

**PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE  
D/B/A EVERSOURCE ENERGY**

**GEOGRAPHIC INFORMATION SYSTEM &  
FIELD CONNECTIVITY SURVEY PROJECT  
AUGUST 2016 – SEPTEMBER 2016  
PROGRESS REPORT**

**September 30, 2016**

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

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## 1. Summary

In compliance with Order No. 25,913 issued by the New Hampshire Public Utilities Commission on June 28, 2016, beginning on August 1, 2016, and every three months thereafter, Public Service Company of New Hampshire d/b/a Eversource Energy (“Eversource”) will “resume regular reporting on the status of its Geographic Information System (GIS) Project – the last report on which was submitted on December 17, 2013.” See Order No. 25,913 at 4, and Exhibit 41 in Docket No. DE 09-035. The reports are to include descriptions of any additional work and charges to the original GIS Project, and incorporate the Company’s GIS Connectivity Project.

Eversource completed installation of a GIS in December 2013. In the December 17, 2013 final report to the Commission, Eversource stated, page 2, “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.” This paper-to-digital conversion included placement of 525,000 customers on over 13,000 miles of line. The primary data sources for this conversion were 5,000 manual maps of Eversource’s distribution system along the road, and 1,000 profile mile sheets for distribution facilities in rights of way.

During the initial conversion, determining which customer was connected to which transformer data sources required the use of generic formulas, through which customers fed from an overhead unit were deemed connected in the GIS to the nearest transformer. In most instances such designations corresponded to the actual characteristics in the field. However, for some customers it is incorrect. Recognizing that correct customer connectivity is vital for optimal power restoration performance, Eversource began its Field Connectivity Survey as an extension of the GIS, and as contemplated in its December 2013 report. The increased accuracy following the Field Connectivity Survey significantly improves communication with customers, community leaders, media, and regulators during storms. Moreover, it will improve identification of fault locations and priorities for outage response, resulting in shorter outage durations and will provide better data to support post storm analysis and reporting. The Field Connectivity Survey includes: establishing GPS locations for all overhead transformers; phase validation for customer and transformer; validation of customer to overhead transformer connectivity; and correct association within GIS.

The \$3.9 million capital investment project (internal and external costs) for the Field Connectivity Survey is funded through the Reliability Enhancement Program (“REP”). The \$3.9 million is composed of \$2.1 million in vendor costs and \$1.8 million in internal costs.

The internal \$1.8M costs include: Project Management, Field and GIS Quality Assurance / Quality Control, and Eversource IT Support. Figure 1 provides the overall project schedule.

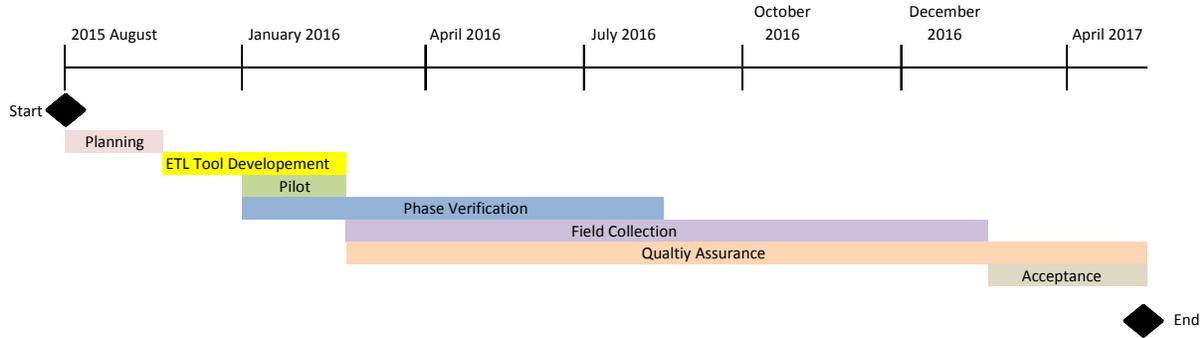


Figure 1 – Eversource Connectivity Project Schedule and Milestones

## 2. Progress

After issuance of a Request for Proposal (RFP) seeking a highly-qualified vendor to conduct a customer to transformer field connectivity survey, Eversource selected Utility Data Contractors (“UDC”) as the project vendor for connectivity and data extract, transfer, and load (“ETL”) development services. As part of the ETL process, UDC extracts Eversource GIS data and transfers it to their field devices, survey customer to transformer connectivity, and load corrected data back into Eversource’s GIS platform to meet the requirements of the August 7, 2015 Scope of Work (SOW). Eversource continues to anticipate on schedule completion by May 1, 2017.

