EVERSOURCE

Operations Project Authorization Form

Project Title: [redacted] **WPC Reliability Improvement**	**Project Number: CD02192**
Date Prepared: 06/11/2026	**Company:** Eversource CT
Organization: Distribution Engineering	**Class(es) of Plant:** D Line
Project Initiator: [redacted]	**Project Category:** TRMSN DISTR RELIABILTY PERFRM
Operations Representative: [redacted]	**Project Type:** Specific
Project Sponsor: [redacted]	**Capital Investment part of 5-year plan?** Yes
Estimated in Service Date: 12/31/2026	**Emergency Related Request?** No
Eng./Constr. Resources Budgeted? Yes	**Facility Type** (check all that apply)**:** ☐ PTF ☐ non-PTF ☒ Distribution
Total Request: $239.4K	**NWS Excludable:** ☐ Yes ☒ No
Project Driver: Reliabilty	**Authorization Type: Full Funding**

1. Executive Summary

As part of Eversource's plan to address the worst performing circuits (WPC) in Connecticut, project CD02192 was created to focus on the high impact zones of the [redacted] circuit. The original scope of the project was to address four locations on the circuit that contributed the most to Customer minutes interrupted (CMI). Scope of work included reconductoring several miles of cable, aerial cable bypass, and extensive tree trimming.

After the original design, a benefit cost analysis (BCA) was performed to identify recommended solutions versus the initial design. As a result of the BCA, this project is being de-scoped to focus on only the most cost-effective work. The BCA solutions were determined based on the number of outages experienced within the past four years. The five locations addressed in the original scope are discussed in the Background section of this PAF with recommended revisions.

- Project Location:
  - Division: Central
  - District: Tolland AWC
  - City: Mansfield

The partial funding estimate for this project is $162.6K and was approved at the 9/11/2025 CTPAC.

- The full funding estimate is $239.4K. A difference of $76.8K, or 47% increase.
- There is no scope change.
- The difference between the partial and full funding estimates is due to increased material costs and increased labor costs.

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	Year 2026	Total
Direct Capital Costs		
Internal Labor and Construction Equipment	$42.2	$42.2
Outside Services	$0.0	$0.0
Materials	$31.7	$31.7
Removals	$10.2	$10.2
Risk and Contingency	$16.7	$16.7
Other	$0.0	$0.0
Subtotal – Direct Costs	**$100.8**	**$100.8**
Indirect Capital Costs		
Indirect/Overheads (including benefits)	$138.6	$138.6
Capitalized interest or AFUDC, if any	$0.0	$0.0
Subtotal – Indirect Costs	**$138.6**	**$138.6**
Total Gross Capital Costs	**$239.4**	**$239.4**
Customer Contribution		
Total Net Capital Project Costs	**$239.4**	**$239.4**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

In 2023, Eversource created the top ten worst performing circuits (WPC) for each operating company based on the total number of customer minutes experienced on these circuits over the last four years. The devices with the most customer minutes for each circuit were identified as high impact zones. Cross functional teams were created with members from Engineering, Operations, System Planning, Vegetation Management and Standards to review the high impact zones. [redacted] focuses on infrastructure replacement to improve the reliability of the [redacted] circuit.

[redacted]

This project addresses the reliability in the following high impact zones:

[redacted]:

- The original scope was to reconductor [redacted] bypass along with 4 miles of tree trimming.
- Updated scope is to decline improvements in this location. This zone has been reconfigured as part of Smartswitch project CD02078 negating previous reliability issues.

[redacted]

- The original scope was to reconductor 0.6 miles.
- Updated scope is to install a tripsaver at [redacted] which follows the recommendation from the BCA. Additionally, one phase of [redacted] will be reconductored with [redacted]

[redacted] F:

- The original scope was to tree trim almost 1 mile of circuit.
- Updated scope is to omit work at this location. The lateral only had 1 outage and was the least impactful in comparison to the other locations.

[redacted]

- The original scope was to reconductor and trim 0.5 miles of circuit.
- Updated scope is to omit work at this location due to no additional events over last 4 years.

b. Project Need

This project aims to improve the reliability in the high impact zone with the addition of a tripsaver at [redacted] Mansfield as well as reconductoring from [redacted]

c. Project Scope

Install two tripsavers at [redacted]0 and reconductor one phase at [redacted]7. This will improve reliability on the lateral.

