# Operations Project Authorization Form

| | |
|---|---|
| **Date Prepared:** 11/20/2020 | **Project Title:** [redacted] Contingency Overload |
| **Company:** Eversource CT | **Project ID Number:** CD01350 |
| **Organization:** Distribution Design | **Class(es) of Plant:** Distribution |
| **Project Initiator:** [redacted] | **Project Category:** New Service/Load Growth |
| **Project Manager:** [redacted] | **Project Type:** Specific |
| **Project Sponsor:** [redacted] | **Project Purpose:** Resolve Projected Overload |
| **Estimated in service date:** 12/31/2020 | **If Transmission Project: PTF?** N/A |
| **Eng. /Constr. Resources Budgeted?** Yes | **Capital Investment Part of Original Operating Plan?** Yes |
| **Authorization Type:** Full Funding | **O&M Expenses Part of the Original Operating Plan?** Yes |
| **Total Request**: $2,782,955 | |

## Financial Requirements:

### Project Authorization

ERM: _____

FP&A: _____

### Executive Summary

[redacted]

[redacted]

Project CD01350 received Initial Funding Authorization of $1.9 million at the 10/03/2019 CT PAC meeting. The detail design has been completed and we are requesting Full Funding Authorization of $2.78 million; an increase of $853K or 44% of the Initial Funding Authorized amount.

**Explanation of Variance:**

- Segment 1: $247,545 did not account for having to reconductor the second circuit which was not included in the initial funding.
- Segment 2: $70,665 did not account the cost to install 102ft UG EPR 1000Kcmil, the cost to remove the existing 1,420 ft of UG 750 Cu EPR, the cost to install 905ft of 1/0 secondary TPX, and additional contractor charges.
- Segment 3: $316,743 did not account the cost to move the [redacted] from pole 2274 to pole 2284, the cost of a new recloser, the cost of the control setting, the cost to remove 5,200ft of conductors, and additional contractor charges.
- Segment 4: $78,398 did not include the cost of additional 522 ft of conductors, the cost to remove 2,000 ft of conductors, to install 4 additional poles, and additional contractor charges.
- Segment 5: was overestimated by $36,469.
- Segment 6: $91,992 did not account the cost to run additional 50 ft of 1000 Cu UG EPR, the cost to remove 150 ft of UG cables, the cost of 900 amps disconnect switch, and additional contractor charges.
- Segment 7: $84,078 did not account the cost to install 138 ft of 1000 Cu UG EPR, the cost to remove 1,400 ft of UG EPR cables, the cost to install 3 additional poles, and additional contractor charges.

