EVERSOURCE

# Operations Supplement Request Form

**Approved on July 1, 2025 EPAC**

**Link to Meeting Minutes**

| | | |
|---|---|---|
| **Project Title: Bokum 15L Distribution Transformer Replacement/Addition and Station Reconfiguration** | **Project Number: CS00365 (D SS), 405192 (T SS)** | |
| **Date Prepared: 06/18/2025** | **Company: Eversource CT** | |
| **Organization: System Planning** | **Class(es) of Plant: D SS** | **T SS** |
| **Project Initiator:** [redacted] | **Project Category: Stations - Transformer** | |
| **Managing Organization: Project Mgt and Construction** | **Schedule ID#: CS003651** | |
| **Project Manager:** [redacted] | **Project Type: Specific** | |
| **Project Sponsor:** [redacted] | **Capital Investment part of original Op Plan: Yes** | |
| **Project Manager's Director:** [redacted] | **Estimated in service date: August 2026** | |
| **Current Authorized Amount:**<br>**CS00365 - $28,728K**<br>**405192 - $14,727K** | **Emergency Related Request? No** | |
| **Supplement Request:**<br>**CS00365 - $13,043K**<br>**405192 - $8,950K** | **Supplement Type: Supplement** | |
| **Total Capital Request:**<br>**CS00365 - $41,771K**<br>**405192 - $23,677K** | **ISO-NE Approval Required (check all that apply):**<br>**☐ PAC ☐ TCA** | |
| **EJ Community: No** | | |

## [1] Background

This supplement is requesting an additional $21,993K ($13,043K CS00365; $8,950K 405192) for a new total of $65,448K ($41,771K CS00365; $23,67K 405192) for completion of the Bokum 15L ([redacted] The additional $21,993K requested is for overages in environmental, engineering, materials, construction, project management, AFUDC and indirect costs.

Initial funding of $250K ($125K CS00365; $125K 405192) was approved in PowerPlan on November 3 and 23, 2020, respectively. Partial Funding of $2.7M was approved in PowerPlan on

October 18, 2021 ($1,405K CS00365; $1,333K 405192). Full Funding of $43.455M was approved in PowerPlan on August 4, 2023, and June 26, 2023, respectively ($28,728K CS00365; $14,727K 405192). To date (6/23/2025), $23,375K (CS00365) and $11,149K (405192) has been spent for Engineering and Design completion, reconfiguration of [redacted] The remaining scope to be completed for this project includes [redacted]

Distribution scope changes have included redesign of the [redacted] prompted by the discovery of unforeseen underground obstructions during the early construction phase, and relocation of [redacted] The transmission scope change involved [redacted] On the other hand, [redacted] his configuration would have required a major DC outage for installation. To avoid this, [redacted]. The AC redesign stemmed from outdated panels incompatible with available breakers.

## [2] Supplement Justification Overview

The project cost increased due to several key factors across different categories. Project environmental costs increased due to the need for soil management and offsite disposal to approved facilities due to the presence of contaminates, in addition to asbestos abatement, which were not anticipated in the original estimate. These environmental challenges added over $700K to the project.

The project also experienced cost overruns in materials and construction due to market conditions and unforeseen factors. Material costs, particularly for Distribution transformers, were

underestimated—actual costs exceeded estimates by over $5.6M. Transmission material costs also exceeded estimates due to underestimated and unaccounted items such as structural steel, thermal concrete and thermal sand, and new relay cabinets. Construction costs also increased due to scope modifications required to meet outage conditions and sequencing, unforeseen site conditions like rock removal, allowances needed to address unexpected construction challenges, and the need for temporary infrastructure such as a [redacted] bypass, temporary poles, and mobile transformer, necessary to maintain system reliability and to address physical constraints.

Lastly, extended project duration played a major role. The original schedule projected a 45-week timeline, but the actual duration extended to 155 weeks due to an unrealistic original schedule coupled with project changes during construction that resulted in schedule delays. This added timeline led to increased project management costs, higher indirect/overhead expenses, and an increase in AFUDC. The in service date has been extended from August 2024 to August 2026.

