	-	-	710	1,421	2,131	2,842	3,552	4,263
Total Hazard Tree Removal Actual # Trees YTD	-	-	-	-	-	-	1,018	2,113	3,204	4,770	6,093	6,813
Total Hazard Tree Removal Variance # Trees YTD	-	-	-	-	-	-	308	692	1,073	1,928	2,541	2,550

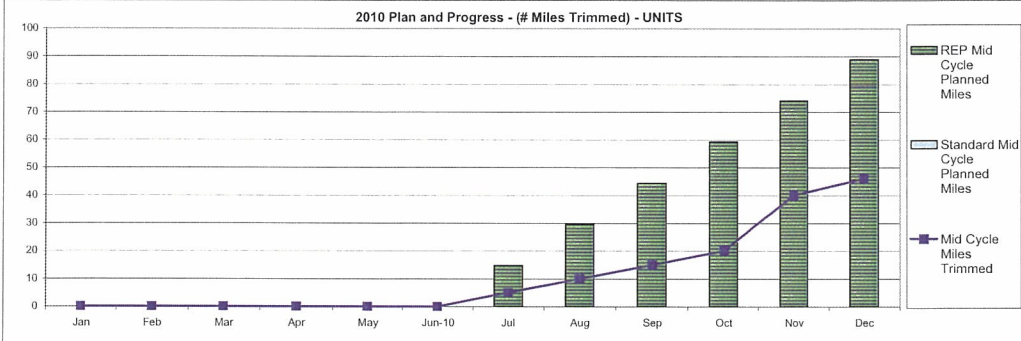
TRIMRC - RELIABILITY ENHANCEMENT PROGRAM - MID CYCLE TRIMMING



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 7WA												
Mid Cycle Plan \$000 Monthly							\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Mid Cycle Plan \$000 YTD							\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Mid Cycle Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Mid Cycle Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Mid Cycle Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CCC 78U												
REP-Mid Cycle Plan \$000 Monthly							\$ 77	\$ 77	\$ 77	\$ 77	\$ 77	\$ 77
REP-Mid Cycle Plan \$000 YTD							\$ 77	\$ 154	\$ 231	\$ 308	\$ 385	\$ 462
REP-Mid Cycle Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 19	\$ 41	\$ 33	\$ 17	\$ 558	\$ 55
REP-Mid Cycle Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 19	\$ 61	\$ 93	\$ 111	\$ 669	\$ 724
REP-Mid Cycle Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (57)	\$ (93)	\$ (137)	\$ (197)	\$ 284	\$ 263
TOTAL												
Total Mid Cycle Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 77	\$ 154	\$ 231	\$ 308	\$ 385	\$ 462
Total Mid Cycle Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 19	\$ 61	\$ 93	\$ 111	\$ 669	\$ 724
Total Mid Cycle \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (57)	\$ (93)	\$ (137)	\$ (197)	\$ 284	\$ 263

See Section 1 for Description and Comments

TRIMRC - RELIABILITY ENHANCEMENT PROGRAM - MID CYCLE TRIMMING

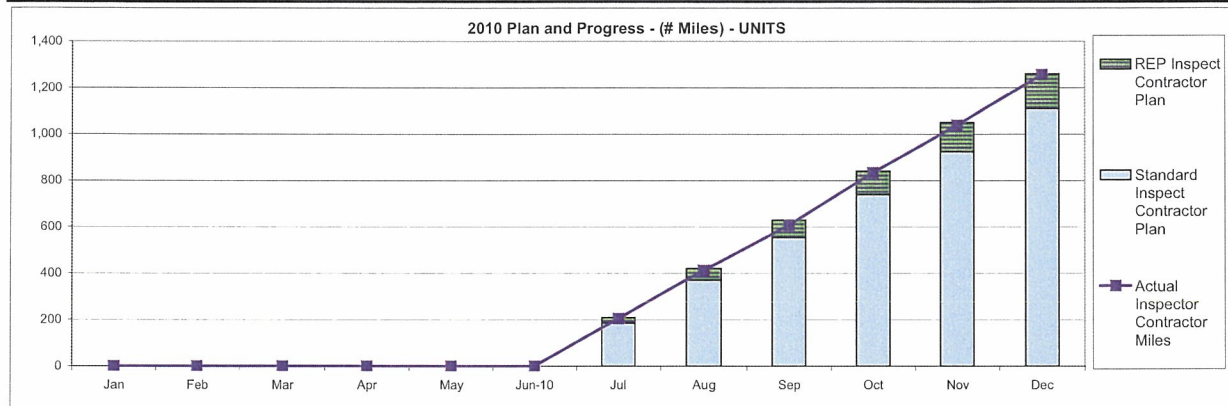


	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 7WA												
Mid Cycle Plan Miles Monthly	-	-	-	-	-	-	-	-	-	-	-	-
Mid Cycle Plan Miles YTD	-	-	-	-	-	-	-	-	-	-	-	-
Mid Cycle Actual Miles Monthly	-	-	-	-	-	-	-	-	-	-	-	-
Mid Cycle Actual Miles YTD	-	-	-	-	-	-	-	-	-	-	-	-
Mid Cycle Variance Miles YTD	-	-	-	-	-	-	-	-	-	-	-	-
CCC 78U												
REP-Mid Cycle Plan Miles Monthly	-	-	-	-	-	-	15	15	15	15	15	15
REP-Mid Cycle Plan Miles YTD	-	-	-	-	-	-	15	30	45	59	74	89
REP-Mid Cycle Actual Miles Monthly	-	-	-	-	-	-	5	5	5	5	20	6
REP-Mid Cycle Actual Miles YTD	-	-	-	-	-	-	5	10	15	20	40	46
REP-Mid Cycle Variance Miles YTD	-	-	-	-	-	-	(10)	(20)	(30)	(39)	(34)	(43)
TOTAL												
Total Mid Cycle Plan Miles YTD	-	-	-	-	-	-	15	30	45	59	74	89
Total Mid Cycle Actual Miles YTD	-	-	-	-	-	-	5	10	15	20	40	46
Total Mid Cycle Removal Variance Miles YTD	-	-	-	-	-	-	(10)	(20)	(30)	(39)	(34)	(43)

Costs for this activity are included in the Maintenance Trimming Budget.

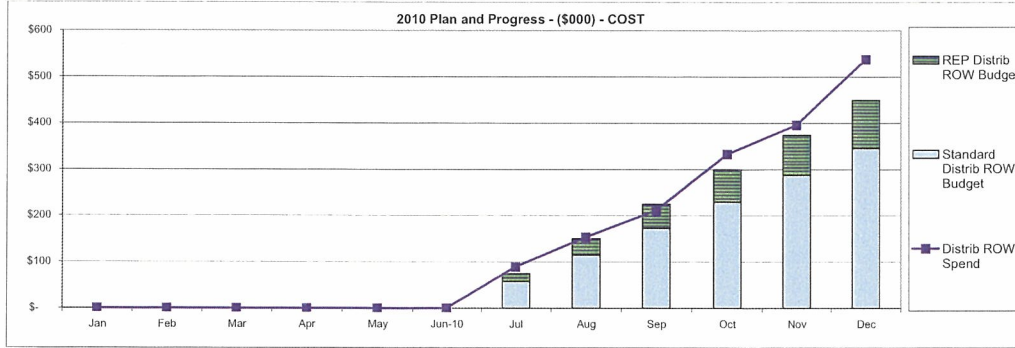
See Section 1 for Description and Comments

TRIMRC - RELIABILITY ENHANCEMENT PROGRAM - INSPECT CONTRACTOR



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 7WA												
Inspect Contractor Plan # Miles Monthly	-	-	-	-	-	-	185	185	185	185	185	185
Inspect Contractor Plan # Miles YTD	-	-	-	-	-	-	185	370	555	740	925	1,110
Inspect Contractor Actual # Miles Monthly	-	-	-	-	-	-	185	185	185	185	185	185
Inspect Contractor Actual # Miles YTD	-	-	-	-	-	-	185	370	555	740	925	1,110
Inspect Contractor Variance # Miles YTD	-	-	-	-	-	-	-	-	-	-	-	-
CCC 78U												
REP-Incremental Inspect Contractor Plan # Miles Monthly	-	-	-	-	-	-	25	25	25	25	25	25
REP-Incremental Inspect Contractor Plan # Miles YTD	-	-	-	-	-	-	25	50	75	100	125	150
REP-Incremental Inspect Contractor Actual # Miles Monthly	-	-	-	-	-	-	20	24	9	41	19	34
REP-Incremental Inspect Contractor Actual # Miles YTD	-	-	-	-	-	-	20	44	53	94	113	147
REP-Incremental Inspect Contractor Variance # Miles YTD	-	-	-	-	-	-	(5)	(6)	(22)	(6)	(12)	(3)
TOTAL												
Total Inspect Contractor Plan # Miles YTD	-	-	-	-	-	-	210	420	630	840	1,050	1,260
Total Inspect Contractor Actual # Miles YTD	-	-	-	-	-	-	205	414	608	834	1,038	1,257
Total Inspect Contractor Variance # Miles YTD	-	-	-	-	-	-	(5)	(6)	(22)	(6)	(12)	(3)

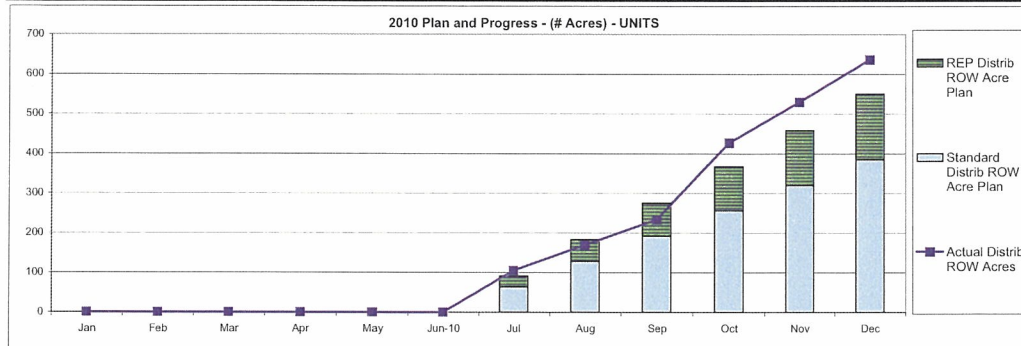
TRIMRC - RELIABILITY ENHANCEMENT PROGRAM - REDUCE DISTRIBUTION RIGHTS OF WAY CYCLE



	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 7WA												
Distribution Rights of Way Plan \$000 Monthly							\$ 58	\$ 58	\$ 58	\$ 58	\$ 58	\$ 58
Distribution Rights of Way Plan \$000 YTD							\$ 58	\$ 115	\$ 173	\$ 230	\$ 288	\$ 345
Distribution Rights of Way Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 58	\$ 58	\$ 58	\$ 58	\$ 58	\$ 58
Distribution Rights of Way Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 58	\$ 115	\$ 173	\$ 230	\$ 288	\$ 345
Distribution Rights of Way Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CCC 78U												
REP-Distribution Rights of Way Plan \$000 Monthly							\$ 17	\$ 17	\$ 17	\$ 17	\$ 17	\$ 17
REP-Distribution Rights of Way Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 17	\$ 35	\$ 52	\$ 69	\$ 87	\$ 104
REP-Distribution Rights of Way Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 32	\$ 6	\$ -	\$ 64	\$ 6	\$ 84
REP-Distribution Rights of Way Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 32	\$ 38	\$ 38	\$ 103	\$ 108	\$ 192
REP-Distribution Rights of Way Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 15	\$ 3	\$ (14)	\$ 33	\$ 21	\$ 88
TOTAL												
Total Distribution Rights of Way Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 75	\$ 150	\$ 225	\$ 300	\$ 374	\$ 449
Total Distribution Rights of Way Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 90	\$ 153	\$ 211	\$ 333	\$ 396	\$ 537
Total Distribution Rights of Way \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 15	\$ 3	\$ (14)	\$ 33	\$ 21	\$ 88

See Section 1 for Description and Comments

TRIMRC - RELIABILITY ENHANCEMENT PROGRAM - REDUCE DISTRIBUTION RIGHTS OF WAY CYCLE



	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 7WA												
Distribution Rights of Way Plan Monthly	-	-	-	-	-	-	64	64	64	64	64	64
Distribution Rights of Way Plan # Acres YTD	-	-	-	-	-	-	64	128	192	256	320	385
Distribution Rights of Way Actual # Acres Monthly	-	-	-	-	-	-	64	64	64	64	64	64
Distribution Rights of Way Actual # Acres YTD	-	-	-	-	-	-	64	128	192	256	320	385
Distribution Rights of Way Variance # Acres YTD	-	-	-	-	-	-	-	-	-	-	-	-
CCC 78U												
REP-Distribution Rights of Way Plan # Acres Monthly	-	-	-	-	-	-	28	28	28	28	28	28
REP-Distribution Rights of Way Plan # Acres YTD	-	-	-	-	-	-	28	55	83	111	138	166
REP-Distribution Rights of Way Actual # Acres Monthly	-	-	-	-	-	-	41	-	-	129	39	42
REP-Distribution Rights of Way Actual # Acres YTD	-	-	-	-	-	-	41	41	41	170	209	251
REP-Distribution Rights of Way Variance # Acres YTD	-	-	-	-	-	-	13	(14)	(42)	59	71	85
TOTAL												
Total Distribution Rights of Way Plan # Acres YTD	-	-	-	-	-	-	92	184	275	367	459	551
Total Distribution Rights of Way Actual # Acres YTD	-	-	-	-	-	-	105	169	233	426	529	636
Total Distribution Rights of Way # Acres YTD	-	-	-	-	-	-	13	(14)	(42)	59	71	85

TRIMRC - RELIABILITY ENHANCEMENT PROGRAM -
STORM DAMAGE PREMIUM



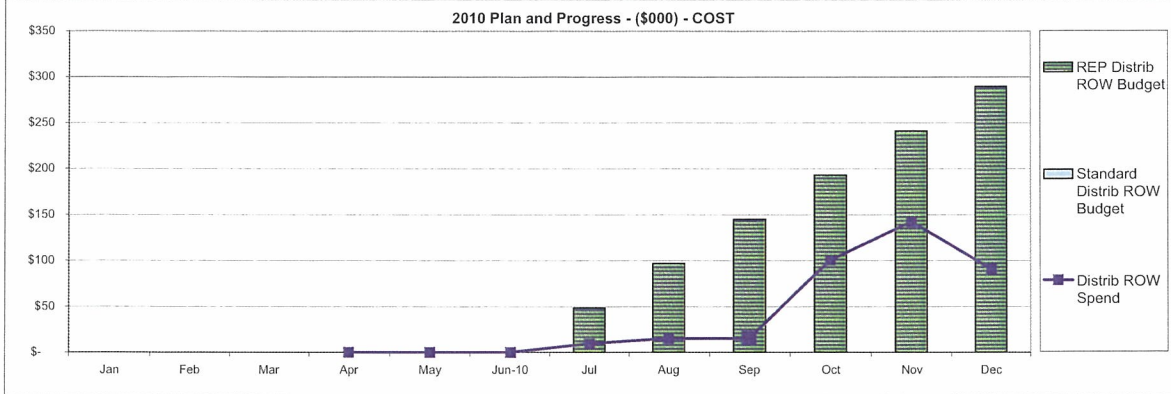
Cost and miles completed are included in “Reduce Scheduled Maintenance Cycle” item.

