Supplement Request Form

Project Title: [redacted] TDRP	**Project Number:** CD01752
Date Prepared: 11/13/2023	**Company:** Eversource CT
Organization: Distribution Engineering	**Class(es) of Plant:** D Line
Project Initiator: [redacted]	**Project Category:** TDRP
Project Manager: [redacted]	**Project Type:** Specific
Project Sponsor: [redacted]	**Project Purpose:** Improve Reliability of [redacted] Circuit
Estimated in service date: 11/30/2023	**Capital Investment part of original Operating Plan:** Yes
Current Authorization Amount: $ 143.9K	**O&M Expenses part of request:** No
Supplement Request: $ 144.4K	**Other:**
Total Request: $ 288.2K	

Supplement Justification

Supplement Request Forms must be completed for projects in accordance with the Project Authorization Policy and approval levels in the Delegation of Authority Policy (DOA) as follows:

For Corporate Shared Services Projects:
For projects $500K to $16.5M - An increase in total authorized cost > 15% or; For projects > $16.5M - An increase in total authorized cost > $2.5M

For Distribution and Transmission Operations Projects:
For projects $500K to $16.5M- An increase in total authorized cost > 15% or; For projects > $16.5M - An increase in total authorized cost > $2.5M

Justification for Additional Resources

CD01752 was approved for full funding of $143.9K with the expectation that the project would be completed by crews from the Stamford Line Department. Due to lack of crews, however, the work was contracted out. The labor cost for the outside contractors to perform the work was $116K. This cost, along with additional overhead costs to have the work completed by contractors resulted in an increased total cost for this project. A supplemental $144.4K is being requested for this project resulting in a total capital cost of $288.2K.

Attachment "A" shows the prior authorized Full Funding PAF for this project.

Supplement Cost Summary

Capital Costs	Prior Authorized	Supplemental Request	Total
Direct Capital Costs			
Internal Labor	15.7	-13.3	2.4
Outside Services	1.2	78.1	79.3
Materials	32.8	28.5	61.3
Removals	18.0	33.6	51.6
Risk and Contingency	0.0	0.0	0.0
Other	33.1	5.7	38.7
Subtotal	100.8	99.4	200.2
Indirect Capital Costs			
Indirect/Overheads (including benefits)	43.0	38.1	81.1
Capitalized interest or AFUDC, if any	0.0	6.9	6.9
Subtotal	43.0	45.0	88.0
Total Customer Contribution	0.0	0.0	0.0
Total Capital Project Costs	**143.9**	**144.4**	**288.2**

Attachment A: Full Funding PAF

Operations Project Authorization Form

Project Title: [redacted] **TDRP**	**Project Number: CD01752**
Date Prepared: 01/27/2023	**Company:** Eversource CT
Organization: Electric Field Operations	**Class(es) of Plant:** D Line
Project Initiator: [redacted]	**Project Category:** TRMSN DISTR RELIABILTY PERFRM
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)**:** ☐ PTF ☐ non-PTF ☒ Distribution
Total Gross Capital Request: $143.9K	**Authorization Type:** Full Funding

Executive Summary

Work orders have been written and full funding is now being requested for this project at $143.9K. This represents 87% of the initial funding estimate of $166K. There is no scope change in the project. This work will be done by Stamford District crews and not contractors.

The project was originally presented as follows:

This project was developed for the [redacted] under the Transmission and Distribution Reliability Program (TDRP). The [redacted] is ranked 79 on the 2020 list of the 100 worst performing circuits in Connecticut with a total of 8,654,759 customer minutes lost over 4 years from January 1, 2017 to December 31, 2020. The circuit originates from the [redacted]. Major contributors to the circuit being ranked 79 on the list are as follows:

Zone	Device	Sum of Cust Affected	Sum of Customer Minutes	Number of Instances	% Cust	% CMI
1	[redacted]		1539960	3	4.36%	17.79%
2			99115	5	2.93%	1.15%
3			2079885	7	26.93%	24.03%
4			733911	7	11.34%	8.48%
5			554834	4	2.25%	6.41%
6			165588	2	1.63%	1.91%
7			139372	2	3.69%	1.61%
8			382167	6	2.34%	4.42%
9			106464	4	0.86%	1.23%
10			92092	4	1.79%	1.06%
11			112438	3	2.13%	1.30%
13			88650	2	0.23%	1.02%
14			983100	1	1.51%	11.36%