## [3] Supplement Justification Detail

The reasons for the project authorization supplement of $21,993K ($13,043K CS00365; $8,950K 405192) are summarized below:

1. **ROW / Easements / Land purchases: $3K**
    a. **Transmission $3K** – Survey of property lines and coordination of laydown yard not included in estimate.
2. **Environmental Approvals / Permits: $708K**
    a. **Transmission $25K -** Environmental specialist support, typically required for environmental and remediation planning and evaluation was not included in the original transmission estimate. This includes support from internal and external resources to plan and coordinate soil and groundwater characterization activities, concrete testing, soil export to approved facilities, and monitor compliance.
    b. **Distribution $683K -** During the initial phases of substation improvement work, soil waste characterization sampling was completed to allow for management of excess soil that would be generated as part of the project. Soil analyses indicated the presence of low level contaminates in specific areas which required soils to be transported and disposed of at approved facilities, rather than utilized as backfill as originally estimated. Additionally, sound wall abatement required due to asbestos containing materials, including abatement monitoring and cost for transport and disposal.
3. **Outreach: ($92K) -** For both Transmission and Distribution, actual costs are lower than estimated as the level of support needed was less than anticipated.
    a. **Transmission ($19K)**
    b. **Distribution ($73K)**
4. **Siting Approvals / Permits: ($251K) -** For both Transmission and Distribution, actual costs are lower than estimated as the level of support needed was less than anticipated.
    a. **Transmission ($64K)**
    b. **Distribution ($187K)**
5. **Engineering / Design: $679K**
    a. **Transmission $59K -** Associated with post-IFC redesign of the 6T breaker location to resolve clearance issues.
    b. **Distribution $620K -** This cost variance is primarily driven by change orders to the Engineering vendor ($262K) along with completed and projected in-house engineering through 2026.

Engineering vendor change orders included updates such as the redesign of the [redacted] due to unforeseen underground obstructions found during the early construction phase. A cost driver for internal engineering is the relocation of the [redacted] to optimize site access and reduce extent of underground construction, as well as the development of a mobile transformer drawing package and associated relay settings. In-house engineering continues to manage Requests for Information (RFIs) to support construction.

6. **Materials (by Eversource): $5,638K**

   a. **Transmission $424K -** Material cost actuals are higher than estimated. Structural steel was estimated at $178K compared to actuals of $229K; thermal concrete and thermal sand, which were not included in the original estimate, added $108K; and new relay cabinets, not included in the estimate, contributed an additional $265K—resulting in a total cost overrun of $424K.

   b. **Distribution $5,214K -** This additional cost was primarily due to distribution transformers [redacted] that were originally estimated at $4,606K, compared to actuals at $10,240K, an increase of $5,634K.

7. **Construction: $7,868K.**

   a. **Transmission $5,013K -** Major factors that have led to increases in the transmission construction costs are:

   **$1,393K -** Scope changes required to address clearance challenges that impacted constructability (i.e., [redacted]), in addition to Engineering and design modifications arising from site conditions that were not identified during the Constructability Reviews conducted prior to funding approval (i.e., [redacted]).

   **$974K -** Temporary infrastructure was required during construction, including installation of a [redacted] temporary bypass, which was not anticipated during project planning and estimation, needed to be installed to support the construction sequence and keep the [redacted] ring bus in service while the existing [redacted] bus was removed. The [redacted] bus needed to be removed because it would not have allowed for the clearances required to transport the [redacted] its final positions, and for the access of equipment to install these. In addition, during project construction work, the Project team identified the need for additional electrical clearance [redacted], resulting in the installation of temporary wood support structures to ensure Phase to Phase distances are met.

   **$996K -** Allowances included to cover future unexpected charges associated with test support, temporary wiring, SCADA and Network Communications, material handling, stand by time, premium time coverage, and winter conditions.

   **$1,366K -** Testing and Commissioning vendor charges are included in the Prime Electrical Construction vendor's contract.

b. **Distribution $2,855K -** Major factors that have led to increases in the distribution construction costs are:

**$527K -** Allowances included to cover future unexpected charges associated with test support, temporary wiring, SCADA and Network Communications, material handling, stand by time, premium time coverage, winter conditions, and rock removal.

**$258K -** A mobile transformer installation is required per The Connecticut System Operations Center (SOC) while the [redacted] ransformer is replaced due to Single Contingency Load Loss (SCLL) conditions of the [redacted] ransformer. The use of a mobile transformer was not included in the original estimate.

**$2,168K -** Testing and Commissioning vendor charges are included in the Prime Electrical Construction vendor's contract.

