EVERSOURCE

Project Approval Form

Project Title: Western Lateral Contribution to CEMI	**Project Number:** CD02275
Date Prepared: 01/30/2024	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** RELIABILITY IMPROVE SPEC PROJ
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: 12/31/2023	
Total Capital Request: $2,011.5K	**Authorization Type:** Full Funding

1. Executive Summary

Full funding is being requested for this project at a cost of $2,011.5K which is 117% of the partial funding estimate of $1,715.2K. There is no scope change in the project. Material cost was less than originally estimated but much of the work was done by Contractor crews rather than Eversource internal crews resulting in higher charges for outside services and overhead costs.

The project was presented to reconductor some circuit laterals in the Western Division where customers have experienced multiple interruptions in 2022, contributing to a high CEMI (Customers Experiencing Multiple Interruptions) value. These laterals are mostly bare conductors on old poles whose life expectancy is near their end. Two laterals were chosen in the districts of Stamford, Norwalk, Newtown and Torrington while one lateral was chosen in Falls Village.

DEVICE_NAME	Conductor type	Circuit	District	Street	Town	Seg length (ft)
[redacted]						

[redacted]

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2023 Actual	2024 Actual	Total
Internal Labor and Construction Equipment	55.0	3.7	58.6
Outside Services	751.3	50.3	801.7
Materials	98.4	6.6	105.0
Removals	198.5	21.9	220.4
Risk and Contingency	0.0	39.4	39.4
Other	5.6	0.4	6.0
Subtotal	**1,108.8**	**122.3**	**1,231.1**

Indirect Capital Costs	2023 Actual	2024 Actual	Total
Indirects/Overheads (including benefits)	751.2	19.2	770.4
Capitalized interest or AFUDC, if any	9.1	0.8	9.9
Subtotal	**760.3**	**20.0**	**780.3**
Total Capital Costs (Gross)	**1,869.1**	**142.4**	**2,011.5**
Less Total Customer Contribution	**0.0**	**0.0**	**0.0**
Project Costs (Net of Reimbursement)	**1,869.1**	**142.4**	**2,011.5**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

Customers on the following laterals have experienced 3 or more interruptions in 2022

Town	Street	Pole	No. Customers	No. Interruptions
[redacted]				

All these outages can be attributed to trees or animal.

b. Project Need

[redacted]

c. Project Scope

[redacted]

DEVICE_NAME	Conductor type	Circuit	District	Street	Town	Seg length (ft)
[redacted]						

4. Alternatives Considered

One alternative was to do nothing with these laterals but this was not a viable option as something needed to be done to address the asset health (laterals have mostly bare conductors and under classed poles) as well as the multiple device operation. This will improve the reliability of electric service to these customers.

[redacted].

5. Project Schedule

Add any additional milestones that are pertinent to the project

Milestone/Phase Name	Estimated Date
Partial Approval	June 2023

Milestone/Phase Name	Estimated Date
100% Detailed Engineering Completion	July 2023
Construction Start	August 2023
In Service Date	December 2023

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.	2023	Low	Included contingency costs in the funding request. Perform detailed Field Analysis and walk down in project development to avoid potential issues.
Internal construction resources not available to perform the work.	2023	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.	2023	Low	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2023	Medium	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2023	Low	If storm activity delays work, we may be forced to use external resources.

System abnormal configuration	2023	Low	Schedule work to minimize system abnormal time. Install temporary bypasses/equipment if system will be abnormal for extended periods.
Wetlands / Environmentally sensitive area	2023	Low	Use of mats and specialty equipment, only work during certain times of the year.

9. References

References
1. N/A

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

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

Attachment A: Cost Estimate

Main St., Ridgefield.

