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Operations Project Authorization Form

Project Title: [redacted] **PILC Cable Replacement**	**Project Number: CD02279**
Date Prepared: 06/21/2023	**Company:** Eversource CT
Organization: Electric Field Operations	**Class(es) of Plant:** D Line
Project Initiator: [redacted]	**Project Category:** UG CABLE & EQUIPMNT REPLACEMNT
Project Manager: [redacted]	**Project Type:** Specific
Project Sponsor: [redacted]	**Capital Investment part of original Operating Plan:** No
Estimated in service date: 6/30/2023	**Emergency Related Request?** Yes
Eng./Constr. Resources Budgeted? No	**Facility Type** (check all that apply)**:** ☐ PTF ☐ non-PTF ☒ Distribution
Total Gross Capital Request: $627k	**Authorization Type:** Full Funding

Executive Summary

Project CD02279 is being established to replace a large portion of paper-insulated lead covered (PILC) cable on the [redacted]. This project will address the faulted PILC cable as well as replacing the PILC cable directly upstream to MH2. This will ensure that all cable from the recent failures to the substation is newer vintage EPR cable.

This project consists of the following:

[redacted]

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Project Costs Summary

Note: Dollar values are in thousands

Capital Costs	2023	2024	2025+	Total
Internal Labor and Construction Equipment	$32.42	$0.00	$0.00	$32.42
Outside Services	$153.71	$0.00	$0.00	$153.71
Materials	$145.95	$0.00	$0.00	$145.95
Removals	$105.52	$0.00	$0.00	$105.52
Risk and Contingency	$2.76	$0.00	$0.00	$2.76
Other	$0.00	$0.00	$0.00	$0.00
Subtotal	$440.36	$0.00	$0.00	$440.36

Indirect Capital Costs	2023	2024	2025+	Total
Indirects/Overheads (including benefits)	$167.30	$0.00	$0.00	$167.30
Capitalized interest or AFUDC, if any	$19.40	$0.00	$0.00	$19.40
Subtotal	$186.71	$0.00	$0.00	$186.71
Total Capital Costs (Gross)	**$627.07**	**$0.00**	**$0.00**	**$627.07**
Less Total Customer Contribution	**$0.00**	**$0.00**	**$0.00**	**$0.00**
Project Costs (Net)	**$627.07**	**$0.00**	**$0.00**	**$627.07**

Technical Justification:

Project Need, Objective and Justification:

[redacted]

This project is part of the initiative to eliminate PILC underground cable due to demonstrated poor performance of this type of cable on our distribution system.

PILC cable was used extensively in the urban underground electrical systems that were built in the early/mid 1900s. This cable is now reaching the end of its useful life, and cable failures cause feeder lockouts which can impact customer reliability and satisfaction.

Eversource CT established a program in 2018 to proactively replace PILC cable. Targeted cable replacement

is prioritized based on outage history & reliability.

This project has been placed head of the prioritized projects due to recent failures and the need to replace failed PILC cable. This project will also replace cable upstream from the faulted area to ensure all cable from the faulted areas to the substation is newer EPR cable.

Project Scope:

[redacted]

Major Material:

1,825' - 750kcmil CU 3-1/C EPR 15kV cable item # 514041
100' - 1/0 CU 3-1/C EPR 15KV cable item# 514036
440' – 4/0 Bare CU Conductor item# 513367

Background:

[redacted]

Existing Load Sheet for 1st Zone. Load limits will remain unchanged for the first zone after this project is completed.

Circuit/Zone	S/S Bus	Zone Amps	Load Amps	Normal			Emergency			Comments
				Rating	% of	Limiting	Rating	% of	Limiting	
[redacted]										

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Alternatives Considered:

Were alternative solutions considered/applicable? Include any cost/benefit analysis.

Alternatives were not considered due to direct asset health conditions. Direct immediate replacements were required due to cable failures.

Regulatory Approvals:

Are Regulatory body approvals needed for the project?
No

Project Schedule

Milestone/Phase Name	Estimated Date
100% Engineering Completion	As- Bult Design
Construction Start	6-20-23
Testing/Commissioning	6-23-23
In Service Date	6-30-23

Risks and Risk Mitigation Plans

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2023	Medium	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	2023	Low	Design to minimize customer impact. Project Preplanning and customer/community outreach.
Internal construction resources not available to perform the work.	2023	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.	2023	Low	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2023	Low	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2023	Medium	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2023	Medium	Schedule work to minimize system abnormal time. Install temporary bypasses/equipment if system will be abnormal for extended periods.
Technological risks involving integration of new technology	2023	Low	Before use of new technology ensure support of standards and manufacturer. Schedule project to accommodate for extra time or ensure new technology is not on the critical path.
Wetlands / Environmentally sensitive area	2023	/Low	Use of mats and specialty equipment, only work during certain times of the year.

References

None

Appendices (One-Line Diagrams, Images, etc.)

[redacted] Emergent UG Cable Replacement.p

Project CD02279 - [redacted] Underground Pl