



56 Prospect Street  
Hartford, CT 06103

Steven J. Allen  
Eversource, ISO-NE Coordination  
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September 22, 2022

Ms. Emily Laine  
Chair, NEPOOL Reliability Committee  
ISO New England, Inc.  
One Sullivan Road  
Holyoke, MA 01040-2841

Dear Ms. Laine,

In accordance with Schedule 12C of the ISO New England ("ISO-NE") Transmission, Markets & Services Tariff ("ISO-NE Tariff"), Eversource Energy Service Company ("Eversource") hereby submits the attached Transmission Cost Allocation ("TCA") application(s) reporting cost support information associated with the construction, retirement, or modification to facilities rated 69 kV and above that qualify as regional Pool Transmission Facilities ("PTF") for the following Eversource project:

**ES-22-TCA-29      1231/1242 115-kV Lines Reconductor and Structure  
Replacements (Berkshire substation – Cumberland substation)**

Eversource is requesting that ISO-NE submit this TCA to the NEPOOL Reliability Committee for review, in accordance with ISO-NE Planning Procedure No. 4 ("PP-4").

If you have any questions, I can be reached via the information listed above.

Sincerely,

*Steven J. Allen*

Steven J. Allen

cc: M. Drzewianowski

**Attachment B**  
**TCA Application Form**

1. Applicant:	Application #:	ES-22-TCA-29	Date:	Sep-22
Contact Name:	Steven J. Allen			
Company Name:	Eversource Energy Service Company			
Address 1:	56 Prospect Street			
Address 2:				
City, State, Zip:	Hartford, CT 06103	RSP Project ID # or		
Contact Phone #:	860-728-4536	Asset Condition ID #	250	
Email Address:	<a href="mailto:steven.allen@eversource.com">steven.allen@eversource.com</a>	Is Project related to CIP-14		
	Yes <input type="checkbox"/>	No	<input checked="" type="checkbox"/>	

2. Project Description: In Service Date: Dec-24

a. **High Level Project Details:**

**Project Name** ( If no formal name, then Substation Upgrade, Line Upgrade, etc. are acceptable):

**1231/1242 115-kV Lines Reconductor and Structure Replacements (Berkshire substation - Cumberland substation)**

**Project Location** (State only):

**State:**

**MA**

**County:**

**Franklin, Hampshire, Berkshire**

b. Summary of PTF-related work for Project:

Replace 213 existing structures with steel structures and remove 17 mid-span structures, replace approximately 51.62 miles (25.81 miles per line) of obsolete 2/0 copper conductor with 1272 kcmil ACSS conductor and replace approximately 54.46 miles (25.81 miles on Line 1231 and 28.65 miles on Line 1242) of existing copperweld/ alumoweld shield wire with 48 fiber Optical Ground Wire (OPGW). In-depth ground inspections and above grade assessments have found the structures to have deficiencies such as: overstressed components, corrosion and deteriorated steel mechanical connections.

Final project cost details will be known following closeout of all project work orders.

c. Summary of Non-PTF-related work for Project:

Terminal structure replacements and ADSS installation at Ashfield and Plainfield non-PTF substations.

3. Was a transmission Proposed Plan Application required for this work?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	PPA Number: <u>TBD</u>
4. Has a transmission Proposed Plan Application been approved?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
If yes, attach a copy and reference Proposed Plan Application # and approval date.		(Please check only one) Approval Date: <u>TBD</u>	

**Need For Project:**

5. Need Based On (Check all Categories that apply):

- a. Reliability
- b. Economic
- c. Service to new load
- d. New generator interconnection

Generator Proposed Plan Application Number \_\_\_\_\_

Generator Proposed Plan Application Date \_\_\_\_\_

(Attach copy of cover letter & Generator Proposed Plan Application)

- e. Public Policy Transmission Upgrade (PPTU)
- f. Market Efficiency Transmission Upgrade (METU)
- g. Asset Condition
- h. Other (specify in line 6)

6. Provide a narrative description of the need for this Project.

(Include available documentation relative to the need for this Project. )

Replacing conductor and structures remediates the potential for structure/equipment failure due to asset condition vulnerabilities. To ensure continued operability of this line, the identified structures and conductor need to be replaced. Replacing the shield wire will increase reliability by providing better communication bandwidth and security.

