Operations Project Authorization Form

Approved at May 29, 2019 EPAC
Link to Meeting Minutes

Date Prepared: 05-25-2019	**Project Title: [redacted] 27.6kV Regulator Install**
Company/ies: Eversource CT	**Project ID Number: CS00339**
Organization: Asset Management	**Class(es) of Plant: Distribution Substation**
Project Initiator: [redacted]	**Project Category: Stations - Other**
Project Manager: [redacted]	**Project Type: Specific**
Project Sponsor: [redacted]	**Project Purpose: Support new customer**
Estimated in service date: 12/31/2019	**If Transmission Project, PTF/Non-PTF: Non-PTF**
Eng. / Constr. Resources Budgeted? N	**Capital Investment Part of Original Operating Plan: Y**
Authorization Type: Full Funding	**O&M Expenses Part of the Original Operating Plan: N**
Total Request: $820,000	

Financial Requirements:

Project Authorization

ERM: _____

FP&A: _____

Executive Summary

This project is seeking full funding of $820,000 to install regulation on the [redacted] A separate PAF (CS00338) will be presented to [redacted]

Project Costs Summary
Note: Dollar values are in thousands

	Prior Authorized	2019	2020	Totals
Capital Additions - Direct	$0	$304	$14	$318
Less Customer Contribution	$0	$0	$0	$0
Removals net of Salvage ____%	$0	$32	$0	$32
Total - Direct Spending	$0	$336	$14	$350
Capital Additions - Indirect	$0	$437	$30	$467
Subtotal Request	$0	$773	$44	$817
AFUDC	$0	$1	$2	$3
Total Capital Request	$0	$774	$46	$820
O&M	$0	$0	$0	$0
Total Request	$0	$774	$46	$820

Financial Evaluation
Note: Dollar values are in thousands

Direct Capital Costs	2019	2020	Totals
Straight Time Labor	$173	$14	$187
Overtime Labor	$0	$0	$0
Outside Services	$28	$0	$28
Materials	$135	$0	$135
Other, including contingency amounts (describe)	$0	$0	$0
Total Direct Costs	$336	$14	$350
Indirect Capital Costs	**2019**	**2020**	**Totals**
Indirects/Overheads (including benefits)	$437	$30	$467
Capitalized interest or AFUDC, if any	$1	$2	$3
Total Indirect Costs	$438	$32	$470
Total Capital Costs	**$774**	**$46**	**$820**
Less Total Customer Contribution	$0	$0	$0
Total Capital Project Costs	**$774**	**$46**	**$820**
Total O&M Project Costs	$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__	Year 20__	Year 20__+	Total Future Project Costs
Capital	$ -	$ -	$ -	$ -	$ -
O&M	-	-	-	-	-
Other	-	-	-	-	-
TOTAL	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

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

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

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

What functional area(s) will these benefits be reflected in: N/A

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

Is there an ARO associated with this project? There are no ARO's associated with this project.
If yes, please provide details:

Are there other environmental cleanup costs associated with this project? None expected.
If yes, please provide details:

Technical Justification:

Project Need Statement

This project will support the distribution solution to provide two regulated [redacted]

Project Objectives

This project supports [redacted] Additional design criteria objectives for this project are as follows:

[redacted]

Project Scope

[redacted]

No protection/control work other than possible new relay settings is expected per Protection & Controls. Power cables to be provided by field operations.

Background / Justification

[redacted]

Business Process and / or Technical Improvements:

[redacted]

Alternatives Considered with Cost Estimates

[redacted]

Project Schedule

Milestone/Phase Name	Estimated Completion Date
Project approval	05/31/2019
Drawing Issue	09/2019
Material Procurement	07/2019
Construction start	10/2019
ISD	12/2019

Regulatory Approvals

N/A

Risks and Risk Mitigation Plans

Risk Event	Risk Horizon	Likelihood of Occurrence	Expected Value Cost Exposure ($M)	Risk Mitigation
Actual cost higher than estimated due to scope changes.	2019	LOW	LOW	Detailed walk down of project development was performed to avoid potential construction issues.
Internal construction resources not available to perform the work.	2019	HIGH	MEDIUM	Contractor resources will perform the work. Competitive bidding will be utilized to ensure lowest outside labor cost.
Internal engineering resources not available to perform the work.	2019	LOW	LOW	Engineering will be outsourced. Competitive bidding will be utilized to ensure lowest outside labor cost.
Storm delays	2019	MEDIUM	DELAY	If storm activity delays work, Additional outside contracted help may be required.
System abnormal configuration	2019	LOW	RELIABILITY IMPACTS	Most of the installation can be performed with little to no impact to customers.

