EVERSOURCE

Operations Project Authorization Form

Approved on July 20, 2022 EPAC

Link to Meeting Minutes

Project Title: [redacted] Transformer Replacements	**Project Number: CS00516**
Date Prepared: 07/11/2022	**Company: Eversource CT**
Organization: System Planning	**Class(es) of Plant: D SS**
Project Initiator: [redacted]	**Project Category: Stations - Transformers**
Managing Organization: Engineering	**Schedule ID#: 80121158 (3X), 80121160 (2X)**
Project Manager: [redacted]	**Project Type: Specific**
Project Sponsor: [redacted]	**Capital Investment part of original Op Plan: Yes**
Estimated in service date: 5/31/2023	**Emergency Related Request? Yes**
Eng./Constr. Resources Budgeted? Yes	**Facility Type (check all that apply):** ☐ **PTF** ☐ **non-PTF** ☒ **Distribution** ☐ **N/A (General Plant)**
Total Capital Request: $11,465K	**Authorization Type: Full Funding**

[1] Executive Summary

This is an emergency full funding request for $11,465K to support material procurement, construction, and test services for the [redacted] substation in Ridgefield, CT. This project will replace the [redacted]-2X and [redacted]-3X transformers for both asset condition and loading concerns. The Eversource Distribution System Planning Guide (reference 4), states that a substation LCC must be increased, or station offloaded if the limit is exceeded. The substation load carrying capacity (LCC) will be increased from 59MVA to 81MVA with the replacements.

Initial funding of $250K was approved for this porject in PowerPlan on September 15, 2021. Partial funding of $2,954K was approved in PowerPlan on May 26, 2022 to support detailed engineering design documents and receipt of materials authorized via material exemption for [redacted] substation. As of June 24, 2022, $907K has been spent to develop preliminary civil, P&C packages and electrical packages, conceptual level scopes for project alternatives and associated cost estimates for presentation to the Solution Design Committee (SDC), and some material procurement per Material Exemption. The project alternatives and complete preferred project scope were presented to and approved by the SDC on December 8, 2021.

On June 30, 2021, the 49-year-old 22N-3X transformer (manufactured in 1972) tripped and locked out. Oil results from a sample taken on 7/1/22 showed a ~50% increase in acetylene from 8ppm – 13ppm which suggested an internal fault occurred. Testing could not confirm the internal fault so the unit was placed back in service on August 16, 2021 and has been holding in, but due to the age and high gas levels , it should be replaced. In addition to replacing the failed [redacted]-3X transformer this project will replace the 22N-2X transformer due to both asset condition and the station load. The 22N-2X is similar age (49 years old) and condition as the 22N-3X that failed in 2021. Prior to the failure of the 22N-3X transformer, [redacted] station peaked at 61MVA which is 103% of its LCC. This project is also replacing the obsolete transformer protection relays for the 22N-2X transformers and circuit switchers.

EVERSOURCE

[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 purchases						
2. Environmental Approvals / Permits						
3. Outreach			$5	$8		$12
4. Siting Approvals / Permits			$24	$41		$64
5. Engineering / Design	$2,900	$907	$174	$127		$1,208
6. Materials (Eversource purchased)			$1,349	$2,060		$3,408
7. Construction (incl matl's by contractors)			$471	$1,341		$1,812
8. Testing / Commissioning			$234	$241		$474
9. PMT Project Mgmt Team			$95	$95		$190
10. Removals			$28	$68		$96
11. Other						
12. Risks			$400	$400		$800
Project Directs Total w/Risks	**$2,900**	**$907**	**$2,778**	**$4,380**		**$8,065**
13. Indirects/Overhead			$999	$1,603		$2,601
14. AFUDC			$182	$269		$451
Project Total - Baseline Budget	**$2,900**	**$907**	**$3959**	**$6,252**		**$11,118**
15. Contingency			$130	$217		$347
Project Total - Funding Approval Level	**$2,900**	**$907**	**$4,089**	**$6,469**		**$11,465**
16. Reimbursables/Customer Contribution						
Project Total (less reimbursables)	**$2,900**	**$907**	**$4,089**	**$6,469**		**$11,465**
Total O&M						
TOTAL REQUEST	**$2,900**	**$907**	**$4,089**	**$6,469**		**$11,465**

Detail other costs, project risk items and their allocations:

Risk	Allocation
1. Potential UG Obstructions	$80,000
2. Severe Weather, Delays, OT	$12,000
3. Design development	$124,000
4. Complications of mobile installation	$100,000
5. PCB Contaminated soil disposal and replace with new soil - Environmental	$160,000
6. Price Inflation Risk	$90,000
7. Material Delays	$130,000
Total	$800,000

Explain unique payment provisions, if applicable:

Two material exemption forms have been approved for the project on 10/20/2021 and 12/9/2021. The first authorized $90K for the switch combo and neutral reactor. The second was approved for $80K for physical material, structural steel, conduits, anchor bolts, control cables, grounding wire and protective relaying. The transformers were purchased via Eversource blanket purchase order with Hitachi for large transformers. The 3X transformer is currently onsite and the 2X transformer is scheduled for delivery in January 2023.

Identify and detail any unique O&M impacts resulting from this project: None

[3] TECHNICAL JUSTIFICATION

Project Need, Objective and Justification

[redacted] substation in Ridgefield, CT serves 11,081 customers and is a 115kV to 13.8kV two (2) transformer substation. See Attachment D for the One-Line diagram. The current nameplate rating for the 22N-2X (49 years old) and 22N-3X (50 years old) is 47MVA and both are recommended to be replaced with new 62.5 MVA transformers (new standard design from HICO). The main driver of this project is the health index of both transformers and an event that occurred in June 2021 on the 22N-3X. On June 30, 2021, the 22N-3X transformer tripped and locked out. Oil results taken on 6/30/22 discovered that there was an increase in acetylene confirmed by both Myrkos and Doble test results. Results from additional sample taken on 7/1/22 show ~50% increase in acetylene from 8ppm – 13ppm. This increase suggested that an internal event did occur and warranted testing. Eversource contracted North American Substation Services (NASS) to do a full internal inspection on the unit and could not confirm an internal fault occurred. While a root cause has not been identified, this does not mean that there is not an issue internal to the windings that has yet to present itself again which would result in a similar trip. It was discussed to possibly detank, inspect and even rewind the transformer; however, the cost and risk of this type of solution outweighs any benefit for a transformer that is 50 years old. The unit was placed back in service on August 16, 2021 and has been operating normally, but due to the condition and unknown failure cause, it should be replaced.

In addition to replacing the failed [redacted]-3X transformer, this project proposes to replace the 22N-2X due to the similar poor health index and the station being overloaded. The [redacted]-3X has a Power Transformer Expert System (PTX) short term health index of 0.68 and the 22N-2X of 0.59. The PTX is a thoroughly researched and widely used Electric Power Research Institute (EPRI) tool that utilizes nameplate and transformer oil data to calculate transformer health. A health index > 0.50 indicates loss of useful insulation life and shows potential replacement candidates. Currently, the [redacted] scores are the highest in the CT fleet. The PTX tool pulls data from Cascade/TOA4, which is provided by Eversource field teams during routine or emergent inspections. It does not include tripping events in its calculations; however, as oil data trends in the abnormal direction the health indices will increase.

Prior to the failure, [redacted] station peaked at 61MVA in 2021 which is 103% of its Load Carrying Capacity (LCC). The station's LCC is limited by the firm rating, 53MVA, plus the available transfer capacity, 6MVA. Replacing both [redacted] transformers with 62.5MVA 115/13.8KV transformers will increase the station's LCC from 59MVA to 81MVA and facilitate offloading the adjacent station Peaceable 12N. Peaceable 12N peaked at 33.7MVA in 2021 which is 89% of its LCC limit. Projects are initiated after exceeding 90% of the station limit which Peaceable 12N is forecasted to exceed in 2022.

Overload Ratings:

Transformer	Nameplate	Rating (LTE)
22N-2X	28/37/47 MVA	53.4 MVA
22N-3X	28/37/47 MVA	53.4 MVA

Existing Station Capabilities:

Total Station Capacity (N)	Station Firm Capacity (LTE)	Load Transfers	Total LCC
93 MVA	53.4	6	59 MVA

2022-2026 Projected Load:

2022	2023	2024	2025	2026
61.3 MVA	61.6 MVA	61.9 MVA	62.3 MVA	62.6 MVA

After both the 22N-2X and 22N-3X are replaced with the standard 62.5MVA, normal rating, the new LCC with be at 76%.

Project Objectives

Replace the 22N-3X and 22N-2X transformers to improve reliability and increase the station capacity. The station currently feeds a load above 103% of its normal capacity rating during N-1 contingency. To maintain a reliable standard of service, it is necessary to replace the existing 47MVA transformers with the Eversource 62.5MVA standard transformer. The project will also accomplish the following:

- Replace electromechanical replays with new standard transformer protection.
- Replacement of the existing 22N-3X1-4 motor operated disconnect (MOD) switch and 22N-3X1-2 circuit switcher with a new circuit switcher/MOD combo unit designated 22-3X1-4.
- Replacement of the existing 22N-2X1-4 motor operated disconnect switch and 22N-2X1-2 circuit switcher with a new circuit switcher/MOD combo unit designated 22-2X1-4.
- Installation of a dedicated neutral reactor to each transformer.
- Replacement the 22N-2X and 22N-3X low side potential transformers (PTs) and station service transformer.

Project Scope

The scope of this project is for the engineering design and construction to complete the [redacted] transformer replacements.

The scope to replace both 49 and 50-year-old 28 / 37.3 / 46.7 MVA 115kV/13.8kV [redacted] transformers in the current footprint with no expansion needed includes the following:

- Installation of a mobile transformer 70MX and temporary fencing during transformer replacements.
- Remove existing transformer and switch/MOD foundations.
- Remove existing conduits between transformers and control house to accommodate new foundations.
- Install new foundations for transformers and switch/MOD combos.
- Removal and disposal of existing transformers. Cost for oil disposal and rigging, less sale of transformers for salvage is included in the estimate.
- Replacement of the failed [redacted]-3X 28/37.3/46.7 MVA power transformer with a new 37/50/62.5 MVA unit on a new foundation.
- Replacement of the existing 22N-3X1-4 motor operated disconnect switch and 22N-3X1-2 circuit switcher with a new circuit switcher/MOD combo unit designated 22-3X1-4.
- Replacement of the [redacted]-2X 28/37.3/46.7 MVA power transformer with a new 37/50/62.5 MVA unit on a new foundation.
- Replacement of the existing 22N-2X1-4 motor operated disconnect switch and 22N-2X1-2 circuit switcher with a new circuit switcher/MOD combo unit designated 22-2X1-4.
- Installation of new conduits between the transformers and the control house.
- Installation of new 115kV bus supports.
- Installation of a dedicated neutral reactor to each transformer.
- Replace 22N-2X electromechanical relays.
- Replace the 22N-2X and 22N-3X low side PTs and station service transformers.
- Replace 200AH battery with higher capacity 300AH in control house. The upgraded size is needed to accommodate the replacement of obsolete electromechanical relays, that are susceptible to failure, with microprocessor relays. Additionally, DSCADA capability was added to the 22N-2X and 22N-3X.
- Sound study to identify any additional modifications required. This study has been completed and sound levels with new transformer are lower than existing units.

A constructability review was performed on November 23, 2021 (see Attachment C).

Substation Equipment

Station	Device Position / Nomenclature	Device Removals *include manufacturer*	Device Additions *include manufacturer*

[redacted]			HICO
			HICO
		[redacted]	Circuit switcher MOD combo unit
			Circuit switcher MOD combo unit

Background

On June 30, 2021, the 22N-3X transformer tripped and locked out. Oil results taken on 6/30/22 discovered that there was an increase in acetylene confirmed by both Myrkos and Doble test results. Results from additional sample taken on 7/1/22 show ~50% increase in acetylene from 8ppm – 13ppm. This increase suggested that an internal event did occur and warranted testing. Eversource contracted North American Substation Services (NASS) to do a full internal inspection on the unit and could not confirm an internal fault occurred. While a root cause has not been identified, this does not mean that there is not an issue internal to the windings that has yet to present itself again which would result in a similar trip. It was discussed to possibly detank, inspect and even rewind the transformer; however, the cost and risk of this type of solution outweighs any benefit for a transformer that is 50 years old. The unit was placed back in service on August 16, 2021 and has been operating normally, but due to the condition and high gas levels, it should be replaced.
. In addition to replacing the failed [redacted]-3X transformer this project will replace the 22N-2X transformer due to both asset condition and the station load. The 22N-2X is similar age and condition as the 22N-3X that failed in 2021. Prior to the failure of the 22N-3X transformer, [redacted] station peaked at 61MVA which is 103% of its LCC. This project is also replacing the obsolete transformer protection relays for both the 22N-3X and 22N-2X transformers and circuit switchers.

[4] ALTERNATIVES CONSIDERED

This project was presented to SDC on December 8, 2021 and the preferred alternative was approved.

Alternative 1 - Replace the 22N-2X and 22N-3X (Preferred)

The preferred solution will require replacement of the existing 22N-2X and 22N-3X transformers with the Eversource 62.5MVA standard transformer. A constructability walkdown with Station Operations, Substation Engineering, P&C Engineering, Civil Engineering, and Siting, and Environmental was held November 23, 2021. At the walkdown the overall project scope of work was prepared and a cost estimating approach was developed.

The following project scope and risks have been assessed and built into the planning grade estimate. The new transformers will only fit in the substation if the existing circuit switchers (C/S) and high side MODs are replaced with new CS/MOD combo units. A sound study has been completed and the property line sound pressure level will be reduced due to the transformers' replacement. There are no current environment concerns associated with the old foundations. The old foundations will be removed, new foundations will be installed. Removal of the old foundations and installation of new foundations are covered in the planning grade estimate. The existing transformer relays will be replaced with new microprocessor-based relays. The existing control house can accommodate all needed upgrades. The new microprocessor-based relays are not expected to increase the DC load compare to the old relays. The existing low side bus and switchgear can handle the increased transformer capability. New current transformers (CTs) will not be required for the low side transformer switchgear breakers. A battery capacity analysis has been completed and it has been determined a large battery size is needed.

Cost Estimate – $11.465M – Planning Grade -25% / +25% **Advantages** – Increase station capacity by approximately 20-25MVA. Replacement of the 22N-3X can be completed before summer 2023. Electromechanical relays will be upgraded to microprocessor relays. Ability to offload Peaceable 12N substation and defer the replacement of the Peaceable 12N transformer replacements for 5-10 years. The 12N transformers health indexes are presently not at a concerning level.

Disadvantages – None

Alternative 2 - Further Testing, Load Transfer, and Replace Peaceable 12N Transformers

To further investigate the cause of the 22N-3X failure it would need to be detanked, inspected, and the transformer rewound. This would provide no capacity gain so there would also need to be load transfers of 12MVA. All possible transfers have been evaluated and the options are limited. [redacted] is located next to the Eversource boundary to the west and the closest

station, Peaceable 12N, is approaching its limit. The only transfer available without causing an overload is 3.5MVA to Triangle 11A57 for about $600K picking up the 22N6-71S zone. Not gaining capacity at [redacted] will result in replacing Peaceable 12N transformers and switchgear. This project could be deferred with option 1 for 5-10 years. After the Peaceable 12N project is completed a larger offload from [redacted] can be accomplished.

Cost Estimate – $28.5M (Repair 22N-3X - $3.83M + Peaceable 12N - $22-24M + load transfer $600K) conceptual estimate.

Advantages – None

Disadvantages – The repair process would take 12-15 months and during this time the [redacted] station would be on a mobile position and field ties would be in abnormal condition during peak loading conditions. Distribution design is exploring adding feeder positions to [redacted]. If the transformer is repaired instead of replaced, the full benefit of the additional feeder positions would not be realized. The electromechanical relay upgrade to microprocessor isn't included in the estimate. The Peaceable 12N station upgrade is very costly, and the cost cannot be deferred with this option. Replacement of the Peaceable 12N transformers will be challenging due to the lack of space and station arrangement. The [redacted]-2X is similar vintage and condition as the 22N-3X and this option does not include the replacement of this transformer. The replacement of the 22N-3X is a much longer solution and more cost effective than repairing. This option is also the higher cost.

Alternative 3 - NWA (Non-wires Alternative)

Does not qualify due to poor health indexes for both transformers.

Alternatives 4 - Do Nothing

Not recommended to do nothing with the [redacted]-3X due to it having failed once. Not recommended to do nothing with the [redacted] 2X due to it having the same age, vintage, and poor health index rating. Also, the station exceeded its LCC limit in 2021 and there is limited ability to transfer load as stated above in Alternative 2.

[5] PROJECT SCHEDULE

Milestone	Scheduled Completion Date
Project Need by Date	5/31/23
Date of IFR Approval	9/15/21
Complete Conceptual design of Alternative(s)	9/24/21
Initiator complete SSF form	11/29/21
SDC Presentation Date(s)	12/8/21
Conversion of Tx development costs, 183 to 107 (applicable to projects that require SSF approval but do not require ISO alternative selection)	N/A
Partial Funding Approval at EPAC	3/29/22
Preliminary Design Complete	4/29/22
Preliminary Design Constructability review complete	5/13/22
Full funding estimate complete	6/24/22
Full funding estimate review	7/5/22
Initiator complete PAF form	7/7/22
EPAC Funding Dates (Full-funding)	7/20/22
Detail Design Complete	6/30/22 (3X) / 8/1/22 (2X)
Final Constructability Review Complete	11/23/21
Targeted Milestone Dates:	
· Siting Approval (if applicable)	N/A
· Env. Approvals (if applicable)	N/A
· Outage & Energization Plan Issued	3/2/22
· All Material on Site	7/30/22 (3X Trans) / 12/31/22 (2X)
· Outage Permit(s) Approved	4/15/22
IFC Design Complete	7/29/22 (3X Trans) / 9/30/22 (2X)
Start of Construction	9/6/22 (3X Trans) / 1/3/23 (2X)
Project ISD	12/15/22 (3X Trans) / 5/31/23 (2X)
Relay Settings Issued (*Required for Full Funding requests)	3/31/22
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 Attachments B1 and B2 for the P6 schedules.

[6] Regulatory Approvals

Regulatory approvals will not be required due to the replacement of the Ridgefield transformers and protective relays.

[7] Risk and Risk Mitigation Plans

Contingency:

A contingency amount of $357K has been included in the total project estimate to account for any unknows.

Risk Mitigation:

Risk	Mitigation
1. Potential UG Obstructions	Will require review during construction if obstructions observed by civil contractor. Test pits and new conduits for the 2X & 3X transformers if needed. Risk allocation is also included in the estimate.
2. Severe Weather, Delays, OT	Review scheduling and forecasts; may require extended labor and overtime. Risk allocation is included to cover extended labor and overtime.
3. Design development	Engage internal and vendor resources to modify design to meet schedules. Risk allocation is also included in the estimate.
4. Complications of mobile installation	During transformer replacement, a mobile transformer will be installed to carry station load. May require redistribution of loads on the energized transformer. Risk allocation is also included in the estimate.
5. PCB Contaminated soil disposal offsite and replacement with new soil - Environmental	Provide disposal services as required. May require removal of contaminated soil and provide new soil as replacement. Risk allocation is also included in the estimate.
6. Price Inflation Risk	Keep Major equipment delivery on time. Risk allocation is also included in the estimate.
7. Material Delays	Order materials as early as possible to arrive one (1) to two (2) months ahead of planned usage. Risk allocation is also included in the estimate.

[8] REFERENCES

References
1. CS00516 [redacted] Transformer Replacements IFR, dated 9/1/2021
2. CS00516 [redacted] Transformer Replacements SSF, dated 11/24/2021
3. CS00516 [redacted] Transformer Replacements Partial Funding PAF, dated 3/24/2022
4. The Eversource Distribution System Planning Guide
5.

