EVERSOURCE

Project Approval Form

Project Title: [redacted]	**Project Number:** CD01889
Date Prepared: 01/18/2024	**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: 12/31/2024	
Total Capital Request: $495.8K	**Authorization Type:** Full Funding

1. Executive Summary:

This project will address the reliability of a [redacted]

[redacted]

Division: Western
AWC: Torrington
Town: Canton

Initial Funding Estimate vs. Bid Document:

The bid amount of $495,797 was 1% above the partial funding estimate amount of $490,530 for the Canton 5R4 Smart Switch Project. The overall difference between partial funding estimate as compared to the bid document equates to an over expenditure of $5,267 with no change in scope. To summarize this difference between the partial funding estimate as compared to the bid document equates to the difference in the cost of labor in the partial funding estimate versus the cost of labor in the bid document.

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	79.8	0.0	0.0	79.8
Outside Services	0.0	0.0	0.0	0.0
Materials	177.5	0.0	0.0	177.5
Removals	6.9	0.0	0.0	6.9
Risk and Contingency	34.6	0.0	0.0	34.6
Other	0.0	0.0	0.0	0.0
Subtotal – Direct Costs	298.7	0.0	0.0	298.7
Indirect Capital Costs				
Indirect/Overheads (including benefits)	197.1	0.0	0.0	197.1
Capitalized interest or AFUDC, if any	0.0	0.0	0.0	0.0
Subtotal – Indirect Costs	197.1	0.0	0.0	197.1
Total Gross Capital Costs	**495.8**	**0.0**	**0.0**	**495.8**
Customer Contribution	0.0	0.0	0.0	0.0
Total Net Capital Project Costs	**495.8**	**0.0**	**0.0**	**495.8**

3. Technical Justification:

Background, Project Need/Justification, and Project Scope

a. Background

The Smart Switch Program focuses on breaking up customer zones and lowering the average number of customers impacted by a backbone interruption.

The Smart Switch Ranking Program was created to identify backbone zones that would impact over 500 customers. These zones were then ranked based on the number of customers impacted over the past four years.

Projects must be created to reduce the number of customers impacted in that zone to 500 or less.

The following is the outage history for [redacted] customer zone (January 2018 to January 2022)

[redacted]

The following is the outage history for [redacted] customer zone (January 2018 to January 2022)

[redacted]

The following is the outage history for [redacted] customer zone (January 2018 to January 2022)

[redacted]

The following is the outage history for [redacted] customer zone (January 2018 to January 2022)

[redacted]

b. Project Need

This project has been established to address the following issues on the [redacted] circuits:

[redacted]

c. Project Scope

The scope of this project is as follows:

[redacted]

4. Alternatives Considered

Option 1 is the preferred option because it offers the most benefit to the [redacted] s. The suggested work eliminates 3 large customer zones and creates 2 two-way tie points.

Option 2 proposes the installation of two new reclosers. [redacted]

Project Option Comparison

	Options	
[redacted]		
Authorization Type	Full	Partial*
Capital Cost	$495.8K	$261.8K
Expense Cost	$21.7K	$11K
Total Cost	$517.5K	$273.3K
Total Cost / CM Saved	$3.58/CM	$1.9/CM
Total Cost / CI Saved	$94,090.91/CI	$49,685.82/CI
Preferred option	X	

*Partial funding updated with 2023 estimating units.

Note: Cost per cust min saved was updated to 50% improvement from 30%. 50% improvement is standard for reclosers in loop scheme.

5. Project Schedule

Milestone/Phase Name	Estimated Date
Partial Approval	8/31/2023
100% Detailed Engineering Completion	11/30/2023
Fully Funded	1/18/2024
Construction Start	6/1/2024
In Service Date	12/31/2024

6. Regulatory Decisions

7. Codes and Standards

8. Risk and Contingencies:

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	202X	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	202X	Low	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.	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	Low	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

[redacted]

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

Attachment	Included in Submittal?
A. Partial PAF Documents	*YES*
B. Cost Estimate	*YES*
C. Geographic Map	*NO*
D. System and Station One-Lines	*YES*
E. Load Sheet	*YES*
F.	

A. Partial PAF Document:

Project Title [redacted]	**Project Number:** CD01889
Date Prepared: 08/31/2023	**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: 12/31/2024	
Total Capital Request: $490,530	**Authorization Type:** Partial Funding

11. Executive Summary

This project will address the reliability of [redacted] The current zone has [redacted] All the 6 events were attributed to trees.

[redacted]

Division: Western
AWC: Torrington
Town: Canton

12. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2024	2025	2026+	Total
Internal Labor and Construction Equipment	$26.74	$0.00	$0.00	$26.74
Outside Services	$54.87	$0.00	$0.00	$54.87
Materials	$254.69	$0.00	$0.00	$254.69
Removals	$29.30	$0.00	$0.00	$29.30
Risk and Contingency	$1.27	$0.00	$0.00	$1.27
Other	$0.00	$0.00	$0.00	$0.00
Subtotal	$366.87	$0.00	$0.00	$366.87
Indirect Capital Costs	2024	2025	2026+	**Total**
Indirects/Overheads (including benefits)	$117.86	$0.00	$0.00	$117.86
Capitalized interest or AFUDC, if any	$5.81	$0.00	$0.00	$5.81
Subtotal	$123.66	$0.00	$0.00	$123.66
Total Capital Costs (Gross)	**$490.53**	**$0.00**	**$0.00**	**$490.53**
Less Total Customer Contribution	**$0.00**	**$0.00**	**$0.00**	**$0.00**
Total O&M Project Costs	**$0.00**	**$0.00**	**$0.00**	**$0.00**
Project Costs (Net)	**$490.53**	**$0.00**	**$0.00**	**$490.53**

Explain unique payment provisions, if applicable:

13. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

The Smart Switch Program focuses on breaking up customer zones and lowering the average number of customers impacted by a backbone interruption.

