EVERSOURCE

Operations Project Authorization Form

Approved on January 18, 2024 EPAC

Link to Meeting Minutes

Project Title: CT AED Installation Program	**Project Number: CS00689 (D SS) / 406176 (T SS)**
Date Prepared: 01/08/2024	**Company: Eversource CT**
Organization: Asset Management	**Class(es) of Plant: D SS, T SS**
Project Initiator: [redacted]	**Project Category: Stations - General**
Managing Organization: Operations	**Schedule ID#: N/A**
Project Manager: [redacted]	**Project Type: Specific**
Project Sponsor: [redacted]	**Capital Investment part of original Op Plan: Yes**
Estimated in service date: December 2024	**Emergency Related Request? No**
Eng./Constr. Resources Budgeted? Yes	**Facility Type (check all that apply):** ☒ **PTF** ☒ **non-PTF** ☐ **local PTF** ☒ **Distribution** ☐ **N/A (General Plant)**
EJ Community Impact: No	**Authorization Type: Full Funding**
Total Capital Request: $375K – CS00689, $291K – 406176	

[1] Executive Summary

This Project Authorization Form (PAF) is requesting full funding authorization in the amount of $666K ($375K – CS00689, $291K – 406176) to install Automated External Defibrillators (AED) in 87 Distribution and 69 Transmission (16% non-PTF) substation control houses located in Connecticut. See Attachments B and C for the list of CT Distribution substations and CT Transmission substations respectively to receive AEDs. An AED is used as a lifesaving device in the event of a heart attack or sudden cardiac arrest. While AEDs are not currently mandatory by Connecticut State Law or Eversource safety, they increase the likelihood of surviving cardiac arrest while waiting for emergency medical services. Operations is taking the initiative to install these devices to increase safety within the substations.

In addition to the AEDs, this project will also provide emergency First Aid Gel-Coated burn blankets in each of the chosen locations. These blankets can be used to help put out flames, smoldering clothes, and help stop burn progression while cooling the skin and relieving pain.

There will be no upgrades to station equipment and constructability reviews are not required. A P6 schedule will not be developed for the overall project except for a milestone commitment

completion date of December 31, 2024. Both the AEDs and gel blankets are stock items routinely purchased through Eversource's preferred vendor. Minimal engineering is needed to update control building drawings. Minimal risk is assumed for lead paint mitigation in older control buildings. Completion of the AED and First Aid Gel-Coated burn blanket installation in each substation is scheduled by the end of December 2024.

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[2] Project Costs Summary

D SS Project Costs Summary (CS00689)

Note: Dollar values are in thousands and rounded to nearest thousand

Line item Category	Prior Authorized	Actuals to Date	2024 to Go	2025	Total Request
1. ROW / Easements / Land Acquisition	$	$		$	
2. Environmental Approvals / Permits	$	$		$	
3. Outreach	$	$		$	
4. Siting Approvals / Permits	$	$		$	
5. Engineering / Design	$	$	$42	$	$42
6. Materials (Eversource purchased)	$	$	$196	$	$196
7. Construction (incl materials by contractors)	$	$	$17	$	$17
8. Testing / Commissioning	$	$		$	
9. Project Mgmt. Team	$	$		$	
10. Removals	$	$		$	
11. Other	$	$		$	
12. Risks	$	$	$13	$	$13
SUBTOTAL DIRECTS W/ RISKS	**$**	**$**	**$267**	**$**	**$267**
13. Indirects/Overhead	$	$	$105	$	$105
14. AFUDC	$	$		$	
PROJECT TOTAL – BASELINE BUDGET	**$**	**$**	**$373**	**$**	**$373**
15. Contingency	$	$	$2	$	$2
TOTAL CAPITAL REQUEST	**$**	**$**	**$375**	**$**	**$375**
16. Reimbursables/Customer Contribution	$	$		$	
PROJECT TOTAL (LESS REIMBURSABLES)	**$**	**$**	**$375**	**$**	**$375**
O&M	$	$		$	
TOTAL REQUEST	**$**	**$**	**$375**	**$**	**$375**

Risk	Allocation
1. Potential lead paint mitigation	$13K
Total	$13K

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T SS Project Costs Summary (406176)