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

Attachment	Included in Submittal?
A. Cost Estimate	*YES*
B1. P6 Schedule – 3X	*YES*
B2. P6 Schedule – 2X	*YES*
C. Constructability Review	YES
D. System and Station One-Lines	*YES*

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: [redacted] **Transformer Replacements**		**Project Number: CS00516**	
Facility Type: ☐BPS ☐BES ☐PTF ☐PTF non-regional ☐non-PTF ☐CIP ☒Distribution ☐General Plant			
PLANNING			
Is a NX-9 required?		Yes	
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?		Yes	
ISO-NE Approval Date (if completed):		06/14/2022	
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?		Yes	
OPERATIONS			
Outage Required?	☒ Primary Equipment (Power Transfer)	☐ Secondary Equipment (P&C only)	☐ Outage Not Required
Do SCLL Conditions Exist?		Yes	
Has an outage schedule been approved?		Yes	
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?		Yes	
Is there an impact to the existing ground grid?		Yes	
Is a Transient Over Voltage (TOV) analysis required?		No	

Project Checklist - Transmission & Substation Capital Project	
Project Name: [redacted] **Transformer Replacements**	**Project Number: CS00516**

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?	Medium
Is any part of this project in an Environmental Justice Community?	No
Has ROW Coordination reviewed this project?	Yes
Is this project coordinating with other existing scheduled work?	No
INITIATOR	
Has a field constructability review been completed?	Yes
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 - Full Review

ESTIMATE SUMMARY

Project Title [redacted] – Replace 2X & 3X Transformers
Project Mgr: [redacted]
Project Number: CS00516
WO & Task #: 80121160 & 80121158
Estimate revision #: 01
Estimate Type - Station work

Estimate #: C-22-312
Date of Estimate:06/24/2022
Estimate done by [redacted]
In Service date (ISD): 12/31/2023

Template Revision # 01.70c1

Alt Estimate Summary for PP4 Calc (escalation separate)

Estimate #: C-22-312
Date of Estimate:06/24/2022

Project Number: CS00516
WO & Task #: 80121160 & 80121158

ESTIMATE SUMMARY

Estimate Type: Planning

WBS	Description	TOTAL	% of Directs	% of Total	Priors	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TOTAL w/ escal broken out
1	ROW / Easements / Land purchases															ROW / Easements / Land purchas $ -
2	Environmental Approvals / Permits															Environmental Approvals / Permi $ -
3	Outreach	$12,200	0.2%	0.1%		$4,500	$7,700									Outreach $ 12,000
4	Siting Approvals / Permits	$64,300	0.8%	0.6%		$23,700	$40,600									Siting Approvals / Permits $ 63,100
5	Engineering / Design	$1,208,300	15.0%	10.5%	$907,300	$173,800	$127,200									Engineering / Design $ 1,204,700
6	Materials (Eversource purchased)	$3,408,400	42.3%	29.7%		$1 348 800	$2 059 600									Materials (Eversource purchased $ 3,377,800 move contractor mat
7	Construction (incl matl's by contractors)	$1,811,800	22.5%	15.8%		$470 600	$1 341 200									Construction (incl matl's bv cont $ 1,772,700 $ -
8	Testing / Commissioning	$474,200	5.9%	4.1%		$233,600	$240,600									Testing / Commissioning $ 467,200
9	PMT Project Mgmt Team	$189,700	2.4%	1.7%		$94.700	$95.000									PMT Project Mgmt Team $ 187.000
10	Removals	$96,300	1.2%	0.8%		$28 300	$68 000									Removals $ 94 300
11	Other															Other $ -
12	Risks	$800,000	9.9%	7.0%		$400,000	$400,000									Risks $ 800,000
125																
	Project Directs Total w/Risks	**$8,065,200**	100.0%	70.3%	**$907,300**	**$2,778,000**	**$4,379,900**									**$7,978,800**
13	Indirects/Overhead	$2,601,500		22.7%		$998 900	$1 602 600									Indirects/Overhead $ 2 554 800
14	AFUDC	$451,100		3.9%		$181,700	$269,400									AFUDC $ 451,100
125																$ -
	Project Total - Baseline Budget	**$11,117,800**		97.0%	**$907,300**	**$3,958,600**	**$6,251,900**									**$10,984,700**
																$ -
15	Contingency	$347,100		3.0%		$130,000	$217,100									Contingency $ 347,100
	Project Total - Funding Approval Level	**$11,464,900**		100.0%	**$907,300**	**$4,088,600**	**$6,469,000**									**$11,331,800**
16	Reimbursables/Customer Contribution															$ -
--																$ -
																$ -
	Project Total (less reimbursables)	**$11,464,900**			**$907,300**	**$4,088,600**	**$6,469,000**									**$11,331,800**
	Cost per key qty (if appl)	5,732,450 $'s / EA 115/13.8kV 37.5/48/62.5 MVA Delta-Wye														
	Amount of Escalation included above	$133,200					$133,200									$ 133,200
6	Total materials - Eversource	$3,408,400				$1,348,800	$2,059,600									
	Total materials - Contractor															
	Total materials	$3,408,400				$1.348.800	$2,059.600									Escal total $11,465,000
	NOTE: Risk / Contingency is 11.1% of Project Total Costs (incl escal/indirects/AFUDC but excl reimb.)															Check total $100

Estimate Range	**-25%**	**25%**
	$8,599,000	**$14,331,000**

COMMENTS:

Project Scope:

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

2 EA 115/13.8kV 37.5/48/62.5 MVA Delta-Wye

Substation engineering scope of work for the Replacement of two existing **115kV/13.8kV (47MVA)** power transformers to **62.5MVA**. In addition to replacing the failed [redacted] 3X transformer this project will replace the 22N-2X due to both asset condition and the station load. The 22N-2X is similar age and condition as the 22N-3X that failed last summer. Replacing both [redacted] transformers with 62.5MVA 115/13.8KV transformers will increase the station s LCC from 59MVA to 81MVA and facilitate offloading the adjacent station radiale 12N. Included with this alternative are the following:

Equipment removals include the following:
Two (02), 115kV motor operated Disconnects (MODs) i.e., 2X1-4 and 3X1-4 with associated foundations.
Two (02), 115kV Candle stick Circuit switchers i.e., 2X1-2 and 3X1-2 with associated foundations.
Two (02), 115/13.8kV Transformers with associated foundations and rerouting of conduits.

Equipment additions include the following:
Two (02), 115kV Combination unit Circuit switchers.
Two (02) three phase bus support structures supporting rigid bus connection to circuit switcher.
Install new foundation and control conduits for both 115kV Circuit Switchers – Disconnect Switch Combination Unit.
Two (02), 115/13.8kV HICO Transformers with associated foundations, rerouting of conduits with no new containments.
Two (2), 13.8kV, 600A, 0.4ohm Neutral Grounding Reactors.
Additional conduits re-routed to the new transformers location.
Extension of control conduits to new transformer control cabinet.
Replacement of the existing 2X only transformer electromechanical relays with new microprocessor-based relays. For 3X transformer electromechanical & DSCADA realys were repalced previously under **CS00581**. further, add DSCADA LTC capability to 2X transformer.
Replace existing Six (06) 25kVA 55VTs and asscoaited PTs for both 2X & 3X transformers.
Install higher capacity battery (320AH) in control house tro bring the existgn 200Ah battery to **SUB 38** and to supply added DSCADA communication load.
Replace current EPAQ9100 RTU with SEL-3530 RTAC.
for both 2X and 3X, Over-current, Differential & Lock-out relays. Electroswitch LOR, PML 8650 Meter; PM2000 Meter;
Test Switches type FT-19R, as required; Test Switches type FT-1, as required.

Assumptions/Clarifications:

Indirect rates based on: 11 - CT Station work

Engineering, Construction, testing and commissioning to be outsourced.
Risks for soil contamination is anticipated.
Transformer foundation soil pre-characterization will be performed.
EOC vendor's Civil, Electrical and P&C Engineering teams would be involved during the course of this project.
Eversource Material estimates are based on previous work and vendor quotes.
Risk allocation is included to account for unforeseen conditions during civil construction and complications of installing the mobile.
contingency is included for unforeseen conditions and situations.
All new equipment will be installed within the confines of the existing fenced yard.
No additional allowances have been added for aggressive outage recall times.

RISKS

Potential UG Obstructions	$ 80 000
Severe Weather. Delavs. OT	$ 120 000
Design develooment	$ 120 000
Complications of mobile installation	$ 100 000
PCB Contaminated soil disoose off and repalcement with new soil -	$ 160 000
Price Inflation Risk	$ 90 000
Material Delays	$ 130 000

UNESCALATED LINE ITEM DOLLARS

Project Number CS00516
Date of Estimate 06/24/2022
Estimate revision # 01

Escalation Rate | E Rate $ | 1 | 2

CSTXX-CONSTRUCTION	R	Prior Mhrs	Prior DOLLARS	2022 Mhrs	2022 DOLLARS	2023 Mhrs	2023 DOLLARS	2024 Mhrs	2024 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										
	LT										
Other (specify)	LT										
LT Total											
Employee Expenses	AE										
Construction Purchased Material	AM										
Outside Construction Vendor	AQ										
Sales tax on Constr. Vendor											
Vehicles (now in indirects section)	AV										
Insepection services (Outside Vendor)	AQ										
Construction Reo (Outside vendor)	AQ										
Rents and Leases	BR										
CSTXX Subtotal											
Escalation											
CSTXX Total											
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										
Prior Authorized (Partial Funding)	LT										
Other - specify	LT										
LT Total											
Employee Expenses	AE										
Contractor Engineering - T-Lines	AQ										
Contractor Engineering - D-Street	AQ										
Contractor Engineering - T -Station	AQ										
Contractor Engineering - D-Station	AQ										
Contractor Engineering - P&C	AQ										
Contractor Engineering - Survey	AQ										
Contractor Engineering - SCADA / Automation	AQ										
Contractor Engineering - Telecom	AQ										
Contractor Engineering - Civil	AQ										
Contractor Engineering - Specify	AQ										
Contractor Engineering - Specify	AQ										
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										
Outside Services	AM										
	AM										
Freight											
Sales Tax Eversouce/outside services	3.9%										
Other											
MATXX Subtotal											
Escalation											
MATXX Total											
PSMXX-PROJECT MANAGER & SUPPORT											
Project Management (PM)	LT										
Project Planning/Cost (IP)	LT										
Contracts/Purchasing (CIP)	LT										
System Planning	LT										
Environmental	LT										
SCS - Notification	LT										
Legal	LT										
Estimating	LT										
Siting - Exempt Modification	LT										
Asset Management	LT										
Other - Material Corodinators	LT										
Other -	LT										
Other -	LT										
Other -	LT										
LT Total											
Employee Expenses	AE										
Project Support Vendor - PM	AQ										
Project Support Vendor - IP	AQ										
Project Support Vendor - CIP	AQ										
Project Support Vendor - System Planning	AQ										
Project Support Vendor - Enviromental	AQ										
Project Support Vendor - SCS - Notification	AQ										
Project Support Vendor - Legal	AQ										
Project Support Vendor - Estimating	AQ										
Project Support Vendor - Siting - Exempt Modification	AQ										
Project Support Vendor - Asset Management	AQ										
Project Support Vendor - Other	AQ										
Project Support Vendor - Other	AQ										
Project Support Vendor - Other	AQ										
Project Support Vendor - Other	AQ										
Vehicles (now in indirects section)	AV										
Property or CWIP tax large proj. allowance	BR										
Builder All risk insurance excluding deductables(if project is over $50m)	BR										
Fees and Payments - Enviromental	BF										
Fees and Payments - Siting	BF										
Fees and Payments - Other	BF										
PSMXX Subtotal											
Escalation											
PSMXX Total											
REMXX-TG REMOVAL											
Engineering/Design	LT										
Internal Construction	LT										
LT Total											
Employee Expenses	AE										
Outside Services	AO										
Contractor Labor	AQ										
Vehicles (now in indirects section)	AV										
Rents and Leases	BR										
REMXX Subtotal											
Escalation											
REMXX Total											
TSTXX-TG TEST											
Test / Field Engr. Labor (In House)	LT										
Lead Commissioning Engr. (LCE) (Internal)	LT										
Employee Expense	AE										
Test / Field Engr. Labor (contractor)	AQ										
Lead Commissioning Engr. (LCE) (contactor)	AQ										
Vehicles (now in indirects section)	AV										
TSTXX Subtotal											
Escalation											
TSTXX Total											
SUBTOTAL PROJECT DIRECT COST											
Risk											
Risk											
Risk Total											
TOTAL PROJECT DIRECT COST (w risk)											
INDIRECTS											
Non-Productive Time Allocation (**ZNP**)											
Payroll Benefits Allocation (**ZPB**) incl NPT											
Gen SVC CO Overhead (**ZGS**) incl NPT											
E&S Allocations (**ZEB,ZEL,ZES**)											
AS&E A locations (**ZAS**)											
Stores Expense Allocation (**ZST**)											
Lobby Stock											
MDEC (**ZMI**)											
Vehicles (**ZVE**)											
Indirects Subtotal											
TOTAL PROJECT COST - Direct & Indirect (excl AFUDC)											
AFUDC											
AFUDC (ZK)											
In Service Dollars											
Cumulative ISS											
AFUDC Subtotal											
TOTAL PROJECT COST - Baseline Budget											
Contingecy											
Contingency											
Other											
Contingency SubTotal											
TOTAL PROJECT COST - Approved Funding											
Reimbursables / Customer Contribution											
Reimbursables / Customer Contribution (enter as negative)											

#	Project ID	Activity ID	Activity Name	Activity Status	Total Float	Start	Finish	Activity % Complete	Remaining Duration	Resources	Predecessors	Successors	RESP - Responsibility	DEPT - DEPARTMI
1	[redacted]		**3X Transformer; Circ Switcher Replacement (CS00516)**		0	16-Apr-21 A	26-Jul-23		263					
2	80121158	PT1000	Project Timeline - WBS Summary Activity	In Progress	0	16-Apr-21 A	26-Jul-23	47.08%	263				TBD-TPM.S	ENG.SCI
3	**PROJECT PLANNING & FUNDING**				117	03-Aug-21 A	08-Feb-23		146					
4	80121158	PPF1000	Project Planning & Funding - WBS Summary Activity	In Progress	117	03-Aug-21 A	08-Feb-23	61.58%	146				TBD-TPM.S	ENG.SCI
5	**T-Minus Milestones**				168	11-Jul-22	08-Feb-23		213					
6	**Civil T-Minus Milestones**				0	11-Jul-22	06-Sep-22		57					
7	80121158	AT00	T-00 Civil- START OF CONSTRUCTION - WO# 80121160	Not Started	0	06-Sep-22*		0%	0		AT0203, AT0409, AT0401, AT	BT00, A1	TBD-TPM.F	CONS
8	80121158	AT0401	ALL CIVIL MATERIAL RECEIVED, STAGED, INVENTORIED, REVIEWED	Not Started	29		11-Jul-22	0%	0		TRANS-570, DSSE-560	AT00, BTI		CONS
9	80121158	AT0805C	IFC - Civil (BG) w/BOM	Not Started	38		29-Jul-22	0%	0		DSSE-120	AT00, 12S	TBD-TPM.(	ENG.ST.:
10	**Electrical T-Milestones**				-156	11-Jul-22	08-Feb-23		213					
11	80121158	AT0203	CAN COMPLETE (CONSTRUCTION AUTHORIZATION NOTICE)	Not Started	24		12-Aug-22	0%	0		A1170	AT00, BTI		PM
12	80121158	AT0301	T-03 NX9 THERMAL RATINGS TO LCC AND CONVEX	Not Started	-154		22-Aug-22*	0%	0		NX9A-NC49, NX9A-NC47, NX	BT00	TBD-TPM.F	CONS
13	80121158	AT0805E	Elect IFC - Electrical (AG) w/Final BOM	Not Started	-18		29-Jul-22	0%	0		DSSE-240	BT00, CT		ENG.ST.:
14	80121158	AT1201	SCADA Date (Tab) Sheets/Signal List Sent to LCC	Not Started	57		11-Jul-22	0%	0		DSSE-990	BT00		ENG.ST.I
15	80121158	AT1805	T-18 NX9 Preliminary Ratings to LCC for New Equipment (transformers are cc	Not Started	-159		09-Aug-22*	0%	0		NX9A-NC149, NX9A-NC89	BT00, CT	TBD-TPM.F	CONS
16	80121158	AT1805T	T-18 NX9 Preliminary Ratings to LCC for Temp Transformer	Not Started	-282		08-Feb-23*	0%	0		NX9A-NC149T	BT00	TBD-TPM.F	CONS
17	80121158	BT00	T-00 Electrical START OF CONSTRUCTION - WO#80121160 - Transformer Te	Not Started	0	06-Sep-22*		0%	0		AT00, BT1801, AT1805, AT0S	TOA-Test	TBD-TPM.F	CONS
18	80121158	BT0301	T-03 NX9 THERMAL RATINGS TO LCC AND CONVEX Temp Transformer	Not Started	-147		15-Aug-22*	0%	0		NX9A-EM34T	BT00	TBD-TPM.F	CONS
19	80121158	BT0401	ALL ELECTRICAL MATERIAL RECEIVED, STAGED, INVENTORIED, REVIEV	Not Started	0		08-Aug-22	0%	0		TRANS-570, REACT-550, CIF	BT00		CONS
20	**P&C T-Minus Milestones**				348	11-Jul-22	12-Aug-22		33					
21	80121158	AT0805P	P&C IFC - P&C w/BOM	Not Started	1		11-Jul-22*	0%	0		DSSE-220, AT0404, AT2605	BT00, CT	TBD-TPM.(	ENG.ST.I
22	80121158	AT1202	P/C DESCRIPTION / DRAFT OPERATING INSTRUCTIONS ISSUED	Not Started	348		12-Aug-22	0%	0		DSSE-460, DSSE-930, DSSE			ENG.ST.I
23	**Project Funding**				216	05-Jul-22 A	14-Sep-22		47					
24	**Full Funding**				216	05-Jul-22 A	14-Sep-22		47					
25	**PAF - FF**				0	05-Jul-22 A	19-Jul-22		7					
26	801211S	PAFF2000	Submit Full Funding PAF for Internal Review	In Progress	0	05-Jul-22 A	15-Jul-22	0%	5		DE1600	PAFF2100		ENG.AM
27	801211S	PAFF2100	Incorporate Internal Review Comments & Submit Full Funding PAF to EPAC f	Not Started	0	18-Jul-22	18-Jul-22	0%	1		PAFF2000	PAFF2200		ENG.AM
28	801211S	PAFF2200	Incorporate EPAC Full Funding PAF Review Comments	Not Started	0	19-Jul-22	19-Jul-22	0%	1		PAFF2100	FF1000		ENG.AM
29	**EPAC - FF**				0	20-Jul-22	20-Jul-22		0					
30	801211S	FF1000	EPAC Full Funding Approval	Not Started	0		20-Jul-22*	0%	0		PAFF2200	FF1010, A		IP
31	**Power Plan - FF**				216	17-Aug-22	14-Sep-22		20					
32	801211S	FF1010	Full Funding PowerPlan Approval	Not Started	216	17-Aug-22*	14-Sep-22	0%	20		FF1000			IP
33	**Electrical Conceptual & Preliminary Engineering Design**				324	11-Jul-22	06-Sep-22		57					
34	**Removal T-Milestones**				324	11-Jul-22	06-Sep-22		57					
35	80121158	BT0805E	REMOVAL -IFC - Electrical (AG) w/BOM	Not Started	18		11-Jul-22*	0%	0		DSSE-REM	RT00	TBD-TPM.E	ENG.ST.:
36	80121158	RT00	REMOVAL -RT-00 - Removal - Construction Start - WO# 80121160	Not Started	324	06-Sep-22*		0%	0		RT0409, RT0203, RT0401, R	RCSM	TBD-TPM.F	CONS
37	80121158	RT0203	REMOVAL -R-T-02.03 Go / No-Go [CAN] Construction Authorization Notice Fo	Not Started	356		21-Jul-22*	0%	0		R1170	RT00		PM
38	80121158	RT0301	REMOVAL -R-T-03.01 NX-9 Ratings to LCC & ISO for Existing Equipment (EN	Not Started	357		14-Jul-22*	0%	0			RT00	TBD-TPM.F	CONS
39	80121158	RT0401	REMOVAL -R-T-04.01 Final Material Receipt Review Completed *ES Purchas	Not Started	0		29-Jul-22*	0%	0			RT00		CONS
40	**Project Management**				15	01-Aug-22	12-Aug-22		10					
41	**Compliance Authorization Notification**				15	01-Aug-22	12-Aug-22		10					
42	80121158	A1170	Prepare CAN (Construction Authorization Notice)	Not Started	15	01-Aug-22*	12-Aug-22	0%	10		A1220, DSSE-240, DSSE-12	AT0203		PM
43	**SITING APPROVALS / PERMITS / PROJECT SERVICES**				15	18-Jan-22 A	12-Aug-22		25					
44	80121158	SIT1000	Siting Approvals / Permits / Project Services - WBS Summary Activity	In Progress	15	18-Jan-22 A	12-Aug-22	26.47%	25				TBD-TPM.S	ENG.SCI
45	**Compliance Matrices - Regulatory Committments**				15	18-Jan-22 A	12-Aug-22		25					
46	80121158	A1230	Prepared Compliance Matrices - Regulatory	In Progress	15	18-Jan-22 A	12-Aug-22	26.47%	25		PE1600	A1170		PM
47	**Compliance Matrices - Non Regulatory Committments**				15	18-Jan-22 A	12-Aug-22		25					
48	80121158	A1220	Prepared Compliance Matrices - Non-Reqgulatory (Commitments)	In Progress	15	18-Jan-22 A	12-Aug-22	26.47%	25		PE1600	A1170		PM
49	**ENGINEERING DETAILED / IFC DESIGN**				117	01-Oct-21 A	08-Feb-23		146					
50	80121158	ENG1000	Engineering Detailed / IFC Design - WBS Summary Activity	In Progress	117	01-Oct-21 A	08-Feb-23	56.68%	146				TBD-TPM.S	ENG.SCI

TASK filter: 1. Non-Completed Activities.

