EVERSOURCE

Project Approval Form

Project Title: [redacted]	**Project Number: CD01975**
Date Prepared: 08/22/2023	**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:** No
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: 12/31/2023	
Total Capital Request: $106,527	**Authorization Type:** Full Funding

1. Executive Summary

This project addresses the reliability of a [redacted]

The partial funding approval amount was $93K. In the project, the existing [redacted] sectional recloser was proposed for a control change to a mid-point type recloser. In the field, the crews found the existing sectional recloser was too old to accept the new control changes. The recloser was completely replaced with a new Cooper Nova type recloser bringing the full funding cost up to $106.5K

Project Location

- Division: Western
- District: Newtown AWC
- Town(s): Woodbury, Roxbury

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2023	2024	2025+	Total
Internal Labor and Construction Equipment	2.8	0.0	0.0	2.8
Outside Services	4.7	0.0	0.0	4.7
Materials	86.1	0.0	0.0	86.1
Removals	2.2	0.0	0.0	2.2
Risk and Contingency	0.0	0.0	0.0	0.0
Other	0.1	0.0	0.0	0.1
Subtotal	**95.9**	**0.0**	**0.0**	**95.9**

Indirect Capital Costs	2023	2024	2025+	Total
Indirects/Overheads (including benefits)	9.6	0.0	0.0	9.6
Capitalized interest or AFUDC, if any	1.0	0.0	0.0	1.0
Subtotal	**10.7**	**0.0**	**0.0**	**10.7**
Total Capital Costs (Gross)	**106.5**	**0.0**	**0.0**	**106.5**
Less Total Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**
Project Costs (Net of Reimbursement)	**106.5**	**0.0**	**0.0**	**106.5**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

The Smart Switch Program is a continuation of an initiative approved as part of the System Resiliency PURA Docket 12-07-06RE01; a multiyear program to improve circuit reliability by adding automatic sectionalizing devices on overhead distribution circuits. The Smart Switch Program focuses on breaking up customer zones and lowering the average number of customers impacted by a backbone interruption.

The 2021 Smart Switch Ranking Program was created to identify backbone zones that would impact over 500 customers. This zone was ranked number 27 for areas with large customer outages.

When creating projects for the highest ranked zones, also reduce the number of customers impacted to 500 or less for any other backbone zone on the same circuit if it is ranked in the top 100 devices.

The following is the outage history for [redacted] (March 2018 to March 2022)

[redacted]

b. Project Need

The goal of the Smart Switch program is to reduce the number of customers exposed to an outage event. The project breaks up large customer zones by creating automated loops and adding sectionalizing reclosers in various settings profiles to isolate outages. The target of each project is to decrease customer zone to below 500. A zone that is broken in half with tie to another source can improve the zone reliability by 50%. Adding an additional device in radial zone can improve the zone reliability by 30%. Project may include breaking up large customer zones with several devices and multiple ties.

On Completion of this project, [redacted]

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

- [redacted]

c. Project Scope

The scope of this project is as follows:

- [redacted]
  - [redacted]
- [redacted]
  - [redacted]
  - [redacted]ture.

4. Alternatives Considered

[redacted]

Option #2:

[redacted]

Option #3:

[redacted]

Project Option Comparison

	Option
[redacted]	

[redacted]

Authorization Type	Full	Partial	Partial
Capital Cost	$106.5K	$84K	$84K
Expense Cost	$5K	$3K	$3K
Total Cost	$110K	$93K	$93K
Total Cost / MVA added	$/MVA	$/MVA	$/MVA
Total Cost / CM Saved	$0.31/CM	$0.35/CM	$0.35/CM
Preferred option	X		

5. Project Schedule

Add any additional milestones that are pertinent to the project

Milestone/Phase Name	Estimated Date
Partial Approval	8/2022
100% Detailed Engineering Completion	10/2022
Fully Funded	8/2023
Construction Start	6/2023
In Service Date	7/2023

6. Regulatory Decisions

Environmental permitting will be required for work within the ROW.

7. Codes and Standards

N/A

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	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	2023	Low	Design to minimize customer impact. Project Preplanning and customer/community outreach.
Internal construction resources not available to perform the work.	2023	High	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	2023	Low	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2023	Low	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	Medium	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.

