EVERSOURCE

Operations Project Authorization Form

Approved on March 2, 2022 EPAC

Link to Meeting Minutes

Project Title: Purchase Five Mobile Transformers and Five Cable Trailers	**Project Number: CS00486 (CT), WS00125 (WMA)**
Date Prepared: 02/24/2022	**Company: Eversource CT and WMA**
Organization: Asset Management	**Class(es) of Plant: D SS**
Project Initiator: [redacted]	**Project Category: Stations - Transformers**
Managing Organization: Engineering	**Schedule ID#: CS00486**
Project Manager: CT – [redacted] **, WMA - TBD**	**Project Type: Specific**
Project Sponsor: [redacted]	**Capital Investment part of original Op Plan: Yes**
Estimated in service date: 4/11/2023	**Emergency Related Request? No**
Eng./Constr. Resources Budgeted? Yes	**Facility Type (check all that apply):** ☐ **PTF** ☐ **non-PTF** ☒ **Distribution** ☐ **N/A (General Plant)**
Total Capital Request: $16.305M ($10.2M – CT, $6.1M – WMA)	**Authorization Type: Full Funding**

[1] Executive Summary

This Project Authorization Form (PAF) is requesting $16.305M, $10.2M for Connecticut (CT) and $6.1M for Western Massachusetts (WMA), to purchase and commission five (5) new mobile transformers and five (5) mobile cable trailers. Three (3) mobile transformers and three (3) cable trailers will be used in Connecticut and two (2) mobile transformers and two (2) cables trailers will be used in Western Massachusetts. The five (5) mobile transformers are needed to supplement the existing fleet which is currently heavily utilized. At least 26 bulk transformers will be replaced on the Eversource CT and WMA system by 2026, many of which will require mobile transformer support to install. Concurrently, several factors have increased the demand for mobile transformer deployments. Single contingency line loss (SCLL) and system planning outage response requirements have become more stringent, requiring more mobile transformer deployments than previously. The new standard 62.5MVA transformer is physically larger than the old transformers, requiring new foundations. This extends outage time for transformer replacement, increasing deployment time for the mobile transformers. These factors have combined to increase the number and length of mobile transformer deployments.

The purchase of new mobile transformers also provides long-term value and is also being done in anticipation of the retirement of existing units which are approaching the end of their service

lives. The new units will have 115 and 69kV primaries, and 27.6kV, 13.8kV and 13.2kV secondaries in four (4) configurations as approved at the Solution Design Committee (SDC) meeting on November 17, 2021.

A request for proposal (RFP) was sent to potential vendors. Proposals were received from four (4) vendors and a winning bidder was selected as the vendor. The mobile transformers and cable trailers will be delivered between December 2022 and March 2023 and commissioned internally before being placed in service. They will be stored at the Berlin garage in Connecticut and the West Springfield substation in Massachusetts.

Initial funding of $150K was authorized in PowerPlan on June 10, 2021 (CS00486). To date, minimal budget has been spent.

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[2] PROJECT COSTS SUMMARY - CONNECTICUT

Note: Dollar values are in thousands

Line item Category	Prior Authorized	Actuals to Date	2022 to Go	2023	Total
1. ROW / Easements / Land Acquisition	$	$			
2. Environmental Approvals / Permits	$	$			
3. Outreach	$	$			
4. Siting Approvals / Permits	$	$			
5. Engineering / Design	$	$	$99	$7	$107
6. Materials (Eversource purchased)	$	$	$5,548	$1,408	$6,956
7. Construction	$	$			
8. Testing / Commissioning	$	$		$70	$70
9. Project Mgmt Team	$	$	$26	$3	$29
10. Removals	$	$			
11. Other	$	$			
12. Risks	$	$	$600	$200	$800
SUBTOTAL DIRECTS W/ RISKS	**$150**	**$**	**$6,274**	**$1,687**	**$7,962**
13. Indirects/Overhead	$	$	$1,148	$366	$1,514
14. AFUDC	$	$	$241	$97	$338
PROJECT TOTAL – BASELINE BUDGET	**$150**	**$**	**$7,664**	**$2,150**	**$9,814**
15. Contingency	$	$	$281	$73	$354
TOTAL CAPITAL REQUEST	**$150**	**$**	**$7,945**	**$2,223**	**$10,168**
16. Reimbursables/Customer Contribution	$	$			
PROJECT TOTAL (LESS REIMBURSABLES)	**$150**	**$**	**$7,945**	**$2,223**	**$10,168**
O&M	$	$			
TOTAL REQUEST	**$150**	**$**	**$7,945**	**$2,223**	**$10,168**

Detail other costs, project risk items and their allocations:

Risk	Allocation
1. Design Development	$800K
2.	$
3.	$
4.	$
5.	$
Total	$800K

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[2] PROJECT COSTS SUMMARY – WESTERN MASSACHUSETTS

Line item Category	Prior Authorized	Actuals to Date	2022 to Go	2023	Total
1. ROW / Easements / Land Acquisition	$	$			
2. Environmental Approvals / Permits	$	$			
3. Outreach	$	$			
4. Siting Approvals / Permits	$	$			
5. Engineering / Design	$	$	$70	$7	$77
6. Materials (Eversource purchased)	$	$	$3,433	$871	$4,304
7. Construction	$	$			
8. Testing / Commissioning	$	$		$44	$44
9. Project Mgmt Team	$	$	$21	$2	$23
10. Removals	$	$			
11. Other	$	$			
12. Risks	$	$	$400	$140	$540
SUBTOTAL DIRECTS W/ RISKS	**$**	**$**	**$3,924**	**$1,064**	**$4,988**
13. Indirects/Overhead	$	$	$692	$189	$881
14. AFUDC	$	$	$35	$14	$49
PROJECT TOTAL – BASELINE BUDGET	**$**	**$**	**$4,651**	**$1,267**	**$5,918**
15. Contingency	$	$	$174	$45	$220
TOTAL CAPITAL REQUEST	**$**	**$**	**$4,825**	**$1,312**	**$6,137**
16. Reimbursables/Customer Contribution	$	$			
PROJECT TOTAL (LESS REIMBURSABLES)	**$**	**$**	**$4,825**	**$1,312**	**$6,137**
O&M	$	$			
TOTAL REQUEST	**$**	**$**	**$4,825**	**$1,312**	**$6,137**

Detail other costs, project risk items and their allocations:

Risk	Allocation
1. Design Development	$540K
2.	$
3.	$
4.	$
5.	$
Total	$540K

Explain unique payment provisions, if applicable:

Payment to vendor will be as follows:

30% upon Drawings

30% upon start of manufacturing

30% upon Factory Acceptance Testing (FAT)

10% upon shipment

Payment provisions are not following the typical transformer purchase because the vendor will be ordering material as soon as the DR is issued. This will allow the transformers to be delivered between December 2022 and March 2023.

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

Each mobile unit will have a six (6) year warranty per the agreement with the vendor.

Units will be maintained by internal crews, with O&M costs similar to existing units

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[3] TECHNICAL JUSTIFICATION

Project Need, Objective and Justification

The project objective is to purchase the proper mobile transformers to reinforce the existing fleet and ensure system reliability during planned and emergent maintenance or transformer replacements.

The current CT/WMA mobile transformer fleet is shown in Table 1 below:

Table 1: Eversource CT/WMA mobile transformer fleet

[redacted]

* - 14.4kV units can also be used for 13.8kV service, 13.8kV units can also be used for 13.2kV service
** 71MX was recently damaged in transport and may need to be replaced

There has been an increased demand for mobile transformers due to bulk transformer replacements. There are currently at least 26 bulk transformers scheduled to be replaced by 2026 on the Eversource CT and WMA systems, shown in Table 2:

Table 2: Known Mobile Transformer Needs

Project #	Transformer		Mobile Transformer	Date Mobile
CS00516	[redacted]			
CS00516				
CS00401				
CS00401				
CS00166				

Project #	Transform		Mobile Transformer	Date Mobile
CS00392	[redacted]			
CS00364				
CS00383				
CS00383				
CS00365				
CS00533				
CS00392				
CS00544				
CS00365				
CS00286				
CS00286				
404906				
WS00051				
WS00068				
WS00069				

The majority of these replacement transformers will be the Eversource standard 62.5MVA size. This larger standard size translates into a larger physical size, which often requires extensive civil work, extending outage time and increasing the length of time mobile transformers are required for a transformer replacement. Concurrently, single contingency line loss (SCLL) and system planning outage restoration requirements are growing increasingly stringent, further increasing the demand on the mobile fleet.

Additionally, several of the existing mobile transformers are over 45 years old and approaching the end of their useful service lives. Usage data for the 25MVA and 30MVA units since 2016 is summarized in Tables 3 and 4 below:

Table 3: Number of Deployments for 25MVA and 30MVA units, including future deployments

Unit	2016	2017	2018	2019	2020	2021	2022	2023	Grand
[redacted]									

Table 4: Total Days in Service for 25MVA and 30MVA units, including future scheduled days

Unit	2016	2017	2018	2019	2020	2021	2022	2023	Grand
[redacted]									
Grand Total	**189**	**161**	**274**	**583**	**1,196**	**638**	**680**	**173**	**3,894**

Committing the mobile transformers to planned deployments limits their availability for emergent support. As shown above, one of the units is already committed over half of the time for the next two years.

Additional mobile units will serve to reinforce the existing fleet for the transformer replacement projects over the next several years while also providing flexibility to meet maintenance and emergent transformer outage or replacement needs. The units will also provide long-term value by replacing existing aging mobiles.

Engineering and Operations has determined that the configurations in the following table would best serve the Eversource CT and WMA systems. This solution was approved at the Solution Design Committee (SDC) meeting on November 17, 2021.

Quantity	Description
[redacted]	

Concurrently, there is an increased need for mobile circuit switchers. There is a separate project (CS00294) that was approved at the EPAC meeting on February 16, 2022 to purchase two (2) new mobile circuit switchers for use in CT and WMA.