Careful review of the main contributing outages revealed that over 90% were due to trees. The circuit was pruned in early 2021, but there are some areas that are now being referred to the arborist to review for hazard tree removals. This project will address the major contributors to the poor reliability of the [redacted]. No major line work is recommended at this time, except for additional sectionalizing in zones 1, 3 and 4 as outlined on the attached map. Zones 5, 8 and 14 are being sent to the arborist to look at for hazard tree removal.

- Zone 1, which [redacted] customers.

- Zone 4, which begins at the [redacted]

Project Costs Summary

Note: Dollar values are in thousands

Capital Costs	2023	2024	2025+	Total
Internal Labor and Construction Equipment	15.7	0.0	0.0	15.7
Outside Services	1.2	0.0	0.0	1.2
Materials	32.8	0.0	0.0	32.8
Removals	18.0	0.0	0.0	18.0
Risk and Contingency	10.0	0.0	0.0	10.0
Other	23.1	0.0	0.0	23.1
Subtotal	**100.8**	**0.0**	**0.0**	**100.8**

Indirect Capital Costs	2023	2024	2025+	Total
Indirects/Overheads (including benefits)	43.0	0.0	0.0	43.0
Capitalized interest or AFUDC, if any	0.0	0.0	0.0	0.0
Subtotal	**43.0**	**0.0**	**0.0**	**43.0**
Total Capital Costs (Gross)	**143.9**	**0.0**	**0.0**	**143.9**
Less Total Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**
Project Costs (Net of Reimbursement)	**143.9**	**0.0**	**0.0**	**143.9**

Technical Justification:

Project Need, Objective and Justification:
Whenever a circuit cannot meet the established circuit reliability goals after standard construction due to area interruption frequency, interruption restoration time, or circuit length, modification will need to be made to improve the circuit's reliability **(Eversource DSEM Section 2.101)**. Currently the [redacted] is ranked 79 on the 100 worst performing circuits list for 2020.

The primary objective of this project is to increase the reliability of the [redacted] by adding more sectionalizing devices and removing hazardous trees as necessary.

Project Scope:

[redacted]

Major Material:

1 Nova Recloser and Form 6 Control
2 G.O.A.B switches

Background:
Eversource policy **DSEM Section 2.101** states that when a circuit cannot meet the established circuit reliability goals after standard construction due to area interruption frequency, interruption restoration time, or circuit length, modification will need to be made to improve circuit reliability. [redacted]

Alternatives Considered:

Were alternative solutions considered/applicable? Include any cost/benefit analysis.

Alternatives were considered (please describe below)

Instead of modifying the MR for zone 4 and adding a Smart switch, thought was given to only add a DSCADA switch in that zone. However, it was preferable to have the zone sectionalized into automatic transfer zones as this would save more customer minutes.

Regulatory Approvals:

Are Regulatory body approvals needed for the project?
No

Project Schedule

Milestone/Phase Name	Estimated Date
100% Engineering Completion	December 2022
Construction Start	March 2023
Testing/Commissioning	May 2023
In Service Date	June 2023

Risks and Risk Mitigation Plans

Risk Event	Risk Horizon	Likelihood of Occurrence	Expected Value Cost Exposure ($K)	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2023	5%	$166 x 5% = $8.3	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	5%	$166 x 5% = $8.3	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Storm delays	2023	5%	$166 x 5% = $8.3	If storm activity delays work, we may be forced to use external resources.