Note: Dollar values are in thousands and rounded to nearest thousand

Line item Category	Prior Authorized	Actuals to Date	2024	2025	Total Request
1. ROW / Easements / Land Acquisition	$	$		$	
2. Environmental Approvals / Permits	$	$		$	
3. Outreach	$	$		$	
4. Siting Approvals / Permits	$	$		$	
5. Engineering / Design	$	$	$33	$	$33
6. Materials (Eversource purchased)	$	$	$155	$	$155
7. Construction (incl materials by contractors)	$	$	$14	$	$14
8. Testing / Commissioning	$	$		$	
9. Project Mgmt. Team	$	$		$	
10. Removals	$	$		$	
11. Other	$	$		$	
12. Risks	$	$	$10	$	$10
SUBTOTAL DIRECTS W/ RISKS	**$**	**$**	**$212**	**$**	**$212**
13. Indirects/Overhead	$	$	$78	$	$78
14. AFUDC	$	$		$	
PROJECT TOTAL – BASELINE BUDGET	**$**	**$**	**$290**	**$**	**$290**
15. Contingency	$	$	$1	$	$1
TOTAL CAPITAL REQUEST	**$**	**$**	**$291**	**$**	**$291**
16. Reimbursables/Customer Contribution	$	$		$	
PROJECT TOTAL (LESS REIMBURSABLES)	**$**	**$**	**$291**	**$**	**$291**
O&M	$	$		$	
TOTAL REQUEST	**$**	**$**	**$291**	**$**	**$291**

Risk	Allocation
1. Potential lead paint mitigation	$10K
Total	$10K

Explain unique payment provisions, if applicable:

The AEDs and Burn Blankets will be ordered in bulk through Eversource's preferred vendor. Current lead time of four (4) months.

Identify and detail any unique O&M impacts resulting from this project:

The AEDs have a shelf life of five (5) years. Per the manufacturer specifications, the AED automatically runs a battery test monthly; the results should be checked (via the indicator lights on the AED) and batteries replaced if necessary. These devices will be monitored and checked in concurrence with other station inspections. No measurable increase is expected to be added to existing O&M costs.

[3] Technical Justification

Project Need, Objective and Justification

Currently, only First Aid kits and eyewash stations are the standard safety equipment located in most Connecticut substation control buildings. While some crews carry AEDs and/or gel blankets in their trucks, most only have the standard first aid kit and fire extinguisher.

Having an AED and gel blanket located in each of the CT control houses will provide lifesaving equipment in the event of a shock or other medical emergency at the stations. Both devices are user friendly and can be used without professional training. Please note that the individual giving aid via an AED during a medical emergency is protected under the Connecticut Good Samaritan Law (CGS § 52-557b).

Project Scope

There are 83 distribution substations that will have devices installed. A total of 87 AEDs and gel blankets will be installed. There are four (4) locations ([redacted]) where two (2) AEDs/gel blankets will be installed due to separate control buildings across the yard. Similarly, there is a total of 66 transmission substations with a total of 69 AEDs and gel blankets to be installed. There are three (3) locations ([redacted]) where two (2) AEDs/gel blankets will be installed due to separate control buildings across the yard.

Devices will be installed by Operations in the control houses throughout 2024. Separate work orders will be created per location. The AED cabinets will be surface mounted (via four (4) predrilled holes) into studs in an easily accessible location within the control houses. The gel blankets come in their own bag and can be placed on a hook, in an easily accessible location in the control houses. As the AEDs will be mounted, Operations will send the as-builts to Substation Engineering to update the control building drawings.

Background

There are currently no AEDs or gel blankets permanently kept on site in the substations in CT. The standard first aid kits that are in most buildings have mostly gauze, bandages, compresses, and a small water gel pack for burns smaller than 6". The new AEDs and larger gel blankets will provide additional safety measures for employees when operating in and around the substation.

Connecticut has a Good Samaritan Law that "extends immunity from liability to any person operating an AED who voluntarily, gratuitously, and not in the ordinary course of his or her employment or practice, gives emergency assistance to a person in need" (See Reference 1).

[4] Alternatives Considered

Preferred Alternative:

Bulk order and installation of AEDs and gel-blankets in CT substation control buildings. Increases safety equipment for employees working in substations.

Do Nothing:

No increased safety equipment in substations in respect to Sudden Cardiac Arrest (SCAs) or major burns.

[5] Project Schedule

Milestone	Scheduled Completion Date
IFR Approval	N/A
SDC Approval (for applicable projects)	N/A
Conversion of Tx development costs, 183 to 107 (applicable to projects that require SSF approval and/or ISO preferred alternative selection)	N/A
EPAC Partial Funding Approval (for applicable projects)	N/A
Preliminary Design Completion (or latest pre-full funding design phase)	N/A
EPAC Full Funding Approval	January 2024
Siting Approval (for applicable projects)	N/A
Start of Construction	May 2024
Project In-Service Date (ISD)	December 2024
Project Need Date (for applicable projects)	N/A
ISO Related Milestones: (for applicable projects)	
• ISO Preferred Alternative Selected	N/A
• PAC Presentation	N/A
• TCA Submittal	N/A

[6] Regulatory Approvals

N/A

EJ Community Considerations:

N/A

[7] Risk and Risk Mitigation Plans

Contingency: A contingency of $3K ($2K – DSS, $1K – TSS) is included in this request for any unanticipated unknowns.

