EVERSOURCE

Project Approval Form

Project Title: New [redacted]	Project Number: CD01677
Date Prepared: 10/18/2023	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** SPECIFIC PROJECTS-NEW SRVCE
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: 12/31/23	
Total Capital Request: $6.78M	**Authorization Type:** Full Funding

1. Executive Summary

Project CD01677 – New [redacted] – was established to address new customer load and circuit overloads in [redacted]

- [redacted] built a [redacted] on [redacted]. The predicted load would have overloaded the capacity of the existing circuits in the area.

- This project called for:
  - a new [redacted]
  - upgrade the existing [redacted]
  - reconfigure the existing [redacted]

- Based on [redacted] expected demand, the total cost of this project exceeded the computed NB-12 customer offset cost of $ 5,547,600.

- Although CD01677's initial funding request of $ 6.285M is above our NB-12 customer contribution, this project's requested dollars include over $1.2 million dollars of betterments, therefore eliminating the need for any customer contribution.

- Project Location
  - Division: Central
  - District: Tolland AWC
  - City/Town: Windsor Locks

- The Partial Funding estimate for this project was $7.019M capital dollars and was approved at the 3/3/22 CTPAC. The project scope was revised at that time to include an additional 5,550 ft of reconductoring at an additional cost of $919K from the initial estimate of $6.1M capital dollars.

- The full funding estimate for this project is $6.784M. The difference in cost equates to $235K, a decrease of 3.3% from the Partial Funding request.

2. Project Cost Summary

Note: Dollar values are in thousands.

Financial Evaluation ($000's)

Capital Costs	2021	2022	2023	Total
Internal Labor and Construction Equipment	0.2	59.4	12.8	72.4
Outside Services	0.0	1,492.5	1,110.7	2,603.2
Materials	23.6	1,279.7	113.3	1,416.6
Removals	1.0	124.4	61.6	187.0
Risk and Contingency	0.0	0.0	161.3	161.3
Other	0.0	6.7	6.3	13.0
Subtotal	**24.9**	**2,962.7**	**1,465.9**	**4,453.5**

Indirect Capital Costs				
Indirects/Overheads (including benefits)	4.8	1,375.8	726.9	2,107.5
Capitalized interest or AFUDC, if any	0.1	103.9	118.6	222.6
Subtotal	**4.8**	**1,479.7**	**845.5**	**2,330.1**

Total Capital Costs (Gross)	**29.7**	**4,442.4**	**2,311.5**	**6,783.6**
Less Total Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**
Project Costs (Net of Reimbursement)	**29.7**	**4,442.4**	**2,311.5**	**6,783.6**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

- [redacted] new [redacted] predicted load was [redacted] as described below:

[redacted]

[redacted]

[redacted]

b. Project Need

- This project was a New Service request requiring Eversource to supply power to the customer.
- The customer was constructing a new Warehouse with [redacted] of new load.
- Due to the magnitude of the new load, [redacted]
- This project had to avert any normal or contingent overloads on the surrounding circuits.
- The [redacted] are the closest circuits to the customer but did not have the capacity to serve the new load.

- A new circuit was needed to be constructed from the [redacted] of new load.

c. Project Scope



Major Material:

- 10,575 ft. of 3 phase 556 Spacer Cable
- 29,600 ft. of 3 phase of 556 TW
- 2,700 ft. of single phase 1/0 TW
- 11 reclosers
- 4 manholes
- 510 ft of 1,000 Cu UG Cable

4. Alternatives Considered

Project Option Comparison

Design Criteria	Option [redacted]		
Authorization Type	Partial	Partial	Full
Capital Cost	$4.546M	$4.446M	$6.784M
Expense Cost	$.240M	$.235M	$.358M
Total Cost	$4.786M	$4.681M	$7.142M
MVA Added	25.1	24.0	29.6
Total Cost / MVA Added	$191K/MVA	$195K/MVA	$241/MVA
Preferred option			X

Option three was selected since it eliminated all contingency overloads and resolved automatic ties from circuits emanating from the same substation bus. In addition, this option [redacted]

5. Project Schedule

Add any additional milestones that are pertinent to the project.

Milestone/Phase Name	Estimated Date
Partial Approval	6/17/21
100% Detailed Engineering Completion	12/31/21
Fully Funded	10/31/23
Construction Start	1/1/22
In Service Date	9/30/23

6. Regulatory Decisions

N/A

7. Codes and Standards

N/A

8. Risk and Contingencies

9. References

References
1.

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

Attachment	Included in Submittal?