TRIMRC - RELIABILITY ENHANCEMENT PROGRAM - TAKEDOWNS & CYCLE
IMPACT



**Cost and miles completed are included in "Hazard Tree Removal"
and "Mid Cycle Trimming" items.**

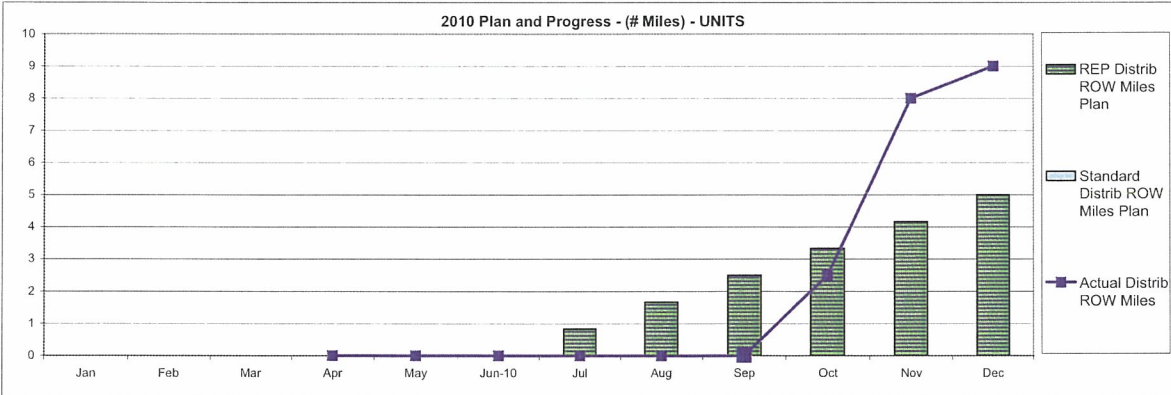
TRIMRC-RELIABILITY ENHANCEMENT PROGRAM - INSPECT/RECLAIM RIGHTS OF-WAY



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 7WA												
Inspect/Reclaim Rights-of-Way Plan \$000 Monthly							\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Inspect/Reclaim Rights-of-Way Plan \$000 YTD							\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Inspect/Reclaim Rights-of-Way Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Inspect/Reclaim Rights-of-Way Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Inspect/Reclaim Rights-of-Way Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
CCC 78U												
REP-Inspect/Reclaim Rights-of-Way Plan \$000 Monthly							\$ 48	\$ 48	\$ 48	\$ 48	\$ 48	\$ 48
REP-Inspect/Reclaim Rights-of-Way Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 48	\$ 96	\$ 145	\$ 193	\$ 241	\$ 289
REP-Inspect/Reclaim Rights-of-Way Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10	\$ 6	\$ -	\$ 86	\$ 42	\$ (52)
REP-Inspect/Reclaim Rights-of-Way Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10	\$ 15	\$ 15	\$ 101	\$ 142	\$ 90
REP-Inspect/Reclaim Rights-of-Way Variance \$000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (39)	\$ (81)	\$ (129)	\$ (92)	\$ (99)	\$ (199)
TOTAL												
Total Inspect/Reclaim Rights-of-Way Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 48	\$ 96	\$ 145	\$ 193	\$ 241	\$ 289
Total Inspect/Reclaim Rights-of-Way Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10	\$ 15	\$ 15	\$ 101	\$ 142	\$ 90
Total Inspect/Reclaim Rights-of-Way \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (39)	\$ (81)	\$ (129)	\$ (92)	\$ (99)	\$ (199)

See Section 1 for Description and Comments

TRIMRC-RELIABILITY ENHANCEMENT PROGRAM - INSPECT/RECLAIM RIGHTS OF-WAY



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 7WA												
Inspect/Reclaim Rights-of-Way Plan Monthly	-	-	-	-	-	-	-	-	-	-	-	-
Inspect/Reclaim Rights-of-Way Plan # Miles YTD	-	-	-	-	-	-	-	-	-	-	-	-
Inspect/Reclaim Rights-of-Way Actual # Miles Monthly	-	-	-	-	-	-	-	-	-	-	-	-
Inspect/Reclaim Rights-of-Way Actual # Miles YTD	-	-	-	-	-	-	-	-	-	-	-	-
Inspect/Reclaim Rights-of-Way Variance # Miles YTD	-	-	-	-	-	-	-	-	-	-	-	-
CCC 78U												
REP-Right-of-Way Planned Miles Monthly	-	-	-	-	-	-	1	1	1	1	1	1
REP-Right-of-Way Planned Miles YTD	-	-	-	-	-	-	1	2	3	3	4	5
REP-Right-of-Way Actual Miles Monthly	-	-	-	-	-	-	-	-	-	3	6	1
REP-Right-of-Way Actual Miles YTD	-	-	-	-	-	-	-	-	-	3	8	9
REP-Right-of-Way Variance Miles YTD	-	-	-	-	-	-	(1)	(2)	(3)	(1)	4	4
TOTAL												
Inspect/Reclaim Rights-of-Way Plan # Miles YTD	-	-	-	-	-	-	1	2	3	3	4	5
Inspect/Reclaim Rights-of-Way Actual # Miles YTD	-	-	-	-	-	-	-	-	-	3	8	9
Total Inspect/Reclaim Rights-of-Way # Miles YTD	-	-	-	-	-	-	(1)	(2)	(3)	(1)	4	4

Section 3

2010 O&M NESC Programs



Public Service
of New Hampshire
The Northeast Utilities System

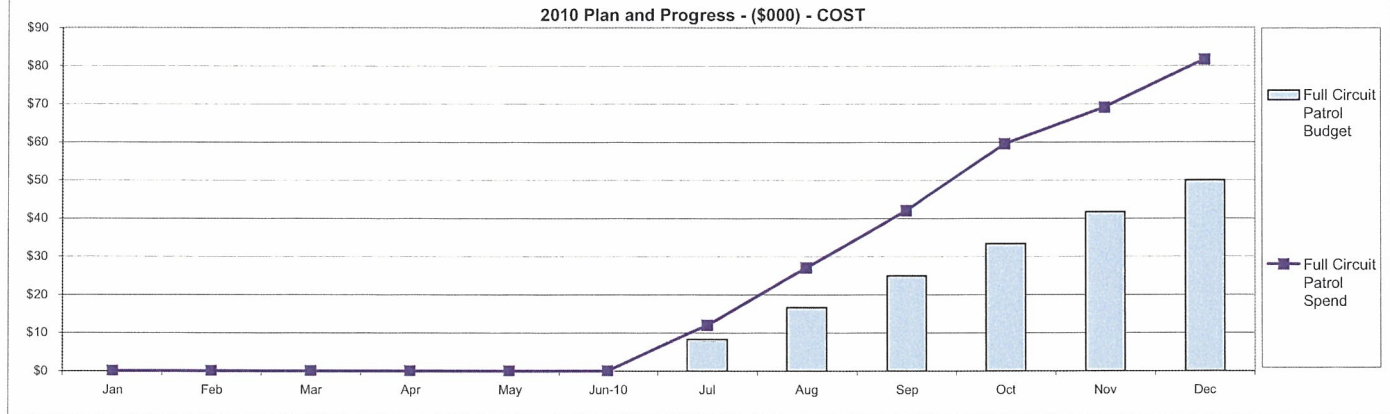
RELIABILITY ENHANCEMENT PROGRAM - NATIONAL ELECTRICAL SAFETY CODE



2010 PLAN AND PROGRESS

<u>PROGRAMS:</u>	<u>PAGE</u>
FULL CIRCUIT PATROL	1
INSPECT UNDERGROUND (URD) SYSTEMS	2
INSPECT MANHOLES	3
SUBSTATION GROUNDING	4
POLE INSPECT & TREAT	5
OVERHEAD REPAIR ACTIVITY	6
FOOT PATROL RIGHTS OF WAY	7

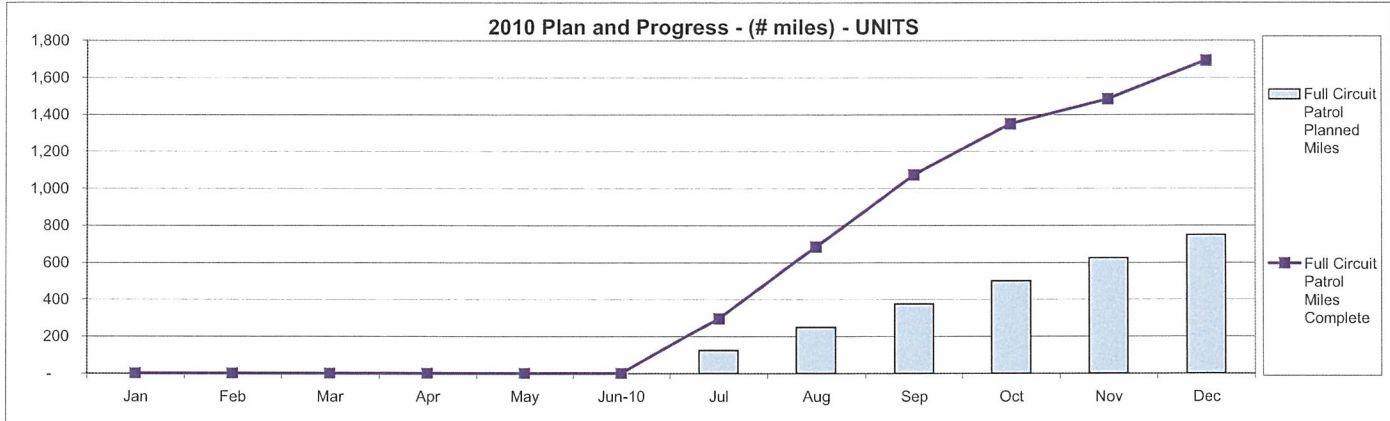
NESCRC - RELIABILITY ENHANCEMENT PROGRAM - FULL CIRCUIT PATROL



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Full Circuit Patrol Plan \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8	\$ 8	\$ 8	\$ 8	\$ 8	\$ 8
REP-Full Circuit Patrol Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 8	\$ 17	\$ 25	\$ 33	\$ 42	\$ 50
REP-Full Circuit Patrol Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 12	\$ 15	\$ 15	\$ 18	\$ 10	\$ 13
REP-Full Circuit Patrol Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 12	\$ 27	\$ 42	\$ 60	\$ 69	\$ 82
REP-Full Circuit Patrol Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4	\$ 10	\$ 17	\$ 26	\$ 27	\$ 32

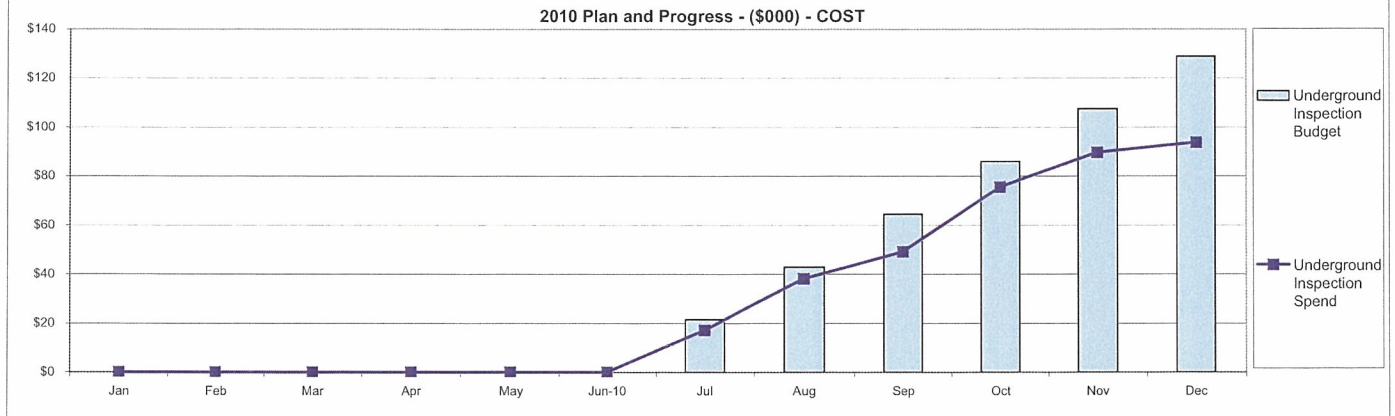
See Section 1 for Description and Comments

NESCRC - RELIABILITY ENHANCEMENT PROGRAM - FULL CIRCUIT PATROL



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Full Circuit Patrol Planned Miles Monthly	-	-	-	-	-	-	125	125	125	125	125	125
REP-Full Circuit Patrol Planned Miles YTD	-	-	-	-	-	-	125	250	375	500	625	750
REP-Full Circuit Patrol Actual Miles Monthly	-	-	-	-	-	-	296	387	390	275	136	209
REP-Full Circuit Patrol Actual Miles YTD	-	-	-	-	-	-	296	683	1,073	1,348	1,484	1,693
REP-Full Circuit Patrol Variance Miles YTD	-	-	-	-	-	-	171	433	698	848	859	943

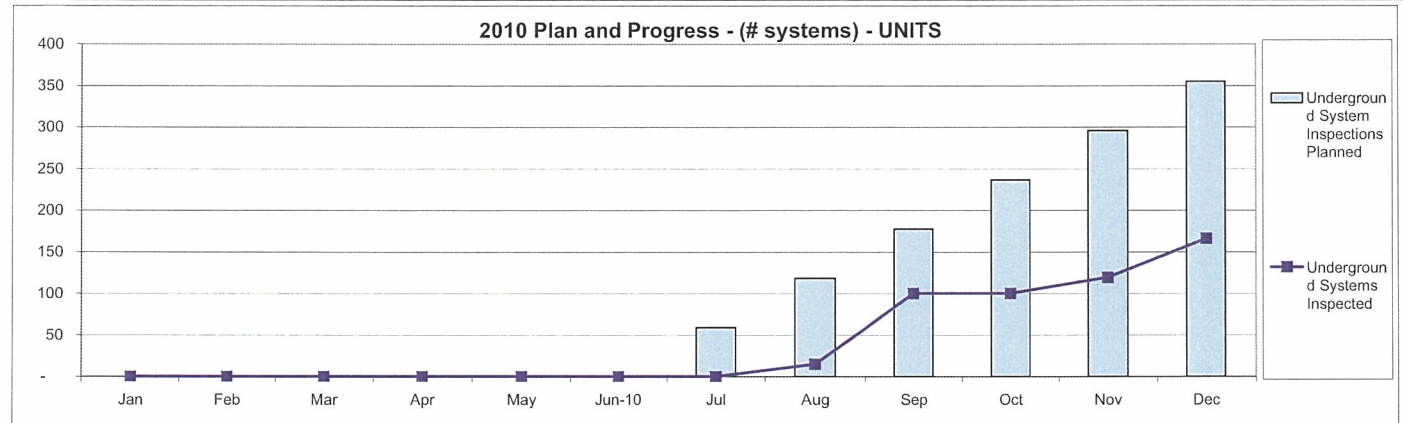
NESCRC - RELIABILITY ENHANCEMENT PROGRAM - INSPECT UNDERGROUND SYSTEMS



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Underground System Inspect Plan \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 22	\$ 22	\$ 22	\$ 22	\$ 22	\$ 22
REP-Underground System Inspect Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 22	\$ 43	\$ 65	\$ 86	\$ 108	\$ 129
REP-Underground System Inspect Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 17	\$ 21	\$ 11	\$ 26	\$ 14	\$ 4
REP-Underground System Inspect Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 17	\$ 38	\$ 49	\$ 76	\$ 90	\$ 94
REP-Underground System Inspect Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (4)	\$ (5)	\$ (15)	\$ (10)	\$ (18)	\$ (35)

