EVERSOURCE

Project Approval Form

Project Title: [redacted] Conversion 8.32 to 13.8	Project Number: CD02103
Date Prepared: 10/11/2024	Company: Eversource CT
Organization: Distribution Engineering	Project Category: S/S ELIMINATION-LINE WORK
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: 12/31/25	
Total Capital Request: $5,820.6K	Authorization Type: Full Funding

1. Executive Summary

Full funding is being requested for this project at a cost of **$5,820.6K** which is 99.6% of the partial funding capital estimate of $5,842K. CD02103 was partially approved on 11/03/2022. There is no scope change on the project. This project falls within the 15% threshold relative to the initial funding request and is therefore being requested with no changes anticipated.

The Original Project was presented as follows:

- [redacted]
- *The total cost of the preferred option 2 is $5,842k*

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2024 Actual	2025 Estimate	Total
Direct Capital Costs			
Internal Labor and Construction Equipment	4.1	268.4	272.4
Outside Services	23.7	1,565.8	1,589.5
Materials	5.6	366.6	372.2
Removals	7.3	567.4	574.7
Risk and Contingency	0.0	401.5	401.5
Other	0.0	0.0	0.0
Subtotal – Direct Costs	**40.6**	**3,169.7**	**3,210.3**
Indirect Capital Costs			
Indirect/Overheads (including benefits)	48.2	2,561.9	2,610.1
Capitalized interest or AFUDC, if any	0.2	0.0	0.2
Subtotal – Indirect Costs	**48.4**	**2,561.9**	**2,610.3**
Total Gross Capital Costs	**89.0**	**5,731.6**	**5,820.6**
Customer Contribution	0.0	0.0	0.0
Total Net Capital Project Costs	**89.0**	**5,731.6**	**5,820.6**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

[redacted]

b. Project Need

Due to poor reliability and aging infrastructure this project was created to remedy these issues.

c. Project Scope

To improve system reliability, the project proposes the following under preferred option 2:

[redacted]



[redacted]

Major Material:

3	Cooper Nova Form 6
72,864	556 Al Spacer Cable (13,565 ft + 6,675 * 3Ø * 20%)
24,288	Messenger Cable
2,400	336 Al TW
2,400	Neutral
3	Junction poles
185	50’ Class 1 Poles
71	45’ Class 1 Poles
80	OH Transformers
12	Pad mount Transformers
1	Disc SW
5	500 kVA Step Transformers
1	167 kVA Step Transformers
2	3-900A GOAB’s

4. Alternatives Considered

Option 1 provides a minimal design. [redacted]

Option 1: $2,017,126

Option 3 provided an ideal design. [redacted]

[redacted]

Option 3: $7,274,608

Option 2 was selected due to the option's capacity to meet the future goal of circuit conversion to 13.8 kV, in addition to being the lower cost option relative to Option 3.

Option 2: $5,820,600

Project Option Comparison

[redacted]			
Cost	$2,017,126	$5,820,600	$7,274,608
Cost / CM Saved	$3.01	$10.30	$12.35
Cost / CI Saved	$3,444.81	$11,609.81	$13,333.53
Preferred option		X	

5. Project Schedule

Add any additional milestones that are pertinent to the project

Milestone/Phase Name	Estimated Date
Preliminary Approval	Nov 2022
Detailed Design	June 2024
Construction Start	Jan 2025
Testing/Commissioning	Sept 2025
In Service Date	Dec 2025

6. Regulatory Decisions

N/A

7. Codes and Standards

N/A

8. Risk and Contingencies

Risk Mitigation:

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2025	Low	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.	2025	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.	2025	Low	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2025	Medium	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2025	Medium	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2025	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	2025	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	2025	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?
A. Project Needs Statement	*YES*
B. Geographic Map	*YES*
C. System and Station One-Lines	*YES*
D. Partial Funding PAF Form	*YES*

Attachment A: Project Needs Statement

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] Line Relocation

Work Classification

Category: Line
Type: BLG4
Type Desc: LINE WORK FOR TRANSMISSION
Work Type:

Ownership / Management

AWC: Newtown
Statewide: No
Owner: [redacted]
Manager:

Project Information

Status: Draft
SPS #:
AIS Score:
Associated Projects:
Assignment ID:
Patrol Find ID:

Budget Summary - Preferred Option — 14A1 Line Relocation from T ROW

2023

ID	Title	Status	Rev #	Contingency	Expenditure Amount	Net Estimate
1	ROW - Remove 336 TW, pole and equipment	Draft	0	28%	$203,492	$203,492
2	Conversion 8.32 to 13.8 kV	Draft	0	28%	$567,827	$567,827
3	Reconductor with pole replacements - BB	Draft	0	28%	$3,299,578	$3,299,578
5	3 - Reclosers ,1 - Disc Switch & 1 TS	Draft	0	28%	$245,903	$245,903
6	Lateral Line reclocation from ROW	Draft	0	28%	$96,381	$96,381
7	Pole repl. & recond bare wire - 1 Ph	Draft	0	28%	$781,140	$781,140
				2023 Total:	**$5,194,321**	**$5,194,321**
				Total Project:	**$5,194,321**	**$5,194,321**

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] Line Relocation

Project Option Summary

ID	Description	Segments	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)	Prfrd
O1	[redacted] Line Relocation from T ROW	1,2,3,5,6,7	$5,194,321	$0	100%	$115.99	$6.47	☑
O2	[redacted] Line Relocation from T ROW - UG	1,2,3,4,5,6,7	$5,598,570	$0	100%	$125.02	$6.98	☐
O3	Undergrounding [redacted] ROW	1,6,8	$7,211,290	$0	100%	$721.66	$22.48	☐

Segments

ID	Title	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)
1	ROW - Remove 336 TW, pole and equipment	$203,492			$0.00	$0.00
2	Conversion 8.32 to 13.8 kV	$567,827			$60.71	$2.04
3	Reconductor with pole replacements - BB	$3,299,578			$448.15	$20.34
4	Coppermine Rd and Roosevelt Rd - UG	$404,249			$0.00	$0.00
5	3 - Reclosers ,1 - Disc Switch & 1 TS	$245,903			$4.41	$0.14
6	Lateral Line reclocation from ROW	$96,361			$105.91	$105.91
7	Pole repl. & recond bare wire - 1 Ph	$781,140			$154.41	$4.87
8	Undergrounding D lines on ROW	$6,911,417			$760.07	$21.58

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] Line Relocation

Background / Scope

Issue:

Project Description:

Other Considerations:

Revision / ACT Comments:

If we don't do this project, what will happen?

Environmental

Water Pollution: No Change Soil Contamination: No Change Natural Habitats: No Change

Alternatives considered based on Environmental Impact or Description of Aspects Oil Spill Risks Considered? ☐

Safety Concerns With This Project? ☐

Explain:

External Stakeholders

Customer Impact / Involvement

Cust. Impacted: Approx. Pole Count (NU):

Crit. Cust. Impacted: Approx. Pole Count (Other):

Adjoining Property Owner Consent Required: ☐ Town Hearing Required: ☐

Other Utility Pole Custodian Area: ☐ Easement Required: ☐

State Highway Permit Required: ☐

Relocation / New Service

New Srvc. Contact: Requestor Type:

Customer Type: State Highway Project #:

Request Number: Route #:

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] Line Relocation

Design Alternative CD01853-01

General Information

Segment: 1 - ROW - Remove 336 TW, pole and equipment Status: Draft

Segment Type: DSTR LINE WRK FOR T Town: REDDING Budget Year: 2023

Work Type: Other Trimming Required: ☐ In Service Date: 12/31/2023

Description: [redacted]

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] Line Relocation

Design Alternative CD01853-01

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	28.00%
SubTotal:	$158,978
Contingency Amount:	$44,514
Estimate:	$203,492
Reimbursement:	$0
Net Amount:	**$203,492**

Description:

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$7,019.20
TRAFFIC OH/DB/UG - Traffic Control - Flagger	16-ALL19	$3,000.00
OTHER OTHER 20% Contractor	16-ALL14	$32,403.00
OTHER OTHER 65 Pole removal Pole [redacted] @ $500 each (reference mar	16-ALL14	$32,500.00
OH WIRE OH - Remove circuit wire (3 phase) from pole [redacted]	16-OH37A	$44,800.00
OH WIRE OH - Remove circuit wire (1 phase) Neutral - from pole [redacted]	16-OH37	$33,600.00
SECTIONALIZE OH - Remove Recloser (any) Remove existing [redacted]	16-OH42	$5,656.00