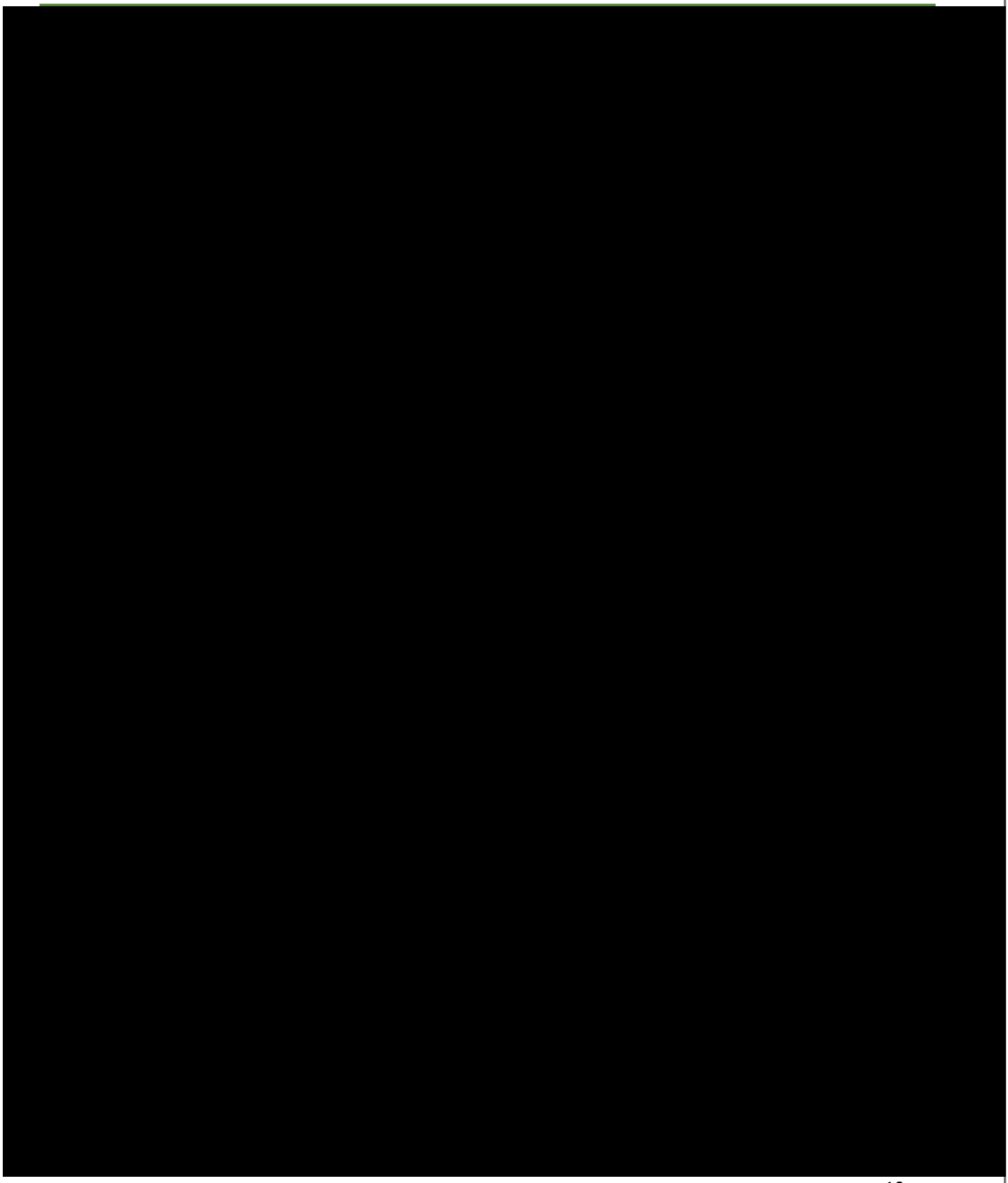
9. References

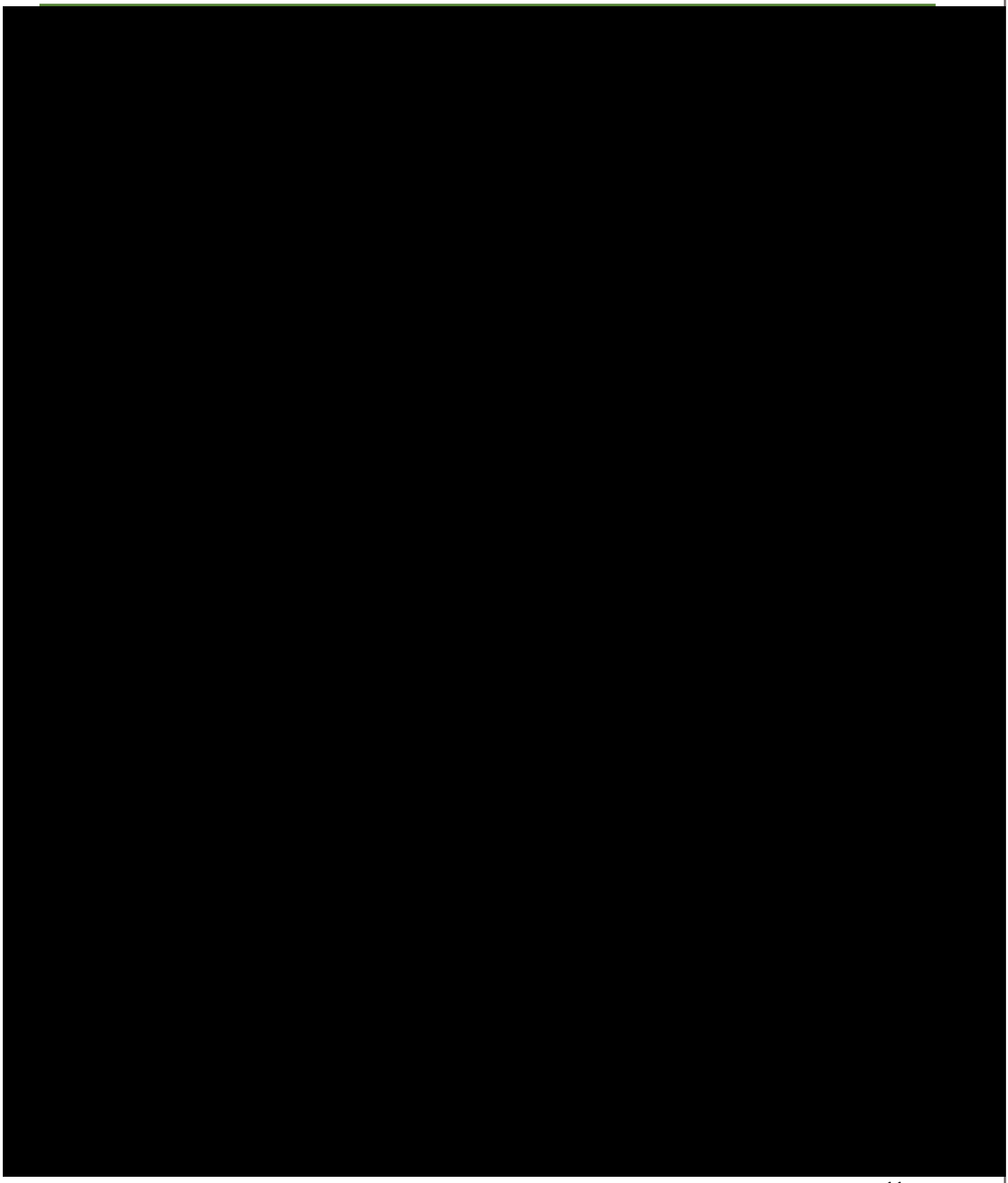
References
1. N/A
2.
3.
4.
5.