Risk Mitigation:

Risk	Mitigation
1. Potential lead paint mitigation	Additional dollars allocated to test paint and remediate as necessary from mounting AED boxes.

[8] References

References
1. Connecticut General Assembly – Defibrillators - 2012-R-0187
2.

[9] Attachments (One-Line Diagrams, Images, etc.)

Attachment	Included in Submittal?
A1. Cost Estimate – CS00689 - C-23-499	*YES*
A2. Cost Estimate –406176 - C-23-498	*YES*
B. DSS - List of Substations	*YES*
C. TSS - List of Substations	*YES*
D. Constructability Review	*NO*
E. System and Station One-Lines	*NO*
F. P6 Schedule	*NO*

Project Checklist - Transmission & Substation Capital Project			
Project Name: CT AED Installation Program	**Project Number: CS00689, 406176**		
Facility Type: ☒BPS ☐BES ☒PTF ☐local PTF ☒non-PTF ☐CIP ☒Distribution ☐General Plant ☐CONVEX ☐SCADA			
PLANNING			
Is a NX-9 required?	No		
Is an ISO-NE PAC presentation required?	No		
ISO-NE Presentation Date (if completed):	N/A		
Cost in ISO-NE Presentation ($M) (if completed):	N/A		
Is a PPA required?	No		
ISO-NE Approval Date (if completed):	N/A		
Is a TCA Application Required?	No		
TCA Submittal Date (if submitted):	N/A		
Cost in TCA Submittal ($M) (if submitted):	N/A		
Enter ISO-NE RSP / Asset Condition ID, if assigned:	N/A		
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?	NR		
Are Operations & Maintenance procedures/training required?	No		
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?	NR		

Project Checklist - Transmission & Substation Capital Project	
Project Name: CT AED Installation Program	**Project Number: CS00689, 406176**

P&C ENGINEERING	
OP-22 - Are PMUs and DDR required?	No
If BPS, is an NPCC Directory #4 presentation required?	No
Are ISO-NE OP-24 Appendix B updates necessary?	No
TRANSMISSION LINE ENGINEERING	
Are there any changes that affect the baseline EMF?	No
Are there any changes that affect the baseline EMI?	No
SITING	
Has Siting reviewed this project?	No
Name of Siting contact:	N/A
Is a Siting filing required? *(If yes, list in regulatory approvals section)*	No
PERMITTING	
Is there any permitting required? *(If yes, list in regulatory approvals section)*	No
PROJECT SERVICES (OUTREACH) and ROW WORK COORDINATION	
Has Project Services reviewed this project?	No Choose an item
Name of Project Services contact:	N/A
What is the level of outreach expected?	None
Has ROW Coordination reviewed this project?	No
Is this project coordinating with other existing scheduled work?	No
ENVIRONMENTAL JUSTICE COMMUNITIES	
Has the Equity and Environmental Justice team reviewed this project?	N/A
Name of Equity and Environmental Justice contact:	N/A
Is any part of this project in an Environmental Justice Community?	Yes
Was the Equity Framework Checklist completed?	No
Has enhanced outreach required per State Regulatory requirements been completed?	N/A
INITIATOR	
Has a field constructability review been completed?	NR

Project Checklist - Transmission & Substation Capital Project	
Project Name: CT AED Installation Program	**Project Number: CS00689, 406176**
INVESTMENT RECOVERY	
Does the project require development of an Investment Recovery plan?	No
COST ESTIMATING	
What team/firm prepared the cost estimate?	Estimate was prepared by the Eversource Estimating Team
Name of the person who prepared the estimate:	[redacted]
Was the estimate reviewed by Eversource Estimating?	Yes - Full Review

ESTIMATE SUMMARY

Project Title: CT AED Installation Program- Distribution
Project Mgr/Lead: Dominique Dozier
Project Number: CS00689
WO & Task #: NOT PROV DED
Estimate revision #: 00c
Estimate Type - Station work

Estimate #: C-23-499
Date of Estimate 01/03/2024
Estimate done by
In Service date (ISD):12/31/2024

Template Revision # 01.92a

Alt Estimate Summary for PP4 Calc (escalation separate)

