EVERSOURCE

Project Approval Form

Project Title: Convert and Relocate [redacted]	**Project Number:** CD01489
Date Prepared: 02/21/2024	**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: 06/01/2021	
Total Capital Request: $939K	**Authorization Type:** Full Funding

1. Executive Summary

Full funding is being requested for this project at a cost of $939K which is 106% of the partial funding capital estimate of $888K. There is no scope change in the project.

[redacted]. Project CD01489 [redacted]

[redacted]

[redacted]

2. Project Cost Summary

Financial Evaluation ($000's)

Capital Costs	2021	2022	Year 3+	Total
Internal Labor and Construction Equipment	204.3	0.4	0.0	204.7
Outside Services	39.3	4.2	0.0	43.4
Materials	96.3	-8.5	0.0	87.7
Removals	22.1	-0.2	0.0	21.9
Risk and Contingency	0.0	0.0	0.0	0.0
Other	13.0	0.0	0.0	13.0
Subtotal	**375.0**	**-4.2**	**0.0**	**370.8**

Indirect Capital Costs	2021	2022	Year 3+	Total
Indirects/Overheads (including benefits)	546.2	-13.2	0.0	533.0
Capitalized interest or AFUDC, if any	13.8	21.4	0.0	35.2
Subtotal	**560.0**	**8.2**	**0.0**	**568.2**
Total Capital Costs (Gross)	**935.0**	**3.9**	**0.0**	**938.9**
Less Total Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**
Project Costs (Net of Reimbursement)	**935.0**	**3.9**	**0.0**	**938.9**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

Will create better operational efficiencies by eliminating large step-down areas that cannot be backed up and creating new circuit ties.

- 4.8kV Delta Circuit > 50 Years Old Converted/Rebuilt.
- New construction will be per Eversource present day standards.

b. Project Need

[redacted]

c. Project Scope

[redacted]

4. Alternatives Considered

[redacted]

[redacted]

Segments 8 through 13 were created to solve a condition or to take advantage of an opportunity identified during the course of this project. They were not acted on here but will be used to create projects that will alleviate an overload, (segments 9, 11, 12 & 13) and large customer zones, (segments 8 & 10).

Alternative	Cost Breakdown		Total Cost	Comments
Segment 1	[redacted]	$230K	$230K	[redacted]
Segment 2		$698K	$698K	
Segment 3		$593K	$593K	
Segment 4		$53K	$53K	
Segment 5		$296K	$296K	
Segment 6		$64K	$64K	
Segment 7		$98K	$98K	
Segment 8		$205K	$205K	
Segment 9		$864K	$864K	
Segment 10		$438K	$438K	
Segment 11		$113K	$113K	

Project Option Comparison

	Option				
[redacted]					
Cost	$300K	$939K	$696K	$732K	$1,367K
Preferred option		X			

5. Project Schedule

Add any additional milestones that are pertinent to the project

Milestone/Phase Name	Estimated Date
Initial Funding Authorization	September 30, 2020
Detail Design	December 31, 2020
Construction	April 1, 2021
Inservice Date	June 1, 2021

6. Regulatory Decisions

N/A

7. Codes and Standards

N/A

8. Risk and Contingencies

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2021	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	2021	Low	Design to minimize customer impact. Project preplanning and customer/community outreach.
Internal construction resources not	2021	Medium	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.

available to perform the work.			
Internal engineering resources not available to perform the work.	2021	Medium	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Storm delays	2021	Low	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2021	Low	Schedule work to minimize system abnormal time. Install temporary bypasses/equipment if system will be abnormal for extended periods

9.