References

Project CD01113 (Customer Facility Expansion)

Attachments (One-Line Diagrams, Images, etc.)
Figure 1 - Regulator electrical connections
Figure 2 - [redacted]
Figure 3 - Regulator locations and get-away path



Figure 1 - Regulator electrical connections



Figure 2 -

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Project Authorization Form

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] Install					**Project ID Number: CS00339**	
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?					Yes	
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	

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Checklist for Studies and Processes of a Transmission & Substation Capital Project	
Project Name: [redacted] install	**Project ID Number: CS00339**
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?	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?	Yes
INVESTMENT RECOVERY	
Does the project require development of an Investment Recovery plan?	No
COST ESTIMATING	
How was the cost estimate prepared?	Estimate was prepared by Eversource Engineering
Who prepared the estimate?	[redacted]
Was the estimate reviewed by Eversource Estimating?	No

Cost Estimate Backup Details

[redacted] - Add [redacted] Regulators	Prior Yrs	2018	N/A	2019	1	2020	2	2021	3	2022	4	TOTAL	N/A		Escalation
TAF / Project #: TBD	$	Mdays	$	MDays	$	MDays	$	MDays	$	MDays	$	MDays	$	%	3.0%
ENRXX-TG ENG / DESIGN															Avg ENG Rate
Project Services & Drafting	$0	0	$0	[redacted]	$1,850	0	$0	0	$0	0	$0	[redacted]	$1,850		370
Trans Eng & Design	$0	0	$0		$0	0	$0	0	$0	0	$0		$0		
Civil Engineering	$0	0	$0		$370	0	$0	0	$0	0	$0		$370		
Civil Design	$0	0	$0		$3,700	0	$0	0	$0	0	$0		$3,700		
Elect Eng & Design	$0	0	$0		$0	0	$0	0	$0	0	$0		$0		
Dist. SS Eng & Design	$0	0	$0		$5,550	0	$0	0	$0	0	$0		$5,550		
Protection & Control	$0	0	$0		$1,850	0	$0	0	$0	0	$0		$1,850		
Surveying	$0	0	$0		$0	0	$0	0	$0	0	$0		$0		
Permitting	$0	0	$0		$0	0	$0	0	$0	0	$0		$0		
Telecom	$0	0	$0		$0	0	$0	0	$0	0	$0		$0		
SS Technical Engineer	$0	0	$0		$0	0	$0	0	$0	0	$0		$0		
Apparatus Speciallist	$0	0	$0		$0	0	$0	0	$0	0	$0		$0		
Escalation					$400		$0		$0		$0		$400		
LT Subtotal	$0	0	$0		$13,720	0	$0	0	$0	0	$0		$13,720	$13,720	=If Crossfoot Verification
Distribution Contractor Engineering	$0	0	$0		$0	0	$0	0	$0	0	$0		$0		370
Eng Contractor = W19 x Material & Construction Cost	$0		$0		$0		$0		$0		$0		$0	0.0%	
Contingency			$0		$0		$0		$0		$0		$0	0.0%	
Escalation					$0		$0		$0		$0		$0		
ENRXX TOTAL	$0		$0		$13,720		$0		$0		$0		$13,720	$13,720	=If Crossfoot Verification
PSMXX-PROJECT MGR & SUPPORT															
Project Planning	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0		
Project Management/Engineer	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0		
Legal	$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	=If Crossfoot Verification
Employee Expenses	$0		$0		$0		$0		$0		$0		$0	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		$0		$0		$0		$0		$0		$0	$0	=If Crossfoot Verification
CSTXX-CONSTRUCTION - Additions %		[redacted]												100.0%	In House MDay Rate
Civil	$0		$69,900	0	$0	0	$0	0	$0	0	$0	[redacted]	$69,900		$466
Electrical	$0		$57,354	0	$0	0	$0	0	$0	0	$0	[redacted]	$57,354		$474
Test	$0		$11,850	0	$0	0	$0	0	$0	0	$0	[redacted]	$11,850		$474
Other - Switch / Tag Support	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0		$474
Construct. Reps	$0		$0	0	$0	0	$0	0	$0	0	$0	0	$0		$370
Escalation					$0		$0		$0		$0		$0		
LT Subtotal	$0	[redacted]	$139,104	0	$0	0	$0	0	$0	0	$0	[redacted]	$139,104	$139,104	=If Crossfoot Verification
Employee Expenses	$0		$1,391		$0		$0		$0		$0		$1,391	1%	Contractor MDay Rate
Contractor Civil	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	3.9%	$880
Contractor Electrical	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	3.9%	$1,120
Contractor Test	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	3.9%	$1,200
Contractor Other - Switch / Tag Support	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	3.9%	$1,120
Contractor Equipment = % of Total Construction Labor	$0		$27,821		$0		$0		$0		$0	0	$27,821	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		$168,316		$0		$0		$0		$0		$168,316	$168,316	=If Crossfoot Verification
REMXX-TG REMOVAL - %														25.0%	In House MDay Rate
Civil	$0	[redacted]	$17,475	0	$0	0	$0	0	$0	0	$0	[redacted]	$17,475		$466
Electrical	$0	[redacted]	$14,339	0	$0	0	$0	0	$0	0	$0	[redacted]	$14,339		$474
Escalation					$0		$0		$0		$0		$0		
LT Subtotal	$0	[redacted]	$31,814	0	$0	0	$0	0	$0	0	$0	[redacted]	$31,814	$31,814	=If Crossfoot Verification
Employee Expenses	$0		$318		$0		$0		$0		$0		$318	1%	Contractor MDay Rate
Contractor Civil	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	3.9%	$880
Contractor Electrical	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0	3.9%	$1,120
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		$32,132		$0		$0		$0		$0		$32,132	$32,132	=If Crossfoot Verification
MATXX-TG MATERIAL (Includes Tax)															
Misc Purchases (Credit Card Etc.)	$0		$1,683		$0		$0		$0		$0		$1,683	1%	1% Constuction Labor
Stock	$0		$6,701		$0		$0	$0	$0		$0		$6,701		
Direct	$0		$127,794		$0		$0		$0		$0		$127,794		
Contingency Excluding Big Ticket Items			$0		$0		$0		$0		$0		$0	0.0%	
Escalation					$0		$0		$0		$0		$0		
MATXX TOTAL	$0		$136,178		$0		$0		$0		$0		$136,178	$136,178	=If Crossfoot Verification
Contingency Excludes Large Items	$0		$105,000		$0		$0		$0		$0		$105,000		Note Only - Large Items
LNDXX-TG LAND															ENG Blended Rate
Real Estate	$0	0	$0	0	$0	0	$0	0	$0	0	$0	0	$0		$370
Escalation					$0		$0		$0		$0		$0		
LT Subtotal	$0		$0		$0		$0		$0		$0		$0		=If Crossfoot Verification
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	=If Crossfoot Verification
DIRECT COST TOTAL	$0		$336,626		$13,720		$0		$0		$0		$350,346		
INDIRECTS															
Non-Productive Allocation (ZB-TM1-ZNP)	$0		$21,365		$1,665		$0		$0		$0		$23,030	12.5%	
Payroll Benefits Allocation (ZE-TM1-Z93)	$0		$77,567		$5,373		$0		$0		$0		$82,940	40.3%	
Material Stores Allocation (Stock) <25k (ZC-TM1-Z91)	$0		$6,236		$0		$0		$0		$0		$6,236	20.0%	Excludes Big Ticket Tabs
Gen Service Co. OH Allocation (ZF-TM1-Z94)	$0		$1,709		$133		$0		$0		$0		$1,842	1.0%	
E&S Allocation (25%<20M<3%) - (ZI-TM1-Z96)	$0		$267,904		$18,322		$0		$0		$0		$286,226	90.0%	
Misc. Dist. Exp. Cap. Allocation (ZH-TM1-Z92)	$0		$14,884		$1,018		$0		$0		$0		$15,902	5.0%	
AS&E Allocations (ZJ-TM1-Z90)	$0		$2,218		$196		$0		$0		$0		$2,414	0.5%	
Vehicle Allocations (ZV-TM1-Z98)	$0		$44,832		$3,494		$0		$0		$0		$48,326	26.2%	
INDIRECT Subtotal	$0		$436,715		$30,201		$0		$0		$0		$466,916	$466,916	=If Crossfoot Verification
AFUDC (ZK - TM1-Z95)	$0		$925		$1,905		$0		$0		$0		$2,830	0.23920%	Annual Rate
PROJECT COST TOTAL	$0		$774,266		$45,826		$0		$0		$0		$820,092		=If Crossfoot Verification
															$820,092

