

Regional Planning Needs and Solutions

IPSAC WebEx



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Purpose:

This presentation provides an update on ISO New England's (ISO-NE) transmission planning evaluations of the New England system

- Access to Planning Advisory Committee (PAC) materials containing Critical Energy Infrastructure Information (CEII) is required to access some of the ISO's materials on transmission planning. Those stakeholders with CEII access do not require any further action. If you do not have access to ISO-NE's PAC CEII information, please complete the CEII Request Process found at:

<https://www.iso-ne.com/participate/support/request-ceii-access>

- Download and complete the CEII Access Request Form and then submit the completed Form into Ask ISO at: <https://askiso.force.com/s/>
- ***Note: If you have Reliability Committee (RC) CEII access, you still need to apply for PAC CEII access***
- Should you have further questions, kindly contact Participant Support and Solutions by email: AskISO@iso-ne.com or by phone: (413) 540-4220 or (833) 248-4220
- The ISO-NE planning process was previously discussed with the IPSAC and a summary appears in the Appendix for stakeholder reference

Two New Transmission Planning Efforts Have Been Initiated

- Order 1000/Boston 2028 RFP Lessoned Learned Process
 - On [July 17, 2020, the ISO issued a memo](#) describing an upcoming “lessons learned” process regarding Order 1000/Boston 2028 RFP
 - At the [October 21, 2020 PAC meeting](#), the ISO discussed the process and the submittal template
 - On November 6, 2020, the ISO released the [submittal template](#), which was due November 25, 2020
- Transmission Planning for the Clean Energy Transition*
 - The ISO began discussions at the [September 24, 2020 PAC](#) regarding the need to improve assumptions used in Needs Assessments and solution development. The presentation included proposals for:
 - Load levels
 - Solar output
 - On-shore and off-shore wind output
 - The need for improved locational information for Distributed Energy Resources
 - At the [November 19, 2020 PAC meeting](#), the ISO proposed a pilot study using the new assumptions to quantify tradeoffs between the assumptions and high level costs of addressing system concerns

*This effort was renamed from Transmission Planning for the Future Grid.



Updating Area Study Plans

- Boston
 - Driven by the upcoming retirement of the Mystic generators, a number of transmission planning studies have been completed
 - The ISO has completed a Needs Assessment Addendum to specify the design requirements for addressing the system restoration concerns
 - The ISO has completed a Needs Assessment Update which has incorporated the solution to the time-sensitive needs and updated resource assumptions to the latest available data
 - Non-time-sensitive needs remain: overload of three 345 kV cables and one 115 kV overhead line
 - The ISO issued an Request for Proposal (RFP) to address the identified, non-time sensitive needs on December 20, 2019
 - Phase One Proposals were due on March 4, 2020
 - 36 Phase One Proposals were submitted by eight Qualified Transmission Project Sponsors (QTPSs) and reviewed by the ISO and its consultants
 - At the [June 17, 2020 PAC meeting](#), the ISO discussed narrowing the proposals down to one
 - On [July 17, 2020, the ISO concluded the competitive transmission process](#) and began the Solutions Study process
 - On September 24, 2020, the ISO issued the final [Boston 2028 Solutions Study - Mystic Retirement](#)
 - Final solution:
 - Two 345 kV series reactors
 - One STATCOM
 - Direct transfer trip scheme

Updating Area Study Plans

- **Maine**
 - The Maine study area has been split into two areas: Upper and Lower Maine
 - Allows for the handling of the proposed HVDC facility, the New England Clean Energy Connect (NECEC), which will have an impact on Lower Maine
 - **Upper Maine**
 - The Needs Assessment was completed on March 23, 2020
 - Solutions are under development
 - **Lower Maine**
 - The scope of the Needs Assessment was discussed with the PAC in September 2020, and study work is under way
- **New Hampshire**
 - The Needs Assessment was completed on December 4, 2019
 - Solutions are under development. Solutions under consideration were discussed with the PAC in June 2020
- **Western and Central MA**
 - The final Needs Assessment was posted on May 5, 2020
 - Very few issues were identified
 - Solution development was placed on hold
 - Significant asset condition issues in the area need to be addressed
 - Significant proposed resource development in the area of identified needs may yield system upgrades and reconfigurations

Updating Area Study Plans

- Eastern CT
 - The Needs Assessment was completed on November 25, 2019
 - The Solutions Study was completed on June 19, 2020
 - Most of the study area will be converted from 69 kV to 115 kV
- Southwest CT
 - The asset condition project to replace the existing Glenbrook STATCOMs resolves all identified needs. As a result, the Solutions Study was concluded.
- Southeastern MA/RI
 - Due to the significant changes in net load forecast in the area, previously determined solution components were revisited to verify their continued need
 - Discussions on this topic occurred at the April, July, and August PAC meetings
 - Three projects were found to be no longer needed and were cancelled
 - Separation of two 345 kV circuits on common structures
 - Installation of a shunt capacitor
 - Reconductoring a portion of two 115 kV lines