**Cost of Project:**

7. Total Project Cost (\$M) equals PTF + Non-PTF + all other Project Costs:	<u>\$171.565</u>
8. Total Proposed PTF Costs	<u>\$158.504</u>
a. Total Proposed PTF Cost of this Project (\$M):	<u>\$158.504</u>
b. Requested Pool-Supported PTF Costs associated with this Project (\$M):	<u>\$158.504</u>
c. Breakdown of Requested Pool-Supported PTF Cost associated with this Project (\$M): (Consistent with Table 1 and Appendix D of this Procedure)	
Material	<u>\$41.759</u>
Labor	<u>\$81.230</u>
ROW	<u>\$0.105</u>
Engineering/Permitting/Indirects	<u>\$29.264</u>
Escalation	<u>\$0.000</u>
AFUDC (or equivalent)	<u>\$1.646</u>
Contingency	<u>\$4.500</u>
d. Generator Supported PTF Costs* (\$M):	<u>\$0.000</u>
<p>If the costs in 8.b. plus 8.d. do not equal the total proposed PTF cost (8.a) explain and indicate who is responsible for the remaining costs.</p> <div style="border: 1px solid black; height: 40px; width: 100%;"></div>	
9. Total Proposed Non-PTF Cost of this Project (\$M):	<u>\$13.061</u>
10. Proposed PTF Costs (\$M) introduced as a result of local, state or other regulatory/legislative requirements, including costs identified pursuant to Section 1.6.3 of this PP-4.	<u>\$0.000</u>
<p>a. Description of Proposed PTF Cost introduced as a result of local, state or other regulatory/legislative requirements as defined in question 8 above.</p> <div style="border: 1px solid black; height: 40px; width: 100%;"></div>	
11. All other Project Costs not captured in PTF Costs (8) or Non-PTF Costs (9) (\$M) associated with this Project:	<u>\$0.000</u>

12. Total PTF Cost based on: (check one)

Actual Costs

**OR**

Estimated Costs\*

13. Valuation Year(s) of dollar amounts submitted above: \_\_\_\_\_ 2022 \_\_\_\_\_

14. If applicable, explain how the cost of common facilities were allocated between PTF and Non-PTF.

15. Does this Project result in a change of existing Non-PTF facilities to PTF?

Yes

No

16. Describe the major transmission alternatives, and their costs consistent with the breakdown provided in item 7 of this Application, that were considered. Provided an explanation why the preferred alternative was selected.  
(Include available documentation relative to the major transmission alternatives analysis and selection.)

**Alternative:**

- Do nothing, but for the reasons stated in 6 above is not acceptable.

- Asset condition replacements, expand Cumberland substation to a 6-breaker ring bus and Plainfield substation to a 4-breaker ring bus - Costs significantly more than preferred solution and not required to replace the conductor and structures on the 1231 and 1242 lines.

- Asset condition replacements of 171 lattice structures and installation of 1272 ACSS for these structures. Installation of 795 ACSS on remaining portion of lines that are currently supported by 55 non-lattice structures. Installation of 795 ACSS on these structures would require 40 to be replaced, and 15 to be modified. Total cost comparable to preferred alternative.

**Preferred:**

- Replacing deteriorated structures, and obsolete copper conductor and shield wire, and installing OPGW - This is the most cost effective option that address the potential for system failures due to asset condition vulnerabilities and supports a safe and reliable operation of the transmission line.

17. Has state and local siting been completed? If yes, explain the siting process and any provisions that were made during siting, provide docket or siting reference numbers. If no, then explain when siting is expected to be completed and any provisions that have been agreed to.

No unusual Siting or permitting was required for this project.

\* Pool-Supported PTF costs were determined pursuant to Schedule 11 of Section II of the Tariff.

# PROJECT COST ESTIMATE & SCHEDULE SHEET

Transmission Owner: NSTAR Electric Company

RSP Project #: 250

Project Name: 1231/1242 115-kV Lines Reconductor and Structure Replacements (Berkshire substation - Cumberland substation)

Date: Sep-22

## 1. Project Scope Summary

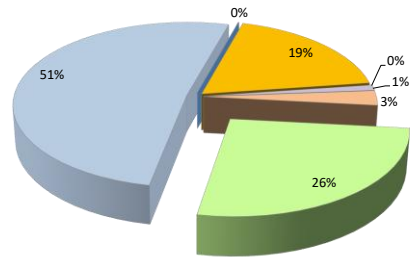
This project will replace 213 existing structures with steel structures and remove 17 mid-span structures, replace approximately 51.62 miles (25.81 miles per line) of obsolete 2/0 copper conductor with 1272 kcmil ACSS conductor and replace approximately 54.46 miles (25.81 miles on Line 1231 and 28.65 miles on Line 1242) of existing copperweld/alumoweld shield wire with 48 fiber Optical Ground Wire (OPGW). In-depth ground inspections and above grade assessments have found the structures to have deficiencies such as: overstressed components, corrosion and deteriorated steel mechanical connections.

