EVERSOURCE
Project Authorization Form

Operations Project Authorization Form

Approved at August 1, 2018 EPAC

Link to Meeting Minutes

Date Prepared: 07/05/2018	**Project Title:** [redacted] Security Upgrades
Company/ies: Eversource CT	**Project ID Number:** CS00321
Organization: Distribution	**Class(es) of Plant:** Distribution Substation
Project Initiator: [redacted]	**Project Category:** Physical Security
Project Manager: [redacted]	**Project Type:** Specific
Project Sponsor: [redacted]	**Project Purpose:** System Resiliency
Estimated in service date: 12/31/2018	**If Transmission Project: PTF?** N/A
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?** N/A
Total Request: $385,335	

Financial Requirements:

Project Authorization

ERM: _____

FP&A: _____

Executive Summary

This project involves the installation of a [redacted] and comply with Eversource's latest fence standards as per SUB 015 Rev. 6 (02/27/12).

The aim of this project is to ensure the physical security of Eversource's physical assets within the substation. This project proposes the [redacted]

The total project estimate is $385,335.

Project Costs Summary

Note: Dollar values are in thousands

	Prior Authorized	"2018"	"2019"	"2020"	Totals
Capital Additions - Direct	$0	$197,252	$0	$0	$197,252
Less Customer Contribution	$0	$0	$0	$0	$0
Removals net of Salvage 6%	$0	$8,960	$0	$0	$8,960
Total - Direct Spending	$0	$206,212	$0	$0	$206,212
Capital Additions - Indirect	$0	$178,663	$0	$0	$178,663
Subtotal Request	$0	$384,875	$0	$0	$384,875
AFUDC	$0	$460	$0	$0	$460
Total Capital Request	$0	$385,335	$0	$0	$385,335
O&M	$0	$0	$0	$0	$0
Total Request	$0	$385,335	$0	$0	$385,335

Financial Evaluation

Note: Dollar values are in thousands

Direct Capital Costs		"2018"	"2019"	"2020"	Total
Straight Time Labor		$15,995	$0	$0	$15,995
Overtime Labor		$0	$0	$0	$0
Outside Services		$134,452	$0	$0	$134,452
Materials		$55,765	$0	$0	$55,765
Other, incl. contingency amounts (describe)		$0	$0	$0	$0
Total		$206,212	$0	$0	$206,212
Indirect Capital Costs		**"2018"**	**"2019"**	**"2020"**	**Total**
Indirects/Overheads (incl. benefits)		$178,663	$0	$0	$178,663
Capitalized Interest or AFUDC, if any		$460	$0	$0	$460
Total		$179,123	$0	$0	$179,123
Total Capital Costs		$385,335	$0	$0	$385,335
Less Total Customer Contribution		$0	$0	$0	$0
Total Capital Project Costs		$385,335	$0	$0	$385,335
Total O&M Project Costs		$0	$0	$0	$0

Note: Explain unique payment provisions, if applicable

Future Financial Impacts:

Provide below the estimated future costs that will result from the project:
Note: Dollar values are in thousands:

Future Costs	Year 20__	Year 20__	Year20__	Year 20__+	Total Future Project Costs
Capital	$ -	$ -	$ -	$ -	$ -
O&M	-	-	-	-	-
Other	-	-	-	-	-
TOTAL	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Describe the estimated future Capital, O&M and/or Other costs noted above:

What functional area(s) will these future costs be funded in?_____N/A_____
A representative from the respective functional area is required to be included as a project approver.

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

Provide below the estimated financial benefits that will result from the project:
Note: Dollar values are in thousands:

Future Benefits	Year 20__	Year 20__	Year20__	Year 20__+	Total Future Project Benefits
Capital	$ -	$ -	$ -	$ -	$ -
O&M	-	-	-	-	-
Other	-	-	-	-	-
TOTAL	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Describe the estimated future Capital, O&M and/or Other benefits noted above:

What functional area(s) will these benefits be reflected in?_____
A representative from the respective functional area is required to be included as a project approver.

Asset Retirement Obligation (ARO) and/ or Environmental Cleanup Costs (Environmental Liabilities):

Is there an ARO associated with this project? No. If yes, please provide details:

Are there other environmental cleanup costs associated with this project? No. If yes, please provide details:

Technical Justification:

Project Need Statement:

This project involves the replacement of the [redacted] to comply with Eversource's latest fence Standards (Sub 015 Rev.6 02/27/12) [redacted]

Project Objectives:

Enhance [redacted] and ensure safe, reliable services to Eversource customers.

