



May 19, 2023

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

Dear Ms. Laine,
In accordance with Section 12C of the ISO New England ("ISO-NE") Transmission, Markets & Services Tariff ("ISO-NE Tariff"), New Hampshire Transmission, LLC ("NHT") hereby submits the attached Transmission Cost Allocation Application ("TCA") reporting cost information associated with the construction, retirement, or modification to facilities rated 69 kV and above that qualify as regional Pool-Supported Pool Transmission Facilities ("PIF") for the following New Hampshire Transmission, LLC ("NHT") Regional System Plan Project:

NHT-23-TCA-01 Browns River 345kV Capacitor Bank Project (Regional System Plan Project ID# 1881)

NHT requests ISO-NE to submit this TCA to the NEPOOL Reliability Committee for its review pursuant to ISO-NE Planning Procedure No. 4 ("PP-4").

If you have any questions, I can be reached via the information shown below.

Sincerely,

A handwritten signature in black ink, appearing to read "S. Garwood".

Steven S. Garwood
PowerGrid Strategies, LLC - Consultant to NHT
Phone: (207) 446-3057
Email: sgarwood@powergridstrategies.com

cc: Richard Allen
Michael Drzewianowski

Attachment B
TCA Application Form

1. Applicant: Application #: NHT-23-TCA-01 Date: May 19, 2023

Contact Name: Richard Allen - President

Company Name: New Hampshire Transmission, LLC ("NHT")

Address 1: 13 Executive Park Drive

Address 2: _____

City, State, Zip: Clifton Park, NY 12065

Contact Phone #: (518) 369-9516

Email Address: Richard.Allen2@nexteraenergy.com

RSP Project ID # or Assect Condition ID #: RSP# 1881

Is Project related to CIP-14: Yes No

30-Nov-23

2. Project Description: In Service Date: _____

a. **High Level Project Details:**

Project Name (If no formal name, then Substation Upgrade, Line Upgrade, etc. are acceptable): Browns River 345kV Capacitor Bank Station

Project Location (State only): New Hampshire **County:** Rockingham

b. Summary of PTF-related work for Project:

Intall (2) 345kV 50MVAR Capacitors configured as C-Type Filters in a new capacitor bank station (Browns River 345kV Capacitor Bank Station) located adjacent to NHT's existing 345kV line termination yard and interconnected to Eversource's existing 345kV 363 line with (3) 345kV circuit breakers and 345kV line sectionalizing switches.

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

Relocation of existing distribution line owned by Unitil. Oringinal distribution line was located where the new Browns River 345kV Capacitor Bank Station is located.

3. Was a transmission Proposed Plan Application required for this work? Yes No PPA Number: NHT-22-T01 Rev.1

4. Has a transmission Proposed Plan Application been approved? Yes No N/A Approval Date: April 20, 2023

If yes, attach a copy and reference Proposed Plan Application # and approval date. (Please check only one)

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.)

The Browns River 345kV Capacitor Bank Station was selected as the preferred solution to address low votage conditions on the 345kV Seabrook Bus during certain contingencies as identified in the NH 2029 Needs Assessment.

Cost of Project:

7. Total Project Cost (\$M) equals PTF + Non-PTF + all other Project Costs: \$23,112,735

8. Total Proposed PTF Costs

a. Total Proposed PTF Cost of this Project (\$M): \$22,891,441

b. Requested Pool-Supported PTF Costs associated with this Project (\$M): \$22,891,441

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>\$7,385,000</u>
Labor	<u>\$9,442,870</u>
ROW	<u>\$0</u>
Engineering/Permitting/Indirects	<u>\$3,762,132</u>
Escalation	_____
AFUDC (or equivalent)	<u>\$1,301,439</u>
Contingency	<u>\$1,000,000</u>

d. Generator Supported PTF Costs* (\$M): _____

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.

9. Total Proposed Non-PTF Cost of this Project (\$M): \$0.00

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. \$0.00

a. Description of Proposed PTF Cost introduced as a result of local, state or other regulatory/legislative requirements as defined in question 8 above. Not Applicable

11. All other Project Costs not captured in PTF Costs (8) or Non-PTF Costs (9) (\$M) associated with this Project: Estimate cost to have an existing Unutil distribution line segment relocated. \$251,294

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

Actual Costs

OR

Estimated Costs*

13. Valuation Year(s) of dollar amounts submitted above: 2023

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

Not applicable.

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.)

As part of the NH 2029 Solution Study, Alternative Solutions 1 through 4, as shown in the table below were considered in addition to the preferred solution (Alternative 5) that consists of the Browns River 345kV Capacitor Bank Station that is the subject of this TCA, and a separate project being constructed by Eversource that includes the installation of a +100/-50 MVAR SC at Amherst 345kV Substation. See NH 2029 Solution Study Report available at: https://smd.iso-ne.com/operations-services/ceii/pac/2022/12/final_ceii_nh_2029_ss_revision1_clean.pdf.

SNH Solution Alternative Summary

Solution Components (Company)	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Solution Alternatives in \$M at +50/-25% Accuracy
Installation of a +/- 300 MVAR STATCOM at Amherst 345 kV Substation with two 345 kV breakers (Eversource)	X					64.6*
Installation of a +/- 100 MVAR STATCOM at Amherst 345 kV Substation with two 345 kV breakers (Eversource)		X		X		50.0*
Installation of a +100/-50 MVAR SC at Amherst 345 kV Substation with two 345 kV breakers (Eversource)			X		X	53.6**
Installation of two 50 MVAR capacitors on Line 363 near Seabrook station with three 345 kV breakers (Eversource)		X	X			25.1**
Installation of two 50 MVAR capacitors on Line 363 near Seabrook station with three 345 kV breakers (New Hampshire Transmission)				X	X	8.9**
Solution Alternative Totals in \$M	64.6	75.1	78.7	58.9	62.5	

* Cost estimates are based on the completion of 10% - 20% engineering work.
** Cost estimates are based on the completion of 0% - 5% engineering work.

