EVERSOURCE

Project Approval Form

Project Title: Replace two PMH-5 with PME-5	Project Number: CD02588
Date Prepared: 12/09/2024	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** Emergent Equipment Failures - Line
Project Initiator: [redacted]	**Project Type:** Specific
Initiating Organization: Distribution	**Capital Investment part of original Op Plan:** No
Project Manager: [redacted]	**Emergency Related Request?** Yes
Project Sponsor: [redacted]	**Facility Type** (check all that apply): ☐ PTF ☐ non-PTF ☒ Distribution ☐ N/A (General Plant)
Required in service date: 12/31/2025	
Total Capital Request: $302.6K	**Authorization Type:** Full Funding

1. Executive Summary

Full funding is being requested for this project at a cost of $302.6K which is 67% of the partial funding capital estimate of $454.7K. CD02588 was SDC approved on 11/22/2024. The $128K variance between the full funding and partial funding estimate resulted from the allocation of funds for civil work to replace manholes beneath the switchgear but during detailed design the civil work was deemed not necessary; therefore, these funds were not including on this full funding request.

The original project was presented as follows:

- [redacted]

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2025	Total
Internal Labor and Construction Equipment	20.0	20.0
Outside Services	0.0	0.0
Materials	149.2	149.2
Removals	0.0	0.0
Risk and Contingency	21.1	21.1
Other	0.0	0.0
Subtotal	**190.3**	**190.3**

Indirect Capital Costs	2025	Total
Indirects/Overheads (including benefits)	112.3	112.3
Capitalized interest or AFUDC, if any	0.0	0.0
Subtotal	**112.3**	**112.3**
Total Capital Costs (Gross)	**302.6**	**302.6**
Less Total Customer Contribution	**0.0**	**0.0**
Project Costs (Net of Reimbursement)	**302.6**	**302.6**

Explain unique payment provisions, if applicable:

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

[redacted]

b. Project Need

[redacted]

c. Project Scope

Major Material

- 2 PME-5 15kV automatic switchgear
- 1000’ 250 KCMIL Cu cable

4. Alternatives Considered

Option 1 involves replacing the existing [redacted]

Option 2 consists of [redacted]

	Option	
[redacted]		
Authorization Type	Full	Partial
Capital Cost	$302.6K	$454.2k
Expense Cost	$12.1K	$43K
Total Cost	$314.7K	$497.2k
Preferred Option	X	

5. Project Schedule

Add any additional milestones that are pertinent to the project

Milestone/Phase Name	Estimated Date
SDC Approval	Nov 2024
Fully Funded	Dec 2024
In Service Date	Dec 2025

6. Regulatory Decisions

N/a

7. Codes and Standards

Standards that will be followed:

- DTR 42.061- Tagging of primary cables.
- DTR 44.221- Installation of fault indicators
- DTR 51.102- Cable layout of conduit.
- DSEM 07.042- DB system Design Philosophy
- DSEM 07.364- UG/DB Design Three Phase Commercial

8. Risk and Contingencies

Risk Mitigation:

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2024	Low	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	2024	Low	Design to minimize customer impact. Project Preplanning and customer/community outreach.
Internal construction resources not available to perform the work.	2024	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.	2024	Low	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2024	High	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2024	Low	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2024	Low	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	2024	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	2024	Low	Use of mats and specialty equipment, only work during certain times of the year.

9. References

References

1 Network maintenance of 7A76 and 7A80 has been completed, no synergy at this time.

10. Attachments (One Line Diagrams, Images, etc.)

Attachment	Included in Submittal?
A. Partial Funding PAF	*YES*
B. Cost Estimate	*YES*
C. Geographic Map	*YES*
D. System and Station One-Lines	*YES*
E. Load Summary	*YES*

EVERSOURCE

Project Approval Form

Attachment A: Partial Funding PAF

Project Title: Replace two PMH-5 with PME-5 Automatic	**Project Number: CD02588**
Date Prepared: 10/24/2024	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** Emergent Equipment Failures - Line
Project Initiator: [redacted]	**Project Type:** Specific
Initiating Organization: Distribution	**Capital Investment part of original Op Plan:** No
Project Manager: [redacted]	**Emergency Related Request?** Yes
Project Sponsor: [redacted]	**Facility Type** (check all that apply)**:** ☐ PTF ☐ non-PTF ☒ Distribution ☐ N/A (General Plant)
Required in service date: 12/30/2024	Feeders: 7A76 & 7A80
Total Capital Request: $ 454.7k	**Authorization Type:** Partial Funding

