Date Prepared: 5/30/2017	Project Title: [redacted]
Company/Companies: EE-CT	Project ID Number: CS00098
Organization: Strategy & Performance	Plant Class/(F.P.Type): Distribution
Project Initiator: [redacted]	Project Type: Specific / *Annual / Prelim Project / Parent*
Project Owner/Manager: [redacted]	Capital Investment Part of Original Operating Plan? Y / N
Project Sponsor: [redacted]	O&M Expenses Part of the Original Operating Plan? Y / N
Current Authorized Amount: $8,868K	Estimated in service date(s): 12/31/2017
Supplement Request: $5,833K	Other: Project purpose: Security.
Total Request: $14,700K	

Project Authorization Supplement Justification

This request is for supplemental funding in the amount of **$5,833K** for the [redacted]

The initial authorized budget for this project is $8.868M. The scope of the project is based on recommendations from the [redacted]

[redacted]

Cochrane was chosen as the best evaluated bidder having the lowest cost in the commercial criteria. The second-best bidder was twice the amount of the Cochrane bid. The bids were developed with assumed [redacted]

Due to the aggressive schedule, this project was bid at 70% engineering for civil and electrical work. This project was competitively bid by project category (civil construction, electrical, security/access control and materials). The contractors with the most competitive bids were awarded the project. Details of the project cost increase changes are detailed below:

Capital Additions – Direct

The cost for construction services increased approximately **$6,521K**. The largest drivers of this cost are the results of a higher than estimated bid price from the completive bid process, onsite conditions, as well as the onsite cutting/fitting of under dig panels. In addition, other items that were outside of the original budget scope include: environmental services, export of unsuitable of backfill soils, purchasing of backfill soils, some contaminated soil disposal, removal of underground storage tank, exploratory digging, under dig panels, construction management services, outage planning, and landscaping costs. The following is a breakdown of the construction services cost increases:

- Lowest cost competitively bid construction contractor, Bond Brothers, came in with a bid that was $1,723K higher than the original estimate.
- Additional construction costs occurred on the project in the amount of $2,224 for the following reasons:
    - Site conditions costs of $833K which include: general site conditions, winter conditions, sewer protection, outage support, outage downtime, and restoration.
    - Labor to cut and install under dig panel system cost $500K.
    - Engineering design changes from 70% to 100% drawings and miscellaneous material procurement cost $424K.
    - Labor to cut and fit standard panels to fit non-standard sections cost $264K
    - Soil and rock removal cost $203K.
- Environmental services were not included in the original estimate and increased the forecast by $760K.
    - Approximately $650K of which was for the purchasing and handling of backfill soil as well as disposal of contaminated soils.
- [redacted] increase of $470K over original estimate.
- Construction representative services cost increase of approximately $300K.
- Exploratory digging cost of approximately $60K.
- Landscaping cost of $111K was not included in the original budget estimate.
- Miscellaneous smaller charges of $245K.

Costs for Eversource labor and expenses of **$132K** were not included in original budget estimate.

The cost of rents and leases of **$3.6K** was not included in the original budget estimate.

The material budget shows a savings of **($523K)**. This is a result of Cochrane being a lower cost bidder; however, it is important to note that the majority of these savings resulted in an increase cost to the construction budget.

The original contingency amount of **($965K)** is allocated to the outside services.

The total sum for all Direct Capital Additions including Eversource labor is $**5,167K**.

Capital Additions - Indirect and AFUDC

The Capital Indirect increased by **$652K** and AFUDC increased by **$13K**.

