EVERSOURCE

Operations Project Authorization Form

Approved on August 3, 2022 EPAC

Link to Meeting Minutes

Project Title: CT Security Camera Replacements - Distribution	**Project Number: CS00601**
Date Prepared: 07/25/2022	**Company:** Eversource CT
Organization: Asset Management	**Class(es) of Plant:** D SS
Project Initiator: [redacted]	**Project Category:** Stations - CIP/Security
Managing Organization: Other	**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: 12/31/2023	**Emergency Related Request?** No
Eng./Constr. Resources Budgeted? No	**Facility Type** (check all that apply): ☐ PTF ☐ non-PTF ☒ Distribution ☐ N/A (General Plant)
Total Capital Request: $549K	**Authorization Type:** Full Funding

[1] Executive Summary

External resources will complete the installation of the following Table 1 Distribution Asset Cameras with 130 new cameras under the direction of Eversource Corporate Security. An additional 68 transmission asset cameras will be replaced under a separate Transmission PAF request. Delegation of Authority for Transmission and Distribution Substation Assets RF-AS-9018 Rev0 (referenced below) delineates asset ownership. All facilities that support the general operation of distribution only and Transmission & Distribution combined stations are classified as distribution assets.

Distribution cameras are obsolete analog and thermal type camera units (See Table 1). Cameras are failing primarily because of age. The existing older PTZ-type camera will be replaced by 360s and newer generation PTZ cameras. [redacted] nd the replacements have improved components in their construction. New technology replacements will be installed on existing mounts using existing power and CAT6 wire as needed. This distribution project is under the direction of Eversource Corporate Security requiring no construction representatives for a total capital request of $549K.

- No P6 Schedule to be provided except for a milestone completion commitment by December 31, 2023.

- All replacement cameras are Plug & Play requiring no rewiring to the station control house.
- No upgrades to equipment, other than cameras are required.
- No engineering deliverables are required
- No constructability review required

[2] PROJECT COSTS SUMMARY

Note: Dollar values are in thousands

Line item Category	Prior Authorized	Actuals to Date	2022 to Go	2023	2024	Total
1. ROW / Easements / Land Acquisition	$	$				
2. Environmental Approvals / Permits	$	$				
3. Outreach	$	$				
4. Siting Approvals / Permits	$	$				
5. Engineering / Design	$	$				
6. Materials (Eversource purchased)	$	$	$239	$29		$268
7. Construction (incl matl's by contractors)	$	$	$17	$42		$59
8. Testing / Commissioning	$	$				
9. Project Mgmt Team	$	$	$8	$12		$20
10. Removals	$	$				
11. Other	$	$				
12. Risks	$	$	$18	$18		$35
SUBTOTAL DIRECTS W/ RISKS	**$**	**$**	**$282**	**$100**		**$383**
13. Indirects/Overhead	$	$	$63	$58		$121
14. AFUDC	$	$	$5	$26		$31
PROJECT TOTAL – BASELINE BUDGET	**$**	**$**	**$350**	**$185**		**$535**
15. Contingency	$	$	$11	$3		$14
TOTAL CAPITAL REQUEST	**$**	**$**	**$361**	**$188**		**$549**
16. Reimbursables/Customer Contribution	$	$				
PROJECT TOTAL (LESS REIMBURSABLES)	**$**	**$**	**$361**	**$188**		**$549**
O&M	$	$				
TOTAL REQUEST	**$**	**$**	**$361**	**$188**		**$549**

Detail other costs, project risk items and their allocations:

Each of the 17 stations will have its own workorder issued.

Row Labels	Count of Cameras
360	[redacted]

FLIR	[redacted]
PTZ	
(blank)	
Grand Total	[redacted]

Camera	# Needed	Cost $	Material	Labor	Sum
360	[redacted]	[redacted]			
FLIR					
PTZ					
			$ 284,575.99	$ 44,460.00	$ 329,035.99

Risk	Allocation
1. -*Severe weather, delays, and OT*	$35K
2.	$
Total	$35K

Explain unique payment provisions, if applicable:

In accordance with vendor quote, progress payments are scheduled as follows:

- 1/3 @ construction start
- 1/3 @ 50% complete
- 1/3 @ 100% complete

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

- N/A

[3] TECHNICAL JUSTIFICATION

Project Need, Objective and Justification

Corporate Security currently has cameras at some stations that are obsolete, failing and require excessive amounts of maintenance to keep online. The goal of this project is to upgrade these cameras with newer models that will allow for higher image quality and less downtime across the selected stations.

