EVERSOURCE

Project Approval Form

Project Title: Relocate [redacted] Auto-Transformers due to contingency overload	Project Number: CD01693
Date Prepared: 09/20/2023	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** OVERLOADS-SPECIFIC PROJECTS
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: 6/30/24	
Total Capital Request: $344.6K	**Authorization Type:** Full Funding

1. Executive Summary

The purpose of this project is to address 3[redacted]

9/20/23 – Full Funding request. The Partial Funding estimate is $280.3K, approved on 5/27/21. Full Funding estimate is $344.6K, a difference of $64.3K, or a 23% increase. Workorders were written for Eversource labor, however, New London AWC opted to use their contractor crews to complete this work due to other ongoing work for the local crews. There is no scope change. Due to equipment delays, this project will be pushed out to 2024. Expected ISD is 6/30/24.

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	Year 2023	Year 2024	Year 2025	Total
Direct Capital Costs				
Internal Labor and Construction Equipment	4.9	0.4	0.0	5.3
Outside Services	107.2	8.0	0.0	115.2
Materials	52.3	3.9	0.0	56.2
Removals	23.1	1.7	0.0	24.8
Risk and Contingency	1.7	22.4	0.0	24.0
Other	0.0	0.0	0.0	0.0
Subtotal – Direct Costs	**189.2**	**36.4**	0.0	**225.6**
Indirect Capital Costs				
Indirect/Overheads (including benefits)	107.1	8.0	0.0	115.1
Capitalized interest or AFUDC, if any	3.6	0.3	0.0	3.9
Subtotal – Indirect Costs	**110.7**	**8.3**	**0.0**	**119.0**
Total Gross Capital Costs	**299.9**	**44.7**	**0.0**	**344.6**
Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**
Total Net Capital Project Costs	**299.9**	**44.7**	**0.0**	**344.6**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

[redacted]

b. Project Need

[redacted]

c. Project Scope

[redacted]

4. Alternatives Considered

Project Option Comparison

Design Criteria	Option	
[redacted]		
Authorization Type	Full	Partial
Capital Cost	$185.6	$166.2K
Expense Cost	$5.8K	$5.2K
Total Cost	$191.4K	$171.4K
Total Cost / MVA added	$62K/MVA	$57K/MVA
Total Cost / CM Saved	$/CM	$/CM
Total Cost / CI Saved	$/CI	$/CI
Preferred option	X	

Option 2 was not selected for the following reasons:

[redacted]

5. Project Schedule

Add any additional milestones that are pertinent to the project

Milestone/Phase Name	Estimated Date
Partial Approval	5/27/21
100% Detailed Engineering Completion	11/30/21
Fully Funded	9/20/23
Construction Start	3/1/23
In Service Date	6/30/24

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 higher than estimated due to scope changes.	2023/24	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	2023/24	Low	Design to minimize customer impact. Project Preplanning and customer/community outreach.
Internal construction resources not available to perform the work.	2023/24	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.	2023/24	Low	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2023/24	High	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2023/24	Medium	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2023/24	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	2023/24	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	2023/24	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. Geographic Map	*YES*
C. System and Station One-Lines	*YES*
D. Load Sheet	*YES*
E. Picture of field conditions	*YES*

Attachment A

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01693

[redacted] Auto-Transformers

Design Alternative CD01693-01

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	20.00%
SubTotal:	$233,622
Contingency Amount:	$46,724
Estimate:	$280,347
Reimbursement:	$0
Net Amount:	**$280,347**
Description:	

Item Description	CU	$ / Per	Qty	Amount
TRAFFIC OH/DB/UG - Traffic Control - Police Officer 5% of net cost	16-ALL18	[redacted]		$13,000.00
SECTIONALIZE OH - Recloser Control - setting changes only Change setting on 36F5-71S Router 85	16-OH39A			$4,885.60
EQUIPMENT OH - Conversion - CUTOVER Conversion cutover padmount 3424, 400, 280 and OH XF 429, 430, 3323, and 9812	16-OH58			$3,746.40
XF OH - Stepdown - 1ph - on POLE Douglas Lane	16-OH49			$20,400.00
OTHER OTHER If cable at pad #280 is 15kV cable, replace with 1,230 feet #1 AL 25kV single-phase cable	16-ALL14			$6,800.00
XF DB/UG - Padmount XF - 1ph Install 25 kVA 25 kV padmount transformer #280	16-UG130			$3,147.20
OH WIRE OH - Reconductor Open Wire Secondary w/ Triplex Reconductor open wire secondary with triplex between poles 427 and 9811	16-OH30			$19,688.00
OTHER OTHER Removal of 3-1,500 kVA Auto Xfrmrs and Digging to replace UG cable if not in a conduit for pad #400	16-ALL14			$25,000.00
OH WIRE OH - Remove circuit wire (1 phase) Removal of open wire secondary	16-OH37			$5,906.40