The Smart Switch Ranking Program was created to identify backbone zones that would impact over 500 customers. These zones were then ranked based on the number of customers impacted over the past four years.

Projects must be created to reduce the number of customers impacted in that zone to 500 or less.

The following is the outage history for [redacted] customer zone (January 2018 to January 2022)

[redacted]

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[redacted]

The following is the outage history for [redacted] customer zone (January 2018 to January 2022)

[redacted]

The following is the outage history for [redacted] customer zone (January 2018 to January 2022)

[redacted]

b. Project Need

This project has been established to address the following issues on the [redacted]

c. Project Scope

The scope of this project is as follows:

[redacted]

14. Alternatives Considered

Project Option Comparison

Project Option Comparison

[redacted]		
Capital Cost	$490,530	$201,381
Expense Cost	$21,493	$8,824
Total Cost	$512,027	$210,205
Cost / CM Saved	$10.49	$4.37
Cost / CI Saved	$62.20	$59.18
Preferred option	X	

Option 1 is the preferred option because it offers the most benefit to the [redacted]

Option 2 proposes the installation of [redacted]

15. Project Schedule

Add any additional milestones that are pertinent to the project

Milestone/Phase Name	Estimated Date
Partial Funding Approval	08/31/2023
100% Detailed Engineering Completion	12/31/2023
Settings Requested	03/31/2024
Construction Start	06/01/2024

Milestone/Phase Name	Estimated Date
In Service Date	10/01/2024

16. Risk and Contingencies

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	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.	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	Low	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.

17. References

[redacted]

DSEM02-301.pdf

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

Attachment	Included in Submittal?
A. Cost Estimate	*YES*
B. Geographic Map	*YES*
C. System and Station One-Lines	*YES*
D. Load Sheet	*YES*

B.) Cost Estimate:

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01889 [redacted]

Work Classification

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

Ownership / Management

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

Project Information

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

Budget Summary - Preferred Option

Sectionalizing 5R4 & 5R6 circuit

2024

ID	Title	Status	Rev #	Contingency	Expenditure Amount	Net Estimate
1	Recloser Work only	Draft	0	24%	$512,027	$512,027
				2024 Total:	$512,027	$512,027
				Total Project:	$512,027	$512,027

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01889 [redacted]

Project Option Summary

ID	Description	Segments	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)	Prfrd
O1	Sectionalizing [redacted]	1	$512,027	$0	100%	$220.43	$10.49	☑
O2	Sectionalizing [redacted]	2	$210,205	$0	100%	$112.95	$4.37	☐

Segments

ID	Title	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)
1	Recloser Work only	$512,027			$227.44	$6.10
2	[redacted] Setionalizing only	$210,205			$112.82	$2.44

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01889 [redacted]

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 #: CD01889 [redacted]

Design Alternative CD01889-01

General Information

Segment: 1 - Recloser Work only Status: Draft

Segment Type: SECTIONALIZING - OH Town: CANTON Budget Year: 2024

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

Description: Installing Cooper Nova Form 6 recloser with various settings to reduce customer count in each zone.

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 #: [redacted]

Design Alternative CD01889-01

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$412,925
Contingency Amount:	$99,102
Estimate:	$512,027
Reimbursement:	$0
Net Amount:	**$512,027**
Description:	

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	23-ALL17	$9,124.96
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	23-ALL18	$15,000.00
SECTIONALIZE OH - Recloser - 3ph	23-OH38	$311,932.40
SECTIONALIZE OH - Recloser Control	23-OH39	$76,867.44

Associated / Impacted Devices

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

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01889 [redacted]

Design Alternative CD01889-01

Reliability Projection

Title:

Outage Start Date: 1/1/2018 Outage End Date: 1/4/2022 Years History: 4.01

[redacted]

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01889 [redacted]

Design Alternative CD01889-02

General Information

Segment: 2 [redacted] Setionalizing only
Status: Draft
Segment Type: RECLOSERS
Town: CANTON
Budget Year: 2024
Work Type: BB-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 #: CD01889 [redacted]

Design Alternative CD01889-02

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$169,520
Contingency Amount:	$40,685
Estimate:	$210,205
Reimbursement:	$0
Net Amount:	**$210,205**

Description:

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	23-ALL17	$9,124.96
TRAFFIC OH/DB/UG - Traffic Control - Police Officer	23-ALL18	$10,000.00
SECTIONALIZE OH - Recloser - 3ph	23-OH38	$124,772.96
SECTIONALIZE OH - Recloser Control	23-OH39	$25,622.48

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 #: CD01889 [redacted]

Design Alternative CD01889-02

Reliability Projection

Title:

Outage Start Date: 1/1/2018 Outage End Date: 1/5/2022 Years History: 4.01

[redacted]













