23720Operations Project Authorization Form

Date Prepared: 04/22/2021	**Project Title: CT Backbone Reliability**
Company/ies: Eversource - CT	**Project ID Number: CD01713**
Organization: Statewide	**Class(es) of Plant: Distribution**
Project Initiator: [redacted]	**Project Category: Line**
Project Manager: [redacted]	**Project Type: Specific**
Project Sponsor: [redacted]	**Project Purpose: Reliability**
Estimated in service date: 12/31/2021	**If Transmission Project: PTF? No**
Eng. /Constr. Resources Budgeted? Y	**Capital Investment Part of Original Operating Plan? Y**
Authorization Type: Full Funding	**O&M Expenses Part of the Original Operating Plan? Y**
Total Request: $2,372k	

Financial Requirements:

Project Authorization

ERM: _____

FP&A: _____

Executive Summary

Backbone reliability will be completed on all overhead circuits throughout the state of Connecticut. This is an effort to improve reliability and overall customer satisfaction within Eversource's service territory.

The backbone reliability will include the installation of any missing animal protection on all backbone risers to reduce animal caused outages and will include the installation of fault indicators on backbone get-a-way risers to quickly identify the location of a fault and restore customers.

Animal Protection: Animal guards should be installed on all riser terminators throughout Connecticut. This project calls for the installation of any missing animal guards on all existing Connecticut backbone risers (approximately 2k locations). The animal guards will reduce animal caused outages on the backbone which typically impact 500 customers per event.

Fault Indicators: Fault indicators will be installed on all backbone get-a-way risers throughout Connecticut (approximately 600 locations). The fault indicators will enable Eversource to quickly determine if a fault was located within the underground get-a-way cable or within the overhead system. The installation of fault indicators will reduce the amount of time required to locate a fault and reduce the amount of time required to restore customers.

Project Costs Summary

Note: Dollar values are in thousands

	Prior Authorized	2021	Totals
Capital Additions - Direct	$0	$1,352	$1,352
Less Customer Contribution	$0	$0	$0
Removals net of Salvage ____%	$0	$125	$125
Total - Direct Spending	$0	$1,477	$1,477
Capital Additions - Indirect	$0	$804	$804
Subtotal Request	$0	$2,281	$2,281
AFUDC	$0	$18	$18
Total Capital Request	$0	$2,300	$2,300
O&M	$0	$72	$72
Total Request	$0	$2,372	$2,372

Financial Evaluation

Note: Dollar values are in thousands

Direct Capital Costs	Year 1	Total
Straight Time Labor	$100	$100
Overtime Labor	$18	$18
Outside Services	$1,009	$1,009
Materials	$346	$346
Other, including contingency amounts (describe)	$4	$4
Total Direct Costs	**$1,477**	**$1,477**

Indirect Capital Costs	Year 1	Total
Indirects/Overheads (including benefits)	$804	$804
Capitalized interest or AFUDC, if any	$18	$18
Total Indirect Costs	**$822**	**$822**

Total Capital Costs	**$2,299**	**$2,299**
Less Total Customer Contribution	**$0**	**$0**
Total Capital Project Costs	**$2,299**	**$2,299**
Total O&M Project Costs	**$73**	**$73**
Total Project Cost	**$2,372**	**$2,372**

Technical Justification:

Project Need Statement

Animal caused outages on backbone risers typically impact 500 customers. Risers throughout Connecticut may have missing animal guards leaving them susceptible to animal caused outages.

Most get-a-way risers throughout Connecticut do not have fault indicators installed to quickly determine if a fault within the first zone of a circuit was within either the underground or overhead portion of the circuit. The lack of a fault indicator requires the Troubleshooter to patrol the entire first zone of a circuit before customers can be isolated and restored due to an underground fault.

Project Objectives

Install missing animal protection on all backbone risers to reduce the number of backbone animal caused outages.

Install fault indicators on all get-a-way risers to enable Eversource to quickly determine if a fault within the first zone of a circuit was within either the underground or overhead portion of the circuit.

Project Scope

Fault indicator and animal guard riser summary:

Division	Locations			Material	
	# Risers (FI & Guard)	# Risers (Guard Only)	Total # Risers	# FI	# Guard*
Central	264	514	778	792	2334
Eastern	107	324	431	321	1293
Western	244	444	688	732	2064
Total	615	1282	1897	1845	5691

* Quantity of guards if no guards were currently installed (actual number will be < # shown)

Background / Justification

Animal Caused Backbone Outages at Terminators

Timeframe	# Events	Customers Impacted	Customer Minutes
2016 - 2020	194	26,138	1,407,800
Average / Year	49	6,535	351,950

Underground Get-A-Way Cable Faults

Timeframe	# Events	Customers Impacted	Customer Minutes Saved*
2016 - 2020	81	85,313	1,706,260
Average / Year	20	21,328	426,565

* Assumes fault indicator would save 20 minutes from an overhead patrol

Project Cost: $2,372,000
Customer Minutes Saver / Year: 778,515
$/CM: $3.05

Business Process and / or Technical Improvements:

Backbone risers throughout Connecticut will all have animal protection installed to reduce animal caused outages. Fault indicators will be installed reducing both CAIDI and SAIDI.

Alternatives Considered with Cost Estimates

Do nothing – Animal caused outages on backbone risers will continue to occur and the time required to locate faults will not be reduced.

Project Schedule

Milestone/Phase Name	Estimated Completion Date
Preliminary approval	6/1/21
Work orders designed & material ordered	7/1/21
Construction start	8/1/21
Construction complete	12/31/21

Regulatory Approvals

None

Risks and Risk Mitigation Plans

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	Low	Low	Construction Representatives will work with crews to manage additional work.
Internal construction resources not available to perform the work.	Medium	Medium	Use competitive bidding to ensure lowest outside labor cost.
Storm delays	Medium	Medium	If storm activity delays work, we may be forced to use additional external resources.

References

None

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

Need Statement:

CD01713_project_needs_statement.pdf

Riser Location Data:

2021%20Riser%20Program%20-%20Worl