EVERSOURCE

Project Approval Form

Project Title: [redacted]	**Project Number: CD02273**
Date Prepared: 12/02/2024	**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: 12/31/2025	
Total Capital Request: $1,253.4K	**Authorization Type:** Full Funding

1. Executive Summary

Full funding is being requested for this project at a cost of $1,253.4K which is 120% of the partial funding capital estimate of $1,043K. CD02273 was partially approved on 2/1/2024. The variance between the full and partial funding estimate is due to additional length of cable required to complete the project. The partial funding estimate called for approximately 9,000' of 477 AAC TW, while the full funding estimate reflects a utilization of approximately 17,000'. This change was due to an additional phase of cable being required to address the reliability concerns for this project.

The original project was presented as follows:

- [redacted]
- [redacted] *The total cost of this proposal is $1,102,187.00 at a cost per minute saved of $9.76 and with an in-service date of 12/31/2025.*
- *Project Location*
- *Division: Western*
- *District: Torrington*

- *City: Winchester*

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2025	Year 2	Year 3+	Total
Internal Labor and Construction Equipment	63.8	0.0	0.0	63.8
Outside Services	396.3	0.0	0.0	396.3
Materials	73.3	0.0	0.0	73.3
Removals	69.8	0.0	0.0	69.8
Risk and Contingency	87.4	0.0	0.0	87.4
Other	0.0	0.0	0.0	0.0
Subtotal	**690.6**	**0.0**	**0.0**	**690.6**

Indirect Capital Costs	2025	Year 2	Year 3+	Total
Indirects/Overheads (including benefits)	562.8	0.0	0.0	562.8
Capitalized interest or AFUDC, if any	0.0	0.0	0.0	0.0
Subtotal	**562.8**	**0.0**	**0.0**	**562.8**
Total Capital Costs (Gross)	**1,253.4**	**0.0**	**0.0**	**1,253.4**
Less Total Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**
Project Costs (Net of Reimbursement)	**1,253.4**	**0.0**	**0.0**	**1,253.4**

Explain unique payment provisions, if applicable:

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

[redacted]

b. Project Need

[redacted]. Enhanced Tree Trimming and Hazardous Tree removals was performed on this tap which was completed on 7/2022 and 8/2023 respectively.

There were some customer refusals or light trim areas on this tap. This project aims to increase reliability and customer satisfaction.

c. Project Scope

[redacted]

Major Material:

43 – 40/2 CCA Frontier Poles
20 - Single Phase Overhead Transformers
53 - Fiberglass 4' Crossarms
53 – Rigid Pins
10 – 40/2 Frontier Midspan Poles
17,297' - 477 AAC TW for 2 phases
5 - Single Phase Cutouts

4. Alternatives Considered

As a first alternative to the preferred option, [redacted]. The total cost of this alternative being $1,324,376.00 at a cost per minute saved of $11.68.

The preferred option would provide the most beneficial outcome for this project by accomplishing improved reliability and a lower cost when accounting for the [redacted]. This alternative option was not considered as a preferred option because of the increase of approximately $222K in additional capital expenditure for the same objective and would result in a higher cost per minute with the [redacted]

[redacted] Because of these numerous issues with this line relocation that would need to be addressed, this alternative was not considered as a viable option.

Project Option Comparison

	Option	
[redacted]		
Authorization Type	Full	Partial
Capital Cost	$1.25M	$1.25M
Expense Cost	$50,137	$52,000
Total Cost	$1.30M	$1.32M
Total Cost / MVA added	$1.30/MVA	$1.32/MVA
Total Cost / CM Saved	$11.73/CM	$11.68/CM
Total Cost / CI Saved	$185.3K/CI	$150.5K/CI
Preferred option	X	

5. Project Schedule

Add any additional milestones that are pertinent to the project

Milestone/Phase Name	Estimated Date
Partial Approval	Feb 2024
Fully Funded	Dec 2024

Milestone/Phase Name	Estimated Date
Construction Start	Apr 2025
In Service Date	Dec 2025

6. Regulatory Decisions

This project requires no regulatory decisions needed for this project.

