EVERSOURCE

Project Approval Form

Project Title: 2024 Large Customer Zones RWO –	Project Number: CD02201
Date Prepared: 09/18/2024	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** SMART SWITCHES PROGRAM
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: 12/31/2025	
Total Capital Request: $2,142.5K	**Authorization Type:** Full Funding

1. Executive Summary

Full funding is being requested for this project at a cost of $2,142.5K which is 115% of the partial funding capital estimate of $1,848K. CD02201 was partially approved on 3/30/2023. There is no scope change on the project. This project falls within the 15% threshold relative to the partial funding request and is therefore being fully requested with no changes anticipated.

The Original Project was presented as follows:

- *The 2024 Smart Switch Program addresses 40% of the large customer zones feeding over 1000 customers in Connecticut. The installation of multiple smart switches will reduce the customers affected in the event of future outages. The remaining large zones with over 1000 customers will be addressed under the 2025 Smart Switch Program. One project has been created per division.*
- *CD02201 addresses 13 large customer zones in the Central Division with the installation of 24 viper reclosers. The zones addressed and the customers in each zone are listed below:*

AWC	DEVICE NAME	CUST IN ZONE
[redacted]		



2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2024	2025	Total
Internal Labor and Construction Equipment	60.3	44.7	105.1
Outside Services	0.0	0.0	0.0
Materials	669.6	474.6	1,144.2
Removals	19.2	13.8	32.9
Risk and Contingency	84.7	64.8	149.5
Other	0.0	0.0	0.0
Subtotal	**833.7**	**597.9**	**1,431.6**

Indirect Capital Costs	2024	2024	Total
Indirects/Overheads (including benefits)	380.3	330.6	710.9
Capitalized interest or AFUDC, if any	0.0	0.0	0.0
Subtotal	**380.3**	**330.6**	**710.9**
Total Capital Costs (Gross)	**1,214.0**	**928.5**	**2,142.5**
Less Total Customer Contribution	**0.0**	**0.0**	**0.0**
Project Costs (Net of Reimbursement)	**1,214.0**	**928.5**	**2,142.5**

Explain unique payment provisions, if applicable:

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

[redacted]

[redacted]

b. Project Need

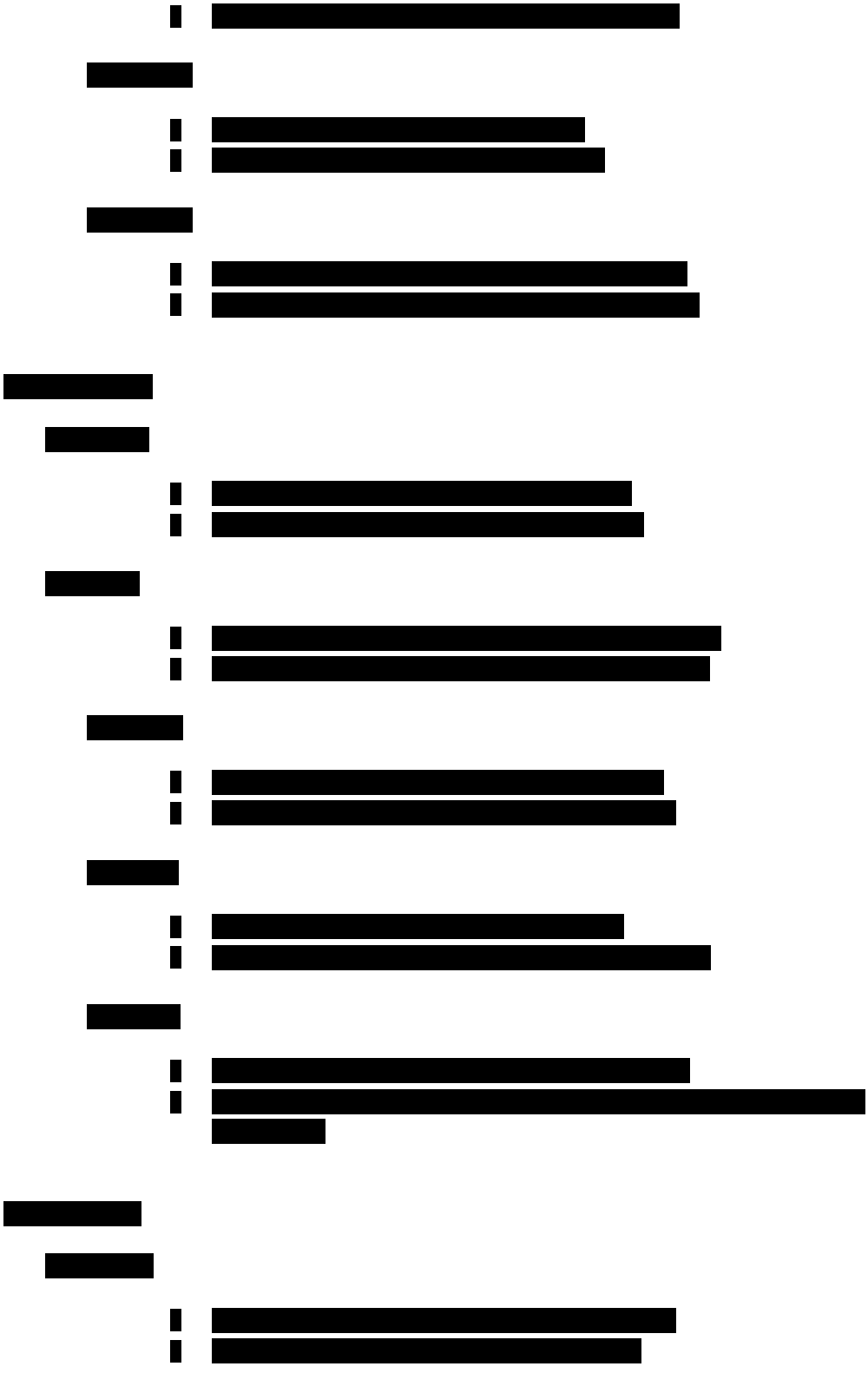
Please refer to section **a. Background** for detailed information about this project's need.