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853
[redacted]ine Relocation

Design Alternative CD01853-01

Associated / Impacted Devices

Status	Type / SysID	[redacted]	Notes
Existing	[redacted]		
Existing			
Existing			
Existing			

Reliabilit[redacted]

Title:

Outage Start Date: 10/20/2017 Outage End Date: 10/20/2021 Years History: 4.00

[redacted]

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] Line Relocation

Design Alternative CD01853-02

General Information

Segment: 2 - Conversion 8.32 to 13.8 kV Status: Draft

Segment Type: RECONDUCTORING - OTHER Town: OXFORD Budget Year: 2023

Work Type: BB-Conversion-Recond Trimming Required: ☑ In Service Date: 12/31/2023

Description [redacted]

Itemized Work

ID	Major Grid	Minor Grid	Description of Work to be Performed

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] Line Relocation

Design Alternative CD01853-02

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	28.00%
SubTotal:	$443,615
Contingency Amount:	$124,212
Estimate:	$567,827
Reimbursement:	$0
Net Amount:	**$567,827**
Description:	

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$14,038.40
TRAFFIC OH/DB/UG - Traffic Control - Police Officer x 6% Police/Flagger	16-ALL18	$25,563.00
EQUIPMENT OH - Conversion Prep Work - 1ph 14A1 - On Freeman Rd - 1 ph - 69 poles - From pole 20761	16-OH56	$85,284.00
EQUIPMENT OH - Conversion - CUTOVER 14A1 - On Coppermine Rd - 1 ph - 18 xfmrs (4 PADMOUNT) - From	16-OH58	$9,633.60
EQUIPMENT OH - Conversion Prep Work - 1ph 14A1 - On Coppermine Rd - 1 ph - 37 Pole - From pole B9263, B926	16-OH56	$45,732.00
EQUIPMENT OH - Conversion Prep Work - 3ph 14A1 - On Coppermine Rd - 3 ph - 11 Poles - From pole 20724 to 20	16-OH57	$22,660.00
EQUIPMENT OH - Conversion Prep Work - 3ph 14A1 - On Coppermine Rd - 3 ph - 5 Pole - From pole 25503 to F481	16-OH57	$10,300.00
EQUIPMENT OH - Conversion - CUTOVER 14A1 - On Coppermine Rd - 3 ph - 6 xmfrs (1 - 3 ph PADMOUNT &	16-OH58	$3,211.20 o 20760
EQUIPMENT OH - Conversion - CUTOVER 14A1 - On Freeman Rd - 1 ph - 39 xfmrs (6 PADMOUNT)	16-OH58	$21,408.00

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Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] Line Relocation

Design Alternative			CD01853-02
OTHER OTHER 20% Contractor	16-ALL14	[redacted]	$85,208.00
EQUIPMENT OH - Conversion - CUTOVER 21K11 - 36 xfmrs on Bowers Hill Rd and Freeman Rd (14 PADMOU	16-OH58		$19,267.20
EQUIPMENT OH - Conversion Prep Work - 1ph 21K11 - On Bowers Hill Rd - 1 ph - 31 Poles - From pole 62787 - B92	16-OH56		$38,316.00
EQUIPMENT OH - Conversion Prep Work - 1ph 21K11 - On Bowers Hill Rd - 1 ph - 31 Poles - From pole D236 - G33	16-OH56		$21,012.00
EQUIPMENT OH - Conversion Prep Work - 1ph 21K11 - On Freeman Rd - 1 ph - 13 Poles - From pole 22975 - G121	16-OH56		$16,068.00
EQUIPMENT OH - Remove Capacitor, any kVAR 21K11 - Remove 333 kVA steps from pole 62786 and load side C/O	16-OH54		$1,800.00
SECTIONALIZE OH - Cutouts or Arresters - 1ph Install new C/O on pole [redacted]	16-OH19		$4,113.60
XF OH - Stepdowns, 3-1ph - on one POLE Replace non standard stepdown xfrm with 1257 kVA auto parallel - pole 8533, 8534 & 3835	16-OH50		$20,000.00

Associated / Impacted Devices

Status	Type / SysID	Street / Cross St	Structure / Town	Circuit	Map	Cust	Notes
Existing	[redacted]						
Existing							
Existing							
Existing							
Existing							
Existing							

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853
[redacted] Line Relocation