A. Cost Estimate	*YES*
B. P6 Schedule	*NO*
C. Geographic Map	*YES*
D. Load Sheet (Before and After)	*YES*
E. Supplemental Request PAF	*YES*
F. Initial Funding PAF	*YES*
G. System One-line (Before and After)	*YES*

Attachment A: Cost Estimate

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01677
New Ckt [redacted] & Re-Config [redacted]

Segment CD01677-04

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$412,340
Contingency Amount:	$98,962
Estimate:	$511,302
Reimbursement:	$0
Net Amount:	**$511,302**

Description: [redacted] Underground Get-A-Way

Item Description	CU	$ / Per	Qty	Amount
UG CABLE DB/UG - 750/1000 - 3-1/C (3ph) Cu	16-UG114B	[redacted]		$48,960.00
ENCLOSURE UG - MANHOLE - Precast	16-UG139			$251,945.60
CONDUIT UG-Ductline-up to 12 duct-Non- Traveled/Non-Paved 14K8 UG get-a-way route	16-UG138			$96,288.00
UG CABLE UG - Transition Splice Cutover [redacted] get-a-way cable onto 14K8's breaker / Swap circuit breakers	16-UG120			$2,636.80
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average Energize new cable	16-ALL17	[redacted]		$3,509.60
OTHER OTHER Landscape work	16-ALL14			$9,000.00

Associated / Impacted Devices

Status	Type / SysID	Street / Cross St	Structure / Town	[redacted]	Cust	Notes
Existing	[redacted]	[redacted]	WINDSOR LOCKS	[redacted]	0	
Existing			WINDSOR LOCKS		[redacted]	

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Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01677
New Ckt [redacted] & Re-Config [redacted]

Design Alternative CD01677-07

Estimate

	Preliminary Estimate Summary
Revision Number:	1
Contingency:	24.00%
SubTotal:	$1,657,087
Contingency Amount:	$397,701
Estimate:	$2,054,788
Reimbursement:	$0
Net Amount:	**$2,054,788**
Description:	

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 - Flagger	16-ALL19			$25,000.00
SECTIONALIZE OH - Recloser Control - setting changes only [redacted]	16-OH39A			$14,656.80
SECTIONALIZE OH - Recloser - 3ph [redacted]	16-OH38			$239,948.00
OH WIRE OH - Line Extension - 3ph (556 kcmil) [redacted] between pole numbers [redacted]	16-OH34			$96,000.00
OH WIRE OH - Reconductor w/Spacer Cable - 556 kcmil [redacted] from pole # 1828 to [redacted]	16-OH29			$159,744.00
POLE OH - POLE - 3ph (CL&P custodian) Extra replacements [redacted]	16-OH14			$42,084.00
SECTIONALIZE OH - GOAB Switch [redacted]	16-OH44			$20,566.40
OH WIRE OH - Reconductor w/Spacer Cable - 556 kcmil [redacted] - Replace 1/0 AL between pole # 3945 and pole # 4217	16-OH29			$303,616.00

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Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01677
New Ckt [redacted] & Re-Config [redacted]

Design Alternative — CD01677-07

OH WIRE	16-OH37A	[redacted]	$9,488.00
OH - Remove circuit wire (3 phase) [redacted] - Remove 1.0 AL between pole # 3945 and pole # 4217			
TREE	16-OH61	[redacted]	$25,000.00
OH - Tree Trimming OH Tree Trimming @ taller poles			
OH WIRE	16-OH37A		$4,992.00
OH - Remove circuit wire (3 phase) Remove bare 1/0 AL along [redacted] from pole # 1828 to [redacted]			
OTHER	16-ALL14		$1,000.00
OTHER Supp Add - [redacted] Transformer Shift to new Poles [redacted] each			
SWITCHING	16-ALL17		$3,509.60
OH/DB/UG - SWITCHING NonNetwork - Average Supp Added			
TRAFFIC	16-ALL18		$60,000.00
OH/DB/UG - Traffic Control - Police Officer Supp Added - 4 weeks 1 cop, 4 weeks 2 cops			
POLE	16-OH14		$18,704.00
OH - POLE - 3ph (CL&P custodian) Supp Added - Additional Poles on [redacted]			
POLE	16-OH14		$60,788.00
OH - POLE - 3ph (CL&P custodian) Supp Added - Additional Poles on [redacted]			
OH WIRE	16-OH29		$122,880.00
OH - Reconductor w/Spacer Cable - 556 kcmil Supp Added - [redacted] - Replace existing 1/0 TW on backbone			
POLE	16-UG146		$10,794.40
DB/UG - Riser - 3ph Supp Added - [redacted]			
OH WIRE	16-OH27		$116,400.00
OH-Reconductor w/175 Mil Tree Wire-3ph- 556 kcmil Supp Added - [redacted] Replace existing 1/0 TW on backbone			
OTHER	16-ALL14		$1,000.00
OTHER Supp Added - [redacted] Transformer Shift to new Poles [redacted] each			
OTHER	16-ALL14		$4,000.00
OTHER Supp Added - [redacted] Transformer Shift to new Poles [redacted] each			