1. Executive Summary

This project is being established on the emergent basis to replace [redacted]

[redacted]

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2024	2025	2026	Total
Internal Labor and Construction Equipment	57.8	0.0	0.0	57.8
Outside Services	128.4	0.0	0.0	128.4
Materials	67.1	0.0	0.0	67.1
Removals	62.5	0.0	0.0	62.5
Other	1.3	0.0	0.0	1.3
Risk and Contingency	0.0	0.0	0.0	0.0
Subtotal	**317.2**	**0.0**	**0.0**	**317.2**

Indirect Capital Costs	2024	2025	2026	Total
Indirects/Overheads (including benefits)	131.9	0.0	0.0	131.9
Capitalized interest or AFUDC, if any	5.7	0.0	0.0	5.7
Subtotal	**137.5**	**0.0**	**0.0**	**137.5**
Total Capital Costs (Gross)	**454.7**	**0.0**	**0.0**	**454.7**
Less Total Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**
Project Costs (Net)	**454.7**	**0.0**	**0.0**	**454.7**

Explain unique payment provisions, if applicable:

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

[redacted]

b. Project Need

This project aims to improve reliability by using [redacted]

c. Project Scope

Major Material

- 2 PME-5 15kV automatic switchgear
- 1000’ 250 kcmil Cu cable

4. Alternatives Considered

Option 1 involves [redacted]

Option 2 consists of [redacted]

	Option [redacted]	
Authorization Type	Full	Full
Capital Cost	$454.2.7K	$454.2k
Expense Cost	$43K	$43K
Total Cost	$497.2k	$497.2k
Preferred Option	X	

5. Project Schedule

Milestone/Phase Name	Estimated Date
Partial Approval	10/31/2024
100% Detailed Engineering Completion	11/15/2024
Fully Funded	11/07/2024
Construction Start	10/30/2024
In Service Date	12/27/2024

6. Regulatory Decisions

7. Codes and Standards

Standards that will be followed:

- DTR 42.061- Tagging of primary cables.
- DTR 44.221- Installation of fault indicators
- DTR 51.102- Cable layout of conduit.
- DSEM 07.042- DB system Design Philosophy
- DSEM 07.364- UG/DB Design Three Phase Commercial

8. Risk and Contingencies

Contingencies:

Risk Mitigation:

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2024	Low	Included contingency costs in the funding request. Perform detailed Field Analysis and walk down in project development to avoid potential issues.
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Wetlands / Environmentally sensitive area	2024	Low	Use of mats and specialty equipment, only work during certain times of the year.

9. References

References
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2.
3.
4.
5.

Attachment B: Cost Estimate

Design Alternative CD02588-01

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	20.00%
SubTotal:	$414,333
Contingency Amount:	$82,867
Estimate:	$497,200
Reimbursement:	$0
Net Amount:	**$497,200**

Description:

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Complex	23-ALL16	$18,262.40
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	23-ALL18	$60,000.00
UG CABLE DB/UG - 4/0 - 3-1/C (3ph) Cu	23-UG113B	$62,400.00
UG CABLE UG - Cable Removal - all cables	23-UG117	$26,000.00
UG CABLE UG - Transition Splice	23-UG120	$20,567.04
SWITCHGEAR DB/UG - Switchgear up to 25kV - Auto Type 5 (pair)	23-UG125	$182,104.00
OTHER OTHER 120 volt source for battery backup	23-ALL14	$40,000.00
OTHER OTHER Manhole cleaning	23-ALL14	$5,000.00

Project Option Summary

ID	Description	Segments	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)	Prfrd
O1	Replace PMH-5 with PME-5	1	$497,200	$0	100%	$0.00	$0.00	☑

Segments

ID	Title	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)
1	Replace PMH-5's with PME-5's	$497,200			$0.00	$0.00

Attachment C: Geographic Map



Attachment C: System and Station One-Lines





Attachment E: Load Summary