8. **Testing/Commissioning: ($3,534K) -** Testing and Commissioning vendor charges are included in Construction vendor's contract (Item #7 shown above).

   a. **Transmission ($1,366K)**

   b. **Distribution ($2,168)**

9. **Project Management Team: $2,249K -** Additional Project Management Team time is required due to the actual construction schedule exceeding the duration originally accounted for in the project estimate. The estimate considered a project duration of 45 weeks (from June 2023 until April 2024). Actual project duration is projected to be 155 weeks (from September 2023 until August 2026). The original project schedule used during estimation was unrealistic since it considered a timeline that was overly ambitious for the scope of work included in this project.

   a. **Transmission $1,854K**

   b. **Distribution $395K**

10. **Removals: $385K -** Removal projections have increased due to higher than anticipated project costs.

    a. **Transmission $252K**

    b. **Distribution $133K**

11. **Risks: $2,319K -** The project still has a significant amount of work remaining, and several risks have been identified. These are primarily related to potential challenges in the completion of planned outages due to delays in mobile transformer delivery and installation, testing and commissioning issues, late issuance of drawings, and material delivery setbacks.

    a. **Transmission $771K**

b. **Distribution $1,548K**

12. **Indirects/Overhead: $3,964K -** Indirects were higher due to the increase in direct costs.

    a. **Transmission $1,505K**

    b. **Distribution $2,459K**

13. **AFUDC: $4,374K -** AFUDC has increased as a result of extended project duration beyond initial schedule projections.

    a. **Transmission $1,265K**

    b. **Distribution $3,109**

**Total Supplement Request: $21,993K**

## [4] Supplement Cost Summary

The table below summarizes the line item categories from the original project estimates and the updated project estimates.

***Note: Dollar values are in thousands and rounded to nearest thousand:***

| Line item Category | Prior Authorized | New Total Request | Variance (Supplemental Request) |
|---|---|---|---|
| 1. ROW / Easements / Land Acquisition | $ | $3 | $3 |
| 2. Environmental Approvals / Permits | $28 | $736 | $708 |
| 3. Outreach | $103 | $11 | ($92) |
| 4. Siting Approvals / Permits | $270 | $20 | ($250) |
| 5. Engineering / Design | $2,544 | $3,223 | $679 |
| 6. Materials (Eversource purchased) | $10,363 | $16,001 | $5,638 |
| 7. Construction (incl materials by contractors) | $10,174 | $18,042 | $7,868 |
| 8. Testing / Commissioning | $4,417 | $883 | $(3,534) |
| 9. Project Mgmt Team | $1,345 | $3,594 | $2,249 |
| 10. Removals | $1,054 | $1,439 | $385 |
| 11. Other | $ | $ | $ |
| 12. Risks | $2,319 | $2,319 | $ |
| **SUBTOTAL DIRECTS W/ RISKS** | **$32,617** | **$46,271** | **$13,654** |
| 13. Indirects/Overhead | $8,175 | $12,140 | $3,965 |
| 14. AFUDC | $1,387 | $5,761 | $4,374 |
| **PROJECT TOTAL – BASELINE BUDGET** | **$42,179** | **$64,172** | **$21,993** |
| 15. Contingency | $1,275 | $1,275 | $ |
| | | | |
| **TOTAL CAPITAL REQUEST** | **$43,454** | **$65,447** | **$21,993** |
| 16. Reimbursables/Customer Contribution | $ | $ | $ |
| | | | |
| **PROJECT TOTAL (LESS REIMBURSABLES)** | **$43,454** | **$65,447** | **$21,993** |