Recent Information for Ongoing Reliability Based Studies

- [Boston](#)

- [Boston 2028 Solutions Study – Mystic Retirement](#), report posted September 24, 2020
- [Boston 2028 Solutions Study – Mystic Retirement – Preliminary Preferred Solution](#), presentation posted August 21, 2020
- [Posting of the Final Boston 2028 RFP Review of Phase One Proposals Report and Notice of Initiation of the Boston 2028 Solutions Study – Mystic Retirement](#), memo posted July 17, 2020
- [Response to Stakeholder Comments on the Boston 2028 RFP – Review of Phase One Proposals](#), memo posted July 17, 2020
- [Boston 2028 Request for Proposal \(RFP\) - Review of Phase One Proposals](#), report posted July 17, 2020
- [Boston 2028 RFP – Review of Phase One Proposals](#), presentation posted June 12, 2020
- [Boston 2028 RFP Posting of Phase One Proposals Memo](#), memo posted March 19, 2020
- [Boston 2028 RFP Regarding the Change in Mystic Generating Station Retirement Date](#), memo posted January 13, 2020
- [Boston 2028 RFP Announcement](#), posted December 20, 2019
- [Boston 2028 RFP Documents](#), posted December 20, 2019
- [Boston 2028 Needs Assessment Addendum](#), report posted October 17, 2019
- [Boston 2028 Needs Assessment Update](#), report posted October 17, 2019

Recent Information for Ongoing Reliability Based Studies, cont.

- [Maine](#)
 - [Lower Maine \(ME\) 2030 Needs Assessment Scope of Work](#), presentation posted September 18, 2020
 - [Draft Lower Maine \(ME\) 2030 Needs Assessment – Scope of Work](#), posted September 18, 2020
 - [Final Upper Maine \(ME\) Needs Assessment](#), report posted March 23, 2020
- [New Hampshire](#)
 - [Responses to Stakeholder Comments on the New Hampshire \(NH\) 2029 Solutions Study Update Presentation](#), posted July 17, 2020
 - [New Hampshire \(NH\) 2029 Solutions Study Update – Revision 1](#), presentation posted June 18, 2020
 - [Final New Hampshire \(NH\) 2029 Needs Assessment](#), report posted December 4, 2019
- [Western and Central Massachusetts](#)
 - [Final Western and Central Massachusetts Area 2029 Needs Assessment](#), report posted May 5, 2020

Recent Information for Ongoing Reliability Based Studies

- [Eastern Connecticut](#)

- [Eastern Connecticut \(ECT\) 2029 Solutions Study – Final](#), report posted June 19, 2020
- [Eastern Connecticut \(ECT\) 2029 Preliminary Preferred Solution](#), presentation posted May 15, 2020
- [Final Eastern Connecticut \(ECT\) 2029 Needs Assessment](#), report posted November 25, 2019

- [Southeastern MA/RI](#)

- [Revised SEMA/RI 2029 Needs Assessment Update – Revision 1](#), report posted November 13, 2020
- [Revised SEMA/RI 2029 Needs Assessment Update – Revision 1](#), presentation posted November 13, 2020
- [Revised SEMA/RI 2029 Needs Assessment Update – Project Status Determination – Revision 1](#), presentation posted September 2, 2020

Market Efficiency Transmission Upgrades

- There have been no changes since the May 2020 IPSAC meeting



Public Policy Based Transmission

- Public Policy Transmission Upgrades (PPTUs) are upgrades designed primarily to meet local (e.g., municipal and county), state, and federal Public Policy Requirements identified as driving transmission needs relating to the New England Transmission System
- The Public Policy process was [initiated on January 14, 2020](#)
- The ISO discussed the process with the [PAC on January 23, 2020](#)
- Two submittals were made
 - [Combined document containing both submittals](#)
 - [Combined templates for both submittals](#)
- New England States Committee on Electricity (NESCOE) has the option to provide a communication regarding those submittals by May 1, 2020
 - On May 1, NESCOE provided their [Submission Regarding Transmission Needs Driven by State and Federal Public Policy Requirements](#)
 - No Public Policy Requirements were identified
- The ISO completed the process with a determination that a Public Policy Transmission Study will not be performed at the [June 17, 2020 PAC meeting](#)

Regional System Plan Project List and Asset Condition List Update

- June 2020
 - Updates to the Regional System Plan (RSP) Project List
 - Increase in cost estimate for Southeastern MA/RI of \$24.0M
 - Net cost reduction in Western and Central MA, largely due to the cancellation of four projects, of \$19.2M
 - Cost increase for the Greater Hartford Central Connecticut project of \$14.2M
 - No new projects added
 - Two projects were placed in service
 - Updates to the Asset Condition List
 - Eight new projects added
 - Five projects placed in service
 - Final RSP Project List and Asset Condition List update
 - [Final PAC presentation](#)
 - [Final Project List](#)
 - [Final Asset Condition List](#)