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Project Scope

The project scope is to purchase five (5) new 30MVA rated mobile transformers and five (5) new mobile cable trailers. The mobile cable trailers will be equipped with six (6) 500MCM 35kV cables per trailer. The cable trailers for CT will have cable lengths of 150', 200' and 250'. The trailers for WMA will have cable lengths of 150' and 250'. The units will be purchased from the selected vendor and be equipped with wildlife protection, protective relaying and SCADA communications. They will be commissioned by Testing and Commissioning before being placed into service. Planned deployments of units will be balanced with emergent needs to ensure mobile transformers are available to support emergent and maintenance requests. Mobile cable trailers will not be paired with mobile transformers to enhance flexibility.

Substation Equipment

Station	Device Position / Nomenclature	Device Removals *include manufacturer*	Device Additions *include manufacturer*
N/A	[redacted]	None	Mobile Transformer – Delta Star
N/A	[redacted]*	None	Mobile Transformer – Delta Star
N/A	[redacted]*	None	Mobile Transformer – Delta Star
N/A	[redacted]*	None	Mobile Transformer – Delta Star
N/A	[redacted]*	None	Mobile Transformer – Delta Star
N/A	[redacted]	None	Mobile Cable Trailer – Delta Star
N/A	[redacted]	None	Mobile Cable Trailer – Delta Star
N/A	[redacted]	None	Mobile Cable Trailer – Delta Star
N/A	[redacted]*	None	Mobile Cable Trailer – Delta Star
N/A	[redacted]*	None	Mobile Cable Trailer – Delta Star

* - Nomenclature to be finalized later.

Background

Mobile transformation needs are increasing across the Eversource CT and WMA areas due to increasing rates of transformer replacements. Concurrently, SCLL and outage response times are growing increasingly stringent. The new units are most needed for use during the replacement, installation, and maintenance of bulk transformers on the 115 and 69kV systems. The secondary voltages needed are 27.6kV, 13.8kV and 13.2kV. The current fleet is heavily utilized, and some units are approaching the end of their useful service lives. The existing units were delivered in 1964, 1976, 1989 and 1995. The newest of these units, 71MX, is out of service for repairs that may last up to a year. The unit may also be scrapped if repairs are not economical. The two oldest units, 66MX and 67MX, are rated 25MVA and there have been instances where they did not have the capability required for a deployment.

Lack of mobile transformer support capability has led the company to research renting mobile transformers for some projects, including the Gales Ferry transformer replacement. This is problematic for several reasons. The correct voltage configuration and MVA capability may not be available, the protection may not comply with Eversource standards, rental firms may require a longer commitment than required, and renting is expensive without providing long-term value as the units are not owned by Eversource.

The required amount and configuration of the new mobile transformers as listed in the alternatives below was approved at SDC on November 17, 2021.

[4] ALTERNATIVES CONSIDERED

Alternatives presented at the SDC meeting on November 17, 2021 are as follows. Note that the costs used were from the request for information (RFI) responses received from the vendors. Actual costs when proposals were obtained were lower.

Alternatives Considered with Cost Estimates:

Alternative #1

Purchase no mobiles and continue to rely on the existing fleet. This alternative is not preferred because it does not address the upcoming mobile support needed for transformer replacements, both planned and emergent.

Alternative #2 (Preferred Alternative)

Purchase five (5) mobile transformers for CT and WMA as listed in Table 5:

Table 5: Proposed Mobile Transformers

Quantity		Description	Unit Price	Bullet Points	Similar to existing units
CT	WMA				
[redacted]					

The quantity and types of mobile transformers proposed in Table 3 above have been selected because of the needs they meet.

1. Eversource CT/WMA only has one (1) mobile with a 69kV primary. Purchasing a second unit will ensure enough are available to support the transformer replacements including those 69kV primary transformer replacements that are part of the Northwest Connecticut Distribution Reliability Project [redacted] This unit will also support CT for the 115kV to 23kV, 115kV to 13.8kV and 115kV to 13.2kV transformer projects.

2. There are over 225 transformers with a 115kV primary and 23kV, 13.8kV or 13.2kV secondary voltage. This class of transformer is scheduled to have numerous replacements over the next few years and mobile transformer support will be required for many of them. Purchasing a unit for CT with both 115kV wye and delta configurations ensures the unit can be used for both of those scenarios. This unit was specified with a simpler design (without 69kV or 27.6kV) to simplify installation and maintenance.

3. The third mobile transformer to be ordered for CT can support transformers with a 27.6kV secondary. This unit will also support CT for the 115kV to 23kV, 115kV to 13.8kV, and 115kV to 13.2kV transformer projects. There are currently two (2) or three (3) units that can support these needs, depending on the primary connection required.

4. The fourth option will be ordered for WMA, which does not have any transformers with a wye-wye configuration. Therefore, WMA only requires a 115kV delta configuration. This unit will support WMA for the 115kV to 23kV and 115kV to 13.8kV transformers.

5. As indicated in Tables 3 and 4 above, usage of these types of transformers has increased dramatically since 2016. The high need rate is anticipated to continue for at least five years. Also, units 66MX and 67MX are both over 45 years old and approaching the end of their useful service lives.

This alternative is the preferred solution because it will allow the purchase of the preferred quantity and configuration of mobile transformers to successfully support the planned and emergent replacements. The existing fleet has been highly utilized the last few years and this demand will continue for at least the next five (5) years. This purchase will have the added value of ensuring enough mobile transformers are available as units are retired. It should be noted that this project is intended to supplement the existing fleet of mobile transformers.

Alternative #3

Purchase three (3) mobile transformers for CT and WMA as listed in Table 6:

Table 6: Proposed Mobile Transformers

Quantity		Description	Unit Price
CT	WMA		

[redacted]	$2.56M
	$2.56M
	$2.56M

Alternative #3 only purchases additional mobile units for the most numerous types of transformers on the Eversource system. There are several problems with this solution.

- This provides a solution for substations with these configurations but does not provide any additional units for substations requiring a 69kV primary. This option is not preferred because it does not account for the contingencies requiring that voltage.
- This alternative does not purchase enough mobile transformers to account for the anticipated demand over the next five (5) years.

Alternative #3 was the original consideration when the Initial Funding Request (IFR) for this project was approved. However subsequent project evolutions as the project progressed have presented the need for a more comprehensive addition to the mobile transformer fleet to ensure the proper quantity and voltage configurations are ordered. Conceptual grade cost estimate for this alternative is $10.8M. This alternative is not recommended because it does not account for all contingencies requiring a mobile transformer or order the proper quantity.

Alternative #4 – Lease Mobile Transformers as a short-term solution

Leasing mobile transformers on an as needed basis has been investigated for planned projects and is not recommended for several reasons:

- Lead time is prohibitive
- Rental units do not match Eversource standards (voltages, capacity, LTC, Protection and Controls, auxiliary equipment, etc.)
- Rental firms require a minimum lease agreement that is much longer than the time actually required, in some instances up to a one-year commitment
- Rental firms are not local to New England, increasing transportation costs and risk of damage in transit
- Reliability and maintenance history are out of Eversource control
- Rental is a short-term solution and provides no long-term value, including replacement of existing units nearing the end of their service life
- This alternative does not add any value of supporting maintenance and emergency restoration times

[5] PROJECT SCHEDULE

Milestone	Scheduled Completion Date
Project Need by Date	April 11, 2023
Date of IFR Approval	June 10, 2021
Complete Conceptual design of Alternative(s) (SUB 124.3)	July 2021
RFI sent to vendors	August 4, 2021
RFI responses received from vendors	September 2021
Initiator complete SSF form	October 19, 2021
SDC Presentation Date(s)	November 17, 2021
Proposals received from vendors	December 2021
Preliminary Design Complete	N/A
Preliminary Design Constructability review complete	N/A
Full funding estimate complete	January 25, 2022
Full funding estimate review	January 27, 2022
Initiator complete PAF form	February 7, 2022
EPAC Funding Dates (Full)	March 2, 2022
Detail Design Complete	N/A
Final Constructability Review Complete	N/A
Targeted Milestone Dates:	
· PO Issued to vendor	March 15, 2022
· Approval of vendor engineering documents	May 10, 2022
· Factory Acceptance Testing	November 2022
· Mobile Transformers Delivered	December 2022 – March 2023
· Testing and Commissioning Completed, units ready for service	March 31, 2023
IFC Design Complete	N/A
Start of Construction	N/A
Project ISD	April 11, 2023
Relay Settings Issued (*Required for Full Funding requests)	November 2022
ISO Related Milestones (for applicable projects)	
· ISO Preferred Alternative Selected	N/A
· Conversion of Tx development costs, 183 to 107 · (following ISO preferred alternative selection)	N/A
· PAC Presentation	N/A
· TCA Submittal	N/A

See Attachment B for the P6 schedule.

[6] Regulatory Approvals

Trailers will be registered with their respective state Department of Motor Vehicles when delivered from manufacturer. Permits will be issued to transport the units over the road.

[7] Risk and Risk Mitigation Plans

Contingency:

Contingency of $354K (CT) and $220K (WMA) has been included to account for project unknowns.

Risk Mitigation:

Risk	Mitigation
1. Severe Weather, Delays, OT	Consult with vendor before placing purchase order. Risk allocation is also included in the estimate.
2. Design Development	Consult with vendor before placing purchase order and during design. Risk allocation is also included in the estimate.
3. Materials Arrive Late or Defective	Consult with vendor before placing purchase order and during manufacture. Risk allocation is also included in the estimate.

