EVERSOURCE

Project Approval Form

Project Title: Blue Hills Ave [redacted]	Project Number: CD02392
Date Prepared: 05/13/2024	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** UG CABLE & EQUIPMNT REPLACEMNT
Project Initiator: [redacted]	**Project Type:** Specific
Initiating Organization: Distribution	**Capital Investment part of original Op 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)
Required in service date: 12/31/24	
Total Capital Request: $642.5K	**Authorization Type:** Full Funding

1. Executive Summary

Full funding is being requested for this project at a cost of $642.5K which is 128% of the partial funding estimate of $501K. There is not scope change in the project. The variance between the full funding and partial funding estimate is due to using more 500 CU cable than originally estimated due to the need for the jumper cable between the two switchgears and the incoming cable from the manholes, and the full funding estimate including the cost for replacing the concrete pad which is required for the ingoing PME switchgear since it is larger than the outgoing PMH switchgear. The project is 100% complete in the field.

[redacted]

This creates a negative impact on Eversource reliability and customer satisfaction.

- Project Location
  - Division: Central
  - District: Hartford AWC
  - City/Town: Hartford

2. Project Cost Summary

Financial Evaluation ($000's)

Capital Costs	2024	2025	Year 3+	Total
Internal Labor and Construction Equipment	82.3	0.0	0.0	82.3
Outside Services	26.9	0.0	0.0	26.9
Materials	282.8	0.0	0.0	282.8
Removals	33.4	0.0	0.0	33.4
Risk and Contingency	12.6	0.0	0.0	12.6
Other	1.4	0.0	0.0	1.4
Subtotal	**439.3**	**0.0**	**0.0**	**439.4**

Indirect Capital Costs	2024	2025	Year 3+	Total
Indirects/Overheads (including benefits)	200.7	0.0	0.0	200.7
Capitalized interest or AFUDC, if any	2.5	0.0	0.0	2.5
Subtotal	**203.2**	**0.0**	**0.0**	**203.2**
Total Capital Costs (Gross)	**642.5**	**0.0**	**0.0**	**642.6**
Less Total Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**
Project Costs (Net of Reimbursement)	**642.5**	**0.0**	**0.0**	**642.5**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

[redacted]

- [redacted]
- [redacted]
- [redacted]
- [redacted]

b. Project Need

[redacted]

c. Project Scope

The scope of this project is as follows:

[redacted]

Major Material:

- Two S&C PME-9 Switchgear stock code 603870.
- 700 ft. of 25KV, 500 kcmil CU EPR cable
- 300 ft. of 25KV, 4/0 CU EPR cable

4. Alternatives Considered

[redacted]

Project Option Comparison

	Option	
[redacted]		
Estimate Type:	Full Funding	Partial
Capital Cost	$642.5K	
Expense Cost	$20.1K	
Total Cost	$662.6K	$45K
Preferred option	X	

5. Project Schedule

Add any additional milestones that are pertinent to the project

Milestone/Phase Name	Estimated Date
Partial Approval	February 2024
100% Detailed Engineering Completion	April 2024
Construction Start	November 2024
In Service Date	December 2024

6. Regulatory Decisions

No

7. Codes and Standards

N/A

8. Risk and Contingencies

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2024	Medium	Included contingency costs in the funding request. Perform detailed Field Analysis and walk down in project development to avoid potential issues.
Internal construction resources not available to perform the work.	2024	Medium	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	High	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	High	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2024	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	2024	Medium	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.

9.

References
1. N/A

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

Attachment	Included in Submittal?
A. Cost Estimate	*YES*
B. Partial PAF	*YES*

A.

Design Alternative CD02392-01

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	20.00%
SubTotal:	$430,562
Contingency Amount:	$86,112
Estimate:	$516,675
Reimbursement:	$0
Net Amount:	**$516,675**
Description:	

Item Description	CU	[redacted]	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	23-ALL17		$4,562.48
UG CABLE DB/UG - 4/0 - 3-1/C (3ph) Cu	23-UG113B		$18,720.00
UG CABLE DB/UG - 350/500 - 3-1/C (3ph) Cu	23-UG114		$63,336.00
UG CABLE UG - Cable Removal - all cables	23-UG117		$26,000.00
UG CABLE UG - Transition Splice	23-UG120		$6,855.68
SWITCHGEAR DB/UG-Switchgear up to 25kV-Auto Type 9/12 (pair)	23-UG126		$257,088.00
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	23-ALL18		$10,000.00
ACT ACT Estimate for Contractor Crews 30% Contractor adder	23-ALL12		$34,000.00
OTHER OTHER New concrete pad top, and modification of existing concrete manhole top	23-ALL14		$5,000.00

B.

