EVERSOURCE

Project Approval Form

Project Title: Lakeview [redacted] Contingency Overload	Project Number: CD01958
Date Prepared: 05/29/2024	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** OVERLOADS-SPECIFIC PROJECTS
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: 10/18/2024	
Total Capital Request: $1,038.3K	**Authorization Type:** Full Funding

1. Executive Summary

Full funding is being requested for this project at a cost of **$1,038.3K** which is 31.6% of the partial funding capital estimate of $3,288.6K. There is no scope change on the project. This project was partially approved on 9/6/2023. The variance between the full funding and partial funding estimate is due to a 30% adder to the estimating units, a 30% contractor adder, and a 28% contingency included in the Partial estimate. This project was initially awarded to contractors but was then given to internal construction work.

The Original Project was presented as follows:

- [redacted]
- [redacted]
- *Project Location*
  - *Division: Western*
  - *District: Norwalk*
  - *City/Town: New Canaan*

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2023 Actual	2024 Actual	2024 Estimate	Total
Direct Capital Costs				
Internal Labor and Construction Equipment	49.7	10.8	125.4	185.9
Outside Services	15.3	3.3	38.7	57.3
Materials	55.3	12.0	139.7	207.1
Removals	7.5	1.6	24.1	33.3
Risk and Contingency	0.0	0.0	80.7	80.7
Other	0.0	0.0	0.1	0.1
Subtotal – Direct Costs	**127.9**	**27.8**	**408.7**	**564.4**
Indirect Capital Costs				
Indirect/Overheads (including benefits)	21.8	7.2	441.9	470.9
Capitalized interest or AFUDC, if any	1.3	1.7	0.0	3.0
Subtotal – Indirect Costs	**23.1**	**8.9**	**441.9**	**473.9**
Total Gross Capital Costs	**151.1**	**36.7**	**850.6**	**1,038.3**
Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**
Total Net Capital Project Costs	**151.1**	**36.7**	**850.6**	**1,038.3**

Explain unique payment provisions, if applicable:

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

[redacted]

[redacted]

b. Project Need

[redacted]

[redacted]

c. Project Scope

The scope of this project is as follows:

[redacted]

[redacted]

Major Material:

556 AL Tree Wire 175 Mil Covered Wire – 4,900'
1000 CU EPR 15KV Cable – 1,070'
1 – GOAB Switch
1 – 15KV 3 phase recloser

4. Alternatives Considered

Project Option Comparison

	Option	
[redacted]		
Capital Cost	$1,038.3k	5,358.9k
Expense Cost	$41.55k	167.2k
Total Cost	$1,080.3k	5,526.1k
Total Cost / MVA added	$72,020/MVA	$360,711/MVA
Preferred option	**X**	

Option 2 (Alternative)

The alternative option consists of the same reconductor in the preferred option with the additional of installing a small duct bank outside of Lakeview Substation. The following below describes the work to reroute the circuits in the new duct system.

[redacted]

Option 2 was not selected because of the high cost to put in the new duct system. The ratings on the circuits increase slightly but not enough to select option 2 as the preferred option.

5. Project Schedule

Add any additional milestones that are pertinent to the project

Milestone/Phase Name	Estimated Date
Partial Approval	August 2023
100% Detailed Engineering Completion	August 2023
Construction Start	January 2024
In Service Date	10/18/2024

6. Regulatory Decisions

N/A

7. Codes and Standards

N/A

8. Risk and Contingencies

Contingencies:

Risk Mitigation:

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2024	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	2024	Low	Design to minimize customer impact. Project Preplanning and customer/community outreach.
Internal construction resources not available to perform the work.	2024	High	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.	2024	Medium	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2024	High	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2024	Medium	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2024	Low	Schedule work to minimize system abnormal time. Install temporary bypasses/equipment if system will be abnormal for extended periods.

Technological risks involving integration of new technology	2024	Low	Before use of new technology ensure support of standards and manufacturer. Schedule project to accommodate for extra time or ensure new technology is not on the critical path.
Wetlands / Environmentally sensitive area	2024	Low	Use of mats and specialty equipment, only work during certain times of the year.

9. References

N/A

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

Attachment	Included in Submittal?
A1. Partial Funding PAF Form	*YES*
A. Cost Estimate	*YES*
B. P6 Schedule	*NO*
C. Geographic Map	*YES*
D. System and Station One-Lines	*YES*
E. Bus Swap Diagram	*YES*
F. Load Sheet	*YES*

EVERSOURCE

Project Approval Form

Attachment A1 – Partial Funding PAF Form

Project Title: Lakeview [redacted] Contingency Overload	Project Number: CD01958
Date Prepared: 08/14/2023	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** OVERLOADS-SPECIFIC PROJECTS
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: 6/1/2024	
Total Capital Request: $3,288.6K	**Authorization Type:** Partial Funding

1. Executive Summary

This project was established to address the contingency overloads on [redacted]

[redacted]