Estimate #: C-23-499
Date of Estimate:01/03/2024

Project Number: CS00689
WO & Task #: NOT PROVIDED

ESTIMATE SUMMARY

Estimate Type: Planning

WBS	Description	TOTAL	% of Directs	% of Total	Priors	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	TOTAL w/ escal broken out
1	ROW / Easements / Land purchases															ROW / Easements / Land purchas $ -
2	Environmental Approvals / Permits															Environmental Approvals / Permi $ -
3	Outreach															Outreach $ -
4	Siting Approvals / Permits															Siting Approvals / Permits $ -
5	Engineering / Design	$41 500	15.5%	11.1%			$41 500									Engineering / Design $ 39 500
6	Materials (Eversource purchased)	$195.600	73.1%	52 2%			$195.600									Materials (Eversource purchased $ 189,900
7	Construction (incl materials by contractors)	$17,300	6.5%	4 6%			$17,300									Construction (incl materials by c $ 16,400
8	Testing / Commissioning															Testing / Commissioning $ -
9	PMT Project Mgmt Team															PMT Project Mgmt Team $ -
10	Removals															Removals $ -
11	Other (property taxes and BAR)															Other (property taxes and BAR) $ -
12	Risks	$13 000	4.9%	3 5%			$13 000									Risks $ 13 000
125																
	Project Directs Total w/Risks	**$267,400**	100.0%	71.4%			**$267,400**									**$258,800**
13	Indirects/Overhead	$105,500		28 2%			$105,500									Indirects/Overhead $ 100,400
14	AFUDC															AFUDC $ -
125																$ -
	Project Total - Baseline Budget	**$372,900**		99 5%			**$372,900**									**$359,200**
																$ -
15	Contingency	$1,800		0 5%			$1,800									Contingency $ 1,800
	Project Total - Funding Approval Level	**$374,700**		100 0%			**$374,700**									**$361,000**
16	Reimbursables/Customer Contribution															$ -
---																$ -
	Project Total (less reimbursables)	**$374,700**					**$374,700**									**$361,000**
	Cost per key qty (if appl)	4,307 $'s / EA Loc														
	Amount of Escalation included above	$13 500					$13 500									$ 13 500
6	Total materials - Eversource	$195 600					$195 600									
	Total materials - Contractor															
	Total materials	$195 600					$195 600									Escal total **$374,500**
	NOTE: Risk / Contingency is 4.1% of Project Total Costs (incl escal/Indirects/AFUDC but excl reimb.)															Check total -5200

Estimate Range	**-25%**	**25%**
	$281,000	**$468,000**

COMMENTS:

Project Scope:

Key qty's and UOM (tie to inputs on est sheets): 87 EA Loc

1.92 Factor (total $/Eversource Mat'l $'s)

1.37 Factor (Total directs $/Total Eversource mat'l $'s)

1/3/24 REV00c Per Asset Management request 12/26/23, remove Risk Item (Design).

CT AED Installation Program

- Purchase and install AED's and fire blankets for each CT substation control building at (87) locations for Distribution Stations.
- (87) AED units
- (87) Fire blankets

Assumptions/Clarifications:

Indirect rates based on: 11 - CT - Station work

- Work is performed with internal crew per ER.
- A production rate of 1.33 mh is used to install each AED and each fire blanket (by estimator).
- There is no Siting or Outreach included.
- There is no AFUDC included per ER.
- There are no prior costs included per ER.
- Material quotation for Burn Blanket taken from Maximo quotation provided by requester.
- Material quotation for AED's provided by requester. Refer to 6/9/23 quotation by Dival Safety and Supplies for Life.

RISKS

Potential UG Obstructions	$ -
Severe Weather Delays OT	$ -
Design development	$ -
Potential lead paint mitigation	$ 13,000

