Technical Authorization Form

Date Prepared: 11/01/2016	Project Title: [redacted]-Network Monitoring System
Company/is: Eversource CT	Project ID Number: CS00242
Organization: Strategy & Performance	Class(es) of Plant: Substation
Project Initiator: [redacted]	Project Category: Underground Equipment and Cable
Project Owner/Manager: [redacted]	Project Type: Specific
Project Sponsor: [redacted]	Project Purpose: Underground Network Automation
Estimated in service date: 12/01/2017	If Transmission Project: NA
Authorization Type: Detailed Engineering	Authorization Amount: $34,727.

Project Need Statement

Eversource CT has begun [redacted]t, CD00550, has been previously approved. This project proposes that a [redacted].

Project Objectives

- [redacted]

Project Scope

[redacted]

Background / Justification

[redacted].

Business Process and / or Technical Improvements:

[redacted]

Cost Estimate and Assumptions

[redacted] is (see substation engineering estimate Attachment # 1).

$347,269 Substation

Alternatives Considered with Cost Estimates

[redacted]

Project Schedule

Describe the project schedule and milestones. Include estimated start and end dates.

Milestone/Phase Name	Estimated Completion Date
Substation work	Spring/Fall 2017

Milestone/Phase Name	Estimated Completion Date
ISD	12/01/2017

Regulatory Approvals

N/A

Risks and Risk Mitigation Plans

[redacted]

References

Digital Grid Project Scope Cost EST 2-041

Attachment #1
Substation Engineering Decision Making Estimate

Distribution Substation Engineering and Partial ACT Estimate

PEM [redacted] Date of Estimate: 8/1/2016
Project Title: [redacted] Network Monitoring System
Description: [redacted]

Operating Company:	CL&P	Project No.	TBD
Year of Construction:	2016	In Service Date:	12/31/2016

		NU Labor		Outsourced Labor	
Labor Estimates	Mandays	Daily Rate	Labor Total	Daily Rate	Labor Total
NUMSO - NUSCO Protection & Controls	2	$350	$699	$350	$699
NUMSO - NUSCO Drafting	12	$235	$2,820	$235	$2,820
NUMSO - NUSCO Electrical Design	15	$328	$4,917	$328	$4,917
NUMSO - NUSCO Project Engineering/Management	8	$470	$3,759	$470	$3,759
NUMSO - NUSCO Apparatus Specialist	0	$470	$0	$470	$0
NUMSO - NUSCO Civil Engineering	0	$470	$0	$470	$0
NUMSO - NUSCO Civil Design	0	$346	$0	$346	$0
NUMSO - NUSCO Permitting & Surveying	0	$267	$0	$267	$0
ADDS0 - General Construction	0	$454	$0	$720	$0
ADDS0 - Operating Company Manpower	40	$473	$18,928	$473	$18,928
ADDS0 - Test	20	$473	$9,464	$1,088	$21,760
ADDS0 - Electrical Construction	57	$473	$26,972	$720	$41,040
ADDS0 - Construction Rep	15			$400	$6,000
ADDS0 - Transformer Shop	0	$375	$0	$375	$0
Totals	169		$67,559		$99,923

Direct Charge Materials:	$52,000	Environmental Remediation:	$0
Stock Materials	$1,260		
Equipment & Vehicles:	$20,097		
Contract Work:	$0		
Taxes (4.6%):	$2,695		
AFUDC:	$13,918		

Contingencies		
Op. Co. Labor	10%	$5,536
Materials	10%	$5,326
Contractor	10%	$0

MIB Data		
Materials	ADDS0 AM	$53,260
Contract Work:		$0
Equip&Vehicles:	ADDS0	$20,097
CL&P Labor	ADDS0	$55,364
NUSCO Labor	NUMS0	$12,195
Removals	RMVS0	$3,786
Removals %		2%

Construction Rep & Operating Co. Manpower	
Equip& Veh	$7,478
Labor Loader	$20,166
Stores	$164
E&S	$8,737
AFUDC:	$19,925

Adder	
Engineering	
Contractor	$12,195
Contractor	$200
Per Diem	$15,400
Removals %	4%

Loaders						
	NUSCO Labor Loader	97.4%	$11,874	NUSCO Labor Loader	97.4%	$11,874
	CL&P Labor Loader	66.2%	$40,313	Labor Loader	60.0%	$37,680
	Stores	13.0%	$164	Stores	13.0%	$164
	E&S	17.2%	$21,548.57	E&S	17.2%	$22,278.96
	AS&E	1.67%	$3,587	AS&E	1.67%	$4,370

Total Project Capital Cost	**$245,878**	**$347,269**
Subtotal without AFUDC/AS&E	$228,373	$328,982

WORK SCOPE
Major Materials:
Network Monitoring Cabinet
Fourteen network sensor (for 3phase feeder pothead)

Misc:
No need for conduit work, existing control wire trench could be used between switchgear and control house