EVERSOURCE
Project Authorization Form

Operations Project Authorization Form

Date Prepared: 08/24/2018	**Project Title:** [redacted]
Company/ies: Eversource CT	**Project ID Number: CS00313**
Organization: Asset Management	**Class(es) of Plant: Distribution Substation**
Project Initiator: [redacted]	**Project Category: General Modernization**
Project Manager: [redacted]	**Project Type: Specific**
Project Sponsor: [redacted]	**Project Purpose: Replacement of failed equipment**
Estimated in service date: completed	**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: $249,313	

Financial Requirements:

Project Authorization

ERM: _____

FP&A: _____

Executive Summary

This project is seeking full funding of $249,313 to cover the capital replacement of [redacted] Annual project DSQ72022 was created to address the emergent condition at [redacted] manufactured in 1993. Encountered difficulties in the switch replacement required a mobile to backup and restore customers as part of the restoration.

Project Costs Summary

Note: Dollar values are actuals:

	Prior Authorized	2017	2018	Totals
Capital Additions - Direct	$63,700	$123,329	$755	$124,084
Less Customer Contribution	$0	$0	$0	$0
Removals net of Salvage 11%	$14,700	$30,832	($733)	$30,099
Total - Direct Spending	$78,400	$154,161	$22	$154,183
Capital Additions - Indirect	$	$95,106	$24	$95,130
Subtotal Request	$78,400	$249,267	$46	$249,313
AFUDC	$0	$0	$0	$0
Total Capital Request	$	$249,267	$46	$249,313
O&M	$0	$0	$0	$0
Total Request	$78,400	$249,267	$46	$249,313

Financial Evaluation

Note: Dollar values are actuals:

Direct Capital Costs	2017	2018	Total
Straight Time Labor	$33,457	$0	$33,457
Overtime Labor	$80,775	$22	$80,797
Outside Services	$6,236	$0	$6,236
Materials	$27,166	$0	$27,166
Other, including contingency amounts (describe)	$6,527	$0	$6,527
Total Direct Costs	**$154,161**	**$22**	**$154,183**

Indirect Capital Costs	2017	2018	Total
Indirects/Overheads (including benefits)	$95,106	$24	$95,130
Capitalized interest or AFUDC, if any	$	$	$
Total Indirect Costs	**$95,106**	**$24**	**$95,130**
Total Capital Costs	**$249,267**	**$46**	**$249,313**
Less Total Customer Contribution	$0	$0	$0
Total Capital Project Costs	**$249,267**	**$46**	**$249,313**
Total O&M Project Costs	$	$	$

Note: Explain unique payment provisions, if applicable; Others consist of meals and vehicle charges

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.

<u>If this is other than a Reliability Project, please complete the section below:</u>

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 are no AROs associated with this project**

Are there other environmental cleanup costs associated with this project? If yes, please provide details:

Technical Justification:

Project Need Statement

[redacted]

Project Objectives

[redacted]

Project Scope

[redacted]

Background / Justification

[redacted]

Business Process and / or Technical Improvements:

The [redacted]

