# Longer-Term Proposals Summary

## 2025 Longer-Term Transmission Planning RFP



DECEMBER 5, 2025

REVISION 1

# Contents

# Section 1
# Executive Summary

The objective of this report is to provide a public summary of the Longer-Term Proposals submitted as part of the Longer-Term Transmission Planning Request for Proposals.

## 1.1 Purpose of this Request for Proposals

On March 31, 2025, pursuant to Section 16.4 of Attachment K of Section II of the ISO New England Inc. ("ISO-NE" or the "ISO") Transmission, Markets and Services Tariff ("Tariff"), the ISO issued a Longer-Term Transmission Planning ("LTTP") Request for Proposal ("RFP") (together, the "2025 LTTP RFP" or "RFP") to solicit Longer-Term Proposals from Qualified Transmission Project Sponsors ("QTPSs") to:

a) Comprehensively address the identified needs as detailed in Section 2 of Part 1 of the RFP, and
b) Own, operate, and maintain the projects

ISO-NE issued this RFP in response to a December 13, 2024 communication from the New England States Committee on Electricity ("NESCOE") to ISO-NE,[1] requesting that ISO-NE issue an RFP to address certain longer-term needs in connection with the 2050 Transmission Study.[2] The 2050 Transmission Study is a Longer-Term Transmission Study ("LTTS") undertaken to determine the region's transmission needs in a wide variety of future system conditions, in order to serve load while satisfying reliability criteria of the North American Electric Reliability Corporation (NERC), the Northeast Power Coordinating Council (NPCC), and ISO-NE. To this end, the 2050 Transmission Study identified certain "high-likelihood concerns" as well as high-level transmission upgrades to address those concerns. The 2025 LTTP RFP has been issued to procure transmission to address one such high-likelihood concern: limitations on transfers from northern New England (specifically Maine) to southern New England.

Proposals in response to the 2025 LTTP RFP ("Longer-Term Proposals") were due by 11:00PM EDT September 30, 2025.[3]

[1] https://www.iso-ne.com/static-assets/documents/100018/a05_2024_12_18_pac_transmission_needs_for_a_longer-term_transmission_planning_rfp_final.pdf

[2] https://www.iso-ne.com/static-assets/documents/100008/2024_02_14_pac_2050_transmission_study_final.pdf

[3] https://www.iso-ne.com/static-assets/documents/100021/2025lttprfp_postingannouncement.pdf

## 1.2 Summary of Longer-Term Proposals

The following is a high-level summary of the Longer-Term Proposals submitted to the ISO by the September 30, 2025 deadline.

- Total of 6 Longer-Term Proposals submitted
  - 4 are joint proposals
- Total of 4 different lead QTPSs (3 non-incumbents, 1 incumbent)
  - 4 additional QTPSs are participating as part of joint proposals (all are incumbents)
- Project Designs
  - 3 primarily AC transmission
  - 3 primarily HVDC transmission
  - All designs claim they support 1200 MW of northern ME wind
  - Claimed Surowiec-South (Surw-So) Limits: 3200-3800 MW (3200 MW target)
  - Claimed Maine-New Hampshire (ME-NH) Limits: 3000-3600 MW (3000 MW target)
- Project Installed Costs[4]
  - Low of $0.96B
  - High of $4.04B
- In-Service Dates: Q4 2032 to Q3 2035 (12/31/2035 target)

In the following summaries and throughout the rest of this document, the six Longer-Term Proposals have been assigned unique IDs: A1, A2, B1, C1, D1, and D2.

A summary of the claimed performance of each proposal is shown in Table 1.

**Table 1 – 2025 LTTP RFP Longer-Term Proposal Summary**

| ID | Type | Short Desc | Cost[4] | ISD |
|---|---|---|---|---|
| A1 | AC | ME/NH AC #1 | $2.20B | Q4 2032 |
| A2 | AC | ME/NH AC #2 | $2.14B | Q4 2032 |
| B1 | DC | Maine-Mass DC | $4.04B | Q2 2035 |
| C1 | AC | ME/NH AC #3 | $0.96B | Q2 2035 |
| D1 | DC | Wiscasset-Wakefield DC | $2.60B | Q3 2035 |
| D2 | DC | Wiscasset-Everett DC | $2.55B | Q3 2035 |

All QTPSs submitted the required study deposit, claimed to meet the required transfer limit increases, and proposed to interconnect the northern Maine wind at the Pittsfield, ME location, which is the location proposed in the ongoing Third Maine Resource Interconnection Study (3rd MRIS).[5]

[4] Some Longer-Term Proposals included cost estimates for corollary upgrades, which will be replaced with cost estimates provided by the applicable Participating Transmission Owner(s) for modifications to their existing equipment.

