EVERSOURCE
Project Authorization Form

Operations Project Authorization Form

Approved at March 14, 2018 EPAC

[Link to Meeting Minutes]

Date Prepared: March 14, 2018	**Project Title:** [redacted]
Company: Eversource CT	**Project ID Number:** TBD
Organization: Business and Quality Assurance, Transmission	**Class(es) of Plant:** Distribution Substation
Project Initiator: [redacted]	**Project Category:** Aging Infrastructure
Project Manager: [redacted]	**Project Type:** Specific
Project Sponsor: [redacted]	**Project Purpose:** Install New "D" Relays for Xfmr. Protection
Estimated in service date: 12/31/18	**Transmission Project:** Distribution
Eng. /Constr. Resources Budgeted? No	**Capital Investment Part of Original Operating Plan?** No
Authorization Type: Full Funding	**O&M Expenses Part of the Original Operating Plan?** N/A
Total Request: $513K	

Financial Requirements:

Project Authorization
ERM: _____

FP&A: _____

Executive Summary

The purpose of this PAF is to establish an Eversource CT distribution project ($513K) to [redacted] his distribution project must be coordinated and executed with the previously approved transmission project/work order 404857BF with an in-service date of December 2018.

Project Costs Summary ($K)

	Prior Authorized	"2018"	"2019"	"2020"	Totals
Capital Additions - Direct	$0	$428	$0	$0	$428
Less Customer Contribution	$0	$0	$0	$0	$0
Removals net of Salvage 6%	$0	$0	$0	$0	$0
Total - Direct Spending	$0	$428	$0	$0	$428
Capital Additions - Indirect	$0	$81	$0	$0	$81
Subtotal Request	$0	$509	$0	$0	$509
AFUDC	$0	$4	$0	$0	$4
Total Capital Request	$0	$513	$0	$0	$513
O&M	$0	$0	$0	$0	$0
Total Request	$0	$513	$0	$0	$513

Financial Evaluation

Direct Capital Costs	"2018"	"2019"	"2020"	Total
Straight time Labor	$19	$0	$0	$19
Overtime Labor	$0	$0	$0	$0
Outside Services	$385	$0	$0	$385
Materials	$43	$0	$0	$43
Other, incl. contingency amounts (describe)	$0	$0	$0	$0
Total	$428	$0	$0	$428

Indirect Capital Costs	"2018"	"2019"	"2020"	Total
Indirects/Overheads (incl. benefits)	$81	$0	$0	$81
Capitalized Interest or AFUDC, if any	$4	$0	$0	$4
Total	$85	$0	$0	$85

Total Capital Costs	$513	$0	$0	$513
Less Total Customer Contribution	$0	$0	$0	$0
Total Capital Project Costs	$513	$0	$0	$513
Total O&M Project Costs	$0	$0	$0	$0

Future Financial Impacts					
Future Costs	**"2018"**	**"2019"**	**"2020"**	**"2021"**	**Total**
Capital	$0	$0	$0	$0	$0
O&M	$0	$0	$0	$0	$0
Other	$0	$0	$0	$0	$0
TOTAL	$0	$0	$0	$0	$0

If this is other than a Reliability Project, please complete this section

Future Benefits	**"2018"**	**"2019"**	**"2020"**	**"2021"**	**Total Future Project Benefits**
Capital	0	0	0	0	0
O&M	0	0	0	0	0
Other	0	0	0	0	0
TOTAL	0	0	0	0	0

Future Financial Impacts: N/A Describe the estimated future Capital, O&M and/or Other costs noted above:
Existing O&M item to maintain existing devices – no new cost

What functional area(s) will these future costs be funded in? Maintenance

Asset Retirement Obligation (ARO) and/ or Environmental Cleanup Costs (Environmental Liabilities):
Is there an ARO associated with this project? No

Are there other environmental cleanup costs associated with this project? No

Technical Justification:

Project Need Statement

An Eversource CT transmission project is underway to [redacted] This distribution project must be coordinated and executed with the previously approved transmission project/work order 404857BF.

Project Objectives

[redacted] This distribution project must be coordinated and executed with the previously approved transmission project/work order 404857BF.

