EVERSOURCE

Project Approval Form

Project Title: CT Helper Organization Replace OWS	**Project Number:** CD01669
Date Prepared: 02/14/2024	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** OBSOLETE PLANT OVERHEAD LINES
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: 03/31/2023	
Total Capital Request: $2,510K	**Authorization Type:** Full Funding

1. Executive Summary

Full funding is being requested for this project at a cost of $2,510K which is 153% of the partial funding capital estimate of $1,644K. The variance between the full funding and partial funding estimate is partially due to the underestimated labor and material charges. The legacy estimating units used to produce the partial funding estimates are about 30% lower than estimates used today, which were updated to reflect increased labor and material costs. Another reason was that the estimate was created using fully qualified line crews, instead of apprentices completing the work. The adders for using apprentices were not added to the partial estimate.

The Original Project was presented as follows:

This Project was established for the CT Line Helper Apprentice Program. The aim is to replace Open Wire Secondary (OWS) with Triplex on identified streets for ten (10) taps within the five (5) districts of Newtown, East Hampton, New London, Hartford & Cheshire AWCs, where the Line Helper Apprentice Program currently reports geographically. Work Orders are to be created for each of these highlighted taps to capture Labor Charges, and Material Information for the replacement of Secondary and associated Services. The purpose of this Project is to prepare Quality Line Work for the Eversource Line Helpers as they move through their Step Progression and track OWS replacement with Triplex as it is completed. This will also serve to bolster reliability and improve restoration times as OWS is very difficult to work with when it comes down off the pole during Storm/Rain/Wind Events.

2. Project Cost Summary

Financial Evaluation ($000's)

Capital Costs	2021 Actual	2022 Actual	2023 Actual	Total
Internal Labor and Construction Equipment	218.2	232.2	54.7	505.1
Outside Services	133.0	141.5	33.3	307.8
Materials	12.1	12.9	3.0	28.0
Removals	80.6	85.7	30.9	197.3
Risk and Contingency	0.0	0.0	49.2	49.2
Other	6.3	6.7	1.6	14.7
Subtotal	**450.3**	**479.0**	**172.8**	**1,102.1**

Indirect Capital Costs	2021 Actual	2022 Actual	2023 Actual	Total
Indirects/Overheads (including benefits)	642.0	677.0	60.3	1,379.3
Capitalized interest or AFUDC, if any	12.2	16.7	-0.6	28.2
Subtotal	**654.2**	**693.7**	**59.6**	**1,407.5**

Total Capital Costs (Gross)	**1,104.5**	**1,172.7**	**232.4**	**2,509.6**

Less Total Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**

Project Costs (Net of Reimbursement)	**1,104.5**	**1,172.7**	**232.4**	**2,509.6**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

Requested by Operations and the Training Organization to provide Quality Work for the current Line Helper Apprentices being trained.

b. Project Need

Identified various streets (ten (10) taps) in five (5) Districts that have significant Open Wire Secondary currently in service. The Line Helper Apprentice Organization will replace the current Open Wire Secondary with 1/0 Triplex. The Line Helpers will also replace any Open Wire Services with the appropriately sized Triplex. Eversource GIS Mapping Team ran a query & identified streets with Multiple Spans of Open Wire Secondary to facilitate synergies with this replacement effort.

c. Project Scope

Assumption made that each span is ~ 150 feet in length and cost to replace Open Wire Secondary with Triplex is ~ $8/feet with two (2) Services per OWS span installed. All Open Wire Services will be replaced. If the existing Service installed is Triplex, there will be a need to connect this Service to the newly installed 1/0 Triplex. This is at an assumed cost of $200/Service.

Central Region

Cheshire AWC

Street	Town	Spans	Est Cost	Service	Total
French St	Bristol	19	$22,800	$7,600	$30,400
Mark St	Bristol	20	$24,000	$8,000	$32,000
Berkshire Dr	Farmington	21	$25,200	$8,400	$33,600
Forest Hills Dr	Farmington	23	$27,600	$9,200	$36,800
Knollwood Rd	Farmington	50	$60,000	$20,000	$80,000
Lexton Dr	Farmington	21	$25,200	$8,400	$33,600
Skyline Dr	Farmington	20	$24,000	$8,000	$32,000
Valley View Dr	Farmington	20	$24,000	$8,000	$32,000
Wells Dr	Farmington	20	$24,000	$8,000	$32,000
Thomaston Ave	Waterbury	20	$24,000	$8,000	$32,000

