EVERSOURCE

Supplement Authorization Form

Project Title: Convert and Eliminate [redacted] Substation	**Project Number: CD00979**
Date Prepared: 04/29/2026	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** Lines - General
Initiating Organization: Distribution	**Project Type:** Specific
Project DDE: [redacted]	**Capital Investment part of 5-year plan?** No
Project Manager: [redacted]	**Emergency Related Request?** No
Project Sponsor: [redacted]	**Facility Type** (check all that apply): ☐ PTF ☐ non-PTF ☒ Distribution ☐ N/A (General
Current Authorized Amount: $ 2,702.2k	**Approved In-Service Date:** 12/31/2020
Supplement Request: $ 728.7k	**Estimated In-Service Date:**12/31/2022
Total Capital Request: $ 3,431k	**Authorization Type:** Supplement Request
	Reason: : Cost Overage

1. Project Background

Project CD00979 was initiated as the second of three planned phases designed to [redacted]. This project addressed the following critical assets:

1. [redacted].

2. [redacted]

3. [redacted].

[redacted]

2. Supplement Justification Overview

The requested amount of $728.7k is 21% above the authorized direct cost of $2,702.7k. This project incurred no scope change from full funding to supplemental. Additional labor costs and equipment drove up the overall cost of the project.

3. Supplement Justification Detail

The increased direct cost, which included internal labor, outside contractor labor and equipment costs, contributed to the overage of this project.

4. Supplement Cost Summary (Project Total)

Capital Costs	To Date Spend	Prior Authorized	Supplemental Request	Total Request
Internal Labor and Construction Equipment	88.6	309.6	-232.1	77.4
Outside Services	1,186.0	211.4	824.8	1,036.1
Materials	717.7	1,115.1	-488.1	627.0
Removals	0.0	0.0	252.2	252.2
Risk and Contingency	67.3	0.0	67.3	67.3
Other	2.8	6.5	-4.1	2.4
Subtotal	**2,062.4**	**1,642.5**	**419.9**	**2,062.4**

Indirect Capital Costs	To Date Spend	Prior Authorized	Supplemental Request	Total Request
Indirects/Overheads (including benefits)	1,291.3	1,028.9	262.4	1,291.3
Capitalized interest or AFUDC, if any	77.3	30.8	46.4	77.3
Subtotal	**1,368.5**	**1,059.7**	**308.8**	**1,368.5**
Total Capital Costs (Gross)	**3,431.0**	**2,702.2**	**728.7**	**3,431.0**
Less Total Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**
Project Costs (Net of Reimbursement)	**3,431.0**	**2,702.2**	**728.7**	**3,431.0**

New Total Request by Year (if applicable)

Note: If multi-year project, include actuals for current and years past, and then show forecasted spend for upcoming years.

Line item Category	Year 2019	Year 2020	Year 2021	Year 2022	Total
Internal Labor and Construction Equipment	1.9	60.9	14.9	-0.3	77.4
Outside Services	26.1	815.1	199.7	-4.7	1,036.1
Materials	15.8	493.2	120.8	-2.8	627.0
Removals	6.1	191.0	46.8	8.3	252.2
Risk and Contingency	0.0	0.0	0.0	67.3	67.3
Other	0.1	1.9	0.5	0.0	2.4
SUBTOTAL DIRECTS W/ RISKS	**49.9**	**1,562.1**	**382.7**	**67.7**	**2,062.4**
Indirect / Overhead (including benefits)	87.5	911.8	344.1	-52.0	1,291.3
AFUDC	2.4	40.5	34.3	0.0	77.3
Subtotal – Indirect Costs	**89.9**	**952.3**	**378.4**	**-52.0**	**1,368.5**
TOTAL CAPITAL REQUEST	**139.9**	**2,514.4**	**761.1**	**15.7**	**3,431.0**
Reimbursables/Customer Contribution	0.0	0.0	0.0	0.0	**0.0**
PROJECT TOTAL (LESS REIMBURSABLES)	**139.9**	**2,514.4**	**761.1**	**15.7**	**3,431.0**

5. Lessons Learned

Greater contingencies should be utilized in future for projects including conversion work.

Operations Project Authorization Form

Date Prepared: 4/7/202020	**Project Title: Convert and Eliminate [redacted] Substation.**
Company/ies: Eversource CT	**Project ID Number: CD00979**
Organization: Distribution Electrical	**Class(es) of Plant: Distribution**
Project Initiator: [redacted]	**Project Category: Line**
Project Manager: [redacted]	**Project Type: High Over Low, Aging Infrastructure**
Project Sponsor: [redacted]	**Project Purpose: Replace antiquated plant. Eliminate high over low construction.**
Estimated in service date: 12/31/2020	**If Transmission Project: PTF? NA**
Eng. / Constr. Resources Budgeted? Yes	**Capital Investment Part of Original Operating Plan? Yes**
Authorization Type: Full Funding	**O&M Expenses Part of the Original Operating Plan? Yes**
Total Request: $2,811,404	

Financial Requirements:

Project Authorization
ERM: _____

FP&A: _____

Executive Summary

[redacted]

[redacted]

Project CD00979 is the second of three projects that will convert [redacted]

Project CD00979 addresses [redacted], construction planned in 2020.