Estimate revision # 00c

Escalation Rate	E Rate $	57	Prior		2023		1		2		3		4		5		6		7		8		9		TOTAL
OSTXX-CONSTRUCTION	R		Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	DOLLARS
Electrical Construction	LT																								$13,224
General Construction	LT																								
SCADA / Automation	LT																								
Other (specify)	LT																								
Construction Raps (Internal)	LT																								$2,435
Support Switch/Tag	LT																								
Other (specify)	LT																								
Other (specify)	LT																								
Other (specify)	LT																								
LT Total																									$15,659
Employee Expenses	AE																								$700
Constr. Purchased Matl (Eversource)	AM																								$132
Constr. Purchased Matl (contractor)	AM																								
Outside Construction Vendor	AQ																								
Sales tax on Constr. Vendor																									
Vehicles (now in Indirects section)	AV																								
Inspection services (Outside Vendor)	AQ																								
Construction Rep (Outside vendor)	AQ																								
Rents and Leases	SR																								
CSTXX Subtotal																									$16,574
Escalation																									
CSTXX Total																									$16,574
ENRXX-TG ENGINEERING/DESIGN																									
Project Services/Drafting	LT																								
T- Line Engineering/Design	LT																								
D- Street Engineering/Design	LT																								
Civil Engineering/Design	LT																								
Substation (T) Engineering/Design	LT																								
Substation (D) Engineering/Design	LT																								$37,854
Protection & Controls Engineering	LT																								
Survey Engineering	LT																								
SCADA / Automation Engineering	LT																								
Telecom Engineering	LT																								
Other - specify	LT																								
Other - specify	LT																								
LT Total																									$37,854
Employee Expenses	AE																								$1,693
Contractor Engineering - T-Lines	AQ																								
Contractor Engineering - D-Street	AQ																								
Contractor Engineering - T -Station	AQ																								
Contractor Engineering - D-Station	AQ																								
Contractor Engineering - PSC	AQ																								
Contractor Engineering - Survey	AQ																								
Contractor Engineering - SCADA / Automation	AQ																								
Contractor Engineering - Telecom	AQ																								
Contractor Engineering - Specify	AQ																								
Contractor Engineering - Specify	AQ																								
Contractor Engineering - Specify	AQ																								
Vehicles (now in Indirects section)	AV																								
ENRXX Subtotal																									$39,537
Escalation																									
ENRXX Total																									$39,537
LNDXX-TG LAND																									
Real Estate	LT																								
Employee Expenses	AE																								
Purchase Land	AM																								
Easements	AM																								
Vehicles (now in Indirects section)	AV																								
Fees and Payments	SF																								
LNDXX Subtotal																									
Escalation																									
LNDXX Total																									
MATXX-TG MATERIAL																									
Eversource	AM																								$182,700
Outside Services	AM																								
Freight	AM																								
Sales Tax (Eversouce)																									$7,100
Sales Tax (outside services)																									
Other																									
MATXX Subtotal																									$189,800
Escalation																									
MATXX Total																									$189,800
PSMXX-PROJECT MANAGER & SUPPORT																									
Project Management (PM)	LT																								
Project Planning/Cost (IP)	LT																								
Contracts/Purchasing (CP)	LT																								
System Planning	LT																								
Environmental	LT																								
SCS - None	LT																								
Legal	LT																								
Estimating	LT																								
Siting - None	LT																								
Asset Management	LT																								
Veg. Mgmt	LT																								
Other -	LT																								
Other -	LT																								
Other -	LT																								
LT Total																									
Employee Expenses	AE																								
Project Support Vendor - PM	AQ																								
Project Support Vendor - IP	AQ																								
Project Support Vendor - CP	AQ																								
Project Support Vendor - System Planning	AQ																								
Project Support Vendor - Enviromental	AQ																								
Project Support Vendor - SCS - None	AQ																								
Project Support Vendor - Legal	AQ																								
Project Support Vendor - Estimating	AQ																								
Project Support Vendor - Siting - None	AQ																								
Project Support Vendor - Asset Management	AQ																								
Project Support Vendor - Veg. Mgmt.	AQ																								
Project Support Vendor - Other	AQ																								
Project Support Vendor - Other	AQ																								
Project Support Vendor - Other	AQ																								
Vehicles (now in Indirects section)	AV																								
Property or CWIP tax large proj. allowance	SR																								
Builder All risk insurance excluding deductables(if project is over $50m)	SR																								
Fees and Payments - Enviromental	SF																								
Fees and Payments - Siting	SF																								
Fees and Payments - Other	SF																								
PSMXX Subtotal																									
Escalation																									
PSMXX Total																									
REMXX-TG REMOVAL																									
Engineering/Design	LT																								
Internal Construction	LT																								
LT Total																									
Employee Expenses	AE																								
Outside Services	AO																								
Contractor Labor	AQ																								
Vehicles (now in Indirects section)	AV																								
Rents and Leases	SR																								
REMXX Subtotal																									
Escalation																									
REMXX Total																									
TSTXX-TG TEST																									
Test / Field Engr. Labor (In House)	LT																								
Test / Comm. Engr. Labor (In House)	LT																								
Lead Commissioning Engr. (LCE) (Internal)	LT																								
Employee Expense	AE																								
Test / Field Engr. Labor (contractor)	AQ																								
Test / Comm. Engr. Labor (contractor)	AQ																								
Lead Commissioning Engr. (LCE) (contractor)	AQ																								
Vehicles (now in Indirects section)	AV																								
TSTXX Subtotal																									
Escalation																									
TSTXX Total																									
SUBTOTAL PROJECT DIRECT COST																	#DIV/0!								$346,911
Risk																									
Risk				$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -	$13,000
Risk Total				$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -	$13,000
TOTAL PROJECT DIRECT COST (w/risk)																	#DIV/0!								$359,911
INDIRECTS																									
Non-Productive Time Allocation (ZNP)	17.0%																								$9,063
Payroll Benefits Allocation (ZPB) Incl NPT	44.0%																								$27,448
Gen SVC OD Overhead (ZGS) Incl NPT	80.0%																								
E&S Allocations (ZE8,ZE1, ZE6)	28.0%																								$35,150
AS&E Allocations (ZAS)	1.3%																								$3,845
Stores Expense Allocation (ZST)	8.0%																								$14,618
Lobby Stock																									
MDEC (ZMI)	6.0%																								$5,369
Vehicles (ZVE)	28.0%																								$14,928
Indirects Subtotal																									$100,437
TOTAL PROJECT COST - Direct & Indirect (excl AFUDC)																									$360,348
AFUDC																									
AFUDC (ZK)																									
In Service Dollars / Land costs																									
Cumulative ISS & Land Costs				-		-		-		-		-		-		-		-		-		-		-	
AFUDC Subtotal																									
TOTAL PROJECT COST - Baseline Budget																									$360,348
Contingency																									
Contingency																									$1,811
Other				$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -	
Contingency SubTotal																									$1,811
TOTAL PROJECT COST - Approved Funding																									$361,159