[8] References

References
1. CS00486-Mobile Transformer Reinforcement IFR R1.docx
2. CS00486-WS00125 - Mobile Xfrm Reinforcement – SSF.docx
3. CS00294 - Purchase Two Mobile Circuit Switchers - PAF MEM2.docx

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

Attachment	Included in Submittal?
A1. Cost Estimate - CT	*YES*
A2. Cost Estimate - WMA	*YES*
B. P6 Schedule	*YES*
C. Constructability Review	*N/A*
D. System and Station One-Lines	*N/A*

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: Purchase Mobile Transformers	**Project Number: CS00486 (CT), WS00125 (WMA)**
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?	No
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?	No

Project Checklist - Transmission & Substation Capital Project	
Project Name: Purchase Mobile Transformers	**Project Number: CS00486 (CT), WS00125 (WMA)**

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)*	Yes
PROJECT SERVICES (OUTREACH) and ROW WORK COORDINATION	
What is the level of outreach expected?	None
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?	Other (specify below)
Name of the person who prepared the estimate:	[redacted]
Was the estimate reviewed by Eversource Estimating?	Yes - Partial Review/[redacted]

ESTIMATE SUMMARY

Project Title: Purchase 5 Mobile Transfomers
Project Mgr/Lead: Asset Management
Project Number: CS00486
WO & Task #:
Estimate revision #: 00
Estimate Type - Station work

Estimate #:
Date of Estimate 01/24/2022
Estimate done by [redacted]
In Service date (ISD):03/31/2023

Template Revision # 01.70a

Alt Estimate Summary for PP4 Calc (escalation separate)

Estimate #:
Date of Estimate:01/24/2022

Project Number: CS00486
WO & Task #:

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	$106,600	1.3%	1.0%		$99,500	$7,100								
6	Materials (Eversource purchased)	$6 956 300	87.4%	68.4%		$5 548 400	$1 407 900								
7	Construction (incl matl's by contractors)														
8	Testing / Commissioning	$69,600	0.9%	0.7%			$69,600								
9	PMT Project Mgmt Team	$29,200	0.4%	0.3%		$26,400	$2,800								
10	Removals														
11	Other														
12	Risks	$800,000	10.0%	7.9%		$600,000	$200,000								
125															
	Project Directs Total w/Risks	**$7,961,700**	100 0%	78.3%		**$6,274,300**	**$1,687,400**								
13	Indirects/Overhead	$1 514 000		14.9%		$1 148 200	$365 800								
14	AFUDC	$338,200		3.3%		$241,200	$97,000								
125															
	Project Total - Baseline Budget	**$9,813,900**		96.5%		**$7,663,700**	**$2,150,200**								
15	Contingency	$354 400		3.5%		$281 400	$73 000								
	Project Total - Funding Approval Level	**$10,168,300**		100.0%		**$7,945,100**	**$2,223,200**								
16	Reimbursables/Customer Contribution														
74															
	Project Total (less reimbursables)	**$10,168,300**				**$7,945,100**	**$2,223,200**								
	Cost per key qty (if appl)	10,168,300	$'s / EA Mobile Substation – 30 MVA, 66.4 x 115GrdY/66.4x115kV - Configuration 1A												
	Amount of Escalation included above	$33,800					$33,800								
6	Total materials - Eversource	$6 956 300				$5 548 400	$1 407 900								
	Total materials - Contractor														
	Total materials	$6 956 300				$5 548 400	$1 407 900								
	NOTE: Risk / Contingency is 12 8% of Project Total Costs (incl escal/indirects/AFUDC but excl reimb.)														
	Estimate Range	**-25%**			**25%**										
		$7,626,000			**$12,710,000**										

		TOTAL w/ escal broken out
ROW / Easements / Land purchas	$	-
Environmental Approvals / Permi	$	-
Outreach	$	-
Siting Approvals / Permits	$	-
Engineering / Design	$	106,400
Materials (Eversource purchased	$	6,935,600
Construction (incl matl's by cont	$	-
Testing / Commissioning	$	67,600
PMT Project Mgmt Team	$	29,100
Removals	$	-
Other	$	-
Risks	$	800,000
		$7,938,700
Indirects/Overhead	$	1 503 300
AFUDC	$	338,200
	$	-
		$9,780,200
	$	-
Contingency	$	354 400
		$10,134,600
	$	-
	$	-
	$	-
		$10,134,600
	$	33,800
Escal total		**$10,168,400**
Check total		$100

COMMENTS

Project Scope:
Key qty's and UOM (tie to inputs on est sheets) 1 EA Mobile Substation – 30 MVA, 66.4 x 115GrdY/66.4x115kV - Configuration 1A

Purchase 3 mobile transformers and 3 cable trailers from Delta Star per quotation Q010156. Transformers for Connecticut are one each of options 1A, 1B and 1C.

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

No Mobile Transformer Connection Boxes required.

No Spare parts or additional cable footages as listed in quote are included.

This is a component purchase similar to CS00294 - Purchase mobile circuit swtichers.

RISKS

Design Development $ 800 000

UNESCALATED LINE ITEM DOLLARS

Project Number CS00406
Date of Estimate 9/24/2022
Estimate revision # 00

Escalation Rate		E Rate $ 55	Prior		2023		2025		2024		2026		2026		2027		2028		2029		2030		2031		TOTAL	
			Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS
CSTXX-CONSTRUCTION	R																									
Electrical Construction	LT																									
General Construction	LT	$ 47.40																								
SCADA / Automation	LT	$ 62.80																								
Telecom - Field	LT	$ 49.40																								
Construction Reps (Internal)	LT	$ 62.80																								
Support Switch/Tag	LT	$ 61.16																								
Other (specify)	LT	$ -																								
Other (specify)	LT	$ -																								
Other (specify)	LT	$ -																								
LT Total																										
Employee Expenses	AE	8%																								
Construction Purchased Material	AM	1%																								
Outside Construction Vendor	AC																									
Sales tax on Constr. Vendor																										
Vehicles (now in Indirects section)	AV																									
Inspection services (Outside Vendor)	AC	$ 148.00																								
Construction fees (Outside vendor)	AC	$ 148.00																								
Rents and Leases	BR																									
CSTXX Subtotal																										
Escalation																										
CSTXX Total																										
ENRXX-TG ENGINEERING/DESIGN																										
Project Services/Drafting	LT	$ 48.40																								
T- Line Engineering/Design	LT	$ 48.40																								
D- Street Engineering/Design	LT	$ 48.40																								
Civil Engineering/Design	LT	$ 48.40																								
Substation (T) Engineering/Design	LT	$ 62.80																								
Substation (D) Engineering/Design	LT	$ 62.80		$73,800	100	$6,250																			1	$78,750
Protection & Controls Engineering	LT	$ 58.70		$15,876	20	$1,134																				$17,010
Survey Engineering	LT																									
SCADA / Automation Engineering	LT	$ 58.80		$6,338	4	$222																				$6,560
Telecom Engineering	LT	$ 58.80																								
Other - specify	LT	$ -																								
Other - specify	LT	$ -																								
LT Total				$94,714	124	$6,606																				$101,320
Employee Expenses	AE	8%		$4,736		$330																				$5,066
Contractor Engineering - T-Lines	AC	$ 158.00																								
Contractor Engineering - D-Street	AC	$ 158.00																								
Contractor Engineering - T -Station	AC	$ 157.00																								
Contractor Engineering - D-Station	AC	$ 157.00																								
Contractor Engineering - P&C	AC	$ 158.00																								
Contractor Engineering - Survey	AC																									
Contractor Engineering - SCADA / Automation	AC	$ 155.00																								
Contractor Engineering - Telecom	AC	$ 155.00																								
Contractor Engineering - Specify	AC	$ 155.00																								
Contractor Engineering - Specify	AC	$ 155.00																								
Contractor Engineering - Specify	AC	$ 155.00																								
Vehicles (now in Indirects section)	AV																									
ENRXX Subtotal				$99,450		$6,936																				$106,386
Escalation																										
ENRXX Total				$99,450	124	$6,936																				$106,386
LNDXX-TG LAND																										
Real Estate	LT	$ 58.70																								
Employee Expenses	AE	8%																								
Purchase Land	AM																									
Vehicles (now in Indirects section)	AV																									
Fees and Payments	BF																									
LNDXX Subtotal																										
Escalation																										
LNDXX Total																										
MATXX-TG MATERIAL																										
Eversource	AM			$5,340,131		$1,335,033																				$6,675,164
Outside Services	AM																									
Freight	AM																									
Sales Tax Eversource/outside services	5.0%	5.0%		$208,300		$52,100																				$260,400
Other																										
MATXX Subtotal				$5,548,431		$1,387,133																				$6,935,564
Escalation																										
MATXX Total				$5,548,431		$1,387,133																				$6,935,564
PSMXX-PROJECT MANAGER & SUPPORT																										
Project Management (PM)	LT	$ 84.80		$14,742	30	$1,536																				$16,380
Project Director/Chief (IP)	LT	$ 49.40																								
Contracts/Purchasing (CP)	LT	$ 83.80																								
System Planning	LT	$ 71.10																								
Environmental	LT																									
SCS - None	LT																									
Legal	LT	$ 95.80																								
Estimating	LT	$ 59.20																								
Siting - None	LT																									
Asset Management	LT	$ 58.70		$10,433	16	$907																				$11,340
Other -	LT	$ 57.70																								
Other -	LT	$ -																								
Other -	LT	$ -																								
Other -	LT	$ -																								
LT Total				$25,175	46	$2,549																				$27,720
Employee Expenses	AE	8%		$1,259		$127																				$1,386
Project Support Vendor - PM	AC	$ 155.00																								
Project Support Vendor - IP	AC	$ 155.00																								
Project Support Vendor - CIP	AC	$ 155.00																								
Project Support Vendor - System Planning	AC	$ 155.00																								
Project Support Vendor - Enviromental	AC																									
Project Support Vendor - SCS - None	AC																									
Project Support Vendor - Legal	AC	$ 155.00																								
Project Support Vendor - Estimating	AC	$ 155.00																								
Project Support Vendor - Siting - None	AC																									
Project Support Vendor - Asset Management	AC	$ 155.00																								
Project Support Vendor - Other	AC	$ 155.00																								
Project Support Vendor - Other	AC	$ 155.00																								
Project Support Vendor - Other	AC	$ 155.00																								
Vehicles (now in Indirects section)	AV																									
Property or CWIP tax large proj. allowance	BR																									
Builder All Risk Insurance excluding deductables(if project is over $80m)	BR																									
Fees and Payments - Environmental	BF																									
Fees and Payments - Siting	BF																									
Fees and Payments - Other	BF																									
PSMXX Subtotal				$26,434		$2,672																				$29,106
Escalation																										
PSMXX Total				$26,434	46	$2,672																				$29,106
RSMXX-TG REMOVAL																										
Engineering/Design	LT	$ 58.80																								
Internal Construction	LT																									
LT Total																										
Employee Expenses	AE	18%																								
Outside Services	AC																									
Contractor Labor	AC																									
Vehicles (now in Indirects section)	AV																									
Rents and Leases	BR																									
RSMXX Subtotal																										
Escalation																										
RSMXX Total																										
TSTXX-TG TEST																										
Test / Field Engr. Labor (In House)	LT	$ 64.00			640	$40,960																				$40,960
Lead Commissioning Engr. (LCE) (Internal)	LT	$ 64.00			320	$20,480																				$20,480
Employee Expense	AE	10%				$6,144																				$6,144
Test / Field Engr. Labor (contractor)	AC	$ 185.00																								
Lead Commissioning Engr. (LCE) (contractor)	AC	$ 214.00																								
Vehicles (now in Indirects section)	AV																									
TSTXX Subtotal						$67,584																				$67,584
Escalation																										
TSTXX Total					960	$67,584																				$67,584
SUBTOTAL PROJECT DIRECT COST		-		$6,674,318	1130	$1,494,328																				$8,168,646
Risk																										
Risk				$600,000		$200,000																				$800,000
				$ -		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
Risk Total				$600,000		$200,000																				$800,000
TOTAL PROJECT DIRECT COST (w risk)		-		$6,274,318	1130	$1,694,328																				$7,938,646
INDIRECTS																										
Non-Productive Time Allocation (2NP)		15.1%		$18,043		$10,824																				$28,867
Payroll Benefits Allocation (2PB) Incl NPT		44.0%				$31,102																				$31,102
Gen SVC OO Overhead (2GS) Incl NPT		80.0%		$110,346		$6,423																				$116,769
E&S Allocations (2EN,2ES, 2EH)		60.0%		$149,967		$72,444																				$221,411
AM&E Allocations (2AM)		1.3%		$74,396		$19,836																				$94,232
Stores Expense Allocation (2ST)		8.0%		$427,215		$106,809																				$534,013
Lobby Stock																										
MDEC (2MI)		6.0%		$335,664		$86,145																				$421,809
Vehicles (2VE)		28.0%		$33,569		$19,765																				$53,334
Indirects Subtotal				$1,149,195		$355,142																				$1,503,337
TOTAL PROJECT COST - Direct & Indirect (excl AFUDC)				$7,422,819		$2,018,687																				$9,441,977
AFUDC																										
AFUDC (2A)			6.50%	$241,232	6.50%	$97,011	6.50%		6.50%		6.50%		6.50%				6.50%		6.50%		6.50%		6.50%		1	$338,243
In Service Dollars																										
Cumulative ISD				-		-	-		-		-		-				-		-		-		-			
AFUDC Subtotal				$241,232		$97,011																				$338,243
TOTAL PROJECT COST - Baseline Budget				$7,665,742		$2,116,479																				$9,780,220
Contingency																										
Contingency				$281,400		$73,013																				$354,413
Other		$ -		$ -		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
Contingency SubTotal				$281,400		$73,013																				$354,413
TOTAL PROJECT COST - Approved Funding				$7,948,142		$2,189,491																				$10,134,633
Reimbursables / Customer Contribution																										
Reimbursables / Customer Contribution (enter as negative)		$ -		$ -		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		

