EVERSOURCE
Project Authorization Form

Operations Project Authorization Form

Date Prepared: 08/24/2018	**Project Title: [redacted] Replace Failed Station Service Xfmr**
Company/ies: Eversource CT	**Project ID Number: CS00295**
Organization: Asset Management	**Class(es) of Plant: Distribution**
Project Initiator: [redacted]	**Project Category: Specific**
Project Manager: [redacted]	**Project Type: General Modernization**
Project Sponsor: [redacted]	**Project Purpose: Replace Failed equipment**
Estimated in service date: in service	**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**
Total Request: $165,579	

Financial Requirements:

Project Authorization

ERM: _____

FP&A: _____

Executive Summary

This project is seeking full funding of $165,578 to cover the cost of annual project DSQ52024 that went over the $100k direct cost limits. The original scope of the project was to furnish necessary engineering and design using a 2015 annual work order to replace the [redacted]. The cost to replace the [redacted] with a new higher rated transformer bank required modification to the supports and foundations.

Original estimate for the annual was for $46,200, the final cost of the project was $165,578.74. This specific project captures the annual project costs associated with this annual. This annual has gone over the allowed $100k of direct costs threshold.

Project Costs Summary

Note: Dollar values are actuals

	Prior Authorized	2015	2016	2017	Totals
Capital Additions - Direct	$46,200	$23,491	$48,962	$45,334	$117,787
Less Customer Contribution	$	$0	$	$	$0
Removals net of Salvage 25%	$	$4,593	$10,567	$9,689	$24,849
Total - Direct Spending	**$46,200**	**$23,491**	**$59,529**	**$55,023**	**$138,043**
Capital Additions - Indirect	$	$14,923	$9,636	$2,976	$27,535
Subtotal Request	**$46,200**	**$38,414**	**$69,165**	**$57,999**	**$165,578**
AFUDC	$	$	$	$	$
Total Capital Request	$	$38,414	$69,165	$57,999	$165,578
O&M	$	$0	$	$	$
Total Request	**$46,200**	**$38,414**	**$69,165**	**$57,999**	**$165,578**

Financial Evaluation

Note: Dollar values are actuals

Direct Capital Costs	2015	2016	2017	Total
Straight Time Labor	$12,227	$9,879	$1,622	$23,728
Overtime Labor	$3,661	$898	$132	$4,691
Outside Services	$4,461	$40,846	$45,560	$90,867
Materials	$221	$7,739	$7,537	$15,497
Other, including contingency amounts (describe)	$2,921	$167	$171	$3,259
Total	**$23,491**	**$59,529**	**$55,022**	**$138,042**

Indirect Capital Costs	Year 1	Year 2+		Total
Indirects/Overheads (including benefits)	$14,924	$9,636	$2,976	$27,536
Capitalized interest or AFUDC, if any	$0	$0	$0	$0
Total	**$14,924**	**$9,636**	**$2,976**	**$27,536**

Total Capital Costs	**$38,415**	**$69,165**	**$57,998**	**$165,578**
Less Total Customer Contribution	$0	$0	$0	$0
Total Capital Project Costs	**$38,415**	**$69,165**	**$57,998**	**$165,578**
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: **N/A**

What functional area(s) will these future costs be funded in?_____
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: **N/A**

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? If yes, please provide details: There is No ARO associated with this project.

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

Technical Justification:

Project Need Statement

The existing [redacted] The original annual (DSQ52024) was created to address the [redacted]. The cost to replace the failed [redacted] with a new higher rated transformer bank required modification to the supports and foundations.

Project Objectives

To provide a station sevice configuration that will meet todays standards and be able to supply load to all substation loads.

Project Scope

Replacement of the existing [redacted] upgrade the station service to latest substation standards and increase station service capacity to accept future substation loads.

[redacted]

Return upgraded [redacted] station service back to service

Background / Justification

Recent substation contractor activities working on the various transmission and distribution projects have stressed the 47 year old [redacted]

[redacted]

Project CS00157 has been established to [redacted]

Business Process and / or Technical Improvements:

The new station service configuration meets current substation standards and is sized to accept modest substation equipment load growth.

Alternatives Considered with Cost Estimates

There were no alternatives considered prior to the fault as this was an emergent replacement project to restore normal service.

Project Schedule

Milestone/Phase Name	Estimated Completion Date
Project has been completed	2017

Regulatory Approvals

N/A

Risks and Risk Mitigation Plans

The risk was minimal, the transformers used for the station sevice source are standard equipment on our system. A temporay generator was brought to the substation in the case of the [redacted]. Project has been completed

References
N/A

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



Nomenclature diagram indicating [redacted] station sevice location

Project Checklist – Transmission and Substation

Checklist for Studies and Processes of a Transmission & Substation Capital Project					
Project Name: Replace Failed Station Service Xfmr					**PAF No: CS00295**
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?					Yes
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

Checklist for Studies and Processes of a Transmission & Substation Capital Project	
Project Name: Replace Failed Station Service Xfmr	**PAF No: CS00295**

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?	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?	Engineering
Was the estimate reviewed by Eversource Estimating?	No

Cost Estimate Backup Details

Annual Project Estimate

Activity	$ Estimate
Labor – Electrical Construction (ADDS0)	19900.00
Labor - Civil Construction (ADDS0)	0.00
Labor - Electrical Test (ADDS0)	4200.00
Labor – Engineering (NUMS0)	7500.00
Labor – Removal (RMVS0)	8100.00
Material (ADDS0)	6500.00
Loaded Project Estimate Total	**46200.00**

Final cost of the annual project.