[5] https://markets.iso-ne.com/operations-services/ceii/pac/2024/06/a02_ceii_third_maine_resource_integration_results.pdf (Note: presentation is CEII).

## 1.3 Public Summary of Proposals

Further, as mentioned in the "Notes to the QTPS Respondent" Section of Part 2 of the RFP documentation, the ISO is providing the QTPS Respondent's responses to the following questions in the later sections of this document:[6]

- Question 3.1 – Short Summary,
- Question 3.2 – Key Milestone Dates,
- Question 3.6 – Proposal Installed Cost Estimate, and
- Question 11.1 – Cost Containment Mechanisms

Note also that the following unique identifiers are used for the needs identified in the 2025 LTTP RFP:

- LT-1: Increase the Maine-New Hampshire interface capability to at least 3,000 MW
- LT-2: Increase the Surowiec-South interface capability to at least 3,200 MW
- LT-3: Develop new infrastructure at Pittsfield, Maine, or at an alternate location north of the Albion Road substation, that can accommodate the interconnection of at least 1,200 MW (nameplate) of onshore wind.

[6] The ISO may have chosen to summarize a QTPS Respondent's response if a response included confidential information, language to promote the QTPS Respondent's proposal, language that compares or contrasts the QTPS Respondent's proposal to other proposals, or information that would identify the QTPS Respondent.

# Section 2
# Proposal A1 – ME/NH AC #1

- Joint Proposal: Yes
- Type: AC transmission in ME and NH
- Installed Cost: $2.20B
- Cost Containment: Yes
- Construction Start: Q1 2029
- In-Service Date: Q4 2032
- Design Summary
    - Proposal includes work in ME, NH, and MA
    - New/updated 345 & 115 kV AC lines in ME and NH

## 2.1 Short Summary

To solve the stated needs, this Proposal includes the following line and station work in Maine, New Hampshire, and Massachusetts.

- The construction of two (2) new single circuit 345 kV lines for a total of 70.2 miles, between Benton, ME and Windsor, ME and between Buxton, ME and Deerfield, NH
- The upgrade of one (1) 115 kV line to 345 kV for a total of 16.4 miles between Lewiston, ME and Pownal, ME
- The upgrade of four (4) 345 kV lines for a total of 89 miles between Pittsfield, ME and Benton, ME, between Pownal, ME and Buxton, ME and between Deerfield, NH and Londonderry, NH
- The upgrade of one (1) 345 kV line for a total of 49.1 miles from Buxton, ME to Deerfield, NH
- The upgrade of seven (7) 345 kV lines totaling approximately 4 miles in ME
- The upgrade of four (4) 115 kV lines for a total of 63.1 miles between Westbrook, ME and Wiscasset, ME, and between Lewiston, ME and Leeds, ME, and within the town of Eliot, ME
- The construction of a new double circuit line with one (1) new 345 kV circuit and one (1) existing 115 kV circuit for 17.4 miles from Benton, ME to Pittsfield, ME
- The upgrade of two (2) existing 115 kV lines for 21.1 miles between Benton, ME and Windsor, ME
- The construction of one (1) new 345 kV breaker-and-a-half (BAAH) Air-Insulated Substation (AIS) with six (6) bays in Wiscasset, ME
- The construction of one (1) new 345 kV BAAH AIS substation with six (6) bays in Pittsfield, ME

- The decommissioning of one (1) 345 kV substation in Wiscasset, ME
- The upgrade of forty (40) 345 kV breakers in various substations in ME, fourteen (14) 345 kV breakers in various substations in NH and MA, and three (3) 115 kV in Maine
- The installation of eight (8) new 345 kV 400 MVAR Static Synchronous Compensators (STATCOMs) in various locations in ME, NH, and MA
- The installation of four (4) new 345 kV 750 MVA Phase Angle Regulators (PARs) in Wiscasset, ME

## 2.2 Key Milestone Dates

The estimated construction start date for components addressing need LT-1 is Q1 of 2029 and the estimated in-service date of the last component is Q4 of 2032. The estimated construction start date for components addressing need LT-2 is Q1 of 2030 and the estimated in-service date of the last component is Q4 of 2032. The estimated construction start date for components addressing need LT-3 is Q1 of 2029 and the estimated in-service date of the last component is Q4 of 2032.