ESTIMATE SUMMARY

Project Title: Purchase 5 Mobile Transfomers
Project Mgr/Lead: Asset Management
Project Number: WS00125
WO & Task #:
Estimate revision #: 00
Estimate Type - Station work

Estimate #:
Date of Estimate:01/24/2022
Estimate done by [redacted]
In Service date (ISD):03/31/2023

Template Revision # 01.70a

Alt Estimate Summary for PP4 Calc (escalation separate)

Estimate #:
Date of Estimate:01/24/2022

Project Number: WS00125
WO & Task #:

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	$77,200	1.5%	1.3%		$70,100	$7,100								
6	Materials (Eversource purchased)	$4 303 600	86 3%	70.1%		$3 432 600	$871 000								
7	Construction (incl matl's by contractors)														
8	Testing / Commissioning	$43,500	0.9%	0.7%			$43,500								
9	PMT Project Mgmt Team	$23,300	0.5%	0.4%		$21,100	$2,200								
10	Removals														
11	Other														
12	Risks	$540.000	10.8%	8.8%		$400.000	$140.000								
125															
	Project Directs Total w/Risks	**$4,987,600**	100 0%	81.3%		**$3,923,800**	**$1,063,800**								
13	Indirects/Overhead	$881 300		14.4%		$692 000	$189 300								
14	AFUDC	$48,600		0.8%		$34,900	$13,700								
125															
	Project Total - Baseline Budget	**$5,917,500**		96.4%		**$4,650,700**	**$1,266,800**								
15	Contingency	$219 700		3.6%		$174 400	$45 300								
	Project Total - Funding Approval Level	**$6,137,200**		100.0%		**$4,825,100**	**$1,312,100**								
16	Reimbursables/Customer Contribution														
	Project Total (less reimbursables)	**$6,137,200**				**$4,825,100**	**$1,312,100**								
	Cost per key qty (if appl)	3,068,600	$'s / EA Mobile Substation – 30 MVA, 66.4 x 115GrdY/66.4x115kV - Configuration 1D												
	Amount of Escalation included above	$19,900					$19,900								
6	Total materials - Eversource	$4 303 600				$3 432 600	$871 000								
	Total materials - Contractor														
	Total materials	$4 303 600				$3 432 600	$871 000								

NOTE: Risk / Contingency is 14.1% of Project Total Costs (incl escal/indirects/AFUDC but excl reimb.)

Estimate Range	**-25%**	**25%**
	$4,603,000	**$7,672,000**

	TOTAL w/ escal broken out
ROW / Easements / Land purchas	$ -
Environmental Approvals / Permi	$ -
Outreach	$ -
Siting Approvals / Permits	$ -
Engineering / Design	$ 77,000
Materials (Eversource purchased	$ 4,290,800
Construction (incl matl's by cont	$ -
Testing / Commissioning	$ 42,200
PMT Project Mgmt Team	$ 23,200
Removals	$ -
Other	$ -
Risks	$ 540.000
	$4,973,200
Indirects/Overhead	$ 875 800
AFUDC	$ 48,500
	$ -
	$5,897,500
	$ -
Contingency	$ 219 700
	$6,117,200
	$ -
	$ -
	$6,117,200
	$ 19,900
Escal total	**$6,137,100**
Check total	-5100

COMMENTS

Project Scope:
Key qty's and UOM (tie to inputs on est sheets)

2	EA	Mobile Substation – 30 MVA, 66.4 x 115GrdY/66.4x115kV - Configuration 1D

Purchase 2 mobile transformers and 2 cable trailers from Delta Star per quotation Q010156. Transformers for WMA are two of option 1D.

Assumptions/Clarifications:
Indirect rates based on: 41 - WMA Station work

No Mobile Transformer Connection Boxes required.

No spare parts or additional cable footage listed in the quote are included in estimate.

This is a component purchase similar to CS00294 - Purchase mobile circuit swtichers.