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Organization: Distribution Engineering	**Project Category:** UG CABLE & EQUIPMNT REPLACEMNT
Project Initiator: [redacted]	**Project Type:** Specific
Initiating Organization: Distribution	**Capital Investment part of original Op 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)
Required in service date: 12/31/24	
Total Capital Request: $501K	**Authorization Type:** Partial Funding

11. Executive Summary

[redacted]

- [redacted]
- [redacted]
- [redacted]

- Project Location
  - Division: Central
  - District: Hartford AWC
  - City/Town: Hartford

12. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2024	Total
Internal Labor and Construction Equipment	25.9	25.9
Outside Services	122.8	122.8
Materials	116.6	116.6
Removals	84.3	84.3
Other	2.2	2.2
Risk and Contingency	0.0	0.0
Subtotal	**351.8**	**351.8**

Indirect Capital Costs	**2024**	**Total**
Indirects/Overheads (including benefits)	133.7	133.7
Capitalized interest or AFUDC, if any	15.5	15.5
Subtotal	**149.2**	**149.2**

Total Capital Costs (Gross)	**501.0**	**501.0**

Less Total Customer Contribution	**0**	**0**

Project Costs (Net)	**501.0**	**501.0**

13. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

[redacted]

b. Project Need

The 2N08 and 2N10 were modeled in Synergi with the design for this project. Those models showed no power quality issues with replacement of the switchgear.

c. Project Scope

The scope of this project is as follows:



- Two S&C PME-9 Switchgear stock code 603870.
- 700 ft. of 25KV, 500 kcmil CU EPR cable
- 300 ft. of 25KV, 4/0 CU EPR cable

14. Alternatives Considered

[redacted]

Project Option Comparison

	Option	
[redacted]		
Estimate Type:	Partial	Partial
Capital Cost	$501K	
Expense Cost	$15.7K	
Total Cost	$516.7K	$45K
Preferred option	X	

15. Project Schedule

Milestone/Phase Name	Estimated Date
Partial Approval	February 2024
100% Detailed Engineering Completion	April 2024
Construction Start	November 2024
In Service Date	December 2024

16. Regulatory Decisions

No

17. Codes and Standards

N/A

18. Risk and Contingencies

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2024	Medium	Included contingency costs in the funding request. Perform detailed Field Analysis and walk down in project development to avoid potential issues.
Internal construction resources not available to perform the work.	2024	Medium	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	High	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	High	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2024	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	2024	Medium	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.

19. References

References
1. N/A

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

Attachment	Included in Submittal?
A. Cost Estimate	*YES*
B. Switchgear schematics	

Attachment A: Partial Cost Estimate:

Option 1: Replace Switchgear

Design Alternative CD02392-01

Estimate

Preliminary Estimate Summary	
Revision Number:	0
Contingency:	20.00%
SubTotal:	$430,562
Contingency Amount:	$86,112
Estimate:	$516,675
Reimbursement:	$0
Net Amount:	**$516,675**
Description:	

Item Description	CU	[redacted]	Amount
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UG CABLE UG - Transition Splice	23-UG120		$6,855.68
SWITCHGEAR DB/UG-Switchgear up to 25kV-Auto Type 9/12 (pair)	23-UG126		$257,088.00
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	23-ALL18		$10,000.00
ACT ACT Estimate for Contractor Crews 30% Contractor adder	23-ALL12		$34,000.00
OTHER OTHER New concrete pad top, and modification of existing concrete manhole top	23-ALL14		$5,000.00

Option 2: Fix Switchgear

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	0.00%
SubTotal:	$45,000
Contingency Amount:	$0
Estimate:	$45,000
Reimbursement:	$0
Net Amount:	**$45,000**
Description:	

Item Description	CU	[redacted]	Amount
OTHER	23-ALL14		$45,000.00
OTHER Cost repair switchgear (estimate from subsation)			

Attachment B: Switchgear schematics

[redacted]