4. Alternatives Considered

Project Option Comparison

Design Criteria	Option		
	1 – Revised Scope	2 – Original Scope	3 – NWS
Required to meet project need			
Normal loads < 90% of OH rating	X	X	X
Contingent loads < 100% of rating	X	X	X
Additional Benefits (not required to meet scope of project)			
Reconductor Gurleyville Rd, Mansfield	X		
Authorization Type	Full	Partial	Partial
Capital Cost	$239.4K	$3.9M	$3.8M
Expense Cost	$13.6K	$85K	$0.2M
Total Cost	$253K	$4M	$4M
Total Cost / CM Saved	$3.58/CM	$12.76/CM	$6.54/CM
Total Cost / CI Saved	$606.58/CI	$1,489/CI	$1,444/CI
Preferred option	X		

Option Summary

Preferred: This option addresses a high impact zone in relation to the number outages in that area. The fuse located at [redacted], Mansfield has had 12 events in the past 4 years. It is large radial tap that supplies 423 customers. The BCA estimates a reliability improvement of 53% with the addition of tripsavers and reconductoring the small bare copper conductor (aging infrastructure). This option was selected as the preferred option due to it being the most cost-effective solution.

Other: This option was not selected as the preferred option due to segments no longer necessary since the original design in 2022. Circuit modifications and reconfigurations over the last three years eliminates the need for most of the original scope of this project. In addition, the BCA illustrates the low-cost effectiveness of these designs that concentrates on reconductoring and tree trimming.

The NWS will install a battery capable of providing 500 KVA for 4 hours to restore customers on the lateral in case of upstream outages. The NWS has an estimated cost of $4M*.

This solution was not selected as the preferred option because it is the least cost-effective option. This option also has varying reliability improvement depending on outage location. In addition, the NWS has diminishing reliability improvements with extended outages. Once the battery is depleted the customers will not have any increase in reliability.

*NWA estimate was calculated at $2M per MWh based on the two lowest of three contractor bids received in Connecticut.

5. Project Schedule

Add any additional milestones that are pertinent to the project

Milestone/Phase Name	Estimated Date
Partial Approval	8/28/2025
100% Detailed Engineering Completion	2/1/2026
Fully Funded	6/11/2026
Construction Start	10/1/2026
In Service Date	12/31/2026

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.	2026	Medium	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.	2026	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.	2026	Medium	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2026	High	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2026	Medium	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2026	Low	Schedule work to minimize system abnormal time. Install temporary bypasses/equipment if system will be abnormal for extended periods.

9. References

References
1. N/A

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

Attachment	Included in Submittal?
A. Partial Funding PAF	*YES*

EVERSOURCE

Operations Project Authorization Form

Attachment A: Partial PAF

Project Title: [redacted] **WPC Reliability Improvement**	**Project Number: CD02192**
Date Prepared: 08/27/2025	**Company:** Eversource CT
Organization: Distribution Engineering	**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: 12/31/2026	**NWS Excludable:** ☐ Yes ☒ No
Total Capital Request: $163K	**Authorization Type: Partial Funding**

1. Executive Summary

As part of Eversource's plan to address the worst performing circuits (WPC) in Connecticut, project CD02192 was created to focus on the high impact zones of the [redacted] circuit. The original scope of the project was to address four locations on the circuit that contributed the most to Customer minutes interrupted (CMI). Scope of work included reconductoring several miles of cable, aerial cable bypass, and extensive tree trimming.

After the original design, a benefit cost analysis (BCA) was performed to identify recommended solutions versus the initial design. As a result of the BCA, this project is being de-scoped to focus on only the most cost-effective work. The BCA solutions were determined based on the number of outages experienced within the past four years. The five locations addressed in the original scope are discussed in the Background section of this PAF with recommended revisions.

- Project Location:
  - Division: Central
  - District: Tolland AWC
  - City: Mansfield

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	Year 2026	Total
Direct Capital Costs		
Internal Labor and Construction Equipment	15.4	15.4
Outside Services	35.3	35.3
Materials	32.3	32.3
Removals	19.5	19.5
Risk and Contingency	0	0
Other	1.4	1.4
Subtotal – Direct Costs	103.9	103.9
Indirect Capital Costs		
Indirect/Overheads (including benefits)	55.8	55.8
Capitalized interest or AFUDC, if any	2.9	2.9
Subtotal – Indirect Costs	58.7	58.7
Total Gross Capital Costs	**162.6**	**162.6**
Customer Contribution		
Total Net Capital Project Costs	**162.6**	**162.6**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

In 2023, Eversource created the top ten worst performing circuits (WPC) for each operating company based on the total number of customer minutes experienced on these circuits over the last four years. The devices with the most customer minutes for each circuit were identified as high impact zones. Cross functional teams were created with members from Engineering, Operations, System Planning, Vegetation Management and Standards to review the high impact zones. CD02192 focuses on infrastructure replacement to improve the reliability of the [redacted] circuit.

[redacted]
[redacted]022.