RISKS

Design Development $ 540.000

UNESCALATED LINE ITEM DOLLARS

Project Number W500125
Date of Estimate 01/24/2022
Estimate revision # 00

Escalation Rate — E Rate $ 55

			Prior		2023		2025		2024		2026		2026		2027		2028		2029		2030		2031		TOTAL	
			Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS	Mhrs	DOLLARS
CSTXX-CONSTRUCTION	R																									
Electrical Construction	LT																									
General Construction	LT	$ 47.40																								
SCADA / Automation	LT	$ 53.80																								
Telecom - Field	LT	$ 51.80																								
Construction Reps (Internal)	LT	$ 62.80																								
Support Switch/Tag	LT	$ 60.06																								
Other (specify)	LT	$ -																								
Other (specify)	LT	$ -																								
Other (specify)	LT	$ -																								
LT Total																										
Employee Expenses	AE	8%																								
Construction Purchased Material	AM	1%																								
Outside Construction Vendor	AO																									
Sales tax on Constr. Vendor																										
Vehicles (now in Indirects section)	AV																									
Inspection services (Outside Vendor)	AO	$ 148.00																								
Construction fees (Outside vendor)	AO	$ 148.00																								
Rents and Leases	BR																									
CSTXX Subtotal																										
Escalation																										
CSTXX Total																										
ENRXX-TG ENGINEERING/DESIGN																										
Project Services/Drafting	LT	$ 48.40																								
T- Line Engineering/Design	LT	$ 48.40																								
D- Street Engineering/Design	LT	$ 48.40																								
Civil Engineering/Design	LT	$ 48.40																								
Substation (T) Engineering/Design	LT	$ 52.50																								
Substation (D) Engineering/Design	LT	$ 53.50			$53,500	100	$6,250																		$67,750	
Protection & Controls Engineering	LT	$ 56.60			$11,130	20	$1,112																		$12,232	
Survey Engineering	LT																									
SCADA / Automation Engineering	LT	$ 48.40			$3,182	4	$196																		$3,360	
Telecom Engineering	LT	$ 48.40																								
Other - specify	LT	$ -																								
Other - specify	LT	$ -																								
LT Total					$68,792	124	$8,890																		$73,340	
Employee Expenses	AE	8%			$3,339		$328																		$3,667	
Contractor Engineering - T-Lines	AO	$ 158.00																								
Contractor Engineering - D-Street	AO	$ 158.00																								
Contractor Engineering - T -Station	AO	$ 157.00																								
Contractor Engineering - D-Station	AO	$ 157.00																								
Contractor Engineering - P&C	AO	$ 158.00																								
Contractor Engineering - Survey	AO																									
Contractor Engineering - SCADA / Automation	AO	$ 155.00																								
Contractor Engineering - Telecom	AO	$ 155.00																								
Contractor Engineering - Specify	AO	$ 155.00																								
Contractor Engineering - Specify	AO	$ 155.00																								
Contractor Engineering - Specify	AO	$ 155.00																								
Vehicles (now in Indirects section)	AV																									
ENRXX Subtotal					$75,121		$8,888																		$77,009	
Escalation																										
ENRXX Total					$75,121	124	$8,888																		$77,009	
LNDXX-TG LAND																										
Real Estate	LT	$ 58.60																								
Employee Expenses	AE	8%																								
Purchase Land	AM																									
Vehicles (now in Indirects section)	AV																									
Fees and Payments	BF																									
LNDXX Subtotal																										
Escalation																										
LNDXX Total																										
MATXX-TG MATERIAL																										
Eversource	AM				$3,422,821		$850,155																		$4,296,776	
Outside Services	AM																									
Other	AM																									
Freight																										
Sales Tax Eversource/outside services		6.3%																								
Other																										
MATXX Subtotal					$3,422,821		$850,155																		$4,296,776	
Escalation																										
MATXX Total					$3,422,821		$850,155																		$4,296,776	
PSMXX-PROJECT MANAGER & SUPPORT																										
Project Management (PM)	LT	$ 58.60			$10,006	20	$1,112																		$11,120	
Project Director/Dept (SP)	LT	$ 41.20																								
Contracts/Purchasing (CP)	LT	$ 58.60																								
System Planning	LT	$ 60.80																								
Environmental	LT																									
SCS - None	LT																									
Legal	LT	$ 95.80																								
Estimating	LT	$ 59.20																								
Siting - None	LT																									
Asset Management	LT	$ 54.90			$10,102	18	$878																		$10,980	
Other -	LT	$ 45.30																								
Other -	LT	$ -																								
Other -	LT	$ -																								
Other -	LT	$ -																								
LT Total					$20,110	38	$1,990																		$22,100	
Employee Expenses	AE	8%			$1,008		$100																		$1,108	
Project Support Vendor - PM	AO	$ 155.00																								
Project Support Vendor - IP	AO	$ 155.00																								
Project Support Vendor - CIP	AO	$ 155.00																								
Project Support Vendor - System Planning	AO	$ 155.00																								
Project Support Vendor - Enviromental	AO																									
Project Support Vendor - SCS - None	AO																									
Project Support Vendor - Legal	AO	$ 155.00																								
Project Support Vendor - Estimating	AO	$ 155.00																								
Project Support Vendor - Siting - None	AO																									
Project Support Vendor - Asset Management	AO	$ 155.00																								
Project Support Vendor - Other	AO	$ 155.00																								
Project Support Vendor - Other	AO	$ 155.00																								
Project Support Vendor - Other	AO	$ 155.00																								
Vehicles (now in Indirects section)	AV																									
Property or CWIP tax large proj. allowance	BR																									
Builder All Risk Insurance excluding deductables(if project is over $80m)	BR																									
Fees and Payments - Environmental	BF																									
Fees and Payments - Siting	BF																									
Fees and Payments - Other	BF																									
PSMXX Subtotal					$21,116		$2,090																		$23,206	
Escalation																										
PSMXX Total					$21,116	38	$2,090																		$23,206	
RSMXX-TG REMOVAL																										
Engineering/Design	LT	$ 54.80																								
Internal Construction	LT																									
LT Total																										
Employee Expenses	AE	18%																								
Outside Services	AO																									
Contractor Labor	AO																									
Vehicles (now in Indirects section)	AV																									
Rents and Leases	BR																									
RSMXX Subtotal																										
Escalation																										
RSMXX Total																										
TSTXX-TG TEST																										
Test / Field Engr. Labor (In House)	LT	$ 64.00				400	$35,800																		$35,800	
Lead Commissioning Engr. (LCE) (Internal)	LT	$ 64.00				200	$12,800																		$12,800	
Employee Expense	AE	10%					$3,840																		$3,840	
Test / Field Engr. Labor (contractor)	AO	$ 185.00																								
Lead Commissioning Engr. (LCE) (contractor)	AO	$ 214.00																								
Vehicles (now in Indirects section)	AV																									
TSTXX Subtotal							$42,240																		$42,240	
Escalation																										
TSTXX Total						600	$42,240																		$42,240	
SUBTOTAL PROJECT DIRECT COST		-			$3,825,868	780	$868,375																		$4,469,391	
Risk																										
Risk					$400,000		$140,000		$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -		$540,000	
									$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -			
Risk Total					$400,000		$140,000																		$540,000	
TOTAL PROJECT DIRECT COST (w risk)		-			$3,825,868	780	$1,048,375																		$4,973,391	
INDIRECTS																										
Non-Productive Time Allocation (2NP)		39.0%			$16,509		$6,921																		$25,430	
Payroll Benefits Allocation (2PB) Incl NPT		15.0%					$6,854																		$6,854	
Gen SVC OD Overhead (2GS) Incl NPT		80.0%			$62,721		$6,140																		$68,861	
E&S Allocations (2E9,2E,2E6)		35.0%			$37,224		$14,173																		$51,397	
AM&E Allocations (2A9)		0.8%			$27,452		$7,106																		$34,558	
Stores Expense Allocation (2ST)		8.5%			$328,098		$81,525																		$407,624	
Lobby Stock																										
MDEC (2M9)		5.0%			$181,154		$48,832																		$228,986	
Vehicles (2V9)		24.0%			$20,854		$11,268																		$32,122	
Indirects Subtotal					$854,013		$183,819																		$975,832	
TOTAL PROJECT COST - Direct & Indirect (excl AFUDC)					$4,816,071		$1,235,192																		$6,049,388	
AFUDC																										
AFUDC (2A)				1.51%	$34,850	1.51%	$13,895	1.51%		1.51%		1.51%		1.51%		1.51%		1.51%		1.51%		1.51%		0	$48,545	
In Service Dollars																										
Cumulative ISS					-		-		-		-		-		-		-		-		-		-			
AFUDC Subtotal					$34,850		$13,895																		$48,545	
TOTAL PROJECT COST - Baseline Budget					$4,850,721		$1,248,887																		$6,097,608	
Contingency																										
Contingency					$174,436		$45,295																		$219,731	
Other			$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -			
Contingency SubTotal					$174,436		$45,295																		$219,731	
TOTAL PROJECT COST - Approved Funding					$4,838,187		$1,292,182																		$6,117,389	
Reimbursables / Customer Contribution																										
Reimbursables / Customer Contribution (enter as negative)			$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -		$ -			

Project ID	Activity Flag	Activity ID	Activity Name	Start	Finish	Predecessc	Successors	Budgeted Labor Units	Original Duration	Resources	Activity Scheduler	DEPT - DEPARTMENT
Mobile Transformer Spares (5 units) for CT/WMA (CS00486 & WS00125)				03-May-21 A	27-Jun-23			12679h	378.0d			
Project Initiation				03-May-21 A	27-Mar-23			664h	312.0d			
Project Launch				03-May-21 A	26-Jan-22 A			8h	1.0d			
CS00486		START	Project Start	03-May-21 A			01210, 0	0h	0.0d			PROJ
CS00486	** KPI **	01105	Hold Project Kickoff Meeting / Perform Need Analysis	20-Jan-22 A	26-Jan-22 A	START, P	01210	8h	1.0d			PROJ
Scope Documents				07-Feb-22 A	15-Feb-22 A			160h	19.0d			
CS00486		01210	ES Prepares Scope Document	07-Feb-22 A	07-Feb-22 A	START, 0	01215	128h	16.0d			ENG.ST.SS.ELEC
CS00486	** KPI **	01215	Review, Issue Specifications for Each Unit	08-Feb-22 A	15-Feb-22 A	01210	DE1700,	32h	5.0d			ENG.ST.SS.ELEC
Project Approval and Funding				03-May-21 A	17-Mar-22			496h	60.0d			
Initial Funding				03-May-21 A	28-Feb-22 A			184h	43.0d			
CS00486		PI1200	Project Initiator Develop & Submit Intitial Funding Request	03-May-21 A	13-May-21 A	START	PI1300	24h	10.0d			ENG.AM.ENG
CS00486	EPAC-I	PI1300	Initial Funding Request Approved	17-May-21 A	17-May-21 A	PI1200	PI1400, F	0h	1.0d			IP
CS00486	PPA-IF	PI1610	Initial Funding PowerPlan Approval	17-May-21 A	17-May-21 A	PI1300	PI1400	0h	1.0d			IP
CS00486	PM-AM	PI1400	Assign Project Manager	12-Jan-22 A	26-Jan-22 A	PI1300, F	PI1600, F	80h	10.0d			PM
CS00486	PM	PI1500	Assign Scheduler	20-Jan-22 A	26-Jan-22 A	PI1400		40h	5.0d			ENG.SCHED.EPPS
CS00486		PI1600	Assign Cost Analyst	22-Feb-22 A	28-Feb-22 A	PI1400		40h	5.0d			PM
EPAC Full Funding				13-Jan-22 A	17-Mar-22			312h	32.0d			
CS00486	EST-FULL	DE1600	Create Planning Grade Estimate (+/-25% Full Funding)	13-Jan-22 A	27-Jan-22 A	DE1700,	FF1000, I	80h	10.0d			ENG.ST.SS.ELEC
CS00486		DE1700	Conduct Initial Risk Management & SCLL Review (Project Initiator & PM)	13-Jan-22 A	27-Jan-22 A	01215	DE1600	64h	4.0d			ENG.ST.SS.ELEC
CS00486		PAFF2000	Submit Full Funding PAF for Internal Review	28-Jan-22 A	04-Feb-22 A	DE1600	PAFF2100	80h	10.0d			ENG.AM.ENG
CS00486	PAF Subm	PAFF2100	Incorporate Internal Review Comments & Submit Full Funding PAF to EPAC for Review	01-Feb-22 A	07-Feb-22 A	PAFF2000	PAFF2200	32h	4.0d			ENG.AM.ENG
CS00486		PAFF2200	Incorporate EPAC Full Funding PAF Review Comments	09-Feb-22 A	23-Feb-22 A	PAFF2100	FF1000	40h	15.0d			ENG.AM.ENG
CS00486	EPAC-F	FF1000	EPAC Full Funding Approval	03-Mar-22	03-Mar-22*	DE1600,	FF1010,	8h	1.0d			IP
CS00486	PPA-FF	FF1010	Full Funding PowerPlan Approval	04-Mar-22	17-Mar-22	FF1000		8h	10.0d			IP
Project Management				11-May-22	27-Mar-23			0h	319.0d			
Project Management - TK-Milestones - Material and Commissioning Unit #1 CT (CS00486)				11-May-22	26-Dec-22			0h	228.0d			
CS00486	AG-IFC	AT0805M	08.05C [IFC] - Final Material Drawings Issued by Vendor for Material-Unit #1		11-May-22	TRANS-6	AT00	0h	0.0d			ENG.ST.SS.ELEC
CS00486		AT0401	04.01 Final Material Receipt Review Completed (Mobile Transformers DELIVER TO YARD)-U		18-Dec-22	TRANS-6	AT00	0h	0.0d			PM
CS00486	SOC	AT00	T-00 - COMMISSIONING START- Unit #1	26-Dec-22*		AT0805M	100009, (	0h	0.0d			TEST
Project Management - TK-Milestones - Material and Commissioning Unit #2 CT (CS00486)				11-May-22	24-Jan-23			0h	257.0d			
CS00486	AG-IFC	BT0805M	08.05C [IFC] - Final Material Drawings Issued by Vendor for Material-Unit #2		11-May-22	TRANS-6	BT00	0h	0.0d			ENG.ST.SS.ELEC
CS00486		BT0401	04.01 Final Material Receipt Review Completed (Mobile Transformers DELIVER TO YARD)-U		22-Jan-23	TRANS-6	BT00	0h	0.0d			PM
CS00486	SOC	BT00	T-00 - COMMISSIONING START-Unit #2	24-Jan-23*		BT0805M	100149,	0h	0.0d			TEST
Project Management - TK-Milestones - Material and Commissioning Unit #3 CT (CS00486)				11-May-22	22-Feb-23			0h	286.0d			
CS00486	AG-IFC	CT0805M	08.05C [IFC] - Final Material Drawings Issued by Vendor for Material-Unit #3		11-May-22	TRANS-6	CT00	0h	0.0d			ENG.ST.SS.ELEC
CS00486		CT0401	04.01 Final Material Receipt Review Completed (Mobile Transformers DELIVER TO YARD)-U		14-Feb-23	TRANS-6	CT00	0h	0.0d			PM
CS00486	SOC	CT00	T-00 - COMMISSIONING START-Unit #3	22-Feb-23*		CT0805M	100089,	0h	0.0d			TEST
Project Management - TK-Milestones - Material and Commissioning Unit #4 WMA (WS00125)				11-May-22	06-Mar-23			0h	298.0d			
CS00486	AG-IFC	DT0805M	08.05C [IFC] - Final Material Drawings Issued by Vendor for Material-Unit #4		11-May-22	TRANS-6	DT00	0h	0.0d			ENG.ST.SS.ELEC
CS00486		DT0401	04.01 Final Material Receipt Review Completed (Mobile Transformers DELIVER TO YARD)-U		19-Dec-22	TRANS-6	DT00	0h	0.0d			PM
CS00486	SOC	DT00	T-00 - COMMISSIONING START-Unit #4	06-Mar-23*		DT0805M	100029,	0h	0.0d			TEST
Project Management - TK-Milestones - Material and Commissioning Unit #5 WMA (WS00125)				11-May-22	27-Mar-23			0h	319.0d			
CS00486	AG-IFC	ET0805M	08.05C [IFC] - Final Material Drawings Issued by Vendor for Material-Unit #5		11-May-22	TRANS-6	ET00	0h	0.0d			ENG.ST.SS.ELEC
CS00486		ET0401	04.01 Final Material Receipt Review Completed (Mobile Transformers DELIVER TO YARD)-U		19-Mar-23	TRANS-6	ET00	0h	0.0d			PM
CS00486	SOC	ET00	T-00 - COMMISSIONING START-Unit #5	27-Mar-23*		ET0805M	100209,	0h	0.0d			TEST
Material				04-Mar-22	19-Mar-23			10446h	261.0d			
Material - Major Items				04-Mar-22	19-Mar-23			10446h	261.0d			
Material - Major Items - Mobile Transformer & Trailer #1 CT (CS00486)				04-Mar-22	18-Dec-22			2081h	200.0d			
CS00486	DR-ENG	TRANS-6327	Material - Major Items - Mobile Transformer & Trailer - Issue DR Unit #1	04-Mar-22	09-Mar-22	FF1000	TRANS-6	8h	4.0d			ENG.ST.SS.ELEC