Project Scope

Replace [redacted] with new, improved video quality cameras. See table 1 below for detailed list.

Background

New Security cameras to be installed will provide reliable and improved image quality over the current obsolete and failing analog and thermal type camera units presently installed. The cameras slated for replacement have been in service for the past decade. Since their installation, materials and technology has improved videography significantly . These cameras no longer meet Corporate Security requirements for monitoring and investigation of unwanted activity. Cameras provide necessary information in support of police and internal site investigations (CIP-006).

[4] ALTERNATIVES CONSIDERED

Preferred Alternative:

Replace specified cameras.

Do nothing Alternative:

Continuing the maintenance repairs of 10-year-old camera technology has shown to be a costly alternative. [redacted]

[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	8/3/2022
Siting Approval (for applicable projects)	N/A

Milestone	Scheduled Completion Date
Start of Construction	9/1/2022
Project In-Service Date (ISD)	12/31/2023
Project Need Date (for applicable projects)	N/A
ISO Related Milestones: (for applicable projects)	N/A
• ISO Preferred Alternative Selected	
• PAC Presentation	
• TCA Submittal	

[6] Regulatory Approvals

N/A

[7] Risk and Risk Mitigation Plans

Contingency: $14K

Risk Mitigation: $35K

Risk	Mitigation
1. -*Severe weather, delays, and OT*	Maintain flexible installation schedule to avoids station impacts
2.	

[8] References

References
1. Table 1 Distribution Asset Cameras
2. Delegation of Authority for Transmission and Distribution Substation Assets RF-AS-9018 Rev0
3.

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

Attachment	Included in Submittal?
A. C-22-342 CS00601 CT Security Camera Replacements - Distribution EST rev#01	*YES*
B. STIQ10079_Eversource Energy - CT Substation Upgrade	*YES*

*Table 1-**Distribution Asset Cameras***

Current Camera Name	Replacement Type	Distribution	CT Town
[redacted]	[redacted]		

[redacted]

Current Camera Name	Replacement Type	Distribution	CT Town
[redacted]			

[redacted]

Current Camera Name	Replacement Type	Distribution	CT Town
[redacted]			

[redacted]

Current Camera Name	Replacement Type	Distribution	CT Town
[redacted]			

INSTRUCTIONS:
It is the responsibility of the initiator to contact the subject matter experts in the listed 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. See the PAF Guide for additional instruction.

Project Checklist - Transmission & Substation Capital Project	
Project Name: CT Security Camera Replacements - Distribution	**Project Number: CS00601**
Facility Type: ☐BPS ☐BES ☐PTF ☐PTF non-regional ☐non-PTF ☐CIP ☒Distribution ☐General Plant	

PLANNING	
Is a NX-9 required?	No
Is an ISO-NE PAC presentation required?	No
ISO-NE Presentation Date (if completed):	Enter Date
Cost in ISO-NE Presentation ($M) (if completed):	Enter Cost ($M)
Is a PPA required?	No
ISO-NE Approval Date (if completed):	Enter Date
Is a TCA Application Required?	No
TCA Submittal Date (if submitted):	Enter Date
Cost in TCA Submittal ($M) (if submitted):	Enter Cost ($M)
Enter ISO-NE RSP / Asset Condition ID, if assigned:	Enter ISO-NE ID

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 Security Camera Replacements - Distribution	**Project Number: CS00601**

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	
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	
What is the level of outreach expected?	Low
Is any part of this project in an Environmental Justice Community?	No
Has ROW Coordination reviewed this project?	No
Is this project coordinating with other existing scheduled work?	No
INITIATOR	
Has a field constructability review been completed?	NR
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 Security Camera Replacement- Dist.
Project Mgr/Lead [redacted]
Project Number: CS00601
WO & Task #: TBD
Estimate revision #: 01
Estimate Type - Station work

Estimate #: C-22-342
Date of Estimate 07/19/2022
Estimate done by [redacted]
In Service date (ISD):12/31/2023

Template Revision # 01.70c3

Alt Estimate Summary for PP4 Calc (escalation separate)