This project addresses the reliability in the following high impact zones:

[redacted]:

- The original scope was to reconductor [redacted] bypass along with 4 miles of tree trimming.
- Updated scope is to decline improvements in this location. This zone has been reconfigured as part of Smartswitch project CD02078 negating previous reliability issues.

[redacted]:

- The original scope was to reconductor 0.6 miles.
- Updated scope is to install a tripsaver at [redacted]50 which follows the recommendation from the BCA. Additionally, one phase of #4 Copper will be reconductored [redacted]
[redacted]

[redacted]:

- The original scope was to tree trim almost 1 mile of circuit.
- Updated scope is to omit work at this location. The lateral only had 1 outage and was the least impactful in comparison to the other locations.

[redacted]

- The original scope was to reconductor and trim 0.5 miles of circuit.
- Updated scope is to omit work at this location due to no additional events over last 4 years.

b. Project Need

This project aims to improve the reliability in the high impact zone with the addition of a tripsaver at [redacted] as well as reconductoring from [redacted]

c. Project Scope

Install two tripsavers at [redacted] and reconductor one phase at [redacted].
This will improve reliability on the lateral.

4. Alternatives Considered

Project Option Comparison

Design Criteria	Option		
	1 – Revised Scope	2 – Original Scope	3 – NWS
Required to meet project need			
Normal loads < 90% of OH rating	X	X	X
Contingent loads < 100% of rating	X	X	X
Additional Benefits (not required to meet scope of project)			
Reconductor Gurleyville Rd, Mansfield	X		
Authorization Type	Partial	Partial	Partial
Capital Cost	$163K	$3.9M	$3.8M
Expense Cost	$8.8K	$85K	$0.2M
Total Cost	$171.3K	$4M	$4M
Total Cost / CM Saved	$2.44/CM	$12.76/CM	$6.54/CM
Total Cost / CI Saved	$413/CI	$1,489/CI	$1,444/CI
Preferred option	X		

Option Summary

Preferred: This option addresses a high impact zone in relation to the number outages in that area. The fuse located at [redacted], Mansfield has had 12 events in the past 4 years. It is large radial tap that supplies 423 customers. The BCA estimates a reliability improvement of 53% with the addition of tripsavers and reconductoring the small bare copper conductor (aging infrastructure). This option was selected as the preferred option due to it being the most cost-effective solution.

Other: This option was not selected as the preferred option due to segments no longer necessary since the original design in 2022. Circuit modifications and reconfigurations over the last three years eliminates the need for most of the original scope of this project. In addition, the BCA illustrates the low-cost effectiveness of these designs that concentrates on reconductoring and tree trimming.

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This solution was not selected as the preferred option because it is the least cost-effective option. This option also has varying reliability improvement depending on outage location. In addition, the NWS has diminishing reliability improvements with extended outages. Once the battery is depleted the customers will not have any increase in reliability.

*NWA estimate was calculated at $2M per MWh based on the two lowest of three contractor bids received in Connecticut.

5. Project Schedule

Add any additional milestones that are pertinent to the project

Milestone/Phase Name	Estimated Date
Partial Approval	8/28/2025
100% Detailed Engineering Completion	2/1/2026
Fully Funded	4/1/2026
Construction Start	6/1/2026
In Service Date	12/31/2026

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.	2026	Medium	Included contingency costs in the funding request. Perform detailed Field Analysis and walk down in project development to avoid potential issues.
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Internal engineering resources not available to perform the work.	2026	Medium	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2026	High	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2026	Medium	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2026	Low	Schedule work to minimize system abnormal time. Install temporary bypasses/equipment if system will be abnormal for extended periods.

9. References

References
1. N/A

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

Attachment	Included in Submittal?
A. AIMS estimate screenshot	*YES*
B. Segment Map	*YES*

Attachment A: AIMS Estimate

Design Alternative CD02192-06

Estimate

Preliminary Estimate Summary

Revision Number:	0
Contingency:	24.00%
SubTotal:	$138,202
Contingency Amount:	$33,169
Estimate:	$171,371
Reimbursement:	$0
Net Amount:	**$171,371**
Description:	

Item Description	CU	$ / Per	Qty	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	23-ALL17	[redacted]		$4,562.48
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	23-ALL18			$10,000.00
OH WIRE OH - Remove circuit wire (1 phase)	23-OH37			$9,360.00
SECTIONALIZE 1PH Tripsaver	23-OH41A			$16,000.00
OH WIRE OH-Reconductor w/175 Mil Tree Wire-1ph (any gauge) reconductor 1 phase from P. 1750 to P. 1807 Wormwood Hill Rd	23-OH25			$98,280.00

Attachment B: Segment Map

