EVERSOURCE

Project Approval Form

Project Title: Lateral Reliability Prioritization Program	Project Number: CD01955
Date Prepared: 08/31/2023	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** RELIABILITY IMPROVE SPEC PROJ
Project Initiator: [redacted]	**Project Type:** Specific
Initiating Organization: Distribution	**Capital Investment part of original Op Plan:** Yes
Project Manager: [redacted]	**Emergency Related Request?** No
Project Sponsor: [redacted]	**Facility Type** (check all that apply)**:** ☐ PTF ☐ non-PTF ☒ Distribution ☐ N/A (General Plant)
Required in service date: 6/30/23	
Total Capital Request: $449K	**Authorization Type:** Full Funding

1. Executive Summary

This project is part of the Lateral Reliability Prioritization Program, which identifies [redacted] over a four-year period. This project addresses the [redacted], which has experienced 18 interruptions from 1/4/18 to 2/18/22, all due to trees/limbs causing the fuse on pole 2006 to blow. [redacted]

8/31/23 – Full Funding request. The Partial Funding estimate is $632K, approved on 3/3/22. Full Funding estimate is $449K, a difference of $183K, or a 29% decrease. The job was constructed as engineered, no scope change. The job is complete.

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	Year 2023	Year 2024	Year 2025	Total
Direct Capital Costs				
Internal Labor and Construction Equipment	86.3	0.0	0.0	86.3
Outside Services	27.5	0.0	0.0	27.5
Materials	30.5	0.0	0.0	30.5
Removals	80.8	0.0	0.0	80.8
Risk and Contingency	0.0	0.0	0.0	0.0
Other	1.3	0.0	0.0	1.3
Subtotal – Direct Costs	**226.4**	**0.0**	**0.0**	**226.4**
Indirect Capital Costs				
Indirect/Overheads (including benefits)	219.9	0.0	0.0	219.9
Capitalized interest or AFUDC, if any	2.7	0.0	0.0	2.7
Subtotal – Indirect Costs	**222.6**	**0.0**	**0.0**	**222.6**
Total Gross Capital Costs	**449.0**	**0.0**	**0.0**	**449.0**
Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**
Total Net Capital Project Costs	**449.0**	**0.0**	**0.0**	**449.0**

Explain unique payment provisions, if applicable:

Detail Costs – See Attachment "A"

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

[redacted], and has experienced 18 interruptions from 1/4/18 to 2/18/22. [redacted]. Outage history is attached.

[redacted]

[redacted]

b. Project Need

[redacted]

[redacted]

[redacted]

c. Project Scope

[redacted].

4. Alternatives Considered

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
[redacted]				
Type	Full	Partial	Partial	Full
Capital Cost	$449K	$388K	$1,247K	Included in Alt. 1
Expense Cost	$15.7K	$8K	$27K	Included in Alt. 1
Total Cost	$464.7K	$396K	$1,274K	Included in Alt. 1
Cost/CM saved	$9.84	$4.75	$63.29	$0
Cost/CI Saved	$4,833	$3,123	$69,481	$0
Preferred Option	X			

Preferred Option: Alternative 1:

- Cost/Customer Minute Saved = $9.84
- Cost/Customer Interruption Saved = $4,833

This option is preferred because reconductoring with tree wire and converting will improve performance. Reconductoring and installing class 2 poles will harden this area and make it more resilient. [redacted]

Alternative 2:

- Cost/Customer Minute Saved = $4.75
- Cost/Customer Interruption Saved = $3,123

[redacted]

Alternative 3:

- Cost/Customer Minute Saved = $53.45
- Cost/Customer Interruption Saved = $64,648

[redacted]

5. Project Schedule

Add any additional milestones that are pertinent to the project

Milestone/Phase Name	Estimated Date
Partial Approval	3/3/22
100% Detailed Engineering Completion	6/30/22
Fully Funded	8/31/22
Construction Start	1/1/23
In Service Date	6/30/23

6. Regulatory Decisions

7. Codes and Standards

8. Risk and Contingencies

Contingencies:

Risk Mitigation:

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2023	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	2023	Medium	Design to minimize customer impact. Project Preplanning and customer/community outreach.
Internal construction 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.
Internal engineering resources not available to perform the work.	2023	Low	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2023	Medium	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2023	Medium	If storm activity delays work, we may be forced to use external resources.

System abnormal configuration	2023	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	2023	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	2023	Low	Use of mats and specialty equipment, only work during certain times of the year.

9. References

References
1. Step Txf Loading  333 kVA Step Transformer Loading.xlsx
2.
3.
4.
5.