## 2.3 Installed Cost Estimate

The total installed cost estimate for the Project is $2,201,418,754.[7]

## 2.4 Cost Containment Mechanisms

**QTPS1 (Lead QTPS):**

QTPS1 proposes a cost containment mechanism based on a cost cap, with certain defined exclusions. QTPS1 will seek to apply the full FERC-approved New England Return on Equity (ROE) in its Formula Rate for the Project. In the event that actual capitalized costs for developing and constructing the Project, *i.e.*, the "Installed Costs" as determined as of the In-Service Date, exceed the cost cap, as it may adjusted to reflect certain excluded costs, QTPS1 will apply a reduced ROE of 8.46% on the excess costs above the cap (*i.e.*, the "Cost Exceedance") over the economic life of the Project. This reduced ROE on the Cost Exceedance is equivalent to the ratepayer protections of an 85/15 cost cap, under which the developer forfeits recovery of 20% of costs exceeding the cap.

**QTPS2 (Joining QTPS):**

QTPS2 has proposed an escalating reduction of its ROE as construction cost overruns exceed pre-defined increments. QTPS2 states that this approach creates an incentive for QTPS2 to avoid construction cost overruns due to the decremental impact on the quality of QTPS2's investment. The mechanism also includes a mutually beneficial savings incentive if actual costs are lower than QTPS2's proposal.

[7] Some Longer-Term Proposals included cost estimates for corollary upgrades, which will be replaced with cost estimates provided by the applicable Participating Transmission Owner(s) for modifications to their existing equipment.

The installed cost proposed by QTPS2 from Question 9.1 (Proposed Cost) will serve as the base amount for determining any adjustment to the ROE and will be compared to the as-built installed cost (Installed Cost).

- If the Installed Cost is less than the Proposed Cost, then QTPS2 will earn a total return equal to that which QTPS2 would have received if the Installed Cost had been equal to the Proposed Cost.
- If the Installed Cost exceeds the Proposed Cost, there will be no ROE adjustment for that portion of the Installed Cost after a threshold.
- For costs above the threshold, QTPS2's ROE will be reduced in various increments.

# Section 3
# Proposal A2 – ME/NH AC#2

- Joint Proposal: Yes
- Type: AC transmission in ME and NH
- Installed Cost: $2.14B
- Cost Containment: Yes
- Construction Start: Q1 2029
- In-Service Date: Q4 2032
- Design Summary
    - Proposal includes work in ME, NH, and MA
    - New/updated 345 & 115 kV AC lines in ME and NH

## 3.1 Short Summary

To solve the stated needs, this Proposal includes the following line and station work in Maine, New Hampshire, and Massachusetts.

- The construction of two (2) new single circuit 345 kV lines for a total of 70.2 miles, between Benton, ME and Windsor, ME and between Buxton, ME and Deerfield, NH
- The upgrade of one (1) 115 kV line to 345 kV for a total of 16.4 miles between Lewiston, ME and Pownal, ME
- The upgrade of four (4) 345 kV lines for a total of Pittsfield, ME and Benton, ME, between Pownal, ME and Buxton, ME and between Deerfield, NH and Londonderry, NH
- The upgrade of one (1) 345 kV line for a total of 30.6 miles from Buxton, ME to Rochester, NH
- The upgrade of eight (8) 345 kV lines totaling approximately 5 miles in ME and NH
- The upgrade of four (4) 115 kV lines for a total of 63.1 miles between Westbrook, ME and Wiscasset, ME, and between Lewiston, ME and Leeds, ME, and within the town of Eliot, ME
- The construction of a new double circuit line with one (1) new 345 kV circuit and one (1) existing 115 kV circuit for 17.4 miles from Benton, ME to Pittsfield, ME
- The upgrade of two (2) existing 115 kV lines for 21.1 miles between Benton, ME and Windsor, ME
- The construction of one (1) new 345 kV breaker-and-a-half (BAAH) Air-Insulated Substation (AIS) with six (6) bays in Wiscasset, ME
- The construction of one (1) new 345 kV BAAH AIS substation with six (6) bays in Pittsfield, ME

