Operations Project Authorization Form

Date Prepared: July 29, 2019	**Project Title: [redacted] TDRP 2019 Analysis**
Company/ies: CT	**Project ID Number: CD01343**
Organization: Distribution	**Class(es) of Plant: Overhead**
Project Initiator: [redacted]	**Project Category: TDRP**
Project Manager: [redacted]	**Project Type: Specific**
Project Sponsor: [redacted]	**Project Purpose: Reliability Improvement**
Estimated in service date: 12/31/2021	**If Transmission Project: PTF? N/A**
Eng. /Constr. Resources Budgeted? No	**Capital Investment Part of Original Operating Plan? N**
Authorization Type: Initial Funding	**O&M Expenses Part of the Original Operating Plan? N**
Total Request: $1,912,849	

Financial Requirements:

Project Authorization

ERM: _____

FP&A: _____

Executive Summary

The [redacted] has made the 2017 & 2018 TDRP lists. [redacted] This project, therefore, has been established to address these issues for reliability improvement to the [redacted] The general scope of this project is as follows:

[redacted]

Project Costs Summary

Note: Dollar values are in thousands

	Prior Authorized	2019	2020	2021	Totals
Capital Additions - Direct	$0	$0	$0	$815	$815
Less Customer Contribution	$0	$0	$0	$0	$0
Removals net of Salvage ___%	$0	$0	$0	$247	$247
Total - Direct Spending	$0	$0	$0	$1,062	$1,062
Capital Additions - Indirect	$0	$0	$0	$742	$742
Subtotal Request	$0	$0	$0	$1,804	$1,804
AFUDC	$0	$0	$0	$17	$17
Total Capital Request	$0	$0	$0	$1,821	$1,821
O&M	$0	$0	$0	$92	$92
Total Request	**$0**	**$0**	**$0**	**$1,913**	**$1,913**

Financial Evaluation

Note: Dollar values are in thousands

Direct Capital Costs	Year 1	Year 2	Year 3+	Total
Straight Time Labor	$0	$0	$133	$133
Overtime Labor	$0	$0	$30	$30
Outside Services	$0	$0	$644	$644
Materials	$0	$0	$249	$249
Other, including contingency amounts (describe)	$0	$0	$7	$7
Total	**$0**	**$0**	**$1,062**	**$1,062**

Indirect Capital Costs	Year 1	Year 2	Year 3+	Total
Indirects/Overheads (including benefits)	$0	$0	$742	$742
Capitalized interest or AFUDC, if any	$0	$0	$16	$16
Total	**$0**	**$0**	**$758**	**$758**

Total Capital Costs	**$0**	**$0**	**$1,820**	**$1,820**
Less Total Customer Contribution	**$0**	**$0**	**$0**	**$0**
Total Capital Project Costs	**$0**	**$0**	**$1,820**	**$1,820**
Total O&M Project Costs	**$0**	**$0**	**$93**	**$93**

Future Financial Impacts:

Provide below the estimated future costs that will result from the project:
Note: Dollar values are in thousands:

Future Costs	Year 20__	Year 20__	Year20__	Year 20__+	Total Future Project Costs
Capital	$ -	$ -	$ -	$ -	$ -
O&M	-	-	-	-	-
Other	-	-	-	-	-
TOTAL	$ -	$ -	$ -	$ -	$ -

Describe the estimated future Capital, O&M and/or Other costs noted above:

What functional area(s) will these future costs be funded in?_____
A representative from the respective functional area is required to be included as a project approver.

If this is other than a Reliability Project, please complete the section below;

Provide below the estimated financial benefits that will result from the project:
Note: Dollar values are in thousands:

Future Benefits	Year 20__	Year 20__	Year20__	Year 20__+	Total Future Project Benefits
Capital	$ -	$ -	$ -	$ -	$ -
O&M	-	-	-	-	-
Other	-	-	-	-	-
TOTAL	$ -	$ -	$ -	$ -	$ -

Describe the estimated future Capital, O&M and/or Other benefits noted above:

What functional area(s) will these benefits be reflected in?_____
A representative from the respective functional area is required to be included as a project approver.

Asset Retirement Obligation (ARO) and/ or Environmental Cleanup Costs (Environmental Liabilities):

Is there an ARO associated with this project? If yes, please provide details:

Are there other environmental cleanup costs associated with this project? If yes, please provide details:

Technical Justification:

Project Need Statement

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

- Identify reliability issues where the isolating device, backbone or lateral, impacted more than 500 customers over four years (ref DSEM 02.301)
- Identify zones where customers impacted can be reduced automatically.
- Identify zones where bare primary conductor has contributed to poor reliability performance.
- Identify opportunities to create new circuit tie for improved operating flexibility.
- Address poor performing bare wire segments that have experienced multiple outages exceeding the criteria for multiple outages.

Project Objectives

The purpose of this project is to determine a solution to correct the root cause of the outages, reduce the size of the backbone zone to 500 customers or less if applicable and create new automatic tie for reliability improvement.

Project Scope

The scope of this project is as follows:

[redacted]

[redacted]

Background / Justification

The [redacted]

The table below shows the outages on the [redacted] *for the years 2015 through 2018, plus 2019 year to date.*

[redacted]							
Total	**56**	**117**	**198**	**486**	**202**	**1059**	**100%**

Business Process and / or Technical Improvements:

Transmission-Distribution Reliability Performance (TDRP) projects address reliability issues associated with the top Worst 100 circuits in Connecticut. In doing so, Eversource-CT maintains compliance with Docket 86-12-03. Eversource-CT is required to report the status of actions taken to improve performance for each circuit topping the "Worst 100" list. Updates are required each year for the four years following a circuit's appearance on the list.

Alternatives Considered with Cost Estimates

[redacted] Therefore, this scope addition was determined not to be justified at this time.