Asset & Investment Management System 5/27/2021 Page 5 of 6

Connecticut Light & Power
A Northeast Utilities Company

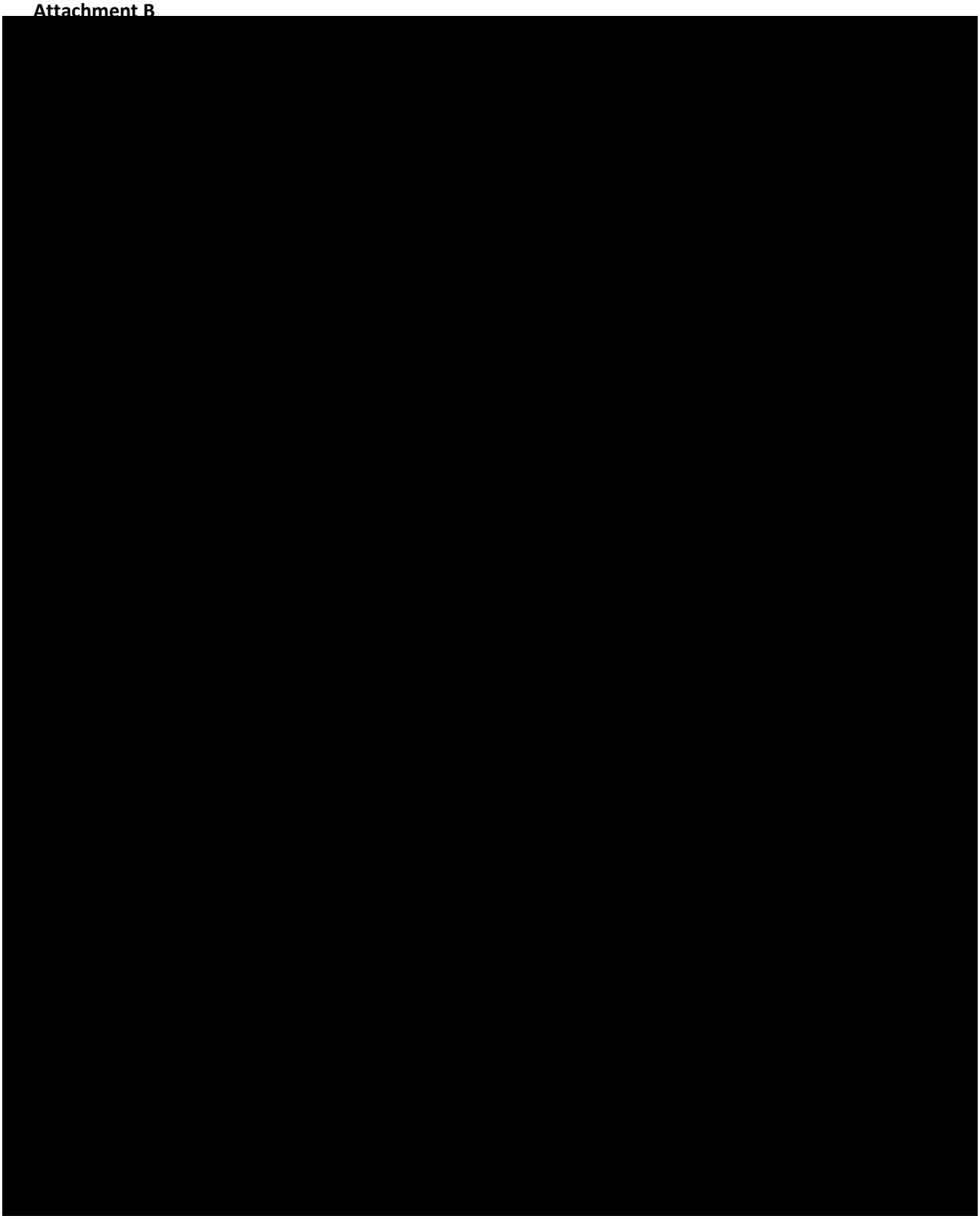
Specific Project Proposal - Project #: CD01693
[redacted] Auto-Transformers

