EVERSOURCE

Project Approval Form

Project Title: [redacted] – Reliability Conversion	**Project Number:** CD01797
Date Prepared: 05/13/2024	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** Lines - Conductor
Project Initiator: [redacted]	**Project Type:** Specific
Initiating Organization: Distribution	**Capital Investment part of original Op 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 Plant)
Required in service date: 3/6/2023	
Total Capital Request: $399.0K	**Authorization Type:** Full Funding

1. Executive Summary

Full funding is being requested for this project at a cost of **$399.0K** which is 107% of the partial funding capital estimate of $371K. There is no scope change on the project. This project falls within the 15% threshold relative to the partial funding request and is therefore being fully requested with no changes anticipated.

The Original Project was presented as follows:

- *This project was established to address the [redacted] since November of 2017 all the outages were tree related with 5 being in 2020 and three in 2021 so far. This project was spurred by the Roxbury town liaison who ultimately was concerned about this very wooded area not being trimmed since 2014.*
- *With that in mind, Eric Barber, the area's arborist completed trimming on this circuit in June 2021 approximately; yet we have already had another tree related incident in September drawing concern to the condition of the infrastructure.*
- *This area's infrastructure is currently [redacted]. The poles on lower south street after the intersection with apple lane are from the 70s and are only 30'. These will need to be replaced. This project budgets 30 poles to be replaced.*
- *This project proposes converting [redacted]*
- *This project was detailed, designed, built, and put in service in February of 2023 for $378K which is an 8% escalation of the initial funding cost, $346K. No changes were made to the scope of work.*

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2022 Actual	2023 Actual	Total
Internal Labor and Construction Equipment	3.2	4.9	8.0
Outside Services	76.7	117.6	194.2
Materials	9.9	15.2	25.1
Removals	19.6	31.8	51.5
Risk and Contingency	0.0	7.8	7.8
Other	0.3	0.5	0.8
Subtotal	**109.7**	**177.8**	**287.5**

Indirect Capital Costs	2022 Actual	2023 Actual	Total
Indirects/Overheads (including benefits)	35.7	72.6	108.3
Capitalized interest or AFUDC, if any	0.4	2.7	3.1
Subtotal	**36.1**	**75.3**	**111.4**
Total Capital Costs (Gross)	**145.9**	**253.1**	**399.0**
Less Total Customer Contribution	**0.0**	**0.0**	**0.0**
Project Costs (Net of Reimbursement)	**145.9**	**253.1**	**399.0**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

Frequent outages causing issues along [redacted]. See below for detailed info.
Outage History

Start Time	Duration	Customer Count	Customer Minutes	Cause	Weather Type	Is Storm Related	Reportable Description	Device
9/23/2021 7:22	237	[redacted]	17538	Cleared limb from lines	Normal Weather	FALSE	Tree pulled down cables at pole A4513	[redacted]
4/1/2021 11:17	33		2442	Cleared limb from lines	Normal Weather	FALSE	Open cutouts to cut tree, power restored.	
3/26/2021 4:29	256		18944	Cleared limb from lines	High Winds	FALSE	Repaired damage caused by downed tree and refused at pole 262.	
12/17/2020 9:59	165		12045	Cleared limb from lines	Snow	FALSE	Removed tree at pole 268 refused 100K at pole 262. Power restored.	
12/13/2020 11:54	43		3225	Cleared limb from lines	Normal Weather	FALSE	cleared limb from primary // AWC to replace pole 11171, and at pole A4508 there needs to be a cross arm & cutouts installed for side tap // Gazdowicz	
11/17/2020 10:38	21		756	Cleared limb from lines	Normal Weather	FALSE	In addition, the cutout at ole 262 needed to be closed in addition to the fusing at pole 1138.	
9/30/2020 4:28	560		41440	Cleared limb from lines	High Winds	TRUE	Removed tree from wires and refused 100k	
8/8/2020 9:20	1225		89425	Cleared limb from lines	High Winds	TRUE	repaired storm damage	
7/30/2019 4:03	357		25704	Cleared limb from lines	High Winds	FALSE	[LONGOM]:Tree down, wires down. [PSENIBA]: Replaced damaged xfmr at pole 263, removed 25 kva, H.I. S/c 1683880 ser.#1177400512. Installed 25 kva H.I. s/c534633 ser.#2496582419. [PSENIBA]: Spliced broken primary.	