Project Scope:

This project proposes the [redacted]

The scope of work consists of the following:

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

Background / Justification:

This initiative covers the cost necessary to replace [redacted] to meet the orders of Docket No. 12-0706RE01. [redacted] Another fallout is the drop in SAIFI, SAIDI and CAIDI reliability indexes.

Business Process and / or Technical Improvements: N/A

Alternatives Considered with Cost Estimates: Do Nothing

Project Schedule:

Milestone/Phase Name	Estimated Completion Date
Project approval	August, 2018
Design	August, 2018
Construction Completion	December, 2018

Regulatory Approvals:
Will work with Siting Council to get any necessary approvals.

Risks and Risk Mitigation Plans:

Risk Event	Risk Horizon	Likelihood of Occurrence	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2018	Low	Performed several walk downs to review scope of work and looked into similar projects' history to avoid potential issues.
Internal construction resources not available to perform the work.	2018	Low	Ensure lowest outside labor cost if necessary.

References

- Dwg 18002 – 33011: [redacted] Grounding Plan
- Sub 15 Rev.6 02/27/12: Northeast Utilities Substation Standards Chain Link Perimeter Fence
- Dwg 30000-33023p015: Substation Ground Grid Connections Grounding Plan & Details

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



Figure 1 - Dwg 30000-33023p014 : Fence Grounding Details

Project Checklist – Transmission and Substation

INSTRUCTIONS:
It is the responsibility of the initiator to contact the area disciplines to determine if the project considerations contained in this list are applicable to their project. They should fill out the checklist and determine a transition plan for the purpose of project execution.

Checklist for Studies and Processes of a Transmission & Substation Capital Project						
Project Name : [redacted] **Security Upgrades**					**PAF No:** CS00321	
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?					No	
Has an outage schedule been approved?					NR	
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] **Security Upgrades**	**PAF No:** CS00321

TRANSMISSION LINE ENGINEERING	
Are there any changes that affect the baseline EMF?	No
Are there any changes that affect the baseline EMI?	No
SITING	
Is a Siting filing required?	Yes
PERMITTING	
Is there any permitting required?	No
SITING & CONSTRUCTION SERVICES (OUTREACH)	
What is the level of outreach expected?	Low
INITIATOR	
Has a field constructability review been completed?	Yes
INVESTMENT RECOVERY	
Does the project require development of an Investment Recovery plan?	No
COST ESTIMATING	
How was the cost estimate prepared?	Other (specify below)
Who prepared the estimate?	SS Engineering
Was the estimate reviewed by Eversource Estimating?	No