## 2. Project Cost Summary

(\$M)

2.1. Project Cost Summary			
Cost Category	PTF	Non-PTF	Total
Material	\$ 41.759	\$ 2.473	\$ 44.232
Labor & Equipment	\$ 81.230	\$ 5.141	\$ 86.371
Right of Way	\$ 0.105	\$ -	\$ 0.105
Engineering/Permitting /Indirects	\$ 29.264	\$ 4.812	\$ 34.076
Escalation	\$ -	\$ -	\$ -
AFUDC	\$ 1.646	\$ 0.129	\$ 1.775
Contingency	\$ 4.500	\$ 0.506	\$ 5.006
<b>Total Project Cost</b>	<b>\$ 158.504</b>	<b>\$ 13.061</b>	<b>\$ 171.565</b>

- Material
- Labor & Equipment
- Right of Way
- Engineering/Permitting /Indirects
- Escalation
- AFUDC
- Contingency



2.2 Detailed Cost Summary By Project Element									
	Material	Labor & Equipment	Right of Way	Engineering/Permitting/ Indirects	Escalation	AFUDC	Contingency	Total	PTF Amount
1231/1242 115-kV Lines Reconductor and Structure Replacements (Berkshire substation - Cumberland substation)	\$ 44.232	\$ 86.371	\$ 0.105	\$ 34.076	\$ -	\$ 1.775	\$ 5.006	\$ 171.565	\$ 158.504
<b>Total</b>	<b>\$ 44.232</b>	<b>\$ 86.371</b>	<b>\$ 0.105</b>	<b>\$ 34.076</b>	<b>\$ -</b>	<b>\$ 1.775</b>	<b>\$ 5.006</b>	<b>\$ 171.565</b>	<b>\$ 158.504</b>

## 3. Project Milestone Schedule

Description	Start Date	End Date	2020				2021				2022				2023				2024				2025			
			Qtr1	Qtr2	Qtr3	Qtr4	Qtr1	Qtr2	Qtr3	Qtr4	Qtr1	Qtr2	Qtr3	Qtr4	Qtr1	Qtr2	Qtr3	Qtr4	Qtr1	Qtr2	Qtr3	Qtr4	Qtr1	Qtr2	Qtr3	Qtr4
<b>Siting &amp; Permitting</b>																										
Approval and Permits	7/16/2020	11/14/2022	[Gantt bar from Q3 2020 to Q4 2022]																							
<b>Engineering</b>																										
Engineering and Design	2/12/2021	12/14/2022	[Gantt bar from Q1 2021 to Q4 2022]																							
<b>Material</b>																										
Material	7/13/2022	11/8/2022	[Gantt bar from Q3 2022 to Q4 2022]																							
<b>Construction</b>																										
Construction	9/26/2022	12/31/2024	[Gantt bar from Q3 2022 to Q4 2024]																							

1231/1242 115-kV Line Reconductor and Structure Replacements Project  
 Correlation Table  
 (Berkshire substation - Cumberland substation)

<u>TCA Item</u>	<u>RSP:</u> Project ID #	<u>Study:</u> Reliability Issues Requiring <u>Action</u>	<u>PPA Application:</u>		<u>PAC/RC Meeting:</u> Presentation Reference	<u>TCA Application (\$Ms):</u>	
			<u>PPA No.</u>	<u>Preferred Solution Description</u>		<u>PTF Estimate</u>	<u>Non-PTF Estimate</u>
ES-22-TCA-29	250	n/a	TBD	Replace 213 existing structures with steel structures and remove 17 mid-span structures, replace approximately 51.62 miles (25.81 miles per line) of 2/0 copper conductor with 1272 kcmil ACSS conductor and replace approximately 54.46 miles (25.81 miles on Line 1231 and 28.65 miles on Line 1242) of existing copperweld/ alumoweld shield wire with 48 fiber Optical Ground Wire (OPGW).	Per PAC Presentation 8/24/2022	\$ 158.504	\$ 13.061
						\$ 158.504	\$ 13.061
TOTAL						\$	171.565

SUBTOTAL