EVERSOURCE

Project Approval Form

Project Title: [redacted] 2020 TDRP	**Project Number: CD01649**
Date Prepared: 08/21/2023	**Company:** Eversource CT
Organization: Electric System Operations	**Project Category:** TRMSN DISTR RELIABILTY PERFRM
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: 10/2023	
Total Capital Request: $493.6K	**Authorization Type:** Full Funding

1. Executive Summary

Transmission-Distribution Reliability Performance (TDRP) projects address reliability issues associated with the top Worst 100 circuits in Connecticut. In doing so, Eversource-CT maintains compliance with Docket 86-12-03. Eversource-CT is required to report the status of actions taken to improve performance for each circuit topping the "Worst 100" list. Updates are required each year for the four years following a circuit's appearance on the list.

[redacted] was ranked number 5 of the 2020 Transmission and Distribution Reliability Program (TDRP) list. [redacted]

New reclosers will be installed on the backbone to isolate ROW outages. Single phase laterals will be reconductored with tree wire and sectionalizing fusing will be installed were appropriate.

The initial engineering estimate for this project was approved for $509K on April 8th, 2021. The project was completed on time and within budget due to in part by utilizing more internal resources to complete the project, reduction of outside services as it was initially planned and slight reduction of indirect cost.

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2022	2023	Year 3+	Total
Internal Labor and Construction Equipment	67.2	9.3	0.0	76.5
Outside Services	70.7	9.8	0.0	80.5
Materials	127.5	17.7	0.0	145.1
Removals	29.8	4.1	0.0	34.0
Risk and Contingency	0.0	0.0	0.0	0.0
Other	0.2	0.0	0.0	0.2
Subtotal	**295.4**	**40.9**	**0.0**	**336.3**

Indirect Capital Costs	2022	2023	Year 3+	Total
Indirects/Overheads (including benefits)	134.4	18.6	0.0	153.0
Capitalized interest or AFUDC, if any	3.8	0.5	0.0	4.3
Subtotal	**138.2**	**19.2**	**0.0**	**157.3**
Total Capital Costs (Gross)	**433.5**	**60.1**	**0.0**	**493.6**
Less Total Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**
Project Costs (Net of Reimbursement)	**433.5**	**60.1**	**0.0**	**493.6**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

The reliability improvements on the [redacted] will help bring the circuit off the TDRP list for future years. The areas that were determined to be problematic have been addressed with electrical and structural improvements.

	Row Labels	Sum of Customer Affected	Sum of Customer Minutes	Count of Device	%cust	%cm
	[redacted]		699873	3	1%	3%
			836762	6	1%	3%
			125892	8	0%	0%
			150261	2	2%	1%
			184381	7	2%	1%
			188832	11	1%	1%
			262160	5	1%	1%
			2681424	7	11%	10%
			1284018	4	3%	4%
			146848	3	6%	1%
			981849	5	3%	4%
			1013460	1	0%	4%
			59472	2	0%	0%
			624132	6	6%	2%
			158358	5	1%	1%
			1356264	1	1%	5%
			330415	4	6%	1%
			928619	2	3%	3%
			400916	2.3	5%	1%
Total					53%	46%

b. Project Need

The work in this project will help Eversource Energy meet its reliability goals SAIDI, CAIDI, SAIFI by improving the electrical system with cover wire, sectionalizing switches, and updating poles.

c. Project Scope

Preferred Proposal (Includes the following)

- The preferred option was selected due to the highest cost of the reconducting alternatives as noted in the alternative section below.

Total Cost $493.6K

[redacted]

Major Material:

5,900 feet of 1/0 single phase tree wire.

700 feet 3 phase 1/0 tree wire.

50 poles.

4 GOLB switches

3 Reclosers

1 500 kVA step down transformer

1. Alternatives Considered

Option #2, Reconductoring

Total Cost: $1,290K

[redacted]

Option# 2 alternative option was not selected due to the highest cost.