Estimate #: C-22-342
Date of Estimate:07/19/2022

Project Number: CS00601
WO & Task #: TBD

ESTIMATE SUMMARY

Estimate Type: Planning

WBS	Description	TOTAL	% of Directs	% of Total	Priors	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
1	ROW / Easements / Land purchases														
2	Environmental Approvals / Permits														
3	Outreach														
4	Siting Approvals / Permits														
5	Engineering / Design														
6	Materials (Eversource purchased)	$268,100	70.1%	48.9%		$239,300	$28,800								
7	Construction (incl matl's by contractors)	$58,900	15.4%	10.7%		$17,300	$41,600								
8	Testing / Commissioning														
9	PMT Project Mgmt Team	$20,200	5.3%	3.7%		$8,100	$12,100								
10	Removals														
11	Other														
12	Risks	$35,200	9.2%	6.4%		$17,500	$17,700								
125	**Project Directs Total w/Risks**	**$382,400**	100.0%	69.7%		**$282,200**	**$100,200**								
13	Indirects/Overhead	$121,400		22.1%		$63,100	$58,300								
14	AFUDC	$30,800		5.6%		$4,700	$26,100								
125	**Project Total - Baseline Budget**	**$534,600**		97.4%		**$350,000**	**$184,600**								
15	Contingency	$14,000		2.6%		$10,700	$3,300								
	Project Total - Funding Approval Level	**$548,600**		100.0%		**$360,700**	**$187,900**								
16	Reimbursables/Customer Contribution														
---	**Project Total (less reimbursables)**	**$548,600**				**$360,700**	**$187,900**								
	Cost per key qty (if appl)	4,220	$'s / EA Replace Security Cameras												
	Amount of Escalation included above	$5,100					$5,100								
6	Total materials - Eversource	$268,100				$239,300	$28,800								
	Total materials - Contractor														
	Total materials	$268,100				$239,300	$28,800								

NOTE: Risk / Contingency is 9.9% of Project Total Costs (incl escal/indirects/AFUDC but excl reimb.)

Estimate Range	**-25%**	**25%**
	$411,000	**$686,000**

	TOTAL w/ escal broken out
ROW / Easements / Land purchas	$ -
Environmental Approvals / Permi	$ -
Outreach	$ -
Siting Approvals / Permits	$ -
Engineering / Design	$ -
Materials (Eversource purchased	$ 266,300
Construction (incl matl's by cont	$ 57,700
Testing / Commissioning	$ -
PMT Project Mgmt Team	$ 19,900
Removals	$ -
Other	$ -
Risks	$ 35,200
	$379,100
Indirects/Overhead	$ 119,600
AFUDC	$ 30,700
	$ -
	$529,400
	$ -
Contingency	$ 14,000
	$543,400
	$ -
	$ -
	$543,400
	$ 5,100
Escal total	**$548,500**
Check total	-$100

COMMENTS

Project Scope:
Key qty's and UOM (tie to inputs on est sheets) 130 EA Replace Security Cameras

2.05 Factor (total $/Eversource Matl $'s)

1.43 Factor (Total directs $/Total Eversource matl $'s)

Replace (130) existing distribution security cameras

Assumptions/Clarifications:
Indirect rates based on: 11 - CT Station work

Security Technologies Inc. Proposal for $477,340.46 Dated 5/5/2022 is the basis for this estimate which has [redacted] camera replacements.
This estimate is for the Distribution cameras only.
No Schedule was provided estimate PP4 schedule based on proposal from Security Technologies Inc and Estimate Request Form.
Work to be completed by 12/31/2023
Replacement of exiting cameras is Plug & Play no re-wiring to Control House required.
No Upgrades to equipment
No Engineering Deleverables are Required
No Constructability Review is Required
Contracted Labor T & M
Rev01 is the reduction of cameras from [redacted]
No Construction Rep or Escort required per the AM email dated 07/19/2022

