EVERSOURCE

Supplement Authorization Form

Project Title: Norwalk MBI Pole Integrity	Project Number: CD00849
Date Prepared: 05/01/2026	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** POLE REPLACEMENT + RESTORATION
Initiating Organization: Distribution	**Project Type:** Choose an item
Project DDE: [redacted]	**Capital Investment part of 5-year plan?** Yes
Project Manager: [redacted]	**Emergency Related Request?** No
Project Sponsor: [redacted]	**Facility Type** (check all that apply)**:** ☐ PTF ☐ non-PTF ☒ Distribution ☐ N/A (General Plant)
Current Authorized Amount: $ 362.7K	**Approved In-Service Date:** 9/30/2017
Supplement Request: $ 24.2K	**Estimated In-Service Date: 9/30/2017**
Total Capital Request ($): 386.9K	**Authorization Type: Supplement Request**
	Reason: : Cost Overage

1. Project Background

During the 2016 circuit patrols, several system upgrades were identified to help the Company improve reliability. This project was developed to not only fix these priority issues found during the 2016 circuit patrols, but also take the opportunity to bring these locations up to Resiliency/Eversource standards. This program will be funded under the System Resiliency Pole integrity initiative and, in accordance with the System Resiliency PURA Docket 12-07-06RE01, these locations will be reviewed to ensure proper pole loading, pole top construction and, if needed, these locations will be upgraded to meet the Resiliency/Eversource standards.

A total of 1,222 pole locations were identified to be fixed as part of the MBI initiative. These locations included fixes such as: pole replacements, cross arm replacements, damaged cross arm braces, broken or damaged pole guying, broken or bent ridge pins, broken insulators and missing or cut down grounds. This project is one of twelve created, one for each area work center. This project will address 38 locations in the Norwalk area.

Each pole location identified will be assessed using the pole foreman structural loading tool and will be evaluated according to the system resiliency loading criteria (95mph winds or 40mph winds & ¾" ice). In addition to the existing Resiliency standards, any pole greater than 40-yrs old will be replaced, animal

protection and zap shields will be added to transformers, and fuses will be added to transformers on the backbone and on laterals.

2. Supplement Justification Overview

Supplemental funding is being requested for this project. The total capital request is $386.9K, which is (7%) $24.2K more than the current authorized amount of $362.7K. Additional cost spent was due to higher material costs and removals needed for this project.

3. Supplement Justification Detail

Additional $24.2k is mainly due to higher material cost and removals needed for this project. This project spanned multiple years and was extended beyond its original timeline.

4. Supplement Cost Summary (Project Total)

Line-item Category	To Date Spend Year(s)	Prior Authorized Year(s)	Variance (Supplemental Request) Year(s)	New Total Request (Add Prior Authorized and Variance) Year(s)
Internal Labor and Construction Equipment	13.3	0.4	10.3	10.7
Outside Services	258.3	233.4	-25.2	208.2
Materials	20.8	20.5	-3.7	16.8
Removals	0.0	0.0	57.2	57.2
Risk and Contingency	7.4	0.0	7.4	7.4
Other	2.9	0.0	2.3	2.3
SUBTOTAL DIRECTS W/ RISKS	**302.7**	**254.3**	**48.4**	**302.7**
Indirect / Overhead (including benefits)	73.5	106.9	-33.4	73.5
AFUDC	10.7	1.5	9.2	10.7
Subtotal – Indirect Costs	**84.2**	**108.4**	**-24.2**	**84.2**
TOTAL CAPITAL REQUEST	**386.9**	**362.7**	**24.2**	**386.9**
Reimbursables/Customer Contribution				
PROJECT TOTAL (LESS REIMBURSABLES)	**386.9**	**362.7**	**24.2**	**386.9**

New Total Request by Year (if applicable)

Note: If multi-year project, include actuals for current and years past, and then show forecasted spend for upcoming years.

Line item Category	Year 2017	Year 2018	Year 2019	Total
Internal Labor and Construction Equipment	16.0	-5.2	-0.1	10.7
Outside Services	311.1	-101.7	-1.2	208.2
Materials	25.1	-8.2	-0.1	16.8
Removals	83.0	-27.1	1.4	57.2
Risk and Contingency	0.0	0.0	7.4	7.4
Other	3.5	-1.1	0.0	2.3
SUBTOTAL DIRECTS W/ RISKS	**438.6**	**-143.4**	**7.4**	**302.7**
Indirect / Overhead (including benefits)	145.1	-71.6	0.0	73.5
AFUDC	3.2	6.5	1.0	10.7
Subtotal – Indirect Costs	**148.3**	**-65.1**	**1.0**	**84.2**
TOTAL CAPITAL REQUEST	**587.0**	**-208.5**	**8.5**	**386.9**
Reimbursables/Customer Contribution	0.0	0.0	0.0	**0.0**
PROJECT TOTAL (LESS REIMBURSABLES)	**587.0**	**-208.5**	**8.5**	**386.9**