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Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01677
New Ckt [redacted] & Re-Config [redacted]

Design Alternative — CD01677-07

OH WIRE	16-OH29	$291,840.00
OH - Reconductor w/Spacer Cable - 556 kcmil Supp Added - [redacted] Replace existing 1/0 TW on backbone		
OTHER	16-ALL14	$1,000.00
OTHER Supp Added - Recloser shift to new pole @ [redacted] ach		
SECTIONALIZE	16-OH44	$20,566.40
OH - GOAB Switch Supp Added - Replace 600A disconnects on backbone		

[redacted]

Associated / Impacted Devices

Status	Type / SysID	Street / Cross St	Structure / Town	Circuit	Map	Cust	Notes
Existing	[redacted]	[redacted]	WINDSOR LOCKS	[redacted]		0	

Reliability Projection

Title:

Outage Start Date: 1/1/2007 Outage End Date: 11/9/2021 Years History: 14.87

[redacted]

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01677
New Ckt [redacted] & Re-Config [redacted]

Segment CD01677-08

Estimate

Preliminary Estimate Summary

Revision Number:	0
Contingency:	24.00%
SubTotal:	$1,260,330
Contingency Amount:	$302,479
Estimate:	$1,562,810
Reimbursement:	$0
Net Amount:	**$1,562,810**
Description:	

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 - Flagger	16-ALL19			$30,000.00
SECTIONALIZE OH - Recloser - 3ph 14K5-4001, 14K5-76, 14K5-4002, 14K5-93T and 14K5-77S	16-OH38			$239,948.00
SECTIONALIZE OH - Recloser Control - setting changes only 14K5-75S, 14K5-61R, 14K5-78S, 14K5-4000 and 14K5-91T	16-OH39A			$24,428.00
OH WIRE OH - Line Extension - 3ph (556 kcmil) [redacted]	16-OH34			$264,000.00
OH WIRE OH - Remove circuit wire (3 phase) [redacted] Windsor	16-OH37A			$6,400.00
SECTIONALIZE OH - GOAB Switch [redacted]	16-OH44			$61,699.20
POLE OH - POLE - 3ph (Telephone custodian) Extra pole replacements, [redacted]	16-OH12			$10,680.00
POLE OH - POLE - 3ph (CL&P custodian) Extra poles [redacted] Windsor	16-OH14			$14,028.00

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Connecticut Light & Power
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Specific Project Proposal - Project #: CD01677

New Ckt 14K8 & Re-Config14K5

Segment		CD01677-08
OH WIRE OH-Reconductor w/175 Mil Tree Wire-3ph- 556 kcmil [redacted]	16-OH27	$364,720.00
OH WIRE OH - Remove circuit wire (3 phase) [redacted]	16-OH37A	$15,040.00
OH WIRE OH - Reconductor w/Spacer Cable - 556 kcmil Reconductor [redacted] Windsor	16-OH29	$204,800.00
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph S/S get-a-way riser pole	16-OH43	$10,283.20
POLE DB/UG - Riser - 3ph UG get-a-way to OH transition on [redacted] Windsor Lock	16-UG146	$10,794.40

Associated / Impacted Devices

Status	Type / SysID	Street / Cross St	Structure / Town	Circuit	Map	Cust	Notes
Existing	[redacted]	[redacted]	WINDSOR LOCKS	[redacted]		3064	

Reliability Projection

Title:

Outage Start Date: 1/1/2007 Outage End Date: 11/9/2021 Years History: 14.87

[redacted]

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01677
New Ckt [redacted] & Re-Confi [redacted]

Segment CD01677-09

Estimate

Preliminary Estimate Summary

Revision Number:	0
Contingency:	24.00%
SubTotal:	$469,748
Contingency Amount:	$112,740
Estimate:	$582,488
Reimbursement:	$0
Net Amount:	$582,488
Description:	