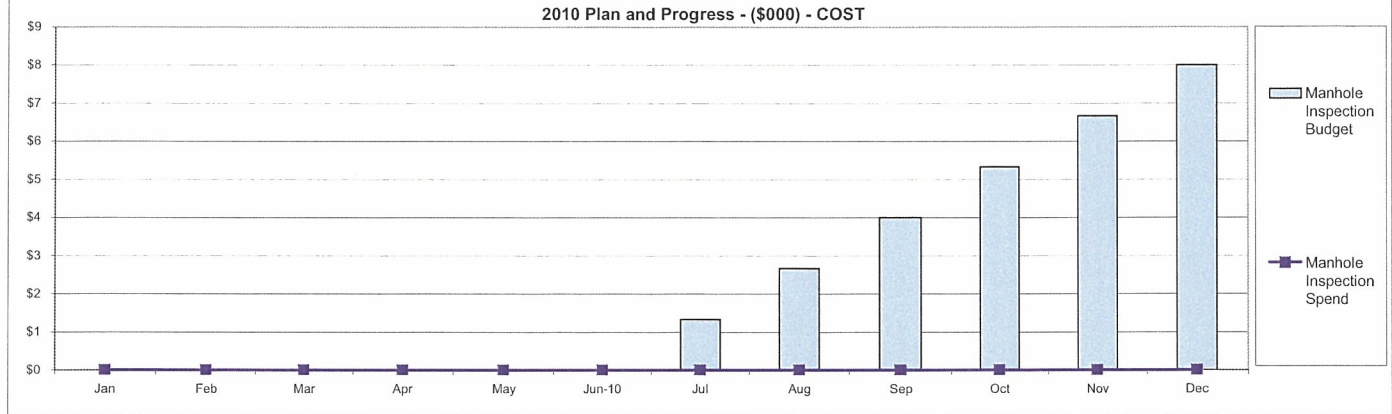
See Section 1 for Description and Comments

NESCRC - RELIABILITY ENHANCEMENT PROGRAM - INSPECT UNDERGROUND SYSTEMS



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Underground System Inspect Planned Systems Monthly	-	-	-	-	-	-	59	59	59	59	59	59
REP-Underground System Inspect Planned Systems YTD	-	-	-	-	-	-	59	118	178	237	296	355
REP-Underground System Inspect Actual Systems Monthly	-	-	-	-	-	-	-	15	85	-	19	47
REP-Underground System Inspect Actual Systems YTD	-	-	-	-	-	-	-	15	100	100	119	166
REP-Underground System Inspect Variance System YTD	-	-	-	-	-	-	(59)	(103)	(78)	(137)	(177)	(189)

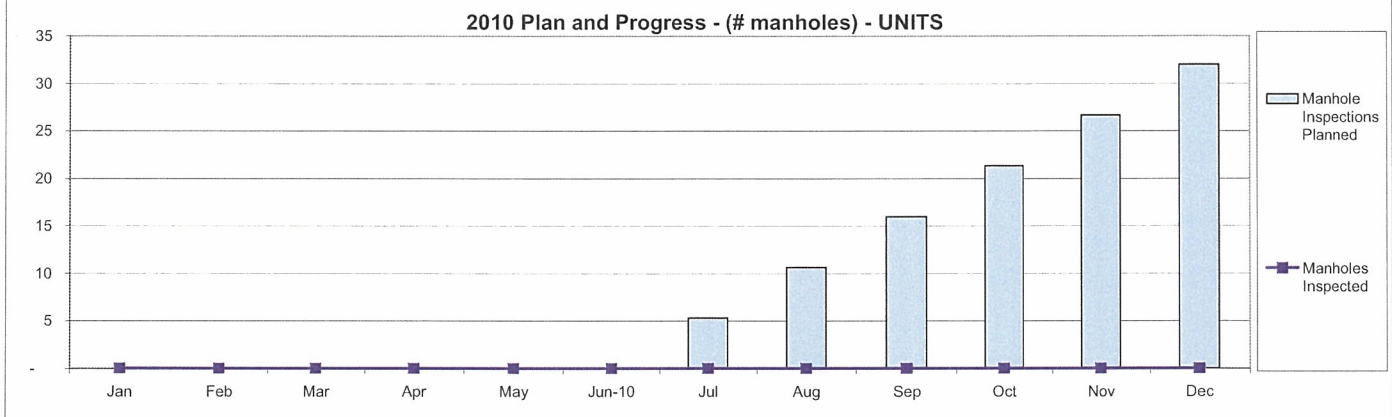
NESCRC - RELIABILITY ENHANCEMENT PROGRAM - INSPECT MANHOLES



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Manhole Inspect Plan \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1	\$ 1	\$ 1	\$ 1	\$ 1	\$ 1
REP-Manhole Inspect Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1	\$ 3	\$ 4	\$ 5	\$ 7	\$ 8
REP-Manhole Inspect Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
REP-Manhole Inspect Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
REP-Manhole Inspect Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (1)	\$ (3)	\$ (4)	\$ (5)	\$ (7)	\$ (8)

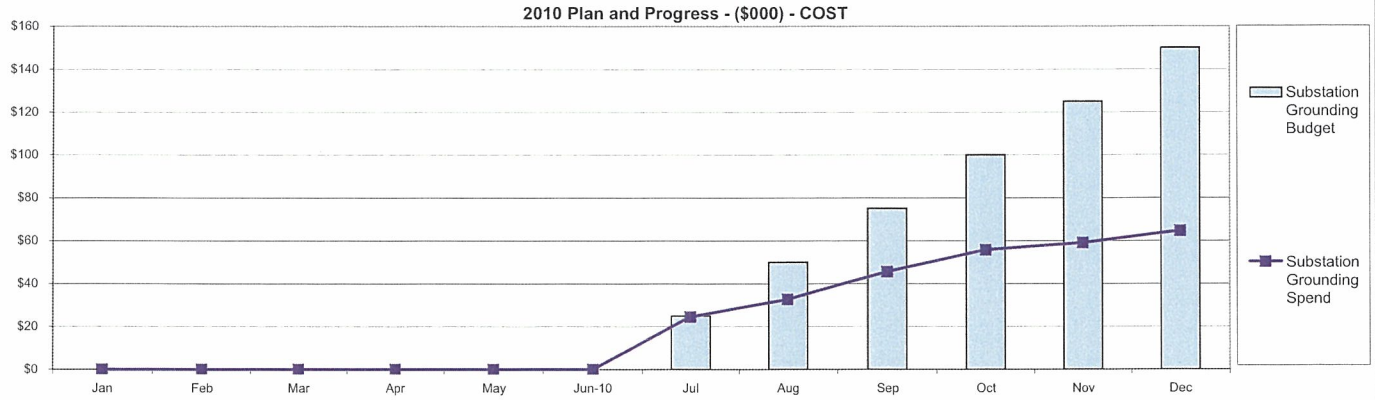
See Section 1 for Description and Comments

NESCRC - RELIABILITY ENHANCEMENT PROGRAM - INSPECT MANHOLES



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Manhole Inspections Planned Monthly	-	-	-	-	-	-	5	5	5	5	5	5
REP-Manhole Inspections Planned YTD	-	-	-	-	-	-	5	11	16	21	27	32
REP-Actual Manhole Inspections Monthly	-	-	-	-	-	-	-	-	-	-	-	-
REP-Actual Manhole Inspections YTD	-	-	-	-	-	-	-	-	-	-	-	-
REP-Manhole Inspection Variance YTD	-	-	-	-	-	-	(5)	(11)	(16)	(21)	(27)	(32)

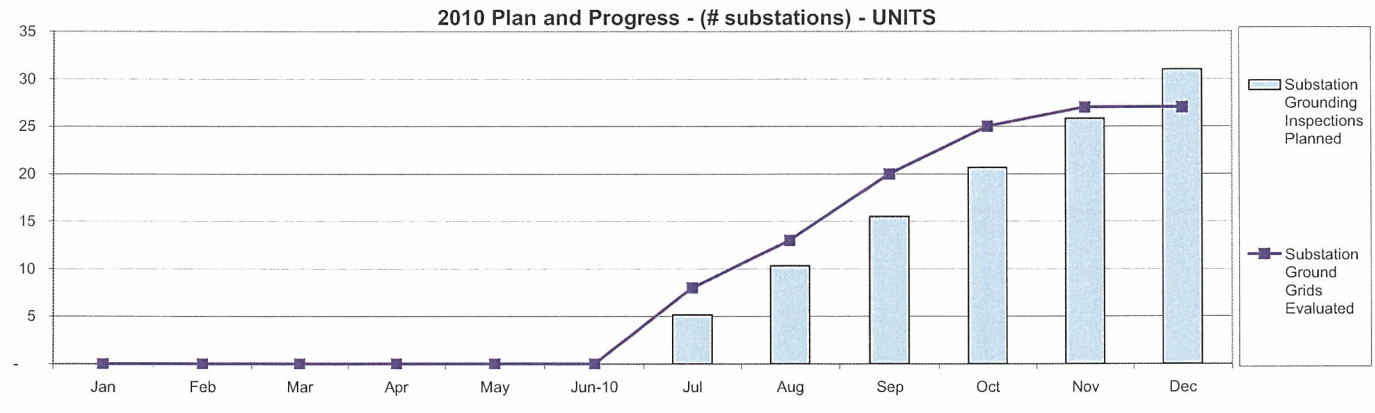
NESCR - RELIABILITY ENHANCEMENT PROGRAM - SUBSTATION GROUNDING



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Substation Grounding Plan \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25	\$ 25
REP-Substation Grounding Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 25	\$ 50	\$ 75	\$ 100	\$ 125	\$ 150
REP-Substation Grounding Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 25	\$ 8	\$ 13	\$ 10	\$ 3	\$ 6
REP-Substation Grounding Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 25	\$ 33	\$ 46	\$ 56	\$ 59	\$ 65
REP-Substation Grounding Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (0)	\$ (17)	\$ (29)	\$ (44)	\$ (66)	\$ (85)

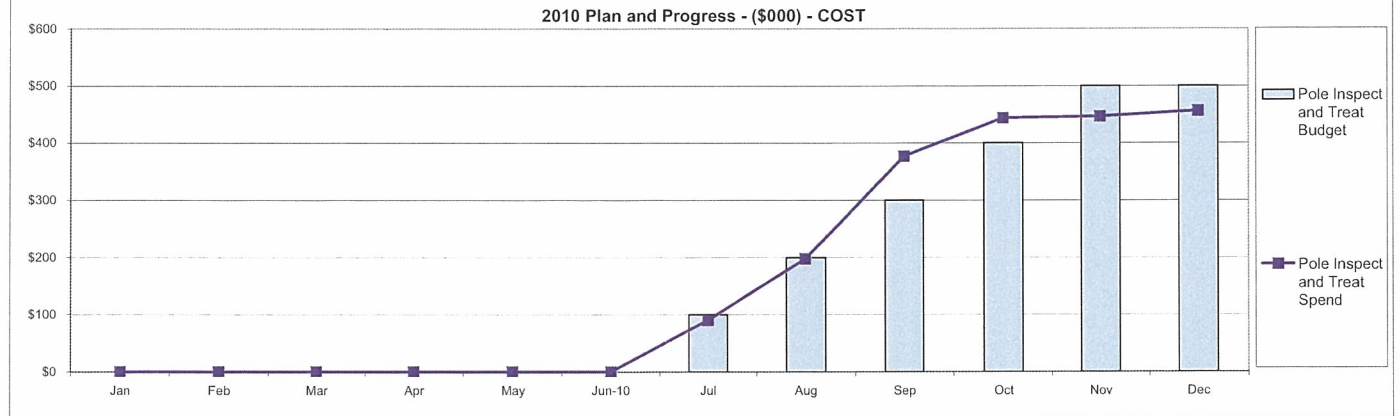
See Section 1 for Description and Comments

NESCR - RELIABILITY ENHANCEMENT PROGRAM - SUBSTATION GROUNDING



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Substation Grounding Planned Monthly	-	-	-	-	-	-	5	5	5	5	5	5
REP-Substation Grounding Planned YTD	-	-	-	-	-	-	5	10	16	21	26	31
REP-Substation Grounding Actual Monthly	-	-	-	-	-	-	8	5	7	5	2	-
REP-Substation Grounding Actual YTD	-	-	-	-	-	-	8	13	20	25	27	27
REP-Substation Grounding Variance YTD	-	-	-	-	-	-	3	3	5	4	1	(4)

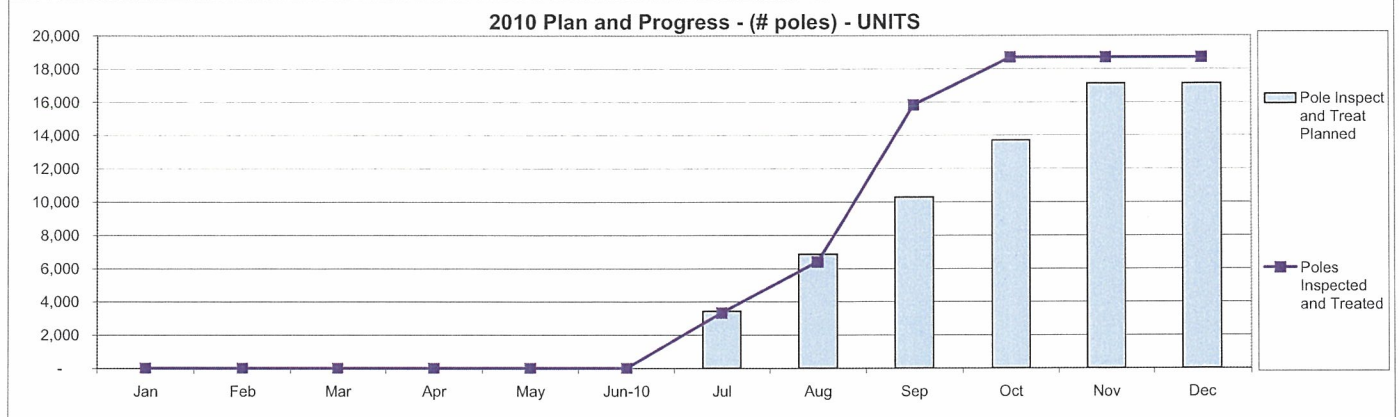
NESCRC - RELIABILITY ENHANCEMENT PROGRAM - POLE INSPECT AND TREAT



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Pole Inspect & Treat Plan \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ -
REP-Pole Inspect & Treat Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 100	\$ 200	\$ 300	\$ 400	\$ 500	\$ 500
REP-Pole Inspect & Treat Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 91	\$ 107	\$ 179	\$ 67	\$ 3	\$ 9
REP-Pole Inspect & Treat Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 91	\$ 198	\$ 377	\$ 444	\$ 447	\$ 456
REP-Pole Inspect & Treat Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (9)	\$ (2)	\$ 77	\$ 44	\$ (53)	\$ (44)

