Operations Project Authorization Form

Date Prepared: 3/08/2021	**Project Title: Direct Buried Cable Replacement**
Company/ies: Eversource CT	**Project ID Number: 101395B – Year 2018**
Organization: Distribution Electric	**Class(es) of Plant: Distribution**
Project Initiator: [redacted]	**Project Category: DB Cable Replacement**
Project Manager: [redacted]	**Project Type: Specific**
Project Sponsor: [redacted]	**Project Purpose: Reliability**
Estimated in service date: 12/2018	**If Transmission Project: PTF? N/A**
Eng. /Constr. Resources Budgeted? Y	**Capital Investment Part of Original Operating Plan? Y**
Authorization Type: Final Funding	**O&M Expenses Part of the Original Operating Plan? N/A**
Total Request: $5,379K	

Financial Requirements:

Project Authorization

ERM: _____

FP&A: _____

Executive Summary

This request is for the approval of the direct buried cable replacement or rejuvenation project for the year 2018 and the work orders associated with it. This project is included in an initiative called Project Authorization Process Improvement started in 2020. This initiative was formed to address multiple items including clearing the backlog of APS-1 noncompliant projects. This project falls within that guideline.

This program funds the rejuvenation or replacement of direct buried (DB) distribution cables in underground residential (URD) and commercial developments that are reaching the end of their useful lives. It has been determined on an industry-wide basis that much of the original XLP and HMP-insulated primary cable installed in the DB system has not achieved its engineered life expectancy. Premature cable failures have degraded the reliability for the Eversource customers served by these cables.

This project was to capture and document the charges to address emergent failures of the direct buried/underground (DB/UG) system. The aim was to replace DB/UG cable that had experienced faults and was deemed unreliable. Workorders were created for each of the locations to capture labor and material for the replacement of the cable.

Project Costs Summary / Financial Evaluation

Work order	Work Order Description	Initiation Date	In service Date	Project	Project Description	Direct Cost
[redacted]		1/5/2018	9/28/2017	101395	DIRECT BURIED CABLE REPLACEMENT PRO	$ 216K
		1/16/2018	11/20/2017	101395	DIRECT BURIED CABLE REPLACEMENT PRO	$ 341K
		1/31/2018	9/21/2017	101395	DIRECT BURIED CABLE REPLACEMENT PRO	$ 191K
		2/8/2018	8/14/2017	101395	DIRECT BURIED CABLE REPLACEMENT PRO	$ 487K
		2/15/2018	5/17/2017	101395	DIRECT BURIED CABLE REPLACEMENT PRO	$ 332K
		4/18/2018	3/23/2017	101395	DIRECT BURIED CABLE REPLACEMENT PRO	$ 154K
		5/26/2018	8/9/2017	101395	DIRECT BURIED CABLE REPLACEMENT PRO	$ 180K
		4/29/2018	2/28/2018	101395	DIRECT BURIED CABLE REPLACEMENT PRO	$ 157K
		4/29/2018	2/8/2018	101395	DIRECT BURIED CABLE REPLACEMENT PRO	$ 206K
		5/5/2018	3/6/2018	101395	DIRECT BURIED CABLE REPLACEMENT PRO	$ 336K
		5/19/2018	2/23/2018	101395	DIRECT BURIED CABLE REPLACEMENT PRO	$ 263K
		6/6/2018	2/7/2018	101395	DIRECT BURIED CABLE REPLACEMENT PRO	$ 206K
		7/17/2018	6/1/2018	101395	DIRECT BURIED CABLE REPLACEMENT PRO	$ 215K
		9/8/2018	7/10/2018	101395	DIRECT BURIED CABLE REPLACEMENT PRO	$ 161K
		10/23/2018	6/27/2018	101395	DIRECT BURIED CABLE REPLACEMENT PRO	$ 629K
		11/21/2018	1/18/2018	101395	DIRECT BURIED CABLE REPLACEMENT PRO	$ 149K
		12/4/2018	9/6/2018	101395	DIRECT BURIED CABLE REPLACEMENT PRO	$ 387K
		12/23/2018	10/24/2018	101395	DIRECT BURIED CABLE REPLACEMENT PRO	$ 204K
		3/7/2018	3/24/2020	101395	DIRECT BURIED CABLE REPLACEMENT PRO	$ -
		3/10/2018	1/9/2018	DF3S	HMP/XLP DB CABLE REPL SIMSBURY	$ 155K
		5/12/2018	3/1/2018	DF2L	HMP/XLP DB CABLE REPL TORR CL&P	$ 232K
		2/22/2019	12/27/2018	DF2L	HMP/XLP DB CABLE REPL TORR CL&P	$ 176K
						$ 5,379K

Technical Justification:

Project Need Statement
Emergent failures in direct buried cable developments required cable replacement to address the reliability issues. The cable was replaced with new cable in conduit to mitigate the outages.

Project Objectives
To replace DB cable that is has a history of failure to improve reliability and customer experience.

Project Scope
Cable replacement includes failed single phase and three phase cable, replacing elbows, installing or replacing lightning arresters, and possibly a transformer, riser, or switch-vault and all other associated equipment/material.

Major Material
#1 Aluminum
4/0 Aluminum
Elbows
Arrestors
Terminators
Transformer
Switch-vault

Background / Justification

DB cables are selected for replacement based on their historical performance. Replacing the cable and placing the new cable in conduit addresses eliminates the failing cable and protects the new cable for greater reliability.

Business Process and / or Technical Improvements
Eliminate unreliable XLP/HMP DB cable and replace it with EPR in conduit.

Project Schedule

Milestone/Phase Name	Estimated Completion Date
Project Initiation	01/01/2018
Project In-Service Date	12/31/2018

Regulatory Approvals
None needed

Risks and Risk Mitigation Plans

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2018	Medium	Create a PAF if the Work Order cost exceeds $100k
Internal construction resources not available to perform the work.	2018	Low	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Internal engineering resources not available to perform the work.	2021	Low	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Storm delays	2021	Low	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2021	Low	Schedule work to minimize system abnormal time. Most of this work will require system to be abnormal for any extended period of time.

Attachments