TASK filter: All Activities

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Project ID	Activity Flag	Activity ID	Activity Name	Start	Finish	Predecessc	Successors	Budgeted Labor Units	Original Duration	Resources	Activity Scheduler	DEPT - DEPARTMENT
CS00486	DR-AGMM	TRANS-6337	Mobile Transformer & Trailer Material Ordered Issue DR Unit #1		09-Mar-22	TRANS-6		0h	0.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6347	Material - Major Items - Mobile Transformer & Trailer - Issue PO Unit #1	10-Mar-22	16-Mar-22	TRANS-6	TRANS-6	29h	5.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6407	Vendor Submits Initial Drawings and Schematics for ES Review (3 weeks from PO per PE) U	17-Mar-22	06-Apr-22	TRANS-6	TRANS-6	20h	15.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6417	ES SS Eng. Reviews Initial Vendor Drawings and Schematics Unit #1	07-Apr-22	13-Apr-22	TRANS-6	TRANS-6	40h	5.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6427	ES P&C Eng. Reviews Initial Vendor Drawings and Schematics Unit #1	07-Apr-22	13-Apr-22	TRANS-6	TRANS-6	40h	5.0d			ENG.ST.P&C.P&C
CS00486		TRANS-6357	Vendor Submits Final Drawings and Schematics for ES Review Unit #1	14-Apr-22	04-May-22	TRANS-6	TRANS-6	800h	15.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6367	ES SS Eng. Reviews Final Vendor Drawings and Schematics for MFG Release Unit #1	05-May-22	11-May-22	TRANS-6	TRANS-6	40h	5.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6377	ES-P&C Reviews Final Vendor Drawings and Schematics for MFG Release Unit #1	05-May-22	11-May-22	TRANS-6	TRANS-6	40h	5.0d			ENG.ST.P&C.P&C
CS00486		TRANS-6387	Material - Major Items - Mobile Transformer & Trailer - Vendor Leadtime Unit #1	12-May-22	13-Dec-22	TRANS-6	TRANS-6	1024h	148.0d			ENG.ST.SS.ELEC
CS00486	ES-RSET	TRANS-6877	ES Eng-Issues Relay Settings Unit #1	01-Nov-22	15-Nov-22*	TRANS-6	FAT	40h	10.0d			ENG.ST.P&C.P&C
CS00486		TRANS-6397	Material - Major Items - Mobile Transformer & Trailer - Deliver to Site Unit #1	14-Dec-22	18-Dec-22*	TRANS-6	DT0401,	0h	5.0d			ENG.ST.SS.ELEC
Material - Major Items - Mobile Transformer & Trailer #2 CT (CS00486)				04-Mar-22	22-Jan-23			2081h	222.0d			
CS00486	DR-ENG	TRANS-6437	Material - Major Items - Mobile Transformer & Trailer - Issue DR Unit #2	04-Mar-22	09-Mar-22	FF1000	TRANS-6	8h	4.0d			ENG.ST.SS.ELEC
CS00486	DR-AGMM	TRANS-6447	Mobile Transformer & Trailer Material Ordered Issue DR Unit #2		09-Mar-22	TRANS-6		0h	0.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6457	Material - Major Items - Mobile Transformer & Trailer - Issue PO Unit #2	10-Mar-22	16-Mar-22	TRANS-6	TRANS-6	29h	5.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6467	Vendor Submits Initial Drawings and Schematics for ES Review (3 weeks from PO per PE) U	17-Mar-22	06-Apr-22	TRANS-6	TRANS-6	20h	15.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6477	ES SS Eng. Reviews Initial Vendor Drawings and Schematics Unit #2	07-Apr-22	13-Apr-22	TRANS-6	TRANS-6	40h	5.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6487	ES P&C Eng. Reviews Initial Vendor Drawings and Schematics Unit #2	07-Apr-22	13-Apr-22	TRANS-6	TRANS-6	40h	5.0d			ENG.ST.P&C.P&C
CS00486		TRANS-6497	Vendor Submits Final Drawings and Schematics for ES Review Unit #2	14-Apr-22	04-May-22	TRANS-6	TRANS-6	800h	15.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6507	ES SS Eng. Reviews Final Vendor Drawings and Schematics for MFG Release Unit #2	05-May-22	11-May-22	TRANS-6	TRANS-6	40h	5.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6517	ES-P&C Reviews Final Vendor Drawings and Schematics for MFG Release Unit #2	05-May-22	11-May-22	TRANS-6	TRANS-6	40h	5.0d			ENG.ST.P&C.P&C
CS00486		TRANS-6527	Material - Major Items - Mobile Transformer & Trailer - Vendor Leadtime Unit #2	12-May-22	17-Jan-23	TRANS-6	TRANS-6	1024h	170.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6887	ES Eng-Issues Relay Settings Unit #2	01-Nov-22	15-Nov-22*	TRANS-6	FAT	40h	10.0d			ENG.ST.P&C.P&C
CS00486		TRANS-6537	Material - Major Items - Mobile Transformer & Trailer - Deliver to Site Unit #2	18-Jan-23	22-Jan-23*	TRANS-6	BT0401	0h	5.0d			ENG.ST.SS.ELEC
Material - Major Items - Mobile Transformer & Trailer #3 CT (CS00486)				04-Mar-22	14-Feb-23			2081h	239.0d			
CS00486	DR-ENG	TRANS-6547	Material - Major Items - Mobile Transformer & Trailer - Issue DR Unit #3	04-Mar-22	09-Mar-22	FF1000	TRANS-6	8h	4.0d			ENG.ST.SS.ELEC
CS00486	DR-AGMM	TRANS-6557	Mobile Transformer & Trailer Material Ordered Issue DR Unit #3		09-Mar-22	TRANS-6		0h	0.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6567	Material - Major Items - Mobile Transformer & Trailer - Issue PO Unit #3	10-Mar-22	16-Mar-22	TRANS-6	TRANS-6	29h	5.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6577	Vendor Submits Initial Drawings and Schematics for ES Review (3 weeks from PO per PE) U	17-Mar-22	06-Apr-22	TRANS-6	TRANS-6	20h	15.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6587	ES SS Eng. Reviews Initial Vendor Drawings and Schematics Unit #3	07-Apr-22	13-Apr-22	TRANS-6	TRANS-6	40h	5.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6597	ES P&C Eng. Reviews Initial Vendor Drawings and Schematic Unit #3	07-Apr-22	13-Apr-22	TRANS-6	TRANS-6	40h	5.0d			ENG.ST.P&C.P&C
CS00486		TRANS-6607	Vendor Submits Final Drawings and Schematics for ES Review Unit #3	14-Apr-22	04-May-22	TRANS-6	TRANS-6	800h	15.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6617	ES SS Eng. Reviews Final Vendor Drawings and Schematics for MFG Release Unit #3	05-May-22	11-May-22	TRANS-6	TRANS-6	40h	5.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6627	ES-P&C Reviews Final Vendor Drawings and Schematics for MFG Release Unit #3	05-May-22	11-May-22	TRANS-6	TRANS-6	40h	5.0d			ENG.ST.P&C.P&C
CS00486		TRANS-6637	Material - Major Items - Mobile Transformer & Trailer - Vendor Leadtime Unit #3	12-May-22	09-Feb-23	TRANS-6	TRANS-6	1024h	187.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6897	ES Eng-Issues Relay Settings Unit #3	01-Nov-22	15-Nov-22*	TRANS-6	FAT	40h	10.0d			ENG.ST.P&C.P&C
CS00486		TRANS-6647	Material - Major Items - Mobile Transformer & Trailer - Deliver to Site Unit #3	10-Feb-23	14-Feb-23*	TRANS-6	CT0401	0h	5.0d			ENG.ST.SS.ELEC
Material - Major Items - Mobile Transformer & Trailer #4 WMA (WS00125)				04-Mar-22	19-Dec-22			2081h	201.0d			
CS00486	DR-ENG	TRANS-6657	Material - Major Items - Mobile Transformer & Trailer - Issue DR Unit #4	04-Mar-22	09-Mar-22	FF1000	TRANS-6	8h	4.0d			ENG.ST.SS.ELEC
CS00486	DR-AGMM	TRANS-6667	Mobile Transformer & Trailer Material Ordered Issue DR Unit #4		09-Mar-22	TRANS-6		0h	0.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6677	Material - Major Items - Mobile Transformer & Trailer - Issue PO Unit #4	10-Mar-22	16-Mar-22	TRANS-6	TRANS-6	29h	5.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6687	Vendor Submits Initial Drawings and Schematics for ES Review (3 weeks from PO per PE) U	17-Mar-22	06-Apr-22	TRANS-6	TRANS-6	20h	15.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6697	ES SS Eng. Reviews Initial Vendor Drawings and Schematics Unit #4	07-Apr-22	13-Apr-22	TRANS-6	TRANS-6	40h	5.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6707	ES P&C Eng. Reviews Initial Vendor Drawings and Schematics Unit #4	07-Apr-22	13-Apr-22	TRANS-6	TRANS-6	40h	5.0d			ENG.ST.P&C.P&C
CS00486		TRANS-6717	Vendor Submits Final Drawings and Schematics for ES Review Unit #4	14-Apr-22	04-May-22	TRANS-6	TRANS-6	800h	15.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6727	ES SS Eng. Reviews Final Vendor Drawings and Schematics for MFG Release Unit #4	05-May-22	11-May-22	TRANS-6	TRANS-6	40h	5.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6737	ES-P&C Reviews Final Vendor Drawings and Schematics for MFG Release Unit #4	05-May-22	11-May-22	TRANS-6	TRANS-6	40h	5.0d			ENG.ST.P&C.P&C
CS00486		TRANS-6747	Material - Major Items - Mobile Transformer & Trailer - Vendor Leadtime Unit #4	12-May-22	14-Dec-22	TRANS-6	TRANS-6	1024h	149.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6907	ES Eng-Issues Relay Settings Unit #4	01-Nov-22	15-Nov-22*	TRANS-6	FAT	40h	10.0d			ENG.ST.P&C.P&C