Current project dollars

Direct Total	$138,042.87
Indirect Total	$27,535.87
Total	$165,578.74

Sum of amount				Column Labe								
Row Labels	CE Type	cost_element	cost element description	106010	107010	108030	186950	45701X	92000X	92102X	93020X	Grand Total
Direct	Contract	M14	Contractor Materials		1002.4	256.94	0					1259.31
		S14	Contractor Services		33559	8602.2	0					42161.2
		S45	Contractor Vehicles + Equip		5259.4	1348.1	5E-13					6607.57
		S47	Contractor- Unit Price		15737	4033.8	0					19770.4
		S49	Contractor Labor		13047	3344.2	-5E-12					16390.9
		S59	Spill Response and Disposal		3550.9	910.18	4E-13					4461.04
		S68	Other Outside Services- Other		172.26	44.15	0					216.41
		U07	UVL-Contractor Services- Other		0	0	0					0
	Contractors Total				72327	18540	-4E-12					90866.9
	Labor	L11	Labor Straight Time Exempt		8951.6	2290.4	-6E-13					11242
		L12	Labor Straight Time Non-Exempt		9962.9	2523.6	-6E-13					12486.5
		L14	Exempt Hours Beyond Schedule-Unpaid		569.35	145.94	-3E-14					715.29
		L22	Labor Overtime Non-Exempt		2946.2	740.65	2E-13					3686.87
		L42	Labor Premium and Special Non-Exempt		231.14	57.88	4E-15					289.02
Labor Total	Labor Total				22661	5758.5	-1E-12					28419.7
	Materials	M11	Materials- Purchased		7410.3		7E-14					7410.32
		M12	Materials- Stores		8060.7	25.09	0					8085.75
Materials Total	Materials Total				15471	25.09	7E-14					15496.1
	Misc Oth	A21	Miscellaneous Journal Entries Other		-32.17	-8.24	0					-40.41
		A85	Miscellaneous Accounting Adjustments	135353.25	-1E+05							0
		E13	Meals		139.94	35.06	0					175
		E14	Mileage		137.12	35.15	0					172.27
		J17	Rent Expense-External		642.22		0					642.22
	Misc Other Total			135353.25	-1E+05	61.97	0					949.08
	Vehicle	V42	Vehicles-Class 2L-Large Vehicles		516.83	129.97	-3E-14					646.8
		V43	Vehicles-Class 2S-Small Vehicles		173.06	43.26	-7E-15					216.32
		V44	Vehicles-Class 3		572.43	143.11	-6E-14					715.54
		V45	Vehicles-Class 3S		18.42	4.6	0					23.02
		V50	Vehicles-Class 4B		387.12	96.78	0					483.9
		V58	Vehicles-Class 5C		180.45	45.11	0					225.56
	Vehicle Total				1848.3	462.83	-9E-14					2311.14
Direct Total				135353.25	-22158	24848	-5E-12					138043
Indirect	Indirect	ZAS	Admin and Eng OH- Acct Use Only		1700.2	382.01						2082.24
		ZGS	Gen Ser Co Benefit Loader- Acct Use Only		8363.7	2140.5						10504.2
		ZLO	Lobby Stock Loader-Acct Use Only		35.56	4.85						40.41
		ZNP	Non Productive Time Loader- Acct Use Only		4229.6	1074.4						5303.97
		ZPB	Payroll Benefit Loader- Acct Use Only		6981.6	1759.8						8741.46
		ZSC	Service Company Allocations- Acct Use Only					-2E-12	-4E-12	0	3E-12	-3E-12
		ZST	Stores Loader- Acct Use Only		808.02	5.91						813.93
		ZVE	Vehicle Costs Clearing- Acct Use Only		39.52	10.13						49.65
	Indirect Total				22158	5377.6		-2E-12	-4E-12	0	3E-12	27535.9
Indirect Total					22158	5377.6		-2E-12	-4E-12	0	3E-12	27535.9
Grand Total				135353.25	1E-11	30225	-5E-12	-2E-12	-4E-12	0	3E-12	165579

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Project Authorization Form

NORTHEAST UTILITIES SERVICE COMPANY
SUBSTATION PROJECT ASSIGNMENT

TITLE:	AU:	PROJ./W.O. NO:
[redacted] – Replace Failed Station Service Transformers	1D	DSQ52024
SYSTEM PROJECT TITLE: WR 2543863	**PROJ. CONSTR. MGR.:** [redacted]	**DATE ISSUED:** 6/18/15
OP. CO /DIVISION/ DISTRICT: CL&P/WESTERN/Greenwich	**PROJECT ENGINEER:** [redacted]	

PERSONNEL ASSIGNMENTS:

PROTECTION	DESIGN	CIVIL	METER ENGINEERING
[redacted]	[redacted]	[redacted]	[redacted]

DISTRIBUTION AUTOMATION			Requested By:
[redacted]			[redacted]

CL&P Distribution Annual Work Order – Failed/Failing Equipment
(This work order will be tracked separately as "Failed/Failing Equipment")

DESCRIPTION OF ENGINEERING WORK INVOLVED:
Furnish necessary engineering and design using a 2015 annual work order to replace the failed [redacted] station service transformers at [redacted].

SCHEDULED ISD: 10/30/15
ACTUAL ISD:

CIVIL DRAWING ISSUE: N/A
P/C PKG to DESIGN: 8/4/15
PHYS DRAWING ISSUE: 9/4/15
ELEC DRAWING ISSUE: 9/4/15

Annual Project Estimate

Activity	$ Estimate
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Current project dollars

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