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

Attachment	Included in Submittal?
A. Cost Estimate	*YES*
B. Outage History	*YES*
C. Geographic Map	*YES*
D. System and Station One-Lines	*NO*

Attachment "A" – Detailed Cost Estimate

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01955

Reconductor and Convert Otter Cove Rd

Segment CD01955-01

Estimate

	Preliminary Estimate Summary
Revision Number:	1
Contingency:	20.00%
SubTotal:	$531,682
Contingency Amount:	$106,336
Estimate:	$638,018
Reimbursement:	$0
Net Amount:	**$638,018**
Description:	Reconductor and convert Otter Cove Drive, install stepdown on Boulder Drive.

Item Description	CU		Amount
OH WIRE OH-Reconductor w/175 Mil Tree Wire-1ph (any gauge)	16-OH25	[redacted]	$198,000.00
OH WIRE OH - Neutral	16-OH31		$52,800.00
OH WIRE OH - Remove circuit wire (1 phase)	16-OH37		$19,800.00
EQUIPMENT OH - Conversion Prep Work - 1ph	16-OH56		$30,900.00
EQUIPMENT OH - Conversion - CUTOVER	16-OH58		$12,309.60
XF OH - OH XF - 1ph 23 transformers here, 11 are duals	16-OH45		$25,315.20
SECTIONALIZE OH - Cutouts or Arresters - 1ph cutouts for 23 transformers and sidetaps	16-OH19		$42,507.20
TREE OH - Tree Trimming Per Arborist 2/28/22	16-OH61		$150,000.00

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Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01955
Reconductor and Convert Otter Cove Rd