© Oracle Corporation

#	Project ID	Activity ID	Activity Name	Activity Status	Total Float	Start	Finish	Activity % Complete	Remaining Duration	Resources	Predecessors	Successors	RESP - Responsibility	DEPT - DEPARTMI
51	**Civil Engineering**				15	27-Dec-21 A	29-Jul-22		15					
52	**Civil Engineering IFC Design**				15	27-Dec-21 A	29-Jul-22		15					
53	80121158	DSSE-120	Civil Package IFC	In Progress	15	27-Dec-21 A	29-Jul-22	0%	15		DSSE-110	NX9A-NC	V	ENG.ST:
54	**Electrical Engineering**				117	27-Dec-21 A	08-Feb-23		146					
55	**Electrical Engineering NX-9**				117	21-Mar-22 A	08-Feb-23		146					
56	**Distribution Thermal Ratings NX-9 (Transformer Replacement Is Considered New Equipment)**				145	21-Mar-22 A	28-Dec-22		118					
57	**Thermal Ratings - Substation - Preliminary Thermal**				241	06-Jun-22 A	09-Aug-22		22					
58	8012	X9A-NC109	Scheduler @ NURS email "Submitted for PP Review" - Updates NURS with D	Not Started	-111	01-Aug-22	01-Aug-22	0%	1		NX9A-NC119	NX9A-NC	TBD-TPM	ENG.SCI
59	8012	X9A-NC119	LTRC Sends Thermal Rating Data for Approval & Submit to NURS	Not Started	-111	25-Jul-22	29-Jul-22	0%	5		NX9A-NC129	NX9A-NC	L.LECLAMJ	ENG.ST:
60	8012	X9A-NC129	TRC Reviews and Approves Thermal Rating Data	Not Started	-111	18-Jul-22*	22-Jul-22	0%	5		NX9A-NC139	NX9A-NC	H.HANNISN	ENG.AM
61	8012	X9A-NC139	LTRC Reviews and Sends Thermal Rating Data for TRC Review	In Progress	-111	06-Jun-22 A	15-Jul-22	0%	5		NX9A-NC79	NX9A-NC	L.LECLAMJ	ENG.ST:
62	8012	X9A-NC149	Scheduler @ NURS email "Submitted for DOE Monitoring" - Updates T-18, Ec	Not Started	-111	09-Aug-22	09-Aug-22	0%	1		NX9A-NC89	AT1805	TBD-TPM	ENG.SCI
63	8012	\X9A-NC69	PE Updates 1-Line Nomenclature Dwgs & Complete PE Checklist M7-EN-30(	Not Started	248	25-Jul-22*	29-Jul-22	0%	5		DSSE-410	NX9A-NC	TBD-TPM	ENG.ST:
64	8012	\X9A-NC89	TRC Review and Submit NX-9 Data to LCC + ISO-NE for S/S Thermal Rating	Not Started	-111	02-Aug-22	08-Aug-22	0%	5		NX9A-NC109	AT1805, I	H.HANNISN	ENG.AM
65	**Thermal Ratings - Substation - Verify Thermal Data**				232	21-Mar-22 A	22-Aug-22		31					
66	8012	\X9A-NC31	PE to Verify Thermal Data Review PE Checklist (M7-EN-3006.2)	Not Started	243	01-Aug-22*	05-Aug-22	0%	5		DSSE-240, DSSE-220, DSSE	NX9A-NC	TBD-TPM	ENG.ST:
67	8012	\X9A-NC35	LTRC Requests P&C Checklist	In Progress	259	21-Mar-22 A	14-Jul-22	20%	4		NX9A-NC33	NX9A-NC	L.LECLAMJ	ENG.ST:
68	8012	\X9A-NC39	LTRC Reviews and Sends Thermal Rating Data for TRC Review	Not Started	-103	15-Jul-22*	21-Jul-22	0%	5		NX9A-NC37	NX9A-NC	L.LECLAMJ	ENG.ST:
69	8012	\X9A-NC41	TRC Reviews and Approves Thermal Rating Data	Not Started	-103	22-Jul-22	28-Jul-22	0%	5		NX9A-NC39	NX9A-NC	H.HANNISN	ENG.AM
70	8012	\X9A-NC43	LTRC Sends Thermal Rating Data for Approval & Submit to NURS	Not Started	-103	29-Jul-22	04-Aug-22	0%	5		NX9A-NC41	NX9A-NC	L.LECLAMJ	ENG.ST:
71	8012	\X9A-NC45	Scheduler @ NURS email "Submitted for PP Review" - Updates NURS with D	Not Started	-103	05-Aug-22	05-Aug-22	0%	1		NX9A-NC43	NX9A-NC	TBD-TPM	ENG.SCI
72	8012	\X9A-NC47	TRC Review and Submit NX-9 Data to LCC + ISO-NE for S/S Thermal Rating	Not Started	-103	08-Aug-22	12-Aug-22	0%	5		NX9A-NC45	AT0301, I	H.HANNISN	ENG.AM
73	8012	\X9A-NC49	Scheduler @ NURS email "Submitted for DOE Monitoring" - Updates T-3, Equ	Not Started	-108	22-Aug-22	22-Aug-22	0%	1		NX9A-NC47	AT0301, I	TBD-TPM	ENG.SCI
74	**Thermal Ratings - Substation - NX-9 Pre NX9-DOE**				0	13-Dec-22	13-Dec-22		1					
75	8012	NX9500	Scheduler - Send Email for 48Hrs Notification before DOE.	Not Started	0	13-Dec-22	13-Dec-22	0%	1		NX9A-NC49	CFM	TBD-TPM	ENG.SCI
76	**Thermal Ratings - Substation - NX-9 Post NX9-DOE/ISD**				145	16-Dec-22	28-Dec-22		8					
77	8012	X9FINAL50	Review + Affirm Accuracy of NX-9 for ISO Submission (Tie after Equip DOE or	Not Started	145	16-Dec-22	20-Dec-22	0%	3		CFM	NX9FINAI	TBD-TPM	PM
78	8012	X9FINAL60	[If Required] Receive + Issue Final Affirmed NX-9 Data to NURS	Not Started	145	21-Dec-22	28-Dec-22	0%	5		NX9FINAL50	FINISH	H.HANNISN	ENG.AM
79	**Thermal Ratings - Non NX-9 Thermal Ratings**				95	11-Jul-22	29-Jul-22		15					
80	8012	\X9A-EM54	Thermal Rating- Non NX9 -LTRC Prepares and Sends Thermal Rating Data fc	Not Started	95	11-Jul-22*	15-Jul-22	0%	5		NX9A-EM44	NX9A-EM	L.LECLAMJ	ENG.ST:
81	8012	\X9A-EM64	Thermal Rating- Non NX9 -TRC Reviews and Approves Thermal Rating Data	Not Started	95	18-Jul-22	22-Jul-22	0%	5		NX9A-EM54	NX9A-EM	H.HANNISN	ENG.AM
82	8012	\X9A-EM74	Thermal Rating- Non NX9 -LTRC Files Capability Sheets	Not Started	95	25-Jul-22	29-Jul-22	0%	5		NX9A-EM64	CFM, FIN	L.LECLAMJ	ENG.ST:
83	**Substation NX-9 - Equipment Modification**				145	11-Jul-22	28-Dec-22		118					
84	**Substation NX-9**				232	11-Jul-22	22-Aug-22		31					
85	80	\X9A-EM01	PE Updates 1-Line Nomenclature Dwgs & Complete PE Checklist M7-EN-30(	Not Started	260	11-Jul-22*	13-Jul-22	0%	3		DSSE-260	NX9A-EM	TBD-TPM	ENG.ST:
86	80	\X9A-EM19	LTRC Reviews and Sends Thermal Rating Data for TRC Review	Not Started	-108	15-Jul-22*	21-Jul-22	0%	5		NX9A-EM16	NX9A-EM	L.LECLAMJ	ENG.ST:
87	80	\X9A-EM22	TRC Reviews and Approves Thermal Rating Data	Not Started	-108	22-Jul-22	28-Jul-22	0%	5		NX9A-EM19	NX9A-EM	H.HANNISN	ENG.AM
88	80	\X9A-EM25	LTRC Sends Thermal Rating Data for Approval & Submit to NURS	Not Started	-108	29-Jul-22	04-Aug-22	0%	5		NX9A-EM22	NX9A-EM	L.LECLAMJ	ENG.ST:
89	80	\X9A-EM26	TRC Confirms Engineering Management Approvals of NX-9	Not Started	-108	05-Aug-22	11-Aug-22	0%	5		NX9A-EM25	NX9A-EM	L.LECLAMJ	ENG.ST:
90	80	\X9A-EM28	Scheduler @ NURS email "Submitted for PP Review" - Updates NURS with D	Not Started	-108	12-Aug-22	12-Aug-22	0%	1		NX9A-EM26	NX9A-EM	TBD-TPM	PROJ
91	80	\X9A-EM31	TRC Review and Submit NX-9 Data to LCC + ISO-NE for S/S Thermal Rating	Not Started	-108	15-Aug-22	19-Aug-22	0%	5		NX9A-EM28	NX9A-EM	H.HANNISN	ENG.AM
92	80	\X9A-EM34	Scheduler @ NURS email "Submitted for DOE Monitoring" - Updates T-3, Equ	Not Started	-108	22-Aug-22	22-Aug-22	0%	1		NX9A-EM31	NX9A100	TBD-TPM	PROJ
93	**Substation - NX-9 Pre NX9-DOE**				145	13-Dec-22	15-Dec-22		3					
94	80	NX9A100	Scheduler - Send Email for 48Hrs Notification before DOE. (Tie SS to Beginni	Not Started	145	13-Dec-22	13-Dec-22	0%	1		NX9A-EM34, A1130	TIE_2	TBD-TPM	PROJ
95	80	TIE_2	Tie (FF) to Appropriate activity that puts the equipment in service & Add NX9-I	Not Started	145		15-Dec-22	0%	0		NX9A100	NX9FINAI		PROJ
96	**Substation - NX-9 Post NX9-DOE/ISD**				145	16-Dec-22	28-Dec-22		8					
97	80	NX9A200	Scheduler - Has 72 Hrs to Put in Service the NX-9 and Send to TOP Director i	Not Started	145	20-Dec-22	20-Dec-22	0%	1		NX9FINAL10	NX9FINAI	TBD-TPM	PROJ
98	80	X9FINAL10	Review + Affirm Accuracy of NX-9 for ISO Submission (Tie after Equip DOE or	Not Started	145	16-Dec-22	20-Dec-22	0%	3		TIE_2, CFM	NX9FINAI	TBD-TPM	PM
99	80	X9FINAL20	[If Required] Receive + Issue Final Affirmed NX-9 Data to NURS	Not Started	145	21-Dec-22	28-Dec-22	0%	5		NX9FINAL10, NX9A200	FINISH	H.HANNISN	ENG.AM
100	**Distribution Thermal Ratings NX-9 for Temp Transformer**				117	21-Mar-22 A	08-Feb-23		146					
101	**Thermal Ratings - Substation - Preliminary Thermal for Temp Transformer**				-193	25-Jul-22	08-Feb-23		136					
102	8012	9A-NC149T	Scheduler @ NURS email "Submitted for DOE Monitoring" - Updates T-18, Ec	Not Started	-193	08-Feb-23	08-Feb-23	0%	1		NX9A-NC29T	AT1805T	TBD-TPM	ENG.SCI

TASK filter: 1. Non-Completed Activities.

© Oracle Corporation

#	Project ID	Activity ID	Activity Name	Activity Status	Total Float	Start	Finish	Activity % Complete	Remaining Duration	Resources	Predecessors	Successors	RESP - Responsibility	DEPT - DEPARTMI
103	8012	X9A-NC26T	LTRC Reviews and Makes "GO / NO-GO" Decision for Thermal Ratings-GOI	Not Started	-193	15-Dec-22	21-Dec-22	0%	5		NX9A-NC38T	NX9A-NC	L.LECLAMJ	ENG.ST.I
104	8012	X9A-NC27T	PE Updates 1-Line Nomenclature Dwgs & Complete PE Checklist M7-EN-30(	Not Started	-193	25-Jul-22*	29-Jul-22	0%	5		A3380	NX9A-NC	TBD-TPM	ENG.ST.I
105	8012	X9A-NC28T	P&C Develops and Provides LTRC with P&C Checklist (M7-EN-3006.1)	Not Started	-193	30-Dec-22	06-Jan-23	0%	5		NX9A-NC30T	NX9A-NC	TBD-TPM	ENG.ST.I
106	8012	X9A-NC29T	TRC Review and Submit NX-9 Data to LCC + ISO-NE for S/S Thermal Rating	Not Started	-193	01-Feb-23	07-Feb-23	0%	5		NX9A-NC31T	NX9A-NC	H.HANNISI	ENG.AM
107	8012	X9A-NC30T	LTRC Requests P&C Checklist	Not Started	-193	22-Dec-22	29-Dec-22	0%	5		NX9A-NC26T	NX9A-NC	TBD-TPM	ENG.ST.I
108	8012	X9A-NC31T	Scheduler @ NURS email "Submitted for PP Review" - Updates NURS with D	Not Started	-193	31-Jan-23	31-Jan-23	0%	1		NX9A-NC32T	NX9A-NC	TBD-TPM	ENG.SCI
109	8012	X9A-NC32T	LTRC Sends Thermal Rating Data for Approval & Submit to NURS	Not Started	-193	24-Jan-23	30-Jan-23	0%	5		NX9A-NC33T	NX9A-NC	L.LECLAMJ	ENG.ST.I
110	8012	X9A-NC33T	TRC Reviews and Approves Thermal Rating Data	Not Started	-193	17-Jan-23	23-Jan-23	0%	5		NX9A-NC34T	NX9A-NC	H.HANNISI	ENG.AM
111	8012	X9A-NC34T	LTRC Reviews and Sends Thermal Rating Data for TRC Review	Not Started	-193	09-Jan-23	13-Jan-23	0%	5		NX9A-NC28T	NX9A-NC	L.LECLAMJ	ENG.ST.I
112	8012	X9A-NC37T	LTRC Reviews and Makes "GO / NO-GO" Decision for 1-Line Nomenclature	Not Started	-193	01-Aug-22	05-Aug-22	0%	5		NX9A-NC27T	NX9A-NC	L.LECLAMJ	ENG.ST.I
113	8012	X9A-NC38T	LTRC Submits 1-Line Nomenclature to TRC	Not Started	-193	08-Aug-22	12-Aug-22	0%	5		NX9A-NC37T	NX9A-NC	TBD-TPM	ENG.ST.I
114	**Thermal Ratings - Substation - Verify Thermal Data for Temp Transformer**				237	21-Mar-22 A	15-Aug-22		26					
115	8012	(9A-EM22T	TRC Reviews and Approves Thermal Rating Data	Not Started	-103	22-Jul-22	28-Jul-22	0%	5		NX9A-NC24T	NX9A-NC	H.HANNISI	ENG.AM
116	8012	(9A-EM34T	Scheduler @ NURS email "Submitted for DOE Monitoring" - Updates T-3, Equ	Not Started	-103	15-Aug-22	15-Aug-22	0%	1		NX9A-NC19T	NX9510T	TBD-TPM	ENG.SCI
117	8012	X9A-NC19T	TRC Review and Submit NX-9 Data to LCC + ISO-NE for S/S Thermal Rating	Not Started	-103	08-Aug-22	12-Aug-22	0%	5		NX9A-NC21T	AT0301, I	H.HANNISI	ENG.AM
118	8012	X9A-NC20T	PE to Verify Thermal Data Review PE Checklist (M7-EN-3006.2)	Not Started	243	01-Aug-22*	05-Aug-22	0%	5		DSSE-240, DSSE-220, DSSE	NX9A-NC	TBD-TPM	ENG.ST.I
119	8012	X9A-NC21T	Scheduler @ NURS email "Submitted for PP Review" - Updates NURS with D	Not Started	-103	05-Aug-22	05-Aug-22	0%	1		NX9A-NC22T	NX9A-NC	TBD-TPM	ENG.SCI
120	8012	X9A-NC22T	LTRC Sends Thermal Rating Data for Approval & Submit to NURS	Not Started	-103	29-Jul-22	04-Aug-22	0%	5		NX9A-EM22T	NX9A-NC	L.LECLAMJ	ENG.ST.I
121	8012	X9A-NC24T	LTRC Reviews and Sends Thermal Rating Data for TRC Review	Not Started	-103	15-Jul-22*	21-Jul-22	0%	5		NX9A-NC18T	NX9A-EM	L.LECLAMJ	ENG.ST.I
122	8012	X9A-NC36T	LTRC Requests P&C Checklist	In Progress	248	21-Mar-22 A	29-Jul-22	0%	15		NX9A-NC17T	NX9A-NC	L.LECLAMJ	ENG.ST.I
123	**Thermal Ratings - Substation - NX-9 Pre NX9-DOE for Temp Transformer**				-53	16-Aug-22	16-Aug-22		1					
124	8012	NX9510T	Scheduler - Send Email for 48Hrs Notification before DOE.	Not Started	-53	16-Aug-22	16-Aug-22*	0%	1		NX9A-EM34T	CFM	TBD-TPM	ENG.SCI
125	**Electrical Engineering IFC Design**				238	27-Dec-21 A	12-Aug-22		25					
126	80121158	DSSE-240	Electrical Engineering - Electrical Package IFC (Physical & Electrical for 3X Tra	In Progress	-14	27-Dec-21 A	29-Jul-22	0%	15		DSSE-230, CIRCSW-1125, D	NX9A-NC	V	ENG.ST.I
127	80121158	DSSE-460	Operating Instructions - SSED Review Draft Distribution OI	Not Started	238	08-Aug-22	12-Aug-22	0%	5		DSSE-450, DSSE-440	AT1202	V	ENG.ST.I
128	80121158	DSSE-920	Operating Instructions - SSED Review Draft Convex OI	Not Started	238	08-Aug-22	12-Aug-22	0%	5		DSSE-450, DSSE-440	AT1202	V	ENG.ST.I
129	**P&C Engineering**				238	11-Jul-22	12-Aug-22		25					
130	**P&C Engineering Detailed Design**				238	11-Jul-22	12-Aug-22		25					
131	80121158	DSSE-450	Operating Instructions - Prepare and Issue Draft Distribution OI to Engineering	Not Started	238	11-Jul-22	05-Aug-22	0%	20		DSSE-440	DSSE-92I		ENG.ST.I
132	80121158	DSSE-470	Operating Instructions - P&C Review Draft Distribution OI	Not Started	238	08-Aug-22	12-Aug-22	0%	5		DSSE-440, DSSE-450	AT1202	V	ENG.ST.I
133	80121158	DSSE-930	Operating Instructions - P&C Review Draft Convex OI	Not Started	238	08-Aug-22	12-Aug-22	0%	5		DSSE-440, DSSE-450	AT1202	V	ENG.ST.I
134	**PROCUREMENT MATERIAL - BALANCE OF MATERIAL**				14	16-Apr-21 A	11-Jul-22		1					
135	80121158	PBOM1000	Procurement Material - Balance of Material - WBS Summary Activity	In Progress	14	16-Apr-21 A	11-Jul-22	99.59%	1				TBD-TPM.S	ENG.SCI
136	**Electrical Balance of Material**				18	11-Jul-22	11-Jul-22		1					
137	**MATERIAL FOR TRANSFORMER**				-346	11-Jul-22	11-Jul-22		0					
138	80121158	TRANS-570	TRANS-MATERIAL - Transformer - Confirm Material Delivery to Site	Not Started	-346	11-Jul-22	11-Jul-22*	0%	0		TRANS-1070, TRANS-1160	AT0401, I		PURC
139	**MATERIAL FOR ELECTRICAL REACTOR**				18	11-Jul-22	11-Jul-22		1					
140	80121158	REACT-550	MATERIAL - Electrical - Reactor Confirm Material Delivery to Site	Not Started	18	11-Jul-22	11-Jul-22*	0%	1		REACT-1030	BT0401		PURC
141	**PROCUREMENT OF SERVICE CONTRACTS**				30	01-Oct-21 A	22-Jul-22		10					
142	80121158	PSC1000	Procurement of Service Contracts- WBS Summary Activity	In Progress	30	01-Oct-21 A	22-Jul-22	94.65%	10				TBD-TPM.S	ENG.SCI
143	**Constructor of Choice - Direct Award or Bid**				30	11-Jul-22	22-Jul-22		10					
144	80121158	A3420	CONST.SERVICES - COC - Eversource Routes DR for Approval	Not Started	30	11-Jul-22	15-Jul-22	0%	5		A3410	A3790		PURC
145	80121158	A3790	CONST.SERVICES - COC - Eversource Awards Contract - PO Issued	Not Started	30	18-Jul-22	22-Jul-22	0%	5		A3420	A1120		PURC
146	**CONSTRUCTION**				143	02-Mar-22 A	31-Dec-22		120					
147	80121158	CFM	Construction Finish Milestone	Not Started	0		15-Dec-22	0%	0		NX9A-EM74, NX9500, A114(	NX9FINAI		CONS
148	80121158	CON1000	Construction - WBS Summary Activity	In Progress	143	02-Mar-22 A	31-Dec-22	4%	120				TBD-TPM.S	ENG.SCI
149	80121158	CSM	Construction Start Milestone	Not Started	278	06-Sep-22*		0%	0		AT00	ConRep-S		CONS
150	80121158	ISD	EQUIPMENT IN SERVICE DATE (requires FOOB constraint)	Not Started	0		31-Dec-22*	0%	0		LCE610, LCE700, CFM, RCF			PM
151	**Outages**				0	06-Sep-22	15-Dec-22		70					
152	80121158	TOA-Test	TRANS-OUTAGE / Test Transformer	Not Started	5	06-Sep-22	08-Dec-22	0%	65		BT00	CFM		TEST

TASK filter: 1. Non-Completed Activities.