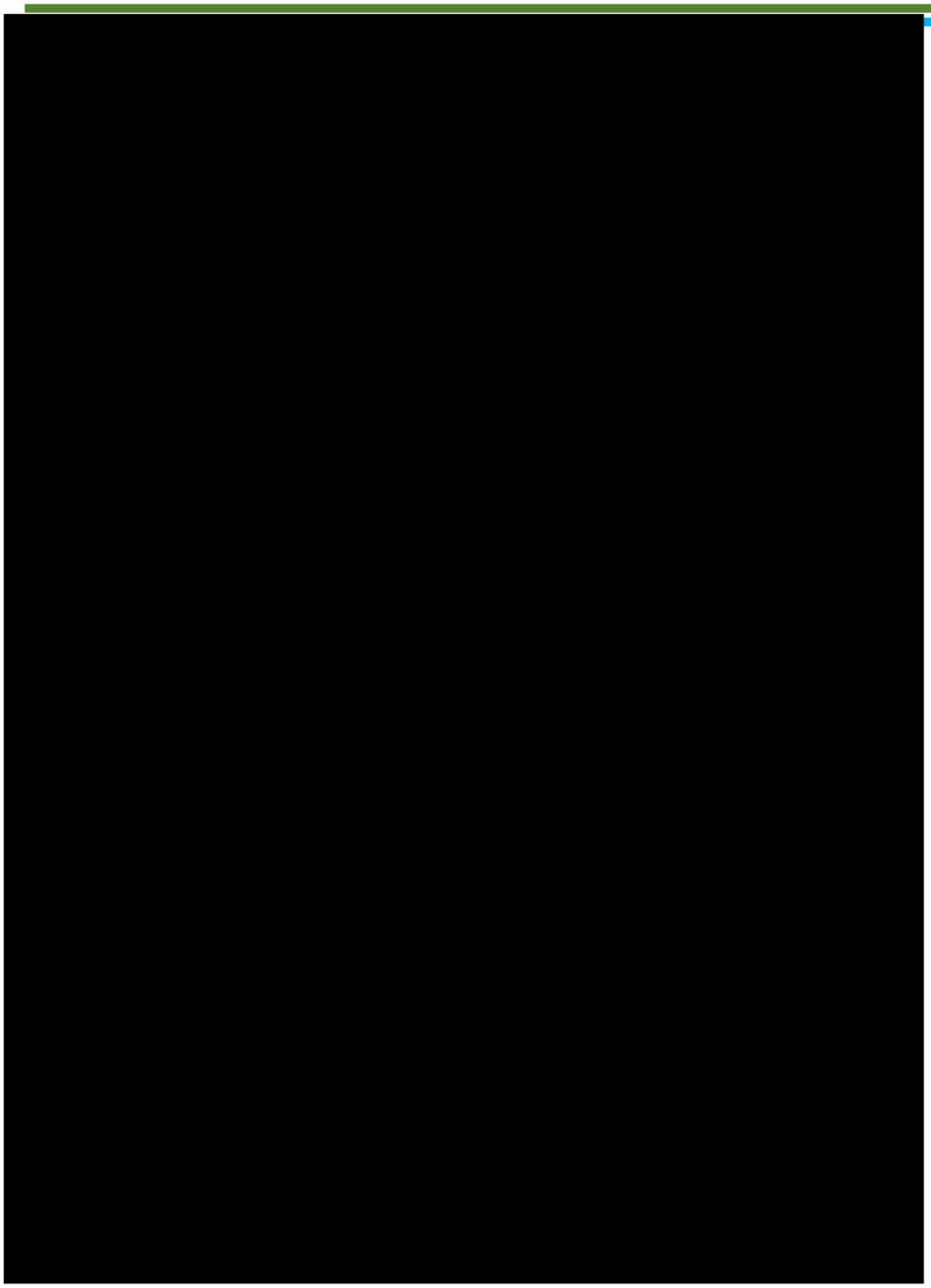
Design Alternative			CD01693-01
UG CABLE UG - Cable Removal - all cables Removal of pad #400 wire	16-UG117	[redacted]	$1,600.00
UG CABLE UG - Cable Removal - all cables Remove 1,230 feet #1 AL 15 kV single-phase cable	16-UG117		$24,600.00
EQUIPMENT OH - Remove Capacitor, any kVAR Remove Capacitor on Route 85	16-OH54		$1,800.00
UG CABLE DB/UG - 4/0 - 3-1/C (3ph) Cu Replace 13kV cable for pad #400 with a 25 kV cable	16-UG113B		$3,840.00
INSULATOR OH - Replace insulators w/ VISE TOP - 3ph Replace 13kV insulators with 23kV insulators	16-OH16		$9,782.40
SECTIONALIZE OH - Recloser - 3ph Replace 36F5-80M to 23 kV on douglas Ln	16-OH38		$47,989.60
XF OH - OH XF - 1ph Replace 4 Xfrmrs on Douglas Ln, at poles 429, 430, 3323, 9812 for operating voltage of 23kV.	16-OH45		$8,438.40
XF DB/UG - Padmount XF - 3ph Replace Pad #3424 and #400 with 23kV Xfrmr	16-UG131		$12,598.40
XF OH - Stepdown - 1ph - on POLE Route 85	16-OH49		$20,400.00