ESTIMATE SUMMARY

Project Title: CT AED Installation Program- Transmission
Project Mgr/Lead: Dominique Dozier
Project Number: 406176
WO & Task #: NOT PROVIDED
Estimate revision #: 00b
Estimate Type - Station work

Estimate #: C-23-498
Date of Estimate:12/11/2023
Estimate done by: D.P.COORELLI
In Service date (ISD):12/31/2024

Template Revision # 01.92a

ESTIMATE SUMMARY

Estimate Type: Planning

WBS	Description	TOTAL	% of Directs	% of Total	Priors	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
1	ROW / Easements / Land purchases														
2	Environmental Approvals / Permits														
3	Outreach														
4	Siting Approvals / Permits														
5	Engineering / Design	$32 900	15.5%	11.3%			$32 900								
6	Materials (Eversource purchased)	$155.200	73.3%	53.3%			$155.200								
7	Construction (incl materials by contractors)	$13,700	6.5%	4.7%			$13,700								
8	Testing / Commissioning														
9	PMT Project Mgmt Team														
10	Removals														
11	Other (property taxes and BAR)														
12	Risks	$10 000	4.7%	3.4%			$10 000								
125															
	Project Directs Total w/Risks	**$211,800**	100.0%	72.8%			**$211,800**								
13	Indirects/Overhead	$77,900		26.8%			$77,900								
14	AFUDC														
125															
	Project Total - Baseline Budget	**$289,700**		99.5%			**$289,700**								
15	Contingency	$1,400		0.5%			$1,400								
	Project Total - Funding Approval Level	**$291,100**		100.0%			**$291,100**								
16	Reimbursables/Customer Contribution														

	Project Total (less reimbursables)	**$291,100**					**$291,100**								
	Cost per key qty (if appl)	4,219	$'s / EA Loc												
	Amount of Escalation included above	$10 500					$10 500								
6	Total materials - Eversource	$155 200					$155 200								
	Total materials - Contractor														
	Total materials	$155 200					$155 200								

NOTE: Risk / Contingency is 4.1% of Project Total Costs (incl escal/indirects/AFUDC but excl reimb.)

Estimate Range	**-25%**	**25%**
	$218,000	**$364,000**

COMMENTS:

Project Scope:

Key qty's and UOM (tie to inputs on est sheets): 69 EA Loc

1.88 Factor (total $/Eversource Mat'l $'s)

1.36 Factor (Total directs $/Total Eversource mat'l $'s)

12/11/13 REV00b Per Asset Management request 12/7/23, remove Siting, Outreach and Permitting costs and add engineering costs for including the AEDs on the control house wall one-line.

CT AED Installation Program

- Purchase and install AED's and fire blankets for each CT substation control building at (69) locations for Transmission Stations.
- (69) AED units
- (69) Fire blankets

Assumptions/Clarifications:

Indirect rates based on: 1T - CT - Station work

- Work is performed with internal crew per ER.
- A production rate of 1.33 mh is used to install each AED and each fire blanket (by estimator).
- There is no Siting or Outreach included.
- There is no AFUDC included per ER.
- There are no prior costs included per ER.
- Material quotation for Burn Blanket taken from Maximo quotation provided by requester.
- Material quotation for AED's provided by requester. Refer to 6/9/23 quotation by Dival Safety and Supplies for Life.

RISKS

Potential UG Obstructions	$ -
Severe Weather Delays OT	$ -
Design development	$ -
Potential lead paint mitigation	$ 10 000

Alt Estimate Summary for PP4 Calc (escalation separate)

Estimate #: C-23-498
Date of Estimate:12/11/2023

Project Number: 406176
WO & Task #: NOT PROV DED

		TOTAL w/ escal broken out
ROW / Easements / Land purchas	$	-
Environmental Approvals / Permi	$	-
Outreach	$	-
Siting Approvals / Permits	$	-
Engineering / Design	$	31 400
Materials (Eversource purchased	$	150,700
Construction (incl materials by c	$	13,000
Testing / Commissioning	$	-
PMT Project Mgmt Team	$	-
Removals	$	-
Other (property taxes and BAR)	$	-
Risks	$	10 000
		$205,100
Indirects/Overhead	$	74,200
AFUDC	$	-
	$	
		$279,300
	$	-
Contingency	$	1,400
		$280,700
	$	-
	$	-
	$	-
		$280,700
	$	10 500
Escal total		**$291,200**
Check total		$100