The following key milestones were achieved from August 2016 through the end of September 2016:

1. Data Acceptance – Eversource accepted the surveyed data for the Hooksett AWC and Lancaster AWC.
2. Automated Data Cleanup – The second data delivery, Bedford AWC, had duplicate data for circuits crossing the first delivery boundary (Hooksett AWC). A process was developed preventing reoccurrence. Coding was implemented, eliminating the delivered duplicate data via automation. The Bedford AWC delivery is being quality checked again by Eversource to ensure data integrity. In order to keep on schedule, Lancaster AWC was accelerated for Quality Assurance / Quality Acceptance (QA / QC) and delivery acceptance.
3. Field Survey Completion – Survey of six additional production areas: Lancaster AWC, Nashua AWC, and Derry AWC, Berlin AWC, Milford AWC, and Chocorua AWC have been completed. Lancaster AWC was accepted by Eversource. The next five deliveries are undergoing QA /QC by both UDC and Eversource.
4. Field Survey Activities - Surveying of two additional AWCs has begun (Keene and Newport).

**3. Performance to Budget**

Table 1, below, provides the budget to actuals of the project as of September 26, 2016

| <u>Project to Date</u> |               |                |
|------------------------|---------------|----------------|
| <u>(In Millions)</u>   | <u>Budget</u> | <u>Actuals</u> |
| Capital                | \$3.9         | \$1.24         |
| O&M                    | \$0           | \$0            |
| <b>Total</b>           | <b>\$3.9</b>  | <b>\$1.24</b>  |

Table 1: Budget to Actuals

**4. Upcoming Activities**

Over the course of the next three months, Eversource will undertake the following activities:

1. Delivery Acceptance - Eversource will perform QA / QC on, and accept or reject each of the six deliveries (Nashua AWC, and Derry AWC, Bedford AWC, Berlin AWC, Milford AWC, and Chocorua AWC).
2. Field Survey Completion - Eversource, in conjunction with UDC, will complete field surveying Keene AWC and Newport AWC
3. Field Survey Initiation – Eversource, in conjunction with UDC, will initiate field surveys in remaining four AWCs (Tilton, Rochester, Portsmouth, and Epping).

During the first half of 2017, Eversource will undertake the following major activities:

1. Field Survey – Eversource, in conjunction with UDC, will initiate or complete field survey activities in all 14 delivery areas.
2. Data Acceptance – Eversource will perform QA / QC on delivered data and accept reject all remaining AWC’s

**5. Conclusion**

During this reporting period, Eversource: accepted two data deliveries, completed the surveying of six AWCs, and initiated the survey of two AWCs. In summary, the project tracks to the schedule and budget reported, with an anticipated project completion date prior to May 1, 2017.

|            | Phase Verification        |                      |            |
|------------|---------------------------|----------------------|------------|
| AWC        | Scheduled Completion date | Actual Delivery Date | % Complete |
| Hooksett   | 03/03/2016                | 02/19/2016           | 100        |
| Derry      | 04/01/2016                | 03/16/2016           | 100        |
| Bedford    | 04/01/2016                | 03/07/2016           | 100        |
| Lancaster  | 04/22/2016                | 04/05/2016           | 100        |
| Berlin     | 05/13/2016                | 04/29/2016           | 100        |
| Nashua     | 04/22/2016                | 03/30/2016           | 100        |
| Milford    | 04/29/2016                | 04/13/2016           | 100        |
| Chocorua   | 05/27/2016                | 05/13/2016           | 100        |
| Keene      | 05/13/2016                | 05/02/2016           | 100        |
| Newport    | 05/20/2016                | 05/05/2016           | 100        |
| Rochester  | 06/20/2016                | 06/05/2016           | 100        |
| Tilton     | 08/09/2016                | 07/25/2016           | 100        |
| Portsmouth | 08/19/2016                | 08/05/2016           | 100        |
| Epping     | 09/02/2016                | 08/15/2016           | 100        |

Legend    Delayed    Caution    On Target    Ahead



# Production Milestone Report

## Customer Connections as of 9/20/16

| Customer Connectivity Field Survey |            |                 |            |
|------------------------------------|------------|-----------------|------------|
| AWC                                | Start date | Completion date | % Complete |
| Hooksett                           | 03/04/2016 | 08/22/2016      | 100        |
| Derry                              | 04/27/2016 | 10/12/2016      | 92         |
| Bedford                            | 04/01/2016 | 09/19/2016      | 99         |
| Lancaster                          | 05/04/2016 | 09/30/2016      | 98         |
| Berlin                             | 06/07/2016 | 10/19/2016      | 77         |
| Nashua                             | 05/12/2016 | 11/04/2016      | 67         |
| Milford                            | 06/23/2016 | 11/16/2016      | 32         |
| Chocorua                           | 06/30/2016 | 12/01/2016      | 44         |
| Keene                              | 07/15/2016 | 12/21/2016      | 21         |
| Newport                            | 08/11/2016 | 12/23/2016      | 12         |
| Rochester                          | 08/25/2016 | 01/25/2017      | 7          |
| Tilton                             | 09/16/2016 | 02/24/2017      |            |
| Portsmouth                         | 10/14/2016 | 03/06/2017      |            |
| Epping                             | 10/25/2016 | 03/16/2017      |            |

|        |         |         |           |       |
|--------|---------|---------|-----------|-------|
| Legend | Delayed | Caution | On Target | Ahead |
|--------|---------|---------|-----------|-------|