Design Alternative CD02275-01

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	20.00%
SubTotal:	$95,957
Contingency Amount:	$19,191
Estimate:	$115,148
Reimbursement:	$0
Net Amount:	**$115,148**
Description:	

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	23-ALL17	$4,562.48
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	23-ALL18	$4,000.00
POLE OH - POLE - 1ph (Eversource custodian)	23-OH13	$14,996.80
OH WIRE OH - Remove circuit wire (1 phase)	23-OH37	$3,154.32
TREE OH - Tree Trimming ETT extimates from arborist	23-OH61	$37,700.00
OH WIRE OH-Reconductor w/175 Mil Tree Wire-1ph (any gauge) Reconductor existing conductor with 336 TW	23-OH25	$31,543.20

Project Approval Form

Ladder Hill Rd., Weston

Design Alternative CD02275-02

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	20.00%
SubTotal:	$89,568
Contingency Amount:	$17,914
Estimate:	$107,482
Reimbursement:	$0
Net Amount:	**$107,482**

Description:

Item Description	CU	[redacted]	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	23-ALL17		$4,562.48
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	23-ALL18		$4,000.00
POLE OH - POLE - 1ph (Eversource custodian)	23-OH13		$14,996.80
OH WIRE OH - Remove circuit wire (1 phase)	23-OH37		$3,400.80
TREE OH - Tree Trimming EET extimates from arborist	23-OH61		$28,600.00
OH WIRE OH-Reconductor w/175 Mil Tree Wire-1ph (any gauge) Reconductor existing conductor with 336 TW	23-OH25		$34,008.00

EVERSOURCE

Project Approval Form

Judds Bridge Rd., New Milford

Design Alternative CD02275-03

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	20.00%
SubTotal:	$219,535
Contingency Amount:	$43,907
Estimate:	$263,442
Reimbursement:	$0
Net Amount:	**$263,442**

Description:

Item Description	CU	[redacted]	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	23-ALL17		$4,562.48
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	23-ALL18		$10,000.00
POLE OH - POLE - 1ph (Eversource custodian)	23-OH13		$33,742.80
OH WIRE OH - Remove circuit wire (1 phase)	23-OH37		$14,695.20
TREE OH - Tree Trimming ETT extimates from arborist	23-OH61		$1.30
POLE DB/UG - Riser - 1ph Pole 1067	23-UG145		$9,581.52
OH WIRE OH-Reconductor w/175 Mil Tree Wire-1ph (any gauge) Reconductor existing conductor with 336 TW	23-OH25		$146,952.00

Project Approval Form

Washington Rd., Woodbury

Design Alternative CD02275-04

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	20.00%
SubTotal:	$124,105
Contingency Amount:	$24,821
Estimate:	$148,926
Reimbursement:	$0
Net Amount:	**$148,926**

Description:

Item Description	CU	[redacted]	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	23-ALL17		$4,562.48
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	23-ALL18		$4,000.00
POLE OH - POLE - 1ph (Eversource custodian)	23-OH13		$11,247.60
OH WIRE OH - Remove circuit wire (3 phase)	23-OH37A		$4,584.32
TREE OH - Tree Trimming ETT extimates from arborist	23-OH61		$1.30
OH WIRE OH-Reconductor w/175 Mil Tree Wire-3ph- 336 kcmil Reconductor existing conductor with 336 TW	23-OH26b		$99,708.96

Den Rd., Stamford.

Design Alternative CD02275-05

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	20.00%
SubTotal:	$179,467
Contingency Amount:	$35,893
Estimate:	$215,360
Reimbursement:	$0
Net Amount:	**$215,360**
Description:	

Item Description	CU	[redacted]	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	23-ALL17		$4,562.48
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	23-ALL18		$8,000.00
POLE OH - POLE - 1ph (Telephone custodian)	23-OH11		$19,510.40
OH WIRE OH - Remove circuit wire (1 phase)	23-OH37		$7,254.00
TREE OH - Tree Trimming ETT extimates from arborist	23-OH61		$67,600.00
OH WIRE OH-Reconductor w/175 Mil Tree Wire-1ph (any gauge) Reconductor existing conductor with 336 TW	23-OH25		$72,540.00