## Transmission 405192

***Note: Dollar values are in thousands and rounded to nearest thousand:***

| Line item Category | Prior Authorized | New Total Request | Variance (Supplemental Request) |
|---|---|---|---|
| 13. ROW / Easements / Land Acquisition | $ | $3 | $3 |
| 14. Environmental Approvals / Permits | $ | $25 | $25 |
| 15. Outreach | $29 | $10 | ($19) |
| 16. Siting Approvals / Permits | $77 | $13 | ($63) |
| 17. Engineering / Design | $1,201 | $1,260 | $58 |
| 18. Materials (Eversource purchased) | $1,789 | $2,213 | $424 |
| 19. Construction (incl materials by contractors) | $4,272 | $9,285 | $5,013 |
| 20. Testing / Commissioning | $1,871 | $504 | ($1367) |
| 21. Project Mgmt Team | $677 | $2,531 | $1854 |
| 22. Removals | $231 | $483 | $251 |
| 23. Other | $ | $ | $ |
| 24. Risks | $771 | $771 | $ |
| **SUBTOTAL DIRECTS W/ RISKS** | **$10,918** | **$17,098** | **$6,179** |
| 13. Indirects/Overhead | $2,816 | $4,321 | $1,506 |
| 14. AFUDC | $548 | $1,813 | $1,265 |
| **PROJECT TOTAL – BASELINE BUDGET** | **$14,282** | **$23,232** | **$8,950** |
| 15. Contingency | $444 | $444 | $ |
| | | | |
| **TOTAL CAPITAL REQUEST** | **$14,726** | **$23,677** | **$8,950** |
| 16. Reimbursables/Customer Contribution | $ | $ | $ |
| | | | |
| **PROJECT TOTAL (LESS REIMBURSABLES)** | **$14,726** | **$23,677** | **$8,950** |

## Distribution CS00365

***Note: Dollar values are in thousands and rounded to nearest thousand:***

| Line item Category | Prior Authorized | New Total Request | Variance (Supplemental Request) |
|---|---|---|---|
| 1. ROW / Easements / Land Acquisition | $ | $ | $ |
| 2. Environmental Approvals / Permits | $28 | $711 | $683 |
| 3. Outreach | $74 | $1 | ($73) |
| 4. Siting Approvals / Permits | $193 | $7 | ($187) |
| 5. Engineering / Design | $1,343 | $1,963 | $620 |
| 6. Materials (Eversource purchased) | $8,574 | $13,788 | $5,215 |
| 7. Construction (incl materials by contractors) | $5,901 | $8,757 | $2,856 |
| 8. Testing / Commissioning | $2,547 | $379 | ($2,168) |
| 9. Project Mgmt Team | $668 | $1,063 | $395 |
| 10. Removals | $823 | $956 | $133 |
| 11. Other | $ | $ | $ |
| 12. Risks | $1,548 | $1,548 | $ |
| **SUBTOTAL DIRECTS W/ RISKS** | **$21,699.0** | **$29,173** | **$7,474** |
| 13. Indirects/Overhead | $5,359 | $7,818 | $2,459 |
| 14. AFUDC | $838 | $3,948 | $3,109 |
| **PROJECT TOTAL – BASELINE BUDGET** | **$27,896** | **$40,939** | **$13,042** |
| 15. Contingency | $831 | $831 | $ |
| | | | |
| **TOTAL CAPITAL REQUEST** | **$28,727** | **$41,770** | **$13,042** |
| 16. Reimbursables/Customer Contribution | $ | $ | $ |
| | | | |
| **PROJECT TOTAL (LESS REIMBURSABLES)** | **$28,727** | **$41,770** | **$13,042** |

## Total Supplement Request by Year

*(NOTE: This table should show only the supplement request)*

***Note: Dollar values are in thousands and rounded to nearest thousand:***

| Line item Category | 2025 | 2026 | Total |
|---|---|---|---|
| 1. ROW / Easements / Land Acquisition | $3 | $ | $3 |
| 2. Environmental Approvals / Permits | $707 | $1 | $708 |
| 3. Outreach | ($92) | $ | ($92) |
| 4. Siting Approvals / Permits | ($250) | $ | ($250) |
| 5. Engineering / Design | $497 | $181 | $679 |
| 6. Materials (Eversource purchased) | $2,315 | $3,323 | $5,638 |
| 7. Construction (incl matl's by contractors) | $2,775 | $5,093 | $7,868 |
| 8. Testing / Commissioning | ($3,534) | $ | ($3,534) |
| 9. Project Mgmt Team | $1,356 | $893 | $2,249 |
| 10. Removals | $123 | $262 | $385 |
| 11. Other | $0 | $ | $ |
| 12. Risks | $0 | $ | $ |
| **SUBTOTAL DIRECTS W/ RISKS** | $3,900 | $9,753 | $13,654 |
| 13. Indirects/Overhead | $2,969 | $996 | $3,965 |
| 14. AFUDC | $3,208 | $1,167 | $4,374 |
| **PROJECT TOTAL – BASELINE BUDGET** | $10,077 | $11,916 | $21,993 |
| 15. Contingency | $ | $ | $ |
| | | | |
| **TOTAL CAPITAL REQUEST** | $10,077 | $11,916 | $21,993 |
| 16. Reimbursables/Customer Contribution | $ | $ | $ |
| | | | |
| **PROJECT TOTAL (LESS REIMBURSABLES)** | $10,077 | $11,916 | $21,993 |
| O&M | $ | $ | $ |
| **TOTAL REQUEST** | $10,077 | $11,916 | $21,993 |

