EVERSOURCE

Project Approval Form

Project Title: Pole Integrity – Defective Poles	Project Number: CD02222
Date Prepared: 12/01/2023	**Company:** Eversource CT
Organization: Electric System Operations	**Project Category:** POLE INTEGRITY 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: 12/2024	Statewide project.
Total Capital Request: $6,900K	**Authorization Type:** Full Funding

1. Executive Summary

This initiative captures the cost necessary to replace or reinforce wood poles found during the annual pole inspections that cannot remain in service due to loss of strength from decay or insect infestation.

This initiative also captures the replacement of leaning poles that were identified during the pole inspection process, and they are prone to failure posing a risk to public safety and the system's reliability. Leaning pole locations are created when soil disturbances and pole attachments affect the original pole's orientation because of severe weather and or storm damages.

The Poles inspection is expected to be completed by November 2023, but pole replacements or construction will take place in 2024. Attachment 1 shows the list of Towns Inspected in 2023. Results of pole's inspection identifying normal rejects, priority rejects and leaning poles will be made available to Distribution Engineering (DDE/FED).

Project cost estimates were generated using historical costs of contractor resources completing past Defective Pole Project work

The total project capital request is $6.9M

2. Project Cost Summary

Note: Dollar values are in thousands.

Capital Costs	2024	2025	2026+	Total
Internal Labor and Construction Equipment	79.2	0.0	0.0	79.2
Outside Services	2,828.9	0.0	0.0	2,828.9
Materials	310.6	0.0	0.0	310.6
Removals	1,765.5	0.0	0.0	1,765.5
Other	0.0	0.0	0.0	0.0
Risk and Contingency	0.0	0.0	0.0	0.0
Subtotal	**4,984.2**	**0.0**	**0.0**	**4,984.2**

Indirect Capital Costs	2024	2025	2026+	Total
Indirects/Overheads (including benefits)	1,893.9	0.0	0.0	1,893.9
Capitalized interest or AFUDC, if any	21.9	0.0	0.0	21.9
Subtotal	**1,915.8**	**0.0**	**0.0**	**1,915.8**
Total Capital Costs (Gross)	**6,900.0**	**0.0**	**0.0**	**6,900.0**
Less Total Customer Contribution	**0.0**	**0.0**	**0.0**	**0.0**
Project Costs (Net)	**6,900.0**	**0.0**	**0.0**	**6,900.0**

3. Technical Justification

Background, Project Need/Justification, and Project Scope

a. Background

Replacement and reinforcements of defective poles supports safety, reliability, and commitments to the customer.

b. Project Need

This project includes the replacement or reinforcement of wood poles found during yearly inspections that cannot remain in service due to loss of strength from decay or insect infestation. Poles that require c-truss reinforcement found during the 2023 inspections will also be addressed.

a. Project Scope

Project Scope:

Pole data collected by 2023 inspection yielded the scope of work for this 2024 project. Approximate counts are below:

Defective Pole Replacements – 1,050

Project Cost:

Scope of Work	Approximate Counts	Average Capital Cost per pole	Capital Cost Total
Defective Pole Replacements	1,050	$6,544	$6.9M
			$6.9M

2. Alternatives Considered

The Company prefers to replace its defective reject poles instead of performing a c-truss reinforcement. This practice though cheaper (approximately $780/pole for C-Truss) can only restore a pole for an additional period of 3 to 5 years based on Eversource experience. The Company will normally choose to upgrade its poles to newer and safer system resiliency standards with thicker and strongest poles that are Class 1.

Another alternative would be to do nothing and leave the poles as they are. However, this would result in having unsafe poles in the distribution system that are prone to unexpected failure and out of compliance with the National Electric Safety Code (NESC)

3. Project Schedule

Add any additional milestones that are pertinent to the project

Project Schedule

Milestone/Phase Name	Estimated Date
100% Engineering Completion	March 2024
Construction Start	April 2024
Construction completion	December 2024

4. Regulatory Decisions

5. Codes and Standards

6. Risk and Contingencies

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2024	Low	Included contingency costs in the funding request. Perform detailed Field Analysis and walk down in project development to avoid potential issues.
Materials Shortage or long lead times	2024	Low	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2024	Medium	If storm activity delays work, we may be forced to use external resources.