Item Description	CU	$ / Per	Qty	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	[redacted]		$3,509.60
POLE OH - POLE - 1ph (Telephone custodian)	16-OH11			$3,752.00
POLE OH - POLE - 3ph (Telephone custodian)	16-OH12			$39,160.00
OH WIRE OH - Remove circuit wire (1 phase) Converted single phase side taps	16-OH37			$1,440.00
EQUIPMENT OH - Conversion - CUTOVER Coutover transformers along 3-phase backbone	16-OH58			$4,281.60
OH WIRE OH-Reconductor w/175 Mil Tree Wire-3ph- 556 kcmil Create OH backbone	16-OH27			$341,440.00
SECTIONALIZE OH - Cutouts or Arresters - 1ph Fuse side taps	16-OH19			$5,484.80
OH WIRE OH-Reconductor w/175 Mil Tree Wire-1ph (any gauge) Reconductor side taps	16-OH25			$14,400.00
OH WIRE OH - Remove circuit wire (3 phase) Remove 3-phase #4 copper primaries	16-OH37A			$14,080.00

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Connecticut Light & Power
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Specific Project Proposal - Project #: CD01677
New Ckt 14K8 & Re-Config14K5

Segment			CD01677-09
XF OH - Stepdown - 1ph - on POLE Side Taps	16-OH49	[redacted]	$27,200.00
TRAFFIC OH/DB/UG - Traffic Control - Flagger Two for 25 days	16-ALL19		$15,000.00

Associated / Impacted Devices

Status	Type / SysID	Street / Cross St	Structure / Town	Circuit	Map	Cust	Notes
Existing	[redacted]	[redacted]	WINDSOR LOCKS	[redacted]		3064	

Reliability Projection

Title:

Outage Start Date: 1/1/2007 Outage End Date: 11/4/2021 Years History: 14.85

[redacted]

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01677
New Ckt 1 [redacted] & Re-Config [redacted]

Segment CD01677-10

Estimate

Preliminary Estimate Summary

Revision Number:	0
Contingency:	24.00%
SubTotal:	$628,786
Contingency Amount:	$150,909
Estimate:	$779,694
Reimbursement:	$0
Net Amount:	$779,694
Description:	

Item Description	CU	$ / Per	Qty	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	[redacted]		$3,509.60
POLE OH - POLE - 1ph (Telephone custodian)	16-OH11			$5,628.00
POLE OH - POLE - 3ph (Telephone custodian)	16-OH12			$39,160.00
TREE OH - Tree Trimming	16-OH61			$35,000.00
SECTIONALIZE OH - Recloser - 3ph 14K7-93T	16-OH38			$47,989.60
OH WIRE OH - Remove circuit wire (3 phase) 3600 for new backbone + 2985 removal from R.O.W.	16-OH37A			$21,072.00
EQUIPMENT OH - Conversion - CUTOVER Cutover transformers along new 23KV three-phase backbone	16-OH58			$6,957.60
SECTIONALIZE OH - Cutouts or Arresters - 1ph Fuse side taps	16-OH19			$2,742.40
OH WIRE OH - Line Extension - 1ph (any gauge) [redacted]	16-OH32			$90,000.00

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Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01677

New Ckt 14K8 & Re-Config14K5

Segment			CD01677-10
OH WIRE OH-Reconductor w/175 Mil Tree Wire-3ph- 556 kcmil New 23KV backbone	16-OH27	[redacted]	$279,360.00
XF OH - Stepdown - 1ph - on POLE Radial side taps	16-OH49		$20,400.00
OH WIRE OH - Reconductor w/ 175 Mil Tree Wire - 3ph -1/0 Side taps converted	16-OH26a		$36,960.00
OH WIRE OH - Remove circuit wire (1 phase) Side taps converted	16-OH37		$1,440.00
SECTIONALIZE OH - GOAB Switch [redacted]	16-OH44		$20,566.40
TRAFFIC OH/DB/UG - Traffic Control - Flagger Two for 30 days	16-ALL19		$18,000.00

Associated / Impacted Devices

Status	Type / SysID	Street / Cross St	Structure / Town	Circuit	Map	Cust	Notes
Existing	[redacted]	lew Street - TBD		[redacted]		0	

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01677
New Ckt [redacted] & Re-Confi[redacted]