- The decommissioning of one (1) 345 kV substation in Wiscasset, ME
- The upgrade of forty (40) 345 kV breakers in various substations in ME, fourteen (14) 345 kV breakers in various substations in NH and MA, and three (3) 115 kV breakers in Maine
- The installation of eight (8) new 345 kV 400 MVAR Static Synchronous Compensators (STATCOMs) in various locations in ME, NH and MA
- The installation of four (4) new 345 kV 750 MVA Phase Angle Regulators (PARs) in Wiscasset, ME

## 3.2 Key Milestone Dates

The estimated construction start date for components addressing need LT-1 is Q1 of 2029 and the estimated in-service date of the last component is Q4 of 2032. The estimated construction start date for components addressing need LT-2 is Q1 of 2030 and the estimated in-service date of the last component is Q4 of 2032. The estimated construction start date for components addressing need LT-3 is Q1 of 2029 and the estimated in-service date of the last component is Q4 of 2032.

## 3.3 Installed Cost Estimate

The total installed cost estimate for the Project is $2,138,790,286.[8]

## 3.4 Cost Containment Mechanisms

**QTPS1 (Lead QTPS):**

QTPS1 proposes a cost containment mechanism based on a cost cap, with certain defined exclusions. QTPS1 will seek to apply the full FERC-approved New England Return on Equity (ROE) in its Formula Rate for the Project. In the event that actual capitalized costs for developing and constructing the Project, *i.e.*, the "Installed Costs" as determined as of the In-Service Date, exceed the cost cap, as it may adjusted to reflect certain excluded costs, QTPS1 will apply a reduced ROE of 8.46% on the excess costs above the cap (*i.e.*, the "Cost Exceedance") over the economic life of the Project. This reduced ROE on the Cost Exceedance is equivalent to the ratepayer protections of an 85/15 cost cap, under which the developer forfeits recovery of 20% of costs exceeding the cap.

**QTPS2 (Joining QTPS):**

QTPS2 has proposed an escalating reduction of its ROE as construction cost overruns exceed pre-defined increments. QTPS2 states that this approach creates an incentive for QTPS2 to avoid construction cost overruns due to the decremental impact on the quality of QTPS2's investment. The mechanism also includes a mutually beneficial savings incentive if actual costs are lower than QTPS2's proposal.

[8] Some Longer-Term Proposals included cost estimates for corollary upgrades, which will be replaced with cost estimates provided by the applicable Participating Transmission Owner(s) for modifications to their existing equipment.

The installed cost proposed by QTPS2 from Question 9.1 (Proposed Cost) will serve as the base amount for determining any adjustment to the ROE and will be compared to the as-built installed cost (Installed Cost).

- If the Installed Cost is less than the Proposed Cost, then QTPS2 will earn a total return equal to that which QTPS2 would have received if the Installed Cost had been equal to the Proposed Cost.
- If the Installed Cost exceeds the Proposed Cost, there will be no ROE adjustment for that portion of the Installed Cost after a threshold.
- For costs above the threshold, QTPS2's ROE will be reduced in various increments.

# Section 4
# Proposal B1 – Maine-Mass DC

- Joint Proposal: No
- Type: HVDC (Maine – Massachusetts)
- Installed Cost: $4.04B
- Cost Containment: Yes
- Construction Start: Q2 2031
- In-Service Date: Q2 2035
- Design Summary
    - Proposal includes work in ME, NH, and MA
    - New High-Voltage Direct Current (HVDC) line (Maine Yankee – Mystic)
    - Upgrades to 345, 115, and 69 kV lines in ME and NH

## 4.1 Short Summary

To solve the stated needs, the Proposal includes:

- The upgrade of thirteen (13) 345kV lines/line segments totaling 270 miles in ME area
- The upgrade of eleven (11) 115kV lines/line segments totaling 97 miles in ME area
- The upgrade of one (1) 69kV line totaling 2 miles in ME area
- One (1) new substation 345kV near Pittsfield to accommodate the onshore wind injection
- One (1) HVDC cable ±320kV between the ME and MA area totaling 164 miles (name plate rating of 1,300MW, with expected delivery of 1,200MW)
- Interconnection into existing 345kV substation in MA area to accommodate HVDC link
- Interconnection into existing 345kV substation in ME area to accommodate HVDC link
- Upgrade of series capacitor at Orrington, ME

The Proposal would enable LT1 and LT2 interfaces to have the minimum required transfers and solve several existing contingent overloaded facilities in the base cases. However, the Proposal also lists corollary upgrades to address perceived new overloaded facilities.

