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# Operations Project Authorization Form

| | |
|---|---|
| **Project Title:** [redacted] **Contingency Overload** | **Project Number: CD01372** |
| **Date Prepared**: 12/06/2022 | **Company:** Eversource CT |
| **Organization:** Distribution Engineering | **Class(es) of Plant:** D Line |
| **Project Initiator:** [redacted] | **Project Category:** OVERLOADS-SPECIFIC PROJECTS |
| **Project Manager:** [redacted] | **Project Type:** Specific |
| **Project Sponsor:** [redacted] | **Capital Investment part of original Operating Plan:** No |
| **Estimated in service date:** 12/31/2022 | **Emergency Related Request?** No |
| **Eng./Constr. Resources Budgeted?** No | **Facility Type** (check all that apply)**:** ☐ PTF ☐ non-PTF ☒ Distribution |
| **Total Gross Capital Request: $1,260.16k** | **Authorization Type:** Full Funding |

## Executive Summary

Full funding authorization of $1,260.16k is being requested for this project. This represents an increase of $629.61k or 200% of the approved preliminary funding of $630.55k.

The variance was mainly due to underestimated cost assignments for material and removals when presented for preliminary approval. The approved project cost did not account for ~3 miles of removals, 13 pole replacements, 4 additional disconnect switches and UG cable costing additional $347,5k over the preliminary estimated cost of $50.2k. These variances resulted in loaders (Indirects /Overheads & AFUDC) being increased by an additional $253.1k i.e., $481K or 38% of the total cost of the project.

The original project was presented as follows:

[redacted]

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[redacted]

## Project Costs Summary

*Note: Dollar values are in thousands*

| Capital Costs | Year 2022 | Year 2023 | Year 2024+ | Total |
|---|---|---|---|---|
| **Direct Capital Costs** | | | | |
| Internal Labor and Construction Equipment | $17.75 | $0 | $0 | $17.75 |
| Outside Services | $362.81 | $0 | $0 | $362.81 |
| Materials | $224.67 | $0 | $0 | $224.67 |
| Removals | $173.04 | $0 | $0 | $173.04 |
| Risk and Contingency | $0.00 | $0 | $0 | $0.00 |
| Other | $0.43 | $0 | $0 | $0.43 |
| Subtotal – Direct Costs | **$778.70** | **$0** | **$0** | **$778.70** |
| **Indirect Capital Costs** | | | | |
| Indirect/Overheads (including benefits) | $452.45 | $0 | $0 | $452.45 |
| Capitalized interest or AFUDC, if any | $29.01 | $0 | $0 | $29.01 |
| Subtotal – Indirect Costs | $481.46 | $0 | $0 | $481.46 |
| **Total Gross Capital Costs** | **$1,260.16** | **$0** | **$0** | **$1,260.16** |
| Customer Contribution | | | | |
| **Total Net Capital Project Costs** | **$1,260.16** | **$0** | **$0** | **$1,260.16** |

## Technical Justification:

### Project Need Statement

This project has been established to address the following issues:

[redacted]

**Project Scope:**

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[redacted]

**Major Material:**

- Two Cooper Nova Form-6 recloser for 13.2/13.8kV both with sectionalizing recloser settings
- Reconductoring 1000' of 336.4 AL with SC 556.5 AL SC.
- 4 sets of 900A GOAB switches.
- Replacing 1,450' of UG 1000AL with 1000CU.

**Background:**

- The [redacted]

[redacted]

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[redacted]



The following is the [redacted]:

[redacted]

- [redacted].

[redacted]

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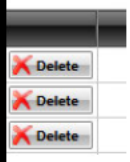
[redacted]




The following is the [redacted] zone:

[redacted]

- [redacted]
- [redacted]

[redacted]

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

With the completion of this project:

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[redacted]

## Alternatives Considered:

*Were alternative solutions considered/applicable? Include any cost/benefit analysis.*

Alternatives were considered (please describe below)

**Project Option Comparison**

| Design Criteria | Option's | |
|---|---|---|
| | 1 Resolving 14H4, 12Y9 & 28M11 circuit overload | 2 Resolving 14H4 and 12Y9 circuit overload |
| Normal loads < 80% of UG rating | X | X |
| Normal loads < 90% of OH rating | X | |
| Contingent loads < 100% of rating | X | |
| Additional ties created | X | X |
| Eliminates PILC | N/A | N/A |
| Reconfigure double circuit pole lines where both the normal and alternate supply the same group of customers | X | X |
| No automatic circuit ties with circuits emanating from the same bus | X | X |
| Cost | $640k | $560k |
| Cost / CM Saved | $3.01 | $2.74 |
| Cost / CI Saved | $3,005.45 | $3,649.96 |
| Preferred option | X | |

## Regulatory Approvals:

*Are Regulatory body approvals needed for the project?*

No

If yes, provide detailed regulatory approvals

## Project Schedule

| Milestone/Phase Name | Estimated Date |
|---|---|
| Preliminary Approval | August 2020 |

| Milestone/Phase Name | Estimated Date |
|---|---|
| Detailed Design | July 2021 |
| Settings Requested | September 2021 |
| Construction Start Date | March 2022 |
| Construction End Date | May 2022 |

## Risks and Risk Mitigation Plans

| Risk Event | Risk Horizon | Likelihood of Occurrence | Risk Mitigation |
|---|---|---|---|
| Actual cost higher than estimated due to scope changes. | 2021 | Medium | 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 | 2021 | Low | Design to minimize customer impact. Project Preplanning and customer/community outreach |
| Internal construction resources not available to perform the work. | 2021 | High | 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. | 2021 | Medium | Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost. |
| Storm delays | 2021 | Low | If storm activity delays work, we may be forced to use external resources. |
| System abnormal configuration | 2021 | Low | Schedule work to minimize system abnormal time. Most of this work will require system to be abnormal for any extended period of time. |

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## References

CD01372 [redacted]
[redacted] ove

## Appendices (One-Line Diagrams, Images, etc.)

1. **Project Maps**

CD01372 Map.pdf  CD01372[redacted] UG.pdf  CD01372[redacted] UG.pdf

2. **Project One-Lines**

CD01372 One-line.pdf

3. **Project Load Summary**

CD01372 Load Sheet.pdf

4. **Cost Estimate Backup Details**

CD01372_project_needs_statement.pdf

5. **Material Charges – Project Completion**

CD01372 - Material Charges.xlsx

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Connecticut Light & Power
A Northeast Utilities Company

# Specific Project Proposal - Project #: CD01372
[redacted]verload

## Project Option Summary

| ID | Description | Segments | Preliminary Estimate | Construction Estimate | Variance | IEEE $/CMS | All (w/Storm) | Prfrd |
|---|---|---|---|---|---|---|---|---|
| O1 | [redacted] | 1,2,3 | $640,113 | $0 | 100% | $17.39 | $3.01 | ☐ |
| O2 | [redacted] | 1,3,4 | $560,241 | $0 | 100% | $18.66 | $2.74 | ☐ |

## Segments

| ID | Title | Preliminary Estimate | Construction Estimate | Variance | IEEE $/CMS | All (w/Storm) |
|---|---|---|---|---|---|---|
| 1 | [redacted]circuit swapped with [redacted] on Route | $355,308 | | | $19.62 | $1.37 |
| 2 | [redacted]Overload Resolve w/UG replacem | $194,157 | | | $43.09 | $30.50 |
| 3 | [redacted] N-1 Overload Resolve | $90,649 | | | $6.40 | $6.40 |
| 4 | [redacted]oad resolve | $114,285 | | | $0.00 | $67.82 |