c. Project Scope

[redacted]

The scope for CD02201 includes:

[redacted]



Major Material:

15 – 13.2/13.8kV Viper Reclosers

9 – 23 kV Viper Reclosers

4. Alternatives Considered

Only alternative considered was the option to do nothing. Was not selected due to it not addressing the large customer zones that would be affected by a single location outage.

5. Project Schedule

Add any additional milestones that are pertinent to the project

Milestone/Phase Name	Estimated Date
Preliminary Approval	3/30/2023
Long Lead Material	5/1/2023
In Service Date	12/31/2025

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.	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	Medium	Design to minimize customer impact. Project Preplanning and customer/community outreach.
Internal construction 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.
Internal engineering resources not available to perform the work.	2023	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	High	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2024	Medium	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?
A. Partial Funding PAF Form	*YES*
B. Project Needs Statement	*YES*

Attachment A: Partial Funding PAF Form

Operations Project Authorization Form

Project Title: 2024 Large Customer Zones RWO – Central	**Project Number: CD02201**
Date Prepared: 03/14/2023	**Company:** Eversource CT
Organization: Electric Field Operations	**Class(es) of Plant:** D Line
Project Initiator: [redacted]	**Project Category:** SMART SWITCHES PROGRAM
Project Manager: [redacted]	**Project Type:** Specific
Project Sponsor: [redacted]	**Capital Investment part of original Operating Plan:** Yes
Estimated in service date: 12/31/2024	**Emergency Related Request?** No
Eng./Constr. Resources Budgeted? Yes	**Facility Type** (check all that apply)**:** ☐ PTF ☐ non-PTF ☒ Distribution
Total Gross Capital Request: $1,848K	**Authorization Type:** Initial Funding

Executive Summary

The 2024 Smart Switch Program addresses 40% of the large customer zones feeding over 1000 customers in Connecticut. The installation of multiple smart switches will reduce the customers affected in the event of future outages. The remaining large zones with over 1000 customers will be addressed under the 2025 Smart Switch Program. One project has been created per division.

CD02201 addresses 13 large customer zones in the Central Division with the installation of 24 viper reclosers. The zones addressed and the customers in each zone are listed below:

AWC	DEVICE NAME	CUST IN ZONE
[redacted]		

[redacted]

Project Costs Summary

Note: Dollar values are in thousands

Capital Costs	Year 2024	Year 2025	Year 2026+	Total
Direct Capital Costs				
Internal Labor and Construction Equipment	$160	**$0**	**$0**	$160
Outside Services	$212	**$0**	**$0**	$212
Materials	$676	**$0**	**$0**	$676
Removals	$44	**$0**	**$0**	$44
Risk and Contingency	$6	**$0**	**$0**	$6
Other	$0	**$0**	**$0**	$0
Subtotal – Direct Costs	**$1,098**	**$0**	**$0**	**$1,098**
Indirect Capital Costs				
Indirect/Overheads (including benefits)	$727	**$0**	**$0**	$727
Capitalized interest or AFUDC, if any	$23	**$0**	**$0**	$23
Subtotal – Indirect Costs	**$750**	**$0**	**$0**	**$750**
Total Gross Capital Costs	**$1,848**	**$0**	**$0**	**$1,848**
Customer Contribution				
Total Net Capital Project Costs	**$1,848**	**$0**	**$0**	**$1,848**

Technical Justification:

Project Need, Objective and Justification:

Project Scope:

[redacted]. The scope for CD02201 includes:

[redacted]

[redacted]

Major Material:

15 – 13.2/13.8kV Viper Reclosers

9 – 23 kV Viper Reclosers

Background:

[redacted]

[redacted]

Alternatives Considered:

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

Alternatives were considered (please describe below)

1 – Do Nothing – This alternative was not selected because it doesn't address the large customer zones that would be affected by a single location outage.