Project CD00959 addresses [redacted] and has been presented and has full funding aurthorization, construction planned in 2019.

Project CD00979 received Preliminary Funding Authorization of $2,810K at the 12/13/2018 CT PAC meeting. The detail design has been completed and we are requesting Full Funding Authorization of $2,811K, an increase of $1K, or 100% of the Preliminary Funding Authorized amount; which is within the +/- 10% range for automatic Full Funding Authorization per JA-AM-2001-A, Capital Project Approval Process. There is no change in scope.

Project Cost Summary

	Prior Authorized*	Additional Request	2020	2021+	Total **
Capital Additions Direct			$ 1,576,261	$ -	$1,576,261
Less Customer Contribution			$ -	$ -	$0
Removals Net of Salvage			$ 171,692	$ -	$171,692
Total - Direct Spending			$ 1,747,953	$ -	$1,747,953
Capital Additions - Indirect			$ 979,979	$ -	$979,979
AFUDC			$ 13,776	$ -	$13,776
Total Capital Request			$ 2,741,708	$ -	$2,741,708
O&M			$ 69,695	$ -	$69,695
Total Request	**$2,810,352**	**$1,052**	**$ 2,811,404**	**$ -**	**$2,811,404**

* Amount currently approved in PowerPlan
** Total authorization needed in PowerPlan based on ACT

Financial Evaluation

Direct Capital Costs	2020	2021	2022+	Total
Straight Time Labor	$ 55,995	$ -	$ -	$ 55,995
Overtime Labor	$ -	$ -	$ -	
Outside Services	$ 1,023,220	$ -	$ -	$ 1,023,220
Materials	$ 668,737	$ -	$ -	$ 668,737
Other, including contingency amounts	$ -	$ -	$ -	$ -
Total	$ 1,747,953	$ -	$ -	$ 1,747,953

Indirect Capital Costs	2020	2021	2022+	Total
Indirects/Overheads (including benefits)	$ 979,979	$ -	$ -	$ 979,979
Capitalized interest or AFUDC, if any	$ 13,776	$ -	$ -	$ 13,776
Total	$ 993,756	$ -	$ -	$ 993,756

Total Capital Costs	$ 2,741,708	$ -	$ -	$ 2,741,708
Less Total Customer Contribution	$ -	$ -	$ -	$ -
Total Capital Project Costs	$ 2,741,708	$ -	$ -	$ 2,741,708
Total O&M Project Costs	$ 69,695	$ -	$ -	$ 69,695
Total Project Cost	**$ 2,811,404**	**$ -**	**$ -**	**$ 2,811,404**

* to be completed if supplemental authorization is required

Technical Justification:

Project Need Statement – CD00979

[redacted]

[redacted]

Project Objectives – CD00979

[redacted]

All customers will be in new automatic zones sized to approximately 500 customers in accordance with DSEM 06.511.

The project design and new system configuration allows all circuits involved to operate within their respective normal ratings for the 10 year planning cycle.

Project Scope – CD00979

This project will complete the following recommended work.

[redacted]

- Installation of 2 three phase padmount transformer.

Background / Justification – CD00979

Project CD00979 will:

Eliminate 11,300 feet of Bare-over-Bare construction.

- Elimination of bare over bare primary conductor on circuits of different voltages. Elimination of high over low voltage conditions will minimize the risk of failures that can cause unsafe conditions within customer's homes and facilities. Failure of a conductor on the top higher voltage circuit has resulted in over-voltage conditions on lower circuits and on customer services, causing customer equipment damage and destruction. A previous event that involved a 27.6kV circuit into a 13.8kV circuit resulted in significant customer equipment damage, customer complaints and claims. This initiative complies with a commitment made in DPUC Docket No. 02-09-09.

Eliminate large customer zones > 500 and create new automatic zones for customers that are not automatically backed up.

- The Distribution Standards Engineering Manual (DSEM 06.511) defines reliability guidelines for overhead design construction. System reliability is designed around both automatic and manual sectionalizing points to reduce the impact of an outage and to speed restoration of service to affected customers. The guideline states that each zone should include approximately 500 customers or 100 amps of load.

Eliminate 4.8kV Islanded Substations and replace antiquated plant.

[redacted]

A ranking method was developed that includes criteria such as the number of stranded customers, the total load, how close the load is to the substation rating, the presence of oil breakers, the condition of the switchgear (if switchgear is in the substation), the age of the substation, and whether the substation is a flooding risk or not. The highest priority substations were then reviewed by the Circuit Owners to determine the feasibility of eliminating or backing up the substation.

Business Process and / or Technical Improvements:

[redacted]

- All new construction will be per Eversource present day standards.

Alternatives Considered with Cost Estimates

Option1: Do nothing.

Does not resolve Islanded Substation, Bare-over-Bare, or Antiquated Plant issues.

Option2: [redacted] Many of the poles are 1930's, 1940's and 1950's vintage and the conductor is old copper. The old infrastucture will remain prone to storm related events if the antiquated facilities are not rebuilt.