© Oracle Corporation

#	Project ID	Activity ID	Activity Name	Activity Status	Total Float	Start	Finish	Activity % Complete	Remaining Duration	Resources	Predecessors	Successors	RESP - Responsibility	DEPT - DEPARTMI
153	**TOA - 22-00759**				0	06-Sep-22	09-Sep-22		4					
154	80121158	)A-Const10	Switch Out - TOA 22-00759 - Isolate 22N-3X for removal, remove contribution	Not Started	0	06-Sep-22*		0%	0		TRANS-1150	TOA-Con:		
155	80121158	)A-Const20	Switch in - TOA 22-00759	Not Started	0		09-Sep-22*	0%	0		TOA-Const30	CFM		
156	80121158	)A-Const30	OUTAGE / General Construction Work TOA 22-00759	Not Started	0	06-Sep-22	09-Sep-22	0%	4		TOA-Const10	TOA-Con:		CONS
157	**TOA - 22-00760**				0	09-Sep-22	12-Dec-22		64					
158	80121158	)A-Const40	OUTAGE / General Construction Work TOA 22-00760	Not Started	0	09-Sep-22	12-Dec-22	0%	81		TOA-Const50	TOA-Con:		CONS
159	80121158	)A-Const50	Switch Out - TOA 22-00760 Replace 22N-3X	Not Started	0	09-Sep-22*		0%	0		TRANS-1150	TOA-Con:		
160	80121158	)A-Const60	Switch in - TOA 22-00760	Not Started	0		12-Dec-22*	0%	0		TOA-Const40	CFM		
161	**TOA - 22-00761**				0	12-Dec-22	15-Dec-22		4					
162	80121158	)A-Const70	Switch Out - TOA 22-00761 - Reconnect high and low side bus, install contrib	Not Started	0	12-Dec-22*		0%	0		TRANS-1150	TOA-Con:		
163	80121158	)A-Const80	Switch in - TOA 22-00761	Not Started	0		15-Dec-22*	0%	0		TOA-Const90	CFM		
164	80121158	)A-Const90	OUTAGE / General Construction Work TOA 22-00761	Not Started	0	12-Dec-22	15-Dec-22	0%	4		TOA-Const70	TOA-Con:		CONS
165	**Construction Support LOEs**				0	11-Jul-22	15-Dec-22		110					
166	80121158	A1070	RESOURCE ONLY ACTIVITY - CONSTRUCTION - SWITCH OUT	Not Started	84	15-Aug-22	15-Aug-22	0%	1		1290	CFM		CONS
167	80121158	A1080	RESOURCE ONLY ACTIVITY - CONSTRUCTION - SWITCH IN	Not Started	107	11-Jul-22	13-Jul-22	0%	3			CFM		CONS
168	80121158	ConRep-S	RESOURCE ONLY ACTIVITY - CONSTRUCTION - CONSTRUCTION REP	Not Started	0	06-Sep-22	15-Dec-22	0%	70		CSM	CFM		CONS
169	80121158	CONSTelec	RESOURCE ONLY ACTIVITY - CONSTRUCTION - ELECTRICIAN	Not Started	0	06-Sep-22	15-Dec-22	0%	70		CSM	CFM		CONS
170	**Site Development**				143	06-Sep-22	30-Dec-22		80					
171	80121158	A1110	Restore / Remediate Site	Not Started	143	16-Dec-22	30-Dec-22	0%	10		CFM	FINISH		CONS
172	80121158	A1120	Construction - Disconnect 3X XFRMR	Not Started	0	06-Sep-22*	09-Sep-22	0%	4		AT00, A3790	A3620, C		CONS
173	**P&C Construction**				0	12-Dec-22	15-Dec-22		4					
174	80121158	A1140	Construction - P&C Implement Relay Settings	Not Started	0	12-Dec-22*	15-Dec-22	0%	4		AT00	CFM		CONS
175	**Telecomm Construction**				0	12-Dec-22	15-Dec-22		4					
176	80121158	A1150	Construction - Field Communications	Not Started	0	12-Dec-22*	15-Dec-22	0%	4		AT00	CFM		CONS
177	**TEST & COMMISSIONING**				228	29-Jul-22	26-Aug-22		21					
178	80121158	TC1000	Test & Commissioning - WBS Summary Activity	Not Started	228	29-Jul-22	26-Aug-22	0%	21				TBD-TPM.S	ENG.SCI
179	**Test & Commissioning**				228	29-Jul-22	26-Aug-22		21					
180	**Testing Activities**				228	29-Jul-22	26-Aug-22		21					
181	80121158	LCE400	Develop Test and Commissioning Plan	Not Started	228	29-Jul-22*	26-Aug-22	0%	21		DSSE-220	LCE500		TEST
182	**PROJECT CLOSE OUT**				0	12-Sep-22	26-Jul-23		219					
183	80121158	PCO1000	Project Close Out - WBS Summary Activity	Not Started	0	12-Sep-22	26-Jul-23	0%	219				TBD-TPM.S	ENG.SCI
184	**Civil Close Out**				76	12-Sep-22	23-Feb-23		112					
185	80121158	A3620	Prepare & Submit Civil Field Mark Ups (Tie after Last Civil Construction Activity	Not Started	76	12-Sep-22	11-Oct-22	0%	21		A1120	A3730		ENG.EN(
186	80121158	A3660	PM to Document Civil As-Built Drawings Complete	Not Started	76	10-Jan-23	10-Jan-23	0%	1		A3740	A3670		PM
187	80121158	A3670	FE Files Civil Design Drawings at Station	Not Started	76	11-Jan-23	23-Feb-23	0%	30		A3660	A1040		ENG.EN(
188	80121158	A3730	Eversource Engineering Verifies Civil Mark Ups and Updates As-Built Drawing	Not Started	76	12-Oct-22	30-Dec-22	0%	55		A3620	A3740		ENG.ST:
189	80121158	A3740	ES Create Civil Transmittal, Approve Final As-Built Package, and EDC Files ar	Not Started	76	03-Jan-23	09-Jan-23	0%	5		A3730	A3660		ENG.ST:
190	**Electrical Close Out**				0	03-Jan-23	12-Jun-23		112					
191	80121158	A3640	Prepare & Submit Electrical Field Mark Ups	Not Started	0	03-Jan-23	01-Feb-23	0%	21		LCE900	A3750		ENG.EN(
192	80121158	A3680	PM to Document Electrical As-Built Drawings Complete (Electrical, P&C)	Not Started	0	28-Apr-23	28-Apr-23	0%	1		A3780, A3760	A3710, A:		PM
193	80121158	A3690	FE Files Substation Design Drawings at Station	Not Started	0	01-May-23	12-Jun-23	0%	30		A3680	A1040		ENG.EN(
194	80121158	A3750	Eversource Engineering Verifies Electrical Mark Ups and Updates As-Built Dra	Not Started	0	02-Feb-23	20-Apr-23	0%	55		A3640, LCE800	A3760		ENG.ST:
195	80121158	A3760	Electrical Transmittal, Approve Final As-Built Package, and EDC Files and Issu	Not Started	0	21-Apr-23	27-Apr-23	0%	5		A3750	A3680		ENG.ST:
196	**P&C Close Out**				0	03-Jan-23	12-Jun-23		112					
197	80121158	A3650	Prepare & Submit P&C Field Mark Ups	Not Started	0	03-Jan-23	01-Feb-23	0%	21		LCE900	A3770		ENG.EN(
198	80121158	A3710	FE Files P&C Design Drawings at Station	Not Started	0	01-May-23	12-Jun-23	0%	30		A3680	A1040		ENG.EN(
199	80121158	A3770	Eversource Engineering Verifies P&C Mark Ups and Updates As-Built Drawing	Not Started	0	02-Feb-23	20-Apr-23	0%	55		A3650	A3780		ENG.ST.I
200	80121158	A3780	P&C Transmittal, Approve Final As-Built Package, and EDC Files and Issue D	Not Started	0	21-Apr-23	27-Apr-23	0%	5		A3770	A3680		ENG.ST.I
201	**LCE Closeout**				21	16-Dec-22	30-Dec-22		10					
202	80121158	LCE800	LCE Ensures Marked up Prints Ready for Pick-up	Not Started	30	16-Dec-22	16-Dec-22	0%	1		CFM	A3750		ENG.ST:

TASK filter: 1. Non-Completed Activities.

© Oracle Corporation

#	Project ID	Activity ID	Activity Name	Activity Status	Total Float	Start	Finish	Activity % Complete	Remaining Duration	Resources	Predecessors	Successors	RESP - Responsibility	DEPT - DEPARTMI
203	80121158	LCE900	LCE Review Test Data and Issue Commissioning Report	Not Started	0	16-Dec-22	30-Dec-22	0%	10	[redacted]	CFM	A3650, A:		ENG.ST:
204	**Work Order / Financial Close Out**				113	16-Dec-22	14-Feb-23		40					
205	80121158	A1020	Cost Analyst Prepares FINAL Units of Property	Not Started	123	16-Dec-22	31-Jan-23	0%	30		CFM	FINISH		COST
206	80121158	A1030	Asset Management Complete Asset Update(s) in CASCADE	Not Started	113	03-Jan-23	14-Feb-23	0%	30		A1260, CFM	FINISH		ENG.AM
207	80121158	A1260	Construction Rep Finalize CASCADE Forms (within 14 days following ISD)	Not Started	113	16-Dec-22	30-Dec-22	0%	10		CFM	A1030		CONS
208	**Project Management Close Out**				0	16-Dec-22	26-Jul-23		153					
209	80121158	A1040	PM Prepares Closeout Documentation, Lessons Learned Meeting, etc.	Not Started	0	13-Jun-23	25-Jul-23	0%	30		CFM, A3690, A3670, A3710,	FINISH		PM
210	80121158	A1270	Prepare TD-707 Document	Not Started	122	16-Dec-22	31-Jan-23	0%	30		CFM	FINISH		PM
211	80121158	DSSE-1100	Complete TD-707 Turnover Document / Forward to SOC & Mailing List	Not Started	117	16-Dec-22	22-Dec-22	0%	5		CFM	A1040		CONS
212	80121158	FINISH	Project / Work Order Complete (FINAL SCHEDULE TASK/MILESTONE)	Not Started	0		26-Jul-23	0%	0		NX9A-EM74, NX9FINAL60, A			PM

TASK filter: 1. Non-Completed Activities.

© Oracle Corporation

#	Project ID	Activity ID	Activity Name	Activity Status	Total Float	Start	Finish	Activity % Complete	Remaining Duration	Resources	Predecessors	Successors	RESP - Responsibility	DEPT - DEPARTMI
1	[redacted] - Replace 2X XMFR (CS00516)				0	17-May-21 A	17-Nov-23		342					
2	80121160	PT1000	Project Timeline - WBS Summary Activity	In Progress	0	17-May-21 A	17-Nov-23	37.02%	342				TBD-TPM.S	ENG.SCI
3	**PROJECT PLANNING & FUNDING**				222	13-Sep-21 A	03-Jan-23		120					
4	80121160	PPF1000	Project Planning & Funding - WBS Summary Activity	In Progress	222	13-Sep-21 A	03-Jan-23	62.62%	120				TBD-TPM.S	ENG.SCI
5	**T-Minus Milestones**				0	21-Oct-21 A	03-Jan-23		115					
6	**Civil T-Minus Milestones**				0	15-Jul-22	03-Jan-23		115					
7	80121160	AT00	A-T-00 - CIVIL START OF CONSTRUCTION - WO#	Not Started	0	03-Jan-23*		0%	0		AT0801, AT0813, AT1811, AT	1120	TBD-TPM.F	CONS
8	80121160	AT0203	Go / No Go CAN COMPLETE (CONSTRUCTION AUTHORIZATION NOTICE)	Not Started	26		07-Dec-22	0%	0		1170	AT00	V.C	PM
9	80121160	AT0401	ALL MATERIAL RECEIVED, STAGED, INVENTORIED, REVIEWED	Not Started	3		30-Dec-22	0%	0		CE560	AT00	TBD-TPM.M	CONS
10	80121160	AT0801	ALL PERMITS RECEIVED	Not Started	73		21-Oct-22	0%	0		1210, 1200, 1190, 1180, 361	AT00	TBD-TPM.F	PM
11	80121160	AT0805C	Civil IFC - Civil (BG) w/BOM	Not Started	94		30-Sep-22	0%	0		CE1310	AT00	TBD-TPM.(	ENG.ST.:
12	80121160	AT0813	SITING PETITION AND APPLICATION FILED	Not Started	0		16-Nov-22*	0%	0		1240	AT00	MAE.Siting	PM
13	80121160	AT0814	ALL CONSTRUCTION CONTRACTS IN PLACE	Not Started	41		22-Nov-22	0%	0		3460, 3420	AT00	TBD-TPM.F	CONS
14	80121160	AT1811	Detail Design/Engineering Completed	Not Started	104		01-Aug-22	0%	0		CE1210	AT00	TBD-TPM.(	ENG.ST.:
15	80121160	AT2605	Preliminary Design / Engineering Completed	Not Started	115		15-Jul-22	0%	0		DE2020	AT00	TBD-TPM.(	ENG.ST.:
16	**Electrical T-Milestones**				0	21-Oct-21 A	03-Jan-23		115					
17	80121160	BT00	B-T-00 - ELECTRICAL START OF CONSTRUCTION - WO#	Not Started	0	03-Jan-23*		0%	0		BT0401, BT0814, BT3001, B	TOA-Test	TBD-TPM.F	CONS
18	80121160	BT0203	CAN COMPLETE (CONSTRUCTION AUTHORIZATION NOTICE)	Not Started	12		07-Dec-22	0%	0		1170	BT00	V.C	PM
19	80121160	BT0301	B-T-03 NX9 THERMAL RATINGS TO LCC AND CONVEX	Not Started	-2		14-Dec-22*	0%	0		NX9A-EM34, NX9A-NC47, N	BT00	TBD-TPM.F	CONS
20	80121160	BT0401	ALL MATERIAL RECEIVED, STAGED, INVENTORIED, REVIEWED	Not Started	-25		30-Dec-22	0%	0		CIRCSW-1240, TRANS-570,	BT00	TBD-TPM.M	CONS
21	80121160	BT0409	B-T-04 ALL FIRM TOA APPLICATIONS DUE TO LCC (for DISTRIBUTION Non-	Not Started	10		07-Oct-22*	0%	0		1250	BT00	TBD-TPM.F	CONS
22	80121160	BT0805E	Elect IFC - Electrical (AG) w/Final BOM	Not Started	10		30-Sep-22	0%	0		EE1310	BT00, 12	TBD-TPM.E	ENG.ST.:
23	80121160	BT0814	ALL CONSTRUCTION CONTRACTS IN PLACE	Not Started	-15		22-Nov-22	0%	0		3460, 3420	BT00	TBD-TPM.F	CONS
24	80121160	BT1301	COMMISSIONING PLAN COMPLETE	Not Started	-37		09-Nov-22	0%	0		LCE500	BT00	TBD-TPM.F	PM
25	80121160	BT1805	B-T-18 NX9 Preliminary Ratings to LCC for New Equipment (transformers are	Not Started	-37		05-Oct-22*	0%	0		NX9A-NC23	BT00	TBD-TPM.F	CONS
26	80121160	BT1811	Detail Design/Engineering Completed	Not Started	20		01-Aug-22	0%	0		EE1210	BT00	TBD-TPM.E	ENG.ST.:
27	80121160	BT2404	DETERMINE / ASSIGN LCE (LEAD COMMISSIONING ENGINEER)	Not Started	-18		05-Aug-22	0%	0		LCE200	BT00	TBD-TPM.F	PM
28	80121160	BT2605	Preliminary Design / Engineering Completed	Not Started	-9		15-Jul-22	0%	0		DE2040	BT00	TBD-TPM.E	ENG.ST.:
29	80121160	BT3001	Eng. Project Scoping Document Issued (Scope Lockdown)	Completed			21-Oct-21 A	100%	0		PE1720	BT00	TBD-TPM.F	ENG.ST.:
30	**P&C T-Minus Milestones**				0	15-Jul-22	03-Jan-23		115					
31	80121160	CT00	C-T-00 - START OF CONSTRUCTION - WO#	Not Started	0	03-Jan-23*		0%	0		CT0401, CT2605, CT1811, C	TOA-Test	TBD-TPM.F	CONS
32	80121160	CT0203	Go / No Go CAN COMPLETE (CONSTRUCTION AUTHORIZATION NOTICE)	Not Started	26		07-Dec-22	0%	0		1170	CT00	V.C	PM
33	80121160	CT0401	ALL MATERIAL RECEIVED, STAGED, INVENTORIED, REVIEWED	Not Started	3		30-Dec-22	0%	0		PC1010	CT00	TBD-TPM.M	CONS
34	80121160	CT0404	ALL FINAL RELAY PROTECTIVE SETTING ISSUED	Not Started	118		06-Sep-22	0%	0		PC1400	CT00	TBD-TPM.F	ENG.ST.I
35	80121160	CT0805P	P&C IFC - P&C w/BOM	Not Started	147		08-Aug-22	0%	0		PC1330	CT00	TBD-TPM.(	ENG.ST.I
36	80121160	CT0814	ALL CONSTRUCTION CONTRACTS IN PLACE	Not Started	41		22-Nov-22	0%	0		3460, 3420	CT00	TBD-TPM.F	CONS
37	80121160	CT1202	P/C DESCRIPTION / DRAFT OPERATING INSTRUCTIONS ISSUED	Not Started	87		07-Oct-22	0%	0		EE460, EE920	CT00	TBD-TPM.E	ENG.ST.I
38	80121160	CT1811	Detail Design/Engineering Completed	Not Started	104		01-Aug-22	0%	0		PC1110	CT00	TBD-TPM.F	ENG.ST.I
39	80121160	CT2605	Preliminary Design / Engineering Completed	Not Started	115		15-Jul-22	0%	0		DE2100	CT00	TBD-TPM.F	ENG.ST.I
40	**Project Funding**				252	13-Sep-21 A	16-Nov-22		90					
41	**Initial Funding**					13-Sep-21 A	13-Sep-21 A		0					
42	80121160	PI1000	Submit Initial Funding Request	Completed			13-Sep-21 A	100%	0	[redacted]	PI1200	PI1300	TBD-TPM.F	ENG.AM
43	80121160	PI1200	Project Initiator Develop Intitial Funding Request	Completed		13-Sep-21 A	13-Sep-21 A	100%	0		START	PI1000	TBD-TPM.E	ENG.AM
44	80121160	PI1300	Initial Funding Request Approved @ EPAC	Completed		13-Sep-21 A	13-Sep-21 A	100%	0		PI1000	PI1610, T	EPAC	IP
45	80121160	PI1610	Initial Funding PowerPlan Approval Create WO#	Completed		13-Sep-21 A	13-Sep-21 A	100%	0		PI1300	PI1400, T	TBD-TPM.F	IP
46	**Solution Design Committee**					30-Sep-21 A	26-Jan-22 A		0					
47	80121160	CE1600	Conduct Project Team Kickoff Meeting Verify SDC Need	Completed		30-Sep-21 A	30-Sep-21 A	100%	0		CE1400, CE1100, CE1000, F	CE1710	TBD-TPM.F	PM
48	80121160	CE1700	Review Conceptual Siting, Real Estate,SCS, & Permitting (If Required)	Completed		25-Oct-21 A	25-Oct-21 A	100%	0		CE1710, PI1400	CGE1000	TBD-TPM.F	PM
49	80121160	CE1710	Conduct Conceptual Constructability Walk Down	Completed		04-Oct-21 A	04-Oct-21 A	100%	0		PI1500, PI1600, CE1600, PI	CGE1000	TBD-TPM.F	PM
50	80121160	CGE1000	Develop Conceptual Grade Estimate (-25%+50%)	Completed		25-Oct-21 A	18-Nov-21 A	100%	0		CE1710, CE1700	SSF1000	TBD-TPM.F	ENG.AM