Project Scope

[redacted]

Background / Justification

[redacted]

Business Process and / or Technical Improvements:

Protective Relaying Standards

Alternatives Considered with Cost Estimates

[redacted]

Project Schedule

Milestone/Phase Name	Estimated Completion Date
Project Approval	3/31/18
Engineering & Design	Q2/2018
Procurement	Q2/2018
Construction	Q3/2018
ISD	12/31/18

Regulatory Approvals

None

Risks and Risk Mitigation Plans

The construction, installation, testing and commissioning of the relay installation projects may need to be coordinated with transmission line and distribution transformer outages.

References

1. Eversource P&C Engineering/Design Standards

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



Project Checklist – Transmission and Substation

Checklist for Studies and Processes of a Transmission & Substation Capital Project				
Project Name : [redacted]			**PAF No: TBD**	
Facility Type: ☐ BPS ☐ BES ☐ PTF ☒ non-PTF ☒ CIP ☒ Distribution				
PLANNING				
Is a NX-9 required?			No	
Is an ISO-NE PAC presentation required?			No	
Is a PPA required?			No	
Is a TCA Application Required?			No	
PLANNING/PROTECTION & CONTROLS				
Are RAS/SPS/UVLs affected?			No	
OPERATIONS				
Outage Required?	☒ Primary Equipment (Power Transfer)	☒ Secondary Equipment (P&C only)	☐ Outage Not Required	
Do SCLL Conditions Exist?			Yes	
Has an outage schedule been approved?			No	
Are Operations & Maintenance procedures/training required?			No	
STANDARDS				
Does the project include standard equipment and designs?			Yes	
SUBSTATION ENGINEERING				
Does this impact Revenue Metering			No	
Is preliminary short circuit/ breaker duty analysis required?			No	
Are there any changes to the baseline audible noise?			No	
Is there an impact to the existing ground grid?			No	
Is a Transient Over Voltage (TOV) analysis required?			No	
P&C ENGINEERING				
OP-22 - Are PMUs and DDR required?			No	
If BPS, is an NPCC Directory #4 presentation required?			No	

Checklist for Studies and Processes of a Transmission & Substation Capital Project	
Project Name : [redacted]	**PAF No: TBD**
TRANSMISSION LINE ENGINEERING	
Are there any changes that affect the baseline EMF?	No
Are there any changes that affect the baseline EMI?	No
Is there an impact to the existing ground grid?	No
SITING	
Is a Siting filing required?	No
PERMITTING	
Is there any permitting required?	No
Siting & Construction Services (Outreach)	
What is the level of outreach expected?	None
INITIATOR	
Has a field constructability review been completed?	No

Eversource Energy

Project Title: [redacted]

Project Mgr/Lead: TBD

Project: TBD

Prepared By: CSS

Date of Est.: 03-15-18

ISD: 12/31/18

Estimate # C18-010

Est. Type: Planning Range -25% +25% (EPAC)

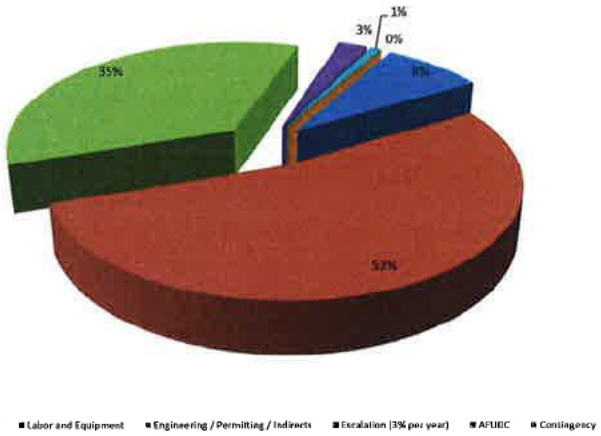
Project Scope:

[redacted]

Assumptions:

Engineering to be outsourced with in-house review, construction to be outsourced.
This estimate is based on TPS description only, actual quantities may vary during detailed engineering.
Material estimates based on previous work, vendor quotes, and RS Means.
Labor estimates based on previous work, J. Bifulco S/S labor units, R.S. Means, and NECA labor units.