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Project ID	Activity Flag	Activity ID	Activity Name	Start	Finish	Predecessc	Successors	Budgeted Labor Units	Original Duration	Resources	Activity Scheduler	DEPT - DEPARTMENT
CS00486		TRANS-6757	Material - Major Items - Mobile Transformer & Trailer - Deliver to Site Unit #4	15-Dec-22	19-Dec-22*	TRANS-6	DT0401	0h	5.0d	[redacted]		ENG.ST.SS.ELEC
Material - Major Items - Mobile Transformer & Trailer #5 WMA (WS00125)				04-Mar-22	19-Mar-23			2081h	261.0d			
CS00486	DR-ENG	TRANS-6767	Material - Major Items - Mobile Transformer & Trailer - Issue DR Unit #5	04-Mar-22	09-Mar-22	FF1000	TRANS-6	8h	4.0d			ENG.ST.SS.ELEC
CS00486	DR-AGMM	TRANS-6777	Mobile Transformer & Trailer Material Ordered Issue DR Unit #5		09-Mar-22	TRANS-6		0h	0.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6787	Material - Major Items - Mobile Transformer & Trailer - Issue PO Unit #5	10-Mar-22	16-Mar-22	TRANS-6	TRANS-6	29h	5.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6797	Vendor Submits Initial Drawings and Schematics for ES Review (3 weeks from PO per PE) Ui	17-Mar-22	06-Apr-22	TRANS-6	TRANS-6	20h	15.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6807	ES SS Eng. Reviews Initial Vendor Drawings and Schematics Unit #5	07-Apr-22	13-Apr-22	TRANS-6	TRANS-6	40h	5.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6817	ES P&C Eng. Reviews Initial Vendor Drawings and Schematics Unit #5	07-Apr-22	13-Apr-22	TRANS-6	TRANS-6	40h	5.0d			ENG.ST.P&C.P&C
CS00486		TRANS-6827	Vendor Submits Final Drawings and Schematics for ES Review Unit #5	14-Apr-22	04-May-22	TRANS-6	TRANS-6	800h	15.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6837	ES SS Eng. Reviews Final Vendor Drawings and Schematics for MFG Release Unit #5	05-May-22	11-May-22	TRANS-6	TRANS-6	40h	5.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6847	ES-P&C Reviews Final Vendor Drawings and Schematics for MFG Release Unit #5	05-May-22	11-May-22	TRANS-6	TRANS-6	40h	5.0d			ENG.ST.P&C.P&C
CS00486		TRANS-6857	Material - Major Items - Mobile Transformer & Trailer - Vendor Leadtime Unit #5	12-May-22	14-Mar-23*	TRANS-6	TRANS-6	1024h	209.0d			ENG.ST.SS.ELEC
CS00486		TRANS-6917	ES Eng-Issues Relay Settings Unit #5	01-Nov-22	15-Nov-22*	TRANS-6	FAT	40h	10.0d			ENG.ST.P&C.P&C
CS00486		TRANS-6867	Material - Major Items - Mobile Transformer & Trailer - Deliver to Site Unit #5	15-Mar-23	19-Mar-23*	TRANS-6	ET0401	0h	5.0d			ENG.ST.SS.ELEC
Material - Major Items - Mobile Transformer-FAT				23-Nov-22	30-Nov-22			40h	5.0d			
CS00486		FAT	Factory Acceptance Test	23-Nov-22	30-Nov-22*	TRANS-6	TRANS-6	40h	5.0d			ENG.ST.SS.ELEC
Test and Commissioning				14-Dec-22	11-Apr-23			340h	81.0d			
Test & Commisioning - LCE Support to Outsourced Test Unit #1 CT (CS00486)				14-Dec-22	05-Jan-23			28h	15.0d			
CS00486		09400	T&C/LCE PM Requests Lead Commissioning Engineer Go/No-Go Unit #1	14-Dec-22	14-Dec-22	TRANS-6	10009	8h	1.0d			ENG.ST.SS.ELEC
CS00486		10009	T&C/LCE Assign Lead Commissioning Engineer Unit #1	15-Dec-22	15-Dec-22	09400	09410	8h	1.0d			ENG.ST.SUBTECH.LCE
CS00486	ES-IFC	09410	T&C/LCE LCE Reviews Drawings & Schematics Unit #1	16-Dec-22	21-Dec-22	10009	09415	0h	5.0d			ENG.ST.SUBTECH.LCE
CS00486		09415	T&C/LCE Review and Approve EVS FET Test and Commissioning Plan Unit #1	22-Dec-22	04-Jan-23	09410	09420	0h	10.0d			ENG.ST.SUBTECH.LCE
CS00486		100009	T&C/LCE Test Commissions Temp Mobile Transformer Unit #1	26-Dec-22	26-Dec-22	AT00	FIN-#1	12h	1.0d			TEST
CS00486		09420	T&C/LCE Commissioning Engineer Commissions Temp Mobile Transformer Unit #1	05-Jan-23	05-Jan-23	09415, A	FIN-#1	0h	1.0d			ENG.ST.SUBTECH.LCE
Test & Commisioning - LCE Support to Outsourced Test Unit #2 CT (CS00486)				18-Jan-23	07-Feb-23			28h	15.0d			
CS00486		100139	T&C/LCE PM Requests Lead Commissioning Engineer Go/No-Go Unit #2	18-Jan-23	18-Jan-23	TRANS-6	100159	8h	1.0d			ENG.ST.SS.ELEC
CS00486		100159	T&C/LCE Assign Lead Commissioning Engineer Unit #2	19-Jan-23	19-Jan-23	100139	100169	8h	1.0d			ENG.ST.SUBTECH.LCE
CS00486	ES-IFC	100169	T&C/LCE LCE Reviews Drawings & Schematics Unit #2	20-Jan-23	25-Jan-23	100159	100179	0h	5.0d			ENG.ST.SUBTECH.LCE
CS00486		100149	T&C/LCE Test Commissions Temp Mobile Transformer Unit #2	24-Jan-23	24-Jan-23	BT00	FIN-#2	12h	1.0d			TEST
CS00486		100179	T&C/LCE Review and Approve EVS FET Test and Commissioning Plan Unit #2	26-Jan-23	06-Feb-23	100169	100189	0h	10.0d			ENG.ST.SUBTECH.LCE
CS00486		100189	T&C/LCE Commissioning Engineer Commissions Temp Mobile Transformer Unit #2	07-Feb-23	07-Feb-23	100179, I	FIN-#2	0h	1.0d			ENG.ST.SUBTECH.LCE
Test & Commisioning - LCE Support to Outsourced Test Unit #3 CT (CS00486)				10-Feb-23	03-Mar-23			28h	15.0d			
CS00486		100079	T&C/LCE PM Requests Lead Commissioning Engineer Go/No-Go Unit #3	10-Feb-23	10-Feb-23	TRANS-6	100099	8h	1.0d			ENG.ST.SS.ELEC
CS00486		100099	T&C/LCE Assign Lead Commissioning Engineer Unit #3	13-Feb-23	13-Feb-23	100079	100109	8h	1.0d			ENG.ST.SUBTECH.LCE
CS00486	ES-IFC	100109	T&C/LCE LCE Reviews Drawings & Schematics Unit #3	14-Feb-23	18-Feb-23	100099	100119	0h	5.0d			ENG.ST.SUBTECH.LCE
CS00486		100119	T&C/LCE Review and Approve EVS FET Test and Commissioning Plan Unit #3	20-Feb-23	02-Mar-23	100109	100129	0h	10.0d			ENG.ST.SUBTECH.LCE
CS00486		100089	T&C/LCE Test Commissions Temp Mobile Transformer Unit #3	22-Feb-23	22-Feb-23	CT00	FIN-#3	12h	1.0d			TEST
CS00486		100129	T&C/LCE Commissioning Engineer Commissions Temp Mobile Transformer Unit #3	03-Mar-23	03-Mar-23	100119, (	FIN-#3	0h	1.0d			ENG.ST.SUBTECH.LCE
Test & Commisioning - LCE Support to Outsourced Test Unit #4 WMA (WS00125)				15-Dec-22	06-Mar-23			28h	54.0d			
CS00486		100019	T&C/LCE PM Requests Lead Commissioning Engineer Go/No-Go Unit #4	15-Dec-22	15-Dec-22	TRANS-6	100039	8h	1.0d			ENG.ST.SS.ELEC
CS00486		100039	T&C/LCE Assign Lead Commissioning Engineer Unit #4	16-Dec-22	16-Dec-22	100019	100049	8h	1.0d			ENG.ST.SUBTECH.LCE
CS00486	ES-IFC	100049	T&C/LCE LCE Reviews Drawings & Schematics Unit #4	17-Dec-22	22-Dec-22	100039	100059	0h	5.0d			ENG.ST.SUBTECH.LCE
CS00486		100059	T&C/LCE Review and Approve EVS FET Test and Commissioning Plan Unit #4	23-Dec-22	05-Jan-23	100049	100069	0h	10.0d			ENG.ST.SUBTECH.LCE
CS00486		100069	T&C/LCE Commissioning Engineer Commission Temp Mobile Transformer Unit #4	06-Mar-23	06-Mar-23	100059, I	FIN-#4	0h	1.0d			ENG.ST.SUBTECH.LCE
CS00486		100029	T&C/LCE Commissioning Engineer Commissions Temp Mobile Transformer Unit #4	06-Mar-23	06-Mar-23	DT00	FIN-#4	12h	1.0d			TEST
Test & Commisioning - LCE Support to Outsourced Test Unit #5 WMA (WS00125)				15-Mar-23	04-Apr-23			28h	15.0d			
CS00486		100199	T&C/LCE PM Requests Lead Commissioning Engineer Go/No-Go Unit #5	15-Mar-23	15-Mar-23	TRANS-6	100219	8h	1.0d			ENG.ST.SS.ELEC
CS00486		100219	T&C/LCE Assign Lead Commissioning Engineer Unit #5	16-Mar-23	16-Mar-23	100199	100229	8h	1.0d			ENG.ST.SUBTECH.LCE
CS00486	ES-IFC	100229	T&C/LCE LCE Reviews Drawings & Schematics Unit #5	17-Mar-23	22-Mar-23	100219	100239	0h	5.0d			ENG.ST.SUBTECH.LCE