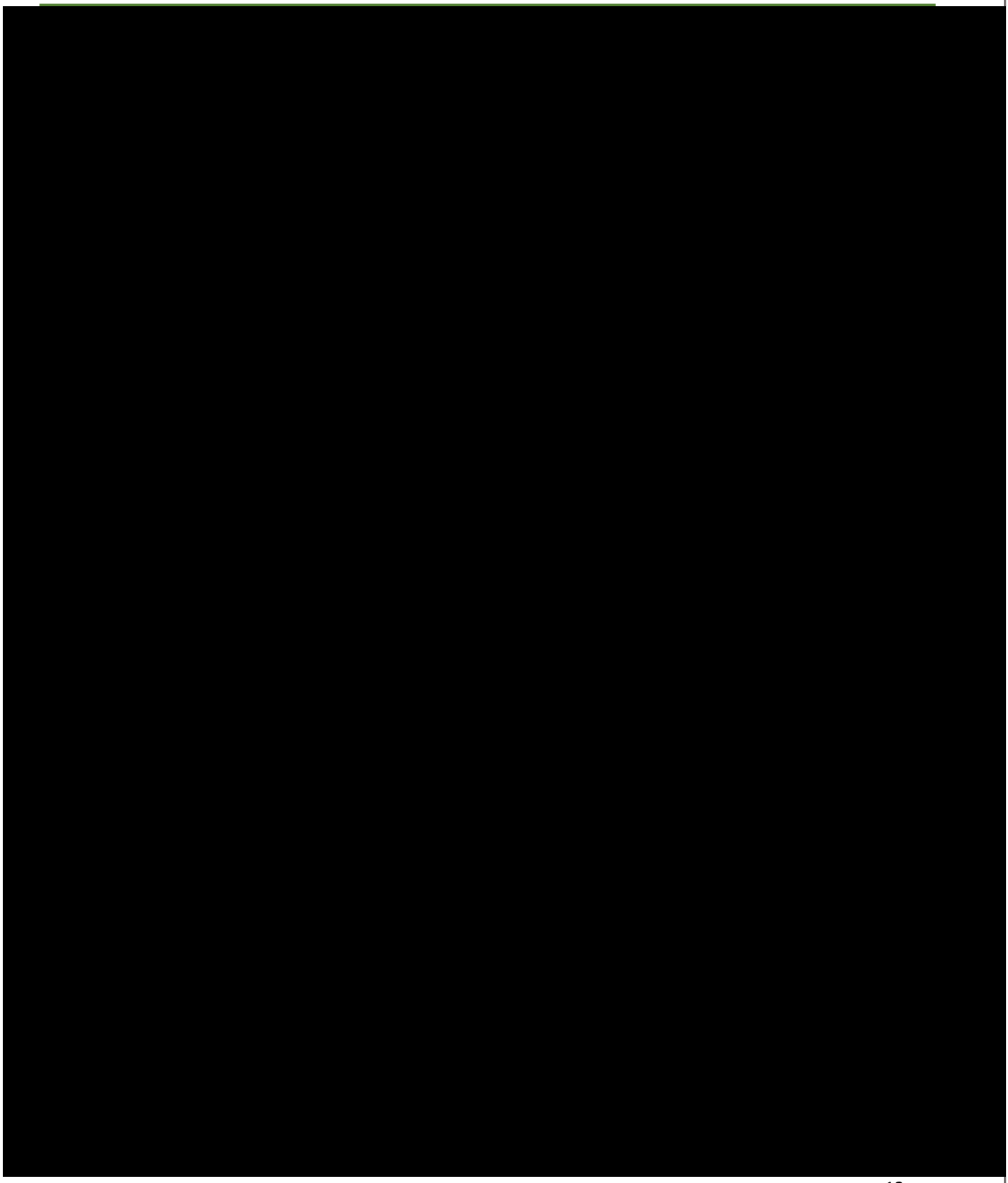
10. Attachments (One Line Diagrams, Images, etc.)

