Operations Project Authorization Form

Date Prepared: 10/14/2021	**Project Title:** [redacted]
Company/ies: Eversource CT	**Project ID Number**: CD01225
Organization: Distribution Electric	**Class(es) of Plant:** Distribution
Project Initiator: [redacted]	**Project Category:** Line
Project Manager: [redacted]	**Project Type: Islanded Substation**
Project Sponsor: [redacted]	**Project Purpose: Reliability**
Estimated in service date: 12/31/2023	**If Transmission Project: PTF?** N/A
Eng. /Constr. Resources Budgeted? No	**Capital Investment Part of Original Operating Plan?**
Authorization Type: Full Funding	**O&M Expenses Part of the Original Operating Plan?**
Total Request: $5,439,199	

Financial Requirements:

Project Authorization

ERM: _____

FP&A: _____

Executive Summary

[redacted]

[redacted]

[redacted]

Project Costs Summary

Note: Dollar values are in thousands

	Prior Authorized	2021	2022	2023	Totals
Capital Additions - Direct	$0	$0	$0	$2,960,011	$2,960,011
Less Customer Contribution	$0	$0	$0	$0	$0
Removals net of Salvage ____%	$0	$0	$0	$399,649	$399,649
Total - Direct Spending	$0	$0	$0	$3,359,660	$3,359,660
Capital Additions - Indirect	$0	$0	$0	$1,735,444	$1,735,444
Subtotal Request	$0	$0	$0	$5,095,105	$5,095,105
AFUDC	$0	$0	$0	$78,432	$78,432
Total Capital Request	$0	$0	$0	$5,173,537	$5,173,537
O&M	$0	$0	$0	$265,662	$265,662
Total Request	$0	$0	$0	$5,439,199	$5,439,199

Financial Evaluation

Note: Dollar values are in thousands

Direct Capital Costs	2021	2022	2023	Total
Straight Time Labor	$0	$0	$378,979	$378,979
Overtime Labor	$0	$0	$69,297	$69,297
Outside Services	$0	$0	$2,370,029	$2,370,029
Materials	$0	$0	$514,517	$514,517
Other, including contingency amounts (describe)	$0	$0	$26,839	$26,839
Total Direct Costs	**$0**	**$0**	**$3,359,660**	**$3,359,660**

Indirect Capital Costs	2021	2022	2023	Total
Indirect/Overheads (including benefits)	$0	$0	$1,735,444	$1,735,444
Capitalized interest or AFUDC, if any	$0	$0	$74,545	$74,545
Total Indirect Costs	**$0**	**$0**	**$1,809,989**	**$1,809,989**
Total Capital Costs	**$0**	**$0**	**$5,169,650**	**$5,169,650**
Less Total Customer Contribution	**$0**	**$0**	**$0**	**$0**
Total Capital Project Costs	**$0**	**$0**	**$5,169,650**	**$5,169,650**
Total O&M Project Costs	**$0**	**$0**	**$269,549**	**$269,549**
Total Project Cost	**$ -**	**$ -**	**$5,439,199**	**$5,439,199**

Note: Explain unique payment provisions, if applicable

Future Financial Impacts:

Technical Justification:

Project Need Statement

- This project has been established to address the following issues:
  - [redacted]
    - [redacted]
    - [redacted]
    - [redacted]
    - [redacted]
  - [redacted]
    - [redacted]
  - [redacted]
    - [redacted]
    - [redacted]
    - [redacted]
    - [redacted]
      - [redacted]
      - [redacted]