TASK filter: All Activities

© Oracle Corporation

#	Project ID	Activity ID	Activity Name	Activity Status	Total Float	Start	Finish	Activity % Complete	Remaining Duration	Resources	Predecessors	Successors	RESP - Responsibility	DEPT - DEPARTMI
51	80121160	SDC1000	Solution Design Committee(SDC) Approval	Completed		03-Jan-22 A	26-Jan-22 A	100%	0	[redacted]	SSF1000	PE1600,	TBD-TPM.F	VEND.PM
52	80121160	SSF1000	Develop Soultions Selection Form (SSF)	Completed		08-Oct-21 A	29-Nov-21 A	100%	0		CGE1000	SDC1000	TBD-TPM.F	PM
53	**Full Funding**				252	23-Nov-21 A	16-Nov-22		90					
54	**PAF - FF**				252	23-Nov-21 A	16-Nov-22		90					
55	801211(	DE1600	Create Planning Grade Estimate (+/-25% Full Funding)	Completed		05-Jul-22 A	05-Jul-22 A	100%	0		DE2000, DE1900	FF1000, I	TBD-TPM.E	ENG.AM
56	801211(	DE1700	Conduct Initial Risk Management & SCLL Review (Project Initiator & PM)	Completed		13-Apr-22 A	13-Apr-22 A	100%	0		DE1800	DE1900	TBD-TPM.F	ENG.AM
57	801211(	DE1800	Review Detail Siting & Permitting (If Required)	Not Started	252	16-Nov-22*	16-Nov-22	0%	1		PF1010	DE1700	MAE.Siting	ENG.ST.:
58	801211(	DE1900	Conduct Detail Constructability Walk Down	Not Started	332	18-Jul-22	22-Jul-22	0%	5		DE2020, DE2040, DE2100, I	DE2000,	TBD-TPM.F	PM
59	801211(	DE2000	Project Constructability Review Complete	Completed		23-Nov-21 A	23-Nov-21 A	100%	0		DE1900	DE1600	TBD-TPM.F	PROJ
60	801211(	PAFF2000	Submit Full Funding PAF for Internal Review	In Progress	-2	11-Jul-22 A	15-Jul-22	0%	5		DE1600	PAFF2100	TBD-TPM.F	ENG.AM
61	801211(	PAFF2100	Incorporate Internal Review Comments & Submit Full Funding PAF to EPAC f	Not Started	0	14-Jul-22	19-Jul-22*	0%	4		PAFF2000	PAFF211(	TBD-TPM.F	ENG.AM
62	**EPAC - FF**				-28	20-Jul-22	21-Jul-22		1					
63	801211(	FF1000	EPAC Full Funding Approval	Not Started	-28		21-Jul-22	0%	0		DE1600, PAFF2200	CIRCSW-	EPAC	IP
64	801211(	PAFF2110	EPAC Full Funding Meeting	Not Started	-28		20-Jul-22*	0%	0		PAFF2100	PAFF2200	EPAC	IP
65	801211(	PAFF2200	Incorporate EPAC Full Funding PAF Review Comments	Not Started	-28	21-Jul-22	21-Jul-22	0%	1		PAFF2110	FF1000	TBD-TPM.F	ENG.AM
66	**Power Plan - FF**				320	22-Jul-22	22-Jul-22		1					
67	801211(	FF1010	Full Funding PowerPlan Approval	Not Started	320	22-Jul-22	22-Jul-22	0%	1		FF1000	TRANS-5:	EPAC	IP
68	**Civil Conceptual & Preliminary Engineering Design**				-17	20-Sep-21 A	15-Jul-22		5					
69	**Civil Conceptual Design**					20-Sep-21 A	24-Sep-21 A		0					
70	80121160	CE1000	ES Engineering Develop Civil Substation Conceptual Engineering Design in A	Completed		20-Sep-21 A	24-Sep-21 A	100%	0		PI1400	CE1600,	TBD-TPM.(	ENG.ST.:
71	**Civil Preliminary Design**				-17	25-May-22 A	15-Jul-22		5					
72	80121160	DE2020	ES Engineering Review Civil Substation Preliminary Design	In Progress	-17	25-May-22 A	15-Jul-22	77.27%	5		TRANS-1160, CE1000	DE1900,	TBD-TPM.(	ENG.ST.:
73	**Electrical Conceptual & Preliminary Engineering Design**				-92	20-Sep-21 A	15-Jul-22		5					
74	**Electrical Conceptual Design**					20-Sep-21 A	24-Sep-21 A		0					
75	80121160	CE1100	ES Develop Electrical Substation Conceptual Engineering Design in Accordan	Completed		20-Sep-21 A	24-Sep-21 A	100%	0		PI1400	CE1600,	TBD-TPM.E	ENG.ST.:
76	**Electrical Preliminary Design**				-92	11-Jul-22	15-Jul-22		5					
77	80121160	DE2040	ES Engineering Review Electrical Substation Preliminary Design	Not Started	-92	11-Jul-22*	15-Jul-22	0%	5		TRANS-1160, CIRCSW-3380	DE1900,	TBD-TPM.[	ENG.ST.:
78	**P&C Conceptual & Preliminary Engineering Design**				-92	20-Sep-21 A	15-Jul-22		5					
79	**P&C Conceptual Design**					20-Sep-21 A	24-Sep-21 A		0					
80	80121160	CE1400	ES Engineering Develop P&C Conceptual Engineering Design in Accordance	Completed		20-Sep-21 A	24-Sep-21 A	100%	0		PI1400	CE1600,	TBD-TPM.F	ENG.ST.I
81	**P&C Preliminary Design**				-92	08-Jul-22 A	15-Jul-22		5					
82	80121160	DE2100	ES Engineering Peer Review P&C Preliminary Design	In Progress	-92	08-Jul-22 A	15-Jul-22	16.67%	5		TRANS-1160, CIRCSW-3380	DE1900,	TBD-TPM.[	ENG.ST.I
83	**Project Management**				8	13-Sep-21 A	07-Dec-22		10					
84	**Scope Development**					13-Sep-21 A	13-Sep-21 A		0					
85	80121160	PI1400	Assign Project Manager Request Resources for Project Team	Completed		13-Sep-21 A	13-Sep-21 A	100%	0		PI1610	CE1400,	TBD-TPM.F	PM
86	80121160	PI1500	Assign Scheduler	Completed		13-Sep-21 A	13-Sep-21 A	100%	0		PI1400	CE1710,	TBD-TPM.F	PM
87	80121160	PI1600	Assign Cost Analyst	Completed		13-Sep-21 A	13-Sep-21 A	100%	0		PI1400	CE1600,	TBD-TPM.F	PM
88	80121160	START	SCHEDULE START MILESTONE	Completed		13-Sep-21 A		100%	0			3550, PI1	TBD-TPM.F	PM
89	**Compliance Authorization Notification**				8	23-Nov-22	07-Dec-22		10					
90	80121160	1170	Prepare CAN (Construction Authorization Notice)	Not Started	8	23-Nov-22	07-Dec-22	0%	10		3450, 3500, 3420, 3460, 12:	CT0203, I	TBD-TPM.F	PM
91	**SITING APPROVALS / PERMITS / PROJECT SERVICES**				47	18-Jan-22 A	21-Oct-22		35					
92	80121160	3560	Permitting - PM Send Scope to Siting Team	Completed		20-Apr-22 A	26-Apr-22 A	100%	0		PE1600, CE1000	3570	TBD-TPM.F	PM
93	80121160	3570	Permitting - Siting Team Review Scope to Determine Siting Requirements (e.(	Completed		27-Mar-22 A	10-Apr-22 A	100%	0		3560	3590	TBD-TPM.F	SITE
94	80121160	SIT1000	Siting Approvals / Permits / Project Services - WBS Summary Activity	In Progress	47	18-Jan-22 A	21-Oct-22	85.94%	35				TBD-TPM.S	ENG.SCI
95	**State Approvals and Permits**					24-Jan-22 A	24-Jan-22 A		0					
96	**Siting Council / Board**					24-Jan-22 A	24-Jan-22 A		0					
97	80121160	1240	Determine Requirment for CSC (CT Siting Council submissions/approvals)	Completed		24-Jan-22 A	24-Jan-22 A	100%	0		PE1600, PF1000	AT0813	TBD-TPM.F	PM
98	**Local Approvals And Permits**				47	01-Sep-22	21-Oct-22		35					
99	**Building Department**				47	09-Sep-22	22-Sep-22		10					
100	80121160	3600	Permitting - Meet with Building Inspector	Not Started	47	09-Sep-22	22-Sep-22	0%	10		3590	3610	TBD-TPM.F	SITE
101	**Special Use**				47	23-Sep-22	21-Oct-22		20					

TASK filter: All Activities

© Oracle Corporation

#	Project ID	Activity ID	Activity Name	Activity Status	Total Float	Start	Finish	Activity % Complete	Remaining Duration	Resources	Predecessors	Successors	RESP - Responsibility	DEPT - DEPARTMI
102	80121160	3610	Permitting - Obtain Special Use Permit	Not Started	47	23-Sep-22	21-Oct-22	0%	20	[redacted]	3600	AT0801	TBD-TPM.F	SITE
103	**Zoning / Planning Board**				47	01-Sep-22	08-Sep-22		5					
104	80121160	3590	Permitting - If transformer changes substation footprint, conduct zoning revie	Not Started	47	01-Sep-22*	08-Sep-22	0%	5		3570	3600	TBD-TPM.F	SITE
105	**Compliance Matrices - Regulatory Committments**					18-Jan-22 A	24-Jan-22 A		0					
106	80121160	1230	Prepared Compliance Matrices - Regulatory	Completed		18-Jan-22 A	24-Jan-22 A	100%	0		PE1600	1170	V.E.EN	PM
107	**Compliance Matrices - Non Regulatory Committments**					18-Jan-22 A	24-Jan-22 A		0					
108	80121160	1220	Prepared Compliance Matrices - Non-Reqgulatory (Commitments)	Completed		18-Jan-22 A	24-Jan-22 A	100%	0		PE1600	1170	V.E.EN	PM
109	**ENGINEERING DETAILED / IFC DESIGN**				112	17-May-21 A	08-Jun-23		225					
110	80121160	ENG1000	Engineering Detailed / IFC Design - WBS Summary Activity	In Progress	112	17-May-21 A	08-Jun-23	46.68%	225				TBD-TPM.S	ENG.SCI
111	**Civil Engineering**				-10	18-Jul-22	30-Sep-22		54					
112	**Civil Engineering Detailed Design**				-17	18-Jul-22	01-Aug-22		11					
113	80121160	CE1210	ES Engineering Review Civil Substation Detail Design	Not Started	-17	18-Jul-22	01-Aug-22	0%	11		TRANS-1160, DE2020	AT1811, (	TBD-TPM.(	ENG.ST.:
114	**Civil Engineering IFC Design**				-10	02-Aug-22	30-Sep-22		43					
115	80121160	CE1310	ES Engineering Review Civil Substation IFC	Not Started	-10	02-Aug-22	30-Sep-22	0%	43		CE1210	AT0805C	TBD-TPM.(	ENG.ST.:
116	**Electrical Engineering**				112	17-May-21 A	08-Jun-23		225					
117	80121160	CSD1000	PE Initiate CASCADE Forms (Appendix A) for Construction Package	Completed		18-Jul-22 A	22-Jul-22 A	100%	0		EE1310	1130	P.PE	ENG.ST.:
118	80121160	EE460	Operating Instructions - SSED Review Draft Distribution OI	Not Started	-92	03-Oct-22	07-Oct-22*	0%	5		EE1310	CT1202	V	ENG.ST.I
119	80121160	EE920	Operating Instructions - SSED Review Draft Convex OI	Not Started	56	03-Oct-22	07-Oct-22	0%	5		EE1310	CT1202	V	ENG.ST.I
120	80121160	RANS-1150	TRANS-ES Reviews & Comments Transformer Drawings & Schematics	Completed		04-Oct-21 A	12-Oct-21 A	100%	0		TRANS-1140	TRANS-1	V	ENG.ST.:
121	80121160	RANS-1160	TRANS-Vendor Submits Firm Transformer Drawings & Schematics	Completed		17-May-21 A	28-May-21	100%	0		TRANS-1150	DE2020,	V	ENG.ST.:
122	**Electrical Engineering Detailed Design**				-92	01-Oct-21 A	01-Aug-22		11					
123	80121160	CSW-3380	CRCSWTCH-SME Provides Circuit Switcher Go-bys to Engineering/Engineeri	Completed		01-Oct-21 A	01-Oct-21 A	100%	0		CE1100	DE2040,	TBD-TPM.S	ENG.ST.:
124	80121160	EE1210	ES Engineering Review Electrical Substation Detail Design	Not Started	-92	18-Jul-22	01-Aug-22*	0%	11		TRANS-1160, DE2040	BT1811, (	TBD-TPM.E	ENG.ST.:
125	**Electrical Engineering NX-9**				112	18-Jul-22	08-Jun-23		225					
126	80121160	NX9A-EM44	Thermal Rating- Non NX9 - P&C Develops and Provides LTRC with P&C Che	Not Started	199	18-Jul-22	22-Jul-22	0%	5		DE2100	NX9A-EM	TBD-TPM	ENG.ST.I
127	80121160	NX9A-EM54	Thermal Rating- Non NX9 -LTRC Prepares and Sends Thermal Rating Data fc	Not Started	199	25-Jul-22	29-Jul-22	0%	5		NX9A-EM44	NX9A-EM	L.LECLAMJ	ENG.ST.:
128	80121160	NX9A-EM64	Thermal Rating- Non NX9 -TRC Reviews and Approves Thermal Rating Data	Not Started	199	01-Aug-22	05-Aug-22	0%	5		NX9A-EM54	NX9A-EM	H.HANNISI	ENG.ST.:
129	80121160	NX9A-EM74	Thermal Rating- Non NX9 -LTRC Files Capability Sheets	Not Started	199	08-Aug-22	12-Aug-22	0%	5		NX9A-EM64	CFM, FIN	L.LECLAMJ	ENG.ST.:
130	**Substation NX-9 for Equipment Modification(Replacement CS or Xfmr)**				112	18-Jul-22	08-Jun-23		225					
131	**Substation NX-9 - Equipment Modification**				45	18-Jul-22	05-Oct-22		57					
132	8012	NX9A-EM01	PE Updates 1-Line Nomenclature Dwgs & Complete PE Checklist M7-EN-300	Not Started	45	18-Jul-22	22-Jul-22	0%	5		DE2100, DE2040	NX9A-EM	TBD-TPM	ENG.ST.:
133	8012	NX9A-EM04	LTRC Reviews and Makes "GO / NO-GO" Decision for 1-Line Nomenclature	Not Started	45	25-Jul-22	29-Jul-22	0%	5		NX9A-EM01	NX9A-EM	L.LECLAMJ	ENG.ST.:
134	8012	NX9A-EM07	LTRC Submits1-Line Nomenclature to TRC	Not Started	45	01-Aug-22	05-Aug-22	0%	5		NX9A-EM04	NX9A-EM	L.LECLAMJ	ENG.ST.:
135	8012	NX9A-EM10	LTRC Reviews and Makes "GO / NO-GO" Decision for Thermal Ratings	Not Started	45	08-Aug-22	12-Aug-22	0%	5		NX9A-EM07	NX9A-EM	L.LECLAMJ	ENG.ST.:
136	8012	NX9A-EM13	LTRC Requests P&C Checklist	Not Started	45	15-Aug-22	19-Aug-22	0%	5		NX9A-EM10	NX9A-EM	TBD-TPM	ENG.ST.:
137	8012	NX9A-EM16	P&C Develops and Provides LTRC with P&C Checklist (M7-EN-3006.1)	Not Started	45	22-Aug-22	26-Aug-22	0%	5		NX9A-EM13	NX9A-EM	TBD-TPM	ENG.ST.I
138	8012	NX9A-EM19	LTRC Reviews and Sends Thermal Rating Data for TRC Review	Not Started	45	29-Aug-22	02-Sep-22	0%	5		NX9A-EM16	NX9A-EM	L.LECLAMJ	ENG.ST.:
139	8012	NX9A-EM22	TRC Reviews and Approves Thermal Rating Data	Not Started	45	06-Sep-22	12-Sep-22	0%	5		NX9A-EM19	NX9A-EM	H.HANNISI	ENG.AM
140	8012	NX9A-EM25	LTRC Sends Thermal Rating Data for Approval & Submit to NURS	Not Started	45	13-Sep-22	19-Sep-22	0%	5		NX9A-EM22	NX9A-EM	L.LECLAMJ	ENG.ST.:
141	8012	NX9A-EM26	TRC Confirms Engineering Management Approvals of NX-9	Not Started	45	20-Sep-22	26-Sep-22	0%	5		NX9A-EM25	NX9A-EM	L.LECLAMJ	ENG.AM
142	8012	NX9A-EM28	Scheduler @ NURS email "Submitted for PP Review" - Updates NURS with D	Not Started	45	27-Sep-22	27-Sep-22	0%	1		NX9A-EM26	NX9A-EM	TBD-TPM	PROJ
143	8012	NX9A-EM31	TRC Review and Submit NX-9 Data to LCC + ISO-NE for S/S Thermal Rating	Not Started	45	28-Sep-22	04-Oct-22	0%	5		NX9A-EM28	NX9A-EM	H.HANNISI	ENG.AM
144	8012	NX9A-EM34	Scheduler @ NURS email "Submitted for DOE Monitoring" - Updates T-3, Equ	Not Started	45	05-Oct-22	05-Oct-22	0%	1		NX9A-EM31	NX9A100	TBD-TPM	PROJ
145	**Substation - NX-9 Pre NX9-DOE**				102	03-Jan-23	03-Jan-23		1					
146	8012	NX9A100	Scheduler - Send Email for 48Hrs Notification before DOE. (Tie SS to Beginni	Not Started	102	03-Jan-23	03-Jan-23	0%	1		NX9A-EM34, TOA-Const	NX9FINAI	TBD-TPM	PROJ
147	**Substation - NX-9 Post NX9-DOE/ISD**				112	30-May-23	08-Jun-23		8					
148	8012	NX9A200	Scheduler - Has 72 Hrs to Put in Service the NX-9 and Send to TOP Director i	Not Started	112	01-Jun-23	01-Jun-23	0%	1		NX9FINAL10	NX9FINAI	TBD-TPM	PROJ
149	8012	X9FINAL10	Review + Affirm Accuracy of NX-9 for ISO Submission (Tie after Equip DOE or	Not Started	112	30-May-23	01-Jun-23	0%	3		CFM, NX9A100	NX9FINAI	TBD-TPM	PM
150	8012	X9FINAL20	[If Required] Receive + Issue Final Affirmed NX-9 Data to NURS	Not Started	112	02-Jun-23	08-Jun-23	0%	5		NX9FINAL10, NX9A200	FINISH	H.HANNISI	ENG.AM
151	**Substation NX9 for New Construction(New Equipment CS or Xfmr)**				112	18-Jul-22	08-Jun-23		225					
152	**Substation - Preliminary Thermal Data - New Construction**				-26	18-Jul-22	05-Oct-22		57					

