



**Public Service
of New Hampshire**

The Northeast Utilities System

PUBLIC SERVICE OF NEW HAMPSHIRE

**DISTRIBUTION
GEOGRAPHIC INFORMATION SYSTEM
JULY TO DECEMBER 2013 FINAL REPORT**

December 17, 2013

For Submission to the New Hampshire Public Utilities Commission.

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The GIS project continues to track to the schedule identified in Figure 1 and actual expenditures through November 2013 are consistent with the budgetary forecasts.

This document provides a semi-annual update for the period July to December 2013 in accordance with the settlement in NH PUC Docket No. DE 09-035. Given the project completion date of December 2013, PSNH does not anticipate filing any additional semi-annual updates for the GIS project.

2. Progress

After issuance of a Request for Proposal (RFP) seeking a highly-qualified vendor to provide GIS conversion and programming, PSNH selected Ramtech as the GIS project vendor for data conversion and GIS application development services. Ramtech, in conjunction with internal Northeast Utilities IT resources, will build the GIS platform to meet the functional requirements of the High Level Design submitted on July 1, 2011. Based on the work performed, the GIS will serve as the foundation for an Outage Management System (OMS), as well as an engineering and reliability analysis tool. Based on one of the recommendations contained in the Commission's October 2011 Snowstorm Report, PSNH has accelerated the project to finish by December 31, 2013; previously the project completion date was year-end 2014. . It is however important to note that despite a high degree of correlation between the converted data and the original paper maps, supporting an OMS may require further data cleanup to ensure accuracy to the true field conditions.

The following key milestones were achieved during the six-month reporting period:

1. Data Conversion – Circuit map conversion of the last four geographic areas was completed. The four areas were: Milford, Keene, Hillsborough, and Newport. This is 100% of the total data to convert. The average accuracy of the converted data with respect to the data sources is 99.84%
2. Employee Outreach – PSNH implemented organizational change management and communications plans, educating and informing employees of the new tools, data access, and processes.
3. Completed paperless map solution - Replaced paper map books in line trucks with tablets containing GIS representation of PSNH electric infrastructure. This will provide more current map updates to field resources.
4. GPS rollout – PSNH loaded GIS assets in Garmin GPS devices. These devices provide navigation to field equipment with the ease of a consumer electronics product. Garmins will be placed in field vehicles, including line trucks.
5. Business Process Improvement – Engineering and Field Personnel have been trained on the new processes and applications.
6. Reliability Application - PSNH completed development of an application to store trouble data in a centralized location and calculate indices and metrics. Additionally the application will thematically map isolating device locations and associated information for reporting historical outage information.
7. Integration - Completed development and implementation of interfaces to existing software applications, enabling process automation and reducing duplicate data entry. These systems include:

1. Summary

The settlement agreement approved by the Commission in PSNH's distribution rate case (Docket No. DE 09-035) required the implementation of a Geographic Information System (GIS) in order to support an Outage Management System (OMS):

6.3 Upon approval of the Settlement Agreement, PSNH will initiate and complete a High Level Design for the GIS project by July 1, 2011. The High Level Design will include project management details sufficient to establish milestones, base schedules, budget expenditures, and the vendor selection. PSNH commits to install and have operational those elements identified in accordance with the schedule established in the High Level Design by December 31, 2014. On a semi-annual calendar year basis commencing on July 1, 2011, PSNH will provide a progress report to the Settling Parties detailing project milestones and achievements for the prior 6-month project period. Additionally, the semi-annual reports shall include key project dates for the remainder of the project, comparison of capital and O&M expenditures to planned REP II budget amounts and a detailed definition of tasks for the upcoming 6-month and 12-month periods. The High Level Design will also incorporate design of a GIS-based Outage Management System (OMS), including an implementation schedule. Prior to the implementation of a GIS-based OMS, PSNH will continue to implement enhancements to its existing OMS that will provide improved outage restoration information to customers, state officials and the general public.