The total value of the supplemental request is **$5,833K**, which is the value of the increased funding authorization that the project seeks in the Supplemental Authorization Request. This supplemental approval will increase the total authorized funding for the project from $8,868K to **$14,700K.**

Project Authorization Supplement Cost Summary

Note: Dollar values are in thousands:

	Prior Authorized	Supplement Request	Total
Capital Additions - Direct	$ 7,371	$ 5,168	$ 12,539
Less Customer Contribution	-	-	-
Removals net of Salvage ____%	-	-	$ -
Total Direct Spending	$ 7,371	$ 5,168	$ 12,539
Capital Additions - Indirect	$ 1,321	$ 652	$ 1,973
AFUDC	$ 176	$ 13	$ 189
Total Capital Request	$ 8,868	$ 5,833	$ 14,700
O&M	-	-	-
Total Request	**$ 8,868**	**$ 5,833**	**$ 14,700**

Note: Dollar values are in thousands:

Total Supplement Request by year view:

	Year 2017	Year 2018	Year 2019	Total
Capital Additions - Direct	$ 12,539	$ -	$ -	$ 12,539
Less Customer Contribution	-	-	-	-
Removals net of Salvage ____%	-	-	-	-
Total Direct Spending	$ 12,539	$ -	$ -	$ 12,539
Capital Additions - Indirect	$ 1,973	$ -	$ -	$ 1,972.6
AFUDC	$ 189	$ -	$ -	$ 188.6
Total Capital Request	$ 14,700	$ -	$ -	$ 14,700
O&M	-	-	-	-
Total Request	**$ 14,700**	**$ -**	**$ -**	**$ 14,700**

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[redacted]

Project Name: [redacted]	**TPS No:** TPS-16-005-CT
Project Number: Later	**I.3.9 Required:** No
Operating Company: Eversource	**TCA Application Required:** No
Load Area: CT	**Submitted By:** [redacted] 03/31/16
Proposed In-Service Date: December 31, 2016	**Scope includes LTAMP Items:** No
Need: [redacted]	**SPS/UVLs Affected:** No
SCLL: No	**Requires NX-9 change:** No
System Impact Review completed: Yes	**Project Manager:** [redacted]
	ISO-NE PAC Completed (Yes, No, NR): NR

Problem Statement:

[redacted]

Project Driver Statement:

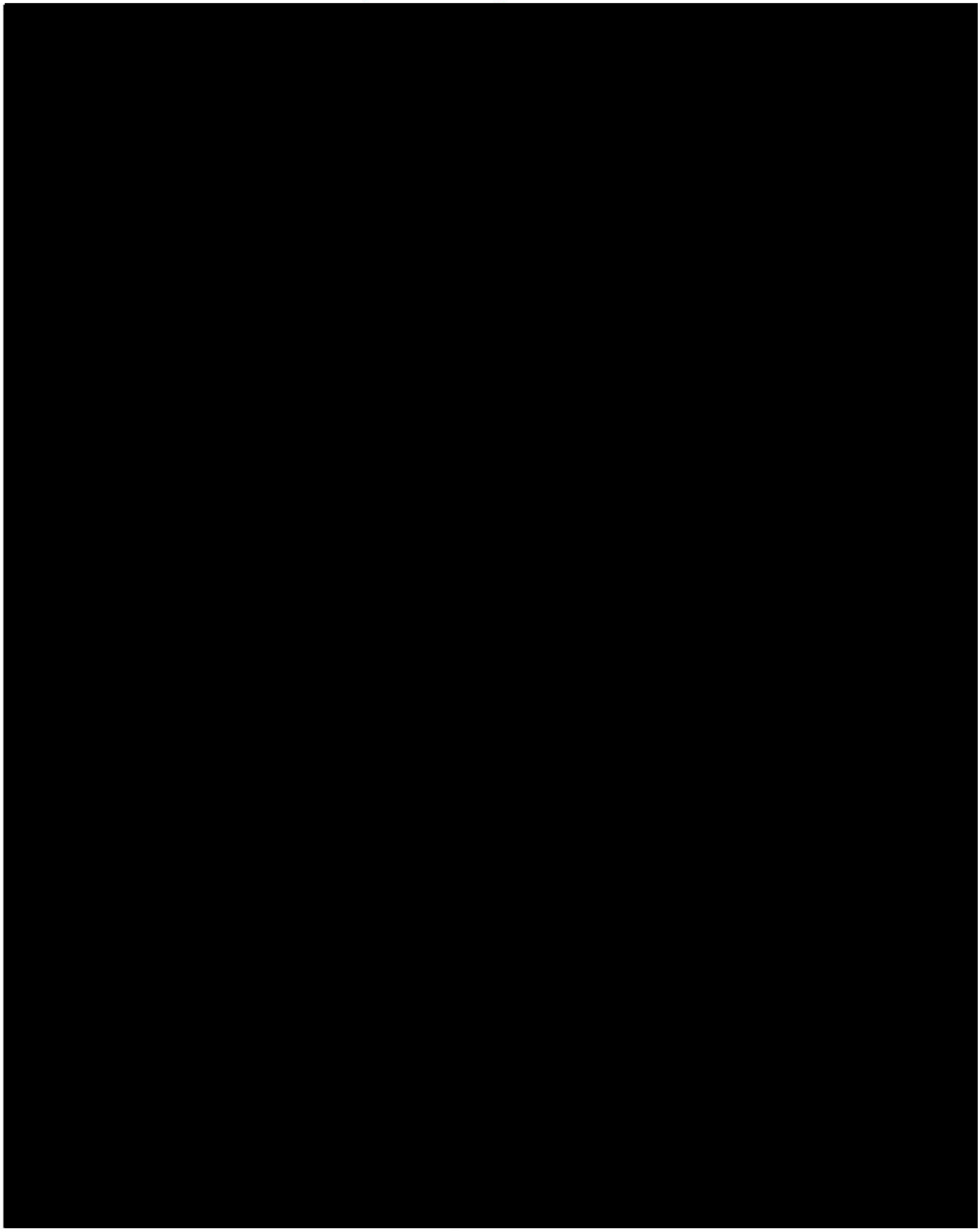
[redacted]