Regulatory Approvals:

Are Regulatory body approvals needed for the project?

No

This project may require DOT permits.

Project Schedule

Milestone/Phase Name	Estimated Date
Preliminary Approval	4/1/2023
Long Lead Material	5/1/2023
100% Engineering Completion	10/31/2023
Construction Start	3/1/2024
In Service Date	12/31/2024

Risks and Risk Mitigation Plans

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	Medium	Design to minimize customer impact. Project Preplanning and customer/community outreach.
Internal construction 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.

Internal engineering resources not available to perform the work.	2023	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	High	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2024	Medium	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.

References

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



Central
CD02201_project_ne

All one-lines, detail maps and load sheets can be found in the following SharePoint:

(Press & hold Control and click the link below)

Zones over 1000 Customers

Attachment B: Project Needs Statement

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A Northeast Utilities Company

Specific Project Proposal - Project #: CD02201

2024 Large Customer Zones - RWO -Central

Work Classification

Category: Line
Type: SRSS
Type Desc: SMART SWITCHES PROGRAM
Work Type:

Ownership / Management

AWC:
Statewide: Yes
Owner: [redacted]
Manager:

Project Information

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

Budget Summary - Preferred Option

All Large Zones

2024

ID	Title	Status	Rev #	Contingency	Expenditure Amount	Net Estimate
3	Tolland AWC Smart Switch Installation	Draft	0	24%	$161,268	$161,268
2	Hartford AWC Smart Switch Installation	Draft	0	24%	$711,622	$711,622
1	Cheshire AWC Smart Switch Installations	Draft	0	24%	$1,023,517	$1,023,517
				2024 Total:	$1,896,407	$1,896,407
				Total Project:	$1,896,407	$1,896,407

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A Northeast Utilities Company

Specific Project Proposal - Project #: CD02201

2024 Large Customer Zones - RWO -Central

Project Option Summary

ID	Description	Segments	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)	Prfrd
O1	All Large Zones	1,2,3	$1,896,407	$0	100%	$72.66	$2.76	☑

Segments

ID	Title	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)
1	Cheshire AWC Smart Switch Installations	$1,023,517			$65.50	$5.58
2	Hartford AWC Smart Switch Installation	$711,622			$824.10	$3.61
3	Tolland AWC Smart Switch Installation	$161,268			$9.10	$0.62

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Specific Project Proposal - Project #: CD02201

2024 Large Customer Zones - RWO -Central

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 #:

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Specific Project Proposal - Project #: CD02201
2024 Large Customer Zones - RWO -Central

Design Alternative CD02201-01

General Information

Segment: 1 - Cheshire AWC Smart Switch Installations Status: Draft

Segment Type: RECLOSERS Town: NEW BRITAIN Budget Year: 2024

Work Type: BB-Sctnlzng-Reclosers Trimming Required: ☐ In Service Date: 12/31/2024

Description: This segment installs 13 reclosers in 7 large zones in the Cheshire AWC.

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

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Specific Project Proposal - Project #: CD02201

2024 Large Customer Zones - RWO -Central

Design Alternative CD02201-01

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$825,417
Contingency Amount:	$198,100
Estimate:	$1,023,517
Reimbursement:	$0
Net Amount:	**$1,023,517**

Description:

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$24,567.20
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18	$39,000.00
SECTIONALIZE OH - Recloser - 3ph 11K41 Circuit	16-OH38	$95,979.20
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph 11K41 Circuit	16-OH43	$20,566.40
SECTIONALIZE OH - Recloser - 3ph 12A10 Circuit	16-OH38	$143,968.80
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph 12A10 Circuit	16-OH43	$20,566.40
SECTIONALIZE OH - Recloser - 3ph 12A11 Circuit	16-OH38	$47,989.60
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph 12A11 Circuit	16-OH43	$10,283.20
SECTIONALIZE OH - Recloser - 3ph 12A14 Circuit	16-OH38	$47,989.60

[redacted]

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Specific Project Proposal - Project #: CD02201