[redacted]

accomplish this reconductoring has been estimated to be $2.5 Million. Therefore, this additional cost was determined not to be justified at this time.

Project Schedule

Milestone/Phase Name	Estimated Completion Date
Initial Funding Approval	July 2019
Detail Design Engineering & Full Funding Approval	June 2020
Construction Complete	December 2021

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.	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	2020	Low	Design to minimize customer impact. Project Preplanning and customer/community outreach
Internal construction resources not available to perform the work.	2021	Low	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.	2020	Medium	Plan internal resources to perform the work. Use competitive bidding to ensure lowest outside labor cost.
Materials Shortage or long lead times	2020	Low	Pre-order long lead time material; minimize the use of non-standard and non-stocked material.
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. Install temporary bypasses/equipment if system will be abnormal for extended periods

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**

   CD01343 Project Maps 07-17-2019.pd

2. **Project One-Lines**

   CD01343 Project One-Lines Revised 7

3. **Project Load Summary**

   CD01343 Project Load Summary 07-2

Cost Estimate Backup Details

Budget Summary - Preferred Option — Option 1 - Preferred Option

ID	Title	Status	Rev #	Contingency	Expenditure Amount	Net Estimate
2021						
11	[redacted]Bethany_Reconductoring	Prelim	0	28%	$601,553	$601,553
10	[redacted]F_Bethany_Reconductoring	Prelim	0	28%	$141,670	$141,670
3	[redacted]Bethany_630 Cust	Prelim	0	28%	$90,427	$90,427
2	[redacted]Bethany_664 Cust	Prelim	0	28%	$985,495	$985,495
1	[redacted]Bethany_655 Cust	Prelim	0	28%	$93,704	$93,704
				2021 Total:	**$1,912,849**	**$1,912,849**
				Total Project:	**$1,912,849**	**$1,912,849**

Project Option Summary

ID	Description	Segments	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)	Prfrd
O1	Option 1 - Preferred Option	1,2,3,10,11	$1,912,849	$0	100%	$49.95	$3.44	☑
O2	Option 2 - Includes using [redacted]	1,2,4,10,11	$3,871,273	$0	100%	$82.85	$4.57	☐
O3	Option 3 - Includes recond 336 S/C with 556 S/C	1,2,3,10,11, 12	$4,585,495	$0	100%	$375.49	$25.84	☐

Segments

ID	Title	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)
1	[redacted]S_Bethany_655 Cust	$93,704			$20.75	$0.53
2	[redacted]R_Bethany_664 Cust	$985,495			$68.50	$3.14
3	[redacted]S_Bethany_630 Cust	$90,427			$7.81	$0.53
4	[redacted]N86 Create New Tie	$2,048,851			$102.39	$4.71
5	[redacted]807_Bethany_Reconductori	$794,245			$0.00	$0.00
6	[redacted]any_Reconductoring	$275,354			$0.00	$0.00
7	[redacted]any_Reconductoring	$787,005			$0.00	$0.00
8	[redacted]thany_Reconductoring	$511,939			$0.00	$0.00
9	[redacted]ethany_Reconductoring	$550,707			$0.00	$0.00
10	[redacted]ethany_Reconductoring	$141,670			$18.10	$2.77
11	[redacted]any_Reconductoring	$601,553			$91.98	$6.96
12	[redacted]Reconductoring	$2,672,645			$0.00	$0.00



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Project Checklist – Transmission and Substation

INSTRUCTIONS:
It is the responsibility of the initiator to contact the area disciplines to determine if the project considerations contained in this list are applicable to their project. They should fill out the checklist and determine a transition plan for the purpose of project execution.

Checklist for Studies and Processes of a Transmission & Substation Capital Project						
Project Name :					**PAF No:**	
Facility Type: ☐ BPS	☐ BES	☐ PTF	☐ non-PTF	☐ CIP	☐ Distribution	
PLANNING						
Is a NX-9 required?					Choose an item	
Is an ISO-NE PAC presentation required?					Choose an item	
Is a PPA required?					Choose an item	
Is a TCA Application Required?					Choose an item	
PLANNING/PROTECTION & CONTROLS						
Are RAS/SPS/UVLs affected?					Choose an item	
OPERATIONS						
Outage Required?	☐ Primary Equipment (Power Transfer)	☐ Secondary Equipment (P&C only)	☐ Outage Not Required			
Do SCLL Conditions Exist?					Choose an item	
Has an outage schedule been approved?					Choose an item	
Are Operations & Maintenance procedures/training required?					Choose an item	
STANDARDS						
Does the project include standard equipment and designs?					Choose an item	
SUBSTATION ENGINEERING						
Does this impact Revenue Metering					Choose an item	
Is preliminary short circuit/ breaker duty analysis required?					Choose an item	
Are there any changes to the baseline audible noise?					Choose an item	
Is there an impact to the existing ground grid?					Choose an item	
Is a Transient Over Voltage (TOV) analysis required?					Choose an item	
P&C ENGINEERING						
OP-22 - Are PMUs and DDR required?					Choose an item	
If BPS, is an NPCC Directory #4 presentation required?					Choose an item	

Checklist for Studies and Processes of a Transmission & Substation Capital Project	
Project Name :	**PAF No:**
TRANSMISSION LINE ENGINEERING	
Are there any changes that affect the baseline EMF?	Choose an item
Are there any changes that affect the baseline EMI?	Choose an item
Is there an impact to the existing ground grid?	Choose an item
SITING	
Is a Siting filing required?	Choose an item
PERMITTING	
Is there any permitting required?	Choose an item
Siting & Construction Services (Outreach)	
What is the level of outreach expected?	Choose an item
INITIATOR	
Has a field constructability review been completed?	Choose an item