Project Approval Form

Norman Rd., Stamford

Design Alternative CD02275-06

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	20.00%
SubTotal:	$120,118
Contingency Amount:	$24,024
Estimate:	$144,142
Reimbursement:	$0
Net Amount:	**$144,142**

Description:

Item Description	CU	[redacted]	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	23-ALL17		$4,562.48
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	23-ALL18		$8,000.00
POLE OH - POLE - 1ph (Telephone custodian)	23-OH11		$2,438.80
POLE OH - POLE - 1ph (Eversource custodian)	23-OH13		$41,241.20
OH WIRE OH-Reconductor w/175 Mil Tree Wire-1ph (any gauge)	23-OH25		$40,341.60
OH WIRE OH - Remove circuit wire (1 phase)	23-OH37		$4,034.16
TREE OH - Tree Trimming ETT Estimates from arborist	23-OH61		$19,500.00

Project Approval Form

Spielman Hwy, Burlington

Design Alternative CD02275-07

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	20.00%
SubTotal:	$56,282
Contingency Amount:	$11,256
Estimate:	$67,538
Reimbursement:	$0
Net Amount:	**$67,538**

Description:

Item Description	CU	[redacted]	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	23-ALL17		$4,562.48
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	23-ALL18		$4,000.00
POLE OH - POLE - 1ph (Eversource custodian)	23-OH13		$7,498.40
OH WIRE OH-Reconductor w/175 Mil Tree Wire-1ph (any gauge)	23-OH25		$16,473.60
OH WIRE OH - Remove circuit wire (1 phase)	23-OH37		$1,647.36
TREE OH - Tree Trimming ETT Estimates from arborist	23-OH61		$22,100.00

Project Approval Form

Highland Ave., New Hartford

Design Alternative CD02275-08

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	20.00%
SubTotal:	$217,745
Contingency Amount:	$43,549
Estimate:	$261,294
Reimbursement:	$0
Net Amount:	**$261,294**
Description:	

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	23-ALL17	$4,562.48
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	23-ALL18	$12,000.00
POLE OH - POLE - 1ph (Eversource custodian)	23-OH13	$41,241.20
OH WIRE OH-Reconductor w/175 Mil Tree Wire-1ph (any gauge)	23-OH25	$89,856.00
OH WIRE OH - Remove circuit wire (1 phase)	23-OH37	$8,985.60
TREE OH - Tree Trimming ETT estimate from arborist	23-OH61	$61,100.00

[redacted]

EVERSOURCE

Project Approval Form

West Woods Rd., Sharon

Design Alternative CD02275-09

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	20.00%
SubTotal:	$407,746
Contingency Amount:	$81,549
Estimate:	$489,296
Reimbursement:	$0
Net Amount:	**$489,296**
Description:	

Item Description	CU	[redacted]	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	23-ALL17		$4,562.48
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	23-ALL18		$24,000.00
POLE OH - POLE - 1ph (Telephone custodian)	23-OH11		$24,388.00
POLE OH - POLE - 1ph (Eversource custodian)	23-OH13		$18,746.00
OH WIRE OH-Reconductor w/175 Mil Tree Wire-1ph (any gauge)	23-OH25		$175,500.00
OH WIRE OH - Remove circuit wire (1 phase)	23-OH37		$17,550.00
TREE OH - Tree Trimming ETT estimate from arborist	23-OH61		$143,000.00