2.1 Project Cost Summary		
Material	$	42,735
Labor and Equipment	$	273,234
Engineering / Permitting / Indirects	$	180,488
Escalation (3% per year)	$	12,471
AFUDC	$	4,489
Contingency	$	-
Total Project Cost	$	513,417



Project Title: Beacon Falls Install B/U Xfmr Relays Project: TBD	Prior Yrs $	2017 MDays	N/A $	2018 MDays	1 $	2019 MDays	2 $	TOTAL MDays	N/A $	%
ENRXX-TG ENG / DESIGN										
Project Services & Drafting	$0	0	$0	0	$0	0	$0	0	$0	
Trans Eng & Design	$0	0	$0	0	$0	0	$0	0	$0	
Civil Engineering	$0	0	$0	0	$0	0	$0	0	$0	
Civil Design	$0	0	$0	0	$0	0	$0	0	$0	
Elect Eng & Design	$0	0	$0	0	$0	0	$0	0	$0	
Dist. SS Eng & Design	$0	0	$0	0	$0	0	$0	0	$0	
Protection & Control	$0	0	$0	10	$3,700	0	$0	10	$3,700	
Surveying	$0	0	$0	0	$0	0	$0	0	$0	
Permitting	$0	0	$0	0	$0	0	$0	0	$0	
Telecom	$0	0	$0	0	$0	0	$0	0	$0	
SS Technical Engineer	$0	0	$0	0	$0	0	$0	0	$0	
Apparatus Specialist	$0	0	$0	0	$0	0	$0	0	$0	
Escalation					$111		$0		$111	
LT Subtotal	$0	0	$0	10	$3,811	0	$0	10	$3,811	$3,811
Employee Expenses			$0		$38		$0		$38	1.0%
Contractors - Include Sales Tax	$0		$0		$80,000		$0		$80,000	10.0%
Contingency			$0		$0		$0		$0	0.0%
Escalation					$2,401		$0		$2,401	
ENRXX TOTAL	$0		$0		$86,250		$0		$86,250	$86,250
PSMXX-PROJECT MGR & SUPPORT										
Project Planning	$0	0	$0	6	$2,220	0	$0	6	$2,220	
Project Management	$0	0	$0	10	$3,700	0	$0	10	$3,700	
Legal	$0	0	$0	0	$0	0	$0	0	$0	
Escalation					$178		$0		$178	
LT Subtotal	$0	0	0	16	$6,098	0	$0	16	$6,098	$6,098
Employee Expenses	$0		$0		$61		$0		$61	1%
Contractors - Includes Sales Tax & Esc.	$0		$0		$10,000		$0		$10,000	
Environmental (Identifiable Tax Credit)	$0		$0		$0		$0		$0	
Legal - Contractors - Includes Sales Tax	$0		$0		$0		$0		$0	
Property Tax (Large Projects & Town Expectations)	$0		$0		$0		$0		$0	
Fees & Payments	$0		$0		$0		$0		$0	
Contingency			$0		$0		$0		$0	0.0%
Escalation					$302		$0		$302	
PSMXX-PROJECT MGR & SUPPORT TOTAL	$0		$0		$16,461		$0		$16,461	$16,461
CSTXX-CONSTRUCTION - Additions %										100.0%
Civil	$0	0	$0	0	$0	0	$0	0	$0	
Electrical	$0	0	$0	0	$0	0	$0	0	$0	
Test	$0	0	$0	0	$0	0	$0	0	$0	
Other - Switch / Tag Support	$0	0	$0	4	$1,740	0	$0	4	$1,740	
Construct. Reps	$0	0	$0	20	$7,400	0	$0	20	$7,400	
Escalation					$274		$0		$274	
LT Subtotal	$0	0	$0	24	$9,414	0	$0	24	$9,414	$9,414
Employee Expenses	$0		$0		$94		$0		$94	1%
Contractor Civil	$0	0	$0	57	$50,000	0	$0	57	$50,000	3.9%
Contractor Electrical	$0	0	$0	71	$80,000	0	$0	71	$80,000	3.9%
