EVERSOURCE

Project Approval Form

Project Title: [redacted]	**Project Number: CD01838**
Date Prepared: 09/14/2023	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** SMART SWITCHES PROGRAM
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: 12/31/23	
Total Capital Request: $297.4K	**Authorization Type:** Full Funding

1. Executive Summary

Project CD01838 was established to address a [redacted]

- [redacted]
- Project Location
  - Division: Central
  - District: Tolland AWC
  - City/Town: Ashford, CT

This project was completed in April 2023. The partial estimate for this project is $173K and was approved September 2021. The full funding estimate is $297.4K. The difference in cost equates to $124.4K, an increase of 72%. The difference in cost is due to increased material ($50K) and labor ($80k) cost and using legacy estimating units. If the project was estimated using the latest estimating units, the revised partial estimate would be $244.5K which is $53K less than the full funding request.

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	Year 2022	Year 2023	Total
Direct Capital Costs			
Internal Labor and Construction Equipment	0.2	3.3	3.5
Outside Services	0.0	96.9	96.9
Materials	8.6	91.2	99.8
Removals	0.9	19.5	20.4
Risk and Contingency	0.2	5.6	5.8
Other	0.0	0.0	0.0
Subtotal – Direct Costs	**9.9**	**216.5**	**226.4**
Indirect Capital Costs			
Indirect/Overheads (including benefits)	1.3	68.2	69.4
Capitalized interest or AFUDC, if any	0.024	1.5	1.6
Subtotal – Indirect Costs	**1.3**	**69.7**	**71.0**
Total Gross Capital Costs	**11.2**	**286.2**	**297.4**
Customer Contribution	**0.0**	**0.0**	**0.0**
Total Net Capital Project Costs	**11.2**	**286.2**	**297.4**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

[redacted]

The project was created as part of an initiative to improve circuit reliability by adding automatic sectionalizing devices on overhead distribution circuits.

b. Project Need

[redacted]

These changes increased reliability and reduced the number of customers that experience an outage in this area.

c. Project Scope

The scope of this project is as follows:

[redacted]

Major Material:

- 2 Reclosers
- 2 Disconnect Switch

4. Alternatives Considered

No alternatives exist to break this zone into 500 customers or less.

Design Criteria	Option	
[redacted]		
Estimate Type:		
Capital Cost	$297.4K	N/A
Expense Cost	$9.4K	N/A
Total Cost	$306.8K	N/A
Preferred option	X	

5. Project Schedule

Milestone/Phase Name	Estimated Date
Partial Approval	September 2021
100% Detailed Engineering Completion	January 2022
Construction Start	March 2023
In Service Date	April 2023

6. 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. Partial Funding PAF	*YES*

Attachment A: Cost Estimate:

Project Approval Form

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	28.00%
SubTotal:	$134,826
Contingency Amount:	$37,751
Estimate:	$172,578
Reimbursement:	$0
Net Amount:	**$172,578**
Description:	

Item Description	CU	$ / Per	Qty	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	[redacted]		$3,509.60
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18			$5,000.00
SECTIONALIZE OH - Recloser - 3ph	16-OH38			$95,979.20
SECTIONALIZE OH - Recloser Control - setting changes only	16-OH39A			$9,771.20
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph	16-OH43			$20,566.40

Attachment C: Geographic Map

Before Map:



After Map:

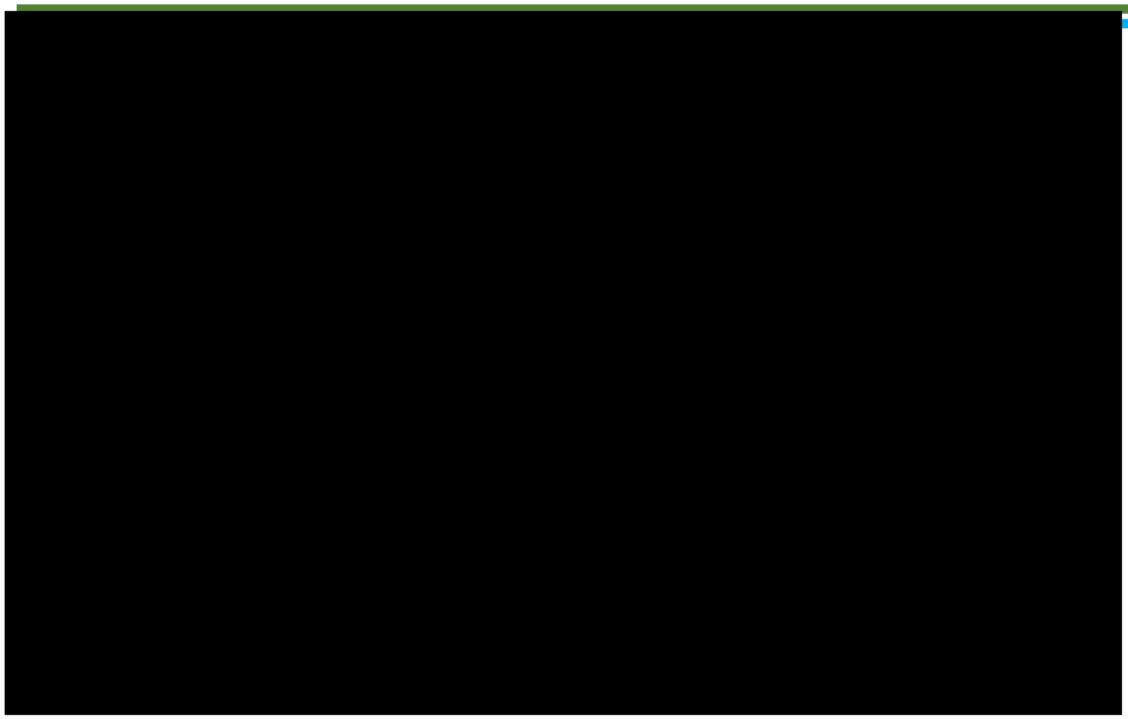


Attachment D: System Oneline

Before Oneline:



After Oneline:



Attachment E: Partial Funding PAF

Operations Project Authorization Form

Date Prepared:09/30/2021	**Project Title:** [redacted] **->740-RWO**
Company/ies: Eversource CT	**Project ID Number: CD01838**
Organization: Distribution Design	**Class(es) of Plant: Distribution**
Project Initiator: [redacted]	**Project Category: Line**
Project Manager: [redacted]	**Project Type: Smart Switch Program**
Project Sponsor: [redacted]	**Project Purpose: Install automatic sectionalizing devices reduce zone sizes**
Estimated in service date: 12/31/2023	**If Transmission Project: PTF? NA**
Eng. / Constr. Resources Budgeted? No	**Capital Investment Part of Original Operating Plan? Yes**
Authorization Type: Preliminary	**O&M Expenses Part of the Original Operating Plan? Yes**
Total Request: $ 172,578	

Financial Requirements:

Project Authorization
ERM: _____

FP&A: _____

Executive Summary

[redacted]

In conjunction with tree trimming, project CD01838 will also address the [redacted]

Project Costs Summary

Note: Dollar values are in thousands

	Prior Authorized	2023	2024	2025+	Totals
Capital Additions - Direct	$0	$97	$0	$0	$97
Removals net of Salvage ____%	$0	$4	$0	$0	$4
Total - Direct Spending	$0	$101	$0	$0	$101
Capital Additions - Indirect	$0	$62	$0	$0	$62
Subtotal Request	$0	$163	$0	$0	$163
AFUDC	$0	$2	$0	$0	$2
Total Capital Request	$0	$165	$0	$0	$165
O&M	$0	$7	$0	$0	$7
Total Request	$0	$173	$0	$0	$173

Financial Evaluation

Note: Dollar values are in thousands

Direct Capital Costs	2023	2024	2025+	Total
Straight Time Labor	$13	$0	$0	$13
Overtime Labor	$3	$0	$0	$3
Outside Services	$24	$0	$0	$24
Materials	$60	$0	$0	$60
Other, including contingency amounts (describe)	$1	$0	$0	$1
Total Direct Costs	**$101**	**$0**	**$0**	**$101**

Indirect Capital Costs	2023	2024	2025+	Total
Indirects/Overheads (including benefits)	$62	$0	$0	$62
Capitalized interest or AFUDC, if any	$2	$0	$0	$2
Total Indirect Costs	**$64**	**$0**	**$0**	**$64**
Total Capital Costs	**$165**	**$0**	**$0**	**$165**
Less Total Customer Contribution	**$0**	**$0**	**$0**	**$0**

Total Capital Project Costs	**$165**	**$0**	**$0**	**$165**
Total O&M Project Costs	**$8**	**$0**	**$0**	**$8**
Total Project Cost	**$ 173**	**$ -**	**$ -**	**$ 173**

Technical Justification:

Project Need Statement

[redacted].

To mitigate this issue, Project CD01838 proposes to reduce the number of customers by changing the Smart Switch at Pole 1078 to a Sectionalizing Recloser (SR) on [redacted]

Project Objectives

The goal of the Smart Switch Program is to reduce the number of customers exposed to an outage event. Project CD01838 proposes to install [redacted]

Project Scope

[redacted]

Major Materials

- 2 Smart Switches (SS)
- 2 600/900 Amps Vertical Disconnect Switches

Background / Justification

[redacted]

Business Process and / or Technical Improvements:

The Smart Switch project will increase the number of automated devices on the system. The additional devices allow for faster restoration, faster outage isolation, better system visibility, and better operational flexibility. Customer zones are reduced to 500 or less where possible.

Project Schedule

Milestone/Phase Name	Estimated Completion Date
Preliminary Engineering	11/2021
Detail Design	6/2022
Full Funding	12/2022
Construction	2/2023

Regulatory Approvals
None

References
N/A

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	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	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	Low	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2023	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	2023	Low	Before use of new technology ensure support of standards and manufacture. 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