RISKS

Severe Weather Delays OT $ 35,200

UNESCALATED LINE ITEM DOLLARS

Project Number CS00601
Date of Estimate 07/19/2022
Estimate revision # 01

Escalation Rate — E Rate $ 55 — 1

CSTXX-CONSTRUCTION	R	Prior Mhrs	Prior DOLLARS	2022 Mhrs	2022 DOLLARS	2023 Mhrs	2023 DOLLARS	TOTAL Mhrs	TOTAL DOLLARS
Electrical Construction	LT								
General Construction	LT								
SCADA / Automation	LT								
Telecom - Field	LT								
Construction Reps (internal)	LT								
Support Switch/Tag	LT								
Other (specify)	LT								
Other (specify)	LT								
Other (specify)	LT								
LT Total									
Employee Expenses	AE								
Construction Purchased Material	AM				$173		$404		$577
Outside Construction Vendor	AO				$17,346		$40,404		$57,750
Sales tax on Constr. Vendor									
Vehicles (now in Indirects section)	AV								
Inspection services (Outside Vendor)	AO								
Construction Rep (Outside vendor)	AO								
Rents and Leases	BR								
CSTXX Subtotal					$17,459		$40,808		$58,267
Escalation									
CSTXX Total					$17,459		$40,808		$58,267
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								
Protection & Controls Engineering	LT								
Survey Engineering	LT								
SCADA / Automation Engineering	LT								
Telecom Engineering	LT								
Other - specify	LT								
Other - specify	LT								
LT Total									
Employee Expenses	AE								
Contractor Engineering - T-Lines	AO								
Contractor Engineering - D-Street	AO								
Contractor Engineering - T -Station	AO								
Contractor Engineering - D-Station	AO								
Contractor Engineering - PSC	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									
Escalation									
ENRXX Total									
LNDXX-TG LAND									
Real Estate	LT								
Employee Expenses	AE								
Purchase Land	AM								
Vehicles (now in Indirects section)	AV								
Fees and Payments	BF								
LNDXX Subtotal									
Escalation									
LNDXX Total									
MATXX-TG MATERIAL									
Eversource	AM				$230,117		$25,569		$255,685
Outside Services	AM								
Freight	AM								
Sales Tax Eversource/outside services	3.8% 3.8%				$9,000		$1,000		$10,000
Other									
MATXX Subtotal					$239,117		$26,569		$265,685
Escalation									
MATXX Total					$239,117		$26,569		$265,685
PSMXX-PROJECT MANAGER & SUPPORT									
Project Management (PM)	LT				$5,172		$9,828		$15,000
Project Planning/Cost (IP)	LT				$395		$395		$790
Contracts/Purchasing (C/P)	LT				$429		$429		$858
System Planning	LT				$569		$569		$1,138
Environmental	LT								
SCS - None	LT								
Legal	LT								
Estimating	LT								
Siting - None	LT								
Asset Management	LT								
Other -	LT								
Other -	LT								
Other -	LT								
Other -	LT								
LT Total					$6,565		$11,221		$17,786
Employee Expenses	AE				$328		$561		$889
Project Support Vendor - PM	AO								
Project Support Vendor - IP	AO								
Project Support Vendor - C/P	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				$1,240				$1,240
Project Support Vendor - Siting - None	AO								
Project Support Vendor - Asset Management	AO								
Project Support Vendor - Other	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 (agg proj. allowance	BR								
Builder All risk Insurance excluding deductibles(if project is over $50m)	BR								
Fees and Payments - Environmental	BF								
Fees and Payments - Siting	BF								
Fees and Payments - Other	BF								
PSMXX Subtotal					$8,133		$11,782		$19,915
Escalation									
PSMXX Total					$8,133		$11,782		$19,915
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	BR								
REMXX Subtotal									
Escalation									
REMXX Total									
TSTXX-TG TEST									
Test / Field Engr. Labor (In House)	LT								
Lead Commissioning Engr. (LCE) (Interal)	LT								
Employee Expense	AE								
Test / Field Engr. Labor (contractor)	AO								
Lead Commissioning Engr. (LCE) (contactor)	AO								
Vehicles (now in Indirects section)	AV								
TSTXX Subtotal									
Escalation					-				
TSTXX Total									
SUBTOTAL PROJECT DIRECT COST		-			$264,759		$78,159		$343,887
Risk									
Risk					$17,500		$17,700		$35,200
					$ -		$ -		
					$ -		$ -		
Risk Total					$17,500		$17,700		$35,200
TOTAL PROJECT DIRECT COST (w risk)		-			$282,259		$96,859		$379,087
INDIRECTS									
Non-Productive Time Allocation (ZNP)	17.0%				$1,116		$1,908		$3,024
Payroll Benefits Allocation (ZPB) Incl NPT	44.0%								
Gen SVC CO Overhead (ZGS) Incl NPT	80.0%				$6,145		$10,503		$16,648
E&S Allocations (ZES,ZEL, ZES)	50.0%				$16,191		$32,018		$48,209
AS&E Allocations (ZAS)	1.3%				$3,602		$1,545		$5,147
Stores Expense Allocation (ZST)	8.0%				$16,409		$2,045		$20,454
Lobby Stock									
MDEC (ZMI)	6.0%				$15,770		$5,410		$21,180
Vehicles (ZVE)	28.0%				$1,838		$3,142		$4,980
Indirects Subtotal					$63,071		$56,571		$119,642
TOTAL PROJECT COST - Direct & Indirect (excl AFUDC)					$345,310		$153,430		$498,729
AFUDC									
AFUDC (ZX)				6.50%	$4,676	6.50%	$26,060		$30,736
In Service Dollars									
Cumulative ISS					-		-		
AFUDC Subtotal					$4,676		$26,060		$30,736
TOTAL PROJECT COST - Baseline Budget					$349,986		$179,490		$529,476
Contingency									
Contingency					$10,671		$3,284		$13,955
Other			$ -		$ -		$ -		
Contingency SubTotal					$10,671		$3,284		$13,955
TOTAL PROJECT COST - Approved Funding					$360,656		$182,774		$543,430
Reimbursables / Customer Contribution									
Reimbursables / Customer Contribution (enter as negative)			$ -		$ -		$ -		