Regional System Plan Project List and Asset Condition List Update

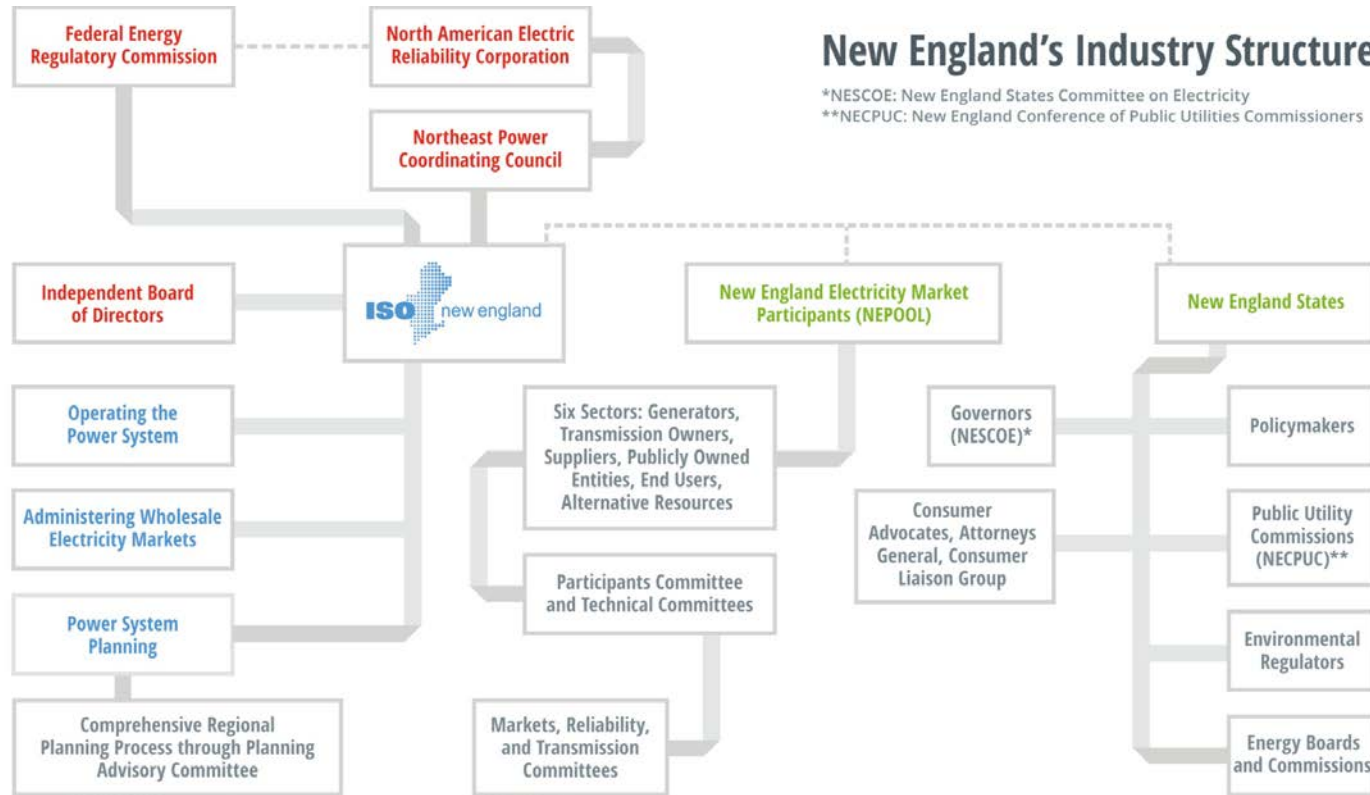
- October 2020
 - Updates to the Regional System Plan (RSP) Project List
 - Cost reduction in Southeastern MA/RI of \$61.6M due to the cancellation of three projects
 - Cost reduction for the Southwest Connecticut project of \$12.8M
 - Sixteen new projects added, associated with the Eastern Connecticut upgrades
 - Five projects were placed in service
 - Updates to the Asset Condition List
 - Five new projects added
 - Thirteen projects placed in service
 - Final RSP Project List and Asset Condition List update
 - [Final PAC presentation](#)
 - [Final Project List](#)
 - [Final Asset Condition List](#)
- Next update is scheduled to be provided to PAC in March 2021