7. Codes and Standards

During the SDC committee meeting on 12/14/23 there was a discussion which involved the Standards group to create a new pole top configuration which would address a compact crossarm design that would minimize the amount of exposure to tree related interruptions. [redacted] The outcome of this new design will be to reduce the possibility of future tree related occurrences at a negligible cost.

8. Risk and Contingencies

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2025	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	2025	Low	Design to minimize customer impact. Project Preplanning and customer/community outreach.
Internal construction resources not available to perform the work.	2025	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.	2025	Low	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2025	Medium	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2025	Low	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2025	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	2025	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	2025	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?
A1. Partial Funding PAF Form	*YES*
A. Cost Estimate	*YES*
B. System and Station One-Lines	*YES*
C. Load Sheet	*YES*

EVERSOURCE

Project Approval Form

Attachment A1: Partial Funding PAF Form

Project Title: [redacted]	**Project Number: CD02273**
Date Prepared: 12/14/2023	**Company:** Eversource CT
Organization: Distribution Engineering	**Project Category:** TRMSN DISTR RELIABILTY PERFRM
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: $1,043.0K	**Authorization Type:** Partial Funding

1. Executive Summary:

[redacted] The total cost of this proposal is $1,102,187.00 at a cost per minute saved of $9.76 and with an in-service date of 12/31/2025.

- Project Location
- Division: Western
- District: Torrington
- City: Winchester

2. Project Cost Summary:

Note: Dollar values are in thousands.

Capital Costs	Year 2025	Year 2026	Year 2027+	Total
Direct Capital Costs				
Internal Labor and Construction Equipment	54.5	0	0	54.3
Outside Services	369.8	0	0	369.8
Materials	148.3	0	0	148.3
Removals	130.5	0	0	130.5
Risk and Contingency	0.0	0	0	0.0
Other	5.1	0	0	5.1
Subtotal – Direct Costs	708.2	0	0	708.2
Indirect Capital Costs				
Indirect/Overheads (including benefits)	314.0	0	0	314.0
Capitalized interest or AFUDC, if any	20.8	0	0	20.8
Subtotal – Indirect Costs	334.8	0	0	334.8
Total Gross Capital Costs	**1,043.0**	**0**	0	**1,043.0**
Customer Contribution	0.0	0	0	0.0
Total Net Capital Project Costs	**1,043.0**	0	0	**1,043.0**

3. Technical Justification:

a. Background

[redacted]

[redacted]

b. Project Need

If this project is not approved, the reliability concerns for these customers in the Danbury Quarter Road [redacted] Enhanced Tree Trimming and Hazardous Tree removals was performed on this tap which was completed on 7/2022 and 8/2023 respectively.
There were some customer refusals or light trim areas on this tap. This project aims to increase reliability and customer satisfaction.

c. Project Scope

[redacted]

Major Material:

43 – 40/2 CCA Frontier Poles
20 - Single Phase Overhead Transformers
53 - Fiberglass 4' Crossarms
53 – Rigid Pins
10 – 40/2 Frontier Midspan Poles
9,040' - 477 AAC Tree Wire
5 - Single Phase Cutouts

4. Alternatives Considered:

As a first alternative to the preferred option, we are proposing to [redacted]

[redacted] The total cost of this alternative being $1,324,376.00 at a cost per minute saved of $11.68.

The preferred option would provide the most beneficial outcome for this project by accomplishing improved reliability and a lower cost per CMS of $9.76 as compared to the alternative. This alternative option was not considered as a preferred option because of the increase of approximately $222K in additional capital expenditure for the same objective and has a much higher cost per minute saved of $11.68 as compared to the preferred option which has a cost per minute of $9.76.