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	[redacted]	$0	[redacted]	$13,320	0	$0	0	$0	0	$0	[redacted]	$13,320
Civil	$0		$87,375	0	$0	0	$0	0	$0	0	$0		$87,375
Electrical	$0		$71,693	0	$0	0	$0	0	$0	0	$0		$71,693
Test	$0		$11,850	0	$0	0	$0	0	$0	0	$0		$11,850
Other Support/Switc/Constr Rep/RE	$0		$0	0	$0	0	$0	0	$0	0	$0		$0
LT Sub - Total	$0		170,918	[redacted]	13,320	0	0	0	0	0	0		$184,238
Employee Expenses	$0		$1,709		$0		$0		$0		$0		$1,709
Materials	$0		$136,178		$0		$0		$0		$0		$136,178
Contractors	$0		$27,821		$0		$0		$0		$0		$27,821
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		$400		$0		$0		$0		$400
Contingency & Escalation Subtotal	$0		$0		$400		$0		$0		$0		$400
DIRECT TOTAL	$0		$336,626		$13,720		$0		$0		$0		$350,346
Overhead Subtotal	$0		$437,640		$32,106		$0		$0		$0		$469,746
PROJECT COST TOTAL	$0		$774,266		$45,826		$0		$0		$0		$820,092

Summary by Activity									
Material	$0	$136,178	$0	$0	$0	$0	$0	$136,178	
Labor & Equipment (Const,RMV,Test)	$0	$200,448	$0	$0	$0	$0	$0	$200,448	
Engineering/Permitting/PM/Land/Ind	$0	$436,715	$43,521	$0	$0	$0	$0	$480,236	
Escalation	$0	$0	$400	$0	$0	$0	$0	$400	
AFUDC	$0	$925	$1,905	$0	$0	$0	$0	$2,830	
Contingency	$0	$0	$0	$0	$0	$0	$0	$0	
PROJECT COST TOTAL	$0	$774,266	$45,826	$0	$0	$0	$0	$820,092	$820,092

[redacted]