**Note: Most of the increase is due to additional contractor charges**
See table below for more details.

| | Initial Funding | Full Funding | Increase | Cost Difference | Initial Funding Cost per segment | Full Funding Cost per segment | Total Increase per segment |
|---|---|---|---|---|---|---|---|
| **Segment 1:** **(reconductor [redacted] 336 AL SC to 556 SC)** | 2,500 ft of 556 Kamil | 4,593ft of 556 kcmil | 2.093ft of 556kcmil | **$197K** | | | |
| | None | 1,495ft of 1/0 secondary TPX | 1,495ft of 1/0 secondary TPX | **$12K** | | | |
| | None | Contractor Charges | Contractor Charges | **$30.5K** | | | |
| | None | 2500 ft of OH cable removal | 2500 ft of OH cable removal | **$8K** | **$346.6K** | **$594K** | **$247.5K** |
| **Segment 2:** **(reconductor [redacted] 750 AL UG getaway to 1000 Cu)** | 1,420 ft of 1000 Cu UG cable | 1,522 ft of 1000 Cu UG cable | 102 ft of 1000 Cu UG cable | **$9.7K** | | | |
| | None | 905 ft of 1/0 AL secondary TPX | 905 ft of 1/0 AL secondary TPX | **$7K** | | | |
| | None | Contractor Charges | Contractor Charges | **$25.6K** | | | |
| | None | 1,420 of UG cable removal | 1,420 of UG cable removal | **$28.4K** | **$215.9K** | **$286.6K** | **$70.7K** |
| **Segment 3:** **[redacted] reconductor 1/0 TW to 556 TW)** | 5,200ft of 556kcmil | 5,519ft of 556kcmil | 319 ft of 556 kcmil Tw | **$25K** | | | |
| | None | 400ft of #1 UG EPR | 400ft of #1 UG EPR | **$12K** | | | |
| | None | 5,200ft of OH cable removal | 5,200ft of OH cable removal | **$16.6K** | | | |
| | None | 3PH Recloser | 1 Recloser | **$48K** | | | |
| | None | Recloser setting | Recloser setting | **$5K** | | | |
| | None | Contractor Charges | Contractor Charges | **$204.5K** | | | |
| | None | Recloser removal | 1 Recloser removal | **$5.6K** | **$529.5K** | **$846.3K** | **$316.7K** |
| **Segment 4:** **[redacted] recond #2 bare Cu to 556 TW)** | 2000ft of 556kcmil | 2,522ft of 556kcmil | 522 ft of 556kcmil | **$40.5K** | | | |
| | None | 2,000ft of OH cable removal | 2,000ft of OH cable removal | **$6.4K** | | | |
| | None | Contractor Charges | Contractor Charges | **$12.8K** | | | |
| | 7 Poles | 11 Poles | 4 additional poles | **$18.7K** | **$215.4K** | **$293.8K** | **$78.4K** |
| **Segment 5:** **([redacted] recond 2/0 bare Cu to 556TW)** | Overestimated by $36K | $36K less than estimated | 0 | **-$36K** | **$385.2K** | **$348.7K** | **$-36K** |
| **Segment 6:** **(reconductor [redacted] 750 AL UG getaway to 1000 Cu)** | 150 ft of 1000 Cu UG EPR | 200 ft of 1000 Cu UG EPR | 50 ft of 1000 Cu UG EPR | **$4.8K** | | | |
| | None | 150 ft of UG cable removal | 150 ft of UG cable removal | **$3.00K** | | | |
| | None | Contractor Charges | Contractor Charges | **$73.9K** | | | |
| | None | 900 amps disconnect switch | 900 amps disconnect switch | **$10.3K** | **$39.95K** | **$131.9K** | **$92K** |
| **Segment 7:** **(recond [redacted] 750 AL UG getaway to 1000 Cu)** | 1,400ft of 1000 Cu UG EPR | 1,538ft of 1000 Cu UG EPR | 138ft of 1000 Cu UG EPR | **$13.2K** | | | |
| | None | 1,400 ft of UG cable removal | 1,400 ft of UG cable removal | **$28K** | | | |
| | None | Contractor Charges | Contractor Charges | **$28.8K** | | | |
| | None | 3 Poles | 3 Poles | **$14K** | **$197.4K** | **$281.5K** | **$84K** |
| **Total all segment** | | | | **$853K** | | | **$853K** |

## Project Costs Summary

| | Prior Authorized* | Additional Request | 2020 | 2021+ | Total ** |
|---|---|---|---|---|---|
| Capital Additions Direct | $0 | $0 | $ 1,457,991 | $ - | $1,457,991 |
| Less Customer Contribution | $0 | $0 | $ - | $ - | $0 |
| Removals Net of Salvage | $0 | $0 | $ 258,556 | $ - | $258,556 |
| Total - Direct Spending | $0 | $0 | $ 1,716,548 | $ - | $1,716,548 |
| Capital Additions - Indirect | $0 | $0 | $ 962,158 | $ - | $962,158 |
| AFUDC | $0 | $0 | $ 24,371 | $ - | $24,371 |
| Total Capital Request | $1,856,591 | $846,486 | $ 2,703,077 | $ - | $2,703,077 |
| O&M | $73,411 | $6,468 | $ 79,879 | $ - | $79,879 |
| **Total Request** | **$1,930,002** | **$852,953** | **$ 2,782,955** | **$ -** | **$2,782,955** |