Associated / Impacted Devices

Status	Type / SysID	Street / Cross St	Structure / Town	Circuit	Map	Cust	Notes

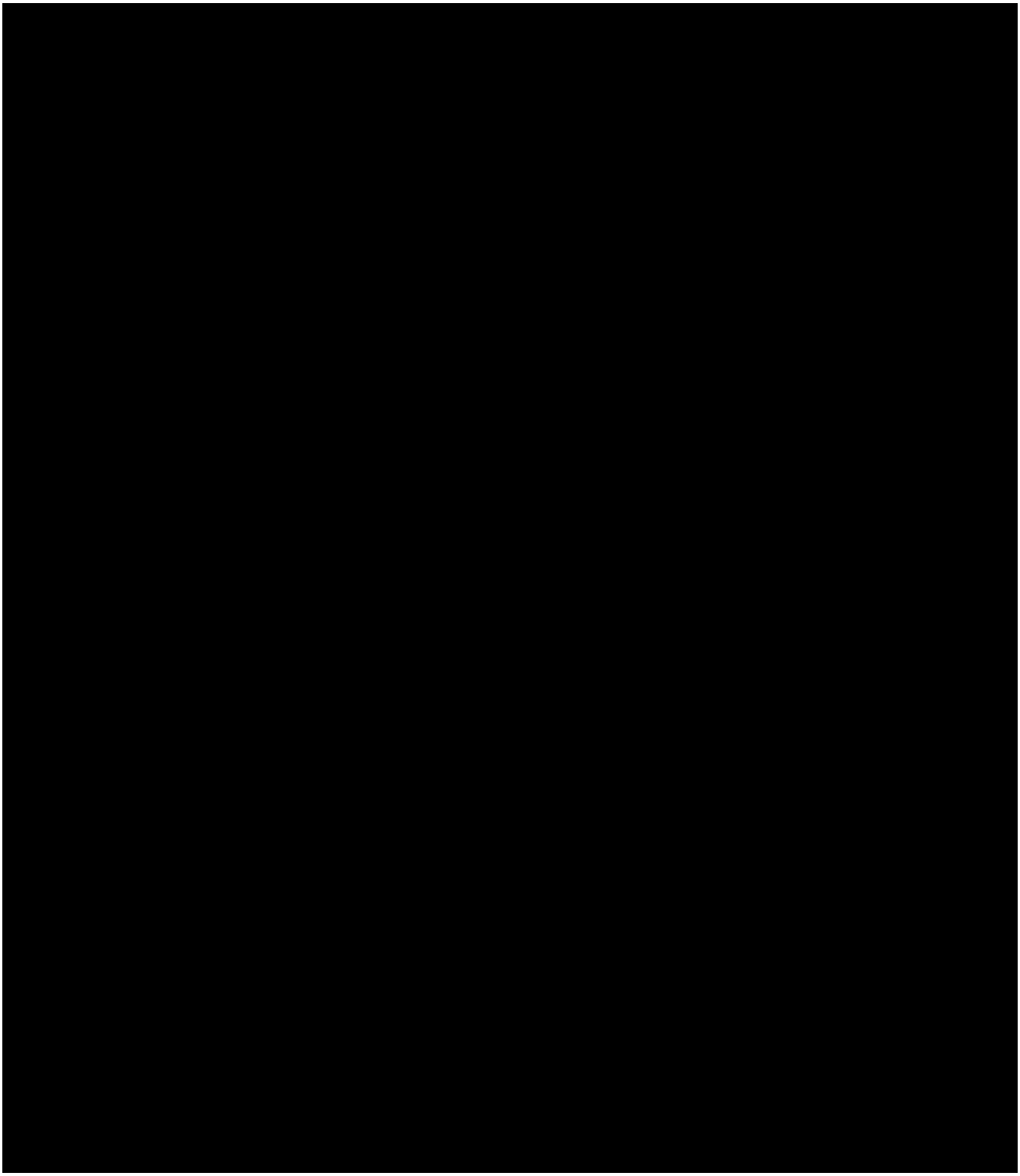
Attachment B







Attachment D



Attachment E



EVERSOURCE
Project Authorization Form

Operations Project Authorization Form

Date Prepared: 5/27/2021	Project Title: [redacted] Auto-Transformers Due to Cont. Load
Company/ies: Eversource CT	Project ID Number: CD01693
Organization: Distribution Electric	Class(es) of Plant: Distribution
Project Initiator [redacted]	Project Category: Line
Project Manage [redacted]	Project Type: Load
Project Sponsor [redacted]	Project Purpose: Overload Equipment
Estimated in service date: 12/31/2023	If Transmission Project: PTF? N/A
Eng. /Constr. Resources Budgeted? Y	Capital Investment Part of Original Operating Plan? Y
Authorization Type: Initial Funding	O&M Expenses Part of the Original Operating Plan? Y
Total Request: $ 280,347	

Financial Requirements:

Project Authorization
ERM: _____

FP&A: _____

Executive Summary

[redacted]

EVERSOURCE
Project Authorization Form

Project Costs Summary
Note: Dollar values are in thousands

	Prior Authorized	2023	2024	2025	Totals
Capital Additions - Direct	$0	$166	$0	$0	$166
Less Customer Contribution	$0	$0	$0	$0	$0
Removals net of Salvage %	$0	$11	$0	$0	$11
Total - Direct Spending	$0	$177	$0	$0	$177
Capital Additions - Indirect	$0	$87	$0	$0	$87
Subtotal Request	$0	$265	$0	$0	$265
AFUDC	$0	$7	$0	$0	$7
Total Capital Request	$0	$271	$0	$0	$271
O&M	$0	$8	$0	$0	$8
Total Request	$0	$280	$0	$0	$280

Financial Evaluation
Note: Dollar values are in thousands

Direct Capital Costs	2023	2024	2025	Total
Straight Time Labor	$9	$0	$0	$9
Overtime Labor	$2	$0	$0	$2
Outside Services	$106	$0	$0	$106
Materials	$58	$0	$0	$58
Other, including contingency amounts (describe)	$1	$0	$0	$1
Total Direct Costs	**$177**	**$0**	**$0**	**$177**