As a second alternative to the preferred option, [redacted]

Project Option Comparison

	Option
[redacted]	

[redacted]

Authorization Type	Partial	Partial
Capital Cost	$1.04M	$1.25M
Expense Cost	$0.06M	$0.07M
Total Cost	$1.10M	$1.32M
Total Cost / MVA added	$1.10/MVA	$1.32/MVA
Total Cost / CM Saved	$9.76/CM	$11.68/CM
Total Cost / CI Saved	$154.2K/CI	$150.5K/CI
Preferred option	X	

5. Project Schedule

Milestone/Phase Name	Estimated Date
Partial Approval	12/14/2023
100% Detailed Engineering Completion	8/1/2024
Fully Funded	11/1/2025
Construction Start	4/1/2025
In Service Date	12/31/2005

6. Regulatory Decisions:

This project requires no regulatory decisions needed for this project.

7. Codes and Standards:

During the SDC committee meeting on 12/14/23 there was a discussion which involved the Standards group to create a new pole top configuration which would address a compact crossarm design that would minimize the amount of exposure to tree related interruptions. [redacted]. The outcome of this new design will be to reduce the possibility of future tree related occurrences at a negligible cost.

8. Risk and Contingencies:

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2025	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	2025	Low	Design to minimize customer impact. Project Preplanning and customer/community outreach.
Internal construction resources not available to perform the work.	2025	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.	2025	Low	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2025	Medium	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2025	Low	If storm activity delays work, we may be forced to use external resources.

System abnormal configuration	2025	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	2025	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	2025	Low	Use of mats and specialty equipment, only work during certain times of the year.

9. References

References
1.
2.
3.
4.
5.

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

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

Attachment A: Cost Estimate

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD02273 [redacted]

Work Classification

Category: Line
Type: REL1
Type Desc: RELIABILITY IMPROVE SPEC PROJ
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

Preferred Option

2025

ID	Title	Status	Rev #	Contingency	Expenditure Amount	Net Estimate
1	[redacted]	Prelim	0	28%	$1,102,187	$1,102,187
				2025 Total:	$1,102,187	$1,102,187
				Total Project:	$1,102,187	$1,102,187

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Specific Project Proposal - Project #: CD02273 [redacted]

Project Option Summary

ID	Description	Segments	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)	Prfrd
O1	Preferred Option	1	$1,102,187	$0	100%	$111.15	$11.86	☑
O2	Alternative Option	1,2	$1,324,376	$0	100%	$131.61	$14.23	☐

Segments

ID	Title	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)
1	[redacted]	$1,102,187			$111.03	$11.85
2		$222,188			$1,512.72	$1,512.72

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD02273 [redacted]

Background / Scope

Issue:

[redacted]

Project Description:

[redacted]

Other Considerations:

[redacted]

Revision / ACT Comments:

If we don't do this project, what will happen?

Connecticut Light & Power
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Specific Project Proposal - Project #: CD02273 [redacted]

[redacted]

Environmental

Water Pollution: Decrease Soil Contamination: Decrease Natural Habitats: Decrease

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 [redacted] Approx. Pole Count (NU):

Crit. Cust. Impacted: Approx. Pole Count (Other): 53

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 #: CD02273 [redacted]

Design Alternative CD02273-01

General Information

Segment: 1 - Danbury Quarter Rd. @ P# 2624 - 2939 Status: Prelim Design Submitted

Segment Type: RECONDUCTORING - OTHER Town: WINCHESTER Budget Year: 2025

Work Type: LT-Rehab+Recond Trimming Required: ☑ In Service Date: 12/31/2025

Description: [redacted]

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed
1	[redacted]		

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: [redacted]

Design Alternative CD02273-01

Estimate

Preliminary Estimate Summary

Revision Number:	0
Contingency:	28.00%
SubTotal:	$861,084
Contingency Amount:	$241,103
Estimate:	$1,102,187
Reimbursement:	$0
Net Amount:	**$1,102,187**

