EVERSOURCE

# Operations Project Authorization Form

**Approved on September 29, 2022 EPAC**

**Link to Meeting Minutes**

| | |
|---|---|
| **Project Title:** [redacted] - Replace Failed [redacted] Circuit Breaker | **Project Number: CS00631** |
| **Date Prepared: 09/12/2022** | **Company: Eversource CT** |
| **Organization: Asset Management** | **Class(es) of Plant: D SS** |
| **Project Initiator:** [redacted] | **Project Category: Stations - Circuit Breakers** |
| **Managing Organization: Transmission / Major Projects** | **Schedule ID#: N/A** |
| **Project Manager:** [redacted] | **Project Type: Specific** |
| **Project Sponsor:** [redacted] | **Capital Investment part of original Op Plan: Yes** |
| **Actual in service date: July 1, 2019** | **Emergency Related Request? Yes** |
| **Eng./Constr. Resources Budgeted? Yes** | **Facility Type** (check all that apply): ☐ PTF ☐ non-PTF ☒ Distribution ☐ N/A (General Plant) |
| **Total Capital Request: $296K** | **Authorization Type: Full Funding** |

## [1] Executive Summary

This project is seeking full funding approval of $296K for a completed project at the [redacted] CT to replace the failed [redacted] The circuit breaker and associated disconnect switches were damaged by contact with a mylar balloon on May 4, 2019.

The work was executed and completed in June 2019 under annual work order number DSQ92028. This Project Authorization Form (PAF) provides the documentation necessary to transfer the capital charges to project number CS00631, as the direct capital charges exceeded the $100K annual work order limit imposed by APS-01. The project was placed in service July 1, 2019.

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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 | 2024 | Total |
|---|---|---|---|---|---|---|
| 1. ROW / Easements / Land Acquisition | | | | | | |
| 2. Environmental Approvals / Permits | | | | | | |
| 3. Outreach | | | | | | |
| 4. Siting Approvals / Permits | | | | | | |
| 5. Engineering / Design | | $5.7 | | | | $5.7 |
| 6. Materials (Eversource purchased) | | $42.8 | | | | $42.8 |
| 7. Construction (incl matl's by contractors) | | $93.9 | | | | $93.9 |
| 8. Testing / Commissioning | | $37.8 | | | | $37.8 |
| 9. Project Mgmt Team | | | | | | |
| 10. Removals | | $0.6 | | | | $0.6 |
| 11. Other | | | | | | |
| 12. Risks | | | | | | |
| **SUBTOTAL DIRECTS W/ RISKS** | **$296** | **$181** | | | | **$181** |
| 13. Indirects/Overhead | | $115 | | | | $115 |
| 14. AFUDC | | | | | | |
| **PROJECT TOTAL – BASELINE BUDGET** | **$296** | **$296** | | | | **$296** |
| 15. Contingency | | | | | | |
| | | | | | | |
| **TOTAL CAPITAL REQUEST** | **$296** | **$296** | | | | **$296** |
| 16. Reimbursables/Customer Contribution | | | | | | |
| | | | | | | |
| **PROJECT TOTAL (LESS REIMBURSABLES)** | **$296** | **$296** | | | | **$296** |
| O&M | | | | | | |
| **TOTAL REQUEST** | **$296** | **$296** | | | | **$296** |

Detail other costs, project risk items and their allocations:

| Risk | Allocation |
|---|---|
| 1. *Other – meals, mileage, rental expense* | $7 |
| 2. | $ |
| 3. | $ |
| 4. | $ |
| 5. | $ |
| **Total** | $7 |

# [3] TECHNICAL JUSTIFICATION

## Project Need, Objective and Justification

### Project Need Statement

[redacted] were damaged beyond repair by contact from a mylar balloon. The equipment was replaced on an emergent basis and returned to service on July 1, 2019. See Figure 1 for a Partial One Line Diagram and Figure 2 for photographs.

### Project Objectives

The objective was to replace the damaged [redacted]

## Project Scope

The scope of this project was to replace damaged and failed equipment which was charged on annual DSQ92028; the charges will be journaled to this project CS00631. After an assessment was made of the damage, the following actions were taken:

- [redacted]
- [redacted]
- Test and commission equipment to place in service.
- Restore system to normal operating configuration.

The project was placed in service July 1, 2019 with project closeout activities completed on October 1, 2021.