Indirect Capital Costs	2023	2024	2025	Total
Indirects/Overheads (including benefits)	$87	$0	$0	$87
Capitalized interest or AFUDC, if any	$7	$0	$0	$7
Total Indirect Costs	**$94**	**$0**	**$0**	**$94**
Total Capital Costs	**$271**	**$0**	**$0**	**$271**
Less Total Customer Contribution	**$0**	**$0**	**$0**	**$0**
Total Capital Project Costs	**$271**	**$0**	**$0**	**$271**
Total O&M Project Costs	**$8**	**$0**	**$0**	**$8**
Total Project Cost	**$280**	**$ -**	**$ -**	**$280**

Note: Explain unique payment provisions, if applicable

JA-AM-2001-A Rev 2
Page 2

EVERSOURCE
Project Authorization Form

Technical Justification:

Project Need Statement

[redacted]

Project Objectives

[redacted]

Project Scope

[redacted]

Major Material:

6 – 1,500 kVA Auto transformed
4 – Overhead distribution transformers
6 – poles (3 Frontier, 3 Eversource)
1 – recloser and control
2,460 feet of triplex
1,230 feet #1 AL 25 kV single-phase cable
3 – Padmount transformers

EVERSOURCE
Project Authorization Form

Background / Justification

Project Load Summary	*2018 Values
Project Number:	
[redacted]	

Business Process and / or Technical Improvements:

Reduce load on an overloaded bank of 1,500 kVA during normal contingency.

Project Schedule

Milestone/Phase Name	Estimated Completion Date
Preliminary Approval	5/06/21
Detailed Design	11/06/21
Construction Start Date	8/06/22
Construction End Date	2/06/23

EVERSOURCE
Project Authorization Form

Risks and Risk Mitigation Plans

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

EVERSOURCE
Project Authorization Form

			accommodate for extra time or ensure new technology is not on the critical path.

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

[redacted]uto's Relocation one-line.

Auto's Relocation Map.vsdm

[redacted]uto's Relocation Load Sur

North of pole 262 to [redacted]oad Data (F

CD01693_project_needs_statement.pdf