Segment CD01677-11

Estimate

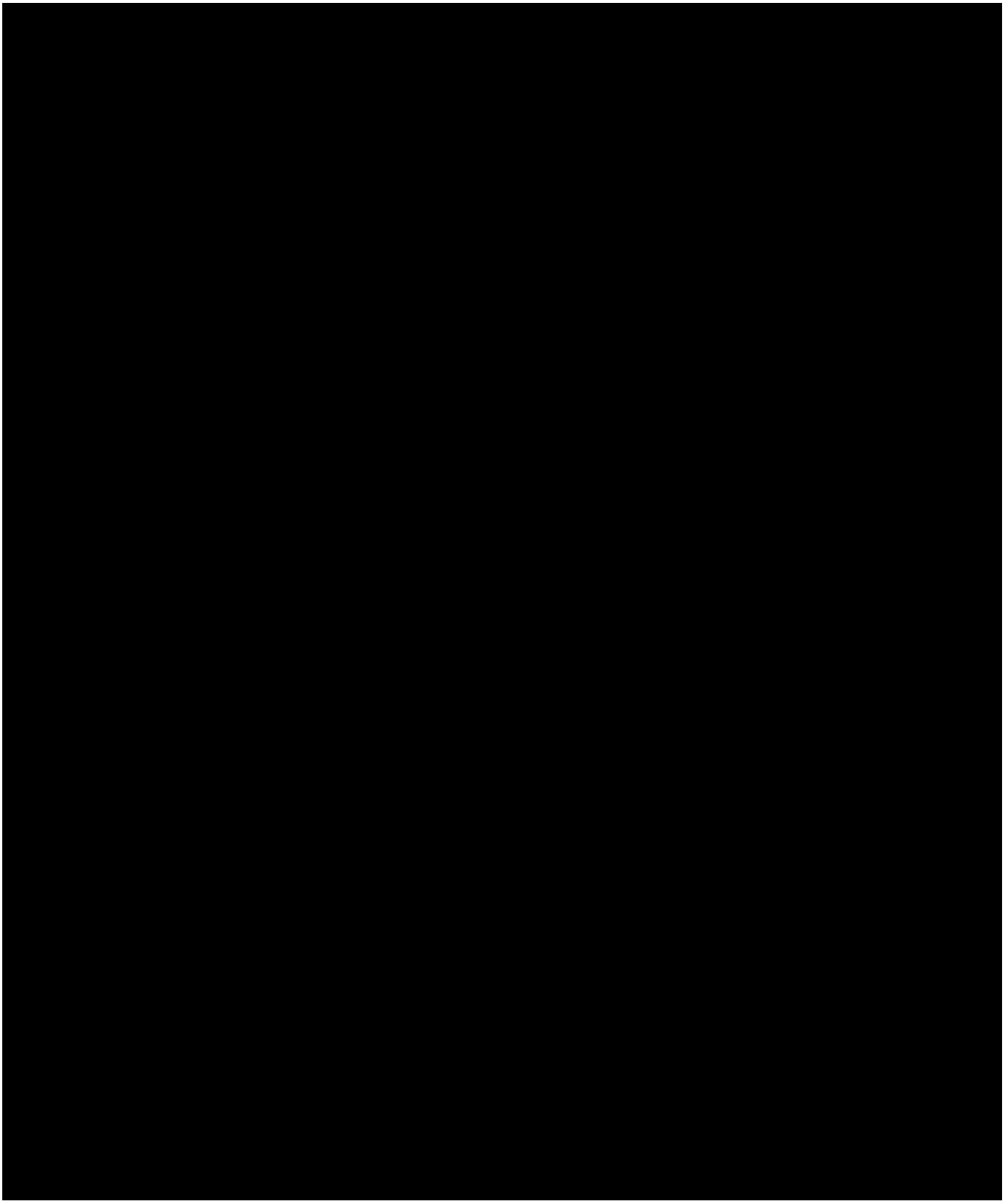
	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$1,352,950
Contingency Amount:	$324,708
Estimate:	$1,677,658
Reimbursement:	$0
Net Amount:	$1,677,658
Description:	

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			$40,000.00
OH WIRE OH - Reconductor w/Spacer Cable - 556 kcmil	16-OH29			$1,269,760.00
OH WIRE OH - Remove circuit wire (3 phase)	16-OH37A			$39,680.00

Associated / Impacted Devices

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

Attachment C: Geographic Map



Attachment D: Load Sheet

Circuits and Zone Loads

Project Number: Before CD01677

Project Name: [redacted] New Circuit [redacted]