### Substation Equipment

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

## Background

The [redacted] and associated [redacted] were damaged by contact from a mylar balloon. The process of replacing the damaged equipment was on a tight schedule. The job included overtime requirements to meet a compressed schedule to complete the job before summer load peaking to maintain system reliability. Job scope also included extra time and care to be taken for the switching as it required customer outages and planned outage notifications (PONs) to be submitted creating additional costs to the project. An annual work order (DSQ92028) was established to purchase materials and the labor to replace the circuit breaker and the switches.

## [4] Alternatives Considered

The failed equipment had to be replaced to maintain system reliability. This project has been completed.

## [5] Project Schedule

| Milestone | Scheduled Completion Date |
|---|---|
| IFC Engineering Completion | Completed July 2019 |
| Construction Start | Completed July 2019 |
| Testing/Commissioning | Completed July 1, 2019 |
| Project In-Service Date (ISD) - Actual | Completed July 1, 2019 |

## [6] Regulatory Approvals

N/A – The project has been completed.

## [7] Risk and Risk Mitigation Plans

**Contingency:** The project has been completed and there is no contingency included and there are no outstanding risks associated with this project.

## [8] REFERENCES

| References |
|---|
| 1. [redacted] and Switches Reconciliation - DSQ92028 |
| 2. |

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

| Attachments |
|---|
| Figure 1 - Partial One Line |
| Figure 2 – Photographs |
| A. Actual Costs WO DSQ92028 |
| |

Figure 1 – Partial One Line of [redacted] showing affected CB [redacted] and associated disconnect switches

[redacted]

Figure 2 – Photographs



Pictures of damage caused by mylar balloon



Close up of the damage



Overview of Damage

| Project Checklist - Transmission & Substation Capital Project | | | |
|---|---|---|---|
| **Project Name: [redacted] - Replace Failed [redacted] Circuit Breaker** | | | **Project Number: CS00631** |
| **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): | | | N/A |
| Cost in ISO-NE Presentation ($M) (if completed): | | | N/A |
| Is a PPA required? | | | No |
| ISO-NE Approval Date (if completed): | | | N/A |
| Is a TCA Application Required? | | | No |
| TCA Submittal Date (if submitted): | | | N/A |
| Cost in TCA Submittal ($M) (if submitted): | | | N/A |
| Enter ISO-NE RSP / Asset Condition ID, if assigned: | | | N/A |
| **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? | | | 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 |

| Project Checklist - Transmission & Substation Capital Project | |
|---|---|
| **Project Name: [redacted] - Replace Failed [redacted] Circuit Breaker** | **Project Number: CS00631** |
| **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? | No |
| **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: | Actuals |
| Was the estimate reviewed by Eversource Estimating? | No |

