



**Public Service  
of New Hampshire**

The Northeast Utilities System

**PUBLIC SERVICE OF NEW HAMPSHIRE**

**DISTRIBUTION  
GEOGRAPHIC INFORMATION SYSTEM  
JULY – DECEMBER 2012 PROGRESS REPORT**

**December 11, 2012**

*For Submission to the New Hampshire Public Utilities Commission.*

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## 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 updated deployment schedule. The revised project completion date of December 31, 2013 significantly differs from the previous date of December 31, 2014; as presented to the NHPUC in the High Level Design submitted in July, 2011.

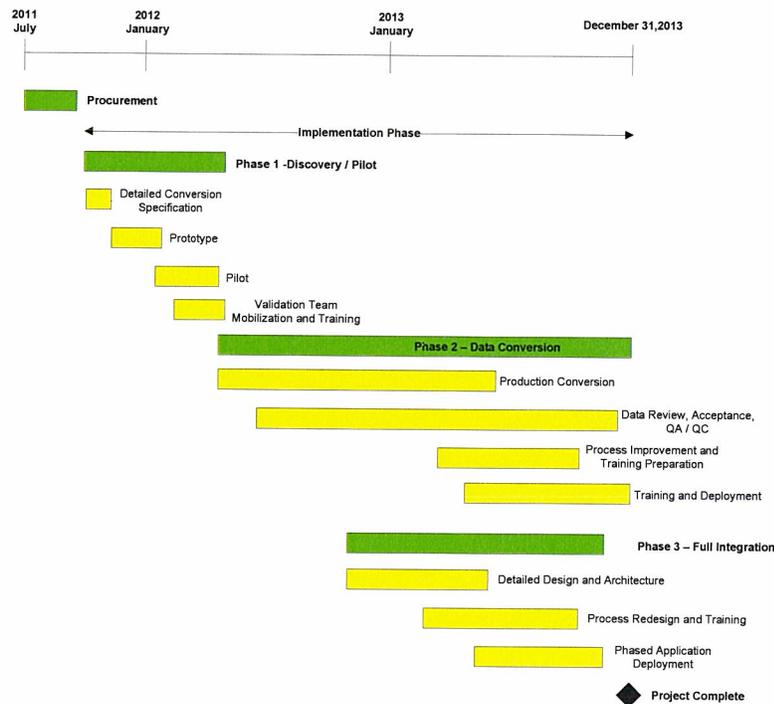


Figure 1 – PSNH GIS Project Schedule and Milestones

The GIS project continues to track to the schedule identified in Figure 1 and actual expenditures through November 2012 are consistent with the budgetary forecasts.

This document provides a semi-annual update for the period July to December 2012, in accordance with the settlement in NH PUC Docket No. DE 09-035. This update includes a six-month update on status and budget, and identifies tasks on the six- and twelve-month horizons.

## 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 to date, 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.

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

1. Key Interface Development – PSNH completed development and testing of an interface between the GIS and an electrical engineering analysis application. This allows PSNH to validate that data is useable in an OMS.
2. Business Process Improvement – Continuation of the business process improvement activities include PSNH management acceptance of the following processes: training and implementation of Design-Build, technical support, and ongoing quality control. An organizational change management communications plan was accepted by PSNH Management. Demonstration of the GIS has begun in areas using PSNH delivered data.
3. Data Conversion – The circuit maps and associated distribution system data for five additional geographic areas were converted and delivered. The five areas include Laconia, Chocorua, Lancaster, Berlin, and Portsmouth. A total of seven geographic areas have been completed since the project inception.
4. Acceptance of GIS Infrastructure – All hardware and software components have been installed, tested and successfully validated through the promotion of converted data through the architecture.
5. Refining User Interface – Workshops took place to compile feedback from end users on improving the device editing and network mark-up tools. Construction activities were implemented and a successful demonstration of the modifications given. Final modifications based on the demonstration are scheduled for a December 31, 2012 implementation.
6. Integration – PSNH started development and testing of interfaces to existing software applications to enable process automation and reduce duplicate data entry. These systems include:
  - a. A graphical design tool interface to the existing software application. This will enable process automation and reduce duplicate data entry. Workshops have taken place summarizing changes needed to design tool in order to support

PSNH business needs. The design tool is currently being modified based on feedback received.

- b. Custom tool developed allowing PSNH system mappers to easily maintain customer to transformer relationships. This tool has been tested and approved.
- c. Process being developed to update PSNH's customer information system with PSNH converted map ID's. This will aid in communication between PSNH dispatch and crews supporting field activities as well as power outage restoration.
- d. Workshops conducted to gather requirements for PSNH custom printing and plotting routines. These routines are in the process of being developed

### 3. Performance to Budget

Table 1 provides the budget to actuals and the forecast for the remainder of the project as of November 30, 2012. The cost against the project is heavily loaded to Phase 2, production data conversion (both to the vendor and internal acceptance and data cleanup activities).

<u>Project to November 30, 2012</u>			
<b>(In Millions)</b>	<b>Budget</b>	<b>Total Actuals All Years</b>	<b>Remaining Budget</b>
Capital	\$10	\$4.66	\$5.34
O&M	\$1	\$0.08	\$0.92
<b>TOTAL</b>	<b>\$11</b>	<b>\$4.74</b>	<b>\$6.26</b>

Table 1: Budget to Actuals

### 4. Upcoming Activities

Over the course of the next six months, PSNH will undertake the following activities:

1. Data Conversion – Circuit map conversion of five additional geographic areas will be completed. The five areas include: Epping, Rochester, Derry, Nashua, and Hooksett.
2. Employee Outreach – PSNH will implement the organizational change management and communications plan to educate and inform employees of the new tools, data access, and processes.
3. Business Process Improvement - Staff will be trained on the new processes and applications as converted data becomes available for their work centers
4. Reliability Application - PSNH will begin development of an application to thematically map trouble locations and associated information for reporting historical outage information.
5. Integration - Complete development and implementation of interfaces to existing software applications to enable process automation and reduce duplicate data entry. These systems include:
  - a. Implement tool allowing for maintenance of customer to transformer relationships.
  - b. Process to update PSNH's customer information system with PSNH converted map ID's.

During the second half of 2013, PSNH will undertake the following major activities:

1. Data Conversion – Conversion of the remaining four geographic areas will take place, which will include: Milford, Keene, Hillsborough, and Newport.
2. Business Process Improvement: All applicable staff will be trained on the new processes.
3. Integration – Continue development and implementation of interfaces to existing software applications to enable process automation and reduce duplicate data entry. These systems include:
  - a. Implement the graphical design tool Interface.
  - b. Routines for plotting of PSNH paper map products.

## **5. Conclusion**

During this reporting period, PSNH completed the conversion of detailed circuit maps and system data for five additional geographic areas, bringing the total converted areas to seven. 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. Employee outreach continued, incorporating GIS into employee workflows and processes. In summary, the project is on schedule based on the revised completion date of December 31, 2013 and has not exceeded the budget previously reported to the Commission.