* Amount currently approved in PowerPlan

** Total authorization needed in PowerPlan based on ACT

## Financial Evaluation

| Direct Capital Costs | 2020 | 2021 | 2022+ | Total |
|---|---|---|---|---|
| Straight Time Labor | $ 114,420 | $ - | $ - | $ 114,420 |
| Overtime Labor | $ - | $ - | $ - | |
| Outside Services | $ 1,121,921 | $ - | $ - | $ 1,121,921 |
| Materials | $ 480,207 | $ - | $ - | $ 480,207 |
| Other, including contingency amounts | $ - | $ - | $ - | $ - |
| **Total** | $ 1,716,548 | $ - | $ - | $ 1,716,548 |

| Indirect Capital Costs | 2020 | 2021 | 2022+ | Total |
|---|---|---|---|---|
| Indirects/Overheads (including benefits) | $ 962,158 | $ - | $ - | $ 962,158 |
| Capitalized interest or AFUDC, if any | $ 24,371 | $ - | $ - | $ 24,371 |
| **Total** | $ 986,529 | $ - | $ - | $ 986,529 |

| | | | | |
|---|---|---|---|---|
| **Total Capital Costs** | $ 2,703,077 | $ - | $ - | $ 2,703,077 |
| Less Total Customer Contribution | $ - | $ - | $ - | $ - |
| **Total Capital Project Costs** | $ 2,703,077 | $ - | $ - | $ 2,703,077 |
| **Total O&M Project Costs** | $ 79,879 | $ - | $ - | $ 79,879 |
| **Total Project Cost** | **$ 2,782,955** | **$ -** | **$ -** | **$ 2,782,955** |

* to be completed if supplemental authorization is required

**Technical Justification:**

**Project Need Statement**

[redacted]

[redacted]

[redacted]

[redacted]

**Project Objectives**

[redacted]

**Project Scope**

The preferred option consists of segments 1 through 7.

**Segment 1**

- [redacted] with an estimated cost of $346,592.

**Segment 2**

- [redacted] with an estimated cost of $215,932.

**Segment 3**

- [redacted] with an estimated cost of $529,517

**Segment 4**

- [redacted] with an estimated cost of $215,400.

**Segment 5**

- [redacted] with an estimated cost of $385,181.

**Segment 6**

- [redacted] with an estimated cost of $39,951

**Segment 7**

- [redacted] with an estimated cost of $197,431

**Background / Justification**

[redacted]

**Business Process and / or Technical Improvements**:

[redacted]

**Alternatives Considered with Cost Estimates**

[redacted]

[redacted]

**Project Schedule**

| Milestone/Phase Name | Estimated Completion Date |
|---|---|
| Preliminary Engineering | 08/2019 |
| Detail Design | 12/2019 |
| Full Funding | 03/2020 |
| Construction | 12/2020 |

**Regulatory Approvals**

None

**Risks and Risk Mitigation Plans**

| Risk Event | Risk Horizon | Likelihood of Occurrence | Risk Mitigation |
|---|---|---|---|
| Actual cost higher than estimated due to scope changes. | 2020 | High | Included contingency costs in the funding request. Perform detailed Field Analysis and walk down in project development to avoid potential issues. |
| Customer Permission / Siting Council / Municipal approvals | 2019 | Low | Design to minimize customer impact. Project Preplanning and customer/community outreach |
| Internal construction resources not available to perform the work. | 2020 | Medium | Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost. |
| Internal engineering resources not available to perform the work. | 2019 | Low | Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost. |
| Storm delays | 2020 | Low | If storm activity delays work, we may be forced to use external resources. |
| System abnormal configuration | 2020 | Low | Schedule work to minimize system abnormal time. Install temporary bypasses/equipment if system will be abnormal for extended periods |

**References**
N/A

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

CD01350 ONELINE.pdf
CD01350 Visio Map Final.pdf
CD01350 LoadSheet.pdf
CD01350_project_needs_statement.pdf

**Full Funding Attachments (One-Line Diagrams, Images, etc.)**

Full Funding CD01350[redacted]-14L6
CD01350_ Full Funding project_ne
[redacted] UG work sketch.pdf
101263439 - [redacted] OH work sketch.pdf
101261383 - Over All Design.pdf
101259874 - Reconductor 556TW
101255353 - Reconductor 556TW
101256055 - TR location shift [redacted]
101263164 - [redacted] G work sketch.pdf
101263271 - [redacted] UG work sketch.pdf