Design Alternative CD01853-02



Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853
[redacted] Line Relocation

Design Alternative CD01853-02

Reliability Projection

Title:

Outage Start Date: 10/20/2017 Outage End Date: 10/20/2021 Years History: 4.00

[redacted]

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] Line Relocation

Design Alternative CD01853-03

General Information

Segment: 3 - Reconductor with pole replacements - BB Status: Draft

Segment Type: RECONDUCTORING - OTHER Town: OXFORD Budget Year: 2023

Work Type: BB-Conversion-Recond Trimming Required: ☑ In Service Date: 12/31/2023

Description: [redacted]

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] Line Relocation

Design Alternative CD01853-03

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	28.00%
SubTotal:	$2,577,795
Contingency Amount:	$721,783
Estimate:	$3,299,578
Reimbursement:	$0
Net Amount:	**$3,299,578**
Description:	

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$14,038.40
OTHER OTHER 20% for Contractor	16-ALL14	$455,616.00
OH WIRE OH - Reconductor w/Spacer Cable - 556 kcmil [redacted] Reconductor 1 ph 1/0 TW with 556 SC on Copper	16-OH29	$1,331,200.00
OH WIRE OH - Remove circuit wire (1 phase) [redacted] Remove existing - 1 phase Cable - Coppermine	16-OH37	$31,200.00
OH WIRE OH - Remove circuit wire (1 phase) [redacted] Remove existing neutral - Coppermine Rd and Bo	16-OH37	$31,200.00
TRAFFIC OH/DB/UG - Traffic Control - Police Officer 6% for Police/flagger	16-ALL18	$136,685.00
POLE OH - POLE - 3ph (CL&P custodian) 84 poles (50% included in reconductoring) Replace old/non standard [redacted] Rd and Bowers Hill Rd	16-OH14	$369,404.00
TREE OH - Tree Trimming From pole 25503 Roosevelt Dr to pole 20752 on Coppermine Rd to p	16-OH61	$150,000.00
POLE OH - JUNCTION POLE - 3ph (CL&P custodian) Reject pole on H Frame [redacted]	16-OH14A	$58,452.00

Asset & Investment Management System 8/16/2022 Page 13 of 33

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] Line Relocation

Design Alternative CD01853-03

Associated / Impacted Devices

Status	Type / SysID	Street / Cross St	Structure / Town	Circuit	Map	Cust	Notes
Existing	[redacted]						
Existing							
Existing							
Existing							
Existing							
Existing							
Existing							
Existing							
Existing							
Existing							

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853
[redacted] Line Relocation

Design Alternative CD01853-03

Reliability Projection

Title:

Outage Start Date: 10/20/2017 Outage End Date: 10/20/2021 Years History: 4.00

[redacted]

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] Line Relocation

Design Alternative CD01853-04

General Information

Segment: 4 - Coppermine Rd and Roosevelt Rd - UG Status: Draft

Segment Type: RELOCATION - UG Town: OXFORD Budget Year: 2023

Work Type: Other Trimming Required: ☐ In Service Date: 12/31/2023

Description: [redacted]

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] ine Relocation

Design Alternative CD01853-04

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	28.00%
SubTotal:	$315,819
Contingency Amount:	$88,429
Estimate:	$404,249
Reimbursement:	$0
Net Amount:	**$404,249**

Description:

Item Description	CU	[redacted]	Amount
CONDUIT UG-Ductline-up to 12 duct - Traveled Way / Paved 2 - 6" contuits (one spare) 150'	16-UG137		$46,920.00
CONDUIT UG-Ductline-up to 12 duct-Non- Traveled/Non-Paved 2 - 6" contuits (one spare) 500'	16-UG138		$94,400.00
POLE DB/UG - Riser - 3ph 2 risers with 900 amps disconnects	16-UG146		$21,588.80
OTHER OTHER 20% Contractor	16-ALL14		$60,662.00
TRAFFIC OH/DB/UG - Traffic Control - Police Officer 6% Police and Flagger	16-ALL18		$18,199.00
UG CABLE DB/UG - 750/1000 - 3-1/C (3ph) Cu 650' 1000 Cu	16-UG114B		$62,400.00
SECTIONALIZE OH - Cutouts or Arresters - 3ph Fault indicator	16-OH20		$4,630.40
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average Switching	16-ALL17		$7,019.20