$374,400

Hartford AWC

Street	Town	Spans	Est Cost	Service	Total
Arbutus St	East Hartford	29	$34,800	$11,600	$46,400
Goodwin St	East Hartford	57	$68,400	$22,800	$91,200
Westerly Ter	Rocky Hill	10	$12,000	$4,000	$16,000
Candle Lite Dr	Rocky Hill	6	$7,200	$2,400	$9,600
Brookside	West Hartford	2	$2,400	$800	$3,200
Cliffmore Rd	West Hartford	3	$3,600	$1,200	$4,800
West Normandy Dr	West Hartford	1	$1,200	$400	$1,600
East Maxwell Dr	West Hartford	10	$12,000	$4,000	$16,000
Main St	Wethersfield	5	$6,000	$2,000	$8,000
Two Brook Rd	Wethersfield	3	$3,600	$1,200	$4,800

$201,600

Eastern Region

East Hampton AWC

Street	Town	Spans	Est Cost	Service	Total
Buttonball Lane	Glastonbury	27	$32,400	$10,800	$43,200
Ballfall Rd	Middletown	29	$34,800	$11,600	$46,400
Boston Rd	Middletown	27	$32,400	$10,800	$43,200
Camp St	Middletown	23	$27,600	$9,200	$36,800
East St	Middletown	27	$32,400	$10,800	$43,200
Hickory Circle	Middletown	21	$25,200	$8,400	$33,600
Mile Lane	Middletown	23	$27,600	$9,200	$36,800
Old Mill Rd	Middletown	23	$27,600	$9,200	$36,800
Ridgewood Rd	Middletown	34	$40,800	$13,600	$54,400
Cox Rd	Portland	25	$30,000	$10,000	$40,000

$414,400

New London AWC

Street	Town	Spans	Est Cost	Service	Total
Hillcrest Rd	East Lyme	28	$33,600	$11,200	$44,800
Chapel Hill Rd	Montville	48	$57,600	$19,200	$76,800
Kitemaug Rd	Montville	38	$45,600	$15,200	$60,800
Norwich New London Tpke	Montville	58	$69,600	$23,200	$92,800
Old Colchester Rd	Montville	79	$94,800	$31,600	$126,400
Oxoboxo Cross Rd	Montville	26	$31,200	$10,400	$41,600
Park Ave	Montville	49	$58,800	$19,600	$78,400
Raymond Hill Rd	Montville	83	$99,600	$33,200	$132,800

$654,400

Western Region

Newtown AWC

Street	Town	Spans	Est Cost	Service	Total
N. Lake Shore Dr	Brookfield	24	$28,800	$9,600	$38,400
CHARCOAL RIDGE RD	New Fairfield	18	$21,600	$7,200	$28,800
OVERBROOK DR	New Fairfield	27	$32,400	$10,800	$43,200
SMOKE HILL DR	New Fairfield	14	$16,800	$5,600	$22,400
CALVERTON DR	New Fairfield	13	$15,600	$5,200	$20,800
CANDLE HILL RD	New Fairfield	12	$14,400	$4,800	$19,200
EASTVIEW RD	New Fairfield	12	$14,400	$4,800	$19,200
CRESTWAY RD	New Fairfield	11	$13,200	$4,400	$17,600
PONDFIELD RD	New Fairfield	11	$13,200	$4,400	$17,600
WINDMILL RD	New Fairfield	11	$13,200	$4,400	$17,600
SILVER SPRING LN	Ridgefield	15	$18,000	$6,000	$24,000
RIDGEWOOD RD	Ridgefield	10	$12,000	$4,000	$16,000
SKYLINE DR	Sherman	13	$15,600	$5,200	$20,800
ORCHARD BEACH RD	Sherman	11	$13,200	$4,400	$17,600
COOK ST	Washington	10	$12,000	$4,000	$16,000
					$339,200

Major Material
1/0 Triplex
Cheshire AWC - 234 Spans or 35,100 feet
Hartford AWC - 126 Spans or 18,900 feet
East Hampton AWC - 259 Spans or 38,850 feet
New London AWC - 409 Spans or 61,350 feet
Newtown AWC - 212 Spans or 31,800 feet

4. Alternatives Considered

No alternatives considered due to this being part of the Line Helpers program.

5. Project Schedule

Add any additional milestones that are pertinent to the project

Milestone/Phase Name	Estimated Date
Completed street selection in 5 Districts	1/15/21
Preliminary approval	1/20/21
Begin construction	2/1/21

Milestone/Phase Name	Estimated Date
Complete construction	3/31/23

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	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	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
1. N/A

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

Attachment	Included in Submittal?
A. Cost Estimate	*NO*
B. Partial PAF	*YES*

Operations Project Authorization Form

Date Prepared: 1/19/2021	**Project Title: Ct Helper Organization Replace OWS**
Company/ies: Eversource CT	**Project ID Number: CD01669**
Organization: Distribution Electric	**Class(es) of Plant: Distribution**
Project Initiator: [redacted]	**Project Category: Line**
Project Manager: [redacted]	**Project Type: Obsolete Plant Overhead Lines**
Project Sponsor: [redacted]	**Project Purpose: Replace Open Wire Secondary**
Estimated in service date: 12/2021	**If Transmission Project: PTF? N/A**
Eng. /Constr. Resources Budgeted? Y	**Capital Investment Part of Original Operating Plan? N**
Authorization Type: Preliminary Funding	**O&M Expenses Part of the Original Operating Plan? N**
Total Request: $1,984,000	