Description / Solution:

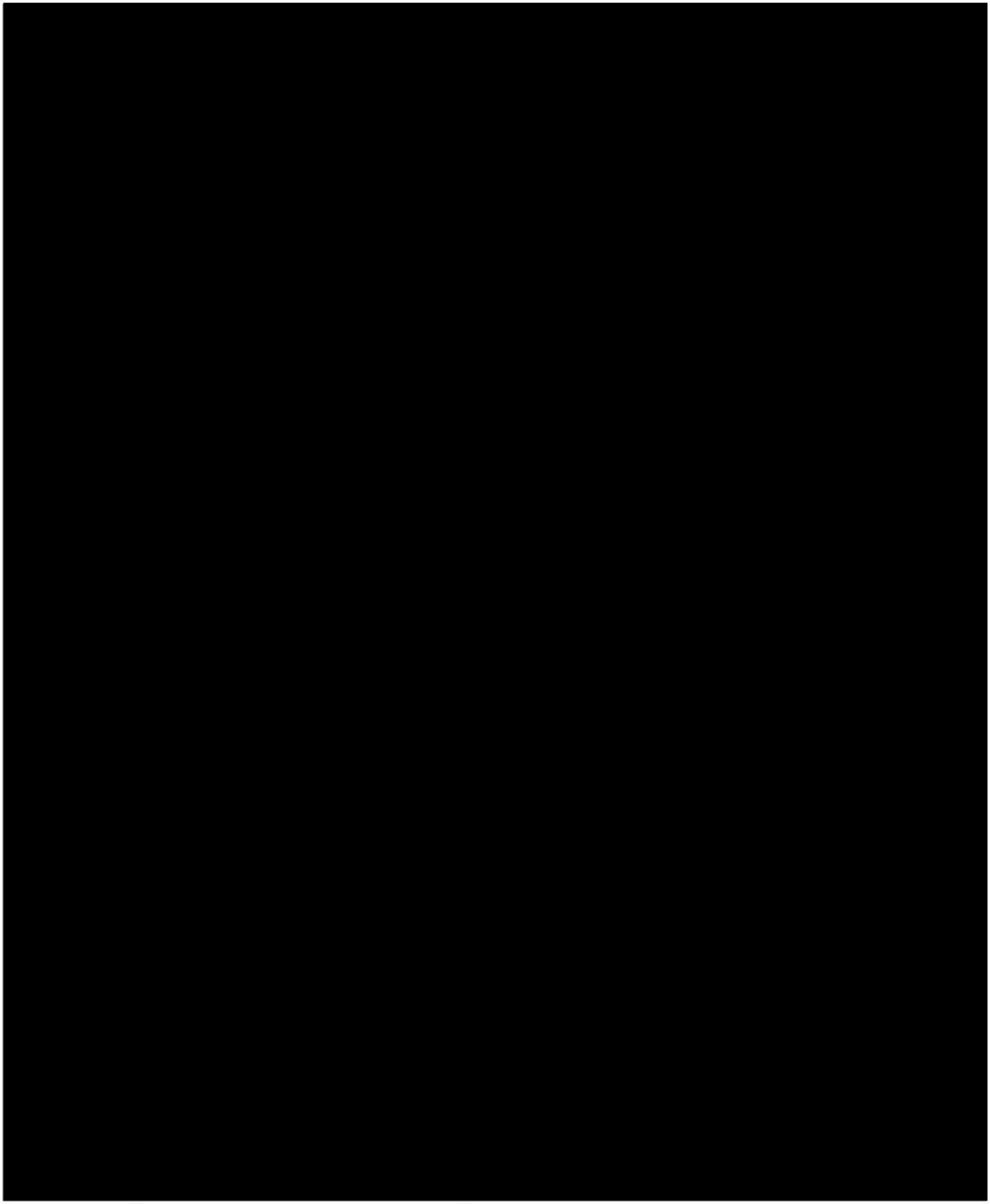
[redacted]