Description: ENG Estimate on Danbury Quarter Road @ P# 2624 - 2939

Item Description	CU	[redacted]	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	23-ALL17		$9,124.96
DB CABLE Rebuild riser pole terminate cable 1PH	23-DB002		$2,500.00
OH WIRE OH - Ampact Connectors - 1ph (2 Ampacts)	23-OH21		$8,912.80
OH WIRE OH - Remove circuit wire (1 phase)	23-OH37		$28,204.80
XF OH - OH XF - 1ph	23-OH45		$54,849.60
TREE OH - Tree Trimming	23-OH61		$110,500.00
TRAFFIC OH/DB/UG - Traffic Control - Flagger 10% Flagger Expense	23-ALL19		$60,216.00
OH WIRE OH-Reconductor w/175 Mil Tree Wire-1ph (any gauge) 2 @ 336 AAC T.W. on fiberglass cross-arm @ P# 2624 - 2939	23-OH25		$282,048.00
SECTIONALIZE OH - Cutouts or Arresters - 1ph	23-OH19		$8,912.80

Asset & Investment Management System 12/15/2023 Page 6 of 10

Connecticut Light & Power
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Specific Project Proposal - Project #: CD02273 [redacted]

Design Alternative CD02273-01

5 Side Taps			
OTHER OTHER Contractor Adder @ 30%	23-ALL14	[redacted]	$198,712.00
OTHER OTHER Core Bore Pole Holes @ $500/ea. 43x $500= $21,500	23-ALL14		$21,500.00
POLE OH - POLE - 1ph (Telephone custodian) Total Poles= 43, 50% Poles= 21, New Midspan Poles= 10	23-OH11		$75,602.80

Associated / Impacted Devices

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

Reliability Projection

Title:

Outage Start Date: 10/30/2019 Outage End Date: 10/30/2023 Years History: 4.00

[redacted]

Connecticut Light & Power
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Specific Project Proposal - Project #: CD02273

[redacted]

Design Alternative CD02273-02

General Information

Segment: 2 - Danbury Quarter Rd. @ [redacted] Status: Prelim Design Submitted

Segment Type: RECONDUCTORING - OTHER Town: WINCHESTER Budget Year: 2025

Work Type: LT-Rehab+Recond Trimming Required: ☑ In Service Date: 12/31/2025

Description: [redacted]

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed
1	[redacted]		

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD02273 [redacted]

Design Alternative CD02273-02

Estimate

Preliminary Estimate Summary

Revision Number:	0
Contingency:	28.00%
SubTotal:	$173,585
Contingency Amount:	$48,604
Estimate:	$222,188
Reimbursement:	$0
Net Amount:	**$222,188**

Description: ENG Estimate on Danbury Quarter Road @ [redacted]

Item Description	CU	Amount
SWITCHING OH/DB/UG - SWITCHING NonNetwork - Average	23-ALL17	$4,562.48
POLE OH - POLE - 1ph (Telephone custodian)	23-OH11	$9,755.20
OH WIRE OH - Remove circuit wire (1 phase)	23-OH37	$3,900.00
XF OH - OH XF - 1ph	23-OH45	$10,969.92
TREE OH - Tree Trimming	23-OH61	$50,700.00
TRAFFIC OH/DB/UG - Traffic Control - Flagger 10% Flagger Cost	23-ALL19	$12,139.00
OTHER OTHER Contactor Adder @ 30%	23-ALL14	$40,058.00
OTHER OTHER Core Bore Pole Holes @ $500/ea. 5x $500= $2,500	23-ALL14	$2,500.00
OH WIRE OH-Reconductor w/175 Mil Tree Wire-1ph (any gauge)	23-OH25	$39,000.00

Asset & Investment Management System 12/15/2023 Page 9 of 10

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CD02273 [redacted]