Questions



APPENDIX

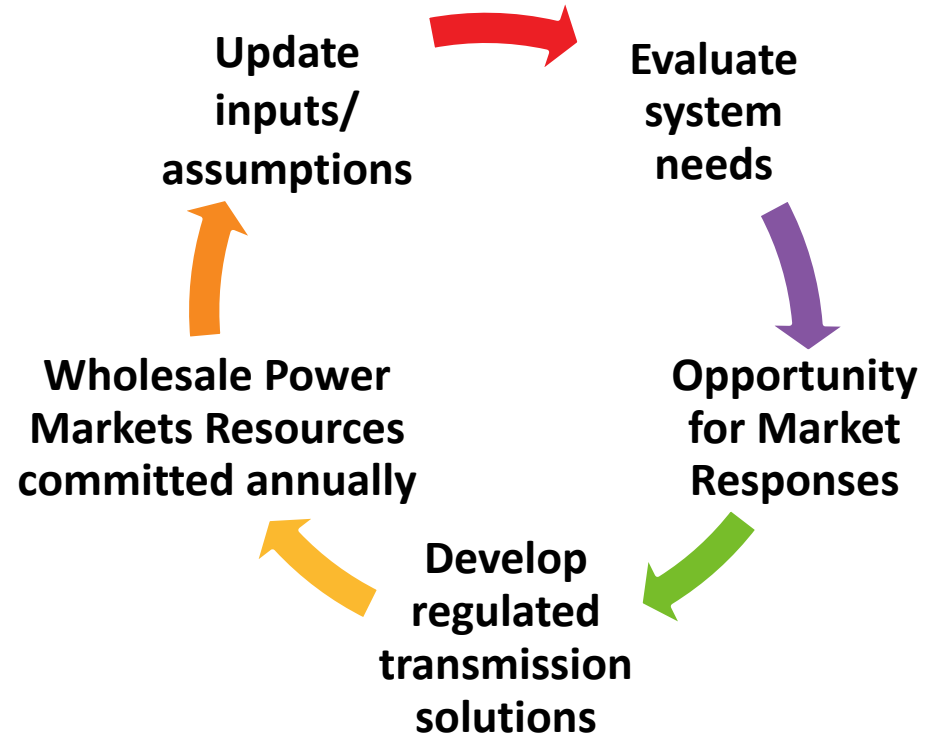
Numerous Entities Including an Independent Board Provide Oversight of and Input on ISO's Responsibilities



New England's System Planning Process

Continuous, Adaptive and Successful

- Open and transparent 10-year planning horizon reflects:
 - Update inputs/assumptions
 - Evaluate system needs
 - Market responses
 - Timing of future resource needs
- Provide information to marketplace and stakeholders
- Coordinate with neighboring areas



Reliability Planning Process

- Needs Assessments evaluate the adequacy of the transmission system over a 10-year planning horizon
 - Incorporate resources (generation and demand response) that have a firm commitment to perform, typically receiving an obligation through the Forward Capacity Market
 - Incorporate energy efficiency and photovoltaic forecasts
- ISO New England utilizes a continuous planning process
 - No fixed schedule
 - Allows for the incorporation of assumption changes “on-the-fly” rather than waiting for the next cycle
 - Ensures that solutions are not under or over-built
- Solutions Development
 - Identification of needs to be addressed through the Solutions Study process or the Open Competitive Process (as per Attachment K)
 - If the requirements of Attachment K Section 4.1(j), including a year of need 3 years or less from the completion of the needs assessment, have been met then the Solutions Study process is used for solution development
 - If the year of need is greater than 3 years from the completion of the Needs Assessment, the competitive process is used for solution development

Public Policy Process

- At least every 3 years, the ISO issues a Public Notice indicating input on state and federal Public Policy Requirements (PPR) can be submitted to the New England States Committee on Electricity (NESCOE) and local (e.g. municipal and county) PPRs can be submitted to the ISO
- NESCOE may provide a communication to the ISO regarding Public Policy Requirements
- Specification of the federal, state and local PPRs, if any, that will be addressed in a Public Policy Transmission Study (PPTS). Federal and state PPRs will be specified by NESCOE and, if required, by ISO. Local PPRs will be specified by ISO
- ISO performance of an initial phase of the PPTS and, if determined by ISO, a follow-on phase of the PPTS with opportunity for PAC to comment
- If a Public Policy Transmission Upgrade will be pursued, the solution will be developed through the Open Competitive Process

Helpful References

- The Transmission Planning Process guide outlines the steps in the regional transmission planning process (<https://www.iso-ne.com/system-planning/transmission-planning/transmission-planning-guides/>)
- The Transmission Planning Technical Guide documents several of the assumptions used in transmission planning studies (<https://www.iso-ne.com/system-planning/transmission-planning/transmission-planning-guides/>)
- Attachment K to the ISO New England Open Access Transmission Tariff describes the Regional System Planning Process (www.iso-ne.com/oatt)