Contractor Test	$0	0	$0	75	$90,000	0	$0	75	$90,000	3.9%
Contractor Other - Switch / Tag Support	$0	0	$0	0	$0	0	$0	0	$0	3.9%
Contractor Equipment = % of Total Contractor Costs	$0		$0		$44,000		$0	0	$44,000	20.0%
Additional Test & Commissioning Labor inc sales tax	$0		$0		$0		$0		$0	
Fees & Payments	$0		$0		$0		$0		$0	
Rents & Leases	$0		$0		$0		$0		$0	
Contingency			$0		$0		$0		$0	0.0%
Escalation					$7,923		$0		$7,923	
CSTXX TOTAL	$0		$0		$281,431		$0		$281,431	$281,431
REMXX-TG REMOVAL - %										0.0%
Civil	$0	0	$0	0	$0	0	$0	0	$0	
Electrical	$0	0	$0	0	$0	0	$0	0	$0	
Escalation					$0		$0		$0	
LT Subtotal	$0	0	$0	0	$0	0	$0	0	$0	$0
Employee Expenses	$0		$0		$0		$0		$0	1%
Contractor Civil	$0	0	$0	0	$0	0	$0	0	$0	3.9%
Contractor Electrical	$0	0	$0	0	$0	0	$0	0	$0	3.9%
Contractors - Include Sales Tax	$0		$0		$0		$0		$0	
Contingency			$0		$0		$0		$0	0.0%
Escalation					$0		$0		$0	
REMXX TOTAL	$0		$0		$0		$0		$0	$0
MATXX-TG MATERIAL (Includes Tax)										
Misc Purchases (Credit Card Etc.)	$0		$0		$2,735		$0		$2,735	1%
Stock	$0		$0		$40,000		$0		$40,000	
Direct	$0		$0		$0		$0		$0	
Contingency Excluding Big Ticket Items			$0		$0		$0		$0	0.0%
Escalation					$1,282		$0		$1,282	
MATXX TOTAL	$0		$0		$44,017		$0		$44,017	$44,017
Contingency Excludes Large Items	$0		$0		$0		$0		$0	
LNDXX-TG LAND										
Real Estate	$0	0	$0	0	$0	0	$0	0	$0	
Escalation					$0		$0		$0	
LT Subtotal	$0		$0		$0		$0		$0	
Purchase Land	$0		$0		$0		$0		$0	
Fees & Payments	$0		$0		$0		$0		$0	
Contingency			$0		$0		$0		$0	1.0%
Escalation					$0		$0		$0	
LNDXX TOTAL	$0	0	$0	0	$0	0	$0	0	$0	$0
DIRECT COST TOTAL	$0		$0		$426,159		$0		$426,159	
INDIRECTS										
Non-Productive Allocation (ZB-TM1-ZNP)	$0		$0		$3,472		$0		$3,472	18.5%
Payroll Benefits Allocation (ZE-TM1-Z93)	$0		$0		$7,549		$0		$7,549	40.2%
Material Stores Allocation (Stock) <25k (ZC-TM1-Z91)	$0		$0		$6,838		$0		$6,838	16.0%
Gen Service Co. OH Allocation (ZF-TM1-Z94)	$0		$0		$188		$0		$188	1.0%
E&S Allocation (25%<20M<3%) - (ZI-TM1-Z96)	$0		$0		$41,448		$0		$41,448	10.8%
Misc. Dist. Exp. Cap. Allocation (ZH-TM1-Z92)	$0		$0		$12,012		$0		$12,012	3.1%
AS&E Allocations (ZJ-TM1-Z90)	$0		$0		$5,510		$0		$5,510	1.1%
Vehicle Allocations (ZV-TM1-Z98)	$0		$0		$3,752		$0		$3,752	20.0%
INDIRECT Subtotal	$0		$0		$80,769		$0		$80,769	$80,769
AFUDC (ZK - TM1-Z95)	$0		$0		$4,489		$0		$4,489	1.76400%
PROJECT COST TOTAL	$0		$0		$513,417		$0		$513,417	