References

DSEM02-101.pdf

ACT%20-%20CD017
52%20-%20[redacted]%2C

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

Attachment	Included in Submittal?
A. Cost Summary	*YES*
B. Oneline	*YES*
C. Geographic Map	*YES*
D. Load Sheet	*YES*
E. Outage History	*YES*

Attachment A: Cost Summary:

Segment 1: Sectionalizing- Install Smart Switch

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	28.00%
SubTotal:	$69,782
Contingency Amount:	$19,539
Estimate:	$89,321
Reimbursement:	$0
Net Amount:	**$89,321**
Description:	Long Ridge Rd - Smart Switch

Item Description	CU	$ / Per	Qty	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	[redacted]		$3,509.60
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18			$5,000.00
SECTIONALIZE OH - Recloser - 3ph	16-OH38			$47,989.60
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph	16-OH43			$10,283.20
TREE OH - Tree Trimming	16-OH61			$3,000.00

Segment 3: Sectionalize – [redacted] – GOAB

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	28.00%
SubTotal:	$30,076
Contingency Amount:	$8,421
Estimate:	$38,497
Reimbursement:	$0
Net Amount:	**$38,497**
Description:	[redacted] - GOAB

Item Description	CU	$ / Per	Qty	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	[redacted]		$3,509.60
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18			$3,000.00
SECTIONALIZE OH - GOAB Switch	16-OH44			$20,566.40
TREE OH - Tree Trimming	16-OH61			$3,000.00

Segment 4: Sectionalize – [redacted] – GOAB

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	28.00%
SubTotal:	$30,076
Contingency Amount:	$8,421
Estimate:	$38,497
Reimbursement:	$0
Net Amount:	**$38,497**
Description:	Webbs Hill Rd - GOAB

Item Description	CU	$ / Per	Qty	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	[redacted]		$3,509.60
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18			$3,000.00
SECTIONALIZE OH - GOAB Switch	16-OH44			$20,566.40
TREE OH - Tree Trimming	16-OH61			$3,000.00

CD01752 Need StatementRev4.pdf

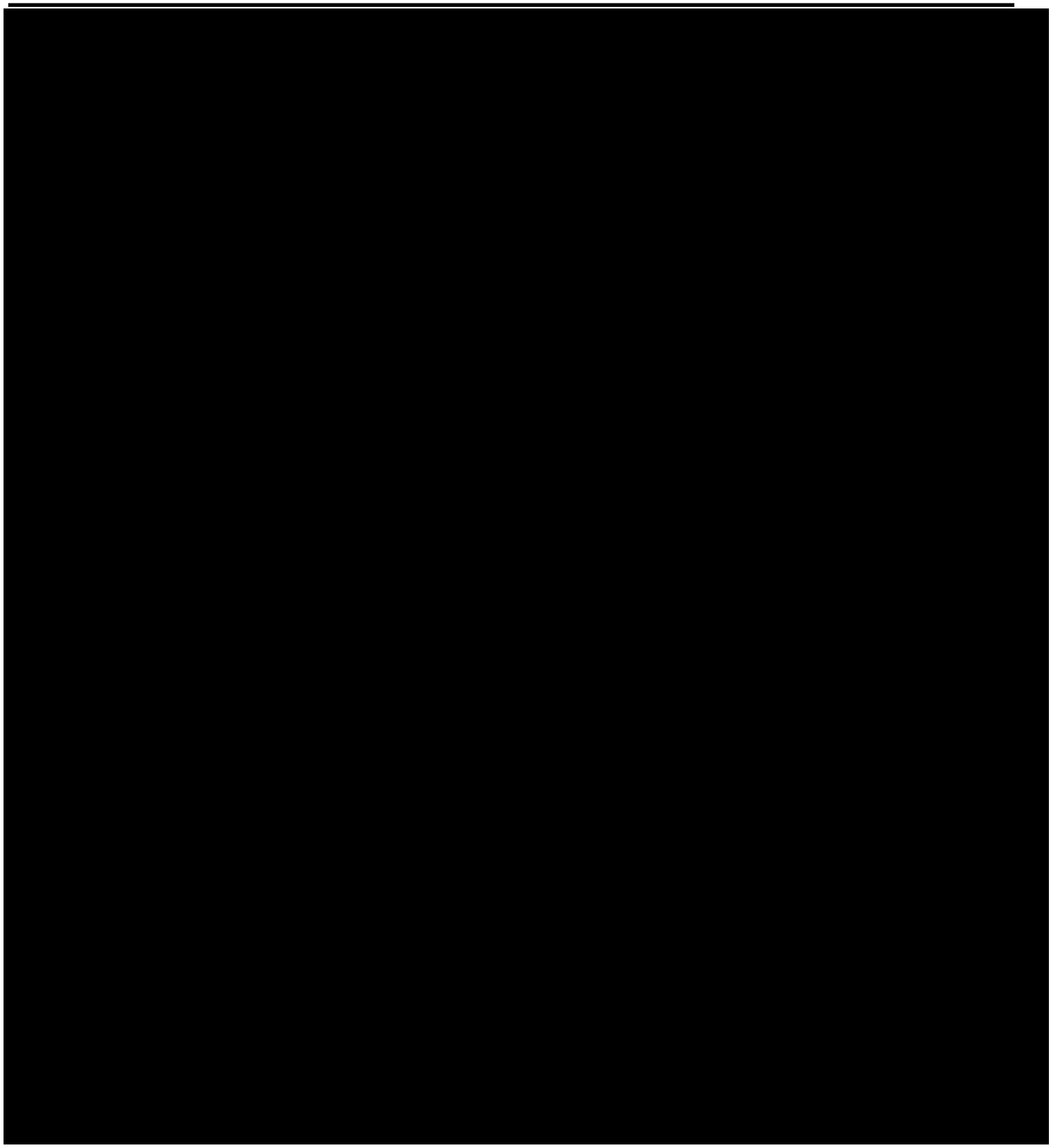
Attachment B: One-line:



[redacted]

[redacted] Before After
1-Lines 06.30.2021.p

Attachment C: Geo Map:



[redacted] Map
before-after 06.30.2(

Attachment D: Load sheet:

[redacted]

Copy of [redacted]
Sheet.xlsx

Attachment E: Outage History:

Appendix 4
Supplement Request Form

Zone	Device	Sum of Cust Affected	Sum of Customer Minutes	Number of Instances	% Cust	% CMI
1	[redacted]	[redacted]	1539960	3	4.36%	17.79%
2			99115	5	2.93%	1.15%
3			2079885	7	26.93%	24.03%
4			733911	7	11.34%	8.48%
5			554834	4	2.25%	6.41%
6			165588	2	1.63%	1.91%
7			139372	2	3.69%	1.61%
8			382167	6	2.34%	4.42%
9			106464	4	0.86%	1.23%
10			92092	4	1.79%	1.06%
11			112438	3	2.13%	1.30%
13			88650	2	0.23%	1.02%
14			983100	1	1.51%	11.36%

Totals		
Customers Affected	Customer Minutes	CMI
[redacted]	8654759	81.78%

4 Year History — **Customer minutes are normalized over 4 years**

Segment/Alternative	Estimated Cost	% CM Improvement	Number of Events (4 Years)			Cost per Customer Minute Saved			Customer Minutes (4 Years)		
			Non-Storm	Storm	Both	Non-Storm	Storm	Both	Non-Storm	Storm	Both
[redacted]	$ 89,321	54%	3	4	7	$ 13.92	$ 0.33	$ 0.32	47,540	2,032,345	2,079,885
	$ 38,497	17%	3	4	7	$ 45.08	$ 1.27	$ 1.23	20,093	713,818	733,911
	$ 38,497	42%	1	2	3	$ 85.46	$ 0.24	$ 0.24	4,290	1,535,670	1,539,960

[redacted]%20outage%20data%202017%20-%

Copy%20of%20[redacted]9%20Device%20Relia

TDRP%[redacted]%20CM%20Improvement.

Subsidiary Board Approval Package Template

Template for Capital Project Review and Approval by a Subsidiary Board

[Sponsoring Operating Unit or Corporate and Shared Services Group] [Project Title]
Capital Project Review and Approval

[Subsidiary] Board of Directors [Sponsoring Officer] [Date of Submission]



Sub Board Approval Template.pptx

Note: to save, complete and print the template, please right click on the above icon and select Presentation Object and Open