The Proposal also adds a new 345kV substation in order to add 1,200MW of onshore wind in northern Maine.

## 4.2 Key Milestone Dates

The estimated construction start date for components addressing need LT-1 is Q2 of 2031 and the estimated in-service date of the last component is end of Q2 of 2035. The estimated construction start date for components addressing need LT-2 is Q2 of 2031 and the estimated in-service date of the last component is end of Q2 of 2035. The estimated construction start date for components addressing need LT-3 is Q3 of 2031 and the estimated in-service date of the last component is Q4 of 2034.

## 4.3 Installed Cost Estimate

The total installed cost estimate for the Longer-Term Proposal is $4,041,441,051.[9]

## 4.4 Cost Containment Mechanisms

The QTPS includes a cost containment mechanism with its Proposal that is effective upon commercial operation. The cost containment mechanism comprises:

1. An overall Project Cost Cap that must be exceeded before any sharing described below is effectuated;
2. A Cost Cap for QTPS-owned assets that covers all capital costs to plan for and construct the QTPS-owned assets and to make them ready for the Project's intended use, except for Excluded Capital Costs that the QTPS defines ("QTPS Included Capital Costs"). Excluded Capital Costs include items such as (but not limited to) Allowance for Funds Used During Construction ("AFUDC"), inflation, certain delays, and force majeure. QTPS will include in its annual transmission revenue requirement the weighted cost of capital and related income taxes (return on investment with no ROE incentives, consistent with FERC requirements*) and depreciation expense (return of investment) on 75% of the actual QTPS Included Capital Cost that exceed the QTPS Cost Cap. QTPS will forego the return on investment and return of investment on 25% of the actual QTPS Included Capital Cost that exceed the QTPS Cost Cap;
3. A Cost Cap for the Northern and Southern Converter Stations ("Converter Cost Cap") for Project assets developed and constructed by QTPS. This Converter Cost Cap will cover all capital costs to plan for and construct these assets and to make them ready for the Project's intended use, except for Excluded Capital Costs ("Converter Included Capital Costs"). The Converter Included Capital Costs (adjusted for the PTOs' ownership percentages) are subject to a 95%/5% cost sharing mechanism to the extent the actual Converter Included Capital Costs exceed the Converter Cost Cap. If the Converter Included Capital Costs exceed the Converter Cost Cap, QTPS will assess the portions of the Converter Included Capital Cost overruns that are caused by the Northern or Southern Converter Stations in order to apply the 95%/5% sharing to the relevant converter

[9] Some Longer-Term Proposals included cost estimates for corollary upgrades, which will be replaced with cost estimates provided by the applicable Participating Transmission Owner(s) for modifications to their existing equipment.

station(s). Subsequently, QTPS will not recover the corresponding 5% of the Converter Capital Cost that exceeds the Converter Cost Cap. The portion(s) of the converter station(s) that QTPS retains will be subject to QTPS's 75/25 cost sharing described above.

In addition, the QTPS expects to request from the Federal Energy Regulatory Commission ("FERC") the CWIP Incentive that will permit the QTPS to include the Project construction work in process ("CWIP") in rate base.

The Cost Cap for the Project is $3,995,291,073. The Converter Cost Cap is $1,708,745,809.

# Section 5
# Proposal C1 – ME/NH AC #3

- Joint Proposal: No
- Type: AC transmission
- Installed Cost: $0.96B
- Cost Containment: Yes
- Construction Start: Q2 2030
- In-Service Date: Q2 2035
- Design Summary
    - Proposal includes work in ME and NH
    - New/updated 345 & 115 kV AC lines in ME and NH

## 5.1 Short Summary

The QTPS's Proposal to solve the stated needs in the 2025 Long Term Planning RFP includes a combination of QTPS Respondent project components and corollary upgrades.