5. Lessons Learned

N/A

Technical Authorization Form

Date Prepared: 11/18/2016	Project Title: Norwalk MBI Initiative – Pole Integrity

Company/ies: Eversource CT	Project ID Number: CD00849
Organization: Distribution Design	Class(es) of Plant: Distribution
Project Initiator: Kevin Separy	Project Category: Pole Replacement + Restoration
Project Owner/Manager: Howie Levin	Project Type: *Specific*
Project Sponsor: Sam Woolard	Project Purpose: System Resiliency PURA Docket 12-07-06RE01
Estimated in service date: 9/30/2017	If Transmission Project: *NA*
Authorization Type: *Engineering*	Authorization Amount: $11,886

Project Need Statement *(Description of Issue)*

During the 2016 circuit patrols, several system upgrades were identified to help the Company improve reliability. This project was developed to not only fix these priority issues found during the 2016 circuit patrols, but also take the opportunity to bring these locations up to Resiliency/Eversource standards. This program will be funded under the System Resiliency Pole integrity initiative and, in accordance with the System Resiliency PURA Docket 12-07-06RE01, these locations will be reviewed to ensure proper pole loading, pole top construction and, if needed, these locations will be upgraded to meet the Resiliency/Eversource standards.

A total of 1,222 pole locations were identified to be fixed as part of the MBI initiative. These locations included fixes such as: pole replacements, cross arm replacements, damaged cross arm braces, broken or damaged pole guying, broken or bent ridge pins, broken insulators and missing or cut down grounds. This project is one of twelve created, one for each area work center. This project will address 38 locations in the Norwalk area.

Project Objectives

In an effort to proactively prevent outages to the system and improve storm hardening, all backbones and large laterals were patrolled. The goal of the MBI initiative is to fix the priority patrol findings that were identified and upgrade these pole locations to the new System Resiliency Standards.

The MBI initiative projects will be engineering and constructed using contractor resources. A checklist was developed by distribution engineering as a guideline to be used during each pole assessment (checklist is attached to this document). The checklist includes structural and electrical guidance such as replacing poles older than 40yrs and installing fuses on transformers.

Project Scope

This project will address 38 locations in the Norwalk area.

Each pole location identified will be assessed using the pole foreman structural loading tool and will be evaluated according to the system resiliency loading criteria (95mph winds or 40mph winds & ¾" ice). In addition to the existing Resiliency standards, any pole greater than 40-yrs old will be replaced, animal protection and zap shields will be added to transformers, and fuses will be added to transformers on the backbone and on laterals.

Background / Justification

The MBI initiative projects were developed in an effort to proactively prevent outages to the system, ultimately allowing the system to better withstand day-to-day and extreme weather events.

Business Process and / or Technical Improvements:

This program will proactively target poles and pole-top attachments that have identified to be in need of fixing.
A checklist was developed by distribution engineering as a guideline to be used during each pole assessment. The checklist includes structural and electrical guidance such as replacing poles older than 40yrs. These guidelines will ensure that each pole being assessed will be fixed or replaced so that meets system resiliency guidelines.

Cost Estimate and Assumptions

Since further analysis is required at each location, the team used fully loaded historical frontier pole shifts cost and Eversource pole replacements cost to help determine a high-level cost for this work (these locations included average traffic control and switching). The following average cost for a pole replacement and pole top replacement was determined: approximately $5,000/location for pole replacements and approximately
$3,000/location to address all other issues (pole top construction and upgrades). Additionally, the team assumed 30 % of pole replacements and 70% other issues to determine the cost per project. These numbers are subject to change based further analysis during detail design.

The total cost of this project is $110,813
In AIMS, pole replacement and cross arm replacement unit costs were used with a 33% contingency in order to match the high-level cost estimates.

Design Alternative CD00849-01

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00 %
SubTotal:	$89,366
Contingency Amount:	$21,448
Estimate:	$110,813
Reimbursement:	$0
Net Amount:	**$110,813**

Description:

Item Description	CU	[redacted]	Amount
POLE OH - POLE - 3ph (CL&P custodian)	16-OH14		$51,436.00
POLETOP OH - Replace wood xarm with composite xarm - 3ph	16-OH17A		$37,929.60

Alternatives Considered with Cost Estimates

Do nothing: If the identified fixes and improvements are not performed as recommended, then system performance will suffer and customer satisfaction and Company MBI will be negatively impacted.

Project Schedule

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

Milestone/Phase Name	Estimated Completion Date
Detail Design	12-15-2016
ACT Approval	2-01-2017
Construction	6-1-2017
Close-Out	9-30-2017

Regulatory Approvals

Risks and Risk Mitigation Plans

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2017	20%	Included contingency costs in the funding request. Perform detailed Field Analysis and walk down in project development to avoid potential issues.
Customer Permission / Siting Council / Municipal approvals	2017	5%	Design to minimize customer impact. Project Preplanning and customer/community outreach
Storm delays	2017	2%	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2017	1%	Schedule work to minimize system abnormal time. Install temporary bypasses/equipment if system will be abnormal for extended periods
Wetlands / Environmentally sensitive area	201X	5%	Use of mats and specialty equipment, only work during certain times of the year

References

One-Line Diagrams, Attachments, and Images



MBI initiative - Pole Integrity 2017 -11-15