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] Line Relocation

Design Alternative CD01853-04

Associated / Impacted Devices

Status	Type / SysID	Street / Cross St	Structure / Town	Circuit	Map	Cust	Notes
Existing	[redacted]						
Existing							
Existing							
Existing							

Reliability Projection

Title:

Outage Start Date: 10/20/2017 Outage End Date: 10/20/2021 Years History: 4.00

[redacted]

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853
[redacted]ine Relocation

Design Alternative CD01853-05

General Information

Segment: 5 - 3 - Reclosers ,1 - Disc Switch & 1 TS Status: Draft

Segment Type: RECLOSERS Town: OXFORD Budget Year: 2023

Work Type: LT-Sctnlzng-Reclosers Trimming Required: ☐ In Service Date: 12/31/2023

Description: [redacted]

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] Line Relocation

Design Alternative CD01853-05

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	28.00%
SubTotal:	$192,112
Contingency Amount:	$53,791
Estimate:	$245,903
Reimbursement:	$0
Net Amount:	**$245,903**

Description:

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$7,019.20
SECTIONALIZE OH - Hydraulic Recloser - 1ph 100k - 1 ph - TS on pole 20761	16-OH40	$6,855.20
SECTIONALIZE OH - Recloser - 3ph [redacted]	16-OH38	$143,968.80
TRAFFIC OH/DB/UG - Traffic Control - Police Officer 6% Police & Flaggers	16-ALL18	$13,702.00
SECTIONALIZE OH - GOAB Switch GOAB on pole B9290	16-OH44	$20,566.40

[redacted]

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853
[redacted] Line Relocation

Design Alternative CD01853-05

Associated / Impacted Devices

Status	[redacted]	Notes
Existing		
Existing		
Existing		
Existing		
Existing		
Existing		
Existing		
Existing		
Existing		

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853
[redacted] Line Relocation

Design Alternative CD01853-05

Reliability Projection

Title:

Outage Start Date: 10/20/2017 Outage End Date: 10/20/2021 Years History: 4.00

[redacted]

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] Line Relocation

Design Alternative CD01853-06

General Information

Segment: 6 - Lateral Line reclocation from ROW Status: Draft

Segment Type: RELOCATION - OH SPECIFIC Town: OXFORD Budget Year: 2023

Work Type: LT-Rehab+Recond Trimming Required: ☑ In Service Date: 12/31/2023

Description: [redacted]

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] Line Relocation

Design Alternative CD01853-06

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	28.00%
SubTotal:	$75,298
Contingency Amount:	$21,083
Estimate:	$96,381
Reimbursement:	$0
Net Amount:	**$96,381**

Description:

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING Network	16-ALL15	$28,097.60
TRAFFIC OH/DB/UG - Traffic Control - Flagger	16-ALL19	$1,200.00
OH WIRE OH - Line Extension - 1ph (any gauge) Pole B9293 to 25535	16-OH32	$36,000.00
TREE OH - Tree Trimming Trimming estimates from Barber, Eric E	16-OH61	$10,000.00

Associated / Impacted Devices

Status	Type / SysID	Street / Cross St	Structure / Town	Circuit	Map	Cust	Notes
Existing	[redacted]						

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853
[redacted]ine Relocation

Design Alternative CD01853-06

Reliability Projection

Title:

Outage Start Date: 11/10/2017 Outage End Date: 11/10/2021 Years History: 4.00

[redacted]

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] Line Relocation

Design Alternative CD01853-07

General Information

Segment: 7 - Pole repl. & recond bare wire - 1 Ph Status: Draft

Segment Type: LATERAL REHAB Town: OXFORD Budget Year: 2023

Work Type: LT-Conversion-Recond Trimming Required: ☑ In Service Date: 12/31/2023

Description: [redacted]

Itemized Work

ID	Major Grid	Minor Grid	Description of Work to be Performed

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] Line Relocation

Design Alternative CD01853-07

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	28.00%
SubTotal:	$610,266
Contingency Amount:	$170,874
Estimate:	$781,140
Reimbursement:	$0
Net Amount:	**$781,140**
Description:	