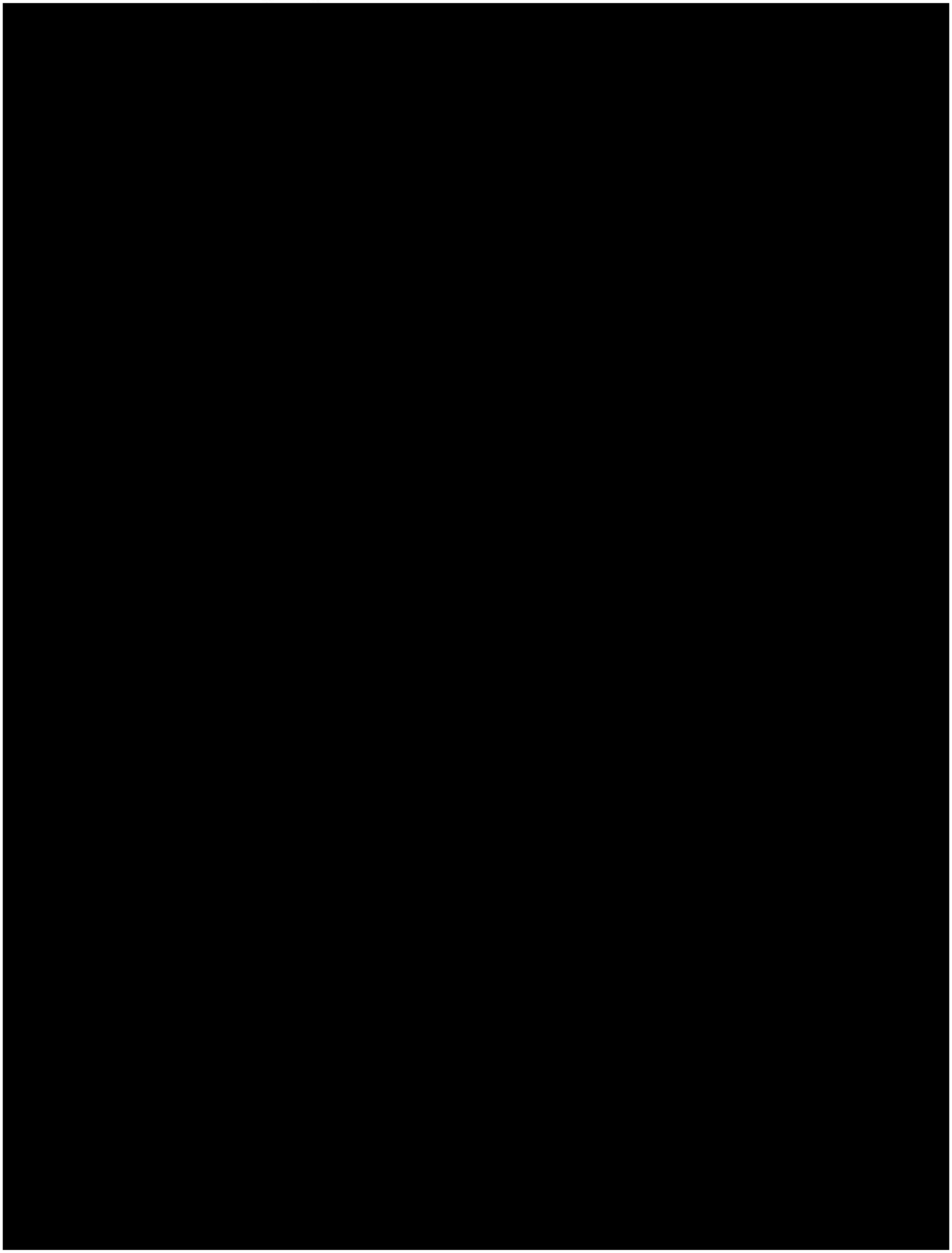
Before + Amazon Circuits with Amazon Service = 8 MVA

[redacted]

Circuits and Zone Loads, Alternative - 2, Reconductored [redacted] Swapped

Project Number: Before CD01677 Circuits with Amazon Service = 8 MVA

Project Name: [redacted] New Circuit [redacted] referred Plan, Alternative - 2 / Swa [redacted] econductor



EVERSOURCE

Supplement Request Form

Project Title: New Circuit [redacted]	**Project Number:** CD01677
Date Prepared: 03/02/2022	**Company:** CL&P Electric Distribution 11
Organization: EFO	**Class(es) of Plant: D Line**
Project Initiator: [redacted]	**Project Category: New Business**
Project Manager: [redacted]	**Project Type:** Specific
Project Sponsor: [redacted]	**Project Purpose: New Service**
Estimated in service date: 12/31/2022	**Capital Investment part of original Operating Plan:** No
Current Authorization Amount: $ 6,100K	**O&M Expenses part of request:** No
Supplement Request: $ 919K	**Other:**
Total Request: $ 7,019K	

Supplement Justification

Justification for Additional Resources

CD01677 was presented and approved at the June 17, 2021 CT-PAC meeting for $6.3M ($6.1M of capital). This project creates a new circuit calle[redacted] from the [redacted] overloads. [redacted]

[redacted]

approved project estimate.

