EVERSOURCE

Project Approval Form

Project Title: [redacted]eplace Failed Switchgear	Project Number: CD02017
Date Prepared: 10/17/2023	**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:** 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: 12/31/2024	
Total Capital Request: $740.2K	**Authorization Type:** Full Funding

1. Executive Summary

On May 5, 2022, a snake got across the [redacted]

In 2024 will be replacing the PMH9 [redacted]

Full Funding/Partial 190%

Full Funding estimate: $740.2K

Partial estimate: $390.1K

The difference between the Full Funding and Partial estimates is $350K. The original Partial Funding estimate used the 2016 estimating units. If 2023 estimating units were used, the Partial Funding estimate would have been $507K leaving $233K. The majority of the difference is due to labor charges, $210K, to remove the PMH9 pair and install PME pair in 2024.

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2022	2023	2024	Total
Internal Labor and Construction Equipment	58.7	0.0	53.9	112.6
Outside Services	18.0	0.0	19.2	37.2
Materials	157.4	46.8	0.0	204.2
Removals	52.3	10.8	19.5	82.6
Risk and Contingency	0.0	1.5	14.6	16.2
Other	0.9	0.0	0.0	0.9
Subtotal	**287.3**	**59.1**	**107.3**	**453.6**

Indirect Capital Costs	2022	2023	2024	Total
Indirects/Overheads (including benefits)	151.5	7.8	102.5	261.8
Capitalized interest or AFUDC, if any	13.8	10.9	0.0	24.7
Subtotal	**165.3**	**18.7**	**102.5**	**286.5**

Total Capital Costs (Gross)	**452.6**	**77.8**	**209.8**	**740.2**
Less Total Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**
Total O&M Project Costs*	**7.4**	**1.5**	**2.8**	**11.6**
Project Costs (Net of Reimbursement)	**452.6**	**77.8**	**209.8**	**740.2**

*Informational Purpose only

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

A snake crawled up into the [redacted]

b. Project Need

[redacted]

c. Project Scope

This project will complete the following work.

[redacted]

Major Material:

- Two S&C PME-9 Switchgear stock code 603870.
- Two pad tops stock code 604545.
- Two pad bottoms stock code 604531.
- 208 feet of 350 kcmil Cu EPR stock code 514045.
- 135 feet of 4/0 Al EPR stock code 514057.

4. Alternatives Considered

Project Option Comparison

	Option		
[redacted]			
Authorization Type	Full		
Capital Cost	$740.2K	$	
Expense Cost	$11.6K	$	
Total Cost	$751.8K	$	
Preferred option	X		

No Options. The switchgear failed and has to be replaced.

5. Project Schedule

Add any additional milestones that are pertinent to the project.

Milestone/Phase Name	Estimated Date
Partial Approval	5/12/2022
100% Detailed Engineering Completion	7/1/2022
Fully Funded	10/18/2023
Construction Start	11/1/2023
In Service Date	12/31/2024

6. Regulatory Decisions

7. Codes and Standards

8. Risk and Contingencies

Contingencies:

Risk Mitigation:

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost is higher than estimated due to scope changes.	2023/2024	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	2023/2024	Medium	Design to minimize customer impact. Project Preplanning and customer/community outreach.
Internal construction resources not available to perform the work.	2023/2024	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.	2023/2024	Medium	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2023/2024	Low	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2023/2024	Medium	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2023/2024	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	2023/2024	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.

Wetlands / Environmentally sensitive area	2023/2024	Low	Use of mats and specialty equipment, only work during certain times of the year.

9. References

References
1.
2.
3.
4.
5.

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

Attachment	Included in Submittal?
A. Cost Estimate	*YES*
B. P6 Schedule	*NO*
C. Geographic Map	*YES*
D. System and Station One-Lines	*YES*
E. Concrete Structure Layout	*YES*
F.	

A. Cost Estimate

Design Alternative CD02017-01

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$314,560
Contingency Amount:	$75,494
Estimate:	$390,054
Reimbursement:	$0
Net Amount:	**$390,054**
Description:	

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$3,509.60
DB CABLE DB/UG - 4/0 - 3-1/C (3ph) Al	16-UG113	$4,536.00
UG CABLE DB/UG - 350/500 - 3-1/C (3ph) Cu	16-UG114	$14,476.80
UG CABLE UG - Cable Removal - all cables	16-UG117	$6,860.00
SWITCHGEAR DB/UG-Switchgear up to 25kV-Auto Type 9/12 (pair)	16-UG126	$197,760.00
ENCLOSURE DB/UG - Transformer Pad/Handhole	16-UG143	$12,417.60
ACT ACT Estimate for Contractor Crews Remove Concrete Pads	16-ALL12	$70,000.00
ACT ACT Estimate for Division Crews Remove Switchgear	16-ALL13	$5,000.00

[redacted]

[redacted]

[redacted]

Operations Project Authorization Form

Project Title: [redacted] **Failed Switchgear Replacement**	**Project Number: CD02017**
Date Prepared: 05/27/2022	**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: 5/27/2022	**Emergency Related Request?** Yes
Eng./Constr. Resources Budgeted? No	**Facility Type** (check all that apply)**:** ☐ PTF ☐ non-PTF ☒ Distribution
Total Gross Capital Request: $386K	**Authorization Type:** Initial Funding

Executive Summary

On May 5, 2022, a snake caused an [redacted]

Project Costs Summary

Note: Dollar values are in thousands

Capital Costs	Year 2022	Year 20__	Year 20__+	Total
Direct Capital Costs				
Internal Labor and Construction Equipment	$29	$0	$0	$29
Outside Services	$88	$0	$0	$88
Materials	$92	$0	$0	$92
Removals	$25	$0	$0	$25
Risk and Contingency	$3	$0	$0	$3
Other	$0	$0	$0	$0
Subtotal – Direct Costs	**$236**	**$0**	**$0**	**$236**
Indirect Capital Costs				
Indirect/Overheads (including benefits)	$142	$0	$0	$142
Capitalized interest or AFUDC, if any	$8	$0	$0	$8
Subtotal – Indirect Costs	**$150**	**$0**	**$0**	**$150**
Total Gross Capital Costs	**$386**	**$0**	**$0**	**$386**
Customer Contribution				
Total Net Capital Project Costs	**$386**	**$0**	**$0**	**$386**

Technical Justification:

Project Need, Objective, and Justification:

[redacted]

Project Scope:

This project will complete the following work.

[redacted]

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- 135 feet of 4/0 Al EPR stock code 514057.

Background:

[redacted]

Alternatives Considered:

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

[redacted]

Project Option Comparison

	Option		
[redacted]			
Preferred option	X		

Regulatory Approvals:

Are Regulatory body approvals needed for the project?

No

If yes, provide detailed regulatory approvals.

Project Schedule

Milestone/Phase Name	Estimated Date
100% Engineering Completion	5/13/2022
Construction Start	5/16/2022
Testing/Commissioning	5/16/2022
In Service Date	5/27/2022

Risks and Risk Mitigation Plans

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
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References

None.