Project components:

- Install one (1) new 400 MVAR STATCOM at the new Pittsfield substation
- Construct one (1) new 345 kV substation referred to as the Pittsfield Substation that includes a breaker and a half air-insulated station with three (3) bays and located in Detroit, ME
- Construct one (1) new 350 MVAR STATCOM installed at a new Fickett substation located adjacent to the existing Surowiec 345 kV substation
- Install one (1) new 350 MVAR STATCOM at the new Scarborough substation
- Construct one (1) new 345 kV / 115 kV substation referred to as the Scarborough Substation that includes a 345 kV breaker and a half station with two (2) bays, a 115 kV three position ring bus expandable to a breaker and a half station, and a 345/115 kV transformer and located along the existing transmission lines between the existing South Gorham and Louden substations
- Construct one (1) new single circuit 345 kV line approximately 43 miles long installed between the new Pittsfield substation and the existing Cooper Mills substation
- Operationally bypass the Orrington to Cooper Mills (line 388) series compensation
- Operationally bypass the Orrington to Pittsfield (line 3023) series compensation
- Install two new 345 kV breakers at the existing Albion Road 345 kV substation
- Upgrade Surowiec 345 kV substation to include one new bay that can be used to connect the new Fickett substation STATCOM

- Upgrade the 16-mile existing Larrabee to Surowiec 115 kV line to 345 kV
- Upgrade the Surowiec to Buxton 345 kV circuit 1
- Upgrade the Surowiec to Buxton 345 kV circuit 2
- Upgrade the Surowiec to 167A Tap 115 kV
- Upgrade the Maguire Road to 3 Rivers to Bolt Hill 115 kV
- Upgrade the Buxton to Deerfield 345 kV
- Upgrade the South Gorham 345/115 kV T2 transformer
- Change the tap setting of Cooper Mills 345/115/13.8 kV transformer
- Install one new 345kV breaker at the existing Copper Mills 345 kV substation
- Upgrade five (5) circuit breakers at the existing Orrington 115 kV substation
- Split the existing Orrington to Albion 345 kV line to interconnect the new Pittsfield 345 kV substation
- Split the existing South Gorham to Louden 115 kV line to interconnect the new Scarborough 115 kV substation
- Split the existing South Gorham to Maguire Road 345 kV line to interconnect the new Scarborough 345 kV substation

## 5.2 Key Milestone Dates

The estimated construction start date for components addressing need LT-1 (Maine-New Hampshire interface) is Q2 of 2030 and the estimated in-service date of the last component is Q4 of 2033. The estimated construction start date for components addressing need LT-2 (Surowiec-South interface) is Q3 of 2030 and the estimated in-service date of the last component is Q2 of 2035. The estimated construction start date for components addressing need LT-3 (onshore wind interconnection) is Q4 of 2031 and the estimated in-service date of the last component is Q2 of 2034.

## 5.3 Installed Cost Estimate

The total installed cost estimate for the QTPS Longer-Term Proposal is $961,702,124.[10]

## 5.4 Cost Containment Mechanisms

The QTPS Longer-Term Transmission Proposal includes a binding Return on Equity (ROE) Cap on the full QTPS project scope to provide cost certainty and deliver long-term savings to ratepayers.

In the scenario where the project was ready to be placed in service, but factors beyond the control of the project sponsor caused a delay to the in-service date, QTPS would likely continue to accrue AFUDC. The specific circumstances causing the delay and the duration of the delay would need to be evaluated.

[10] Some Longer-Term Proposals included cost estimates for corollary upgrades, which will be replaced with cost estimates provided by the applicable Participating Transmission Owner(s) for modifications to their existing equipment.

# Section 6
# Proposal D1 – Wiscasset-Wakefield DC

- Joint Proposal: Yes
- Type: HVDC (Wiscasset, ME – Wakefield, MA)
- Installed Cost: $2.60B
- Cost Containment: Yes
- Construction Start Q4 2031
- In-Service Date: Q3 2035
- Design Summary
    - Proposal includes work in ME, NH, and MA
    - New HVDC line (Wiscasset, ME – Wakefield, MA)
    - New/updated 345 & 115 kV lines in ME, NH, and MA

## 6.1 Short Summary

To solve the stated needs, the Longer-Term Proposal includes:

**345 kV Line Work**

- Three (3) new 345 kV lines totaling 67.2 miles from Pittsfield, ME to Wiscasset, ME
- One (1) new 0.2 mile long, 345 kV tie line in Wakefield, MA
- Two (2) new parallel underground 345 kV tap lines totaling 0.5 miles in Everett, MA
- Four (4) new parallel overhead 345 kV tap lines totaling 3 miles in Windsor, ME
- Two (2) new parallel overhead 345 kV tap lines totaling 0.2 miles in Pittsfield, ME
- Relocation of two (2) 345 kV lines totaling 0.2 miles in Wakefield, MA