This supplemental request is seeking an additional $919K to reconductor the remaining 5,550' of 1/0 TW on the 14K9 backbone. This supplemental includes reconductoring with 4,050' of 556 Spacer Cable, 1,500' of 556 TW, 1 GOAB and additional traffic control.

Prior authorized PAF as reference

CD01677_supplemental_project_needs_

CD01677 PAF Initial Funding New Circui

CD01677 - [redacted] - Supplemental Req

Supplement Cost Summary

Capital Costs	Prior Authorized	Supplemental Request	Total
Direct Capital Costs			
Internal Labor	$515	$72	$587
Outside Services	$1,741	$245	$1,986
Materials	$1,417	$199	$1,616
Removals	$212	$30	$242
Risk and Contingency	($608)	($24)	($632)
Other	$0	$0	$0
Subtotal	**$3,277**	**$522**	**$3,799**
Indirect Capital Costs			
Indirect/Overheads (including benefits)	$2,710	$380	$3,090
Capitalized interest or AFUDC, if any	$114	$17	$130
Subtotal	**$2,823**	$397	**$3,220**
Total Customer Contribution			
Total Capital Project Costs	**$6,100**	**$919**	**$7,019**

EVERSOURCE
Project Authorization Form

Operations Project Authorization Form

Date Prepared: August 25, 2021	**Project Title:** New [redacted]
Company/ies: Eversource - CT	**Project ID Number:** CD01677
Organization: Distribution Engineering	**Class(es) of Plant:** Distribution
Project Initiator: [redacted]	**Project Category:** Line
Project Manager: [redacted]	**Project Type:** Specific
Project Sponsor: [redacted]	**Project Purpose:** New Service
Estimated in service date: 05/31/2022	**If Transmission Project:** NA
Eng. / Constr. Resources Budgeted? No	**Capital Investment Part of Original Operating Plan?** No
Authorization Type: Initial Funding – Detail Design	**O&M Expenses Part of the Original Operating Plan?** No
Total Request: $ 6,285,260	

Financial Requirements:

Project Authorization
ERM: _____

FP&A: _____

Executive Summary

[redacted]s building a new [redacted] on [redacted] Once fully operational, this service will overload the capacity of our existing circuits.

This project proposes the creation of a new circuit called [redacted] from Eversource's [redacted]

Based on [redacted]s expected demand, the total cost of this project exceeds our computed NB-12 customer offset cost of $ 5,547,600.

Although CD01677's initial funding request of $ 6.3 million dollars is above our NB-12 customer contribution. This project's request dollars includes over $ 1 million dollars of betterments.

Segment # 7	5 new reclosers on circuit 14K5	$239,948
Segment # 8	5 new reclosers on circuit 14K8	$239,948
Segment # 10	Convert 5KV area of 14K7 & take customers off R.O.W.	$734,494

EVERSOURCE
Project Authorization Form

While these betterments are not required for providing a basic service to [redacted] facilities, many are enhancements necessary to increase circuit [redacted] capacity and improve system reliability. These improvements include:

[redacted]

Problem # 1: Circuit [redacted] Overloads

[redacted]

Problem # 2: Circuit [redacted] Overloads

[redacted]

Problem # 3: Circuits [redacted] an No Longer Backup Each Other

[redacted]

EVERSOURCE
Project Authorization Form

Project Cost Summary (Note: Dollar values are in thousands)

	Prior Authorized	2021	2022	2023+	Totals
Capital Additions - Direct	$0	$1,350	$1,915	$0	$3,265
Less Customer Contribution	$0	$0	$0	$0	$0
Removals net of Salvage ____%	$0	$61	$85	$0	$146
Total - Direct Spending	$0	$1,411	$2,000	$0	$3,411
Capital Additions - Indirect	$0	$1,055	$1,496	$0	$2,551
Subtotal Request	$0	$2,466	$3,496	$0	$5,962
AFUDC	$0	$41	$58	$0	$98
Total Capital Request	$0	$2,506	$3,553	$0	$6,060
O&M	$0	$94	$133	$0	$226
Total Request	$0	$2,600	$3,686	$0	$6,286

Financial Evaluation (Note: Dollar values are in thousands)

Direct Capital Costs	2021	2022	2023	Total
Straight Time Labor	$196	$278	$0	$475
Overtime Labor	$33	$47	$0	$81
Outside Services	$623	$883	$0	$1,506
Materials	$553	$784	$0	$1,337
Other, including contingency amounts (describe)	$5	$7	$0	$12
Total Direct Costs	**$1,411**	**$2,000**	**$0**	**$3,411**