2. Project Schedule

Add any additional milestones that are pertinent to the project

Milestone/Phase Name	Estimated Completion Date
Preliminary Approval	4/8/2021
Detailed Design	8/30/2021
Settings Requested	2/30/2022
Construction Start Date	1/1/2023
Construction End Date	10/30/2023

3. Regulatory Decisions

4. Codes and Standards

5. Risk and Contingencies

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2022-2023	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	2022-2023	Low	Design to minimize customer impact. Project Preplanning and customer/community outreach.
Internal construction resources not available to perform the work.	2022-2023	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.	2022-2023	Low	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2022-2023	Low	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2022-2023	Low	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2022-2023	Low	Schedule work to minimize system abnormal time. Install temporary bypasses/equipment if system will be abnormal for extended periods.

6. References

References
1. N/A

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

Attachment	Included in Submittal?
A. Cost Estimate	*YES*
B. [redacted] Circuit Map	*YES*
C. 1 Line [redacted] After and before	*YES*
D. Load Summary	*YES*

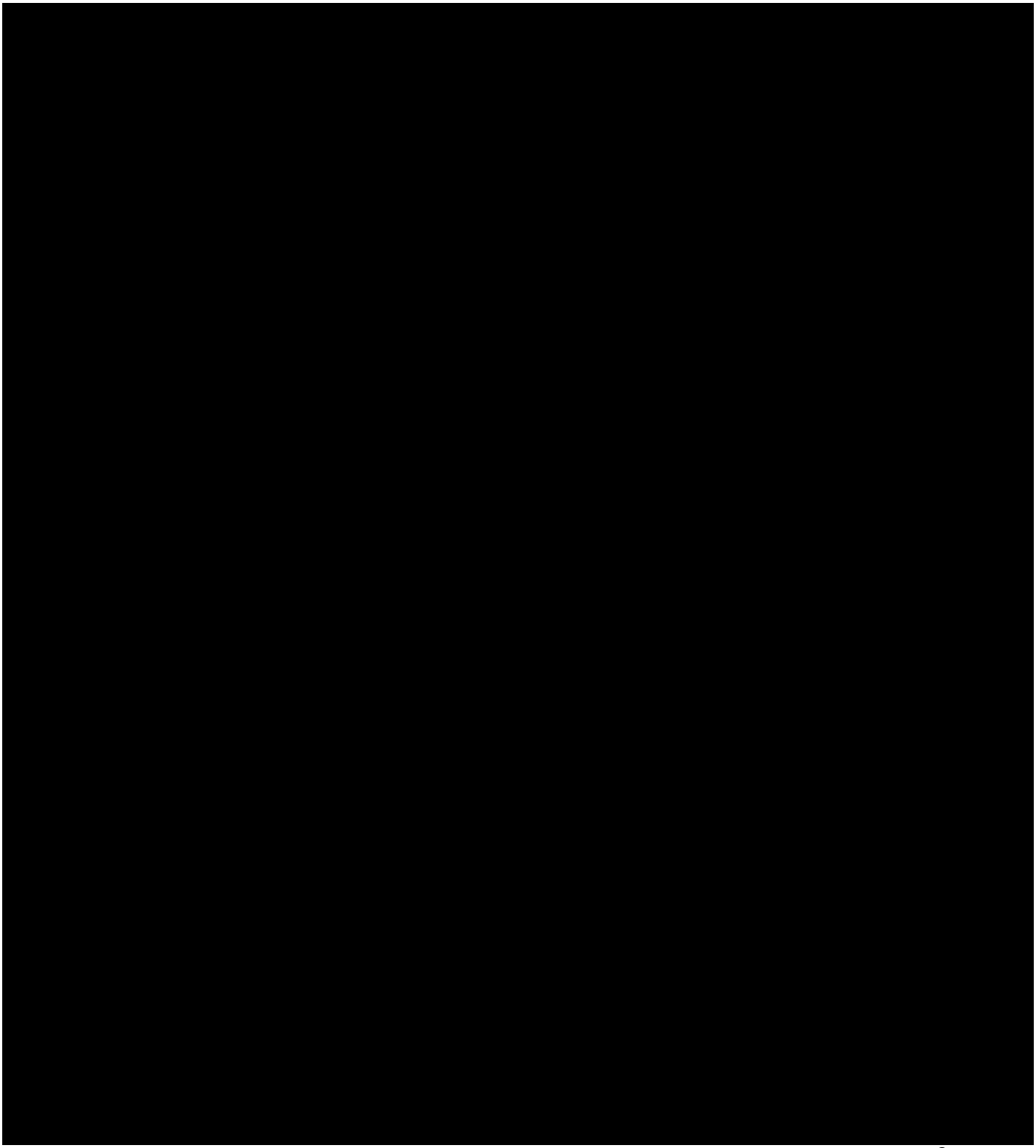
A. Cost Estimate

Budget Summary - Preferred Option — Approved options

2022

ID	Title	Status	Rev #	Contingency	Expenditure Amount	Net Estimate
1	Refeed [redacted] from [redacted]	Prelim	0	28%	$27,163	$27,163
2	Reconductor [redacted] East Haddam 1/0	Prelim	0	28%	$88,750	$88,750
3	Reconductor 3 phas[redacted]	Prelim	0	28%	$74,332	$74,332
8	[redacted] East Hampton add	Prelim	0	28%	$105,300	$105,300
9	[redacted] Add [redacted] Two way P93	Prelim	0	24%	$73,637	$73,637
10	Install auto loop with [redacted] Westchester	Prelim	0	24%	$76,117	$76,117
11	[redacted] add Smart Switch	Prelim	0	24%	$63,859	$63,859
				2022 Total:	**$509,158**	**$509,158**
				Total Project:	**$509,158**	**$509,158**