## Transmission

***Note: Dollar values are in thousands and rounded to nearest thousand:***

| Line item Category | 2025 | 2026 | Total |
|---|---|---|---|
| 1. ROW / Easements / Land Acquisition | $3 | $ | $3 |
| 2. Environmental Approvals / Permits | $24 | $1 | $25 |
| 3. Outreach | ($19) | $ | ($19) |
| 4. Siting Approvals / Permits | ($64) | $ | ($64) |
| 5. Engineering / Design | $ | $59 | $59 |
| 6. Materials (Eversource purchased) | $424 | $ | $424 |
| 7. Construction (incl matl's by contractors) | $2,775 | $2,238 | $5,013 |
| 8. Testing / Commissioning | ($1,367) | $ | ($1,367) |
| 9. Project Mgmt Team | $1,069 | $786 | $1,854 |
| 10. Removals | $123 | $128 | $252 |
| 11. Other | $ | $ | $ |
| 12. Risks | $ | $ | $ |
| **SUBTOTAL DIRECTS W/ RISKS** | $2,968 | $3,212 | $6,180 |
| 13. Indirects/Overhead | $1,007 | $498.0 | $1,505 |
| 14. AFUDC | $682 | $583 | $1,265 |
| **PROJECT TOTAL – BASELINE BUDGET** | $4,657 | $4,293 | $8,950 |
| 15. Contingency | $0 | $0 | $0 |
| | | | |
| **TOTAL CAPITAL REQUEST** | $4,657 | $4,293 | $8,950 |
| 16. Reimbursables/Customer Contribution | $0 | $0 | $0 |
| | | | |
| **PROJECT TOTAL (LESS REIMBURSABLES)** | $4,657 | $4,293 | $8,950 |
| O&M | $0 | $0 | $0 |
| **TOTAL REQUEST** | $4,657 | $4,293 | $8,950 |

## Distribution

***Note: Dollar values are in thousands and rounded to nearest thousand:***

| Line item Category | 2025 | 2026 | Total |
|---|---|---|---|
| 1. ROW / Easements / Land Acquisition | $ | $ | $ |
| 2. Environmental Approvals / Permits | $683 | $ | $683 |
| 3. Outreach | ($73) | $ | ($73) |
| 4. Siting Approvals / Permits | ($187) | $ | ($187) |
| 5. Engineering / Design | $498 | $123 | $620 |
| 6. Materials (Eversource purchased) | $1,892 | $3,323 | $5,215 |
| 7. Construction (incl matl's by contractors) | $ | $2,855 | $2,855 |
| 8. Testing / Commissioning | ($2,168) | $ | ($2,168) |
| 9. Project Mgmt Team | $288 | $107 | $395 |
| 10. Removals | $ | $133 | $133 |
| 11. Other | $ | $ | $ |
| 12. Risks | $ | $ | $ |
| **SUBTOTAL DIRECTS W/ RISKS** | $932 | $6,542 | $7,474 |
| 13. Indirects/Overhead | $1,961 | $498 | $2,459 |
| 14. AFUDC | $2,526 | $583 | $3,109 |
| **PROJECT TOTAL – BASELINE BUDGET** | $5,420 | $7,623 | $13,043 |
| 15. Contingency | $0 | $0 | $0 |
| | | | |
| **TOTAL CAPITAL REQUEST** | $5,420 | $7,623 | $13,043 |
| 16. Reimbursables/Customer Contribution | $0 | $0 | $0 |
| | | | |
| **PROJECT TOTAL (LESS REIMBURSABLES)** | $5,420 | $7,623 | $13,043 |
| O&M | $0 | $0 | $0 |
| **TOTAL REQUEST** | $5,420 | $7,623 | $13,043 |