Indirect Capital Costs	2021	2022	2023	Total
Indirects/Overheads (including benefits)	$1,055	$1,496	$0	$2,551
Capitalized interest or AFUDC, if any	$39	$55	$0	$94
Total Indirect Costs	**$1,094**	**$1,551**	**$0**	**$2,645**
Total Capital Costs	**$2,505**	**$3,551**	**$0**	**$6,056**
Less Total Customer Contribution	**$0**	**$0**	**$0**	**$0**
Total Capital Project Costs	**$2,505**	**$3,551**	**$0**	**$6,056**
Total O&M Project Costs	**$95**	**$135**	**$0**	**$230**
Total Project Cost	**$ 2,600**	**$ 3,686**	**$ -**	**$ 6,286**

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Technical Justification & Objectives

Justification(s)

- Serve Amazon's Regional Warehouse [redacted] load
- Must avert [redacted] overloads.
- Must avert [redacted] overloads.

Objectives(s)

1. Add 23KV capacity to alleviate projected overloads on [redacted] with the addition of [redacted]
2. Provide a means to automatically backup [redacted] s Service without producing circuit overloads.

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01677
New Ckt [redacted] & Re-Confi[redacted]

Project Option Summary

ID	Description	Segments	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)	Prfrd
O2	Preferred Circuit Designs	4,7,8,9,10,11	$6,285,260	$0	100%	$0.00	$0.00	☑

Segments

ID	Title	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)
4	[redacted] Get-A-Way	$511,302			$0.00	$0.00
7	Create [redacted]	$1,171,310			$0.00	$0.00
8	Re-Config [redacted] to Amazon	$1,562,810			$0.00	$0.00
9	Convert 5KV area of [redacted]	$582,488			$0.00	$0.00
10	Convert 5KV Area of [redacted]	$779,694			$0.00	$0.00
11	[redacted] Reconductor	$1,677,658			$0.00	$0.00

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Project Scope

[redacted] Segments Numbers: 4, 8,9 and 10

Install new 500 feet manhole & duct bank get-a-way from manhole # 179 to [redacted] along the perimeter just outside fence of [redacted] Substation [redacted]

Cutover [redacted]

Convert [redacted]

Install sectionalizing recloser at town line of Windsor Locks / Windsor and extend new 3-phase # 556 AL tree wire lines along [redacted] to reach [redacted]

[redacted]

[redacted] Segment Number 7

[redacted]

[redacted] Segment # 11

[redacted]

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[redacted]

Major Material

# 556 AL Spacer Cable – 18,900 ft.	G.O.A.B. - 5
# 556 AL Tree Wire – 15,800 ft.	Manholes - 4
# 1/0 AL Tree Wire – 3000 ft.	3-phase Reclosers - 10

Business Process and / or Technical Improvements:

- [redacted]
- [redacted]
- Eliminates # zones with > 500 customers.

Alternatives Plans Considered with Cost Estimates

Several other options were explored to extend new circuit [redacted] without converting 5KV areas of circuit [redacted]

Option – 1: $ 4,786,199, was rejected because:

- [redacted]
- [redacted]

Option – 2: $ 4,680,546, was rejected for the following reasons.

- [redacted]
- [redacted]

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- [redacted]

Project Schedule

Milestone/Phase Name	Estimated Completion Date
Initial Funding Authorization	06/17/2021
Detail Design	09/30/2021
Full Funding Authorization	10/31/2021
Construction Begin	02/01/2022
Construction End	05/31/2022

Regulatory Approvals: None Required

Risks and Risk Mitigation Plans

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2022	Low	Estimated project cost is based on past work orders for similar type work.
Internal construction resources not available to perform the work.	2022	High	Plan external resources to complete this project. Use competitive bidding to ensure lowest outside labor cost.
Internal engineering resources not available to perform the work.	2022	Low	Internal resources tentatively planned to support this project, particularly within the areas of construction supervision, equipment settings, etc., etc...
Materials Shortage or long lead times	2022	Low	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2022	Low	If storm activity delays work, we may be forced to use external resources. Not applicable, outside contractors necessary. Size of Eversource District personnel not large enough to dedicate work crews for completing project in a timely matter.
System abnormal configuration	2022	Low	Schedule work to minimize system abnormal time. Install temporary bypasses/equipment if system will be abnormal for extended periods.

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References: None

Attachments (One-Line Diagrams, Images, etc.): Exhibits & Documents inserted within text of this PAF.

[redacted]

CD01677 Circuits and Zone Loads rev

CD01677 Initial Funding Need State

Attachment G: System One-line