UNESCALATED LINE ITEM DOLLARS

Project Number 406176
Date of Estimate 12/11/2023
Estimate revision # 00b

Escalation Rate — E Rate $ 57 — Prior — 1 — 2 — 3 — 4 — 5 — 6 — 7 — 8 — 9

OSTXX-CONSTRUCTION	R	Prior Mhrs	Prior DOLLARS	2023 Mhrs	2023 DOLLARS	2024 Mhrs	2024 DOLLARS	2025 Mhrs	2025 DOLLARS	2026 Mhrs	2026 DOLLARS	2027 Mhrs	2027 DOLLARS	2028 Mhrs	2028 DOLLARS	2029 Mhrs	2029 DOLLARS	2030 Mhrs	2030 DOLLARS	2031 Mhrs	2031 DOLLARS	2032 Mhrs	2032 DOLLARS	TOTAL Mhrs	TOTAL DOLLARS
Electrical Construction	LT																								$10,480
General Construction	LT																								
SCADA / Automation	LT																								
Other (specify)	LT																								
Construction Reps (Internal)	LT																								$1,894
Support Switch/Tag	LT																								
Other (specify)	LT																								
Other (specify)	LT																								
Other (specify)	LT																								
LT Total																									$12,382
Employee Expenses	AE																								$819
Constr. Purchased Matl (Eversource)	AM																								$105
Constr. Purchased Matl (contractor)	AM																								
Outside Construction Vendor	AO																								
Sales tax on Constr. Vendor																									
Vehicles (now in Indirects section)	AV																								
Inspection services (Outside Vendor)	AO																								
Construction Rep (Outside vendor)	AO																								
Rents and Leases	SR																								
OSTXX Subtotal																									$13,106
Escalation																									
OSTXX Total																									$13,106
ENRXX-TG ENGINEERING/DESIGN																									
Project Services/Crafting	LT																								
T- Line Engineering/Design	LT																								
D- Street Engineering/Design	LT																								
Civil Engineering/Design	LT																								
Substation (T) Engineering/Design	LT																								$29,863
Substation (D) Engineering/Design	LT																								
Protection & Controls Engineering	LT																								
Survey Engineering	LT																								
SCADA / Automation Engineering	LT																								
Telecom Engineering	LT																								
Other - specify	LT																								
Other - specify	LT																								
LT Total																									$29,863
Employee Expenses	AE																								$1,493
Contractor Engineering - T-Lines	AO																								
Contractor Engineering - D-Street	AO																								
Contractor Engineering - T- Station	AO																								
Contractor Engineering - D-Station	AO																								
Contractor Engineering - P&C	AO																								
Contractor Engineering - Survey	AO																								
Contractor Engineering - SCADA / Automation	AO																								
Contractor Engineering - Telecom	AO																								
Contractor Engineering - Specify	AO																								
Contractor Engineering - Specify	AO																								
Contractor Engineering - Specify	AO																								
Vehicles (now in Indirects section)	AV																								
ENRXX Subtotal																									$31,356
Escalation																									
ENRXX Total																									$31,356
LNDXX-TG LAND																									
Real Estate	LT																								
Employee Expenses	AE																								
Purchase Land	AM																								
Easements	AM																								
Vehicles (now in Indirects section)	AV																								
Fees and Payments	SF																								
LNDXX Subtotal																									
Escalation																									
LNDXX Total																									
MATXX-TG MATERIAL																									
Eversource	AM																								$144,900
Outside Services	AM																								
	AM																								
Freight																									
Sales Tax (Eversource)																									$5,700
Sales Tax (outside services)																									
Other																									
MATXX Subtotal																									$150,600
Escalation																									
MATXX Total																									$150,600
PSMXX-PROJECT MANAGER & SUPPORT																									
Project Management (PM)	LT																								
Project Planning/Cost (IP)	LT																								
Contracts/Purchasing (CIP)	LT																								
System Planning	LT																								
Environmental	LT																								
SCS - None	LT																								
Legal	LT																								
Estimating	LT																								
Siting - None	LT																								
Asset Management	LT																								
Veg. Mgmt	LT																								
Other -	LT																								
Other -	LT																								
Other -	LT																								
LT Total																									
Employee Expenses	AE																								
Project Support Vendor - PM	AO																								
Project Support Vendor - IP	AO																								
Project Support Vendor - CIP	AO																								
Project Support Vendor - System Planning	AO																								
Project Support Vendor - Environmental	AO																								
Project Support Vendor - SCS - None	AO																								
Project Support Vendor - Legal	AO																								
Project Support Vendor - Estimating	AO																								
Project Support Vendor - Siting - None	AO																								
Project Support Vendor - Asset Management	AO																								
Project Support Vendor - Veg. Mgmt.	AO																								
Project Support Vendor - Other	AO																								
Project Support Vendor - Other	AO																								
Project Support Vendor - Other	AO																								
Vehicles (now in Indirects section)	AV																								
Property or CWIP tax large proj. allowance	SR																								
Builder All risk insurance excluding deductables(if project is over $50m)	SR																								
Fees and Payments - Environmental	SF																								
Fees and Payments - Siting	SF																								
Fees and Payments - Other	SF																								
PSMXX Subtotal																									
Escalation																									
PSMXX Total																									
REMXX-TG REMOVAL																									
Engineering/Design	LT																								
Internal Construction	LT																								
LT Total																									
Employee Expenses	AE																								
Outside Services	AO																								
Contractor Labor	AO																								
Vehicles (now in Indirects section)	AV																								
Rents and Leases	SR																								
REMXX Subtotal																									
Escalation																									
REMXX Total																									
TSTXX-TG TEST																									
Test / Field Engr. Labor (In House)	LT																								
Test / Comm. Engr. Labor (In House)	LT																								
Lead Commissioning Engr. (LCE) (internal)	LT																								
Employee Expense	AE																								
Test / Field Engr. Labor (contractor)	AO																								
Test / Comm. Engr. Labor (contractor)	AO																								
Lead Commissioning Engr. (LCE) (contractor)	AO																								
Vehicles (now in Indirects section)	AV																								
TSTXX Subtotal																									
Escalation																									
TSTXX Total																									
SUBTOTAL PROJECT DIRECT COST																									$196,062
Risk																									
Risk				$ -			$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -		$10,000
				$ -			$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -		
Risk Total																									$10,000
TOTAL PROJECT DIRECT COST (w/risk)																									$206,062
INDIRECTS																									
Non-Productive Time Allocation (ZNP)																									$7,182
Payroll Benefits Allocation (ZPB) incl NPT																									$21,748
Gen SVC CO Overhead (ZGS) incl NPT																									
E&S Allocations (ZES,ZEL,ZES)																									$28,470
AG&E Allocations (ZAS)																									$2,020
Stores Expense Allocation (ZST)																									$11,592
Lobby Stock																									
MDEC (ZMI)																									
Vehicles (ZVE)																									$3,166
Indirects Subtotal																									$74,180
TOTAL PROJECT COST - Direct & Indirect (excl AFUDC)																									$279,242
AFUDC																									
AFUDC (ZIC)																									
In Service Dollars / Land costs				-			-		-		-		-		-		-		-		-		-		
Cumulative ISS & Land Costs																									
AFUDC Subtotal																									
TOTAL PROJECT COST - Baseline Budget																									$279,242
Contingency																									
Contingency																									$1,434
Other			$ -		$ -				$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -		
Contingency SubTotal																									$1,434
TOTAL PROJECT COST - Approved Funding																									$280,676