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Project ID	Activity Flag	Activity ID	Activity Name	Start	Finish	Predecessc	Successors	Budgeted Labor Units	Original Duration	Resources	Activity Scheduler	DEPT - DEPARTMENT
CS00486		100239	T&C/LCE Review and Approve EVS FET Test and Commissioning Plan Unit #5	23-Mar-23	03-Apr-23	100229	100249	0h	10.0d	[redacted]		ENG.ST.SUBTECH.LCE
CS00486		100209	T&C/LCE Test Commissions Temp Mobile Transformer Unit #5	27-Mar-23	27-Mar-23	ET00	ISD	12h	1.0d			TEST
CS00486		100249	T&C/LCE Commissioning Engineer Commissions Temp Mobile Transformer Unit #5	04-Apr-23	04-Apr-23	100239, I	ISD	0h	1.0d			ENG.ST.SUBTECH.LCE
ISD				06-Jan-23	11-Apr-23			200h	66.0d			
CS00486		FIN-#1	Project In-Service (Mobile Tested;Commissioned and Deployment Ready) Unit #1	06-Jan-23	12-Jan-23	09420, 1(	10210, 1(	40h	5.0d			ENG.ST.SS.ELEC
CS00486		FIN-#2	Project In-Service (Mobile Tested;Commissioned and Deployment Ready) Unit #2	08-Feb-23	14-Feb-23	100189,	10210, 1(	40h	5.0d			ENG.ST.SS.ELEC
CS00486		FIN-#3	Project In-Service (Mobile Tested;Commissioned and Deployment Ready) Unit #3	06-Mar-23	10-Mar-23	100129,	10210, 1(	40h	5.0d			ENG.ST.SS.ELEC
CS00486		FIN-#4	Project In-Service (Mobile Tested;Commissioned and Deployment Ready) Unit #4	07-Mar-23	13-Mar-23	100069,	10210, 1(	40h	5.0d			ENG.ST.SS.ELEC
CS00486	ISD	ISD	Project In-Service (Mobile Tested;Commissioned and Deployment Ready) Unit #5	05-Apr-23	11-Apr-23	100249,	10415, 1(	40h	5.0d			ENG.ST.SS.ELEC
PROJECT CLOSE OUT				13-Jan-23	27-Jun-23			1229h	115.0d			
Electrical As-Builts				12-Apr-23	11-May-23			269h	22.0d			
CS00486	ES-ASB	10200	Eversource Engineering Verifies Electrical Mark Up As-Built Drawing Package Units 1-5	12-Apr-23	25-Apr-23	ISD	10205	80h	10.0d			ENG.ST.SS.ELEC
CS00486	ES-ASB	10205	Eversource Engineering Updates Electrical As-Built Drawing Package Units 1-5	26-Apr-23	28-Apr-23	10200	10210	48h	3.0d			ENG.ST.SS.ELEC
CS00486	ES-ASB	10210	ES Create Transmittal, Approve Final As-Built Package, and EDC Files and Issue Drawings to	01-May-23	10-May-23	10205, FI	10215	133h	8.0d			ENG.ST.SS.ELEC
CS00486	** KPI **	10215	PM/PE to Document Electrical As-Built Drawings Complete Units 1-5	11-May-23	11-May-23	10210	10335	8h	1.0d			ENG.ST.SS.ELEC
Other Close Out				13-Jan-23	27-Jun-23			960h	115.0d			
CS00486		10405	Test Vendor - Review Test Data and Issue Commissioning Report Unit #1	13-Jan-23	20-Jan-23	FIN-#1	10335, 1(	40h	5.0d			TEST
CS00486		10410	FORM TD-707 - ConRep/PE/PM Provide form to PE Unit #1	13-Jan-23	20-Jan-23	FIN-#1	10335, 1(	40h	5.0d			ENG.ST.SS.ELEC
CS00486		100259	Test Vendor - Review Test Data and Issue Commissioning Report Unit #2	15-Feb-23	22-Feb-23	FIN-#2	10335, 1(	40h	5.0d			TEST
CS00486		100269	FORM TD-707 - ConRep/PE/PM Provide form to PE Unit #2	15-Feb-23	22-Feb-23	FIN-#2	10335, 1(	40h	5.0d			ENG.ST.SS.ELEC
CS00486		100279	LCE Reviews Test Data and Issue Commissioning Report Unit #2	23-Feb-23	28-Feb-23	100259	10335, 1(	0h	5.0d			ENG.ST.SUBTECH.LCE
CS00486		100299	Test Vendor - Review Test Data and Issue Commissioning Report Unit #3	13-Mar-23	17-Mar-23	FIN-#3	10335, 1(	40h	5.0d			TEST
CS00486		100309	FORM TD-707 - ConRep/PE/PM Provide form to PE Unit #3	13-Mar-23	17-Mar-23	FIN-#3	10335, 1(	40h	5.0d			ENG.ST.SS.ELEC
CS00486		100319	Test Vendor - Review Test Data and Issue Commissioning Report Unit #4	14-Mar-23	20-Mar-23	FIN-#4	10335, 1(	40h	5.0d			TEST
CS00486		100329	FORM TD-707 - ConRep/PE/PM Provide form to PE Unit #4	14-Mar-23	20-Mar-23	FIN-#4	10335, 1(	40h	5.0d			ENG.ST.SS.ELEC
CS00486		100339	Test Vendor - Review Test Data and Issue Commissioning Report Unit #5	12-Apr-23	18-Apr-23	ISD	10335, 1(	40h	5.0d			TEST
CS00486		100349	FORM TD-707 - ConRep/PE/PM Provide form to PE Unit #5	12-Apr-23	18-Apr-23	ISD	10335, 1(	40h	5.0d			ENG.ST.SS.ELEC
CS00486		10400	LCE Reviews Test Data and Issue Commissioning Report Unit #1	19-Apr-23	24-Apr-23	10405, 1(	10335, 1(	0h	5.0d			ENG.ST.SUBTECH.LCE
CS00486		10415	Construction Rep PE/PM Finalize CASCADE Forms (within 14 days) Unit #1	02-May-23	15-May-23	ISD, FIN-	10425, 1(	80h	10.0d			ENG.ST.SS.ELEC
CS00486		100289	Construction Rep PE/PM Finalize CASCADE Forms (within 14 days) Unit #1	02-May-23	15-May-23	ISD, FIN-	10425, 1(	80h	10.0d			ENG.ST.SS.ELEC
CS00486		10425	Prepare Final Units of Property (UoP) Units #1-5	16-May-23	30-May-23	10415, 1(	10335	160h	10.0d			CONS
CS00486		10430	Asset Management Complete Asset Update(s) in CASCADE Units #1-5	16-May-23	27-Jun-23	10415, 1(	10335	240h	30.0d			ENG.AM.COMP
CS00486		10335	Project Complete [CLOSE OUT FINISH MILESTONE] Units #1-5		27-Jun-23	10425, 1(		0h	0.0d			PROJ

TASK filter: All Activities

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