EVERSOURCE

Operations Project Authorization Form

Approved on November 08, 2022 EPAC

Link to Meeting Minutes

Project Title: [redacted] Replace Failed 4A7-1K-2 CAP Vac Switch	**Project Number: CS00643**
Date Prepared: 11/01/2022	**Company: Eversource CT**
Organization: Asset Management	**Class(es) of Plant: D SS**
Project Initiator: [redacted]	**Project Category: Stations - Switches**
Managing Organization: Engineering	**Schedule ID#: N/A**
Project Manager: [redacted]	**Project Type: Specific**
Project Sponsor: [redacted]	**Capital Investment part of original Op Plan: Yes**
Estimated in service date: November 2, 2021	**Emergency Related Request? No**
Eng./Constr. Resources Budgeted? Yes	**Facility Type (check all that apply):** ☐ **PTF** ☐ **non-PTF** ☒ **Distribution** ☐ **N/A (General Plant)**
Total Capital Request: $179K	**Authorization Type: Full Funding**

[1] Executive Summary

The [redacted], CT) project is seeking full funding of $179K. This project replaced the [redacted] at the [redacted]. The project began under annual work order (WO) DSQ92008 which was authorized for $100K on January 30, 2019. The project was placed in-service November 2, 2021 and completed January 1, 2022.

This specific Project Authorization Form (PAF) documents the final costs that were more than the authorized spend for WO# DSQ92008. Charges exceeded authorization by a work order threshold value per Eversource Project Authorization Policy APS01. Upon approval of this Full Funding PAF, charges to the WO will be fully accounted for under funding project number (PN) CS00643 and journaled following approval.

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[2] PROJECT COSTS SUMMARY

Note: Dollar values are in thousands

Line item Category	Prior Authorized	Actuals to Date	2022 to Go	2023	Total
1. ROW / Easements / Land Acquisition	$	$	$	$	$
2. Environmental Approvals / Permits	$	$	$	$	$
3. Outreach	$	$	$	$	$
4. Siting Approvals / Permits	$	$	$	$	$
5. Engineering / Design	$	$3	$	$	$3
6. Materials (Eversource purchased)	$	$37	$	$	$37
7. Construction (incl matl's by contractors)	$80	$34	$	$	$34
8. Testing / Commissioning	$	$16	$	$	$16
9. Project Mgmt Team	$	$	$	$	$
10. Removals	$20	$36	$	$	$36
11. *Other	$	$1	$	$	$1
12. Risks	$	$	$	$	$
SUBTOTAL DIRECTS W/ RISKS	**$100**	**$127**	**$**	**$**	**$127**
13. Indirects/Overhead	$	$52	$	$	$52
14. AFUDC	$	$	$	$	$
PROJECT TOTAL – BASELINE BUDGET	**$100**	**$179**	**$**	**$**	**$179**
15. Contingency	$	$0	$	$	$0
TOTAL CAPITAL REQUEST	**$100**	**$179**	**$**	**$**	**$179**
16. Reimbursables/Customer Contribution	$	$0	$	$	$0
PROJECT TOTAL (LESS REIMBURSABLES)	**$100**	**$179**	**$**	**$**	**$179**
O&M	$	$0	$	$	$0
TOTAL REQUEST	**$100**	**$179**	**$**	**$**	**$179**

Detail other costs, project risk items and their allocations:

Risk	Allocation
1. Other – Equipment rentals and mileage	$1
2.	$
3.	$
4.	$
5.	$
Total	$1

A cost analysis spreadsheet "WBS DSQ92008 Replace Failed 4A7-1K-2 CAP Vac Switch Cost Analysis 11012022 was created for this PAF (Attachment A):

- Power Plan financial data for the WO is contained in Data Tab.
- WBS PT Tab has the summary of the actual expenditures used to populate the Project Costs Summary.

Explain unique payment provisions, if applicable:
N/A

Identify and detail any unique O&M impacts resulting from this project:
N/A

[3] TECHNICAL JUSTIFICATION

Project Need, Objective and Justification

[redacted] An annual WO was requested to replace the failed vacuum switch. See Attachment B for the nomenclature diagram. [redacted] A separate work order was placed to have a Vendor design and manufacture reactors for the switch poles. Additional P&C changes were also incorporated and the junction box on the support structure was found too rotted to utilize. As such, the junction box was removed and replaced with a new enclosure and new terminal blocks and wiring were installed. Minor bus modifications were needed, and the capacitors were all proof tested and re-commissioned.

Project Scope

- [redacted]
- Protection and Control provided support for junction box modification

- Replaced unforeseen rotted switch pole, new enclosure, terminal blocks, and wiring

Substation Equipment

Station	Device Position / Nomenclature	Device Removals *include manufacturer*	Device Additions *include manufacturer*
[redacted]	[redacted]	[redacted]	[redacted]

[4] ALTERNATIVES CONSIDERED

N/A. The project is complete.