Total Customer Minutes	211,519
Total Customer Interruptions	625
Cust. Interruptions Saved	78.12
Cost Per Cust. Intr. Saved	4745.57

Customer Minutes Saved	23,795.89
Cost Per Cust. Min. Saved	15.58

b. Project Need

This project was established to address the recurring outages on [redacted]. [redacted] since November 2017; all outages are tree related with 5 being in 2020 and three in 2021 so far.

Therefore, this project proposes [redacted]

c. Project Scope

In order to meet the above objective, this project proposes the following:

[redacted]

4. Alternatives Considered

No alternatives considered.

5. Project Schedule

Milestone/Phase Name	Estimated Date
Partial Approval	December 2021
Construction Start	March 2022
In Service Date	March 2023

6. Regulatory Decisions

N/A

7. Codes and Standards

N/A

8. Risk and Contingencies

Risk Mitigation:

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	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.	2021	Low	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. Most of this work will require system to be abnormal for any extended period of time.

9. References

N/A

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

Attachment	Included in Submittal?
A1. PAF File	*YES*
A. Cost Estimate	*YES*
B. Geographic Map	*YES*
C. Load Summary	*YES*

Operations Project Authorization Form

Date Prepared: Nov. 11th, 2021	**Project Title:** [redacted]. [redacted] – Reliability Conversion
Company/ies: Eversource CT	**Project ID Number:** CD01797
Organization: Distribution Electric	**Class(es) of Plant:** Distribution
Project Initiator: [redacted]	**Project Category:** Line
Project Manager: [redacted]	**Project Type:** LT-Rehab-Reconductor
Project Sponsor: [redacted]	**Project Purpose:** Improve Reliability
Estimated in service date: December 31, 2022	**If Transmission Project: PTF?** N/A
Eng. /Constr. Resources Budgeted?	**Capital Investment Part of Original Operating Plan?**
Authorization Type: Preliminary	**O&M Expenses Part of the Original Operating Plan?**
Total Request: $371k	

Financial Requirements:

Project Authorization

ERM: _____

FP&A: _____

Executive Summary

This project was established to address the recurring outages on [redacted] since November of 2017 all the outages were tree related with 5 being in 2020 and three in 2021 so far. This project was spurred by the Roxbury town liaison who ultimately was concerned about this very wooded area not being trimmed since 2014.

With that in mind, [redacted], the area's arborist completed trimming on this circuit in June 2021 approximately; yet we have already had another tree related incident in September drawing concern to the condition of the infrastructure.

[redacted] The poles on lower south street after the intersection with apple lane are from the 70s and are only 30'. These will need to be replaced. This project budgets 30 poles to be replaced.

This project proposes converting [redacted]

Project Costs Summary

Note: Dollar values are in thousands

	Prior Authorized	2022	2023	2024+	Totals
Capital Additions - Direct	$0	$139	$0	$0	$139
Less Customer Contribution	$0	$0	$0	$0	$0
Removals net of Salvage ____%	$0	$30	$0	$0	$30
Total - Direct Spending	$0	$169	$0	$0	$169
Capital Additions - Indirect	$0	$145	$0	$0	$145
Subtotal Request	$0	$314	$0	$0	$314
AFUDC	$0	$4	$0	$0	$4
Total Capital Request	$0	$318	$0	$0	$318
O&M	$0	$53	$0	$0	$53
Total Request	$0	$371	$0	$0	$371

Financial Evaluation

Note: Dollar values are in thousands

Direct Capital Costs	Year 1	Year 2	Year 3+	Total
Straight Time Labor	$27	$0	$0	$27
Overtime Labor	$5	$0	$0	$5
Outside Services	$115	$0	$0	$115
Materials	$20	$0	$0	$20
Other, including contingency amounts (describe)	$1	$0	$0	$1
Total Direct Costs	**$169**	**$0**	**$0**	**$169**

Indirect Capital Costs	Year 1	Year 2	Year 3+	Total

Indirects/Overheads (including benefits)	$145	$0	$0	$145
Capitalized interest or AFUDC, if any	$3	$0	$0	$3
Total Indirect Costs	**$149**	**$0**	**$0**	**$149**
Total Capital Costs	**$318**	**$0**	**$0**	**$318**
Less Total Customer Contribution	**$0**	**$0**	**$0**	**$0**
Total Capital Project Costs	**$318**	**$0**	**$0**	**$318**
Total O&M Project Costs	**$53**	**$0**	**$0**	**$53**

Total Project Cost	**$ 371**	**$ -**	**$ -**	**$ 371**

Technical Justification:

Project Need Statement

This project was established to address the [redacted] since November 2017; all outages are tree related with [redacted].