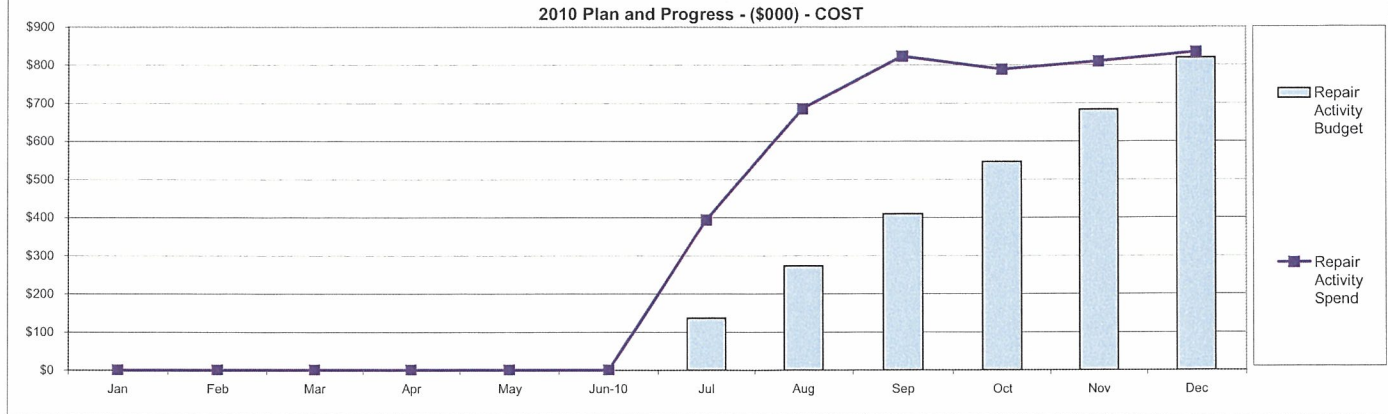
See Section 1 for Description and Comments

NESCRC - RELIABILITY ENHANCEMENT PROGRAM - POLE INSPECT AND TREAT



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Pole Inspect & Treat Plan # Poles Monthly	-	-	-	-	-	-	3,429	3,429	3,429	3,429	3,429	-
REP-Pole Inspect & Treat Plan # Poles YTD	-	-	-	-	-	-	3,429	6,857	10,286	13,714	17,143	17,143
REP-Pole Inspect & Treat Actual # Poles Monthly	-	-	-	-	-	-	3,339	3,048	9,444	2,850	-	-
REP-Pole Inspect & Treat Actual # Poles YTD	-	-	-	-	-	-	3,339	6,387	15,831	18,681	18,681	18,681
REP-Pole Inspect & Treat Variance # Poles YTD	-	-	-	-	-	-	(90)	(470)	5,545	4,967	1,538	1,538

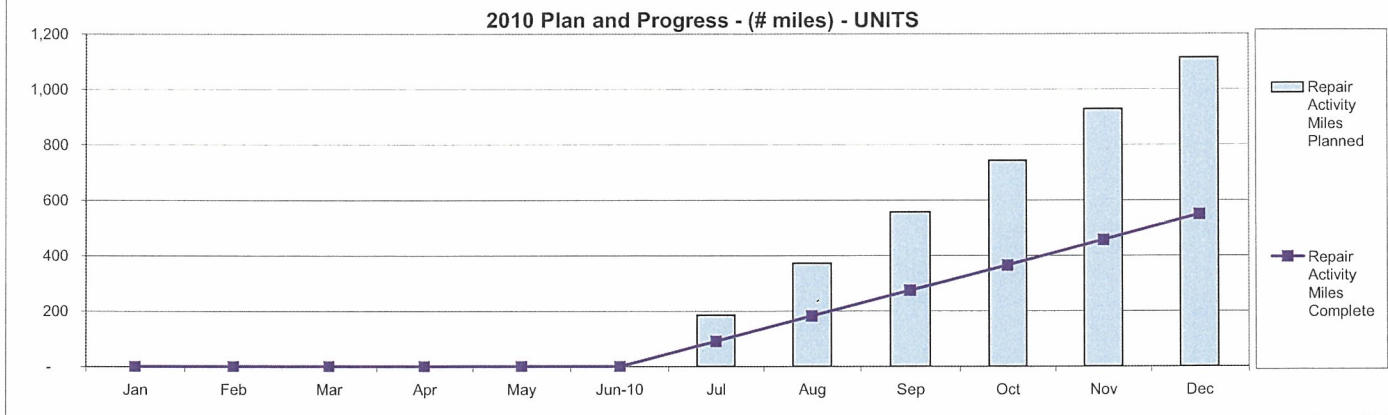
NESCRC - RELIABILITY ENHANCEMENT PROGRAM - OVERHEAD REPAIR ACTIVITY



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Repair Activity/Animal Guard Plan \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 137	\$ 137	\$ 137	\$ 137	\$ 137	\$ 137
REP-Repair Activity/Animal Guard Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 137	\$ 273	\$ 410	\$ 547	\$ 683	\$ 820
REP-Repair Activity/Animal Guard Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 394	\$ 292	\$ 137	\$ (34)	\$ 22	\$ 24
REP-Repair Activity/Animal Guard Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 394	\$ 686	\$ 823	\$ 789	\$ 810	\$ 834
REP-Repair Activity/Animal Guard Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 258	\$ 413	\$ 413	\$ 242	\$ 127	\$ 14

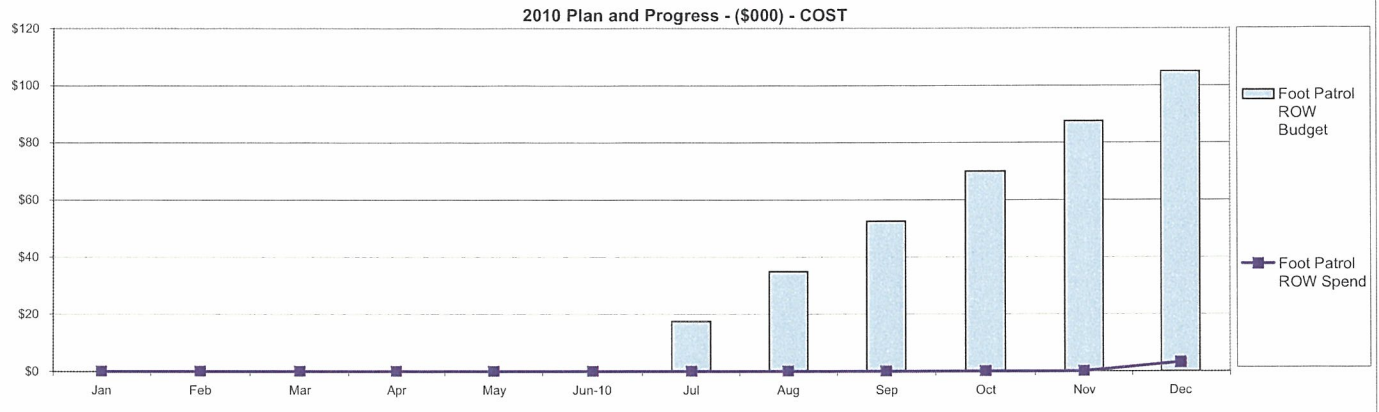
See Section 1 for Description and Comments

NESCRC - RELIABILITY ENHANCEMENT PROGRAM - OVERHEAD REPAIR ACTIVITY



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Repair Activity Planned Monthly	-	-	-	-	-	-	186	186	186	186	186	186
REP-Repair Activity Planned YTD	-	-	-	-	-	-	186	372	558	743	929	1,115
REP-Repair Activity Monthly	-	-	-	-	-	-	91	91	92	91	91	92
REP-Repair Activity YTD	-	-	-	-	-	-	91	182	274	365	456	548
REP-Repair Activity Variance YTD	-	-	-	-	-	-	(95)	(190)	(284)	(378)	(473)	(567)

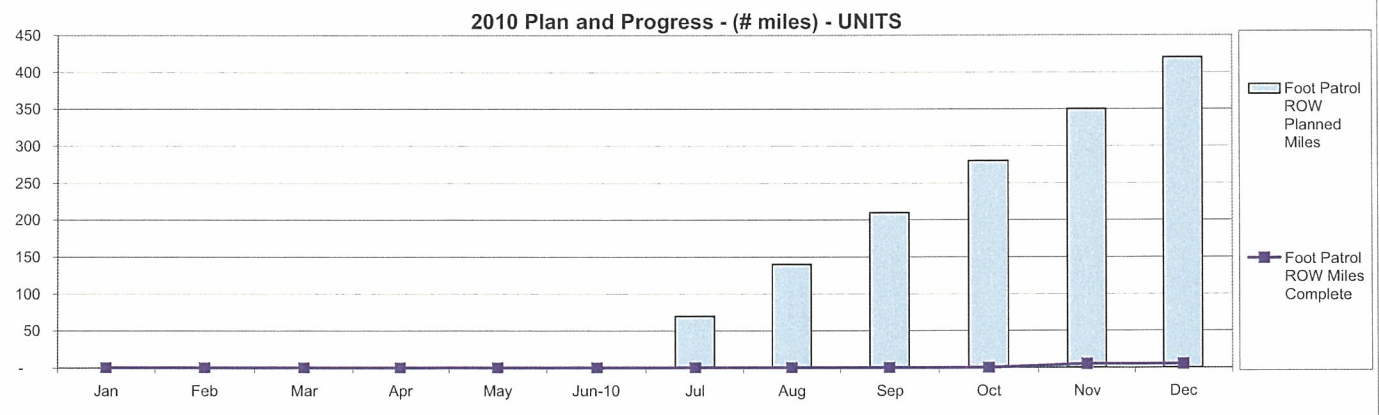
NESCRC - RELIABILITY ENHANCEMENT PROGRAM - FOOT PATROL RIGHTS-OF-WAY



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Foot Patrol ROW Plan \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 18	\$ 18	\$ 18	\$ 18	\$ 18	\$ 18
REP-Foot Patrol ROW Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 18	\$ 35	\$ 53	\$ 70	\$ 88	\$ 105
REP-Foot Patrol ROW Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3
REP-Foot Patrol ROW Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3
REP-Foot Patrol ROW Patrol Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (18)	\$ (35)	\$ (53)	\$ (70)	\$ (88)	\$ (102)

See Section 1 for Description and Comments

NESCRC - RELIABILITY ENHANCEMENT PROGRAM - FOOT PATROL RIGHTS-OF-WAY



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Foot Patrol ROW Planned Miles Monthly	-	-	-	-	-	-	70	70	70	70	70	70
REP-Foot Patrol ROW Planned Miles YTD	-	-	-	-	-	-	70	140	210	280	350	420
REP-Foot Patrol ROW Actual Miles Monthly	-	-	-	-	-	-	-	-	-	-	5	-
REP-Foot Patrol ROW Actual Miles YTD	-	-	-	-	-	-	-	-	-	-	5	5
REP-Foot Patrol ROW Variance Miles YTD	-	-	-	-	-	-	(70)	(140)	(210)	(280)	(345)	(415)

Section 4

2010 Other Reliability Programs



Public Service
of New Hampshire
The Northeast Utilities System

RELIABILITY ENHANCEMENT PROGRAM - OTHER RELIABILITY O&M



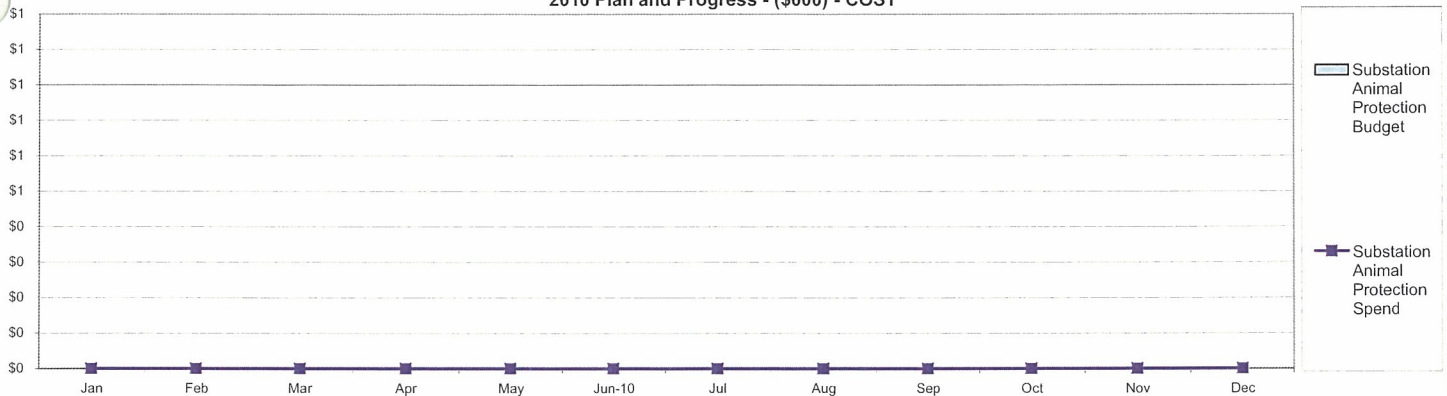
2010 PLAN AND PROGRESS

<u>PROGRAMS:</u>	<u>PAGE</u>
SUBSTATION ANIMAL PROTECTION	1
OVERHEAD SWITCH MAINTENANCE	2
RECLOSER MAINTENANCE	3
INSTALL FAULT INDICATORS	4
DIRECT BURIED CONCENTRIC NEUTRALS	5
CASCADE DATABASE FIELD SURVEY AND ENTRY	6
RTE ELBOW REPLACEMENT	7
GIS O&M PORTION OF CAPITAL	8
O&M PORTION OF CAPITAL PROJECTS	9

RELIOM-RELIABILITY ENHANCEMENT PROGRAM - SUBSTATION ANIMAL PROTECTION



2010 Plan and Progress - (\$000) - COST



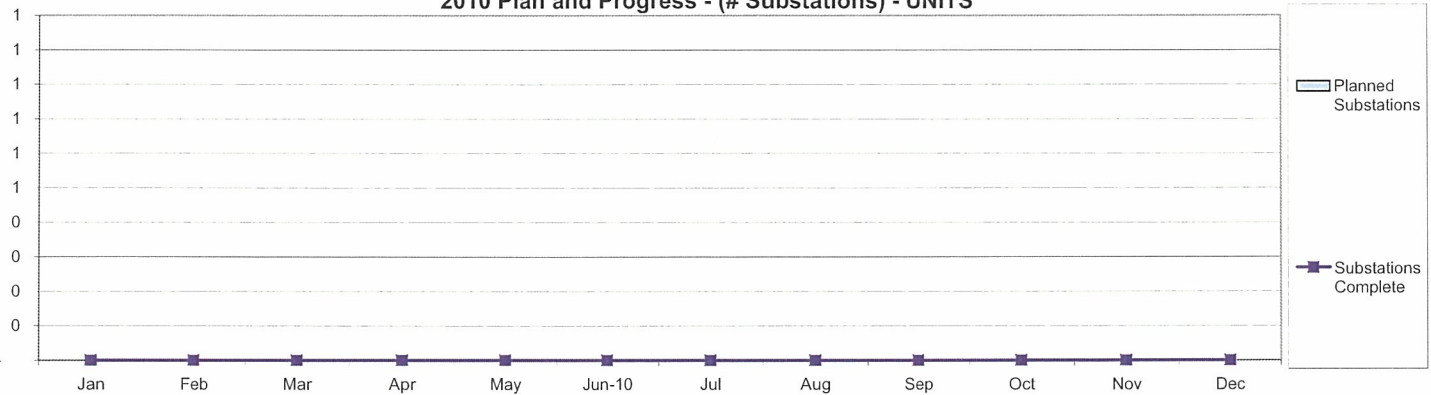
	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-S/S Animal Protection Plan \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
REP-S/S Animal Protection Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
REP-S/S Animal Protection Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
REP-S/S Animal Protection Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
REP-S/S Animal Protection Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