TASK filter: All Activities

© Oracle Corporation

#	Project ID	Activity ID	Activity Name	Activity Status	Total Float	Start	Finish	Activity % Complete	Remaining Duration	Resources	Predecessors	Successors	RESP - Responsibility	DEPT - DEPARTMI
153	8012	NX9A-NC01	PE Updates 1-Line Nomenclature Dwgs & Complete PE Checklist M7-EN-30(	Not Started	-26	18-Jul-22	22-Jul-22	0%	5	[redacted]	DE2100, DE2040	NX9A-NC	TBD-TPM	ENG.ST:
154	8012	NX9A-NC03	LTRC Reviews and Makes "GO / NO-GO" Decision for 1-Line Nomenclature	Not Started	-26	25-Jul-22	29-Jul-22	0%	5		NX9A-NC01	NX9A-NC	L.LECLAMJ	ENG.ST:
155	8012	NX9A-NC05	LTRC Submits 1-Line Nomenclature to TRC	Not Started	-26	01-Aug-22	05-Aug-22	0%	5		NX9A-NC03	NX9A-NC	TBD-TPM	ENG.ST:
156	8012	NX9A-NC07	LTRC Reviews and Makes "GO / NO-GO" Decision for Thermal Ratings	Not Started	-26	08-Aug-22	12-Aug-22	0%	5		NX9A-NC05	NX9A-NC	L.LECLAMJ	ENG.ST:
157	8012	NX9A-NC09	LTRC Requests P&C Checklist	Not Started	-26	15-Aug-22	19-Aug-22	0%	5		NX9A-NC07	NX9A-NC	TBD-TPM	ENG.ST:
158	8012	NX9A-NC11	P&C Develops and Provides LTRC with P&C Checklist (M7-EN-3006.1)	Not Started	-26	22-Aug-22	26-Aug-22	0%	5		NX9A-NC09	NX9A-NC	TBD-TPM	ENG.ST.I
159	8012	NX9A-NC13	LTRC Reviews and Sends Thermal Rating Data for TRC Review	Not Started	-26	29-Aug-22	02-Sep-22	0%	5		NX9A-NC11	NX9A-NC	L.LECLAMJ	ENG.ST:
160	8012	NX9A-NC15	TRC Reviews and Approves Thermal Rating Data	Not Started	-26	06-Sep-22	12-Sep-22	0%	5		NX9A-NC13	NX9A-NC	H.HANNISM	ENG.AM
161	8012	NX9A-NC17	LTRC Sends Thermal Rating Data for Approval & Submit to NURS	Not Started	-26	13-Sep-22	19-Sep-22	0%	5		NX9A-NC15	NX9A-NC	L.LECLAMJ	ENG.ST:
162	8012	NX9A-NC18	TRC Confirms Engineering Management Approvals of NX-9	Not Started	-26	20-Sep-22	26-Sep-22	0%	5		NX9A-NC17	NX9A-NC	L.LECLAMJ	ENG.AM
163	8012	NX9A-NC19	Scheduler @ NURS email "Submitted for PP Review" - Updates NURS with D	Not Started	-26	27-Sep-22	27-Sep-22	0%	1		NX9A-NC18	NX9A-NC	TBD-TPM	PROJ
164	8012	NX9A-NC21	TRC Review and Submit NX-9 Data to LCC + ISO-NE for S/S Thermal Rating	Not Started	-26	28-Sep-22	04-Oct-22	0%	5		NX9A-NC19	NX9A-NC	H.HANNISM	ENG.AM
165	8012	NX9A-NC23	Scheduler @ NURS email "Submitted for DOE Monitoring" - Updates T-18, Ec	Not Started	-26	05-Oct-22	05-Oct-22	0%	1		NX9A-NC21	CFM, BT1	TBD-TPM	PROJ
166	**Substation - Verify Thermal Data - New Construction**				-2	06-Oct-22	14-Dec-22		47					
167	8012	NX9A-NC31	PE to Verify Thermal Data Review PE Chectlist (M7-EN-3006.2)	Not Started	-2	06-Oct-22	13-Oct-22	0%	5		EE1310, NX9A-NC23	NX9A-NC	TBD-TPM	ENG.ST:
168	8012	NX9A-NC33	LTRC Reviews and Makes "GO / NO-GO" Decision	Not Started	-2	14-Oct-22	20-Oct-22	0%	5		NX9A-NC31	NX9A-NC	L.LECLAMJ	ENG.ST:
169	8012	NX9A-NC35	LTRC Requests P&C Checklist	Not Started	-2	21-Oct-22	27-Oct-22	0%	5		NX9A-NC33	NX9A-NC	L.LECLAMJ	ENG.ST:
170	8012	NX9A-NC37	P&C Develops and Provides LTRC with P&C Checklist (M7-EN-3006.1)	Not Started	-2	28-Oct-22	03-Nov-22	0%	5		NX9A-NC35	NX9A-NC	TBD-TPM	ENG.ST.I
171	8012	NX9A-NC39	LTRC Reviews and Sends Thermal Rating Data for TRC Review	Not Started	-2	04-Nov-22	10-Nov-22	0%	5		NX9A-NC37	NX9A-NC	L.LECLAMJ	ENG.ST:
172	8012	NX9A-NC41	TRC Reviews and Approves Thermal Rating Data	Not Started	-2	14-Nov-22	18-Nov-22	0%	5		NX9A-NC39	NX9A-NC	H.HANNISM	ENG.AM
173	8012	NX9A-NC43	LTRC Sends Thermal Rating Data for Approval & Submit to NURS	Not Started	-2	21-Nov-22	28-Nov-22	0%	5		NX9A-NC41	NX9A-NC	L.LECLAMJ	ENG.ST:
174	8012	NX9A-NC44	TRC Confirms Engineering Management Approvals of NX-9	Not Started	-2	29-Nov-22	05-Dec-22	0%	5		NX9A-NC43	NX9A-NC	L.LECLAMJ	ENG.AM
175	8012	NX9A-NC45	Scheduler @ NURS email "Submitted for PP Review" - Updates NURS with D	Not Started	-2	06-Dec-22	06-Dec-22	0%	1		NX9A-NC44	NX9A-NC	TBD-TPM	PROJ
176	8012	NX9A-NC47	TRC Review and Submit NX-9 Data to LCC + ISO-NE for S/S Thermal Rating	Not Started	-2	07-Dec-22	13-Dec-22	0%	5		NX9A-NC45	NX9A-NC	H.HANNISM	ENG.AM
177	8012	NX9A-NC49	Scheduler @ NURS email "Submitted for DOE Monitoring" - Updates T-3, Equ	Not Started	-2	14-Dec-22	14-Dec-22	0%	1		NX9A-NC47	CFM, BTC	TBD-TPM	PROJ
178	**Substation - NX-9 Pre NX9-DOE**				102	03-Jan-23	03-Jan-23		1					
179	8012	NX9500	Scheduler - Send Email for 48Hrs Notification before DOE. (Tie SS to Beginni	Not Started	102	03-Jan-23	03-Jan-23	0%	1		TOA-Const, NX9A-NC47, NX9	CFM, NX9	TBD-TPM	PROJ
180	**Substation - NX-9 Post NX9-DOE/ISD**				112	30-May-23	08-Jun-23		8					
181	8012	NX9A600	Scheduler - Has 72 Hrs to Put in Service the NX-9 and Send to TOP Director i	Not Started	112	01-Jun-23	01-Jun-23	0%	1		NX9FINAL50	NX9FINAI	TBD-TPM	PROJ
182	8012	X9FINAL50	Review + Affirm Accuracy of NX-9 for ISO Submission (Tie after Equip DOE or	Not Started	112	30-May-23	01-Jun-23	0%	3		CFM, NX9500	NX9FINAI	TBD-TPM	PM
183	8012	X9FINAL60	[If Required] Receive + Issue Final Affirmed NX-9 Data to NURS	Not Started	112	02-Jun-23	08-Jun-23	0%	5		NX9FINAL50, NX9A600	FINISH	H.HANNISM	ENG.AM
184	**Electrical Engineering IFC Design**				-92	02-Aug-22	30-Sep-22		43					
185	80121160	EE1310	ES Engineering Review Electrical Substation IFC	Not Started	-92	02-Aug-22	30-Sep-22	0%	43		CIRCSW-1125, EE1210, DFR	CSD1000	TBD-TPM.E	ENG.ST:
186	**P&C Engineering**				144	06-Oct-21 A	25-Oct-22		70					
187	80121160	CSD1030	PE Initiate CASCADE Forms (Appendix A) for Construction Package	Not Started	144	19-Oct-22*	25-Oct-22	0%	5		PC1110, PC1330	1140	TBD-TPM.F	ENG.ST.I
188	80121160	OP1010	P&C Validation of PAF's Initial Assessment Go/No-Go	Not Started	205	20-Jul-22	21-Jul-22	0%	2		PAFF2100	OP1020	TBD-TPM.F	ENG.ST.I
189	**P&C Engineering Detailed Design**				-92	18-Jul-22	08-Aug-22		16					
190	80121160	PC1110	ES Engineering Review P&C Detail Design	Not Started	-92	18-Jul-22	01-Aug-22	0%	11		DE2100, TRANS-1160, EE13	CT1811, (	TBD-TPM.F	ENG.ST.I
191	80121160	PC1330	ES Engineering Issues SDS	Not Started	-92	02-Aug-22	08-Aug-22	0%	5		PC1110	CSD1030	TBD-TPM.F	ENG.ST.I
192	**P&C Relay Settings Development**				79	06-Oct-21 A	06-Sep-22		20					
193	80121160	EE1330	SWG-ES Engin Complete Front & Panel Views to Support Scoping Documen	Completed		06-Oct-21 A	05-Nov-21 A	100%	0		PF1000	PC1110	TBD-TPM.F	ENG.ST.I
194	80121160	PC1400	Complete P&C Relay Settings	Not Started	79	09-Aug-22	06-Sep-22	0%	20		PC1330	CT0404	TBD-TPM.F	ENG.ST.I
195	80121160	PC8520	SWG-ES Engin Complete One-line Dgrm & Relay list to Support Scoping Doc	Completed		06-Oct-21 A	05-Nov-21 A	100%	0		PF1000	PC1110	TBD-TPM.F	ENG.ST.I
196	**P&C Engineering OP-24**				205	22-Jul-22	28-Jul-22		5					
197	80121160	OP1020	P&C Updates OP-24 Appendix B	Not Started	205	22-Jul-22	27-Jul-22	0%	4		OP1010	OP1030	TBD-TPM.F	ENG.ST.I
198	80121160	OP1030	P&C Submits OP-24 Appendix B to ISO-NE	Not Started	205	28-Jul-22	28-Jul-22	0%	1		OP1020	1140	TBD-TPM.F	ENG.ST.I
199	**P&C Engineering IFC Design**				-92	08-Aug-22	30-Sep-22		38					
200	80121160	DFR1000	Verify DFR Calibration is Required	Not Started	-92	09-Aug-22	09-Aug-22	0%	1		PC1330	DFR1010	P.P&C	ENG.ST.I
201	80121160	DFR1010	P&C Prepare Configuration for DFRs	Not Started	-92	10-Aug-22	16-Aug-22	0%	5		PC1330, DFR1000	DFR1020	P.P&C	ENG.ST.I
202	80121160	DFR1020	Peer Review and Comment DFR Configuration	Not Started	-92	17-Aug-22	23-Aug-22	0%	5		DFR1010	DFR1030	P.P&C	ENG.ST.I
203	80121160	DFR1030	P&C Issue Configuration For DFR	Not Started	-92	24-Aug-22	26-Aug-22	0%	3		DFR1020	DFR1050	P.P&C	ENG.ST.I

TASK filter: All Activities

© Oracle Corporation

#	Project ID	Activity ID	Activity Name	Activity Status	Total Float	Start	Finish	Activity % Complete	Remaining Duration	Resources	Predecessors	Successors	RESP - Responsibility	DEPT - DEPARTMI
204	80121160	DFR1040	Verify CASCADE Forms Exists for S/S DFR, if not then Initiate Form	Not Started	-81	09-Aug-22	11-Aug-22	0%	3	[redacted]	PC1330	DFR1050	P.P&C	ENG.ST.I
205	80121160	DFR1050	DFR Config Complete	Not Started	-92	29-Aug-22	29-Aug-22	0%	1		DFR1030, DFR1040	DFR1070	P.P&C	ENG.ST.I
206	80121160	DFR1060	DFR Pts Identified	Not Started	-77		08-Aug-22	0%	0		PC1330	DFR1070	P.P&C	ENG.ST.I
207	80121160	DFR1070	P&C IFC Complete	Not Started	-92	30-Aug-22	30-Sep-22	0%	23		DFR1060, DFR1050, DFR10	1140, EE	P.P&C	ENG.ST.I
208	**PROCUREMENT LONG LEAD MATERIAL**				222	25-Oct-21 A	30-Dec-22		120					
209	80121160	PLLM1000	Procurement Long Lead Material - WBS Summary Activity	In Progress	222	25-Oct-21 A	30-Dec-22	66.39%	120				TBD-TPM.S	ENG.SCI
210	**Civil Long Lead Material**				0	02-Aug-22	30-Dec-22		104					
211	80121160	CE1040	MATERIAL - CIVIL - Procurement Issue PO	Not Started	3	09-Aug-22	18-Aug-22	0%	10		CE500, CE600	CE1050	TBD-TPM.M	PURC
212	80121160	CE1050	MATERIAL - CIVIL - Material Vendor Delivery Leadtime	Not Started	3	19-Aug-22	29-Dec-22	0%	133		CE1040	CE560	TBD-TPM.M	PURC
213	80121160	CE500	MATERIAL - CIVIL - Prepare & Issue DR	Not Started	3	02-Aug-22	08-Aug-22	0%	5		FF1000, PC1110, EE1210, C	CE600, C	V	ENG.ST.I
214	80121160	CE560	MATERIAL - CIVIL - Confirm Material Delivery to Site	Not Started	3	30-Dec-22	30-Dec-22	0%	1		CE1050	AT0401	TBD-TPM.M	PURC
215	80121160	CE600	Civil (BG) Material Ordered	Not Started	3		08-Aug-22	0%	0		CE500	CE1040	TBD-TPM.M	ENG.ST.I
216	**Electrical Long Lead Material**				222	25-Oct-21 A	30-Dec-22		120					
217	80121160	EE1020	MATERIAL - Electrical - Procurement Issue PO	Not Started	-25	09-Aug-22	18-Aug-22	0%	10		EE520	EE1030	TBD-TPM.M	PURC
218	80121160	EE1030	MATERIAL - Electrical - Material Vendor Delivery Leadtime	Not Started	-25	19-Aug-22	29-Dec-22	0%	133		EE1020	EE550	TBD-TPM.M	PURC
219	80121160	EE520	MATERIAL - Electrical - Prepare & Issue DR	Not Started	-17	02-Aug-22	08-Aug-22	0%	5		FF1000, PC1110, EE1210, C	EE590, E	V	ENG.ST.I
220	80121160	EE550	MATERIAL - Electrical - Confirm Material Delivery to Site	Not Started	-25	30-Dec-22	30-Dec-22	0%	1		EE1030	BT0401	TBD-TPM.M	PURC
221	80121160	EE590	Electrical (AG) Material Ordered	Not Started	0		08-Aug-22	0%	0		EE520	BT0401	TBD-TPM.M	ENG.ST.I
222	**MATERIAL FOR CIRCUIT SWITCHERS**				222	31-May-22 A	30-Dec-22		120					
223	80121160	CSW-1240	CIRCSWTCH-MATERIAL - CIRCUIT SWITCHER - Confirm Material Delivery to	Not Started	-25	30-Dec-22	30-Dec-22	0%	1		CIRCSW-1260	BT0401	TBD-TPM.M	PURC
224	80121160	CSW-1260	CIRCSWTCH-MATERIAL - CIRCUIT SWITCHER - Material Vendor Delivery Le	In Progress	-25	31-May-22 A	29-Dec-22	5.49%	172		CIRCSW-1320, CIRCSW-127	CIRCSW-	TBD-TPM.M	PURC
225	80121160	CSW-1270	CIRCSWTCH-CIRCUIT SWITCHER Material Ordered	Not Started	288		23-Sep-22	0%	0		CIRCSW-1310, FF1000, CIR	CIRCSW-	TBD-TPM.M	ENG.ST.I
226	80121160	CSW-1280	CIRCSWTCH-ES Engineering Develops & Issues Circuit Switcher Spec to Ma	Not Started	288	22-Jul-22	18-Aug-22	0%	20		FF1000	CIRCSW-	TBD-TPM.F	ENG.ST.I
227	80121160	CSW-1290	CIRCSWTCH-Circuit Switcher Manufacturer Reviews Spec & Provides Quote	Not Started	288	19-Aug-22	09-Sep-22	0%	15		CIRCSW-1280	CIRCSW-	TBD-TPM.M	ENG.ST.I
228	80121160	CSW-1300	CIRCSWTCH-ES Engineering & Procurement Review & Evaluate Circuit Swit	Not Started	288	12-Sep-22	23-Sep-22	0%	10		CIRCSW-1290	CIRCSW-	TBD-TPM.F	ENG.ST.I
229	80121160	CSW-1310	CIRCSWTCH-MATERIAL -CIRCUIT SWITCHER - Prepare & Issue DR	Not Started	325	20-Jul-22	26-Jul-22	0%	5		FF1000	CIRCSW-	TBD-TPM.M	ENG.ST.I
230	80121160	CSW-1320	CIRCSWTCH-MATERIAL - CIRCUIT SWITCHER - Procurement Issue PO	Not Started	325	27-Jul-22	02-Aug-22	0%	5		CIRCSW-1310, FF1000	CIRCSW-	TBD-TPM.M	PURC
231	**MATERIAL FOR TRANSFORMER**				222	25-Oct-21 A	30-Dec-22		120					
232	80121160	RANS-1060	TRANS-MATERIAL - Transformer - Procurement Issue PO	Not Started	466	30-Jul-22	08-Aug-22	0%	10		TRANS-530	CSM	TBD-TPM.M	PURC
233	80121160	RANS-1070	TRANS-MATERIAL - Transformer - Material Vendor Delivery Leadtime	In Progress	-25	09-Feb-22 A	15-Dec-22	35.51%	158		TRANS-1190	TRANS-5	TBD-TPM.M	PURC
234	80121160	RANS-1170	TRANS-Transformer - Prepare & Issue LNTP for Vendor Dwgs. & Schematics	Completed		25-Oct-21 A	25-Oct-21 A	100%	0		PI1300	TRANS-1	P.PE	ENG.ST.I
235	80121160	RANS-1180	TRANS-Transformer Material Ordered	Not Started	327		29-Jul-22	0%	0		TRANS-530		TBD-TPM.M	ENG.ST.I
236	80121160	RANS-1190	TRANS-MATERIAL - Transformer - Prepare & Issue LOA	Completed		02-Feb-22 A	07-Feb-22 A	100%	0		PI1610	TRANS-1(	TBD-TPM.F	PURC
237	80121160	TRANS-530	TRANS-MATERIAL - Transformer - Prepare & Issue DR	Not Started	320	25-Jul-22	29-Jul-22	0%	5		SDC1000, FF1010	TRANS-1(	TBD-TPM.M	ENG.ST.I
238	80121160	TRANS-570	TRANS-MATERIAL - Transformer - Confirm Material Delivery to Site	Not Started	-25	16-Dec-22	30-Dec-22	0%	15		TRANS-1070	BT0401	TBD-TPM.M	PURC
239	**P&C Long Lead Material**				0	02-Aug-22	30-Dec-22		104					
240	80121160	PC1000	MATERIAL - P&C - Material Vendor Delivery Leadtime	Not Started	3	19-Aug-22	29-Dec-22	0%	133		PC980	PC1010	TBD-TPM.M	PURC
241	80121160	PC1010	MATERIAL - P&C - Confirm Material Delivery to Site	Not Started	3	30-Dec-22	30-Dec-22	0%	1		PC1000	CT0401	TBD-TPM.M	PURC
242	80121160	PC510	MATERIAL - P&C - Prepare & Issue DR	Not Started	3	02-Aug-22	08-Aug-22	0%	5		FF1000, PC1110, EE1210, C	PC980	V	ENG.ST.I
243	80121160	PC980	MATERIAL - P&C - Procurement Issue PO	Not Started	3	09-Aug-22	18-Aug-22	0%	10		PC510	PC1000	TBD-TPM.M	PURC
244	**PROCUREMENT OF SERVICE CONTRACTS**				-10	18-Oct-21 A	22-Nov-22		85					
245	80121160	PSC1000	Procurement of Service Contracts - WBS Summary Activity	In Progress	-10	18-Oct-21 A	22-Nov-22	68.63%	85				TBD-TPM.S	ENG.SCI
246	**Engineer of Choice - Direct Award or Bid**					18-Oct-21 A	18-Oct-21 A		0					
247	80121160	3370	Decision Required Regarding Engineering Staffing (ES, COC, BID)- In House	Completed		18-Oct-21 A	18-Oct-21 A	100%	0		PF1010		TBD-TPM.F	PM
248	**Constructor of Choice - Direct Award or Bid**				-10	18-Oct-21 A	22-Nov-22		35					
249	80121160	3390	CONST.SERVICES - COC - Eversource Provides Spec / RFQ to COC	Not Started	-10	03-Oct-22	07-Oct-22	0%	5		FF1000, 3550, CE1310, EE1	3400	TBD-TPM.F	PURC
250	80121160	3400	CONST.SERVICES - COC - COC Evaluates Spec and Provides Quote	Not Started	-10	11-Oct-22	24-Oct-22	0%	10		3390	3410	V.C	CONS
251	80121160	3410	CONST.SERVICES - COC - Eversource Reviews Quote from COC	Not Started	-10	25-Oct-22	07-Nov-22	0%	10		3400	3420	TBD-TPM.F	PM
252	80121160	3420	CONST.SERVICES - COC - Eversource Awards Contract - PO Issued	Not Started	-10	08-Nov-22	22-Nov-22	0%	10		3410	CT0814,	TBD-TPM.F	PURC
253	80121160	3550	STAFFING DECISION -CONSTRUCTION: EVERSOURCE OR OUTSOURCE I	Completed		18-Oct-21 A	22-Oct-21 A	100%	0		START	3430, 33	TBD-TPM.F	PM