The scope of this project includes:

"Confidential Critical Energy Infrastructure Information (CEII) and or Physical Security Information (PSI) Subject to Protective Order and/or Non-Disclosure Agreement. Do not copy or Provide to Unauthorized Persons."



"Confidential Critical Energy Infrastructure Information (CEII) and or Physical Security Information (PSI) Subject to Protective Order and/or Non-Disclosure Agreement. Do not copy or Provide to Unauthorized Persons."



[redacted]

Cost Estimate:

The cost of this project has Transmission and Distribution funded scope, outlined below:

The Distribution funded scope of work includes the [redacted] The cost of this work is estimated to be $8.9M, including material, labor, overhead, and contingency. This capital work will be funded by the CT Resiliency budget as a tracked capital expenditure.

The Transmission funded scope of work includes the [redacted] The cost of this work is estimated to be $0.73M, including material, labor, overhead and contingency.

The total cost of the project is estimated to be $9.6M with a range of $7.2M to $14.4M (-25%-+50%).

Possible Alternatives and Cost Estimates:

1. Do Nothing – The total cost of this option is $0. [redacted] While there is no initial cost, [redacted] could be significant. Additionally, impacts to customers could be significant as a result of impacts to this or multiple sites.
2. [redacted]

[redacted] The total cost of this option is $500K per year.

3. [redacted]

[redacted] Cost Estimate: $9.8M

4. [redacted]

[redacted] Cost Estimate: $9.4M

5. [redacted]

Cost Estimate: $12.7M

6. [redacted]

[redacted] Cost Esimate: $8.9M

One-Line Diagrams & Nomenclature Diagrams: None

Other Considerations:

[redacted] – The work proposed under this TPS [redacted]

[redacted] – The work proposed under this TPS [redacted]

[redacted] – The work proposed under this TPS [redacted]

[redacted] – The work proposed under this TPS [redacted]

[redacted] – The work proposed under this TPS [redacted]

Siting and Permitting – This project is expected to require siting and/or permitting approvals, and should be reviewed in detail by Siting and Permitting.

Interim Measures: No interim measures are required.

CEII / NDA: All information [redacted] should be handled as: "Confidential Critical Energy Infrastructure Information (CEII) and or Physical Security Information (PSI) Subject to Protective Order and/or Non-Disclosure Agreement. Do not copy or Provide to Unauthorized Persons.", and labeled as such. Communication of this information to external organizations requires the appropriate Non-Disclosure Agreements (NDAs).

"Confidential Critical Energy Infrastructure Information (CEII) and or Physical Security Information (PSI) Subject to Protective Order and/or Non-Disclosure Agreement. Do not copy or Provide to Unauthorized Persons."