Alternative	Cost Breakdown		Total Cost	Comments
Reconductor with tree wire to eliminate high/low.	Recond [redacted]	$1.59M	$1.59M	[redacted] with 556 tree wire to eliminate high over low. Reconductor the [redacted] over [redacted] north of the [redacted] only.
Install steps on large sidetaps	[redacted]	$268K	$268K	[redacted]
Total		$1.858	$1.858	

Project Schedule

Milestone/Phase Name	Estimated Completion Date
Initial Funding Authorization	December 2018
Detail Design	September 2019
Full Funding Authorization	December 2019
Construction	December 2020

Regulatory Approvals

None required.

Risks and Risk Mitigation Plans

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2020	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	2020	Low	Design to minimize customer impact. Project preplanning and customer/community outreach.
Internal construction resources not available to perform the work.	2020	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.	2020	Medium	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Storm delays	2020	Low	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2020	Low	Schedule work to minimize system abnormal time. Install temporary bypasses/equipment if system will be abnormal for extended periods

References
NA

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


Project Map.pdf


Age of Poles Map.pdf


1-line.pdf


CD00979_project_needs_statement.pdf


Project Load Summary.xlsx


convert vs step summary.xlsx


[redacted]getaway cable.pdf

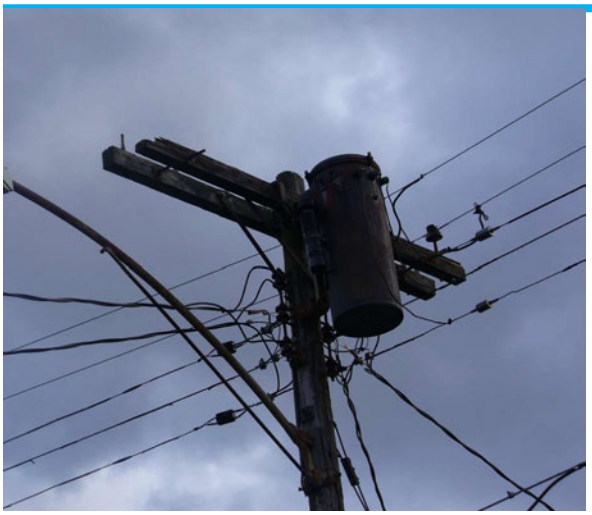
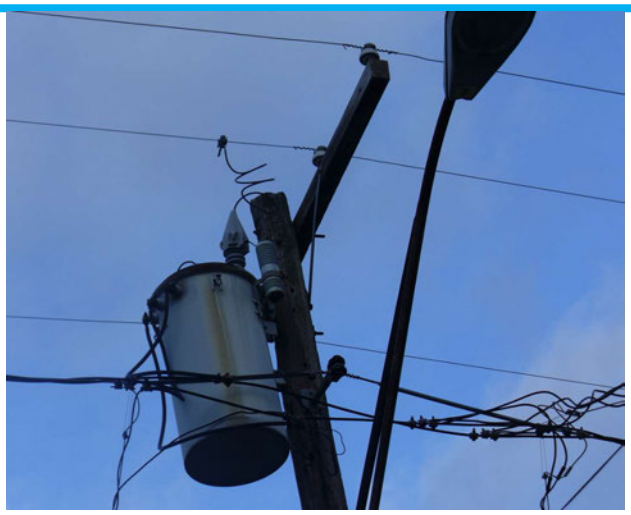
Cost Estimate Backup Details
100% Pole Replacement

15% Traffic Duty

Budget Summary - Preferred Option — Convert 19R2 and install steps on large single phase side taps

2020

ID	Title	Status	Rev #	Contingency	Expenditure Amount	Net Estimate
10	Remove 5KV Underbuild [redacted]	Draft	0	28 %	$52,224	$52,224
9	Convert [redacted] North of [redacted] 8694	Draft	0	28 %	$111,746	$111,746
8	Install Three 1-PH Steps o[redacted] Sidetap	Draft	0	28 %	$72,218	$72,218
7	Conv up Corbin/Pentlow B/W Osgood & Fa	Draft	0	28 %	$207,909	$207,909
6	Install Five 1-PH Steps on [redacted] Sidetaps	Draft	0	28 %	$195,194	$195,194
5	Capacitor Banks	Draft	0	28 %	$34,949	$34,949
4 [redacted]	Conv [redacted] South of [redacted]	Draft	0	28 %	$710,324	$710,324
3 [redacted]	Conv [redacted] North of [redacted]	Prelim	0	28 %	$284,709	$284,709
2 [redacted]	Conv. [redacted] UG Upgrade	Prelim	0	28 %	$430,981	$430,981
1 [redacted]	Loop Schemes BB	Prelim	0	28 %	$710,097	$710,097
				2020 Total:	**$2,810,352**	**$2,810,352**
				Total Project:	**$2,810,352**	**$2,810,352**



Full Funding Attachments:

CD00979 Full Funding Est-Convert (

CD00979_AIMS Full Funding_Need Statem