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.

Yes. All state and local siting and other required regulatory approvals and permits have been obtained. No modifications to the project as proposed by NHT were required as a condition of obtaining the required approvals. See attachment 1 for list of regulatory approvals, siting proceedings and permits.

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

PROJECT COST ESTIMATE & SCHEDULE SHEET

Transmission Owner: New Hampshire Transmission, LLC **RSP Project #:** 1881
Project Name: Browns River 345kV Capacitor Bank Station **Date:** 5/19/2023
Estimate Grade: Class Estimate D

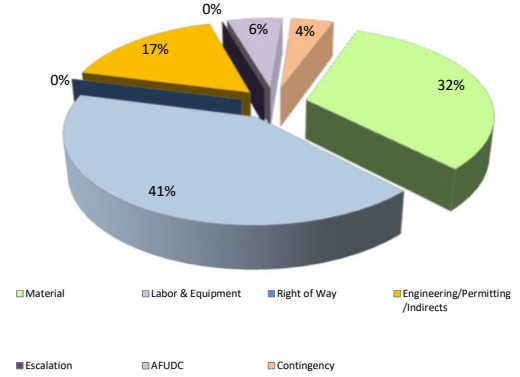
1. Project Scope Summary

Construction and installation of (2) 50 MVAR capacitor banks configured as C-Type Filters to mitigate adverse harmonics. Capacitors/filters will be installed in a new, stand-alone yard/station referred to as Browns River 345kV Capacitor Bank Station located adjacent to the existing Seabrook 345kV termination yard on ground that to-date has been a paved parking lot. The capacitors/filters will be interconnected to the Eversource 345kV 363 line which will be bi-sected and looped into and out of the Browns River 345kV Capacitor Bank Station. Line sectionalizing switches will be installed as part of the interconnection to allow the capacitors/filters to be energized from either Seabrook or Scobie Pond Substations if one section of the 363 line is OOS. The capacitors/filters will be installed with a 345kV main circuit breaker and two additional 345kV circuit breakers, each one independently energizing / de-energizing one of the two capacitor/filters. The circuit breakers will have the ability to be automatically operated via a voltage sensing scheme, as well as manual control for remote and local control.

2. Project Cost Summary

Prior Estimated Cost:

2.1. Project Cost Summary			
	PTF	Non-PTF	Total
Material	\$ 7,385,000	\$ -	\$ 7,385,000
Labor & Equipment	\$ 9,442,870		\$ 9,442,870
Right of Way	\$ -	\$ -	\$ -
Engineering/Permitting /Indirects	\$ 3,762,132	\$ -	\$ 3,762,132
Escalation	\$ -	\$ -	\$ -
AFUDC	\$ 1,301,439	\$ -	\$ 1,301,439
Contingency	\$ 1,000,000	\$ -	\$ 1,000,000
Total Project Cost	\$ 22,891,441	\$ -	\$ 22,891,441



2.2 Detailed Cost Summary By Project Element								
	Material	Labor & Equip.	Right of Way	Engineering/Permitting/Indirects	Escalation	AFUDC	Contingency	Total
Circuit Breakers	\$ 866,000	\$ 332,342				\$ 152,923		\$ 1,351,265
Switches	\$ 366,000	\$ 140,458				\$ 64,630		\$ 571,088
Capacitor/filter banks	\$ 3,160,000	\$ 1,212,704				\$ 558,012		\$ 4,930,716
Control House	\$ 1,175,000	\$ 460,169				\$ 204,840		\$ 1,840,009
Steel	\$ 400,000	\$ 153,507				\$ 70,634		\$ 624,141
Backup Generator	\$ 200,000	\$ 76,753				\$ 35,317		\$ 312,070
Lightning Arrestors	\$ 350,000	\$ 134,318				\$ 61,805		\$ 546,123
Miscellaneous	\$ 868,000	\$ 333,110				\$ 153,277	\$ 1,000,000	\$ 2,354,387
Indirects (Development, Engineering, Permitting, Civil Work)		\$ 6,599,509		\$ 3,762,132		\$ -		\$ 10,361,641
Total	\$ 7,385,000	\$ 9,442,870	\$ -	\$ 3,762,132	\$ -	\$ 1,301,439	\$ 1,000,000	\$ 22,891,441

Note:

3. Project Milestone Schedule

	Start Date	End Date
1 Procurement of Materials / Equipment	1/20/2023	9/1/2023
2 Receive Issue for Construction Package	2/10/2023	2/10/2023
3 EPC Construction Mobilization Start	4/24/2023	7/21/2023
4 Site Preparation (SWPP, Erosion Control, Site Demo, Fence)	5/1/2023	9/8/2023
3 Below Grade Construction (Foundations, Conduits, Grounding)	7/17/2023	9/8/2023
4 Above Grade Construction (Steel Erection, Equipment, Filter Banks, Bus)	8/30/2023	10/13/2023
5 Control Building (Cable and Testing)	9/4/2023	10/27/2023
6 Commissioning / Testing	9/11/2023	10/20/2023
7 In-Service		11/30/2023

Milestone Schedule dependent on scheduled line outages being maintained.