B. 21H9 Circuit Maps

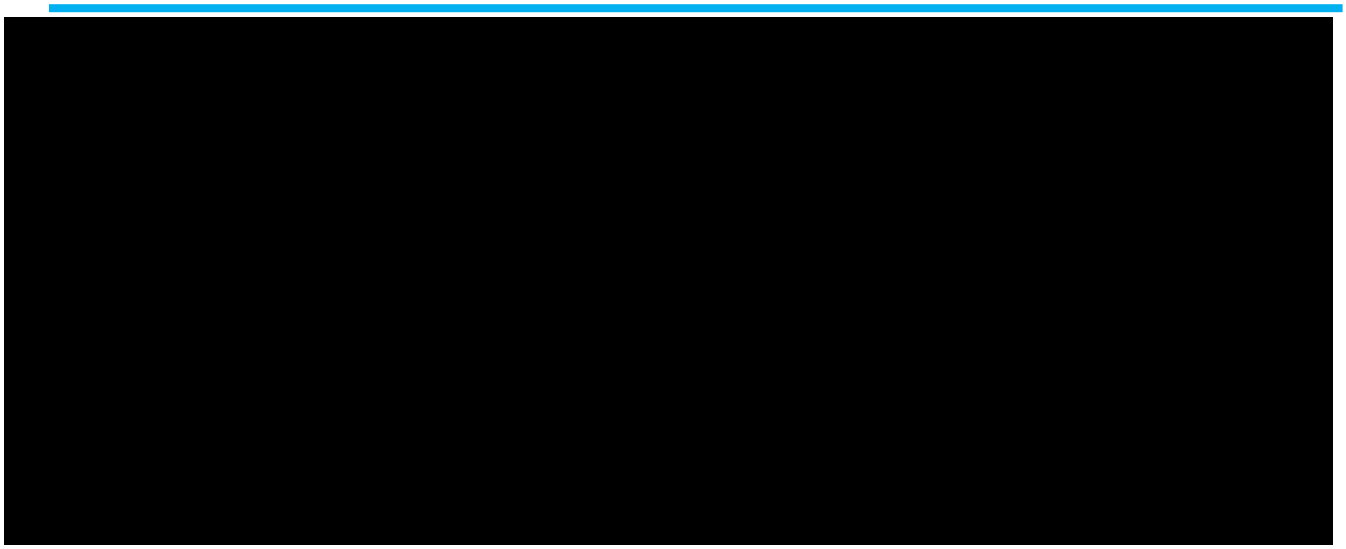


C. 1 Line 21H9 After



C. 1 Line 21H9 before





INITIAL PAF FUNDING

Operations Project Authorization Form

Date Prepared: 12/14/20	**Project Title: [redacted] 2020 TDRP**
Company: Eversource CT	**Project ID Number: CD01649**
Organization: Distribution Electric	**Class(es) of Plant: Distribution**
Project Initiator: [redacted]	**Project Category:** Line
Project Manager: [redacted]	**Project Type: TDRP**
Project Sponsor: [redacted]	**Project Purpose: Reliability**
Estimated in service date:	**If Transmission Project: PTF? N/A**
Eng. /Constr. Resources Budgeted?	**Capital Investment Part of Original Operating Plan?**
Authorization Type: Initial Funding	**O&M Expenses Part of the Original Operating Plan?**
Total Request: $ 509,158	

Financial Requirements:

Project Authorization
ERM: _____

FP&A: _____

Executive Summary

Transmission-Distribution Reliability Performance (TDRP) projects address reliability issues associated with the top Worst 100 circuits in Connecticut. In doing so, Eversource-CT maintains compliance with Docket 86-12-03. Eversource-CT is required to report the status of actions taken to improve performance for each circuit topping the "Worst 100" list. Updates are required each year for the four years following a circuit's appearance on the list.

[redacted]

Project Costs Summary

Note: Dollar values are in thousands

	Prior Authorized	2022	2023	2024	Totals
Capital Additions - Direct	$0	$285	$0	$0	$285
Less Customer Contribution	$0	$0	$0	$0	$0
Removals net of Salvage ____%	$0	$26	$0	$0	$26
Total - Direct Spending	$0	$311	$0	$0	$311
Capital Additions - Indirect	$0	$180	$0	$0	$180
Subtotal Request	$0	$491	$0	$0	$491
AFUDC	$0	$4	$0	$0	$4
Total Capital Request	$0	$495	$0	$0	$495
O&M	$0	$14	$0	$0	$14
Total Request	$0	$509	$0	$0	$509

Financial Evaluation

Note: Dollar values are in thousands

Direct Capital Costs	Year 1	Year 2	Year 3+	Total
Straight Time Labor	$37	$0	$0	$37
Overtime Labor	$3	$0	$0	$3