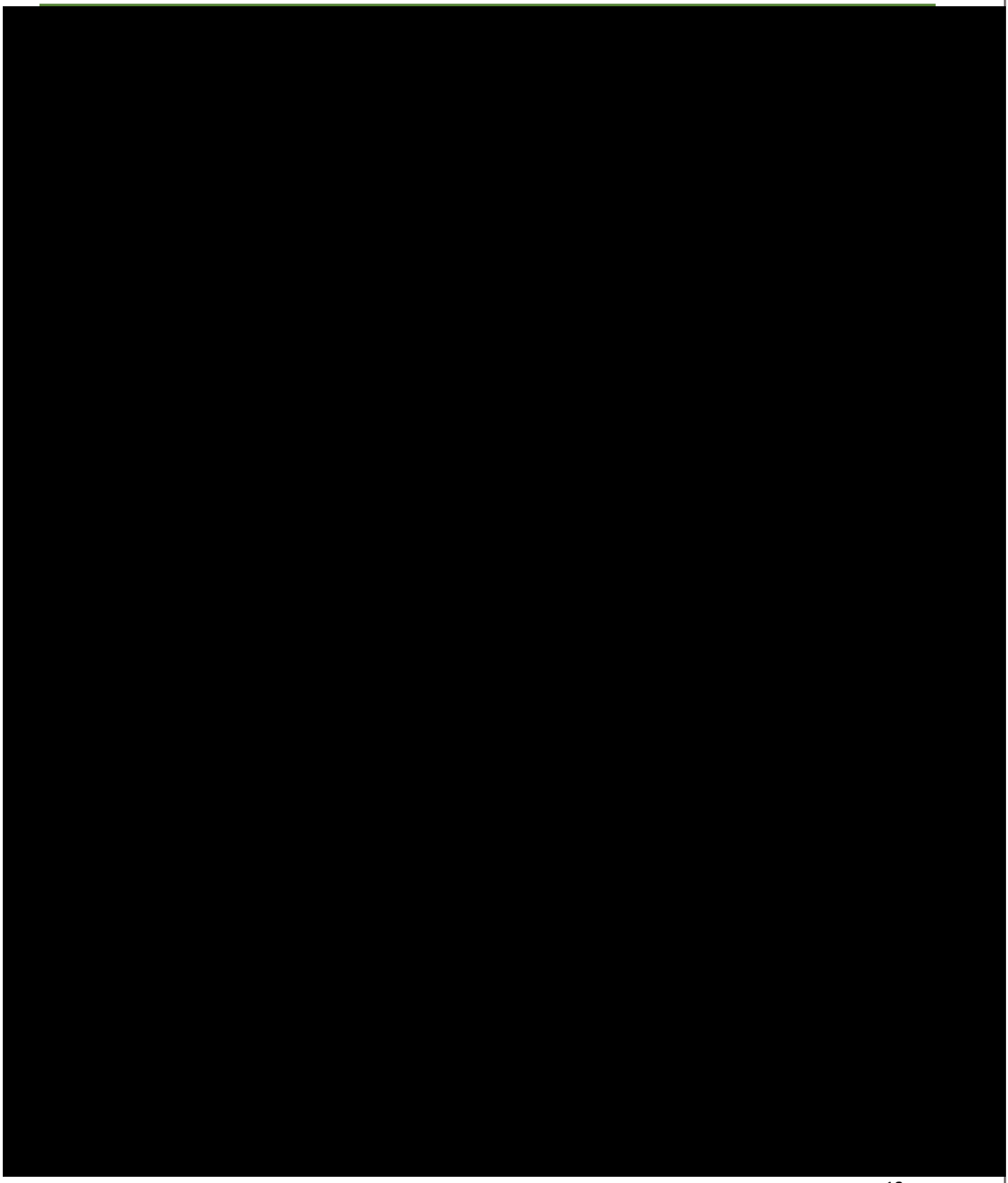
Attachment		Included in Submittal?
A. Geographic Map	[redacted] North St. - rev. 8-1-22.pdf	*YES*
B. System and Station One-Lines	CD01975 One_line - rev 8-2-22.pdf	*YES*
C. Load Sheet	CD01975 Load Sheet - rev 3-31-22 c	*YES*