Attachment B: Partial PAF

Operations Project Authorization Form

Project Title: Western Lateral Contributors to CEMI	**Project Number: CD02275**
Date Prepared: 06/19/2023	**Company:** Eversource CT
Organization: Electric Field Operations	**Class(es) of Plant:** D Line
Project Initiator: [redacted]	**Project Category:** RELIABILITY IMPROVE SPEC PROJ
Project Manager: [redacted]	**Project Type:** Specific
Project Sponsor: [redacted]	**Capital Investment part of original Operating Plan:** Yes
Estimated in service date: 12/31/2023	**Emergency Related Request?** No
Eng./Constr. Resources Budgeted? Yes	**Facility Type** (check all that apply)**:**
Total Gross Capital Request: $1,715K	**Authorization Type:** Initial Funding

Executive Summary

This project is being presented to reconductor some circuit laterals in the Western Division where customers have experienced multiple interruptions in 2022, contributing to a high CEMI (Customers Experiencing Multiple Interruptions) value. These laterals are mostly bare conductors on old poles whose life expectancy is near their end. Two laterals were chosen in the districts of Stamford, Norwalk, Newtown and Torrington while one lateral was chosen in Falls Village.

DEVICE_NAME	Conductor type	Circuit	District	Street	Town	Seg length (ft)
[redacted]						

Project Costs Summary

Note: Dollar values are in thousands

Capital Costs	2023	2024	2025+	Total
Internal Labor and Construction Equipment	89.7	0.0	0.0	89.7
Outside Services	608.2	0.0	0.0	608.2
Materials	243.9	0.0	0.0	243.9
Removals	214.6	0.0	0.0	214.6
Other	8.3	0.0	0.0	8.3
Risk and Contingency	0.0	0.0	0.0	0.0
Subtotal	**1,164.6**	**0.0**	**0.0**	**1,164.6**

Indirect Capital Costs	2023	2024	2025+	Total
Indirects/Overheads (including benefits)	516.4	0.0	0.0	516.4
Capitalized interest or AFUDC, if any	34.2	0.0	0.0	34.2
Subtotal	**550.6**	**0.0**	**0.0**	**550.6**
Total Capital Costs (Gross)	**1,715.2**	**0.0**	**0.0**	**1,715.2**
Less Total Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**
Project Costs (Net)	**1,715.2**	**0.0**	**0.0**	**1,715.2**

Technical Justification:

Project Need, Objective and Justification:

Nine devices in the Western region of the state have experienced 3 or more interruptions in 2022. Other interruptions on the circuits have caused the customers downstream of these devices to experience even more outages. The conductors on these devices have been found to be bare conductors or small, weaker

conductors. [redacted]

[redacted].

Project Scope:

[redacted]

DEVICE_NAME	Conductor type	Circuit	District	Street	Town	Seg length (ft)
[redacted]						

Major Material:

- 20,600’ 336 Al TW

Background:

Customers on the following laterals have experienced 3 or more interruptions in 2022

Town	Street	Pole	No. Customers	No. Interruptions
[redacted]				

[redacted]

All these outages can be attributed to Trees or animal.

Alternatives Considered:

Alternatives were considered (please describe below)

One alternative was to do nothing with these laterals but this was not a viable option as something needs to be done to address the asset health (laterals have mostly bare conductors and under classed poles) as well as the multiple device operation. This will improve the reliability of electric service to these customers.

[redacted]

Regulatory Approvals:

Are Regulatory body approvals needed for the project?

No

Project Schedule

Milestone/Phase Name	Estimated Date
100% Engineering Completion	July 2023
Construction Start	July 2023
Testing/Commissioning	December 2023
In Service Date	December 2023

Risks and Risk Mitigation Plans

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2023	Low	Included contingency costs in the funding request. Perform detailed Field Analysis and walk down in project development to avoid potential issues.
Internal construction resources not available to perform the work.	2023	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.	2023	Low	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2023	Medium	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2023	Low	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2023	Low	Schedule work to minimize system abnormal time. Install temporary bypasses/equipment if system will be abnormal for extended periods.
Wetlands / Environmentally sensitive area	2023	Low	Use of mats and specialty equipment, only work during certain times of the year.

References



CD02275_project_needs_statement.pdf

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

N/A