Project Objectives

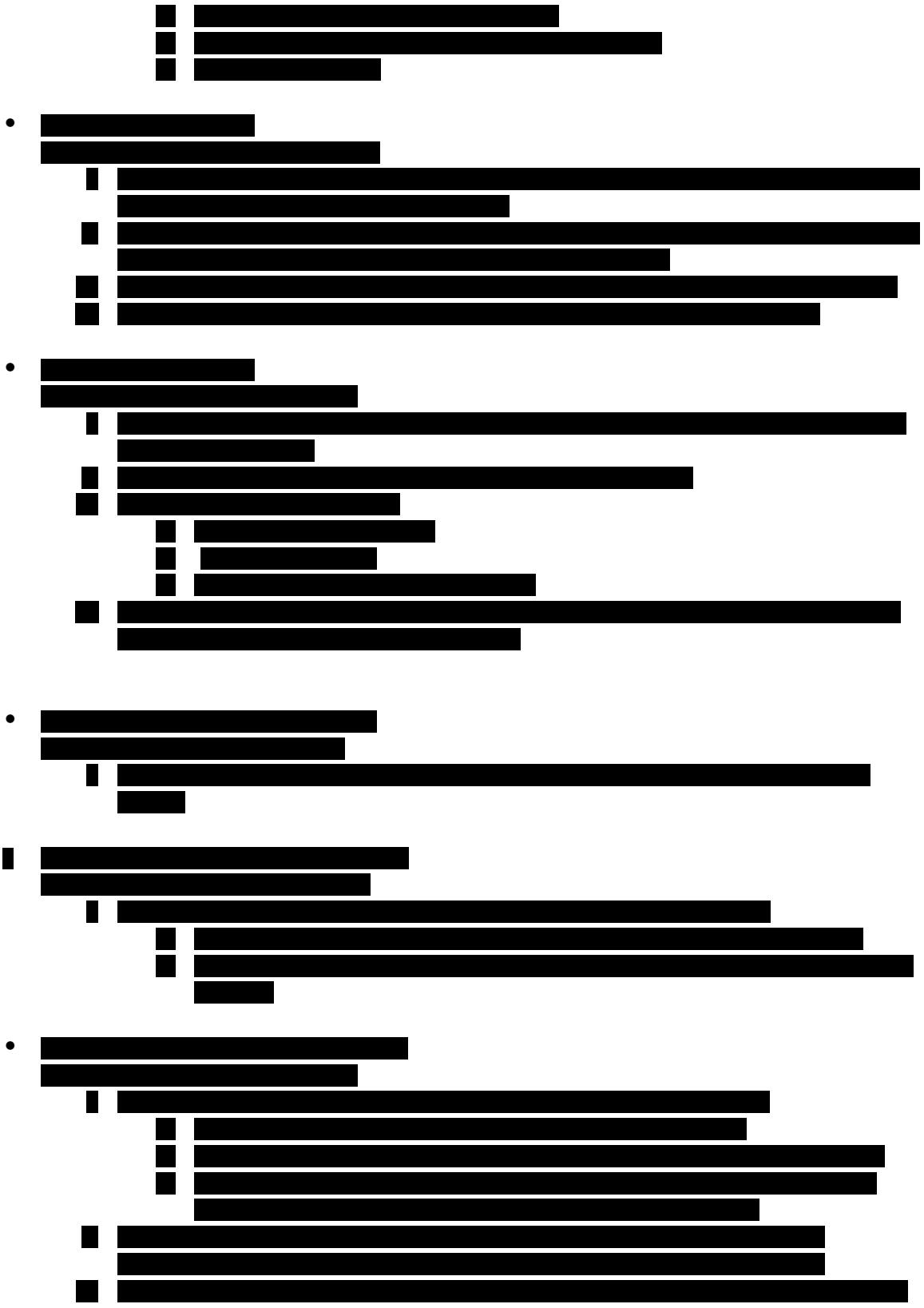
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

Project Scope

The scope of this project is as follows:

1. [redacted]

3. 333kVA on Parkman St.