Alternatives Considered with Cost Estimates

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

Project Schedule

Milestone/Phase Name	Estimated Completion Date
This project has been completed	

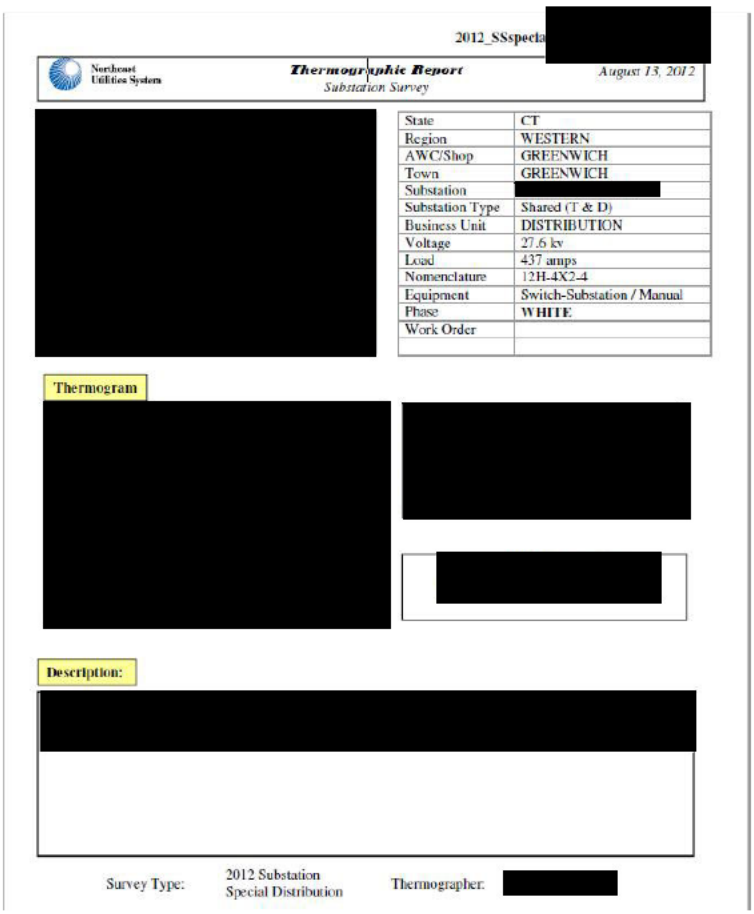
Regulatory Approvals

Non Required

Risks and Risk Mitigation Plans

Project has been completed

References



2012_SSspecia [redacted]

Northeast Utilities System

Thermographic Report
Substation Survey

August 13, 2012

[redacted]

State	CT
Region	WESTERN
AWC/Shop	GREENWICH
Town	GREENWICH
Substation	[redacted]
Substation Type	Shared (T & D)
Business Unit	DISTRIBUTION
Voltage	27.6 kv
Load	437 amps
Nomenclature	12H-4X2-4
Equipment	Switch-Substation / Manual
Phase	WHITE
Work Order	

Thermogram

[redacted]

Description:

[redacted]

Survey Type: 2012 Substation Special Distribution

Thermographer: [redacted]

Reconciliation of Cost Increase

Annual work order DSQ72022 estimate was estimated at $78,400.00
The final project cost came to $249,313 with the last recorded spend in Jan/2018

	Original estimate	Actuals	Delta
Materials	$16,500	$39,929	$23,429
Labor	$61,900	$114,254	$52,354
Removals	$14,700	$30,100	$15,400
Totals	$78,400	$249,313	$170,913

Material costs increased by $23,429
Labor costs increased by $52,354
Removal costs increased by $15,400
Overall project costs increased by $170,913