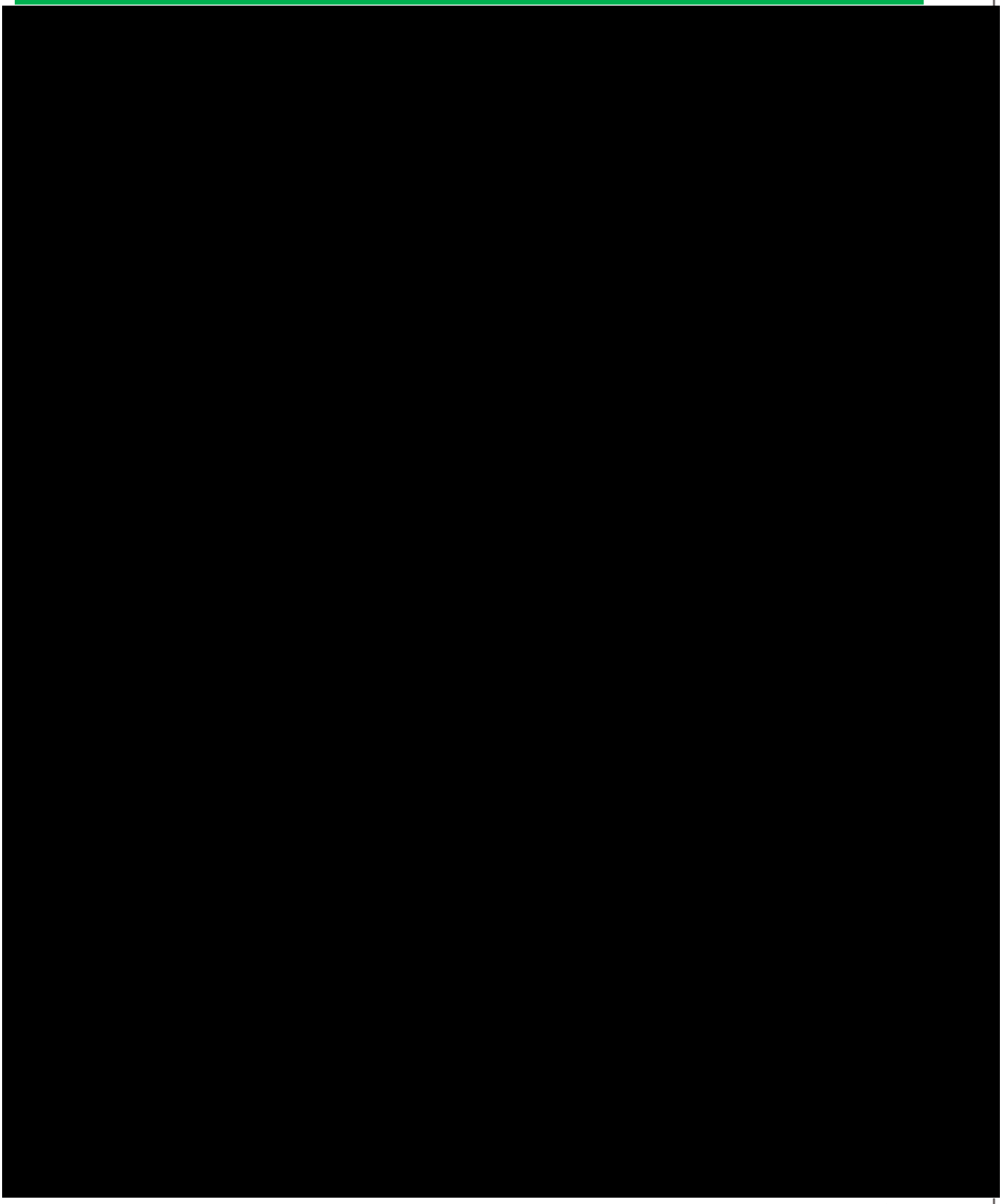
Segment CD01955-04

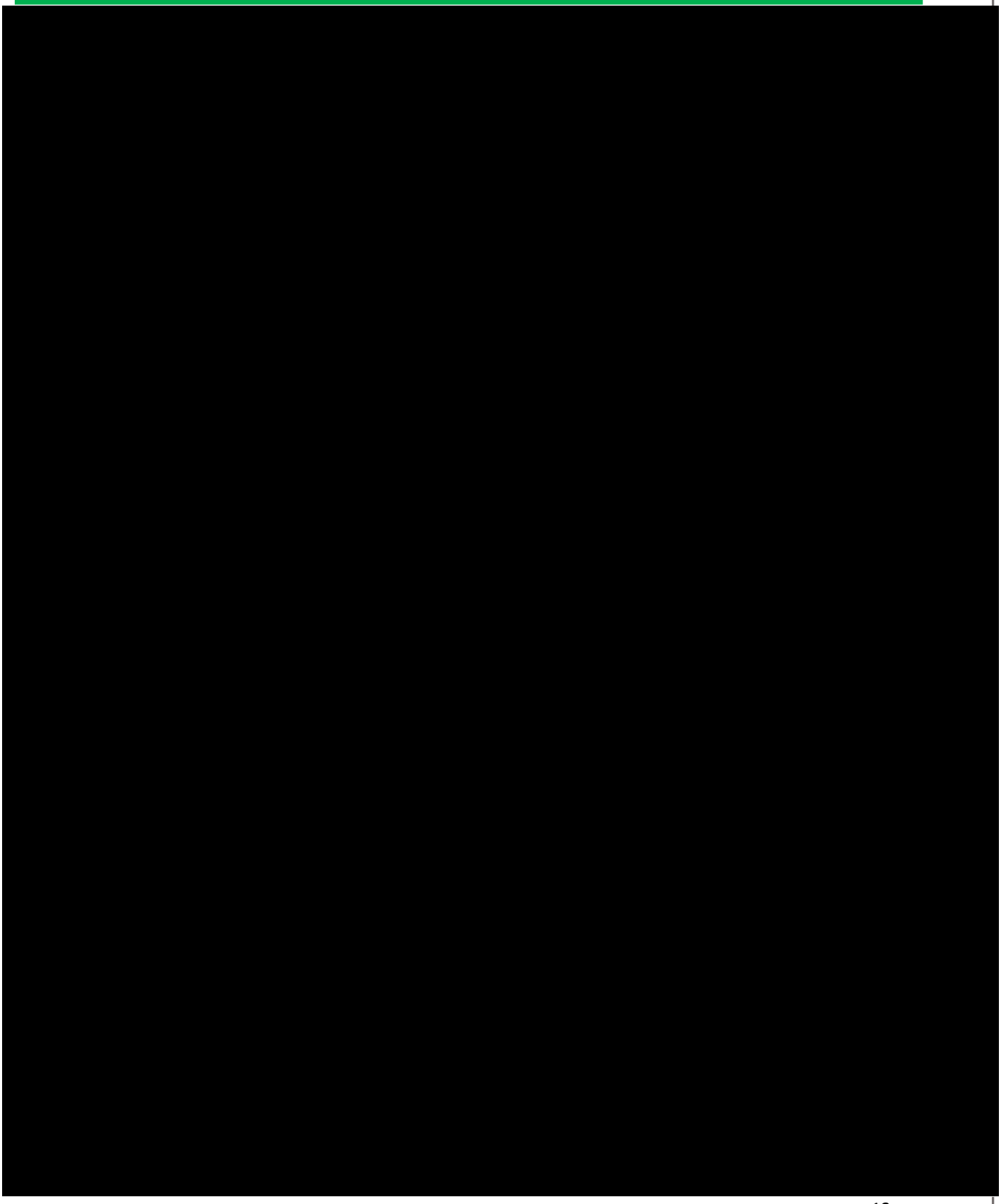
Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	20.00%
SubTotal:	$6,800
Contingency Amount:	$1,360
Estimate:	$8,160
Reimbursement:	$0
Net Amount:	**$8,160**
Description:	Install 333 kVA step-down on Boulder Drive