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING Network	16-ALL15	$28,097.60
TREE OH - Tree Trimming	16-OH61	$10,000.00
OH WIRE OH - Remove circuit wire (1 phase) [redacted] Freeman Rd - Conductor removal, pri and N	16-OH37	$28,800.00
OH WIRE OH - Neutral [redacted] N on Freeman Rd from pole 20760 to 20772	16-OH31	$12,800.00
OH WIRE OH - Neutral [redacted] N on Freeman Rd from pole 6795 to D234	16-OH31	$25,600.00
OH WIRE OH-Reconductor w/175 Mil Tree Wire-1ph (any gauge) [redacted] Pri on Freeman Rd from pole 20760 to 20772	16-OH25	$48,000.00
OH WIRE OH-Reconductor w/175 Mil Tree Wire-1ph (any gauge) [redacted] Pri on Freeman Rd from pole 6795 to D234	16-OH25	$96,000.00
OH WIRE OH - Neutral [redacted] N on Freeman Rd from pole B9296 to 22978	16-OH31	$7,680.00
OH WIRE OH-Reconductor w/175 Mil Tree Wire-1ph (any gauge) [redacted] Pri on Freeman Rd from pole B9296 to 22978	16-OH25	$28,800.00

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Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] Line Relocation

Design Alternative			CD01853-07
OH WIRE	16-OH37	[redacted]	$2,880.00
OH - Remove circuit wire (1 phase) [redacted] Removal on Freeman Rd from pole B9296 to 22978			
POLE	16-OH13		$118,244.00
OH - POLE - 1ph (CL&P custodian) 40/2 on Freeman Road from pole 20761 total poles 82 (21K11 & 14A			
OTHER	16-ALL14		$150,964.00
OTHER Contractor 20%			
TRAFFIC	16-ALL19		$20,000.00
OH/DB/UG - Traffic Control - Flagger Flaggers			
OH WIRE	16-OH37		$2,400.00
OH - Remove circuit wire (1 phase) Remove 500' of #6 & N			
OH WIRE	16-OH32		$30,000.00
OH - Line Extension - 1ph (any gauge) Replace #6 Cu + N from pole 3591 to C3494 with 1/0 TW			

Associated / Impacted Devices

Status	Type / SysID	Street / Cross St	Structure / Town	Circuit	Map	Cust	Notes
Existing	[redacted]	FREEMAN RD FIDDLEHEAD RD	6795 OXFORD	[redacted]		34	
Existing		FREEMAN RD ROOSEVELT DR	20761 OXFORD			73	
Existing		BOWERS HILL RD FREEMAN RD	B9296 OXFORD			14	
Existing		FREEMAN RD ROOSEVELT DR	3590 OXFORD			5	

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853
[redacted]ine Relocation

Design Alternative CD01853-07

Reliability Projection

Title:

Outage Start Date: 1/1/2017 Outage End Date: 1/1/2021 Years History: 4.00

[redacted]

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] Line Relocation

Design Alternative CD01853-08

General Information

Segment: 8 - Undergrounding D lines on ROW
Status: Draft
Segment Type: RECONDUCTORING - OTHER
Town: OXFORD
Budget Year: 2023
Work Type: BB-Reconductoring
Trimming Required: ☐
In Service Date: 12/31/2023
Description:

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] Line Relocation

Design Alternative CD01853-08

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	28.00%
SubTotal:	$5,399,545
Contingency Amount:	$1,511,873
Estimate:	$6,911,417
Reimbursement:	$0
Net Amount:	**$6,911,417**
Description:	

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$35,096.00
OTHER OTHER 1. 20% Contractor cost 1.06 Mil	16-ALL14	$531,120.00
SECTIONALIZE OH - GOAB Switch 2 GOABS	16-OH44	$41,132.80
POLE DB/UG - Riser - 3ph 2 New risers	16-UG146	$21,588.80
OTHER OTHER 2. 20% Contractor Cost	16-ALL14	$531,120.00
OTHER OTHER 25 splice vaults to go in road with hard covers	16-ALL14	$500,000.00
SECTIONALIZE OH - Remove Recloser (any) Old oil filled reclose[redacted]	16-OH42	$5,656.00
OTHER OTHER Part 1. Cost is for all civil work including pipe, splice vaults and repa	16-ALL14	$756,000.00
OTHER OTHER Part 2. Cost is for all civil work including pipe, splice vaults and repa	16-ALL14	$756,000.00

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Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853