See Section 1 for Description and Comments

RELIOM-RELIABILITY ENHANCEMENT PROGRAM - SUBSTATION ANIMAL PROTECTION



2010 Plan and Progress - (# Substations) - UNITS

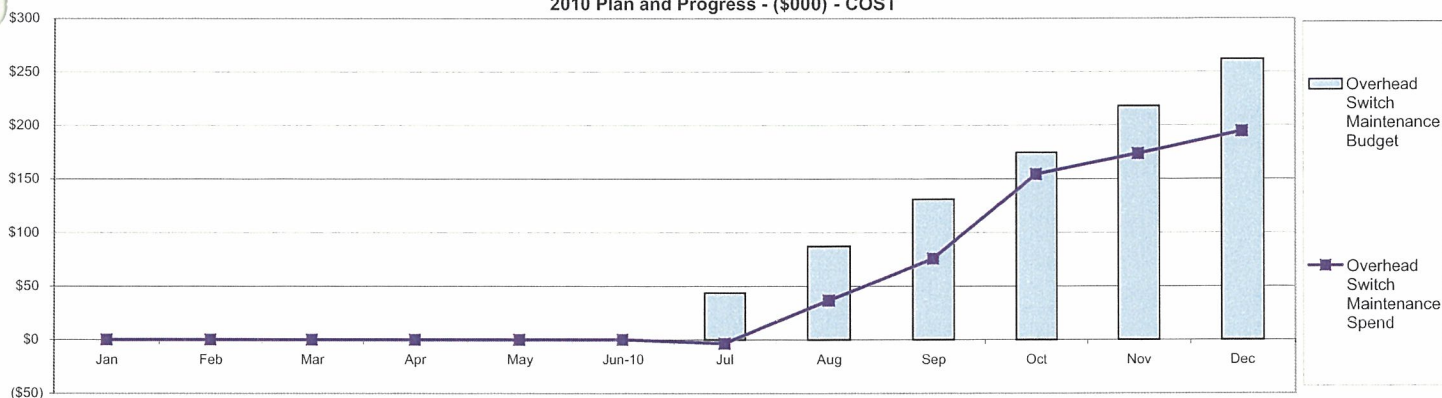


	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Substations Planned Monthly	-	-	-	-	-	-	-	-	-	-	-	-
REP-Substations Planned YTD	-	-	-	-	-	-	-	-	-	-	-	-
REP-Substations Actual Monthly	-	-	-	-	-	-	-	-	-	-	-	-
REP-Substations Actual YTD	-	-	-	-	-	-	-	-	-	-	-	-
REP-# Substations Variance YTD	-	-	-	-	-	-	-	-	-	-	-	-



RELIOM-RELIABILITY ENHANCEMENT PROGRAM - OVERHEAD SWITCH MAINTENANCE

2010 Plan and Progress - (\$000) - COST



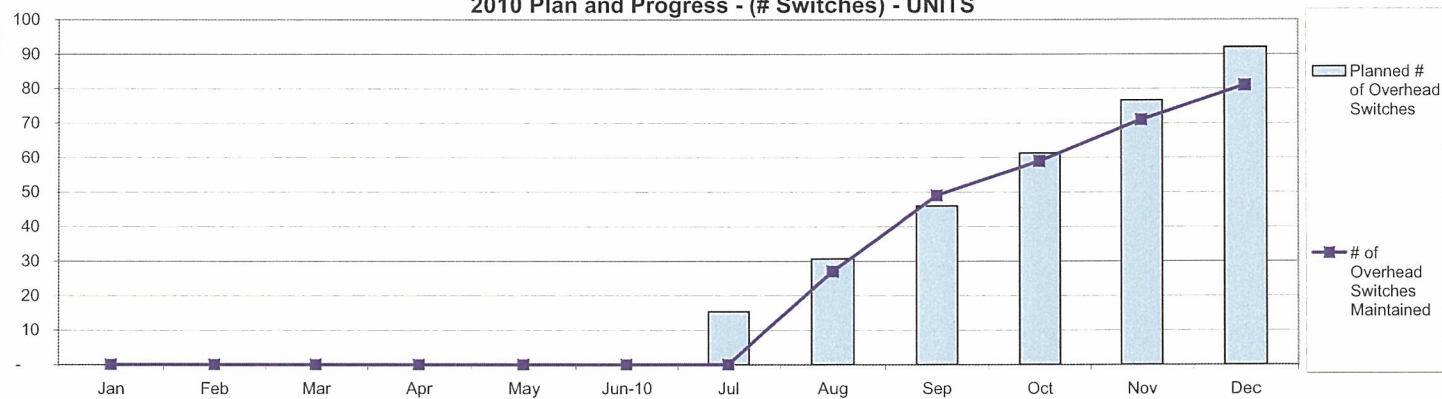
	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Overhead Switch Maintenance Plan \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 44	\$ 44	\$ 44	\$ 44	\$ 44	\$ 44
REP-Overhead Switch Maintenance Plan Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 44	\$ 87	\$ 131	\$ 175	\$ 218	\$ 262
REP-Overhead Switch Maintenance Plan Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (4)	\$ 40	\$ 39	\$ 79	\$ 19	\$ 21
REP-Overhead Switch Maintenance Plan Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (4)	\$ 37	\$ 76	\$ 154	\$ 174	\$ 195
REP-Overhead Switch Maintenance Plan Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (47)	\$ (51)	\$ (55)	\$ (20)	\$ (45)	\$ (67)

See Section 1 for Description and Comments



RELIOM-RELIABILITY ENHANCEMENT PROGRAM - OVERHEAD SWITCH MAINTENANCE

2010 Plan and Progress - (# Switches) - UNITS

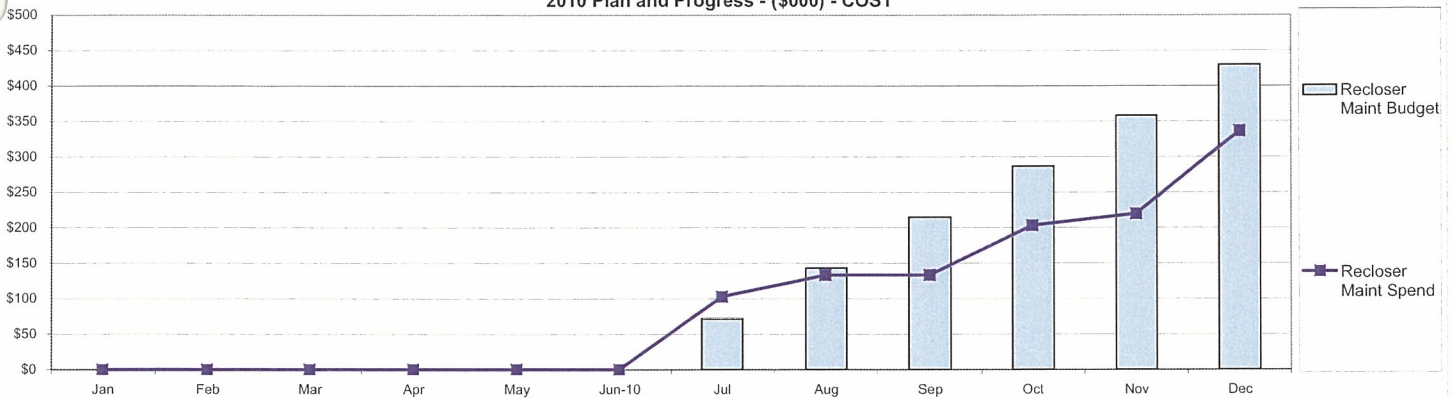


	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Overhead Switch Maintenance Planned Units Monthly	-	-	-	-	-	-	15	15	15	15	15	15
REP-Overhead Switch Maintenance Planned Units YTD	-	-	-	-	-	-	15	31	46	61	77	92
REP-Overhead Switch Maintenance Actual Units Monthly	-	-	-	-	-	-	-	27	22	10	12	10
REP-Overhead Switch Maintenance Actual Units YTD	-	-	-	-	-	-	-	27	49	59	71	81
REP-Overhead Switch Maintenance Variance Units YTD	-	-	-	-	-	-	(15)	(4)	3	(2)	(6)	(11)

RELIOM-RELIABILITY ENHANCEMENT PROGRAM - RECLOSER MAINTENANCE



2010 Plan and Progress - (\$000) - COST



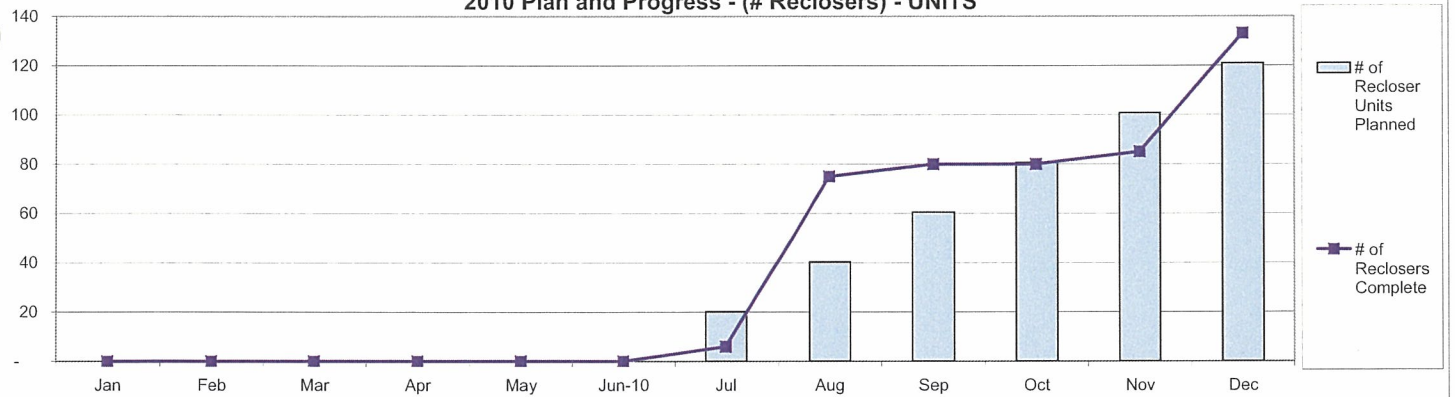
	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Recloser Backlog Plan \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 72	\$ 72	\$ 72	\$ 72	\$ 72	\$ 72
REP-Recloser Backlog Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 72	\$ 143	\$ 215	\$ 287	\$ 358	\$ 430
REP-Recloser Backlog Plan Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 103	\$ 31	\$ -	\$ 70	\$ 16	\$ 117
REP-Recloser Backlog Plan Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 103	\$ 134	\$ 134	\$ 203	\$ 220	\$ 336
REP-Recloser Backlog Plan Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 31	\$ (10)	\$ (82)	\$ (83)	\$ (139)	\$ (94)

See Section 1 for Description and Comments

RELIOM-RELIABILITY ENHANCEMENT PROGRAM - RECLOSER MAINTENANCE



2010 Plan and Progress - (# Reclosers) - UNITS

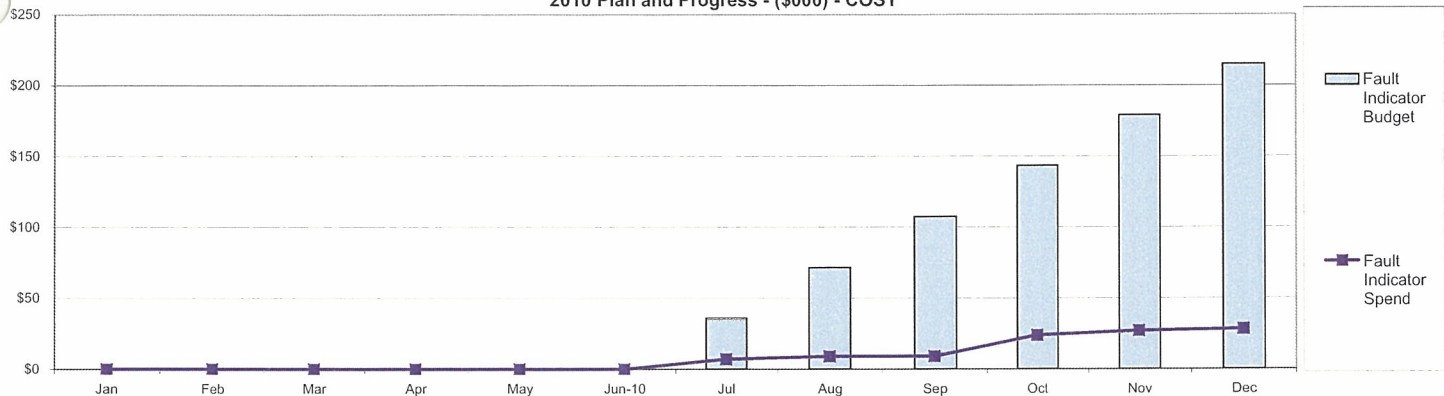


	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Recloser Planned Units Monthly	-	-	-	-	-	-	20	20	20	20	20	20
REP-Recloser Planned Units YTD	-	-	-	-	-	-	20	40	61	81	101	121
REP-Recloser Actual Units Monthly	-	-	-	-	-	-	6	69	5	-	5	48
REP-Recloser Actual Units YTD	-	-	-	-	-	-	6	75	80	80	85	133
REP-Recloser Variance Units YTD	-	-	-	-	-	-	(14)	35	20	(1)	(16)	12

RELIOM-RELIABILITY ENHANCEMENT PROGRAM - INSTALL FAULT INDICATORS



2010 Plan and Progress - (\$000) - COST



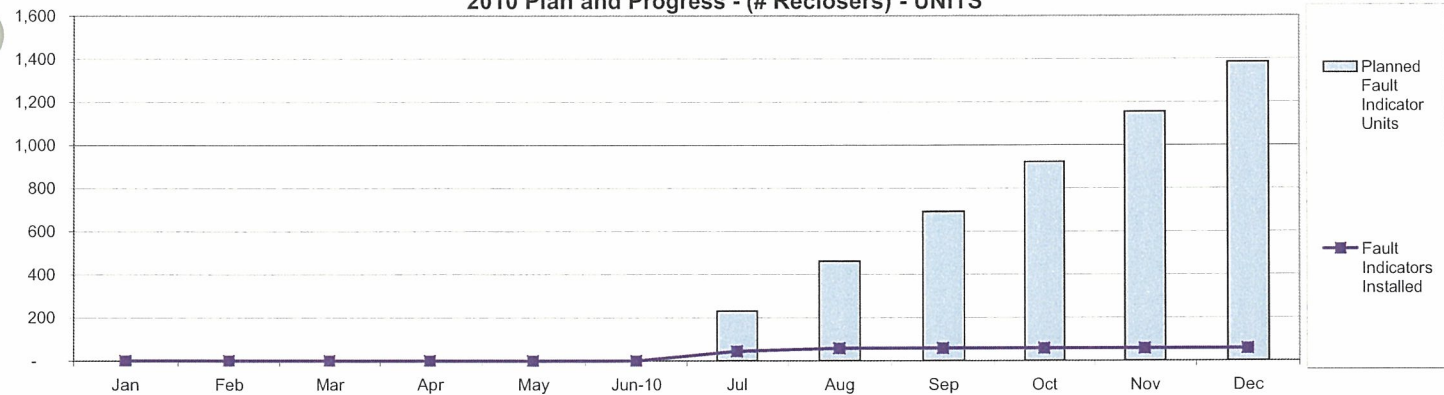
	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Fault Indicators Plan \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 36	\$ 36	\$ 36	\$ 36	\$ 36	\$ 36
REP-Fault Indicators Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 36	\$ 72	\$ 108	\$ 143	\$ 179	\$ 215
REP-Fault Indicators Plan Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7	\$ 2	\$ -	\$ 15	\$ 3	\$ 1
REP-Fault Indicators Plan Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7	\$ 9	\$ 9	\$ 24	\$ 27	\$ 28
REP-Fault Indicators Plan Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (29)	\$ (63)	\$ (99)	\$ (120)	\$ (152)	\$ (187)