Project Location

- Division: Western
- District: Norwalk
- City/Town: New Canaan

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	Year 2024	Year 2025	Year 2026+	Total
Direct Capital Costs				
Internal Labor and Construction Equipment	$137.7	$0	$0	$137.7
Outside Services	$1,119.3	$0	$0	$1,119.3
Materials	$561.5	$0	$0	$561.5
Removals	$248.5	$0	$0	$248.5
Risk and Contingency	$21.8	$0	$0	$21.8
Other	$0.0	$0	$0	$0.0
Subtotal – Direct Costs	**$2,088.8**	**$0**	**$0**	**$2,088.8**
Indirect Capital Costs				
Indirect/Overheads (including benefits)	$1,125.2	$0	$0	$1,125.2
Capitalized interest or AFUDC, if any	$74.6	$0	$0	$74.6
Subtotal – Indirect Costs	**$1,199.7**	**$0**	**$0**	**$1,199.7**
Total Gross Capital Costs	**$3,288.6**	$0	$0	**$3,288.6**
Customer Contribution	$0	$0	$0	$0
Total Net Capital Project Costs	**$3,288.6**	**$0**	**$0**	**$3,288.6**

Explain unique payment provisions, if applicable:

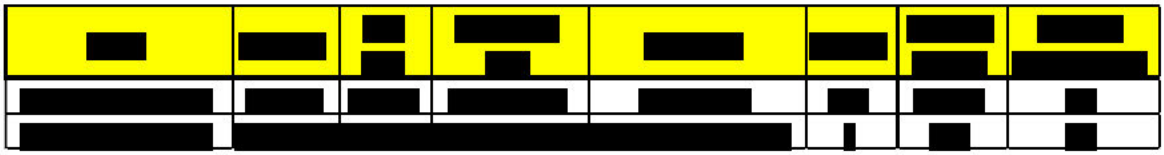
3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

[redacted]

[redacted]



[redacted]

b. Project Need

[redacted]

c. Project Scope

The scope of this project is as follows:

[redacted]

[redacted]

Major Material:

556 AL Tree Wire 175 Mil Covered Wire – 4,900’
1000 CU EPR 15KV Cable – 1,070’
1 – GOAB Switch
1 – 15KV 3 phase recloser

4. Alternatives Considered

Project Option Comparison

Design Criteria [redacted]	Option 1 [redacted]	Option 2 [redacted]
Capital Cost	$3,288.6k	5,358.9k
Expense Cost	$102.6k	167.2k
Total Cost	$3,391.2k	5,526.1k
Total Cost / MVA added	$294,626/MVA	$360,711/MVA
Preferred option	X	

Option 2 (Alternative)

The alternative option consists of the same [redacted]

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted].

Option 2 was not selected because of the high cost to put in the new duct system. The ratings on the circuits increase slightly but not enough to select option 2 as the preferred option.

5. Project Schedule

Add any additional milestones that are pertinent to the project

Milestone/Phase Name	Estimated Date
Partial Approval	August 2023
100% Detailed Engineering Completion	August 2023
Construction Start	January 2024
In Service Date	June 1, 2024

6. Regulatory Decisions

N/A

7. Codes and Standards

N/A

8. Risk and Contingencies

Contingencies: 30% Contractor Contingency & 30% Estimating Unit Adder

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2024	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	2024	Low	Design to minimize customer impact. Project Preplanning and customer/community outreach.
Internal construction resources not available to perform the work.	2024	High	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.	2024	Medium	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2024	High	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2024	Medium	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2024	Low	Schedule work to minimize system abnormal time. Install temporary bypasses/equipment if system will be abnormal for extended periods.

Technological risks involving integration of new technology	2024	Low	Before use of new technology ensure support of standards and manufacturer. Schedule project to accommodate for extra time or ensure new technology is not on the critical path.
Wetlands / Environmentally sensitive area	2024	Low	Use of mats and specialty equipment, only work during certain times of the year.

9. References

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

Attachment	Included in Submittal?
A. Cost Estimate	*YES*
B. P6 Schedule	*NO*
C. Geographic Map	*YES*
D. System and Station One-Lines	*YES*
E. Bus Swap Diagram	*YES*
F. Load Sheet	*YES*

Attachment A – Cost Summary

Preferred option has five segments.