References
1. N/A

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

Attachment	Included in Submittal?
A. Cost Estimate	*YES*
B. Partial PAF	*YES*

A:

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01489

Convert and Reloc Step-[redacted]

Work Classification

Category: Line
Type: BLG1
Type Desc: OVERLOADS-SPECIFIC PROJECTS
Work Type:

Ownership / Management

AWC: Cheshire
Statewide: No
Owner [redacted]
Manager [redacted]

Project Information

Status: Draft
SPS #:
AIS Score:
Associated Projects:
Assignment ID:
Patrol Find ID:

Budget Summary - Preferred Option

Convert load of [redacted] tep, convert [redacted] ut step large sidetaps or [redacted]

2021

ID	Title	Status	Rev #	Contingency	Expenditure Amount	Net Estimate
5	[redacted] Convert [redacted] & Step Sidetaps	Prelim	0	24%	$295,905	$295,905
3	Convert all 4.8kV Fed by [redacted] Step	Prelim	0	24%	$592,537	$592,537
				2021 Total:	$888,442	$888,442
				Total Project:	$888,442	$888,442

B:

Operations Project Authorization Form

Date Prepared: 08/20/2020	**Project Title: Convert and Relocate [redacted]**
Company/ies: Eversource CT	**Project ID Number: CD01489**
Organization: Distribution Electric	**Class(es) of Plant: Distribution**
Project Initiator: [redacted]	**Project Category: Line**
Project Manager: [redacted]	**Project Type: Load / Capacity**
Project [redacted]	**Project Purpose: Partial conversion; relocate [redacted]**
Estimated in service date: 06/01/2021	**If Transmission Project: PTF? NA**
Eng. / Constr. Resources Budgeted? No	**Capital Investment Part of Original Operating Plan? N**
Authorization Type: Preliminary Funding	**O&M Expenses Part of the Original Operating Plan? N**
Total Request: $888,441	

Financial Requirements:

EVERSOURCE

Project Approval Form

Project Authorization

ERM: _____

FP&A: _____

Executive Summary

[redacted]

Project Cost Summary

	Prior Authorized	2021	2022	2023+	Totals
Capital Additions - Direct	$0	$483,489	$0	$0	$483,489
Less Customer Contribution	$0	$0	$0	$0	$0
Removals net of Salvage ____%	$0	$65,279	$0	$0	$65,279
Total - Direct Spending	$0	$548,768	$0	$0	$548,768
Capital Additions - Indirect	$0	$283,468	$0	$0	$283,468
Subtotal Request	$0	$832,237	$0	$0	$832,237
AFUDC	$0	$12,811	$0	$0	$12,811
Total Capital Request	$0	$845,048	$0	$0	$845,048
O&M	$0	$43,393	$0	$0	$43,393
Total Request	$0	$888,441	$0	$0	$888,441

Financial Evaluation

Direct Capital Costs	Year 1	Year 2	Year 3+	Total
Straight Time Labor	$61,903	$0	$0	$61,903
Overtime Labor	$11,319	$0	$0	$11,319
Outside Services	$387,121	$0	$0	$387,121
Materials	$84,041	$0	$0	$84,041
Other, including contingency amounts (describe)	$4,384	$0	$0	$4,384
Total Direct Costs	**$548,768**	**$0**	**$0**	**$548,768**

Indirect Capital Costs	Year 1	Year 2	Year 3+	Total
Indirects/Overheads (including benefits)	$283,468	$0	$0	$283,468
Capitalized interest or AFUDC, if any	$12,176	$0	$0	$12,176

Total Indirect Costs	**$295,644**	**$0**	**$0**	**$295,644**
Total Capital Costs	**$844,413**	**$0**	**$0**	**$844,413**
Less Total Customer Contribution	**$0**	**$0**	**$0**	**$0**
Total Capital Project Costs	**$844,413**	**$0**	**$0**	**$844,413**
Total O&M Project Costs	**$44,028**	**$0**	**$0**	**$44,028**

Total Project Cost	**$ 888,441**	**$ -**	**$ -**	**$ 888,441**

Technical Justification:

Project Need Statement

[redacted]

Project Objectives

On the [redacted]

[redacted]

On the [redacted]

EVERSOURCE

Project Approval Form

[redacted]

Project Scope

[redacted]

Background / Justification

Project CD01489 will: Will create better operational efficiencies by eliminating large step-down areas that cannot be backed up and creating new circuit ties.

Business Process and / or Technical Improvements:

- 4.8kV Delta Circuit > 50 Years Old Converted/Rebuilt.
- New construction will be per Eversource present day standards.

