Operations Project Authorization Form

Date Prepared: 7/10/2018	**Project Title: [redacted] Network Monitoring System**
Company/ies: CT	**Project ID Number: CS00241**
Organization: Distribution Design	**Class(es) of Plant: Distribution Substation**
Project Initiator: [redacted]	**Project Category: Reliability**
Project Manager: [redacted]	**Project Type: Specific**
Project Sponsor: [redacted]	**Project Purpose: Underground Network Automation**
Estimated in service date: 12/31/2019	**If Transmission Project: PTF? N/A**
Eng. /Constr. Resources Budgeted? No	**Capital Investment Part of Original Operating Plan? Yes**
Authorization Type: Full Funding	**O&M Expenses Part of the Original Operating Plan? No**
Total Request: $304,000	

Financial Requirements:

Project Authorization

ERM: _____

FP&A: _____

Executive Summary

This project is the s[redacted] This project in conjuncture with CD00829 and CD00947 will [redacted]

Overall, these projects are focused on enabling Eversource to [redacted].

This project involves the following work within the [redacted]

The project received initial funding of $31,000 on 11/17/2016.

Following detailed design, the total project request is $304,000; The revised cost figures are based on a better understanding of the project scope, and most current material price estimates.

Project Costs Summary

	Prior Authorized	Prior Years	2018	2019	Total
Capital Additions - Direct	$17	$0	$1	$167	$168
Less Customer Contribution	$0	$0	$0	$0	$0
Removals Net of Salvage 2%	$0	$0	$0	$3	$3
Total - Direct Spending	$17	$0	$1	$170	$171
Capital Additions - Indirect	$13	$0	$3	$126	$129
Subtotal Request	$31	$0	$4	$296	$300
AFUDC	$0	$0	$0	$5	$5
Total Capital Request	$31	$0	$4	$300	$304
O&M					
Total Request	$31	$0	$4	$300	$304

Financial Evaluation

Direct Capital Costs	Prior Years	2018	2019	Total
Straight Time Labor	$0	$1	$73	$74
Overtime Labor	$0	$0	$0	$0
Outside Services	$0	$0	$45	$45
Materials	$0	$0	$52	$52
Other, including contingency amounts	$0	$0	$0	$0
Total	$0	$1	$170	$171

Indirect Capital Costs	Prior Years	2018	2019	Total
Indirects/Overheads (including benefits)	$0	$3	$126	$129
Capitalized interest or AFUDC, if any	$0	$0	$5	$5
Total	$0	$3	$130	$133

Total Capital Costs	$0	$4	$300	$304
Less Total Customer Contribution	$0	$0	$0	$0
Total Capital Project Costs	$0	$4	$300	$304
Total O&M Project Costs	$0	$0	$0	$0

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?_____N/A_____
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?_____N/A_____
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: No

Are there other environmental cleanup costs associated with this project? If yes, please provide details: No

Technical Justification:

Project Need Statement

[redacted]

Project Objectives

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

Project Scope

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

NCS Feeder Coil Sensor, Model TBD

[redacted]

[redacted]

Digital Grid Services:

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

[redacted]

Technical Support - Following the first year of operation the Engineering Support / Maintenance Services described in Section 2.3.4 will be provided on an annual basis.

Background / Justification

[redacted]

Business Process and / or Technical Improvements:

[redacted]

[redacted]

Alternatives Considered with Cost Estimates

[redacted]

[redacted] cost approximately $212k less than the [redacted], as illustrated by the table shown below.

Cost of Alternative Fiber Optic option:

Switching	21,972
3 phase riser + trenching	55,000
traffic	4,000
protector relays	68,000
protector relay wiring	7,500
relay cabinet	50,000
Fiber Contractor	125,000
2C/#18 w/ inner duct 5200'	52,000
total	**383,472**

Difference in Cost (Direct) between DigitalGrid option vs Alternative Fiber Optic option:-

	labor	materials	total
DigitalGrid option	119	52	171
Alternative option	213	170	383
Delta	-94	-118	-212

Project Schedule

Milestone/Phase Name	Estimated Completion Date
Relay Replacement Start	Spring 2019
ISD	12/31/2019

Regulatory Approvals

N/A

Risks and Risk Mitigation Plans

[redacted]

References

[redacted] Project Scope Cost EST 2-041

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

Attachment #1:

[redacted]

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 : [redacted] – Network Monitoring System			**PAF No:CS00241**
Facility Type: ☐ BPS ☐ BES ☐ PTF ☐ non-PTF ☐ CIP ☒ Distribution			
PLANNING			
Is a NX-9 required?			**No**
Is an ISO-NE PAC presentation required?			**No**
Is a PPA required?			**No**
Is a TCA Application Required?			**No**
PLANNING/PROTECTION & CONTROLS			
Are RAS/SPS/UVLs affected?			**No**
OPERATIONS			
Outage Required?	**☒ Primary Equipment (Power Transfer)**	**☐ Secondary Equipment (P&C only)**	**☐ Outage Not Required**
Do SCLL Conditions Exist?			**No**
Has an outage schedule been approved?			**No**
Are Operations & Maintenance procedures/training required?			**Yes**

STANDARDS	
Does the project include standard equipment and designs?	**Yes**
SUBSTATION ENGINEERING	
Does this impact Revenue Metering	**No**
Is preliminary short circuit/ breaker duty analysis required?	**No**
Are there any changes to the baseline audible noise?	**No**
Is there an impact to the existing ground grid?	**No**
Is a Transient Over Voltage (TOV) analysis required?	**No**
P&C ENGINEERING	
OP-22 - Are PMUs and DDR required?	**No**
If BPS, is an NPCC Directory #4 presentation required?	**No**

Checklist for Studies and Processes of a Transmission & Substation Capital Project	
Project Name: [redacted] – Network Monitoring System	PAF No:CS00241

TRANSMISSION LINE ENGINEERING	
Are there any changes that affect the baseline EMF?	No
Are there any changes that affect the baseline EMI?	No
Is there an impact to the existing ground grid?	No
SITING	
Is a Siting application or petition required?	No
PERMITTING	
Is there any permitting required?	No
INITIATOR	
Has a field constructability review been completed?	Yes
INVESTMENT RECOVERY	
Does the project require development of an Investment Recovery plan?	No
COST ESTIMATING	
How was the cost estimate prepared?	Other (specify below)
Who prepared the estimate?	[redacted]
Was the estimate reviewed by Eversource Estimating?	No

Cost Estimate Backup Details