[5] PROJECT SCHEDULE

Milestone	Scheduled Completion Date
IFR Approval (WO Initiation)	January 30, 2019
SDC Approval (for applicable projects)	N/A
Conversion of Tx development costs, 183 to 107 (applicable to projects that require SSF approval and/or ISO preferred alternative selection)	N/A
EPAC Partial Funding Approval (for applicable projects)	N/A
Preliminary Design Completion (or latest pre-full funding design phase)	N/A
EPAC Full Funding Approval	November 2022
Siting Approval (for applicable projects)	N/A
Start of Construction	February 2019
Project In-Service Date (ISD)	November 2, 2021
Project Need Date (for applicable projects)	N/A
ISO Related Milestones: (for applicable projects)	
• ISO Preferred Alternative Selected	N/A
• PAC Presentation	N/A
• TCA Submittal	N/A

[6] Regulatory Approvals

N/A – The project has been completed.

[7] Risk and Risk Mitigation Plans

Contingency:

N/A - The Project have been completed.

Risk Mitigation:

The project has been completed and there are no outstanding risks.

Risk	Mitigation
1. N/A	
2.	

[8] References

References
1. APS01 Project Authorization Policy – Eversource 12-21-2021
2. WO # DSQ92008 – [redacted] Replace Failed [redacted] [redacted]

[9] Attachments (One-Line Diagrams, Images, etc.)

Attachment	Included in Submittal?
A. WBS DSQ92008 Replace Failed [redacted] Cost Analysis 11012022	*YES*
B. Nomenclature [redacted] 01212022	*YES*
C	
D.	

Project Checklist - Transmission & Substation Capital Project		
Project Name: [redacted] **Replace Failed 4A7-1K-2 CAP Vac Switch**		**Project Number: CS00643**
Facility Type: ☐BPS ☐BES ☐PTF ☐PTF non-regional ☐non-PTF ☐CIP ☒Distribution ☐General Plant		
PLANNING		
Is a NX-9 required?	No	
Is an ISO-NE PAC presentation required?	No	
ISO-NE Presentation Date (if completed):	NA	
Cost in ISO-NE Presentation ($M) (if completed):	Enter Cost ($M)	
Is a PPA required?	No	
ISO-NE Approval Date (if completed):	Enter Date	
Is a TCA Application Required?	No	
TCA Submittal Date (if submitted):	Enter Date	
Cost in TCA Submittal ($M) (if submitted):	Enter Cost ($M)	
Enter ISO-NE RSP / Asset Condition ID, if assigned:	Enter ISO-NE ID	
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	

Project Checklist - Transmission & Substation Capital Project	
Project Name: [redacted] Replace Failed 4A7-1K-2 CAP Vac Switch	**Project Number: CS00643**

P&C ENGINEERING	
OP-22 - Are PMUs and DDR required?	No
If BPS, is an NPCC Directory #4 presentation required?	No
Are ISO-NE OP-24 Appendix B updates necessary?	No
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? *(If yes, list in regulatory approvals section)*	No
PERMITTING	
Is there any permitting required? *(If yes, list in regulatory approvals section)*	No
PROJECT SERVICES (OUTREACH) and ROW WORK COORDINATION	
What is the level of outreach expected?	None
Is any part of this project in an Environmental Justice Community?	No
Has ROW Coordination reviewed this project?	No
Is this project coordinating with other existing scheduled work?	No
INITIATOR	
Has a field constructability review been completed?	NR
INVESTMENT RECOVERY	
Does the project require development of an Investment Recovery plan?	No
COST ESTIMATING	
What team/firm prepared the cost estimate?	Other (specify below)
Name of the person who prepared the estimate:	Costs based on Actuals
Was the estimate reviewed by Eversource Estimating?	No

	Descrition / #'s:		FP#	DSQ92008						
	FP Desciption		1/31/2019	12/31/2022						
	Line item Category	**PAF (000's) Prior Authorized**	**Actuals to Date**	**2022 to Go**	**2023**	**2024**	**2025**	**2026**	**2027**	**Total**
1	1. ROW / Easements / Land purchases									$0
2	2. Environmental Approvals / Permits									$0
3	3. Outreach									$0
4	4. Siting Approvals / Permits									$0
5	5. Engineering / Design		$3							$3
6	6. Materials (Eversource purchased)		$37							$37
7	7. Construction (incl matl's by contractors)	$80	$34							$34
8	8. Testing / Commissioning		$16							$16
9	9. PMT Project Mgmt Team									$0
10	10. Removals	$20	$36							$36
11	11. Other		$1							$1
12	12. Risks									$0
	Project Directs Total w/Risks	**$100**	**$127**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$127**
13	13. Indirects/Overhead		$52							$52
14	14. AFUDC									$0
	Project Total - Baseline Budget	**$100**	**$179**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$179**
15	15. Contingency									$0
0	#N/A									$0
	Project Total - Funding Approval Level	**$100**	**$179**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$179**
16	16. Reimbursables/Customer Contribution									$0
	#N/A									$0
	Project Total (less reimbursables)	**$100**	**$179**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$179**
	Total O&M									$0
	TOTAL REQUEST	**$100**	**$179**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$179**
	Breakout costs incl above			**PAF (000's)**						
1	ST Labor									$0
2	OT Labor									$0
3	Outside services - Labor									$0
4	Materials (All materials incl. outside service purchased which is shown in constr. above)									$0
5	Removals									$0
6	Other									$0
7	**Indirects**	**$0**	**$52**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$52**
8	AFUDC	$0	$0	$0	$0	$0	$0	$0	$0	$0
	TOTAL CAPITAL REQUEST - with out Reimbursables	**$0**	**$52**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$52**

[redacted]