Technical Authorization Form

Date Prepared: 04/10/2017	Project Title: [redacted] DGI Sensors
Company: Eversource CT	Project ID Number: CD00928
Organization: Asset Strategy & Performance	Class of Plant: Distribution
Project Initiator: [redacted]	Project Category: Network Automation
Project Owner/Manager: [redacted]	Project Type: *Specific*
Project Sponsor: Electrical Maintenance	Project Purpose: part of regulatory tracked program? Yes
Estimated in service date: 12/01/2018	If Transmission Project: *PTF / Non-PTF / NA*
Authorization Type: *Eng,*	Authorization Amount: $4,600

Project Need Statement

We are in the second (and final) phase of installing the Digital Grid network remote monitoring system for Eversource CT. The first phase was installing a new Digital Grid network protector relay in our transformer vaults and a feeder sensor and receiver cabinet in our substations. In phase 2 we plan on installing Digital Grid sensors in the Digital Grid equipped network protectors. These sensors will enable us to defer network protector major maintenance from a 2 year cycle to a 4 year cycle. It is important to note that the opportunity to glean O+M savings from the Digital Grid network monitoring system was not available when many of these network monitoring projects first started. After the merger, all the operating companies transitioned to a unified maintenance manual. One of the new practices to benefit legacy CL&P is that the active monitoring of our network protectors gives us the ability to shift to a four year protector maintenance frequency. The deferred maintenance will significantly reduce the operating cost of Eversource CT with a projected annual savings of $18,328 for [redacted] The sensors are to be added at the same time as the Digital Grid network protector relays are installed under project CD00601.

Benefits of these sensors also include System Operators being notified to conditions such as network protectors pumping or cycling, loss of protector pressure and the presence of water thereby materially prolonging the useful life of the protector and transformer. We look forward to starting this venture and this project provides the necessary first step to installing those sensors and gaining those savings.

Project Objectives

This project intends to leverage the communication infrastructure of the network monitoring systems being installed in Eversource CT major networks by installing sensors in the network protectors that would notify operators of water ingress, loss of protector pressure and excessive pumping. The sensors would also make it possible to move from a 2 year protector major maintenance schedule to a 4 year frequency generating significant O+M savings for the Company.

Project Scope

[redacted]

Background / Justification

These sensor alarms will enable us to defer network protector major maintenance from a 2 year cycle to a 4 year cycle. This will significantly reduce the operating and maintenance costs of Eversource CT.

Business Process and / or Technical Improvements:

The deferral of network major maintenance from a 2 year cycle to a 4 year cycle in Digital Grid equipped protectors will be a significant savings for Eversource CT. The project estimate assumes these sensors will be installed during planned network major maintenance outages and that no switching will be planned to install these sensors.

Cost Estimate and Assumptions

The cost per unit of installing the 3 Digital Grid network protector sensors is estimated to be [redacted]

Project #'s	Substation (- *Network/s)*	District	Network Protectors	Total Protectors	Sensor Labor	Sensor Material	Total
CD00928	[redacted] - *Waterbury N188*	Cheshire	[redacted]	[redacted]	$28,080	$16,920	$46,449

Alternatives Considered with Cost Estimates

No alternatives considered.

Project Schedule

Describe the project schedule and milestones. Include estimated start and end dates.

Milestone/Phase Name	Estimated Completion Date
Project start date	01/02/2018
100% project completion	12/01/2018

Regulatory Approvals

None required.

Risks and Risk Mitigation Plans

[redacted]

References

Digital Grid Project Scope Cost EST 2-0414.

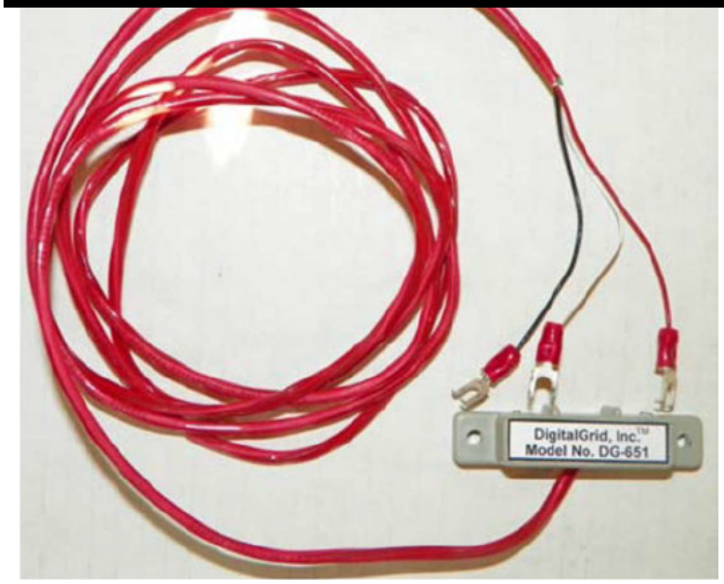
One-Line Diagrams, Attachments, and Images

[redacted]



[redacted]

[redacted]



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