**115 kV Line Work**

- One (1) new 115 kV line totaling 25.4 miles from Livermore Falls, ME to Manchester, ME
- Upgrade of two (2) 8.3-mile 115 kV lines from Salem, MA to Wakefield, MA
- Upgrade of a 115 kV line totaling 7.3 miles from Livermore Falls, ME to Jay, ME
- Upgrade of a 115 kV line totaling 5.5 miles in Portsmouth, NH
- Upgrade of a 115 kV line totaling 20.2 miles from Deerfield, NH to Rochester, NH
- Upgrade of a 115 kV line totaling 5.0 miles in Eliot, ME
- Two (2) new parallel overhead tap lines totaling 0.2 miles in Windsor, ME
- Two (2) new parallel overhead tap lines totaling 0.2 miles in Warren, ME

**New Stations Including Breakers and Switches**

- One (1) new 345 kV AIS substation with three bays in Pittsfield, ME
- One (1) new 345 kV AIS substation in Everett, MA
- One (1) new 345 kV AIS substation in Windsor, ME
- One (1) new 115 kV AIS substation in Windsor, ME
- One (1) new 115 kV AIS substation in Warren, ME

**Existing Stations Including Breakers and Switches**

- Upgrade three (3) existing 345 kV AIS substations in Windsor, ME, Seabrook, NH, and Wiscasset, ME
- Upgrade existing 345 kV GIS substation in Wakefield, MA
- Upgrade existing 115 kV AIS substation in Livermore Falls, ME
- Upgrade existing 115 kV AIS substation in Manchester, ME
- Upgrade two (2) 345 kV substation bus tie sections in Everett, MA and Seabrook, NH

**Transformers**

- Two (2) 345/115 kV transformers will be upgraded in South Gorham, ME
- One (1) 345/115 kV transformer will be upgraded in Orrington, ME

**Shunt Capacitors**

- One (1) new 345 kV shunt capacitor bank will be installed Seabrook, NH
- Two (2) new 115 kV shunt capacitor banks will be installed in Windsor, ME and Warren, ME

**Dynamic Reactive Devices**

- Two (2) new 345 kV STATCOMs will be installed in Pittsfield, ME and Windsor, ME.

**Phase Angle Regulators (PARs)**

- One (1) new 115 kV phase angle regulator in Windsor, ME

**Series Reactors**

- One (1) new 345 kV series reactor in Everett, MA

**HVDC**

- Two (2) new 400 kV HVDC terminals in Wiscasset, ME and Wakefield, MA
- ±400 kV HVDC cable system totaling 144.2 miles between terminals

**Other Work**

- Two (2) spare 345/38.5 kV transformers will be installed in Pittsfield, ME and Windsor, ME
- One (1) spare submarine cable system
- One (1) new HVDC overhead to underground transition station in Salem, MA

## 6.2 Key Milestone Dates

The estimated construction start date for components addressing need LT-1 is Q4 of 2031 and the estimated end of construction of the last component is Q1 of 2035. The estimated construction start date for components addressing need LT-2 is Q4 of 2031 and the estimated end of construction of the last component is Q1 of 2035. The estimated construction start date for components addressing need LT-3 is Q4 of 2031 and the estimated end of construction of the last component is Q1 of 2035. The QTPS states that it assumes a full system test will be performed by Q3 2035, pending ISO-NE requirements and confirmation, which will be treated as the in-service date of the last component for all needs (LT-1, LT-2, LT-3).

## 6.3 Installed Cost Estimate

The total installed cost estimate for the Project is $2,599,876,831.[11]

## 6.4 Cost Containment Mechanisms

The QTPS's cost containment proposal includes a hybrid cost cap, that results in a reduction of return on equity (ROE) on incremental costs above the Longer-Term Proposal Installed Cost Estimate for Pool Transmission Facility (PTF) Components ("Installed Cost Estimate").

The QTPS's cost containment proposal also includes an Equity Capitalization Cap.

[11] Some Longer-Term Proposals included cost estimates for corollary upgrades, which will be replaced with cost estimates provided by the applicable Participating Transmission Owner(s) for modifications to their existing equipment.