- [redacted]
  - [redacted]
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2. [redacted]
   - [redacted]
     - [redacted]
     - [redacted]
     - [redacted]
     - [redacted]
     - [redacted]
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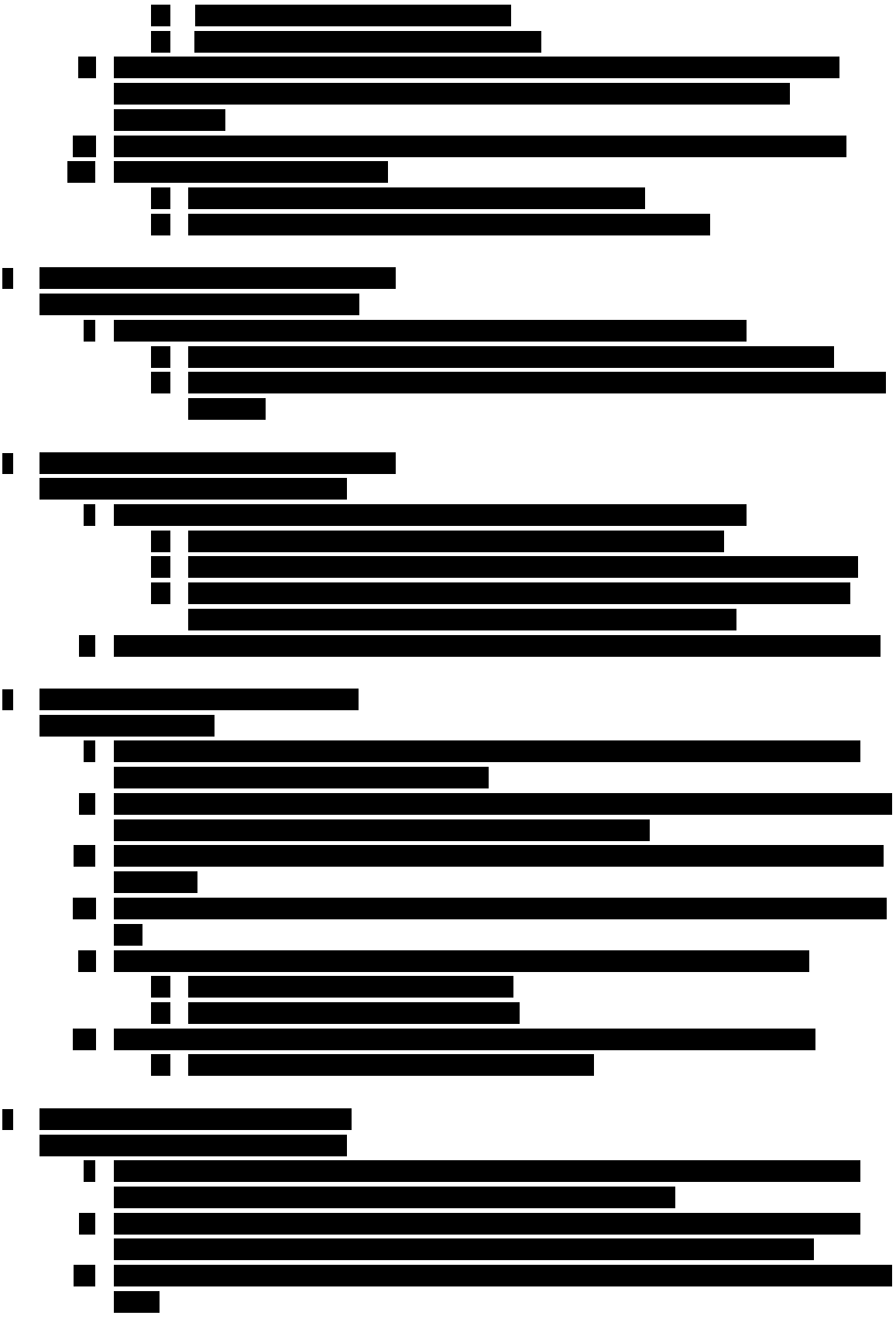

[redacted]

[redacted]

kV to 13.8kV
Route 63.
n Route 63 &

to 4.8kV:



[redacted]

[redacted]

- [redacted]

Major Material:

- 2,900’ of UG 1000CU
- 53 – Single Phase 13.8kV transformers 25kVA
- 80 – Single Phase 13.8kV transformers 50kVA
- 17 – Single Phase 13.8kV transformers 75kVA
- 09 – Three Phase 13.8kV transformers 3-25kVA
- 01 – Three Phase 13.8kV transformers 3-50kVA
- 01 – Three Phase 13.8kV transformers 3-75kVA
- 05 – Single Phase Step-Down transformers from 13.8kV to 4.8kV 333kVA
- 01 – Single Phase Step-Down transformers from 13.8kV to 4.8kV 500kVA
- 01 – Three Phase Step-Down transformers from 13.8kV to 4.8kV 3-167kVA
- 05 – Three Phase Step-Down transformers from 13.8kV to 4.8kV 3-333kVA
- 09 – GOAB Switches
- 01 – 3-333kVA Regulators on Rack
- 22 – Cooper Nova Form-6 Reclosers
- 1,650’ of 1/0 ACSR 175 MIL Covered Wire
- 1,850’ of 556.5 AAC 175 MIL Covered Wire
- 900’ of 556.5 AAC 270 MIL 25/30 kV Spacer cable
- 500’ of line extension with 556.6 AAC 175 MIL Covered Wire.
- 2,500’ of 750AL Aerial cable

Background / Justification

[redacted]

[redacted]

[redacted]

[redacted]

- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]

The Smart Switch Program is a continuation of an initiative that was approved as part of the System Resiliency PURA Docket 12-07-06RE01 which is a multiyear program to improve circuit reliability by adding automatic sectionalizing devices on overhead distribution circuits. The Smart Switch Program focuses on breaking up customer zones and lowering the average number of customers impacted by a backbone interruption.

The 2018 Smart Switch Ranking Program was created to identify backbone zones that would impact over 500 customers. These zones were then ranked based on the number of customers **impacted** over the past three years as follows:
2018 outages X 100% + 2017 outages X 66% + 2016 outages X 33%.

Projects must be created to reduce the number of customers impacted in that zone to 500 or less.

When creating projects for the highest ranked zones, also reduce the number of customers impacted to 500 or less for any other backbone zone on the same circuit if it is ranked in the top 100 devices.

The following is the outage history for 24H6-60R customer zone (January 2017 to March 2021)

[redacted]

Business Process and / or Technical Improvements:

Projects within the Smart Switch Program will increase the number of SCADA controlled devices on the system. This upgrade allows for better system visibility, faster restoration, outage isolation and reconfiguration of the system during planned and unplanned switching events. Customer zones are reduced to under 500, where possible (ref. DSEM 02.301).

[redacted]

Alternatives Considered with Cost Estimates

X : Available - : not available

[redacted]

Project Schedule

Milestone/Phase Name	Estimated Completion Date
Preliminary Approval	10/2021
Detailed Design	10/31/2022
Settings Requested	01/01/2023
Construction Start Date	03/20223
Construction End Date	07/2023

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.	2023	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	2023	Low	Design to minimize customer impact. Project Preplanning and customer/community outreach
Internal construction resources not available to perform the work.	2023	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.	2023	Medium	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.

Storm delays	2023	Low	If storm activity delays work, we may be forced to use external resources.
System abnormal configuration	2023	Low	Schedule work to minimize system abnormal time. Most of this work will require system to be abnormal for any extended period of time.

References

DSEM 02.301 – Automatic Sectionalizing Device Guidelines

DSEM02-301.pdf

DSEM 05.301 - Contingency Planning

DSEM05-301.pdf

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

1. **Project Maps**

CD01225 UG Map.pdf
CD01225 Conversion Map Op
CD01225 Existing Map.pdf
CD01225 Option#2 Map.pdf
CD01225 Conversion Map Op

2. **Project One-Lines**

CD01225 One_line.pdf

3. **Project Load Summary**

CD01225 Load Sheet.pdf
CD01225 Conversion Load sh
CD01225 Conversion Load sh

4. **Cost Estimate Backup Details**

CD01225_project_needs_statement.pdf