See Section 1 for Description and Comments

RELIOM-RELIABILITY ENHANCEMENT PROGRAM - INSTALL FAULT INDICATORS



2010 Plan and Progress - (# Reclosers) - UNITS

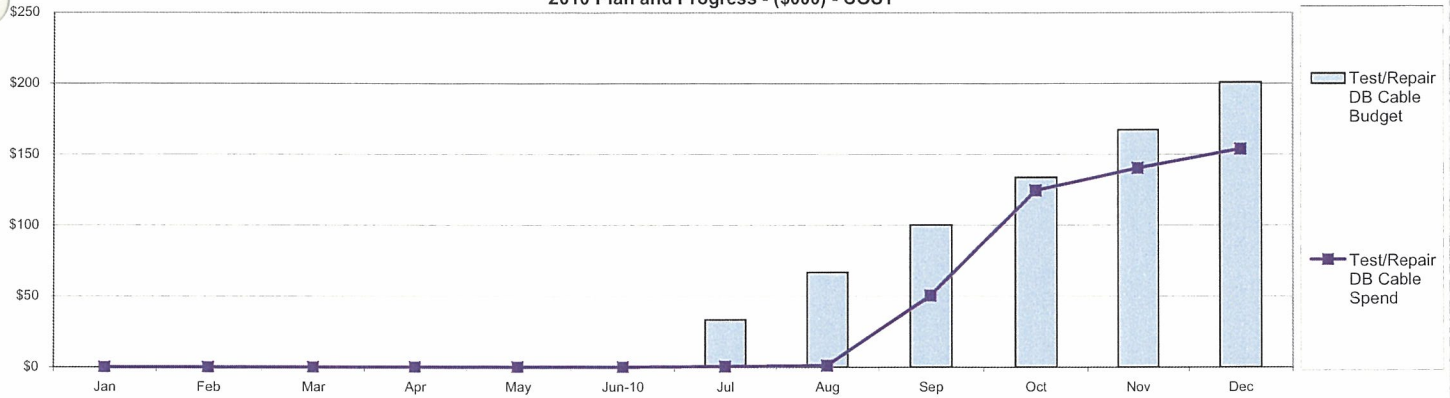


	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Fault Indicators Planned Units Monthly	-	-	-	-	-	-	231	231	231	231	231	231
REP-Fault Indicators Planned Units YTD	-	-	-	-	-	-	231	462	693	924	1,155	1,386
REP-Fault Indicators Actual Units Monthly	-	-	-	-	-	-	44	14	-	-	-	-
REP-Fault Indicators Actual Units YTD	-	-	-	-	-	-	44	58	58	58	58	58
REP-Fault Indicators Variance Units YTD	-	-	-	-	-	-	(187)	(404)	(635)	(866)	(1,097)	(1,328)

RELIOM-RELIABILITY ENHANCEMENT PROGRAM - TEST & REPAIR DIRECT BURIED UNJACKET CONCENTRIC NEUTRAL CABLE



2010 Plan and Progress - (\$000) - COST



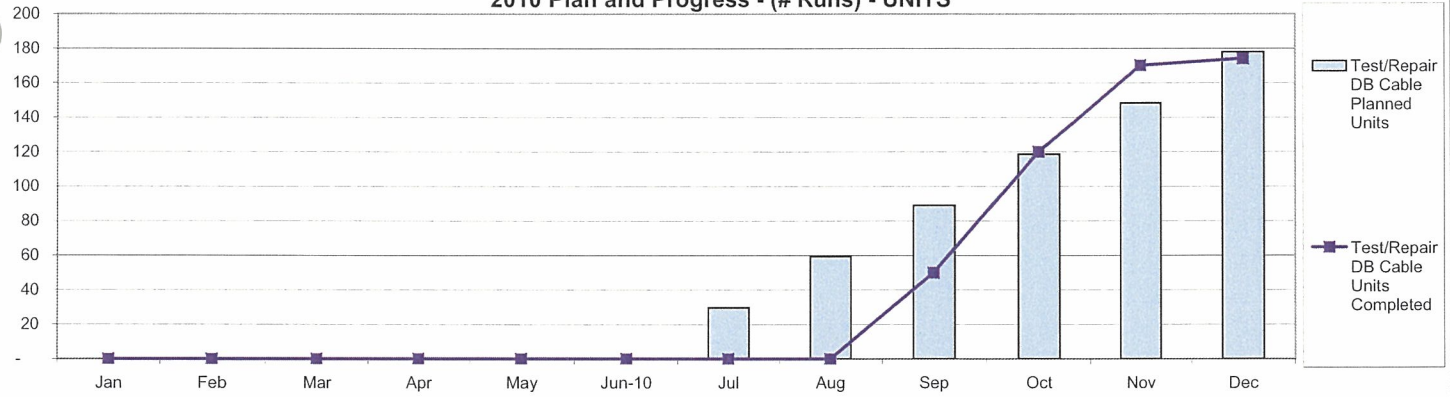
	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Test/Repair DB Cable Plan \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 33	\$ 33	\$ 33	\$ 33	\$ 33	\$ 33
REP-Test/Repair DB Cable Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 33	\$ 67	\$ 100	\$ 134	\$ 167	\$ 201
REP-Test/Repair DB Cable Plan Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1	\$ 1	\$ 49	\$ 74	\$ 16	\$ 14
REP-Test/Repair DB Cable Plan Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1	\$ 1	\$ 51	\$ 125	\$ 140	\$ 154
REP-Test/Repair DB Cable Plan Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (33)	\$ (66)	\$ (50)	\$ (9)	\$ (27)	\$ (47)

See Section 1 for Description and Comments

RELIOM-RELIABILITY ENHANCEMENT PROGRAM - TEST & REPAIR DIRECT BURIED UNJACKET CONCENTRIC NEUTRAL CABLE



2010 Plan and Progress - (# Runs) - UNITS

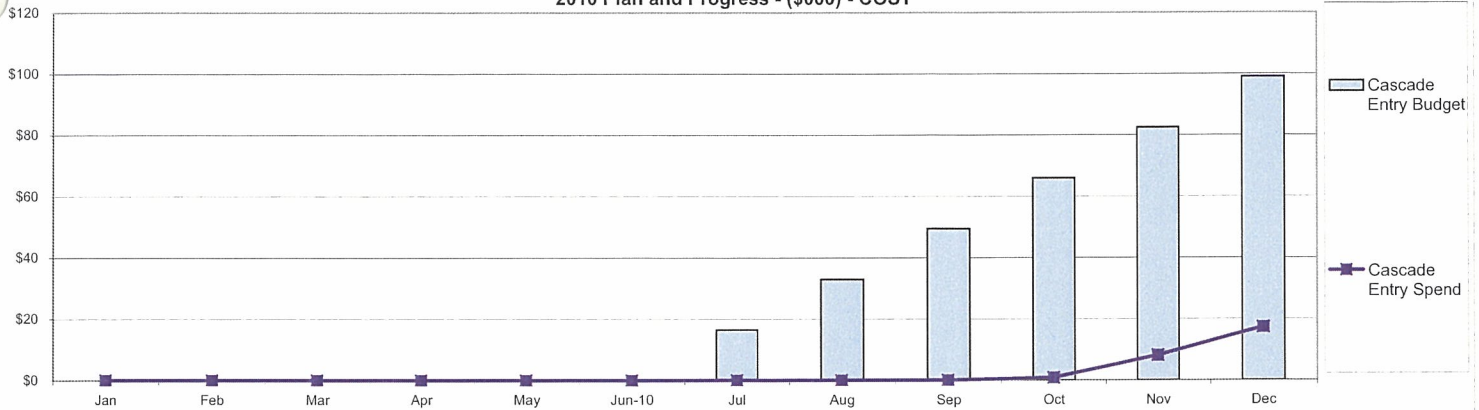


	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Test/Repair DB Cable Planned Units Monthly	-	-	-	-	-	-	30	30	30	30	30	30
REP-Test/Repair DB Cable Planned Units YTD	-	-	-	-	-	-	30	59	89	119	148	178
REP-Test/Repair DB Cable Actual Units Monthly	-	-	-	-	-	-	-	-	50	70	50	4
REP-Test/Repair DB Cable Actual Units YTD	-	-	-	-	-	-	-	-	50	120	170	174
REP-Test/Repair DB Cable Variance Units YTD	-	-	-	-	-	-	(30)	(59)	(39)	1	22	(4)

RELIOM-RELIABILITY ENHANCEMENT PROGRAM - CASCADE DATABASE FIELD SURVEY AND ENTRY



2010 Plan and Progress - (\$000) - COST



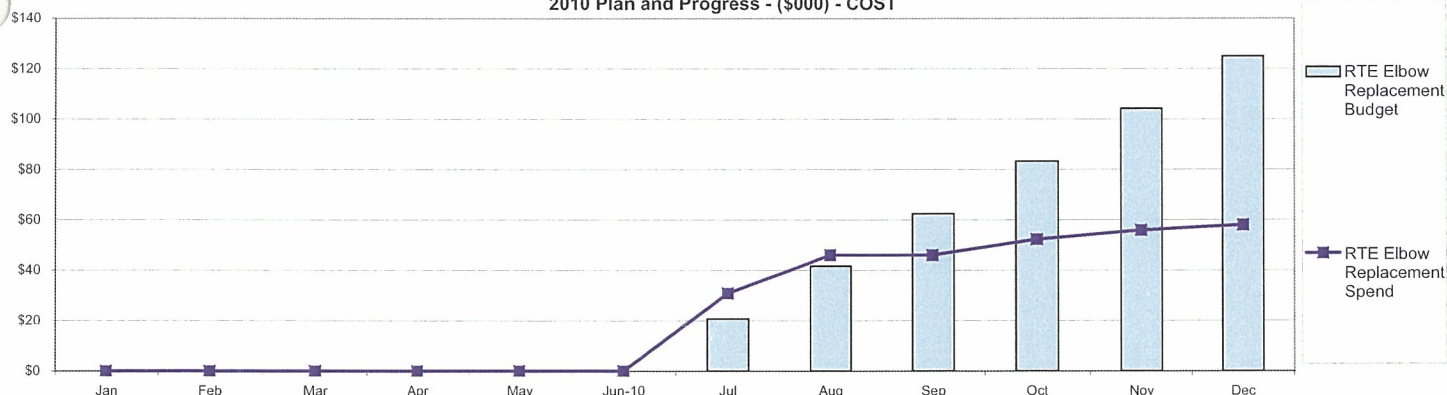
	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-Cascade Entry Plan \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 17	\$ 17	\$ 17	\$ 17	\$ 17	\$ 17
REP-Cascade Entry Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 17	\$ 33	\$ 50	\$ 66	\$ 83	\$ 99
REP-Cascade Entry Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1	\$ 7	\$ 9
REP-Cascade Entry Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1	\$ 8	\$ 17
REP-Cascade Entry Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (17)	\$ (33)	\$ (50)	\$ (65)	\$ (74)	\$ (82)

See Section 1 for Description and Comments



RELIOM-RELIABILITY ENHANCEMENT PROGRAM - RTE ELBOW REPLACEMENT

2010 Plan and Progress - (\$000) - COST



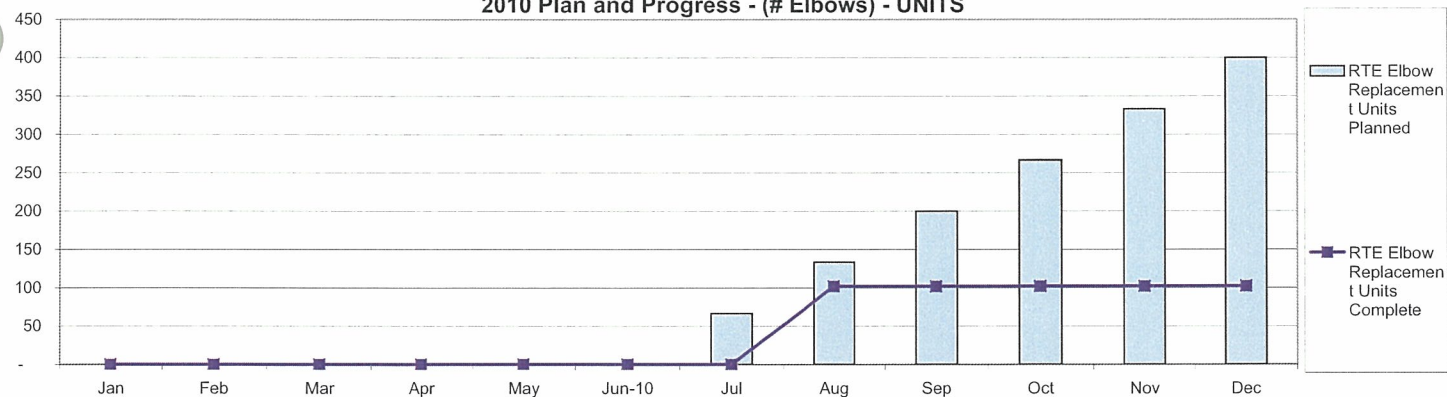
	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-RTE Elbow Replacement Plan \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 21	\$ 21	\$ 21	\$ 21	\$ 21	\$ 21
REP-RTE Elbow Replacement Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 21	\$ 42	\$ 63	\$ 83	\$ 104	\$ 125
REP-RTE Elbow Replacement Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 31	\$ 15	\$ -	\$ 6	\$ 4	\$ 2
REP-RTE Elbow Replacement Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 31	\$ 46	\$ 46	\$ 52	\$ 56	\$ 58
REP-RTE Elbow Replacement Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10	\$ 4	\$ (16)	\$ (31)	\$ (48)	\$ (67)