Item Description	CU	[redacted]	Amount
XF	16-OH49		$6,800.00
OH - Stepdown - 1ph - on POLE 333 kVA step-down			

Attachment "B" – Outage History





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APS 1 - Project Authorization Policy

Appendix 2
Operations Project Authorization Form

Operations Project Authorization Form

Project Title: Lateral Reliability Prioritization Program	**Project Number: CD01955**
Date Prepared: 03/03/2022	**Company:** Eversource CT
Organization: EFO	**Class(es) of Plant:** D Line
Project Initiator: [redacted]	**Project Category: Reliability**
Project Manager: [redacted]	**Project Type:** Specific
Project Sponsor: [redacted]	**Capital Investment part of original Operating Plan:** Yes
Estimated in service date: 12/31/23	**Emergency Related Request?** No
Eng./Constr. Resources Budgeted? Yes	**Facility Type** (check all that apply): ☐ PTF ☐ non-PTF **X** Distribution
Total Gross Capital Request: $632K	**Authorization Type:** Initial Funding

Executive Summary

This project is part of the Lateral Reliability Prioritization Program, [redacted] over a four year period. This project addresses the [redacted] which has experienced 18 interruptions from 1/4/18 to 2/18/22, all due to trees/limbs causing the fuse on pole 2006 to blow. [redacted]

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APS 1 - Project Authorization Policy

Appendix 2
Operations Project Authorization Form

Project Costs Summary

See APS3 and APS8 requirements and consult with Plant Accounting for capital/O&M determination. Use published loaders for benefits, materials, and invoices, maintained by the Director, Budget and Internal Reporting.
Note: Dollar values are in thousands

Capital Costs	Year 2023	Year 2024	Year 2025+	Total
Internal Labor and Construction Equipment	$24	$0	$0	$24
Outside Services	$225	$0	$0	$225
Materials	$70	$0	$0	$70
Removals	$36	$0	$0	$36
Risk and Contingency	$31	$0	$0	$31
Other	$0	$0	$0	$0
Subtotal	**$385**	**$0**	**$0**	**$385**
Indirect Capital Costs	**2022**	**2023**	**2024+**	**Total**
Indirects/Overheads (including benefits)	$234	$0	$0	$234
Capitalized interest or AFUDC, if any	$13	$0	$0	$13
Subtotal	**$247**	**$0**	**$0**	**$247**
Total Capital Costs (Gross)	**$632**	**$0**	**$0**	**$632**

Technical Justification:

Project Need, Objective and Justification

[redacted]

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APS 1 - Project Authorization Policy

Appendix 2
Operations Project Authorization Form

Project Scope

[redacted]

Background

[redacted]

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APS 1 - Project Authorization Policy

Appendix 2
Operations Project Authorization Form

Alternatives Considered:

Alternatives were considered (please describe below)

1) [redacted]
2) [redacted]
3) [redacted]
4) [redacted]
   - Cost = $8,160

[redacted]

Preferred Option: 1 & 4:

- Cost/Customer Minute Saved = $9.84
- Cost/Customer Interruption Saved = $4.833

[redacted]

Alternate Option 2:

- Cost/Customer Minute Saved = $4.75
- Cost/Customer Interruption Saved = $3,123

[redacted]

Alternate Option 3:

- Cost/Customer Minute Saved = $53.45
- Cost/Customer Interruption Saved = $64,658

[redacted]

Material

8,250 feet – 1/0 tree wire
8,250 feet – 1/0 ACSR bare
12 – distribution transformers
31 – fused cutouts
16 – Eversource poles

Project Schedule

Milestone/Phase Name	Estimated Date
100% Engineering Completion	6/1/23
Construction Start	9/1/23
Testing/Commissioning	N/A
In Service Date	12/31/23

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	Included contingency costs in the funding request. Perform detailed Field Analysis and walk down in project development to avoid potential issues.
Internal construction resources not available to perform the work.	2022	Low	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost if necessary.

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APS 1 - Project Authorization Policy

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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	Medium	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2022	Medium	Schedule work to minimize system abnormal time. Install temporary bypasses/equipment if system will be abnormal for extended periods

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

333 kVA Step Transformer Loading.

CD01955 CMS & CMI Sheet.xlsx

Four Year Outage History 1-1-2018 to 2

CD01955_project_needs_statement.pdf

Otter Cove Reconductor and Con