Segment 1 [redacted]

Design Alternative CD01958-01

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	28.00%
SubTotal:	$1,836,758
Contingency Amount:	$514,292
Estimate:	$2,351,051
Reimbursement:	$0
Net Amount:	**$2,351,051**
Description:	Reconductor overloaded circuits with 556 AL TW

Item Description	CU	[redacted]	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Complex	16-ALL16		$28,096.00
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18		$75,000.00
POLE OH - POLE - 3ph (Telephone custodian)	16-OH12		$121,040.00
POLE OH - POLE - 3ph (CL&P custodian)	16-OH14		$42,084.00
OH WIRE OH - Remove circuit wire (3 phase)	16-OH37A		$14,400.00
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph	16-OH43		$10,283.20
OTHER OTHER 30% Adder to Estimating Units	16-ALL14		$326,000.00
OTHER OTHER 30% Contractor Labor	16-ALL14		$424,000.00
TREE OH - Tree Trimming Arborist estimate	16-OH61		$32,000.00

Design Alternative			CD01958-01
OH WIRE OH-Reconductor w/175 Mil Tree Wire-3ph- 556 kcmil Install 100' of 556 AL TW from pole 8016 to pole 1276.	16-OH27	[redacted]	$7,760.00
SECTIONALIZE OH - GOAB Switch Intsall GOAB Switch on pole 1276 to create open point between [redacted]	16-OH44		$20,566.40
OH WIRE OH - Line Extension - 3ph (556 kcmil) reconductor [redacted]	16-OH34		$144,000.00
OH WIRE OH - Line Extension - 3ph (556 kcmil) Reconducto[redacted]	16-OH34		$240,000.00
OH WIRE OH - Line Extension - 3ph (556 kcmil) Reconductor [redacted]	16-OH34		$156,000.00
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average Switching for [redacted] replacement of aerial cable	16-ALL17		$10,528.80
OTHER OTHER Switching labor	16-ALL14		$185,000.00

Segment 3 – Replace UG cable on the [redacted]

Design Alternative CD01958-03

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	28.00%
SubTotal:	$202,814
Contingency Amount:	$56,788
Estimate:	$259,602
Reimbursement:	$0
Net Amount:	**$259,602**

Description: Replace egress on 31A1, 31A9 and 31A8.

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Complex	16-ALL16	$42,144.00
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18	$20,000.00
OTHER OTHER 20% Switching Contingency	16-ALL14	$19,970.00
OTHER OTHER 30% Contractor Contingency	16-ALL14	$47,000.00
OTHER OTHER 30% Estimating Unit Adder	16-ALL14	$36,000.00
UG CABLE DB/UG - 750/1000 - 3-1/C (3ph) Cu [redacted] Install new egress 1000cu	16-UG114B	$31,200.00
UG CABLE UG - Cable Removal - all cables Remove 1000Al egress [redacted]	16-UG117	$6,500.00

Segment 4 – Bus Swap the [redacted]

Design Alternative CD01958-04

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	28.00%
SubTotal:	$73,140
Contingency Amount:	$20,479
Estimate:	$93,619
Reimbursement:	$0
Net Amount:	**$93,619**
Description:	

Item Description	CU	[redacted]	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17		$10,528.80
UG CABLE DB/UG - 750/1000 - 3-1/C (3ph) Cu	16-UG114B		$9,600.00
UG CABLE UG - Transition Splice	16-UG120		$15,820.80
OTHER OTHER 20% Switching Contigency	16-ALL14		$7,190.00
OTHER OTHER 30% Contractor Contingency	16-ALL14		$17,000.00
OTHER OTHER 30% Estimating Unit Adder	16-ALL14		$13,000.00

Segment 7 – Replace UG cable on th [redacted]

Design Alternative CD01958-07

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	28.00%
SubTotal:	$340,564
Contingency Amount:	$95,358
Estimate:	$435,922
Reimbursement:	$0
Net Amount:	**$435,922**
Description:	

Item Description	CU	[redacted]	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Complex	16-ALL16		$42,144.00
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18		$20,000.00
OTHER OTHER 20% Switching Contingency	16-ALL14		$25,000.00
OTHER OTHER 30% Contractor Contingency	16-ALL14		$79,000.00
OTHER OTHER 30% Estimating Unit Adder	16-ALL14		$61,000.00
UG CABLE DB/UG - 750/1000 - 3-1/C (3ph) Cu 31A1 - install new egress 1000cu	16-UG114B		$102,720.00
UG CABLE UG - Cable Removal - all cables Remove 1000AL egress [redacted]	16-UG117		$10,700.00

Segment 12 – Modify existing loop scheme between the [redacted]

Design Alternative CD01958-12

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	28.00%
SubTotal:	$196,063
Contingency Amount:	$54,898
Estimate:	$250,961
Reimbursement:	$0
Net Amount:	$250,961

Description:

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$7,019.20
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18	$20,000.00
TRAFFIC OH/DB/UG - Traffic Control - Flagger	16-ALL19	$5,000.00
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph	16-OH43	$10,283.20
OTHER OTHER 20% Switching Contingency	16-ALL14	$16,000.00
OTHER OTHER 30% Contractor Contingency	16-ALL14	$45,000.00
OTHER OTHER 30% Estimating Unit Adder	16-ALL14	$35,000.00
SECTIONALIZE OH - Recloser Control - setting changes only Change existing settings on the [redacted] to operate as an SR. No[redacted]n 31A8-92T to operate as a two-way tie.	16-OH39A	$9,771.20
SECTIONALIZE OH - Recloser - 3ph Install a two-way tie on pole [redacted] on Valley Rd. Nomenclate [redacted]	16-OH38	$47,989.60

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]