Outside Services	$160	$0	$0	$160
Materials	$106	$0	$0	$106
Other, including contingency amounts (describe)	$4	$0	$0	$4
Total Direct Costs	**$311**	**$0**	**$0**	**$311**
Indirect Capital Costs	**Year 1**	**Year 2**	**Year 3+**	**Total**
Indirects/Overheads (including benefits)	**$180**	**$0**	**$0**	**$180**
Capitalized interest or AFUDC, if any	**$4**	**$0**	**$0**	**$4**
Total Indirect Costs	**$184**	**$0**	**$0**	**$184**
Total Capital Costs	**$495**	**$0**	**$0**	**$495**
Total Capital Project Costs	**$495**	**$0**	**$0**	**$495**
Total O&M Project Costs	**$14**	**$0**	**$0**	**$14**
Total Project Cost	**$ 509**	**$ -**	**$ -**	**$ 509**

Technical Justification:

Project Need Statement

The work in this project will help Eversource Energy meet its reliability goals SAIDI, CAIDI, SAIFI by improving the electrical system with cover wire, sectionalizing switches, and updating poles.

Project Objectives

The recommendations in this project will improve the reliability of the [redacted] by building a harden electrical distribution system. CAIDI will be improved by the location of GOLB switches installed on the backbone.

Project Scope

[redacted]

Major Material:

5,900 feet of 1/0 single phase tree wire.
700 feet 3 phase 1/0 tree wire.
50 poles.
4 GOLB switches
3 Reclosers
1 500 kVA step down transformer

Background / Justification

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Business Process and / or Technical Improvements:

The reliability improvements on the [redacted] will help bring the circuit off the TDRP list for future years. The areas that were determined to be problematic have been addressed with electrical and structural improvements.

Alternatives Considered with Cost Estimates

[redacted]

Project Schedule

Milestone/Phase Name	Estimated Completion Date
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Cost Estimate Backup Detail

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Risks and Risk Mitigation Plans

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