In support of this settlement, a multi-phase GIS project was established. Figure 1 represents the actual project deployment schedule showing the revised project completion date of December 31, 2013 which significantly differs from the previous date of December 31, 2014; as presented to the NHPUC in the High Level Design submitted in July, 2011.

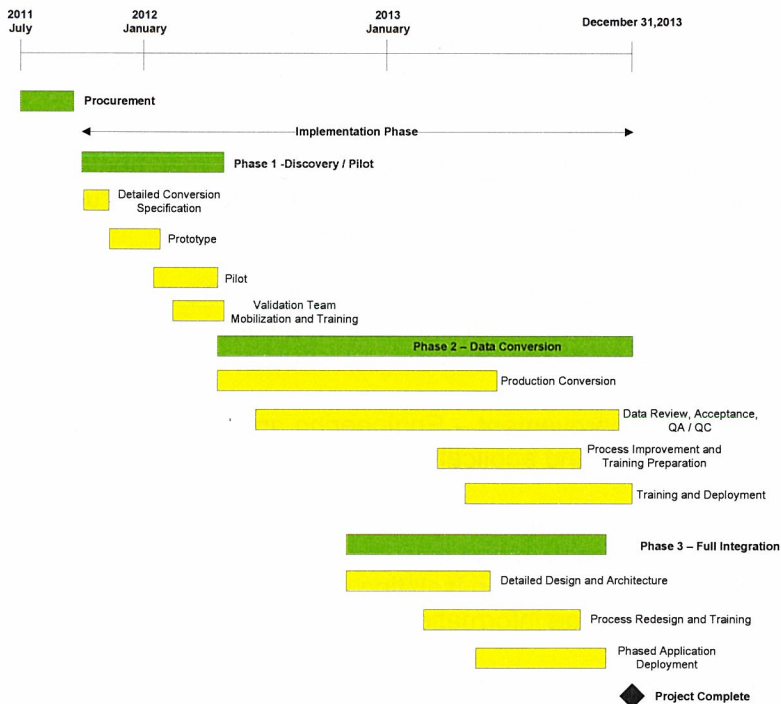


Figure 1 – PSNH GIS Project Schedule and Milestones

- a. Implemented the GIS export interface, allowing electrical asset information export from Smallworld into the graphical design tool.
- b. Routines for plotting of PSNH paper map products.
- c. Implemented tool allowing for maintenance of customer to transformer relationships.
- d. Process to update PSNH’s customer information system with PSNH converted map ID’s.

3. Performance to Budget

Table 1 provides the budget to actuals and the forecast for the remainder of the project as of November 30, 2103

Project to November 30, 2013

(In Millions)	Budget	Total Actuals All Years	Remaining Budget
Capital	\$10.00	\$8.50	\$1.50
O&M	\$1.00	\$0.19	\$0.81
TOTAL	\$11.00	\$8.69	\$2.31

Table 1: Budget to Actuals

Table 2 provides the total project estimate. The December 2013 forecast is included with table 1 figures.

(In Millions)	Budget	Total Actuals All Years	Estimate for December	Estimated Project Total	Remaining Budget
Capital	\$10.00	\$8.50	\$0.27	\$8.77	\$1.23
O&M	\$1.00	\$0.19	\$0.01	\$0.20	\$0.80
TOTAL	\$11.00	\$8.69	\$0.28	\$8.97	\$2.03

Table 2: Total Project Estimate

4. Conclusion

During this reporting period, PSNH completed the conversion of detailed circuit maps and system data for four additional geographic areas, bringing the total converted areas to sixteen out of sixteen. PSNH also developed business process improvements to ensure GIS data is maintained in a timely and accurate manner, and that PSNH is best organized to take advantage of the GIS and its associated work flow benefits. Field workers are being provided electrical asset information with: GIS on tablets, and in-truck GPS. Employee outreach was completed, incorporating GIS into employee workflows and processes. In summary, the project was completed on schedule based on the revised completion date of December 31, 2013, and has not exceeded the budget previously reported to the Commission.