Financial Requirements:

EVERSOURCE

Project Approval Form

Project Authorization

ERM: _____

FP&A: _____

Executive Summary

This Project was established for the CT Line Helper Apprentice Program. The aim is to replace Open Wire Secondary (OWS) with Triplex on identified streets for ten (10) taps within the five (5) districts of Newtown, East Hampton, New London, Hartford & Cheshire AWCs, where the Line Helper Apprentice Program currently reports geographically. Work Orders are to be created for each of these highlighted taps to capture Labor Charges, and Material Information for the replacement of Secondary and associated Services. The purpose of this Project is to prepare Quality Line Work for the Eversource Line Helpers as they move through their Step Progression and track OWS replacement with Triplex as it is completed. This will also serve to bolster reliability and improve restoration times as OWS is very difficult to work with when it comes down off the pole during Storm/Rain/Wind Events.

Project Costs Summary

Note: Dollar values are in thousands

	Prior Authorized	2020	2021	2022	Totals
Capital Additions - Direct	$0	$406	$0	$0	$406
Less Customer Contribution	$0	$0	$0	$0	$0
Removals net of Salvage ____%	$0	$719	$0	$0	$719
Total - Direct Spending	$0	$1,125	$0	$0	$1,125
Capital Additions - Indirect	$0	$517	$0	$0	$517
Subtotal Request	$0	$1,642	$0	$0	$1,642
AFUDC	$0	$2	$0	$0	$2
Total Capital Request	$0	$1,644	$0	$0	$1,644
O&M	$0	$340	$0	$0	$340
Total Request	$0	$1,984	$0	$0	$1,984

Financial Evaluation

Note: Dollar values are in thousands

Direct Capital Costs	Year 1	Year 2	Year 3+	Total
Straight Time Labor	$10	$0	$0	$10

Overtime Labor	($0)	$0	$0	($0)
Outside Services	$1,086	$0	$0	$1,086
Materials	$24	$0	$0	$24
Other, including contingency amounts (describe)	$4	$0	$0	$4
Total Direct Costs	**$1,125**	**$0**	**$0**	**$1,125**

Indirect Capital Costs	**Year 1**	**Year 2**	**Year 3+**	**Total**
Indirects/Overheads (including benefits)	$517	$0	$0	$517
Capitalized interest or AFUDC, if any	$1	$0	$0	$1
Total Indirect Costs	**$519**	**$0**	**$0**	**$519**
Total Capital Costs	**$1,644**	**$0**	**$0**	**$1,644**
Less Total Customer Contribution	**$0**	**$0**	**$0**	**$0**
Total Capital Project Costs	**$1,644**	**$0**	**$0**	**$1,644**
Total O&M Project Costs	**$340**	**$0**	**$0**	**$340**
Total Project Cost	**$ 1,984**	**$ -**	**$ -**	**$ 1,984**

Note: Explain unique payment provisions, if applicable

Technical Justification:

Project Need Statement

Identified various streets (ten (10) taps) in five (5) Districts that have significant Open Wire Secondary currently in service. The Line Helper Apprentice Organization will replace the current Open Wire Secondary with 1/0 Triplex. The Line Helpers will also replace any Open Wire Services with the appropriately sized Triplex. Eversource GIS Mapping Team ran a query & identified streets with Multiple Spans of Open Wire Secondary to facilitate synergies with this replacement effort.

Project Objectives

To provide Quality Line Work Experience at the level allowed per the current Line Helper Apprentice Step Progression.

Project Scope

Assumption made that each span is ~ 150 feet in length and cost to replace Open Wire Secondary with Triplex is ~ $8/feet with two (2) Services per OWS span installed. All Open Wire Services will be replaced. If the existing Service installed is Triplex, there will be a need to connect this Service to the newly installed 1/0 Triplex. This is at an assumed cost of $200/Service.

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Hartford AWC - 126 Spans or 18,900 feet
East Hampton AWC - 259 Spans or 38,850 feet
New London AWC - 409 Spans or 61,350 feet
Newtown AWC - 212 Spans or 31,800 feet

Background / Justification
Requested by Operations and the Training Organization to provide Quality Work for the current Line Helper Apprentices being trained.

Business Process and / or Technical Improvements
Eliminate Open Wire Secondary which can be cumbersome to restore during Storm/Rain/Wind Events.

Project Schedule

Milestone/Phase Name	Estimated Completion Date
Completed street selection in 5 Districts	1/15/21
Preliminary approval	1/20/21
Begin construction	2/1/21
Complete construction	12/31/21

Regulatory Approvals
None needed

Risks and Risk Mitigation Plans

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2021	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	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.

Attachments



Master List - Open Wire Secondary Repla