[redacted]

Other Considerations: [redacted] Known Projects include:

[redacted]

References:

G&E August 2013 STEP Meeting Presentation – [redacted]

Approvals:

[redacted]

"Confidential Critical Energy Infrastructure Information (CEII) and or Physical Security Information (PSI) Subject to Protective Order and/or Non-Disclosure Agreement. Do not copy or Provide to Unauthorized Persons."

[redacted]

Attachment A - Project Task Checklist

Project Name: [redacted]

Checklist For Studies and Processes Of A Capital Project

Activity/Study	Typical Duration	Check If Necessary	Owner
Problem Identification			Planning
Power Flows-Thermal Voltage Analysis			Planning
Alternative Analysis			Planning
Preliminary Stability			Planning
Preliminary Short Circuit			Engineering
Cable Sizing			Engineering
Cost Magnitude		X	Project Planning Cost/Schedule
TPS Submitted Milestone - Procedure # M2-TP-3012			
Cost Magnitude		X	Project Planning Cost/Schedule
Cable Sizing			Engineering
Preferred Solutions			Planning
TRC Approval Of TPS Milestone - Procedure # M2-TP-3012			
EMTP Study			Planning
TOV - (Transient Over Voltage)			Planning
TRV - (Transient Recovery Voltage)			Engineering
Harmonics			Planning
Energization/De-Energization			Planning
Conceptual Operations			Planning
Power Flow-Thermal/Voltage			Planning
Transfer Studies			Planning
Stability			Planning
Breaker Duty			Engineering
Various Load Level Testing			Planning
BPS - (Bulk Power System)			Planning
Steady State			Planning
Short Circuit			Engineering
PPA Approval Milestone			
Transmission Alternatives			Planning
Estimate All Alternatives For Project			Project Planning Cost/Schedule
(SPS) NPCC Approval Milestone			
TCA Approval Milestone			
EMF - (Electromagnetic Frequency)			Engineering
EMI - (Electromagnetic Interference)			Engineering
Audible Noise			Engineering
Siting and Permitting Required			

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[redacted]

Project Name: [redacted]

Checklist For Studies and Processes Of A Capital Project

Activity/Study	Typical Duration	Check If Necessary	Owner
Siting Application or Petition		X	Siting & Permitting
Permitting		X	Siting & Permitting
Grounding Study Trans & S/S			Engineering
Real Time Digital Simulation Protection			Engineering
Insulation Coordination			Engineering
Order Material Milestone			
NPCC Protection C-22 Procedure (4-month lead time)			Engineering
Revenue Metering			Engineering
Redo PPA Revise Accordingly Milestone			
Construction (Technical Specs) For Contracting Milestone			
Outage Planning Sequencing Studies		X	Operations
Outage Schedule Approvals		X	Operations
Outage Request Milestone			
Pre-Construction EMF			Engineering
Pre-Construction EMI			Engineering
Construct Project Milestone			
Operational Studies/Operational Procedures			Operations
Energization/De-Energization T.O.V			Operations
Energization Milestone			
Testing Studies Milestone			
In-Service Milestone			
Post In-Service Milestone			
Post Construction Audible Noise			Engineering
Post Construction EMF			Engineering

Notes:

1. Appropriate Environmental Studies As Needed.
2. Other Studies As Needed.

Connecticut Light & Power
A Northeast Utilities Company

Specific Project Proposal - Project #: CS00098

[redacted]

Work Classification

Category: [redacted]
Type: SRSC
Type Desc: [redacted]
Work Type: Other Work

Ownership / Management

AWC: Enfield
Statewide: No
Owner: [redacted]
Manager:

Project Information

Status: Prelim Design Approved
SPS #:
AIS Score:
Associated Projects:
Assignment ID:
Patrol Find ID:

Budget Summary - Preferred Option

[redacted]

2016

ID	Title	Status	Rev #	Contingency	Expenditure Amount	Net Estimate
1	[redacted]	Prelim	1	0 %	$8,868,000	$8,868,000
				2016 Total:	**$8,868,000**	**$8,868,000**
				Total Project:	**$8,868,000**	**$8,868,000**

Specific Project Proposal - Project #: CS00098

[redacted]