| WBS | BrkOut | | WBS1 | WBS2 |
|---|---|---|---|---|
| 1.00 | | **ROW / Easements / Land Acquisition** | **$0.00** | |
| 1.01 | **1** | Eversource Personnel | | $0.00 |
| 1.02 | **3** | ROW / Easements / Land Services + Personnel | | $0.00 |
| 1.03 | **6** | ROW / Easements / Land Acquisition | | $0.00 |
| - | | | | |
| 2.00 | | **Environmental Approvals / Permits** | **$0.00** | $0.00 |
| 2.01 | **1** | Eversource Personnel | | $0.00 |
| 2.02 | **3** | Environmental Services + Personnel | | $0.00 |
| 2.03 | **3** | Mitigations | | $0.00 |
| 2.04 | **3** | Fees | | $0.00 |
| - | | | | |
| 3.00 | | **Outreach** | **$0.00** | $0.00 |
| 3.01 | **1** | Eversource Personnel | | $0.00 |
| 3.02 | **3** | Outreach Services + Personnel | | $0.00 |
| - | | | | |
| 4.00 | | **Siting Approvals / Permits** | **$0.00** | $0.00 |
| 4.01 | **1** | Eversource Personnel | | $0.00 |
| 4.02 | **3** | Siting Services + Personnel | | $0.00 |
| 4.03 | **3** | Siting Mitigation | | $0.00 |
| 4.04 | **3** | Payments | | $0.00 |
| - | | | | |
| 5.00 | | **Engineering / Design** | **$5,729.10** | $0.00 |
| 5.01 | **1** | Eversource Personnel | | $5,729.10 |
| 5.02 | **3** | Engineering / Design | | $0.00 |
| - | | | | |
| 6.00 | | **Materials (by Eversource)** | **$42,765.01** | $0.00 |
| 6.01 | **1** | Eversource Personnel | | $0.00 |
| 6.02 | **1** | Procurement / Logistics Services + Personnel | | $0.00 |
| 6.03 | **4** | Equipment / Materials | | $42,765.01 |
| - | | | | |
| 7.00 | | **Construction** | **$93,863.38** | $0.00 |
| 7.01 | **1** | Eversource Personnel - General | | $92,420.93 |
| 7.02 | **1** | Eversource Personnel - Overhead Line Work | | $0.00 |
| 7.03 | **1** | Eversource Personnel Underground Line Work | | $0.00 |
| 7.04 | **1** | Eversource Personnel - Substation Electrical Work | | $0.00 |
| 7.05 | **1** | Eversource Personnel - Civil Work | | $0.00 |
| 7.06 | **3** | Contract Construction Reps | | $0.00 |
| 7.07 | **3** | Line Construction - Matting / Access Roads | | $0.00 |
| 7.08 | **3** | Line Construction - Civil / Drilling / Trenching / Foundations | | $0.00 |
| 7.09 | **3** | Line Construction - Overhead Tower Construction / Wire Stringing | | $0.00 |
| 7.10 | **3** | Line Construction - Underground Cable Installation / Splicing | | $0.00 |
| 7.11 | **3** | S/S Construction - Civil / Site Prep / Excavation / Foundation | | $0.00 |
| 7.12 | **3** | S/S Construction - Electrical | | $0.00 |
| 7.13 | **3** | Misc. Construction | | $1,442.45 |
| - | | | | |
| 8.00 | | **Testing / Commissioning** | **$37,832.63** | $0.00 |
| 8.01 | **1** | Eversource Personnel | | $37,832.63 |
| 8.02 | **3** | Testing / Commissioning + Personnel | | $0.00 |
| - | | | | |
| 9.00 | | **Project Management Team** | **$0.00** | $0.00 |
| 9.01 | **1** | Eversource Personnel | | $0.00 |
| 9.02 | **3** | Contract Personnel | | $0.00 |
| - | | | | |
| - | | | | |
| 10.00 | | **Removals** | **$612.39** | $0.00 |
| 10.01 | **5** | Eversource Personnel | | $875.00 |
| 10.02 | **5** | Contract Personnel | | $0.00 |
| 10.03 | **5** | Material Salvage, Investment Recovery Tracking | | ($262.61) |
| - | | | | |
| 11.00 | | **Other** | **($0.00)** | $0.00 |
| 11.01 | **6** | Journal Entry Adjustments | | ($0.00) |
| 11.02 | **6** | UVL | | $0.00 |
| 11.03 | **6** | Property Tax | | $0.00 |
| - | | | | |
| 12.00 | **6** | Risks | $0.00 | $0.00 |
| - | | | | |
| 13.00 | | **Overhead** | **$115,173.20** | $0.00 |
| 13.01 | **7** | ZAS=Admin & Eng OH | | $1,453.76 |
| 13.02 | **7** | ZEB, ZEL,ZES=> Alloc-E&S OH Subst,Alloc -E+S OH Lines,Engin and Super OH | | $0.00 |
| 13.03 | **7** | ZGS =Gen Svc Co Benefit Loader | | $5,035.08 |
| 13.04 | **7** | ZNP=Non Productive Time Loader | | $18,256.81 |
| 13.05 | **7** | ZPB=Payroll Benefit Loader | | $66,608.75 |
| 13.06 | **7** | ZVE=Vehicle Costs Clearing | | $17,524.31 |
| 13.07 | **7** | ZMI=Misc Dist Exp Captialized OH | | $0.00 |
| 13.08 | **7** | ZSC=Service Company Allocations | | $0.00 |
| 13.09 | **7** | ZST=Stores Loader | | $6,294.49 |
| - | | | | |
| 14.00 | **8** | **AFUDC** | $0.00 | $0.00 |
| - | | | | |
| 15.00 | **7** | **Contingency** | $0.00 | $0.00 |
| - | | | | |
| 16.00 | **5** | **Reimbursables** | $0.00 | $0.00 |
| | | | | |
| | | **Total** | **$295,975.71** | **$295,975.71** |