7. References

Analysis for Defective Poles	
2024	**$ 6,900,000**
Construction Year	**2024**
Avg. capital cost to replace a pole	**$ 6,544.00**
Number of defective poles found during the 2023 inspection	**406**
Eastern Condition Base Replacement	**214**
Central Condition Base Replacement	**214**
Western Condition Base Replacement	**214**
Total number of poles	**1048**

TOWNS INSPECTED IN 2023, Construction in 2024

TOWNS	POLES INSPECTED IN 2023
WESTBROOK	1872
PLAINVILLE	3453
SUFFIELD	2441
TOLLAND	1834
GREENWICH	9068
LITCHFIELD	2468
NORWALK	5387
THOMASTON	1134
WOODBURY	2589
NEW CANAAN	625
SEYMOUR	252
BEACON FALLS	1348
TOTAL	**32471**

Operations Project Authorization Form

Project Title: 2024 Pole Integrity	Project Number: CD02222
Date Prepared: 4.12.2023	**Company:** Eversource CT
Organization: Electric Field Operations	**Class(es) of Plant:** D Line
Project Initiator: [redacted]	**Project Category:** POLE INTEGRITY 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)**:**
Total Gross Capital Request: $9.6M	**Authorization Type:** Partial Funding

Executive Summary

This initiative captures the cost necessary to replace or reinforce wood poles found during the annual pole inspections that cannot remain in service due to loss of strength from decay or insect infestation.

This initiative also captures the replacement of leaning poles that were identified during the pole inspection process, and they are prone to failure posing a risk to public safety and the system's reliability. Leaning pole locations are created when soil disturbances and pole attachments affect the original pole's orientation because of severe weather and or storm damages.

The Poles inspection is expected to be completed by November 2023, but pole replacements or construction will take place in 2024. Attachment 1 shows the list of Towns Inspected in 2023. Results of pole's inspection identifying normal rejects, priority rejects and leaning poles will be made available to Distribution Engineering (DDE/FED).

Project cost estimates were generated using historical costs of contractor resources completing past Defective Pole Project work.

The total project capital request is $9.6M

Project Costs Summary

Note: Dollar values are in thousands

Capital Costs	2024	2025	2026+	Total
Internal Labor and Construction Equipment	$237	$0	$0	$237
Outside Services	$3,734	$0	$0	$3,734
Materials	$944	$0	$0	$944
Removals	$1,372	$0	$0	$1,372
Risk and Contingency	($68)	$0	$0	($68)
Other	$0	$0	$0	$0
Subtotal	**$6,218**	**$0**	**$0**	**$6,218**

Indirect Capital Costs	2024	2025	2026+	Total
Indirects/Overheads (including benefits)	$3,294	$0	$0	$3,294
Capitalized interest or AFUDC, if any	$88	$0	$0	$88
Subtotal	**$3,382**	**$0**	**$0**	**$3,382**
Total Capital Costs (Gross)	**$9,600**	**$0**	**$0**	**$9,600**
Less Total Customer Contribution	**$0**	**$0**	**$0**	**$0**
Project Costs (Net)	**$9,600**	**$0**	**$0**	**$9,600**

Technical Justification:

Project Need, Objective and Justification:

This project includes the replacement or reinforcement of wood poles found during yearly inspections that cannot remain in service due to loss of strength from decay or insect infestation. Poles that require c-truss reinforcement found during the 2023 inspections will also be addressed.

Project Scope:

Pole data collected by 2023 inspection yielded the scope of work for this 2024 project. Approximate counts are below:

Defective Pole Replacements – 1,467

Project Cost:

Scope of Work	Approximate Counts	Capital Cost per pole	Capital Cost Total
Defective Pole Replacements	1,467	$6,544	$9.6M
			$9.6M

Major Material:

- 1,467 Poles

Background:

Replacement and reinforcements of defective poles supports safety, reliability, and commitments to the customer.

Alternatives Considered:

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

Alternatives were considered (please describe below)

The Company prefers to replace its normal reject poles instead of performing a c-truss reinforcement. This practice though cheaper (approximately $680/pole for C-Truss) can only restore a pole for a period of 3 to 5 years. The Company will normally choose to upgrade its poles to newer and safer system resiliency standards with thicker and strongest poles that are Class 1 and 2.

An alternative would be to do nothing and leave the poles as they are. However, this would result in having defective poles on the grid which are prone to faults.

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	March 2024
Construction Start	April 2024
Construction completion	December 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	Low	Included contingency costs in the funding request. Perform detailed Field Analysis and walk down in project development to avoid potential issues.
Materials Shortage or long lead times	2024	Low	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
Storm delays	2024	Medium	If storm activity delays work, we may be forced to use external resources.

References

Defective pole analysis budget

This Table will be updated once we know the pending results from poles inspection and for condition based defectives poles derives from the Asset Health Management System (AHM). There are approximatevely 761 defective poles identified by AHM that are in very poor condition.

CD02222 Defective Pole Program	Year 2024
	$M
Defective Poles (CD02222)	$9.60
Total Defective pole program	$9.60
Analysis Defective poles Project CD02222	
2024	
The Avg. Capital Cost to replace a pol	$6,544.00
Defective Poles from Pole inspection 2023, construction in 2024	Pending Inspection Results
Condition based Defective. Target very Poor Condition Poles from AHM Poles <Class 2.	761
Total poles budgeted	$6,403,815.00

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

TOWNS INSPECTED IN 2023, Construction in 2024

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GREENWICH	9068
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