2024 Large Customer Zones - RWO -Central

Design Alternative			CD02201-01
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph [redacted] Circuit	16-OH43	[redacted]	$10,283.20
SECTIONALIZE OH - Cutouts or Arresters - 3ph [redacted]	16-OH20		$2,315.20
SECTIONALIZE OH - Recloser - 3ph [redacted] Circuit	16-OH38		$95,979.20
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph [redacted] Circuit	16-OH43		$20,566.40
SECTIONALIZE OH - Recloser - 3ph [redacted] Circuit	16-OH38		$95,979.20
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph [redacted] Circuit	16-OH43		$20,566.40
SECTIONALIZE OH - Recloser - 3ph [redacted] Circuit	16-OH38		$95,979.20
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph [redacted] Circuit	16-OH43		$20,566.40
OTHER OTHER Remove Fuses on [redacted]	16-ALL14		$2,500.00
SECTIONALIZE OH - Recloser Control - setting changes only Settings Change on [redacted] to SS	16-OH39A		$4,885.60
SECTIONALIZE OH - Recloser Control - setting changes only Settings Change on [redacted] to SS	16-OH39A		$4,885.60

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Specific Project Proposal - Project #: CD02201

2024 Large Customer Zones - RWO -Central

Design Alternative CD02201-01

Associated / Impacted Devices

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

Reliability Projection

Title:

Outage Start Date: 1/1/2019 Outage End Date: 1/1/2023 Years History: 4.00

[redacted]

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Specific Project Proposal - Project #: CD02201
2024 Large Customer Zones - RWO -Central

Design Alternative CD02201-02

General Information

Segment: 2 - Hartford AWC Smart Switch Installation Status: Draft

Segment Type: RECLOSERS Town: ROCKY HILL Budget Year: 2024

Work Type: BB-Sctnlzng-Reclosers Trimming Required: ☐ In Service Date: 12/31/2024

Description: This segment installs 9 reclosers in 5 large zones in the Hartford AWC.

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

Connecticut Light & Power
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Specific Project Proposal - Project #: CD02201

2024 Large Customer Zones - RWO -Central

Design Alternative CD02201-02

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$573,889
Contingency Amount:	$137,733
Estimate:	$711,622
Reimbursement:	$0
Net Amount:	**$711,622**

Description:

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$17,548.00
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18	$27,000.00
SECTIONALIZE OH - Recloser - 3ph [redacted] Circuit	16-OH38	$95,979.20
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph [redacted] Circuit	16-OH43	$20,566.40
SECTIONALIZE OH - Recloser - 3ph [redacted]	16-OH38	$47,989.60
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph [redacted]	16-OH43	$10,283.20
SECTIONALIZE OH - Recloser Control - setting changes only [redacted] Settings Change to SS	16-OH39A	$4,885.60
SECTIONALIZE OH - Recloser - 3ph [redacted] Circuit	16-OH38	$95,979.20
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph [redacted] Circuit	16-OH43	$20,566.40

[redacted]

Asset & Investment Management System 3/17/2023 Page 9 of 14

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Specific Project Proposal - Project #: CD02201

2024 Large Customer Zones - RWO -Central

Design Alternative			CD02201-02
SECTIONALIZE OH - Recloser - 3ph [redacted] Circuit	16-OH38	[redacted]	$95,979.20
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph [redacted] Circuit	16-OH43		$20,566.40
SECTIONALIZE OH - Recloser - 3ph [redacted] Circuit	16-OH38		$95,979.20
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph [redacted] Circuit	16-OH43		$20,566.40

Associated / Impacted Devices

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

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Specific Project Proposal - Project #: CD02201
2024 Large Customer Zones - RWO -Central

Design Alternative CD02201-02

Reliability Projection

Title:

Outage Start Date: 1/1/2019 Outage End Date: 1/1/2023 Years History: 4.00

[redacted]

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Specific Project Proposal - Project #: CD02201

2024 Large Customer Zones - RWO -Central

Design Alternative CD02201-03

General Information

Segment: 3 - Tolland AWC Smart Switch Installation Status: Draft

Segment Type: RECLOSERS Town: ENFIELD Budget Year: 2024

Work Type: BB-Sctnlzng-Reclosers Trimming Required: ☐ In Service Date: 12/31/2024

Description: This segment installs 2 reclosers in 1 large zone in the Tolland AWC.

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed

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Specific Project Proposal - Project #: CD02201

2024 Large Customer Zones - RWO -Central

Design Alternative CD02201-03

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$130,055
Contingency Amount:	$31,213
Estimate:	$161,268
Reimbursement:	$0
Net Amount:	**$161,268**

Description:

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	16-ALL17	$3,509.60
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	16-ALL18	$6,000.00
SECTIONALIZE OH - Recloser - 3ph [redacted]	16-OH38	$95,979.20
SECTIONALIZE OH-Vertical Disconnect Switches-600/900 amp 3-1ph [redacted] Circuit	16-OH43	$20,566.40

Associated / Impacted Devices

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

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD02201
2024 Large Customer Zones - RWO -Central

Design Alternative CD02201-03

Reliability Projection

Title:

Outage Start Date: 1/1/2019 Outage End Date: 1/1/2023 Years History: 4.00

[redacted]