Design Alternative CD02273-02

Inst 2 - 336 AAC T.W. fiberglass cross-arm @ P# 2939 - 3240

Associated / Impacted Devices

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

Reliability Projection

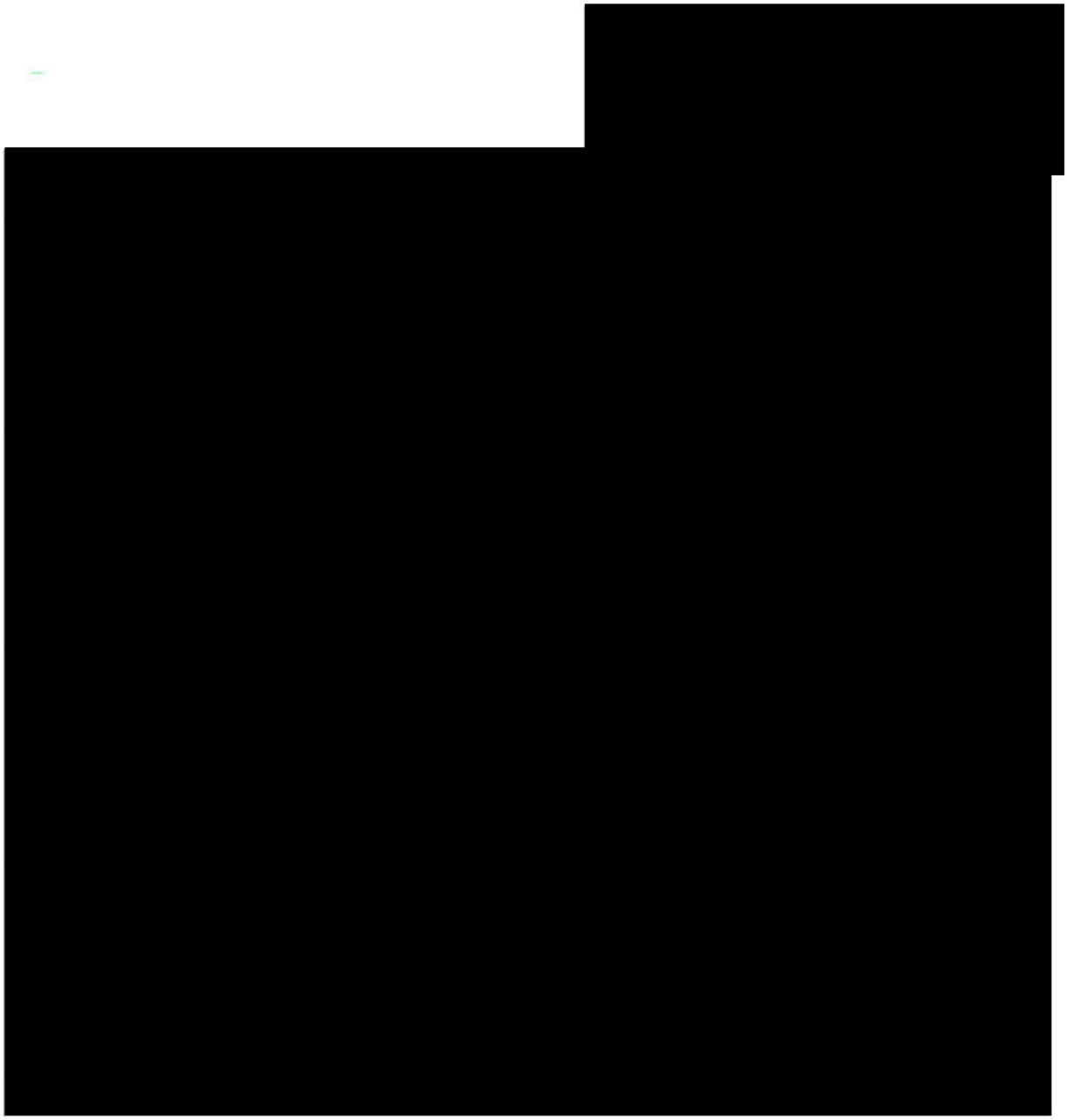
Title:

Outage Start Date: 10/30/2019 Outage End Date: 10/30/2023 Years History: 4.00

[redacted]