CS00689 – D-SS LOCATIONS

LOCATION	DIST AED QUANTITY	GEL BURN BLANKETS DSS
[redacted]	1	1
	1	1
	1	1

LOCATION	DIST AED QUANTITY	GEL BURN BLANKETS DSS
[redacted]	1	1
	1	1
	1	1

406176 T-SS LOCATIONS

LOCATION	TSS AED QUANTITY	GEL BLANKETS TSS	PTF
[redacted]	1	1	Non-PTF
	1	1	PTF
	1	1	PTF
	1	1	PTF
	1	1	PTF
	1	1	PTF
	1	1	PTF
	1	1	PTF
	1	1	PTF
	2	2	PTF
	1	1	PTF
	1	1	Non-PTF
	1	1	Non-PTF
	1	1	PTF
	1	1	PTF
	2	2	PTF
	1	1	PTF
	1	1	PTF
	1	1	PTF
	1	1	PTF
	1	1	Non-PTF
	1	1	PTF
	1	1	PTF
	1	1	Non-PTF
	1	1	PTF
	1	1	PTF
	1	1	PTF
	1	1	Non-PTF
	1	1	PTF
	1	1	PTF
	1	1	PTF
	1	1	Non-PTF
	1	1	Non-PTF
	1	1	PTF
	1	1	PTF
	1	1	PTF
	1	1	PTF
	2	2	PTF
	1	1	PTF
	1	1	PTF
	1	1	PTF

LOCATION	TSS AED QUANTITY	GEL BLANKETS TSS	PTF
[redacted]	1	1	PTF
	1	1	PTF
	1	1	PTF
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	1	1	Non-PTF
	1	1	PTF