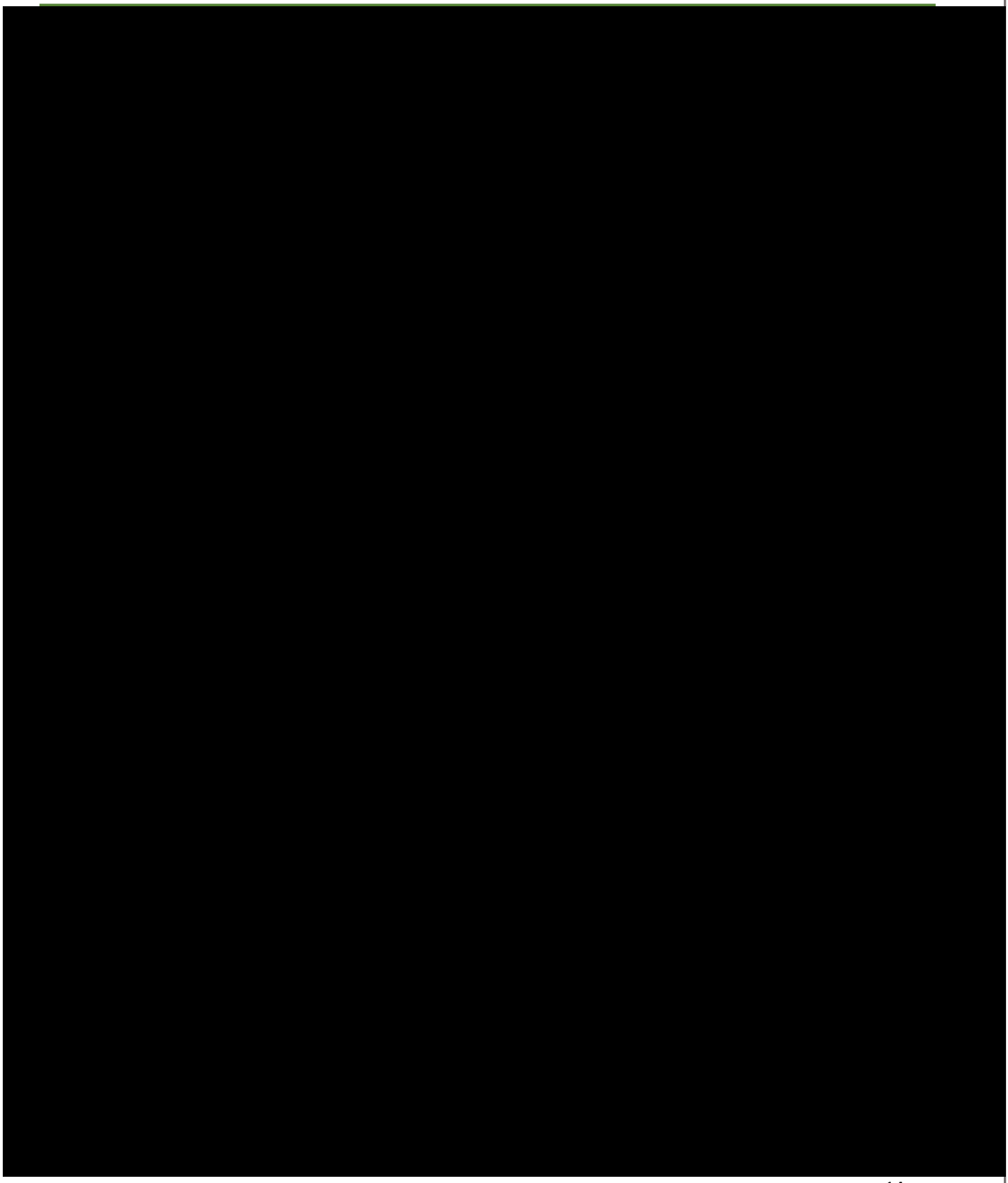
D. Cost Estimate	CD01975_project_needs_statement - rev	*YES*