Attachment B: System and Station One-Lines

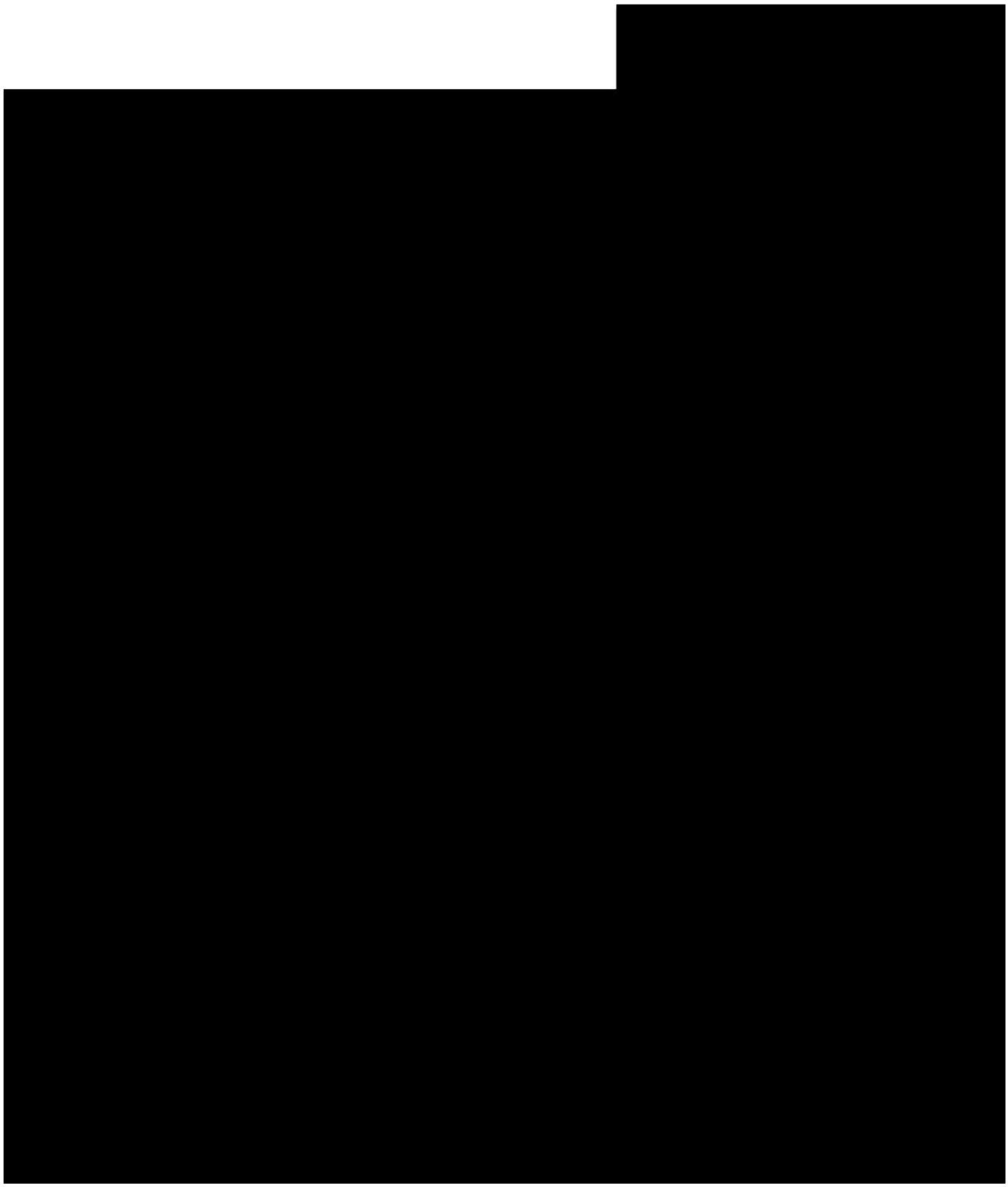
One-Line Diagrams: Before Change



One-Line Diagrams: After Change – Preferred Option