See Section 1 for Description and Comments



RELIOM-RELIABILITY ENHANCEMENT PROGRAM - RTE ELBOW REPLACEMENT

2010 Plan and Progress - (# Elbows) - UNITS

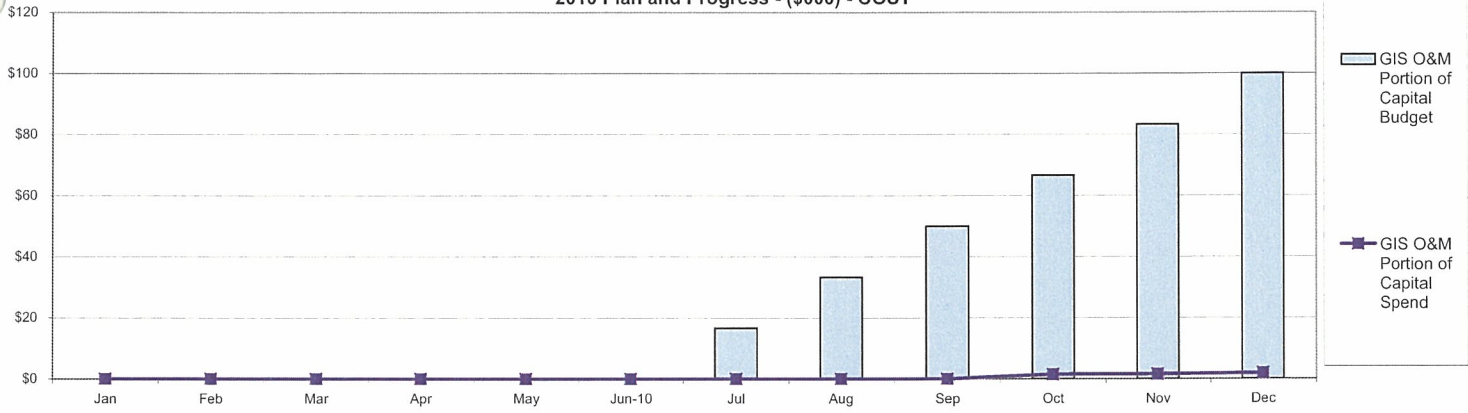


	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-RTE Elbow Replacement Planned Units Monthly	-	-	-	-	-	-	67	67	67	67	67	67
REP-RTE Elbow Replacement Planned Units YTD	-	-	-	-	-	-	67	133	200	267	333	400
REP-RTE Elbow Replacement Actual Units Monthly	-	-	-	-	-	-	-	102	-	-	-	-
REP-RTE Elbow Replacement Actual Units YTD	-	-	-	-	-	-	-	102	102	102	102	102
REP-RTE Elbow Replacement Variance Units YTD	-	-	-	-	-	-	(67)	(31)	(98)	(165)	(231)	(298)

RELIOM-RELIABILITY ENHANCEMENT PROGRAM - GEOSPACIAL INFORMATION SYSTEM (GIS) O&M PORTION OF CAPITAL



2010 Plan and Progress - (\$000) - COST



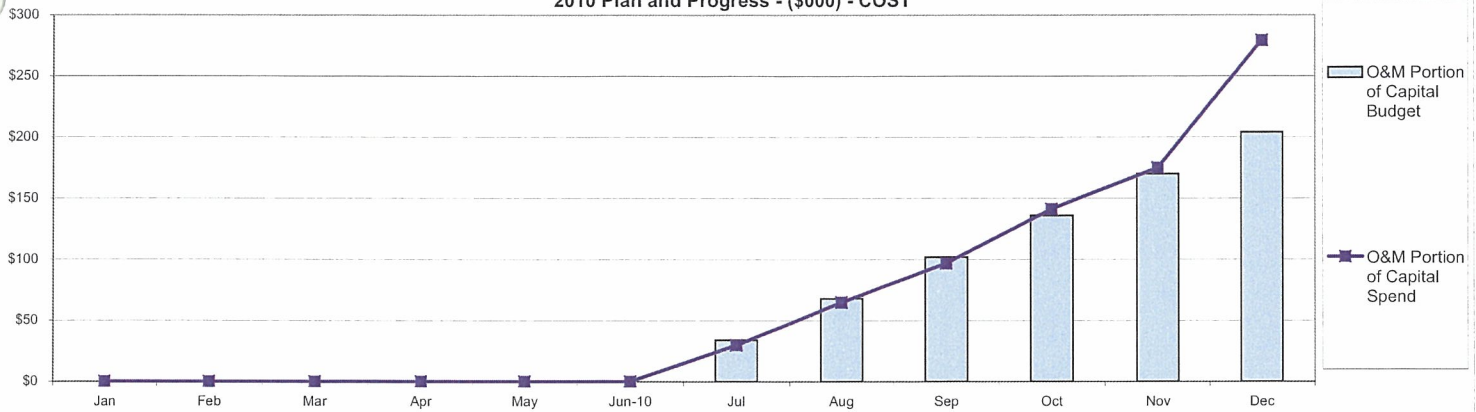
	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
GIS O&M Plan \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 17	\$ 17	\$ 17	\$ 17	\$ 17	\$ 17
GIS O&M Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 17	\$ 33	\$ 50	\$ 67	\$ 83	\$ 100
GIS O&M Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2	\$ 0	\$ 0
GIS O&M Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2	\$ 2	\$ 2
GIS O&M Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (17)	\$ (33)	\$ (50)	\$ (65)	\$ (82)	\$ (98)

See Section 1 for Description and Comments

RELIOM-RELIABILITY ENHANCEMENT PROGRAM - O&M PORTION OF CAPITAL



2010 Plan and Progress - (\$000) - COST



	2010											
	Jan	Feb	Mar	Apr	May	Jun-10	Jul	Aug	Sep	Oct	Nov	Dec
CCC 78U												
REP-O&M Portion of Capital Plan \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 34	\$ 34	\$ 34	\$ 34	\$ 34	\$ 34
REP-O&M Portion of Capital Plan \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 34	\$ 68	\$ 102	\$ 136	\$ 170	\$ 204
REP-O&M Portion of Capital Plan Actual \$000 Monthly	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 30	\$ 35	\$ 32	\$ 44	\$ 34	\$ 104
REP-O&M Portion of Capital Plan Actual \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 30	\$ 65	\$ 97	\$ 141	\$ 175	\$ 279
REP-O&M Portion of Capital Plan Variance \$000 YTD	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (4)	\$ (3)	\$ (5)	\$ 5	\$ 5	\$ 75

See Section 1 for Description and Comments

Section 5

2010 Capital Summary



**Public Service
of New Hampshire**
The Northeast Utilities System

Year End 2010 Summary of PSNH Reliability Enhancement Program – CAPITAL

Docket No. DE 09-035

Jul 1 2010 - Dec 31 2010



CAPITAL - NEW REP

	\$ PLAN	\$ ACTUAL	\$ VARIANCE
Distribution Line Porcelain Changeout (8 Yrs)	\$1,000,000	\$943,834	(\$56,166)
34.5kV Substation Breaker Replacement (Ongoing)	\$250,000	\$411,172	\$161,172
Enhanced Tree Trimming (Ongoing)	\$1,000,000	\$1,075,972	\$75,972
Pole Top DSCADA Replacement (9 Yrs)	\$250,000	\$190,277	(\$59,723)
Substation RTU Replacement (6 Yrs)	\$163,000	\$63,794	(\$99,206)
Enable SCADA to Windsor Backup (Last yr)	\$63,000	\$239,867	\$176,867
Distrib. Line Wire Upgrade/Eliminate Narrow ROW	\$200,000	\$82,545	(\$117,455)
Reliability Improvements Annual (Ongoing)	\$500,000	\$766,186	\$266,186
GIS Capital Project	\$1,000,000	\$71,706	(\$928,294)
	\$4,426,000	\$3,845,352	(\$580,648)

CAPITAL - DUE TO BASE REP

	\$ PLAN	\$ ACTUAL	\$ VARIANCE
Reject Pole Replacement	\$888,100	\$1,210,277	\$322,177
Pole Reinforcement <small>137 poles reinforced in Dec, 2010. Charges were made in January 2011.</small>	\$76,150	\$0	(\$76,150)
NESC Capital Work	\$253,800	\$732,020	\$478,220
Airbreak Switch Replacement	\$101,500	\$76,601	(\$24,899)
Direct Buried Cable Replacement	\$634,350	\$924,075	\$289,725
Direct Buried Cable Injection	\$76,100	\$2,561	(\$73,539)
	\$2,030,000	\$2,945,534	\$915,534

TOTAL REP CAPITAL

\$6,456,000

\$6,790,887

\$334,887

CAPITAL - NEW REP

DISTRIBUTION LINE PORCELAIN PRODUCT CHANGEOUT (8 YRS):

Program Description:

This targeted capital project, addressing safety and reliability, is a proactive program aimed at eliminating distribution line porcelain equipment with a known impact on the System Average Interruption Duration Index (SAIDI).

The specific goal is to replace all designated porcelain equipment with polymer in ten years. The program will specifically replace porcelain 4 1/4" disc insulators, cutouts, non-transformer lightning arrestors, and solid core in-line disconnect switches with new polymer equipment.

Total Unit Population:

Estimate of 150,000 porcelain units to change out. PSNH has 11,000 miles of line so this equates to 13.6 pieces of porcelain per mile on average.

Maintenance Cycle:

Complete in 10 years.
150,000 pieces of porcelain divided by 10 years equals 15,000 units per year.

Reliability Benefit:

Reduced failure of this product.

Results:

An estimated 45,000 porcelain cutouts, insulators, lightning arresters and in-line disconnects have been replaced as part of the ongoing program. Through 2010, total failures of cutouts and insulators have not decreased, which is attributed to an increased failure rate of those remaining in service as they age. A significant reduction in overall failures is not expected until a more significant portion of the overall population has been replaced. Failures of polymer insulators and cutouts have been very low.

Capital Cost:

\$ PLAN	\$ ACTUAL	\$ VARIANCE
\$1,000,000	\$944,834	(\$56,166)

34.5KV SUBSTATION BREAKER REPLACEMENT (ONGOING):

Program Description:

This program addresses the replacement of existing substation 34.5kV breakers which are old, problematic repair or operation, unique or no longer supported by vendors for parts and repair material. There are 251- 34.5kV breakers on the system of various manufacturers, models, types and vintage.

Total Unit Population:

251- 34.5kV breakers (replace 2 breakers first program year)

Maintenance Cycle:

Breakers are maintained at the time the substation is maintained, on a 10 year cycle.

Reliability Benefit:

Reduce failure to operate of breakers. Reduce maintenance costs.

Results:

Two breakers were replaced between 7/1/10 and 12/31/10.

Capital Cost:

\$ PLAN	\$ ACTUAL	\$ VARIANCE
\$250,000	\$411,172	\$161,172

ENHANCED TREE TRIMMING (ETT) (ONGOING):

Program Description:

Trim main lines for reliability using an enhanced tree trimming (ETT) specification to create ground to sky clearance versus the smaller maintenance trim zone.

Expanded clearance is obtained by performing greater off zone takedowns and clearing and higher than normal vertical clearing. Approximately 11,000 miles of overhead line exists with the project targeted up to 50 miles per year on circuits with highest tree related reliability (top 50 list).

Total Unit Population:

PSNH is responsible for trimming approximately 11,000 miles of overhead distribution line. A portion of these miles are candidates for ETT to improve reliability on main lines.

Reliability Benefit:

Increasing the trim zone at targeted main line locations significantly reduces the risk of tree outages associated with significant SAIDI (customer) impact.

Results:

Trees have been the greatest cause for power outages and PSNH has realized a benefit in continuing its focus on removing vegetation from near electrical distribution lines.

Capital Cost:

\$ PLAN	\$ ACTUAL	\$ VARIANCE
\$1,000,000	\$1,076,972	\$75,972

POLE TOP DSCADA REPLACEMENT (9 YRS):

Program Description:

Replace obsolete remote terminal units (RTUs) at the same time the radios are upgraded to 220 Mhz.

Total Unit Population:

135 total unit population. Replace at approximately 20 per year.

Reliability Benefit:

Existing RTUs have reliability issues and parts are no longer available for repair. Additionally, the existing hardware at the Electric System Control Center (ESCC) will not accept the installation any additional units in the field. New RTUs provide advanced technology e.g. time stamped events, line readings, and connection of multiple devices with different communication protocols.

Results:

Shortened system restoration times. Required annual RTU replacement totals will be lower in the future due to the use of G&W Viper recloser as the SCADA device.

Capital Cost:

\$ PLAN	\$ ACTUAL	\$ VARIANCE
\$250,000	\$190,277	(\$60,723)

SUBSTATION RTU REPLACEMENT (6 YRS):

Program Description: This project is to replace the remaining estimated 15 of 23 older Remote Terminal Units at various substations. Older units are not supported by vendors for repair and utilize single REDAC 70 communication protocol. New RTUs provide time stamp, line reading data, and connection to devices with different communication protocols.

Total Unit Population: 15 of 23 older Remote Terminal Units (replace 3 first program year)

Maintenance Cycle: Substation RTUs normally are repaired or replaced when they fail to operate.

Reliability Benefit: Fewer failures to communicate with substation SCADA controlled devices.

Results: Two substations' RTUs were replaced and placed into service. (12 remain to be replaced).

Capital Cost:

\$ PLAN	\$ ACTUAL	\$ VARIANCE
\$163,000	\$63,784	(\$99,206)

ENABLE SCADA TO WINDSOR BACKUP (LAST YR):

Program Description: Connect existing remote terminal units (RTUs) to the backup computer server in Windsor, CT. Supervisory Control and Data Acquisition (SCADA) refers to a centralized control system to perform automated activities through RTUs.

Total Unit Population: 33 total unit population.

Reliability Benefit: In the event of failure of the computer server at the Electric System Control Center in Manchester NH, all RTUs will be able to be accessed via the backup server at Windsor CT providing redundant/reliable operations. This also meets NERC and ISO requirements.

Results: 16 additional substation RTUs can now be scanned via the backup system. Six sites now use PSNH fiber optic network due to Fairpoint delays accounting for the over budget total. Four additional sites were delayed by Fairpoint and still need to be completed.

Capital Cost:

\$ PLAN	\$ ACTUAL	\$ VARIANCE
\$63,000	\$239,867	\$176,867

DISTRIBUTION LINE WIRE UPGRADE/ELIMINATE NARROW RIGHT-OF-WAY

Program Description: Replace #6 and #4 copper conductor in locations where it is susceptible to burn down by tree limbs. Primary locations are in rural areas of the western part of the company - Peterborough, New Ipswich, Rindge, Jaffrey, Dublin, but may be in other areas. Bring overhead lines out onto the street. These lines are currently located in narrow rights-of-way which are difficult to patrol and repair and expensive to maintain.

Total Unit Population: (8 miles of line in first program year)

Reliability Benefit: Reduce repair time by replacing small copper conductor that burns down and relocating lines out of narrow inaccessible ROW's.

Results: Two projects were identified, however only one of the projects was designed and completed during 2010 due to resource availability. One line in Loudon was relocated from an inaccessible ROW to along the street.

Capital Cost:

\$ PLAN	\$ ACTUAL	\$ VARIANCE
\$200,000	\$82,545	(\$117,455)

RELIABILITY IMPROVEMENTS ANNUAL (ONGOING):

Program Description: This project provides funding for a variety of activities, each of which costs less than \$50,000, relating to reliability of service. This includes, unfused lateral protection, recloser upgrades and installs, line construction to provide added phases or alternate feeds, switch and manual disconnect installations, and other specific capital work to improve circuit and area reliability. Average cost per typical Engineering Work Request (EWR) is about \$8900.

Total Unit Population: 112 EWRs in first program year

Maintenance Cycle: None.

Reliability Benefit: Reduce the number of customers affected by outages by fusing laterals and adding additional sectionalizing devices. Reduce permanent outages by installing reclosers. Perform other items as identified.

Results: Completed approximately 75 jobs on the system to improve reliability.

Capital Cost:

\$ PLAN	\$ ACTUAL	\$ VARIANCE
\$500,000	\$766,186	\$266,186

GIS CAPITAL PROJECT:

Program Description:

Define overall scope and desired end products and determine technology requirements, select vendors and define overall implementation plan to establish a GIS at PSNH. Initial deliverables would include establishing PSNH's overhead maps onto a land base, connecting the new GIS to existing internal databases including Customer Information and Vegetation management with outputs to automate engineering models and analysis tools. Next steps would include capturing underground systems, incorporating switching and distribution operating information (DSCADA), as well as right-of-way lines. Integration with other readily available GIS data from other entities would also be performed such as for wetlands and property ownership information that is available from federal state and municipal agencies. PSNH would also explore ways to share our information with others. Subsequent steps are to move the GIS to desktop/infield design of line extensions and system upgrades. An outage management system and work management opportunities would then become practical expansions of this system.