# Section 7
# Proposal D2 – Wiscasset-Everett DC

- Joint Proposal: Yes
- Type: HVDC (Wiscasset, ME – Everett, MA)
- Installed Cost: $2.55B
- Cost Containment: Yes
- Construction Start: Q4 2031
- In-Service Date: Q3 2035
- Design Summary
    - Proposal includes work in ME, NH, and MA
    - New HVDC line (Wiscasset, ME – Everett, MA)
    - New/updated 345 & 115 kV lines in ME, NH, and MA

## 7.1 Short Summary

To solve the stated needs, the Longer-Term Proposal includes:

**345 kV Line Work**

- Three (3) new 345 kV lines totaling 67.2 miles from Pittsfield, ME to Wiscasset, ME
- One (1) new 345 kV line totaling 0.5 miles in Everett, MA
- Four (4) new parallel overhead 345 kV tap lines totaling 3 miles in Windsor, ME
- Two (2) new parallel overhead 345 kV tap lines totaling 0.2 miles in Pittsfield, ME

**115 kV Line Work**

- One (1) new 115 kV line totaling 25.4 miles from Livermore Falls, ME to Manchester, ME
- Upgrade of a 115 kV line totaling 7.3 miles from Livermore Falls, ME to Jay, ME
- Upgrade of a 115 kV line totaling 5.5 miles in Portsmouth, NH
- Upgrade of a 115 kV line totaling 20.2 miles from Deerfield, NH to Rochester, NH
- Upgrade of a 115 kV line totaling 5.0 miles in Eliot, ME
- Two (2) new parallel overhead tap lines totaling 0.2 miles in Windsor, ME
- Two (2) new parallel overhead tap lines totaling 0.2 miles in Warren, ME

**New Stations Including Breakers and Switches**

- One (1) new 345 kV AIS substation with three bays in Pittsfield, ME
- One (1) new 345 kV AIS substation in Windsor, ME
- One (1) new 115 kV AIS substation in Warren, ME

- One (1) new 115 kV AIS substation in Windsor, ME

**Existing Stations Including Breakers and Switches**

- Upgrade three (3) existing 345 kV AIS substations in Windsor, ME, Seabrook, NH, and Wiscasset, ME
- Upgrade existing 345 kV AIS substation utilizing GIS in Everett, MA
- Upgrade existing 115 kV AIS substation in Livermore Falls, ME
- Upgrade existing 115 kV AIS substation in Manchester, ME
- Upgrade two (2) substation bus tie sections in Everett, MA and Seabrook, NH

**Transformers**

- Two (2) 345/115 kV transformers will be replaced in South Gorham, ME
- One (1) 345/115 kV transformer will be replaced in Orrington, ME

**Shunt Capacitors**

- One (1) new 345 kV shunt capacitor bank will be installed in Seabrook, NH
- Two (2) new 115 kV shunt capacitor banks will be installed in Windsor, ME and Warren, ME

**Dynamic Reactive Devices**

- Two (2) new 345 kV STATCOMs will be installed in Pittsfield, ME and Windsor, ME

**Phase Angle Regulators (PARs)**

- One (1) new 115 kV phase angle regulator in Windsor, ME

**HVDC**

- Two (2) new 400 kV HVDC terminals in Wiscasset, ME and Everett, MA
- ±400 kV HVDC cable system totaling 151.0 miles between terminals

**Other Work**

- Two (2) spare 345/38.5 kV transformers will be installed in Pittsfield, ME and Windsor, ME
- One spare submarine cable system

## 7.3 Key Milestone Dates

The estimated construction start date for components addressing need LT-1 is Q4 of 2031 and the estimated end of construction of the last component is Q1 of 2035. The estimated construction start date for components addressing need LT-2 is Q4 of 2031 and the estimated end of construction of the last component is Q1 of 2035. The estimated construction start date for components addressing need LT-3 is Q4 of 2031 and the estimated end of construction of the last component is Q1 of 2035. The QTPS states that it assumes a full system test will be performed by Q3 2035, pending ISO-NE requirements and confirmation, which will be treated as the in-service date of the last component for all needs (LT-1, LT-2, and LT-3).

## 7.4 Installed Cost Estimate

The total installed cost estimate for the Project is $2,550,977,286.[12]

## 7.5 Cost Containment Mechanisms

The QTPS's cost containment proposal includes a hybrid cost cap, that results in a reduction of return on equity (ROE) on incremental costs above the Longer-Term Proposal Installed Cost Estimate for Pool Transmission Facility (PTF) Components ("Installed Cost Estimate").

The QTPS's cost containment proposal also includes an Equity Capitalization Cap.

[12] Some Longer-Term Proposals included cost estimates for corollary upgrades, which will be replaced with cost estimates provided by the applicable Participating Transmission Owner(s) for modifications to their existing equipment.