Project Title: [redacted] - Fence Replacement	Prior Yrs	2018	N/A	2019	1	2020	2	2021	3	2022	4	TOTAL	N/A	
TAF / Project #: TBD	$	Mdays	$	MDays	$	MDays	$	MDays	$	MDays	$	MDays	$	%
ENRXX-TG ENG / DESIGN														
Project Services & Drafting	$0	3	$1,110	0	$0	0	$0	0	$0	0	$0	3	$1,110	
Trans Eng & Design	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	
Civil Engineering	$0	2	$740	0	$0	0	$0	0	$0	0	$0	2	$740	
Civil Design	$0	2	$740	0	$0	0	$0	0	$0	0	$0	2	$740	
Elect Eng & Design	$0	8	$2,960	0	$0	0	$0	0	$0	0	$0	8	$2,960	
Dist. SS Eng & Design	$0	3	$1,110	0	$0	0	$0	0	$0	0	$0	3	$1,110	
Protection & Control	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	
Surveying	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	
Permitting	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	
Telecom	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	
SS Technical Engineer	$0	2	$740	0	$0	0	$0	0	$0	0	$0	2	$740	
Apparatus Speciallist	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	
Escalation					$0		$0		$0		$0		$0	
LT Subtotal	$0	20	$7,400	0	$0	0	$0	0	$0	0	$0	20	$7,400	$7,400
Distribution Contractor Engineering	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	
Eng Contractor = W19 x Material & Construction Cost	$0		$17,972		$0		$0		$0		$0		$17,972	10.0%
Contingency			$0		$0		$0		$0		$0		$0	0.0%
Escalation					$0		$0		$0		$0		$0	
ENRXX TOTAL	$0		$25,372		$0		$0		$0		$0		$25,372	$25,372
PSMXX-PROJECT MGR & SUPPORT														
Project Planning	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	
Project Management/Engineer	$0	3	$1,110	0	$0	0	$0	0	$0	0	$0	3	$1,110	
Legal	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	
Escalation					$0		$0		$0		$0		$0	
LT Subtotal	$0	3	1,110	0	$0	0	$0	0	$0	0	$0	3	$1,110	$1,110
Employee Expenses	$0		$11		$0		$0		$0		$0		$11	1%
Contractors - Includes Sales Tax & Esc.	$0		$0		$0		$0		$0		$0		$0	
Environmental (Identifiable Tax Credit)	$0		$0		$0		$0		$0		$0		$0	
Legal - Contractors - Includes Sales Tax	$0		$0		$0		$0		$0		$0		$0	
Property Tax (Large Projects & Town Expectations)	$0		$0		$0		$0		$0		$0		$0	
Fees & Payments	$0		$0		$0		$0		$0		$0		$0	
Contingency			$0		$0		$0		$0		$0		$0	0.0%
Escalation					$0		$0		$0		$0		$0	
PSMXX-PROJECT MGR & SUPPORT TOTAL	$0		$1,121		$0		$0		$0		$0		$1,121	$1,121
CSTXX-CONSTRUCTION - Additions %														100.0%
Civil	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	
Electrical	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	
Test	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	
Other - Switch / Tag Support	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	
Construct. Reps	$0	20	$7,400	0	$0	0	$0	0	$0	0	$0	20	$7,400	
Escalation					$0		$0		$0		$0		$0	
LT Subtotal	$0	20	$7,400	0	$0	0	$0	0	$0	0	$0	20	$7,400	$7,400
Employee Expenses	$0		$74		$0		$0		$0		$0		$74	1%
Contractor Civil	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	3.9%
Contractor Electrical	$0	80	$89,600	0	$0	0	$0	0	$0	0	$0	80	$89,600	3.9%
Contractor Test	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	3.9%
Contractor Other - Switch / Tag Support	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	3.9%
Contractor Equipment = % of Total Construction Labor	$0		$17,920		$0		$0		$0		$0	0	$17,920	20.0%
Additional Test & Commissioning Labor Inc sales tax	$0		$0		$0		$0		$0		$0		$0	
Fees & Payments	$0		$0		$0		$0		$0		$0		$0	
Rents & Leases	$0		$0		$0		$0		$0		$0		$0	
Contingency			$0		$0		$0		$0		$0		$0	0.0%
Escalation					$0		$0		$0		$0		$0	
CSTXX TOTAL	$0		$114,994		$0		$0		$0		$0		$114,994	$114,994
REMXX-TG REMOVAL - %														10.0%
Civil	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	
Electrical	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	
Escalation					$0		$0		$0		$0		$0	
LT Subtotal	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	$0
Employee Expenses	$0		$0		$0		$0		$0		$0		$0	1%
Contractor Civil	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	3.9%
Contractor Electrical	$0	8	$8,960	0	$0	0	$0	0	$0	0	$0	8	$8,960	3.9%
Contractors - Include Sales Tax	$0		$0		$0		$0		$0		$0		$0	
Contingency			$0		$0		$0		$0		$0		$0	0.0%
Escalation					$0		$0		$0		$0		$0	
REMXX TOTAL	$0		$8,960		$0		$0		$0		$0		$8,960	$8,960
MATXX-TG MATERIAL (Includes Tax)														
Misc Purchases (Credit Card Etc.)	$0		$1,150		$0		$0		$0		$0		$1,150	1%
Stock	$0		$0		$0		$0	$0	$0		$0		$0	
Direct	$0		$54,615		$0		$0		$0		$0		$54,615	
Contingency Excluding Big Ticket Items			$0		$0		$0		$0		$0		$0	0.0%
Escalation					$0		$0		$0		$0		$0	
MATXX TOTAL	$0		$55,765		$0		$0		$0		$0		$55,765	$55,765
Contingency Excludes Large Items	$0		$0		$0		$0		$0		$0		$0	
LNDXX-TG LAND														
Real Estate	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	
Escalation					$0		$0		$0		$0		$0	
LT Subtotal	$0		$0		$0		$0		$0		$0		$0	
Purchase Land	$0		$0		$0		$0		$0		$0		$0	
Fees & Payments	$0		$0		$0		$0		$0		$0		$0	
Contingency			$0		$0		$0		$0		$0		$0	1.0%
Escalation					$0		$0		$0		$0		$0	
LNDXX TOTAL	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	$0
DIRECT COST TOTAL	$0		$206,212		$0		$0		$0		$0		$206,212	
INDIRECTS														
Non-Productive Allocation (ZB-TM1-ZNP)	$0		$2,442		$0		$0		$0		$0		$2,442	15.4%
Payroll Benefits Allocation (ZE-TM1-Z93)	$0		$7,403		$0		$0		$0		$0		$7,403	40.3%
Material Stores Allocation (Stock) <25k (ZC-TM1-Z91)	$0		$11,153		$0		$0		$0		$0		$11,153	20.0%
Gen Service Co. OH Allocation (ZF-TM1-Z94)	$0		$159		$0		$0		$0		$0		$159	1.0%
E&S Allocation (25%<20M<3%) - (ZI-TM1-Z96)	$0		$144,186		$0		$0		$0		$0		$144,186	90.0%
Misc. Dist. Exp. Cap. Allocation (ZH-TM1-Z92)	$0		$8,010		$0		$0		$0		$0		$8,010	5.0%
AS&E Allocations (ZJ-TM1-Z90)	$0		$1,137		$0		$0		$0		$0		$1,137	0.5%
Vehicle Allocations (ZV-TM1-Z98)	$0		$4,173		$0		$0		$0		$0		$4,173	26.2%
INDIRECT Subtotal	$0		$178,663		$0		$0		$0		$0		$178,663	$178,663
AFUDC (ZK - TM1-Z95)	$0		$460		$0		$0		$0		$0		$460	0.23900%
PROJECT COST TOTAL	$0		$385,335		$0		$0		$0		$0		$385,335	