Project Option Summary

ID	Description	Segments	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)	Prfrd
O1	[redacted]	[redacted]	$8,868,000	$0	100 %	$0.00	$0.00	☑

Segments

ID	Title	Preliminary Estimate	Construction Estimate	Variance	IEEE $/CMS	All (w/Storm)
1	[redacted]	$8,868,000			$0.00	$0.00

Background / Scope

Issue:

[redacted]

[redacted]

The scope of this project for Distribution owned assets includes:

[redacted]

[redacted] It is expected that this project will require siting and permitting approvals

and should be reviewed by Siting and Permitting. A plan has been established with the Connecticut Siting Council (CSC) with an associated petition already approved, for the Physical Security suite of projects. The remaining approvals will likely require sub-petition filings under protected order. To support these approvals, before and after visual simulations should be developed to support discussions with the CSC.

Background / Justification:

[redacted]

The scope of work proposed above is based on the following threat and vulnerability considerations:

[redacted]

[redacted].

[redacted]

Cost Estimate:

The Distribution funded scope of work includes the [redacted] The cost of this work is estimated to be $8.868M, including material, labor, overhead, and contingency. This capital work will be funded by the CT Resiliency budget as a tracked capital expenditure.

Possible Alternatives and Cost Estimates:

1. Do Nothing – The total cost of this option is $0. [redacted]
2. [redacted]. The total cost of this option is $500K per year.
3. [redacted]. Cost Estimate: $9.8M
4. [redacted]. Cost Estimate: $9.4M
5. [redacted] yet increases the cost significantly. [redacted] Cost Estimate: $12.7M
6. [redacted] s a result, it was determined that the increase cost of the preferred solution [redacted] Cost Estimate: $8.9M

Other Considerations:

Revision / ACT Comments:

If we don't do this project, what will happen?

Environmental

Water Pollution: No Change Soil Contamination: No Change Natural Habitats: No Change

Alternatives considered based on Environmental Impact or Description of Aspects Oil Spill Risks Considered? ☑

Safety Concerns With This Project? ☐

Explain:

External Stakeholders

Customer Impact / Involvement

Cust. Impacted: Approx. Pole Count (NU):

Crit. Cust. Impacted: Approx. Pole Count (Other):

Adjoining Property Owner Consent Required: ☐ Town Hearing Required: ☐

Other Utility Pole Custodian Area: ☐ Easement Required: ☐

State Highway Permit Required: ☐

Relocation / New Service

New Srvc. Contact: Requestor Type:

Customer Type: State Highway Project #:

Request Number: Route #:

Specific Project Proposal - Project #: CS00098 [redacted]

Segment CS00098-01

General Information

Segment: [redacted]
Status: Prelim Design Approved
Segment Type: [redacted]
Town: [redacted]
Budget Year: 2016
Work Type: Other
Trimming Required: ☐
In Service Date: 12/31/2016
Description: [redacted]

Itemized Work List

ID	Major Grid	Minor Grid	Description of Work to be Performed
1	[redacted]	[redacted]	[redacted]

Segment CS00098-01

Estimate

	Preliminary Estimate Summary
Revision Number:	1
Contingency:	0.00 %
SubTotal:	$8,868,000
Contingency Amount:	$0
Estimate:	$8,868,000
Reimbursement:	$0
Net Amount:	**$8,868,000**

Description: CIP 14 estimate.

Item Description	CU	$ / Per	Qty	Amount
OTHER OTHER Contractor Labor	16-ALL14	[redacted]		$3,853,000.00
OTHER OTHER Loaders	16-ALL14			$1,497,000.00
OTHER OTHER Material	16-ALL14			$2,502,000.00
OTHER OTHER Other	16-ALL14			$1,016,000.00

Associated / Impacted Devices

Status	Type / SysID	Street / Cross St	Structure / Town	Circuit	Map	Cust	Notes
Existing	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
Existing							
Existing							

Segment CS00098-01

Reliability Projection

Title:

Outage Start Date: 01/01/2007 **Outage End Date:** 04/28/2016 **Years History:** 9.33

[redacted]