[redacted] Line Relocation

Design Alternative			CD01853-08
OTHER OTHER Part 3. Cost is for all civil work including pipe, splice vaults and repav	16-ALL14	[redacted]	$756,000.00
POLE OH - JUNCTION POLE - 3ph (CL&P custodian) Reject pole on H Frame[redacted]	16-OH14A		$58,452.00
EQUIPMENT OH - Remove Capacitor, any kVAR Remove existing non standard parallel 500 kVA Steps	16-OH54		$5,400.00
XF OH - Stepdowns, 3-1ph - on one POLE Replace non standard stepdown xfrm with 1257 kVA auto - pole 8533	16-OH50		$10,000.00
SECTIONALIZE OH - Recloser - 3ph SR Right before H Frame and New tie pole[redacted]	16-OH38		$95,979.20
UG CABLE DB/UG - 750/1000 - 3-1/C (3ph) Cu UG 1000 Cu	16-UG114B		$1,296,000.00

Associated / Impacted Devices

Status	Type / SysID	Street / Cross St	Structure / Town	Circuit	Map	Cust	Notes
Existing	[redacted]						

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01853
[redacted] Line Relocation

Design Alternative CD01853-08

Reliability Projection

Title:

Outage Start Date: 8/9/2017 Outage End Date: 8/9/2021 Years History: 4.00

[redacted]

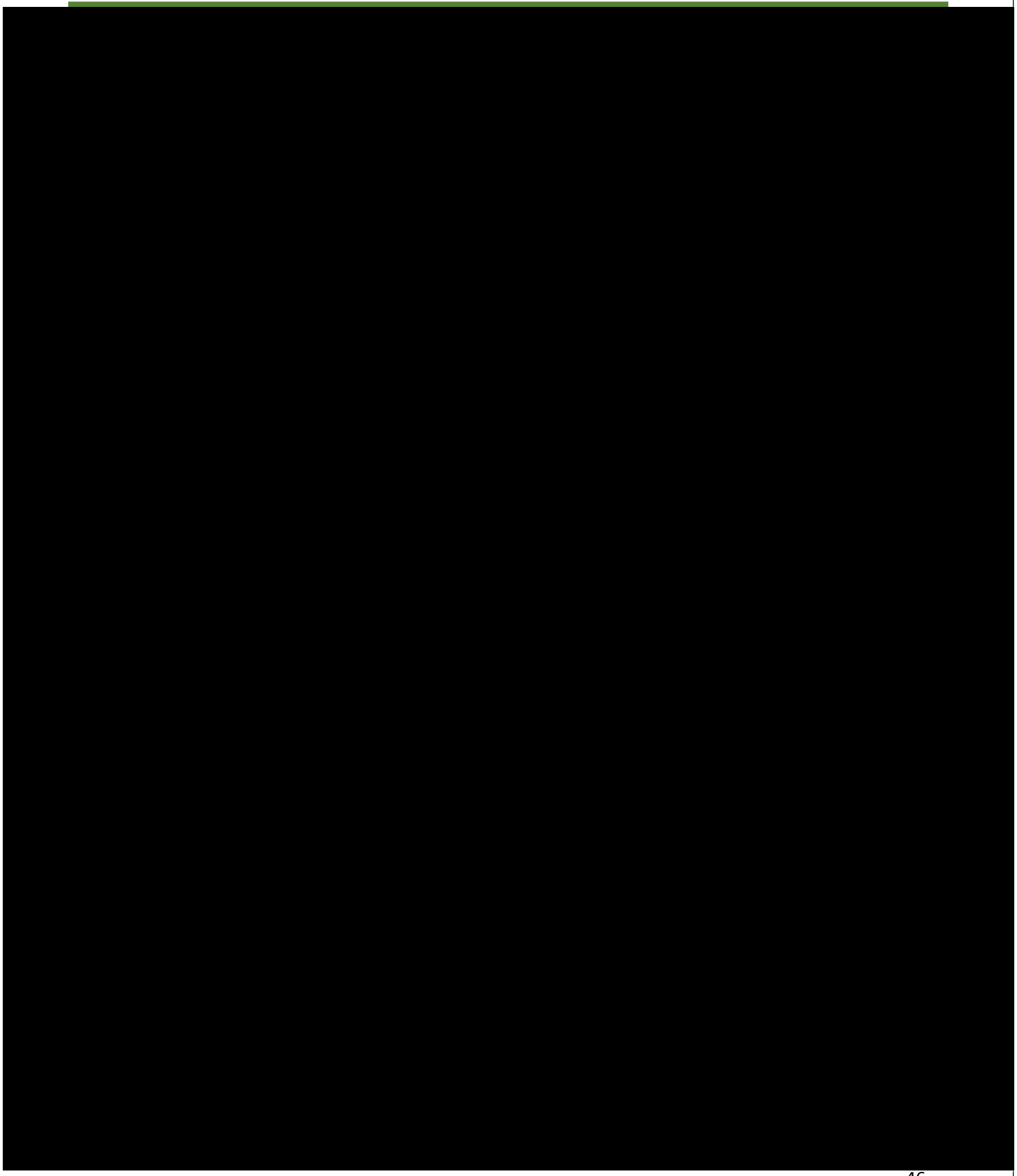
[redacted]