TASK filter: All Activities

© Oracle Corporation

#	Project ID	Activity ID	Activity Name	Activity Status	Total Float	Start	Finish	Activity % Complete	Remaining Duration	Resources	Predecessors	Successors	RESP - Responsibility	DEPT - DEPARTMI
254	**Lead Commissioing Engineer Service - Direct Award or Bid**				-14	02-Aug-22	05-Aug-22		4	[redacted]				
255	80121160	LCE100	PM to Request Lead Commissioning Engineer GO/NO-GO {Preliminary or De	Not Started	-14	02-Aug-22	03-Aug-22	0%	2		EE1210	LCE200	TBD-TPM.F	PM
256	80121160	LCE200	Assign Lead Commissioning Engineer	Not Started	-14	04-Aug-22	05-Aug-22	0%	2		LCE100	LCE310,	TBD-TPM.(	ENG.ST.:
257	**Testing Service - Direct Award or Bid**				-28	18-Oct-21 A	09-Sep-22		35					
258	80121160	1010	STAFFING DECISION: EVERSOURCE OR OUTSOURCE BID/COC	Completed		18-Oct-21 A	18-Oct-21 A	100%	0		START	3470, 35'	V	PM
259	80121160	3470	TEST SERVICES - COC - Eversource Provides Spec / RFQ to COC	Not Started	-28	22-Jul-22	28-Jul-22	0%	5		FF1000, 1010	3480	TBD-TPM.T	PURC
260	80121160	3480	TEST SERVICES - COC - COC Evaluates Spec and Provides Quote	Not Started	-28	29-Jul-22	11-Aug-22	0%	10		3470	3490	V.C	PURC
261	80121160	3490	TEST SERVICES - COC - Eversource Reviews Quote from COC	Not Started	-28	12-Aug-22	25-Aug-22	0%	10		3480	3500	TBD-TPM.T	PURC
262	80121160	3500	TEST SERVICES - COC - Eversource Awards Contract - PO Issued	Not Started	-28	26-Aug-22	09-Sep-22	0%	10		3490	1170, LCI	TBD-TPM.T	PURC
263	**CONSTRUCTION**				110	01-Aug-22	12-Jun-23		217					
264	80121160	CON1000	Construction - WBS Summary Activity	Not Started	110	01-Aug-22	12-Jun-23	0%	217				TBD-TPM.S	ENG.SCI
265	**Outages**				110	01-Aug-22	12-Jun-23		217					
266	80121160	1250	Construction Rep SUBMIT OUTAGE REQUESTS for NON-Swithgear equipme	Not Started	5	03-Oct-22	07-Oct-22	0%	5		BT0805E	BT0409	V.C	CONS
267	80121160	1260	Construction Rep Finalize CASCADE Forms (within 14 days folloiwng ISD)	Not Started	80	30-May-23	12-Jun-23	0%	10		CFM	1030	V.C	CONS
268	80121160	1290	Construction Rep SUBMIT OUTAGE REQUESTS for Swithgear TEST ENERG	Not Started	84	01-Aug-22*	12-Aug-22	0%	10		AT0805C	A1070	V.C	CONS
269	80121160	CFM	Construction Finish Milestone	Not Started	4		26-May-23	0%	0		NX9A-EM74, 1140, CONSTel	1020, 10:	V.C	CONS
270	80121160	CSM	Construction Start Milestone	Not Started	274	03-Jan-23		0%	0		CT00, BT00, TRANS-1060	ConRep-S	TBD-TPM.F	CONS
271	80121160	ISD	EQUIPMENT IN SERVICE DATE (requires FOOB constraint)	Not Started	0		31-May-23*	0%	0		CFM, LCE700, LCE610	LCE800	V.C	PM
272	80121160	TOA-Const	OUTAGE / General Construction Work	Not Started	0	03-Jan-23	22-Apr-23	0%	95		CT00, BT00	1070, 10	V.C	CONS
273	80121160	TOA-Test	OUTAGE / Test Swithgear	Not Started	19	03-Jan-23	03-May-23	0%	85		CT00, BT00	CFM	TBD-TPM.S	TEST
274	**Construction Support LOEs**				2	03-Jan-23	26-May-23		102					
275	80121160	1070	RESOURCE ONLY ACTIVITY - CONSTRUCTION - SWITCH OUT	Not Started	0	03-Jan-23*	03-Jan-23	0%	1		TOA-Const	CFM	V.C	CONS
276	80121160	1080	RESOURCE ONLY ACTIVITY - CONSTRUCTION - SWITCH IN	Not Started	0	26-May-23*	26-May-23	0%	1		TOA-Const	CFM	V.C	CONS
277	80121160	ConRep-S	RESOURCE ONLY ACTIVITY - CONSTRUCTION - CONSTRUCTION REP	Not Started	2	03-Jan-23	26-May-23	0%	102		CSM	CFM	V.C	CONS
278	80121160	CONSTelec	RESOURCE ONLY ACTIVITY - CONSTRUCTION - ELECTRICIAN	Not Started	2	03-Jan-23	26-May-23	0%	102		CSM	CFM	V.C	CONS
279	**Site Development**				2	03-Jan-23	26-May-23		102					
280	80121160	1120	Construction - Civil	Not Started	2	03-Jan-23*	26-May-23	0%	102		AT00	CFM, CV'	V.C	CONS
281	**Substation Construction**				2	03-Jan-23	26-May-23		102					
282	80121160	1130	Construction - Electrical	Not Started	2	03-Jan-23*	26-May-23	0%	102		BT00, CSD1000	CFM	V.C	CONS
283	**P&C Construction**				99	03-Jan-23	09-Jan-23		5					
284	80121160	1140	Construction - P&C Implement Relay Settings	Not Started	99	03-Jan-23	09-Jan-23	0%	5		CT00, CSD1030, OP1030, D	CFM	V.C	CONS
285	**Telecomm Construction**				99	03-Jan-23	09-Jan-23		5					
286	80121160	1150	Construction - Field Communications	Not Started	99	03-Jan-23	09-Jan-23	0%	5		CT00	CFM	V.C	CONS
287	**TEST & COMMISSIONING**				108	10-Sep-22	24-Dec-22		72					
288	80121160	TC1000	Test & Commissioning - WBS Summary Activity	Not Started	108	10-Sep-22	24-Dec-22	0%	72				TBD-TPM.S	ENG.SCI
289	**Test & Commissioning**				108	10-Sep-22	24-Dec-22		72					
290	80121160	LCE400	Develop Test and Commissioning Plan	Not Started	-26	12-Sep-22	11-Oct-22	0%	21		LCE310, LCE320	LCE500	TBD-TPM.T	TEST
291	80121160	LCE500	LCE Review and Approve Vendor's Test and Commissioning Plan	Not Started	-26	12-Oct-22	09-Nov-22	0%	21		LCE400	BT1301, I	TBD-TPM.(	ENG.ST.:
292	**Testing Activities**				108	10-Sep-22	24-Dec-22		72					
293	80121160	LCE310	Mobilize LCE Prior to Construction	Not Started	-39	10-Sep-22	11-Sep-22	0%	2		LCE200, 3540, 3500	LCE400	TBD-TPM.(	ENG.ST.:
294	80121160	LCE320	Mobilize Testing Vendor Prior to Construction	Not Started	-39	10-Sep-22	11-Sep-22	0%	2		LCE200, 3540, 3500	LCE400	TBD-TPM.T	TEST
295	80121160	LCE610	LCE Oversee Execution of Test and Commissioning Plan	Not Started	108	10-Nov-22	23-Dec-22	0%	30		LCE500	ISD	TBD-TPM.(	ENG.ST.:
296	80121160	LCE620	Execute Test and Commissioning Plan	Not Started	107	10-Nov-22	23-Dec-22	0%	30		LCE500	CFM, LCE	TBD-TPM.T	TEST
297	80121160	LCE700	LCE Ensure Test Group Prepare Electrical Field Mark Ups	Not Started	158	24-Dec-22	24-Dec-22	0%	1		LCE620	ISD	TBD-TPM.(	ENG.ST.:
298	**PROJECT CLOSE OUT**				0	30-May-23	17-Nov-23		120					
299	80121160	PCO1000	Project Close Out - WBS Summary Activity	Not Started	0	30-May-23	17-Nov-23	0%	120				TBD-TPM.S	ENG.SCI
300	**Civil Close Out**				8	30-May-23	06-Nov-23		112					
301	80121160	1110	Restore / Remediate Site	Not Started	110	30-May-23	12-Jun-23	0%	10		CFM	FINISH	V.C	CONS
302	80121160	CV1000	Prepare Civil Field Mark Ups (Tie after Last Civil Construction Activity)	Not Started	8	06-Jun-23	05-Jul-23	0%	21		1120, TD1100	CV1200	TBD-TPM.S	ENG.EN(

TASK filter: All Activities

© Oracle Corporation

#	Project ID	Activity ID	Activity Name	Activity Status	Total Float	Start	Finish	Activity % Complete	Remaining Duration	Resources	Predecessors	Successors	RESP - Responsibility	DEPT - DEPARTMI
303	80121160	CV1200	ES Engineering Verifies Civil Mark Ups and Updates As-Built Drawing Packag	Not Started	8	06-Jul-23	16-Aug-23	0%	30	[redacted]	CV1000	CV1300	TBD-TPM.(	ENG.ST.:
304	80121160	CV1300	Eversource Engineering Verifies Quality of Submitted Civil Drawings	Not Started	8	17-Aug-23	14-Sep-23	0%	20		CV1200	CV1400	TBD-TPM.(	ENG.ST.:
305	80121160	CV1400	ES Create Civil Transmittal, Approve Final As-Built Package, and EDC Files ar	Not Started	8	15-Sep-23	21-Sep-23	0%	5		CV1300	PM1000	TBD-TPM.(	ENG.ST.:
306	80121160	CV1500	FE Files Civil Design Drawings at Station	Not Started	8	25-Sep-23	06-Nov-23	0%	30		PM1000	FINISH	TBD-TPM.S	ENG.EN(
307	80121160	PM1000	PM to Document Civil As-Built Drawings Complete	Not Started	8	22-Sep-23	22-Sep-23	0%	1		CV1400	CV1500	TBD-TPM.F	PM
308	**Electrical Close Out**				0	16-Jun-23	03-Oct-23		76					
309	80121160	EV1000	Prepare Electrical Field Mark Ups	Not Started	0	16-Jun-23	17-Jul-23	0%	21		LCE900, TD1100	EV1200	TBD-TPM.L	ENG.EN(
310	80121160	EV1200	ES Engineering Verifies Electrical Mark Ups and Updates As-Built Drawing Pa	Not Started	0	18-Jul-23	28-Aug-23	0%	30		EV1000	EV1300	TBD-TPM.E	ENG.ST.:
311	80121160	EV1300	Eversource Engineering Verifies Quality of Submitted Electrical Drawings	Not Started	0	29-Aug-23	26-Sep-23	0%	20		EV1200	EV1400	TBD-TPM.E	ENG.ST.:
312	80121160	EV1400	Electrical Transmittal, Approve Final As-Built Package, and EDC Files and Issu	Not Started	0	27-Sep-23	03-Oct-23	0%	5		EV1300	PM1100	TBD-TPM.E	ENG.ST.:
313	**P&C Close Out**				0	16-Jun-23	17-Nov-23		107					
314	80121160	PC1200	ES Engineering Verifies P&C Mark Ups and Updates As-Built Drawing Packag	Not Started	0	18-Jul-23	28-Aug-23	0%	30		PC8000	PC1300	TBD-TPM.F	ENG.ST.I
315	80121160	PC1300	Eversource Engineering Verifies Quality of Submitted P&C Drawings	Not Started	0	29-Aug-23	26-Sep-23	0%	20		PC1200	PC1411	TBD-TPM.F	ENG.ST.I
316	80121160	PC1411	P&C Transmittal, Approve Final As-Built Package, and EDC Files and Issue D	Not Started	0	27-Sep-23	03-Oct-23	0%	5		PC1300	PM1100	TBD-TPM.F	ENG.ST.I
317	80121160	PC8000	Prepare P&C Field Mark Ups	Not Started	0	16-Jun-23	17-Jul-23	0%	21		LCE900, TD1100	PC1200	TBD-TPM.F	ENG.EN(
318	80121160	PC8500	FE Files P&C Design Drawings at Station	Not Started	0	05-Oct-23	17-Nov-23	0%	30		PM1100	FINISH	TBD-TPM.F	ENG.EN(
319	**LCE Closeout**				0	01-Jun-23	15-Jun-23		11					
320	80121160	LCE800	LCE Ensures Marked up Prints Ready for Pick-up	Not Started	0	01-Jun-23	01-Jun-23	0%	1		ISD	LCE900	TBD-TPM.(	ENG.ST.:
321	80121160	LCE900	LCE Review Test Data and Issue Commissioning Report	Not Started	0	02-Jun-23	15-Jun-23	0%	10		LCE800	EV1000,	TBD-TPM.(	ENG.ST.:
322	**Work Order / Financial Close Out**				80	30-May-23	25-Jul-23		40					
323	80121160	1020	Cost Analyst Prepares FINAL Units of Property	Not Started	90	30-May-23	11-Jul-23	0%	30		CFM	FINISH	TBD-TPM.(	COST
324	80121160	1030	Asset Management Complete Asset Update(s) in CASCADE	Not Started	80	13-Jun-23	25-Jul-23	0%	30		1260, CFM	FINISH	TBD-TPM.E	ENG.AM
325	**Project Management Close Out**				0	30-May-23	17-Nov-23		120					
326	80121160	1040	PM Prepares Closeout Documentation, Lessons Learned Meeting, etc.	Not Started	89	30-May-23	11-Jul-23	0%	30		CFM	FINISH	TBD-TPM.F	PM
327	80121160	1270	Prepare TD-707 Document	Not Started	90	30-May-23	11-Jul-23	0%	30		CFM	FINISH	TBD-TPM.F	PM
328	80121160	EV1500	FE Files Substation Design Drawings at Station	Not Started	0	05-Oct-23	17-Nov-23	0%	30		PM1100	FINISH	TBD-TPM.S	ENG.EN(
329	80121160	FINISH	Project / Work Order Complete (FINAL SCHEDULE TASK/MILESTONE)	Not Started	0		17-Nov-23	0%	0		NX9A-EM74, 1020, 1040, 11		TBD-TPM.F	PM
330	80121160	PM1100	PM to Document Electrical As-Built Drawings Complete (Electrical & P&C)	Not Started	0	04-Oct-23	04-Oct-23	0%	1		EV1400, PC1411	EV1500,	TBD-TPM.F	PM
331	80121160	TD1100	Complete TD-707 Turnover Document / Forward to SOC & Mailing List	Not Started	8	30-May-23	05-Jun-23	0%	5		CFM	EV1000,	V.C	CONS
332	**NOT REQUIRED ACTIVITIES**					20-Sep-21 A	12-Jul-22 A		0					
333	80121160	1180	N/R (as per WV) Determine Requirment for and Prepare Permitting Docments	Completed		22-Oct-21 A	22-Oct-21 A	100%	0		PE1600, PF1000	AT0801	TBD-TPM.F	PM
334	80121160	1190	N/R (as per WV) Determine Requirment for and Prepare Permitting Docments	Completed		22-Oct-21 A	22-Oct-21 A	100%	0		PE1600, PF1000	AT0801	TBD-TPM.F	PM
335	80121160	1200	N/R (as per WV) Determine Requirment for and Prepare Permitting Docments	Completed		22-Oct-21 A	22-Oct-21 A	100%	0		PE1600, PF1000	AT0801	TBD-TPM.F	PM
336	80121160	1210	N/R (as per WV) Determine Requirment for and Prepare Permitting Docments	Completed		22-Oct-21 A	22-Oct-21 A	100%	0		PE1600, PF1000	AT0801	TBD-TPM.F	PM
337	80121160	3430	(N/R as per WV) CONST.SERVICES - BID - Eversource provide Spec / RFP	Completed		12-Jul-22 A	12-Jul-22 A	100%	0		FF1000, 3550, CE1310, EE1	3440	TBD-TPM.F	PURC
338	80121160	3440	(N/R as per WV) CONST.SERVICES - BID - Contractors Evaluate RFP and Pr	Completed		12-Jul-22 A	12-Jul-22 A	100%	0		3430	3450	V.C	CONS
339	80121160	3450	(N/R as per WV) CONST.SERVICES - BID - Eversource reviews contractor prc	Completed		12-Jul-22 A	12-Jul-22 A	100%	0		3440	1170, 346	TBD-TPM.F	PM
340	80121160	3460	(N/R as per WV) CONST.SERVICES - BID - Contract is Awarded - PO Issued	Completed		12-Jul-22 A	12-Jul-22 A	100%	0		3450	CT0814,	TBD-TPM.F	PURC
341	80121160	3510	(N/R as per WV) TEST SERVICES - BID - Eversource provide Spec / RFP	Completed		12-Jul-22 A	12-Jul-22 A	100%	0		FF1000, 1010	3520	TBD-TPM.T	PURC
342	80121160	3520	(N/R as per WV) TEST SERVICES - BID - Contractors Evaluate RFP and Pro	Completed		12-Jul-22 A	12-Jul-22 A	100%	0		3510	3530	V.C	PURC
343	80121160	3530	(N/R as per WV) TEST SERVICES - BID - Eversource reviews contractor prop	Completed		12-Jul-22 A	12-Jul-22 A	100%	0		3520	3540	TBD-TPM.T	PURC
344	80121160	3540	(N/R as per WV) TEST SERVICES - BID - Eversource awards contract - PO is	Completed		12-Jul-22 A	12-Jul-22 A	100%	0		3530	LCE310,	TBD-TPM.T	PURC
345	80121160	RCSW-1123	N/R (as per WV)CIRCSWTCH-Vendor Submits Drawings & Schematics - Circu	Completed		25-Oct-21 A	25-Oct-21 A	100%	0		CIRCSW-1320	CIRCSW-	V	ENG.ST.:
346	80121160	RCSW-1124	N/R (as per WV) CIRCSWTCH-ES Reviews & Comments Drawings & Schema	Completed		25-Oct-21 A	25-Oct-21 A	100%	0		CIRCSW-1123	CIRCSW-	V	ENG.ST.:
347	80121160	RCSW-1125	N/R (as per WV) CIRCSWTCH-Vendor Submits Firm Drawings & Schematics -	Completed		25-Oct-21 A	25-Oct-21 A	100%	0		CIRCSW-1124	EE1310,	V	ENG.ST.:
348	80121160	PAFP1000	N/R (per WV 10/26/21) Submit Partial Funding PAF for Internal Review	Completed		26-Oct-21 A	26-Oct-21 A	100%	0		TCGE1010	PAFP1100	P.PE	ENG.AM
349	80121160	PAFP1100	N/R (per WV 10/26/21) Incorporate Internal Review Comments & Submit Par	Completed		26-Oct-21 A	26-Oct-21 A	100%	0		PAFP1000	PAFP1110	P.PE	ENG.AM
350	80121160	PAFP1110	N/R (per WV 10/26/21) EPAC Partial Funding Meeting	Completed			26-Oct-21 A	100%	0		PAFP1100	PAFP1200	EPAC	IP
351	80121160	PAFP1200	N/R (per WV 10/26/21) Incorporate EPAC Partial Funding PAF Review Comm	Completed		26-Oct-21 A	26-Oct-21 A	100%	0		PAFP1110	PF1000	P.PE	ENG.AM
352	80121160	PBOM1000	N/R Procurement Material - Balance of Material - WBS Summary Activity	Completed		20-Sep-21 A	12-Jul-22 A	100%	0				TBD-TPM.S	ENG.SCI