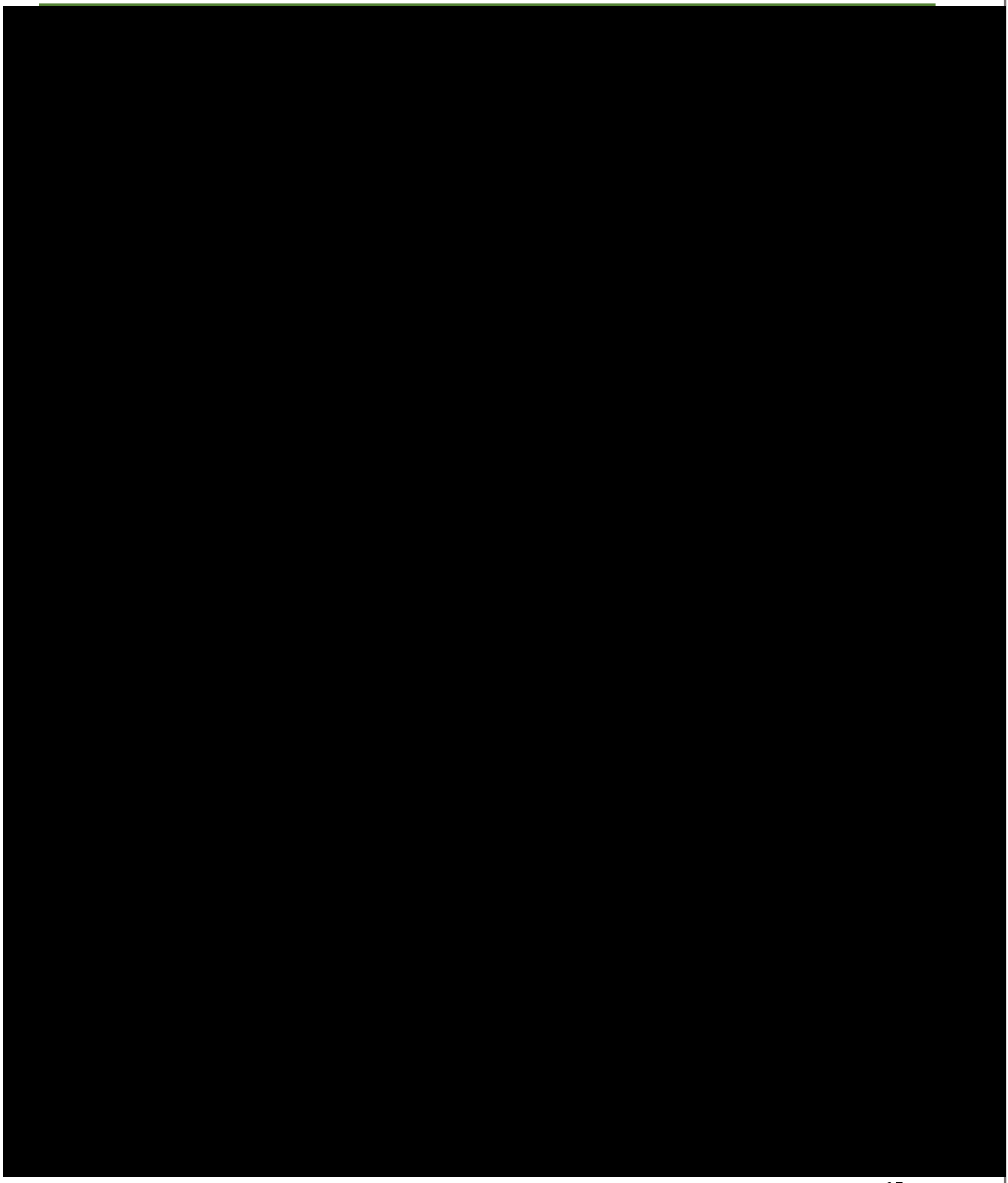


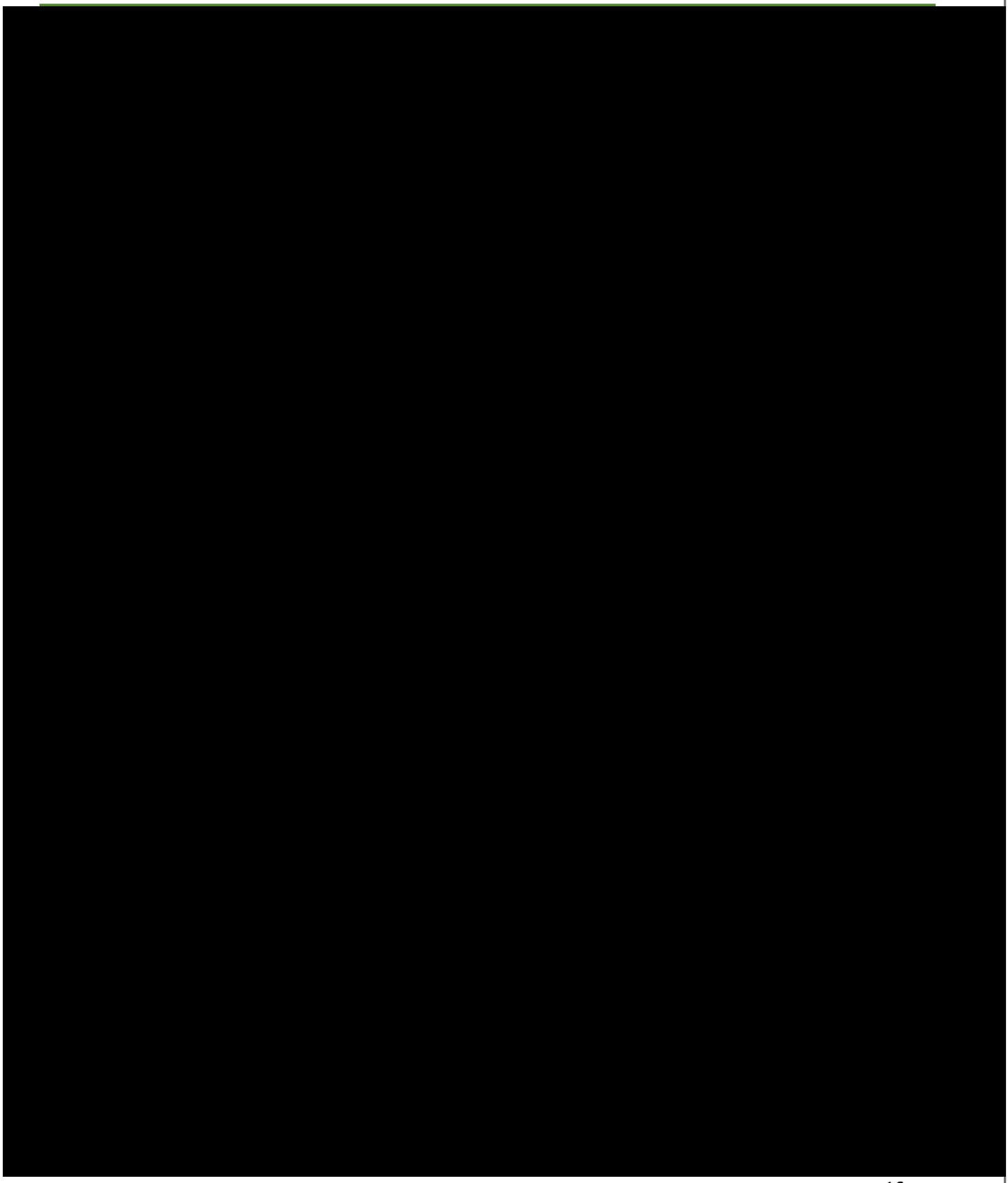


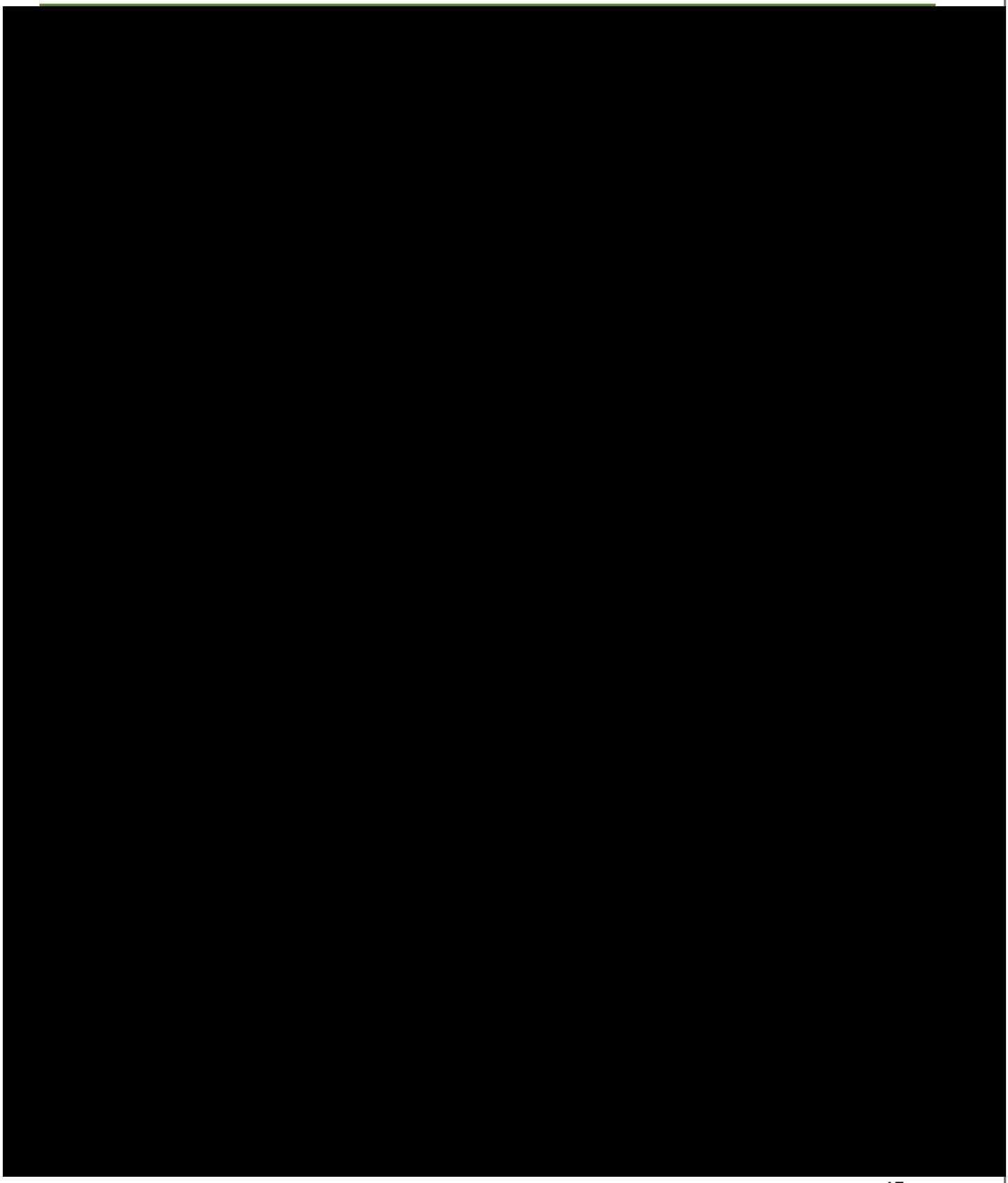












D. Cost Estimate

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD01975 [redacted]