Reliability Benefit:

Provide a single location for data that can be easily accessed to analyze the distribution system, provide a base for future Outage Management System and provide mapping of the distribution system that is geographically correct.

Results:

An NU wide team was established to determine the best GIS platform for use by the Northeast Utilities operating companies. Significant effort and time has been dedicated to selecting high level design, compiling a request for proposal, and coordinating the overall installation within the NU organization. A consultant was hired to prepare the RFP for implementing the selected platform. Data analysis and user requirements have been finalized.

Capital Cost:

\$ PLAN	\$ ACTUAL	\$ VARIANCE
\$1,000,000	\$71,706	(\$928,294)

CAPITAL DUE TO BASE REP

REJECT POLE REPLACEMENT:

Program Description:

The preventive maintenance cycle for distribution poles to inspect, treat, reinforce or replace decayed or damaged poles to ensure reliable and safe use of this asset will generate approximately 2% of the poles inspected for replacement.

PSNH maintains 240,000 poles on its system. These are inspected every 10 years or 24,000 poles per year. Current reject rate is 2% requiring 480 poles to be replaced or reinforced. Poles are reviewed in the field for suitability to be reinforced otherwise they are replaced. Estimate >70% replaced.

Total Unit Population:

Dependent upon inspection results, estimate 4,800 poles to replace or reinforce.

Reliability Benefit:

Reliable performance and safety of poles in high winds, heavy wet snow, pole accidents or other events that cause undo stress in addition to normal service of this asset.

Results:

A total of 820 poles have been replaced.

Capital Cost:

\$ PLAN	\$ ACTUAL	\$ VARIANCE
\$888,100	\$1,210,277	\$322,177

POLE REINFORCEMENT:

Program Description:

The preventive maintenance cycle for distribution poles to inspect, treat, reinforce or replace decayed or damaged poles to ensure reliable and safe use of this asset will generate approximately 1.5% of the poles inspected for reinforcement.

PSNH maintains 240,000 poles on its system. These are inspected every 10 years or 24,000 poles. Current reject rate is 2% requiring 480 poles to be replaced or reinforced. Poles are reviewed in the field for suitability to be reinforced otherwise they are replaced. Estimate of <30% reinforced.

Total Unit Population:

Dependent upon inspection results.

Reliability Benefit:

Reliable performance and safety of poles in high winds, heavy wet snow, pole accidents or other events that cause undo stress in addition to normal service of this asset.

Results:

A total of 137 poles have been reinforced saving an estimated \$757,780 in replacement costs. The poles identified to be reinforced in 2010 were done in December with the costs charged in 2011.

Capital Cost:

\$ PLAN	\$ ACTUAL	\$ VARIANCE
\$76,150	\$0	(\$76,150)

NATIONAL ELECTRICAL SAFETY CODE (NESC) GENERATED CAPITAL WORK:

Program Description: Replace distribution plant units that are required to conform to the National Electrical Safety Code (NESC) and found during NESC inspections.

Correct NESC violations by installing plant units. Most often is the installation of poles and conductors to meet clearance problems to buildings, communications conductors, or over streets and roadways. Physical condition of pole plant is also reviewed and additional guying or replacement of guying is also performed. PSNH expects total capital Work Requests to reach 1,000 to 1,200, half of which will be completed under the original REP I. Work Request work load is estimated at 100 per year.

Total Unit Population: Dependent upon inspection results. (100 WRs in first program year)

Reliability Benefit: This work is required to conform to NESC requirements.

Results: Approximately 3,500 poles have been found to require capital work to meet NESC, of which approximately 450 have been completed. The most common requirement is to replace the pole to gain additional height to meet clearance to communications conductors or clearance to buildings or structures.

Capital Cost:

\$ PLAN	\$ ACTUAL	\$ VARIANCE
\$253,800	\$732,020	\$478,220

AIRBREAK SWITCH REPLACEMENT:

Program Description: Of the 725 airbreak switches on the system, 535 are on distribution lines. They are of various manufacturers, models, type, and vintage. This project accounts for the replacement of distribution line switches that are not suitable to be maintained, but remain in service. Replace with a new switch or recloser.

Total Unit Population: 535 (5 in first program year)

Maintenance Cycle: Airbreak Switches are maintained on a six year cycle with inspection every year.

Reliability Benefit: Parts cannot be obtained for obsolete switches. Obsolete switches may not have sufficient capacity to break the load current of the circuit. Replacement with a recloser reduces the maintenance required and reduces the number of permanent outages.

Results: Only one obsolete airbreak switch required replaced. Additional airbreak switches were replaced in conjunction with replacement of obsolete pole top SCADA equipment.

Capital Cost:

\$ PLAN	\$ ACTUAL	\$ VARIANCE
\$101,500	\$76,601	(\$24,899)

DIRECT BURIED CABLE REPLACEMENT:

Program Description:

Replace direct buried cable with cable in conduit.

2,000,000 feet of direct buried cable was installed at PSNH until 1985 with earliest vintages from 1970. Cable insulation is subject to age failure and bare concentric neutral conductors are subject to corrosion. Testing has indicated that in many locations the concentric neutral is no longer sufficient to provide a path to ground for the electric system. This project is to replace unjacketed direct buried cable in specific developments which have experienced a high failure rate or where cable has been rejected as a candidate for cable injection.

Total Unit Population:

2,000,000 feet (25,000 in first program year)

Reliability Benefit:

Direct buried cable was installed at PSNH until approximately 1985 with a significant amount installed in the 1970's. New cable and new construction standards will provide enhanced reliability for the long-term.

Results:

An estimated 40,000 feet of direct buried cable has been replaced with new cable in conduit.

Capital Cost:

\$ PLAN	\$ ACTUAL	\$ VARIANCE
\$634,350	\$924,075	\$289,725

DIRECT BURIED CABLE INJECTION:

Program Description:

2,000,000 feet of direct buried cable was installed at PSNH until 1985 with earliest vintages from 1970. The cable insulation is subject to age failure and the bare concentric neutral is subject to corrosion. This project is to inject unjacketed direct buried cable if it has shown by test that the concentric neutral has the majority of its integrity remaining.

Total Unit Population:

2,000,000 feet (6,000 feet in first program year)

Maintenance Cycle:

None.

Reliability Benefit:

The insulating capability of the cable is restored reducing the probability of a cable failure.

Results:

Extensive testing of concentric neutrals has been performed which indicates that a large portion of direct buried cable must be replaced instead of injected. Several suitable locations have been identified, jobs written to inject the cable and will be constructed in the Spring of 2011.

Capital Cost:

\$ PLAN	\$ ACTUAL	\$ VARIANCE
\$76,100	\$2,561	(\$73,539)

Section 6

2010 Other Activities

2010 ACTIVITIES ON TOP 50 RANKED BY COSAID (2008)

2008 Rank	2009 Co SAIDI Rank	Change in Rank Gain (Worse) from 2008	Circuit	AWC	SMT	Hazard Tree Removal	Mid Cycle	ETT	NESC Full Circuit Patrol	NESC Repair Activity	Inspect URD Systems and Replace Fault Indicators	Pole Inspect & Test	Pole Replace or Reinforce	ROW Patrol	Switch Maint	Recloser Maint	Recloser Additions	Test & Repair DB Cable	DB Replace	Porcelain Change Out	Other Corrective Actions	Corrective Actions Comments
1	8	7	78X1	KEENE		✓						✓				✓					✓	added fusing
2	18	16	355X	LANCASTER																		
3	4	1	3141X	DERRY	✓	✓		✓		✓						✓			✓		✓	fused laterals
4	122	118	348X	LANCASTER																		
5	32	27	39X1	KEENE												✓						
6	16	10	316	NEWPORT		✓										✓						
7	9	2	319X1	PITTSFIELD						✓		✓								✓	✓	fused laterals
8	459	451	392X	ROCHESTER	✓	✓														✓		
9	12	3	3133X	DERRY		✓		✓			✓									✓		
10	193	183	3614X3	MANCHESTER EAST																		
11	31	20	3410	NEWPORT		✓																
12	1	(11)	3157X1	ROCHESTER													✓					
13	282	269	313X1	MONADNOCK																		
14	15	1	11W1	LACONIA	✓	✓			✓							✓						
15	6	(9)	3128X	DERRY						✓											✓	fuse coordination
16	24	8	3137X	EPPING																		
17	172	155	3155	MILFORD																✓		
18	70	52	3148X2	ROCHESTER																		
19	205	186	13W1	NEWPORT	✓					✓												
20	97	77	75W2	NEWPORT																		
21	46	25	19W2	CHOCORUA										✓								
22	77	55	3217X	NASHUA						✓	✓	✓		✓								
23	466	443	3168X	NASHUA			✓					✓										
24	37	13	23X5	MILFORD							✓	✓	✓	✓					✓		✓	Fault indicators, fusing, CLF's
25	33	8	73W2	ROCHESTER								✓								✓		Added fusing
26	67	41	316X1	NEWPORT																		
27	57	30	3115X12	EPPING	✓				✓												✓	added fusing
28	3	(25)	3115X	DERRY																		
29	28	(1)	3114X	FRANKLIN						✓						✓						
30	14	(16)	348X1	LANCASTER						✓			✓			✓						
31	302	271	327X1	MANCHESTER WEST		✓		✓	✓											✓		
32	83	51	18W1	FRANKLIN																		
33	263	230	327X2	MANCHESTER WEST		✓			✓						✓							
34	25	(9)	73W1	NEWPORT																		
35	66	31	24X1	HILLSBORO												✓						
36	471	435	3177X1	NASHUA																		
37	262	225	3222X	LACONIA	✓		✓	✓												✓		
38	49	11	333XW	CHOCORUA							✓											
39	246	207	3W1	LACONIA	✓	✓	✓	✓	✓							✓					✓	Added CLF's
40	56	16	63W1	EPPING	✓	✓	✓		✓				✓									
41	303	262	318X2	MANCHESTER EAST																		
42	71	29	26W1	DERRY								✓	✓									
43	76	33	392X1	ROCHESTER	✓												✓				✓	added fusing
44	54	10	3103X1	EPPING	✓	✓	✓		✓													
45	40	(5)	19W1	NASHUA				✓		✓	✓	✓	✓	✓								
46	NR	N/A	360	MANCHESTER WEST																✓		
47	199	152	3152X	EPPING					✓											✓		
48	130	82	314X4	MILFORD		✓					✓											
49	NR	N/A	382	KEENE																		
50	52	2	3525X5	BERLIN																		
			43	# of Circuits Improving in Rank																		
			7	# of Circuits Worsening in Rank																		
			87	Avg. Improvement (change in position) in Rank for all 50 Circuits																		
			NR	NR indicates this circuit had no outages so it is Not Ranked																		

Section 7

2011 O&M and Capital

Summary Plan



**Public Service
of New Hampshire**
The Northeast Utilities System

2011 SUMMARY PLAN OF PSNH RELIABILITY PROGRAM

O&M

Docket No. DE 09-035



TRIMRC - VEGETATION MANAGEMENT (O&M)				
	Unit of Measure	\$ Budget	Unit Budget	Cost Per Unit
Reduce Scheduled Maintenance Trim Cycle	# Miles	\$1,168,731	312	\$3,746
Hazard Tree Removal	# Trees	\$1,103,283	3,384	\$326
Mid Cycle Trimming	# Miles	\$551,641	104	\$5,304
Inspect Contractor	# Miles	\$0	2,520	\$0
Reduce Distribution Rights-of-Way Cycle	# Acres	\$216,528	345	\$628
Storm Damage Premium	# Miles	\$500,000	133	\$3,759
Takedowns	# Trees	\$370,000	1,134	\$326
Cycle Impact	# Miles	\$370,130	99	\$3,739
Inspect/Reclaim ROWs	# Miles	\$500,000	5	\$100,000
ETT Maintenance Trimming	# Miles	\$200,000	50	\$4,000
S/S Perimeter Trimming	# Substations	\$100,000	20	\$5,000
Total TRIMRC		\$5,080,313		

NESCRC - National Electrical Safety Code (O&M)				
	Unit of Measure	\$ Budget	Unit Budget	Cost Per Unit
Full Circuit Patrol	# Miles	\$65,000	1,056	\$62
Inspect and Repair Underground Systems	# UG Maps	\$200,000	630	\$317
Inspect Manholes	# Manholes	\$0	32	\$0
Substation Grounding	# Substations	\$25,000	4	\$6,250
Pole Inspection and Treatment	# Poles	\$600,000	24,000	\$25
Overhead Repair Activity	# Miles	\$2,180,256	2,873	\$759
Foot Patrol ROW	# Miles	\$100,000	841	\$119
TOTAL NESCRC		\$3,170,256		

RELIOM - RELIABILITY (O&M)				
	Unit of Measure	\$ Budget	Unit Budget	Cost Per Unit
Substation Animal Protection	# Substations	\$100,000	20	\$5,000
Substation Corrective Backlog	# MX Orders	\$0	0	N/A
Overhead Switch Maintenance	# Switches	\$225,000	75	\$3,000
Recloser Maintenance Backlog	# Recloser Orders	\$500,000	182	\$2,747
Fault Indicators	# Fault Indicators	\$100,000	645	\$155
Test & Repair Direct Buried Unjacketed Cable	# Runs	\$200,000	188	\$1,064
Cascade Database Field Survey	Entry	\$175,000	N/A	N/A
RTE Elbow Replacement	# Elbows	\$250,000	1,000	\$250
GIS O&M	System	\$200,000	1	N/A
O&M Portion of Capital	N/A	\$407,250	N/A	N/A
TOTAL RELIOM		\$2,157,250		

Actual Booked Reserve (Carried Over from 2010)	(\$124,581)
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TOTAL O&M ONGOING FROM REP I	\$7,710,858
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NEW O&M FOR REP II	\$2,572,380
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TOTAL O&M	\$10,283,238
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**Public Service
of New Hampshire**
The Northeast Utilities System

2011 SUMMARY PLAN OF PSNH RELIABILITY PROGRAM

CAPITAL

Docket No. DE 09-035



CAPITAL - NEW REP

	Project #	\$ Budget
Distribution Line Porcelain Changeout (8 Yrs)	UB3CAD	\$2,030,000
34.5kV Substation Breaker Replacement (Ongoing)	A07X44	\$508,000
Enhanced Tree Trimming (Ongoing)	C10ETT	\$2,030,000
Pole Top DSCADA Replacement (9 Yrs)	A07DL41	\$507,000
Substation RTU Replacement (6 Yrs)	A07SS41	\$330,000
Enable SCADA to Windsor Backup (Last yr)	A07WI42	\$67,000
Distrib. Line Wire Upgrade/Eliminate Narrow ROW	A10X06	\$406,000
Reliability Improvements Annual (Ongoing)	DR9R	\$1,015,000
GIS Capital Project	A10X05	\$2,000,000
		\$8,893,000

CAPITAL - DUE TO BASE REP

	Project #	\$ Budget
Reject Pole Replacement	A07X45	\$1,776,000
Pole Reinforcement	A07X99	\$152,000
NESC Capital Work	A07X98	\$508,000
Airbreak Switch Replacement	A08X44	\$203,000
Direct Buried Cable Replacement	A04S34	\$1,269,000
Direct Buried Cable Injection	A10X04	\$152,000
		\$4,060,000

TOTAL REP CAPITAL

\$12,953,000