Therefore, this project proposes [redacted], and all older poles with newer 40 ft class 2 poles.

Project Objectives

Improve System Reliability & Resiliency for streets with multiple outage history.

Project Scope

In order to meet the above objective, this project proposes the following:

[redacted]

[redacted]

Major Material:

1. 5100 ft. 1/0 Tree Wire
2. 30 40 ft class 2 pole
3. 8 K Size fuses.
4. 17 Single Phase OH transformer various sizes.

Background / Justification

1. Outage History

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2.	Total Customer Minutes	211,519
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4.	Cust. Interruptions Saved	78.12
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7.	Cost Per Cust. Min. Saved	15.58

Business Process and / or Technical Improvements:

Reconductoring all [redacted] will prevent any outages caused by tree limbs touching the bare wire. Hence will improve reliability.

Project Schedule

Milestone/Phase Name	Estimated Completion Date
Preliminary Approval	December 2021
Construction Approval	December 2021
Start Construction	March 2022
End of Construction	April 2022

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	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.	2021	Low	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. Most of this work will require system to be abnormal for any extended period of time.

References

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

Map

AIMS Need Statement

Load sheet

A. Cost Estimate

Connecticut Light & Power
A Northeast Utilities Company

Project Design Alternative: 1
Project: CD01797 - [redacted] Conversion

Design Alternative CD01797-01

General Information

Segment: 1 - Reconductoring[redacted] Status: Draft
Segment Type: LATERAL REHAB Town: ROXBURY Budget Year: 2023
Work Type: LT-Rehab+Recond Trimming Required: ☐ In Service Date: 12/31/2023
Description: [redacted]

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Connecticut Light & Power
A Northeast Utilities Company

Project Design Alternative: 1

Project: CD01797 - [redacted] Conversion

Design Alternative CD01797-01

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	28.00%
SubTotal:	$289,628
Contingency Amount:	$81,096
Estimate:	$370,724
Reimbursement:	$0
Net Amount:	**$370,724**

Description:

Item Description	CU	$ / Per	Qty	Amount
TRAFFIC OH/DB/UG - Traffic Control - Flagger	16-ALL19	[redacted]		$20,000.00
OH WIRE OH - Neutral	16-OH31			$32,640.00
OH WIRE OH-Reconductor w/175 Mil Tree Wire-1ph (any gauge)	16-OH25			$122,400.00
EQUIPMENT OH - Conversion - CUTOVER 17 xfmrs.	16-OH58			$9,098.40
POLE OH - POLE - 1ph (CL&P custodian) 27 of the 45 poles definitely ned to be replaced; therefore, 5 additional poles are needed.	16-OH13			$14,420.00
SECTIONALIZE OH - Cutouts or Arresters - 1ph 3 are in the circuit; 5 are extra in case side taps need replacing.	16-OH19			$10,969.60
EQUIPMENT OH - Conversion Prep Work - 1ph 45 poles	16-OH56			$55,620.00
OH WIRE OH - Remove circuit wire (1 phase) Removing the neutral and the single phase conductors	16-OH37			$24,480.00

Connecticut Light & Power
A Northeast Utilities Company

Project Design Alternative: 1
Project: CD01797 - [redacted] Conversion

Design Alternative CD01797-01

Associated / Impacted Devices

Status	Type / SysID	Street / Cross St	Structure / Town	Circuit	Map	Cust	Notes
Existing	[redacted]	[redacted]					
Existing							
Existing							

Reliability Projection

Title:
Outage Start Date: 11/2/2017 Outage End Date: 11/2/2021 Years History: 4.00

[redacted]

B. Geographic Map









C. Load Summary



Page 1 of 1