SECURITY TECHNOLOGIES INC.
P.O. Box 9357
Bolton, CT 06043

Voice: [redacted]
Fax: [redacted]
E-mail: [redacted]

QUOTE

Quote STIQ10079
Date 05/05/22
Sales Rep. [redacted]

Billed To:

Eversource Energy
Berlin, CT 06037
United States of America

Ship To:

Eversource Energy CT Substations
Berlin, CT 06037
United States of America

Telephone : Fax : E-Mail:

Scope of Work
STI to complete the following scope of work at the CT Substations

Camera Replacement

-Replace analog interior spectra mini with 360 camera
-Replace analog exterior PTZ with Axis IP PTZ
-Replace old thermal cameras with Flir FC-344
-Install new CAT6 wire as needed
-Flir cameras to use existing mounts
-PTZ cameras to use new pendant adaptor and coupling with existing wall mount
-360 cameras to use new pendant mount with existing wall adaptor
-Flir cameras to use existing power supply
-PTZ cameras to use new POE+ injector
-360 cameras to use poe from Eversource switch

Eversource to provide
-IPs and POE ports

Qty	Manufacturer	Part Num.	Description	Cost	Extended Cost
[redacted]	AXIS	P5655-E 60HZ	[redacted]	[redacted]	$152,554.41
	AXIS	T94A01D PENDANT K			$3,972.03
	AXIS COMMUNICATIONS	01706-001			$3,083.88
	AXIS COMMUNICATIONS	T8134			$13,117.65
	Oncam	CA-OPK1-O			$5,806.58
	Oncam	C08-OPC1-O			$34,256.66
	Flir	FC-344-O-N			$190,968.84
	STI	MISC.			$5,864.41
	STI	LABOR - STANDARD			$67,716.00

Qty	Manufacturer	Part Num.	Description	Cost	Extended Cost

This quote may be withdrawn by us if not accepted within [redacted] days. Interest at the rate of [redacted] per month will be charged on all past due accounts except where the maximum rate permissible by law is lower, then at such amount. If an attorny is used to enforce or collect any obligations due on this obligation, then the purchaser agrees to pay all reasonable attorny fees in addition to any sums then due and owing. Unless otherwise specified all equipment and labor is warrenteed for one year.

SubTotal	$477,340.46
Sales Tax	$0.00
Total	**$477,340.46**

Payments are to be made as follows: 33/33/33

Note: All 110 VAC power requirements are the responsibility of the customer.

Please contact me if I can be of further assistance.

ACCEPTANCE OF QUOTE - The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as spcified. Payment will be made as outlined above.

Signature_____ Title_____ Date_____