TASK filter: All Activities

© Oracle Corporation

#	Project ID	Activity ID	Activity Name	Activity Status	Total Float	Start	Finish	Activity % Complete	Remaining Duration	Resources	Predecessors	Successors	RESP - Responsibility	DEPT - DEPARTMI
353	[redacted] 80121160	PE1600	N/R (per WV 10/26/21) Review Preliminary Siting & Permitting (If Required)	Completed		26-Oct-21 A	26-Oct-21 A	100%	0	[redacted]	SDC1000	3560, PE	MAE.Siting	ENG.ST.S
354	[redacted] 80121160	PE1700	N/R (per WV 10/26/21) Conduct Preliminary Constructability Walk Down	Completed		26-Oct-21 A	26-Oct-21 A	100%	0	[redacted]	PE1600	TCGE101	TBD-TPM.F	PM
355	[redacted] 80121160	PE1710	N/R (per WV 10/26/21) Create Engineering Scope Document	Completed		26-Oct-21 A	26-Oct-21 A	100%	0	[redacted]	PE1600	PE1720	TBD-TPM.E	ENG.ST.S
356	[redacted] 80121160	PE1720	N/R (per WV 10/26/21) Engineering Scope Document Complete	Completed			26-Oct-21 A	100%	0	[redacted]	PE1710	BT3001, '	TBD-TPM.E	ENG.ST.S
357	[redacted] 80121160	PERM1000	N/R Environmental Approvals & Permits - WBS Summary Activity	Completed		20-Sep-21 A	12-Jul-22 A	100%	0	[redacted]			TBD-TPM.S	ENG.SCI
358	[redacted] 80121160	PF1000	N/R (per WV 10/26/21) EPAC Partial Funding Approval	Completed		26-Oct-21 A	26-Oct-21 A	100%	0	[redacted]	PAFP1200	EE1330,	EPAC	IP
359	[redacted] 80121160	PF1010	N/R (per WV 10/26/21) Partial Funding PowerPlan Approval	Completed		26-Oct-21 A	26-Oct-21 A	100%	0	[redacted]	PF1000	DE1800,	TBD-TPM.C	IP
360	[redacted] 80121160	ROW1000	N/R ROW & Easements - WBS Summary Activity	Completed		20-Sep-21 A	12-Jul-22 A	100%	0	[redacted]			TBD-TPM.S	ENG.SCI
361	[redacted] 80121160	TCGE1010	N/R (per WV 10/26/21) Develop At Least Conceptual Grade Estimate (-25%+	Completed		26-Oct-21 A	26-Oct-21 A	100%	0	[redacted]	PE1720, PE1700	PAFP1000	TBD-TPM.E	ENG.BQ.
362	[redacted] 80121160	RANS-1140	N/R (as per WV) TRANS-Vendor Submits Transformer Drawings & Schematic	Completed		20-Sep-21 A	21-Sep-21 A	100%	0	[redacted]	TRANS-1170	TRANS-1	V	ENG.ST.S

© Oracle Corporation

EVERSOURCE

Constructability Review Form: **M6-PM-2012 - Eversource**

Substation Constructability Review

Project Title: Ridgefield Transformer Replacement	☐	Prior Constructability Review Performed?
	☐	Program Related Site Specific Review?
Project Numbers(s): CS00516	**Project Constructability Phase:**	
Date(s) of Constructability Review: 11/23/2021	☐ Conceptual Engineering Design	
Click to enter a date	☒ Preliminary Engineering Design	
	☐ Detailed Engineering Design	
Project Scope Statement: Replace the 3X and 2X transformers and relays in [redacted] SS		

Department Review/Walkdown Attendees*:

Required [X]	Attended [X]	Department	Name	Required [X]	Attended [X]	Department	Name
☒	☒	Project Management	[redacted]	☒	☒	S/S Engineering	[redacted]
☐	☐	Asset Management		☒	☒	P&C Engineering	
☒	☒	Constr. Management		☒	☒	Civil Engineering	
☐	☐	S/S Technical / LCE		☒	☐	Telecom	
☒	☐	S/S Operations**		☒	☐	Environmental	
☐	☐	Field Engineering		☐	☐	Real Estate	
☐	☐	Line Engineering		☐	☐	ROW T&D Rights & Survey	
☐	☐	Vegetation Management		☐	☐	Survey Engineering	
☒	☐	Siting		☐	☐	Cost Estimating	
☐	☐	Safety		☒	☒	Project Services (Outreach)	
☐	☐	SCADA		☐	☐	Material Procurement	

*** Sign-off in the table above for the Detailed Engineering Design Constructability Review indicates that all Action Items/Concerns from prior Constructability Reviews have been mitigated/resolved as documented in this form. Not every department is required to attend walkdowns for every project but should be consulted for project impact considerations**

** Internal Eversource Substation Operations must be included in the review even if external construction resources are planned

[Project Manager] certifies that this review was performed to completeness, that all applicable departments were informed of the project and have had opportunity to provide input to this review:

[redacted] / [redacted] 11/23/21

Name / Signature *Date*

EVERSOURCE

Constructability Review Form: **M6-PM-2012 - Eversource**

Substation Constructability Review

Documents available for use prior to Constructability Review					
[X]	Document	[X]	Document	[X]	Document
☒	Initial Scope -Birdseye site plan -General Arrangement	☒	Preliminary Drawings -Civil Site Drawing -Electrical Drawing -Section Drawings	☐	Prints in hand for marking up -Panel Front/Read View -Control Enclosure Layout -Floor / Wall Plans
☐	Detailed Scope Document	☒	Proposed Schedule	☐	Construction Sequence/Timeline
☐	Previous Notes / Comments / Observations	☒	Major Material / Equipment List	☐	Replace / Reuse of equipment

Action Items and Resolutions:

Item No.	Const. Review Action Item/Concern	Design Resolution/Mitigation:
1	Construction / Barnhart to review path for X2 transformer to determine if fence bump out required	May effect siting if fence bumpout needed
2	Construction to determine if resources are available to install new relays once transformer out of service.	If resources not available, defer relay replacement to Fall
3		
4		
5		

	Key Review Item Description	N/A or No Concern	Review Notes, Concerns, or Additional Info Needed
A	**Engineering & Asset Management**		
1	**Scope of Work** - Is scope adequately developed and sufficiently detailed for intended deliverable? - Any complimentary projects or other adjacent obsolete equipment for inclusion? - Any overlapping projects that could impact work/outages? - Consider Physical Installation, P&C Scope, Civil Scope, Engineering studies, Design standard adherence - Any remote station impacts? - Engineering Estimates for Design and Technical Support? (EE and EOC) Total Project	X	1. Scope is well defined. There is room in cabinets for new relays. New transformer is larger, but will fit in conjunction with new switch combo. Need to get outages submitted to determine if any conflicts with proposed work.

EVERSOURCE

Constructability Review Form: **M6-PM-2012 - Eversource**

Substation Constructability Review

	Key Review Item Description	N/A or No Concern	Review Notes, Concerns, or Additional Info Needed
2	**Materials Identified/Ordered** -Any concerns with BOM/Major Materials? Review BOM lead times and project need dates -Specialty Major Materials: Identify Specialty Equipment & Materials potentials - temporary/replacement - long lead items? -Any Materials needed to facilitate construction access?	☐	1. New transformer due to arrive last week of Feb 2. Switch combo due in early May 3. Material exemption approved for reactor and switch combo, need to submit another material exemption for all other material (relays, conduits, cables, etc).
3	**Control House** - Review Unmapped equipment interferences, Control/Battery Enclosure Layout, HVAC System (if equipment added), space for new or modified equipment, AC / DC station breaker availability and service loading, Panel Space, Expansion, one-line and/or riser type panelboard drawings, other..	X	No interference identified. There is room in cabinets for new relays.
4	**Ratings & Dimensions** for Major Equipment. Any concerns upon field review? Equipment Rating One Line (and/or equipment thermal ratings tables) - Review for any errors in field	X	New transformer is larger, but will fit in conjunction with new switch combo.
5	**Wall, Fence, Gate, and Foundation Considerations** -Any permanent / temporary alterations or relocations required? -Pre-Project Sound Measurements Needed? Sound Walls? -Take measurements for Foundation quantities, dimensions and concrete volumes -CIP Review/Ballistic needs. Any Physical Security Requirement Consideration? -Assess condition of existing yard equipment foundations and viability for reuse (if proposed) -Review station expansion areas (if needed) for structures, old foundations, etc. -Any Steel Structural Plan Considerations? -Any impacts to construction plan?	☐	Need to review path for X2 transformer with Barnhart to determine if fence bump out required
6	**Below Grade / Enclosure Raceway** - If possible, evaluate existing raceway and review spacing requirements. Review for any subsurface investigation needs or potential below grade obstructions. GPR/test pits needed? Geotechnical Investigation - is soil boring or resistivity investigation needed?	X	Environmental has already identified that soil borings should be done for potential PCB contamination.

EVERSOURCE

Constructability Review Form: **M6-PM-2012 - Eversource**

Substation Constructability Review

	Key Review Item Description	N/A or No Concern	Review Notes, Concerns, or Additional Info Needed
7	**Underground Obstructions** -Drawing review concerns? -Is preconstruction or test excavation needed? -Is reuse of underground control cables / Conduits /replace Non-Shielded Cable feasible (if applicable) -Are spare conduits available? Are they useable? -Review if any areas will need to be plated for increased load bearing for equipment access (i.e., large Xfmr, etc.)	X	Cables to be re-used, but UG conduits need to be relocated to accommodate new equipment layout and foundations.
8	**Grounding Plan (Ground Grid)** - Will footprint impact layout or other equipment? Identify locations to improve grounding. Impacts to foundations and ground grid plans. Observations on wetlands or ability to perform tests	X	Design accounts for low ground resistivity – SS already has ground nets, not just rods.
9	Nomenclature / Switching One-Line Diagram -Any obvious deviations from diagrams provided?	X	
10	BPS Separation Requirements - Is this BPS Substation? Y/N (part of PAF) - Changes to pre-existing BPS standards?	X	N/A
11	IEC 61850 Substation Automation and Communication Requirements - Any Impacts/Retrofit needed?	X	N/A
12	Any Upgrades to ES Standards - Is retrofit needed to bring up to ES standards? Can that be done?	X	N/A
B	**Construction**		
1	**Any safety hazards specific to the facility? i.e., Low Bus, Deterioration, etc.**		Need to determine if fence bump out will be required when bringing in X2 unit to maintain clearance distance on bus.
2	**Prior known Site Specific Conditions** -Common or Obvious station Issues -Missing scope items that could impact costs?	X	
3	**Identify/Consider Required Depts for Construction?** -Who is constructor: Internal vs External Resources -S/S Ops, GO, Test, Field Engineering, etc.	☐	Below ground work/civil will be performed by external contractor. All other work (electrical, testing) by internal crews.

EVERSOURCE

Constructability Review Form: **M6-PM-2012 - Eversource**

Substation Constructability Review

	Key Review Item Description	N/A or No Concern	Review Notes, Concerns, or Additional Info Needed
	-Specialty Contractors Required? -Required Oversite Needed - Estimated level of CR and LCE support needed		
4	**Site Plan, Access, and Temporary Construction Facilities:** -Confirm maintenance access for proposed new or replaced equipment -Verify clear footprint for yard equipment / Property Plan -General access to site, can areas outside substation be utilized? -Substation Entry Plan (driveway and drive path modifications) - Identification of Unique Requirements, i.e. (access bridges, station service, etc.) -Site Development Plan (grading and drainage) with Cut/Fill -Existing Rock Conditions? Potential Impacts (rock quantity)? -Any police details needed for deliveries, restricted hours, and/or need for extended hour approvals -Any Sanitary Civil Requirements? (Septic tanks, etc.) -Review turning radius for delivery trucks (if critical) -Any Substation Access and site/yard access Limitations? -Office Trailer Needs: Facilities, Utilities, Restroom, Container, Dumpster Space -Weather impacts to Site (Snow Placement) -Identify Material Laydown and Security -Where will new vs removed equipment go? -Construction permit for trailers outside substation fence?	☐	Eversource has access from Prospect Street to SS (ROW along rail trail). Walkdown of road indicates it is in good condition for equipment deliveries. Police most likely required for permitted loads (Transformer, potentially switch combo). There is a laydown area outside of SS that can be utilized.
5	Unique Equipment Considerations: Gas insulated substation, Gas insulated line, Gas insulated bus, Pass Breaker, Statcom, Sync Condenser		Need to check for potential PCB contamination from existing transformers.

EVERSOURCE

Constructability Review Form: **M6-PM-2012 - Eversource**

Substation Constructability Review

	Key Review Item Description	N/A or No Concern	Review Notes, Concerns, or Additional Info Needed
6	**Outage & Energization Plan and Construction Sequence:** *Review electrical working clearances for equipment during construction, Detailed look at protection zone changes, Locked sequence or random outages, Outage durations minimized.* ***Considerations:*** -Approach Distances – Outage Requirements to maintain electrical clearances throughout proposed installation -Distribution Clearances -Clearance Holder Assignments -Drawings vs Field Conditions -Outage boundaries and interconnections -Phased approach needs for additional mobilizations -Verify outage sequence supports the planned construction sequence and timeline. (Lead Commissioning Engineer "LCE", Substation Operations, and Outage Planner input) -Any design alterations or considerations to Eliminate SCLL Conditions, Reduce Recall Time, Reduce Outage durations, Special Conditions -Additional outage requirements: Railroad Catenaries, Fiber outage, SCADA outage, Relay permissions -Seasonal or weather conditions impacts		Will need outages to disconnect the transformer / reconnect to new transformer. Mobile transformer will be used entire time transformer is out of service for replacement (approximately 5 months).
7	**Equipment Testing & Acceptance** -Grounding plans / Resources? Will we need grounds hung? -Hi-pot testing and where will the equipment be set up?	X	
8	Need for mobile generator and where connected (if needed)	X	
9	Need for mobile battery and where connected (if needed)	X	
10	OT work required or Notable Permit Conditions (special hours)?	☐	
11	Coordination of boundaries/seams (Identification of point of demarcation for connection to existing equipment and/or for coordination with other municipalities)	X	

EVERSOURCE

Constructability Review Form: **M6-PM-2012 - Eversource**

Substation Constructability Review

	Key Review Item Description	N/A or No Concern	Review Notes, Concerns, or Additional Info Needed
C	**Environmental**		
1	Soil Pre-Characterization or Grab Sampling Completed/Planned	☐	Environmental planning on soil borings for potential contamination.
2	**Desktop investigation and EAD Review** -Required Permits -Stormwater Considerations -Dewatering requirements -Wetland and buffer review	X	
3	Risk or presence of PCB's/Asbestos/Lead/SF6	☐	Potential PCB leak from existing transformer
4	Transformer Spill Containment Recommended?	☐	Review by Environmental indicated oil containment not required.
5	Expanding Footprint / New Buildings or future Expansion Plans? (Enviro Impact)	x	
6	Environmental oversight considerations? (Inspection type/Interval)	☐	
7	Environmental mitigations - Any matting or seasonal needs? Review D&M Plan with CR.	x	N/A
D	**Siting, Project Services, and ROW T&D Rights & Survey**		
1	**Any regulatory concerns or approvals needed?** - Any concerns noted that could be mitigated by scope/design alterations? - Likely to require visual screening? What considerations (feasibility or location)? -Zoning Relief and Permits required?	X	No sub-petition or modification expected as long as fence bumpout not required.
2	Other siting considerations?	X	
3	**Neighbor/Abutter impacts:** - Any noise, visual impacts, or sensitive abutters - Any changes to lighting or additional lighting needed?	X	New transformer is expected to be quieter than existing units.
4	Review for roadway, gate access, trailers, equip height, noise, weekend/night work, or any potential public disturbance related to work	X	SS is along rail trail and next to condo complex. Work during winter, with no leaves on trees, will fully expose work to neighbors. Project Service planning numerous notifications.
5	Installation within Eversource Rights - Is Rights and Restrictions Review required?	X	Eversource has access from Prospect Street to SS (ROW along rail trail).

EVERSOURCE

Constructability Review Form: **M6-PM-2012 - Eversource**

Substation Constructability Review

	Key Review Item Description	N/A or No Concern	Review Notes, Concerns, or Additional Info Needed
6	Expanding Footprint / New Buildings / Fence line or future Expansion Plans?	X	
7	Proposed Equipment on same property? - Any Encroachments	X	
F	**Protection & Controls**		
1	Panel Graphic additions and/or Modifications	X	
2	Space on existing panels for new equipment? (front & rear of panel fronts)	X	
3	Panel fronts conform to drawings	X	
4	Access to bring new panels into control enclosure	X	
5	Nameplate list and location of nameplates	X	
6	Verifies that relays and meters that will be an interconnected project work are as shown on the drawings.	X	
7	Temporary protection, relays, control cable needed? How long will they be required?	X	
8	Will relay setting changes be needed? Any additional outage requirements for changes?		New relays to be installed
G	**Telecom Engineering**		
1	Review telecom equipment in existing control enclosure	X	
2	Review path to get telecom circuits into the station and paths within the control house. Determine whether new underground duct or overhead tray work is needed.	X	
3	Review current or proposed Telecom equipment power connections and validate with P&C any need for system 1 and system 2 separation.	X	
4	Review current Telecom fiber diversity and validate with P&C any fiber diversity requirements.	X	
5	Review and list any remote station impacts/updates	X	
6	Confirm whether correct interface equipment is available (i.e.) for fiber termination or multiplexor termination	X	

EVERSOURCE

Constructability Review Form: **M6-PM-2012 - Eversource**

Substation Constructability Review

	Key Review Item Description	N/A or No Concern	Review Notes, Concerns, or Additional Info Needed
7	Confirm whether existing communications cabinets are enough to support additional telecommunications equipment installed	X	
8	Review space for any required additional communications cabinets which may be required to support additional telecommunications equipment installed	X	
9	Review third party Telecommunications at substation and confirm whether additional capacity or Ground Potential Rise protection is required	X	

Photos



3X – Transformer

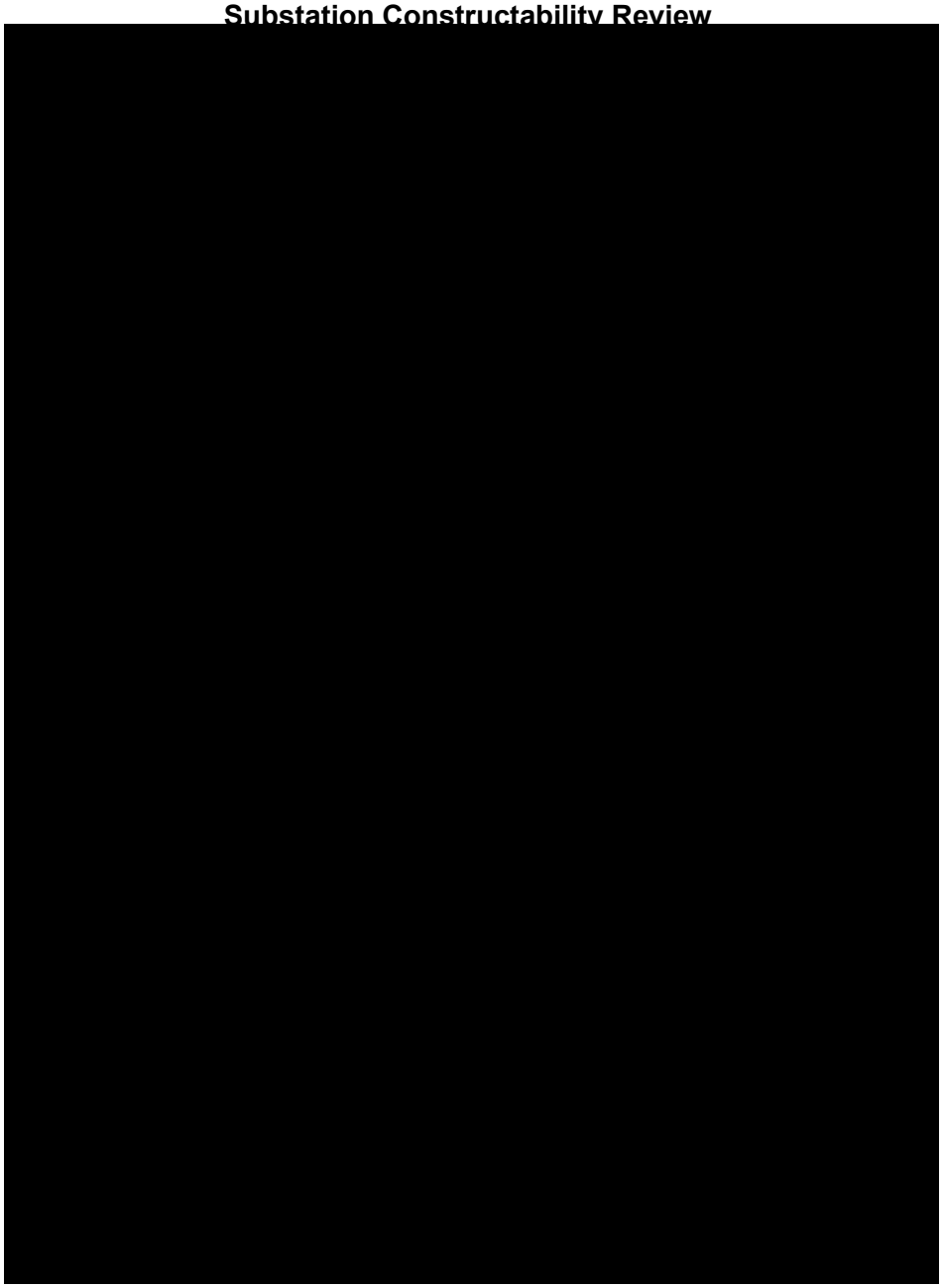
EVERSOURCE

Constructability Review Form: **M6-PM-2012 - Eversource**

Substation Constructability Review



3X Transformer



Travel path behind switchgear for 2X transformer



Control House – 2X and 3X relays

[redacted]