Calc OH's	Prior Years	2018	Subtotal	2019	Subtotal	2020	Subtotal	2021	Subtotal	2022	Subtotal	TOTAL	Subtotal
Filter Label to Create Formulas - Should = Total	Costs	M-Days	Costs	M-Days	Costs	M-Days	Costs	M-Days	Costs	M-Days	Costs	M-Days	Costs
Engineering	$0	20	$7,400	0	$0	0	$0	0	$0	0	$0	20	$7,400
Civil	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0
Electrical	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0
Test	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0
Other Support/Switc/Constr Rep/RE	$0	23	$8,510	0	$0	0	$0	0	$0	0	$0	23	$8,510
LT Sub - Total	$0	43	15,910	0	0	0	0	0	0	0	0	43	$15,910
Employee Expenses	$0		$85		$0		$0		$0		$0		$85
Materials	$0		$55,765		$0		$0		$0		$0		$55,765
Contractors	$0		$134,452		$0		$0		$0		$0		$134,452
Envirionmental	$0		$0		$0		$0		$0		$0		$0
Fees & Payments	$0		$0		$0		$0		$0		$0		$0
Rents & Leases	$0		$0		$0		$0		$0		$0		$0
Contingency	$0		$0		$0		$0		$0		$0		$0
Escalation	$0		$0		$0		$0		$0		$0		$0
Contingency & Escalation Subtotal	$0		$0		$0		$0		$0		$0		$0
DIRECT TOTAL	$0		$206,212		$0		$0		$0		$0		$206,212
Overhead Subtotal	$0		$179,123		$0		$0		$0		$0		$179,123
PROJECT COST TOTAL	$0		$385,335		$0		$0		$0		$0		$385,335

Summary by Activity													
Material	$0		$55,765		$0		$0		$0		$0		$55,765
Labor & Equipment (Const,RMV,Test)	$0		$123,954		$0		$0		$0		$0		$123,954
Engineering/Permitting/PM/Land/Ind	$0		$205,156		$0		$0		$0		$0		$205,156
Escalation	$0		$0		$0		$0		$0		$0		$0
AFUDC	$0		$460		$0		$0		$0		$0		$460
Contingency	$0		$0		$0		$0		$0		$0		$0
PROJECT COST TOTAL	$0		$385,335		$0		$0		$0		$0		$385,335