[redacted]

[redacted]

[redacted]

Reject Pole	✶



[redacted]

[redacted]

Attachment D: Partial Funding PAF Form

Operations Project Authorization Form

Project Title: [redacted] **Conversion 8.32 to 13.8 kV**	**Project Number: CD02103**
Date Prepared: 10/03/2022	**Company:** Eversource CT
Organization: Distribution Engineering	**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:** No
Estimated in service date: 12/31/25	**Emergency Related Request?** No
Eng./Constr. Resources Budgeted? Yes	**Facility Type** (check all that apply)**:** ☐ PTF ☐ non-PTF ☒ Distribution
Total Gross Capital Request: $5,842k	**Authorization Type:** Initial Funding

Executive Summary

[redacted]

The total cost of the preferred option 2 is $5,842k

Project Costs Summary

Note: Dollar values are in thousands

Capital Costs	Year 2025	Total
Direct Capital Costs		
Internal Labor and Construction Equipment	$220	$220
Outside Services	$2,080	$2,080
Materials	$644	$644
Removals	$333	$333
Risk and Contingency	$284	$284
Other	$0	$0
Subtotal – Direct Costs	**$3,562**	**$3,562**
Indirect Capital Costs		
Indirect/Overheads (including benefits)	$2,163	$2,163
Capitalized interest or AFUDC, if any	$117	$117
Subtotal – Indirect Costs	**$2,280**	**$2,280**
Total Gross Capital Costs	**$5,842**	**$5,842**
Customer Contribution	$0	$0
Total Net Capital Project Costs	**$5,842**	**$5,842**

Technical Justification:

Project Need Statement

Due to poor reliability and aging infrastructure this project was created to remedy these issues.

Project Objectives

[redacted]

Project Scope:

To improve system reliability, the project proposes the following under preferred option 2:

[redacted]

[redacted]

Major Material:

3	Cooper Nova Form 6
72,864	556 Al Spacer Cable (13,565 ft + 6,675 * 3Ø * 20%)
24,288	Messenger Cable
2,400	336 Al TW
2,400	Neutral
3	Junction poles
185	50’ Class 1 Poles
71	45’ Class 1 Poles
80	OH Transformers
12	Pad mount Transformers
1	Disc SW
5	500 kVA Step Transformers
3	167 kVA Step Transformers
4	3-900A GOAB’s

Background:

[redacted]

Alternatives Considered:

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

Alternatives were considered (please describe below)

Option 1 provides a minimal design. [redacted]

Option 1: $2,017,126

Option 3 provided an ideal design. [redacted]

Option 3: $7,274,608

Project Option Comparison

Design Criteria	Option		
	1 – Minimal Design	2 – Partial Design	3 – Complete Design
[redacted]			
Cost	$2,017,126	$5,969,291	$7,274,608
Cost / CM Saved	$3.01	$10.56	$12.35
Cost / CI Saved	$3,444.81	$11,906.39	$13,333.53
Preferred option		X	

Regulatory Approvals:

Are Regulatory body approvals needed for the project?

No

If yes, provide detailed regulatory approvals

Project Schedule

Milestone/Phase Name	Estimated Date
Preliminary Approval (ENG)	Nov 2022
Detail Design	June 2024
Construction Start	Jan 2025
Testing/Commissioning	Sept 2025
In Service Date	Dec 2025

Risks and Risk Mitigation Plans

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2025	Low	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.	2025	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.	2025	Low	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2025	Medium	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2025	Medium	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2025	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	2025	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	2025	Low	Use of mats and specialty equipment, only work during certain times of the year.