Alternatives Considered with Cost Estimates

[redacted]

[redacted]

Segments 8 through 13 were created to solve a condition or to take advantage of an opportunity identified during the course of this project. They were not acted on here but will be used to create projects that will alleviate an overload, (segments 9, 11, 12 & 13) and large customer zones, (segments 8 & 10).

Alternative	Cost Breakdown		Total Cost	Comments
Segment 1	[redacted]	$230K	$230K	[redacted]
Segment 2		$698K	$698K	
Segment 3		$593K	$593K	
Segment 4		$53K	$53K	
Segment 5		$296K	$296K	
Segment 6		$64K	$64K	

Segment 7	[redacted]	$98K	$98K	[redacted]
Segment 8		$205K	$205K	
Segment 9		$864K	$864K	
Segment 10		$438K	$438K	
Segment 11		$113K	$113K	
Segment 12		$254K	$254K	
Segment 13		$509K	$509K	

Project Option Comparison

[redacted]

[redacted]

Cost	$283K	$888K	$657K	$691K	$1,290K
Preferred option		X			

Project Schedule

Milestone/Phase Name	Estimated Completion
Initial Funding Authorization	September 30, 2020
Detail Design	December 31, 2020
Full Funding Authorization	January 31, 2021
Construction	April 1, 2021

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.	2021	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	2021	Low	Design to minimize customer impact. Project preplanning and customer/community outreach.
Internal construction resources not available to perform the work.	2021	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.	2021	Medium	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Storm delays	2021	Low	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2021	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.)

CD01489_project_needs_statement.pdf
Project Map revised per PAC 7-24-20.pdf
Device Load Analysis & Tracking
1-line 7-24-20.pdf
load summary CD01489 7-24-20.xls

Cost Estimate Backup Details

Budget Summary - Preferred Option Convert load of [redacted]

2021

ID	Title	Status	Rev #	Contingency	Expenditure Amount	Net Estimate
5	[redacted] Convert [redacted] & Step Sidetaps	Prelim	0	24%	$295,905	$295,905
3	Convert all 4.8kV Fed by [redacted] Step	Prelim	0	24%	$592,537	$592,537
				2021 Total:	**$888,442**	**$888,442**
				Total Project:	**$888,442**	**$888,442**

Project Option Summary

ID	Description	Segments	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)	Prfrd
O2	Convert load of [redacted]	3,5	$888,442	$0	100%	$0.00	$0.00	☑
O3	[redacted]	3,6	$656,626	$0	100%	$0.00	$0.00	☐
O4	[redacted]	3,7	$690,511	$0	100%	$0.00	$0.00	☐
O5	[redacted]	1,4	$282,580	$0	100%	$0.00	$0.00	☐
O6	[redacted]	2,3	$1,290,037	$0	100%	$0.00	$0.00	☐

Segments

ID	Title	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)
1	Convert and Reloc Step Retain 2/0	$229,844			$0.00	$0.00
2	Convert all 4.8kV Fed by [redacted] Step	$697,500			$0.00	$0.00
3	Convert all 4.8kV Fed by [redacted] Step	$592,537			$0.00	$0.00
4	Reduce Load on 3-PH Step Pole 1529	$52,736			$0.00	$0.00
5	[redacted] Convert [redacted] & Step Sidetaps	$295,905			$0.00	$0.00
6	Install backup to large [redacted] step on Oli	$64,089			$0.00	$0.00
7	Install backup to large [redacted] step on Cha	$97,974			$0.00	$0.00
8	Install auto-loop [redacted]	$205,299			$0.00	$0.00
9	[redacted] Recond getaway and 336 tree wire	$863,785			$0.00	$0.00
10	Close Gap & Install auto-loop, [redacted]	$437,694			$0.00	$0.00
11	[redacted] Recond getaway with 1000 Cu	$112,678			$0.00	$0.00
12	[redacted] Recond getaway with 2-1000 Cu	$254,447			$0.00	$0.00
13	[redacted] Recond 4/0 Cu with 556 tree wire	$508,687			$0.00	$0.00

B.