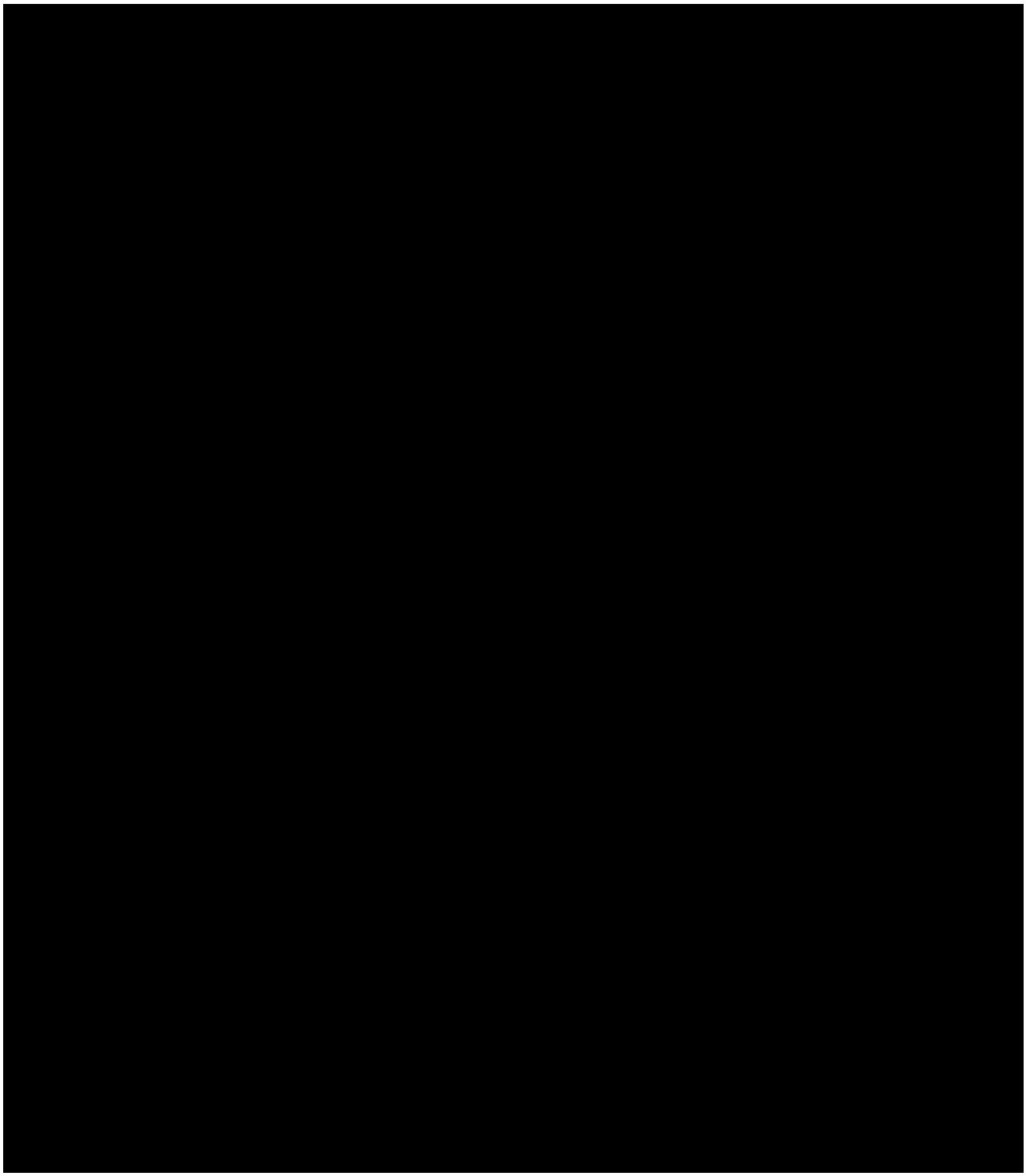


One-Line Diagrams: After Change - Alternative Option

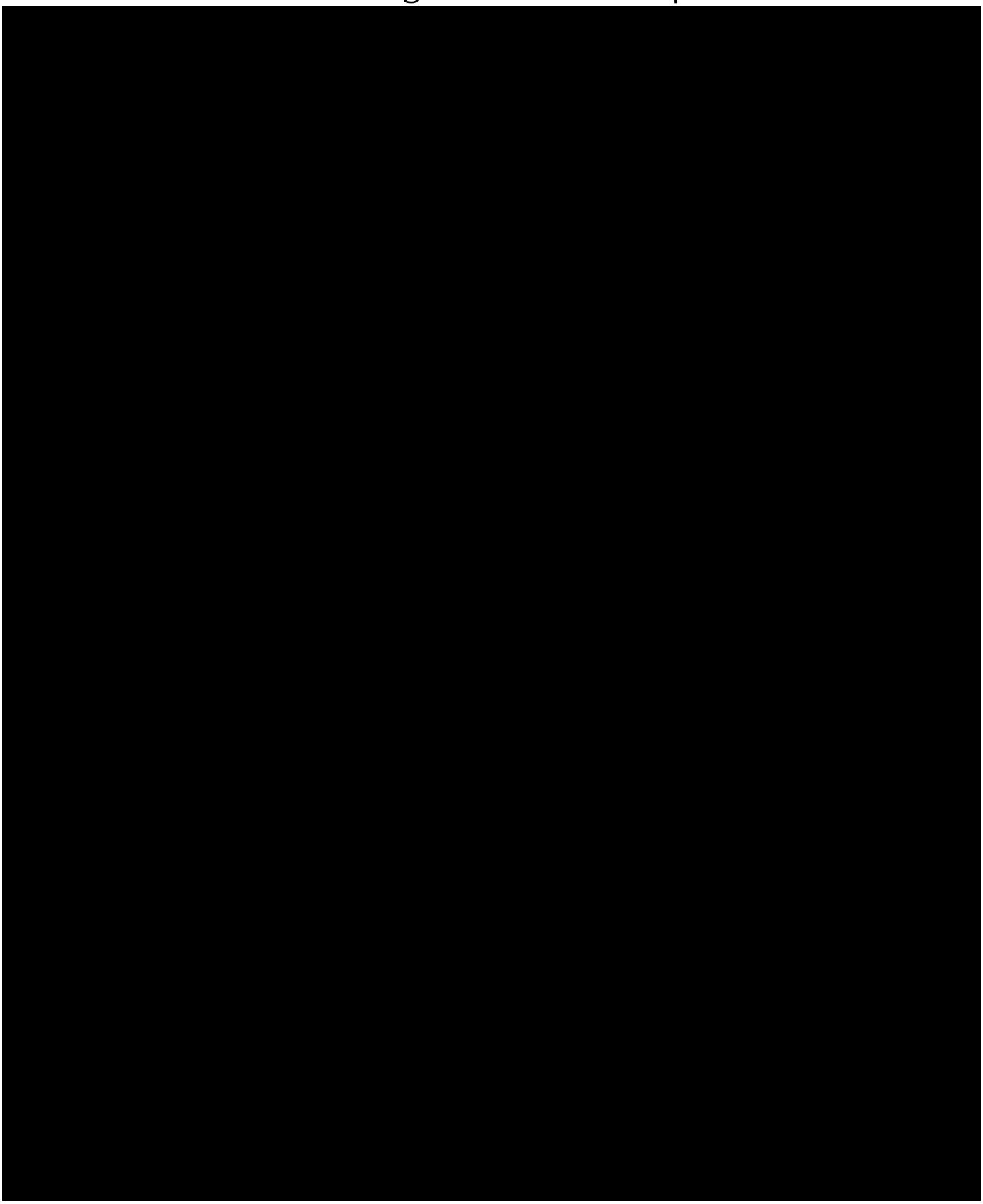


Attachment C: Load Sheet

Load Sheet: Before Change



Load Sheet: After Change – Preferred Option



Load Sheet: After Change – Alternative Option