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

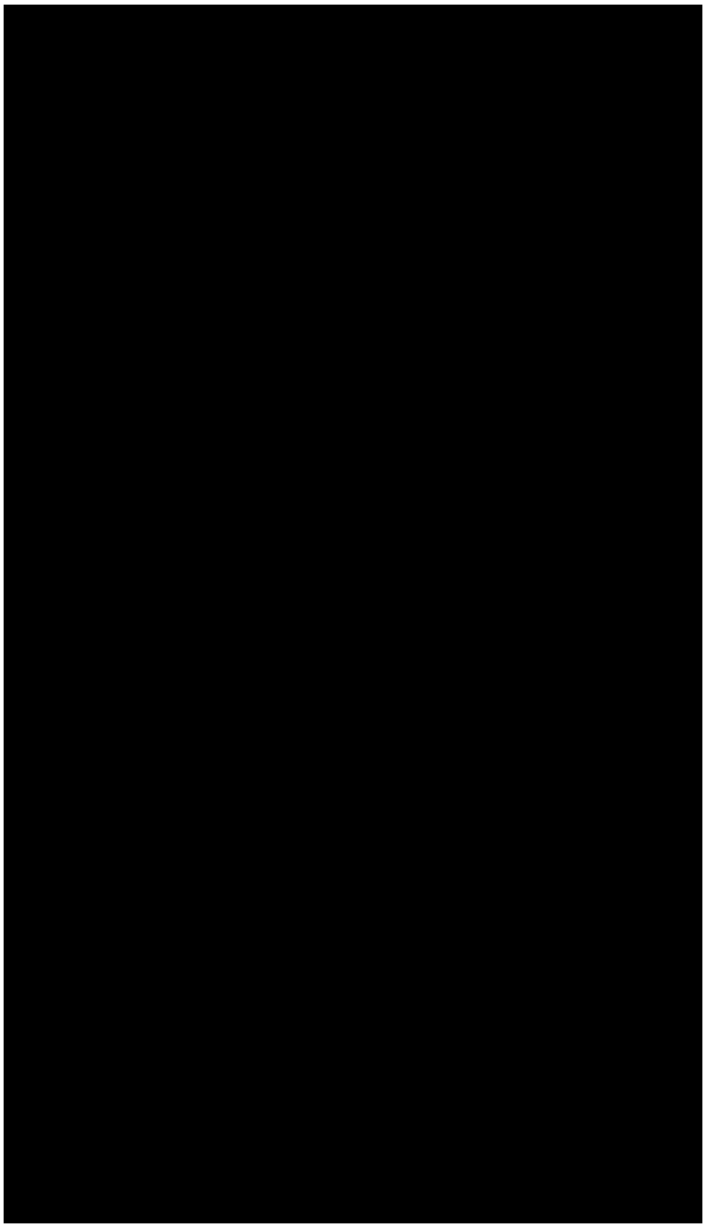


Figure 1 - [redacted] caught on video/pic.



Figure 2 - Nomenclature Diagram showing switch location



Figure 3 - Switch location on structure

Project Checklist – Transmission and Substation

Checklist for Studies and Processes of a Transmission & Substation Capital Project						
Project Name : [redacted] switch					**PAF No: CS00313**	
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?					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: CS00313**

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?	Other (specify below)
Who prepared the estimate?	Engineering
Was the estimate reviewed by Eversource Estimating?	No

Cost Estimate Backup Details

Sum of amount				Column Labels							
Row Labels	CE Type	cost_elemer	cost element description	106010	107010	108030	186950	45701X	92000X	93020X	Grand Total
Direct	Contractors	S71	Grounds Maintanence		4755.02	1480.9	0				6235.93
	Contractors Total				4755.02	1480.9	0				6235.93
	Labor	L11	Labor Straight Time Exempt		613.63	191.12	0				804.75
		L12	Labor Straight Time Non-Exempt		24897.55	7754.1	-2E-12				32651.67
		L22	Labor Overtime Non-Exempt		54093	16847	4E-12				70939.76
		L42	Labor Premium and Special Non-Exempt		7516.84	2341.1	-4E-13				9857.9
Labor Total	Labor Total				87121.02	27133	1E-12				114254.08
	Materials	M11	Materials- Purchased		4576.83	-8E-14	-6E-13				4576.83
		M12	Materials- Stores		22589.6	-6E-13	0				22589.6
Materials Total	Materials Total				27166.43	-7E-13	-6E-13				27166.43
	Misc Other	A85	Miscellaneous Accounting Adjustments	196880.44	-196880.44						0
		E13	Meals		2058.8	641.2	0				2700
		E14	Mileage		2711.46	844.46	-1E-12				3555.92
		J17	Rent Expense-External		271.03	-6E-15	0				271.03
	Misc Other Total			196880.44	-191839.15	1485.7	-1E-12				6526.95
Direct Total				196880.44	-72796.68	30100	-6E-13				154183.39
Indirect	Indirect	ZAS	Admin and Eng OH- Acct Use Only		1735.1	445.59					2180.69
		ZGS	Gen Ser Co Benefit Loader- Acct Use Only		686.07	214.51					900.58
		ZNP	Non Productive Time Loader- Acct Use Only		12744.44	4009					16753.45
		ZPB	Payroll Benefit Loader- Acct Use Only		39766.1	12407					52173.35
		ZSC	Service Company Allocations- Acct Use Only					0	-2E-13	-2E-13	-4.55E-13
		ZST	Stores Loader- Acct Use Only		5278.84	1319.7					6598.54
		ZVE	Vehicle Costs Clearing- Acct Use Only		12422.53	4100.9					16523.39
	Indirect Total				72633.08	22497		0	-2E-13	-2E-13	95130
Indirect Total					72633.08	22497		0	-2E-13	-2E-13	95130
Grand Total				196880.44	-163.6	52597	-6E-13	0	-2E-13	-2E-13	249313.39