Design Alternative CD01975-01

General Information

Segment: 1 - [redacted] Sectionalizing Option#2 Status: Draft

Segment Type: SECTIONALIZING - OH Town: NEW MILFORD Budget Year: 2023

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

Description: [redacted]

Design Alternative CD01975-01

Estimate

	Preliminary Estimate Summary
Revision Number:	0
Contingency:	24.00%
SubTotal:	$76,914
Contingency Amount:	$18,459
Estimate:	$95,373
Reimbursement:	$0
Net Amount:	**$95,373**

Description:

Item Description	CU	Amount
SECTIONALIZE OH - Recloser Control - setting changes only Change [redacted] into [redacted]	16-OH39A	$4,885.60
SECTIONALIZE OH - Recloser - 3ph Move radial recloser [redacted] o pole [redacted]	16-OH38	$47,989.60
TRAFFIC OH/DB/UG - Traffic Control - Police Officer One officer for half a day at each location (2x).	16-ALL18	$10,000.00
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average Two per recloser	16-ALL17	$14,038.40

[redacted]

Operations Project Authorization Form

Project Title: [redacted]	**Project Number: CD01975**
Date Prepared: 08/02/2022	**Company:** Eversource CT
Organization: Distribution EFO	**Class(es) of Plant:** D Line
Project Initiator: [redacted]	**Project Category: Smart Switch**
Project Manager [redacted]	**Project Type:** Specific
Project Sponsor: [redacted]	**Capital Investment part of original Operating Plan:** No
Estimated in service date: 12/31/2023	**Emergency Related Request?** No
Eng./Constr. Resources Budgeted? Yes	**Facility Type** (check all that apply): ☐ PTF ☐ non-PTF ☐ Distribution
Total Gross Capital Request: $92,636.27	**Authorization Type:** Initial Funding

Executive Summary

[redacted]

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	2022	2023	2024+	Total
Direct Capital Costs				
Internal Labor and Construction Equipment	$8	$0	$0	$8
Outside Services	$11	$0	$0	$11
Materials	$34	$0	$0	$34
Removals	$2	$0	$0	$2
Risk and Contingency	$0	$0	$0	$0
Other	$0	$0	$0	$0
Subtotal	**$55**	**$0**	**$0**	**$55**
Indirect Capital Costs				
Indirects/Overheads (including benefits)	$36	$0	$0	$36
Capitalized interest or AFUDC, if any	$1	$0	$0	$1
Subtotal	**$38**	**$0**	**$0**	**$38**
Total Capital Costs (Gross)	**$93**	**$0**	**$0**	**$93**

Technical Justification:

Project Need, Objective and Justification

The goal of the Smart Switch program is to reduce the number of customers exposed to an outage event. The project breaks up large customer zones by creating automated loops and adding sectionalizing reclosers in various settings profiles to isolate outages. The target of each project is to decrease customer zone to below 500. A zone that is broken in half with tie to another source can improve the zone reliability by 50%. Adding an additional device in radial zone can improve the zone reliability by 30%. Project may include breaking up large customer zones with several devices and multiple ties.

[redacted]

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

- [redacted]

Project Scope

The scope of this project is as follows:

- [redacted]
  - [redacted]
- [redacted]
  - [redacted]
  - [redacted]

Background

The Smart Switch Program is a continuation of an initiative approved as part of the System Resiliency PURA Docket 12-07-06RE01; a multiyear program to improve circuit reliability by adding automatic sectionalizing devices on overhead distribution circuits. The Smart Switch Program focuses on breaking up customer zones and lowering the average number of customers impacted by a backbone interruption.

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When creating projects for the highest ranked zones, also reduce the number of customers impacted to 500 or less for any other backbone zone on the same circuit if it is ranked in the top 100 devices.

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

[redacted]

Alternatives Considered:

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

Alternatives were considered (please describe below)

Option #2:

[redacted]

Option #3:

[redacted]

Regulatory Approvals:

Are Regulatory body approvals needed for the project?

No

If yes, provide detailed regulatory approvals

Project Schedule

Milestone/Phase Name	Estimated Date
100% Engineering Completion	10/2022
Construction Start	3/2023
Testing/Commissioning	6/2023
In Service Date	7/2023

Risks and Risk Mitigation Plans

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2023	Medium	Included contingency costs in the funding request. Perform detailed Field Analysis and walk down in project development to avoid potential issues.
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Storm delays	2023	Low	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. Most of this work will require system to be abnormal for any extended period of time.

References

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

Reference appendices items in the appropriate section of the PAF and list items in the same order as referenced in the PAF