

# Regional Planning Needs and Solutions

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*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's PAC CEII information, please complete the PAC Access Request Form found at:

[https://www.iso-ne.com/static-assets/documents/2015/08/external\\_pac\\_ceii\\_request.pdf](https://www.iso-ne.com/static-assets/documents/2015/08/external_pac_ceii_request.pdf)

- Completed forms should be mailed to ISO New England Inc., Attention: Customer Support, One Sullivan Road, Holyoke, MA 01040-2841 or emailed (PDF) to: [custserv@iso-ne.com](mailto:custserv@iso-ne.com)
- ***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 the ISO Customer Service Department at (413) 540-4220
- The ISO-NE planning process was previously discussed with the IPSAC and a summary appears in the Appendix for stakeholder reference

# Summary of Changes Since the May 2019 Update

- The ISO filed a number of Tariff changes with FERC to enhance the competitive transmission solicitation process on [October 11, 2019](#) these changes included:
  - Creation of a new agreement between the Selected Qualified Transmission Project Sponsor and the ISO, called the Selected Qualified Transmission Project Sponsor Agreement (SQTPSA)
  - Improvements to Attachment K to the Open Access Transmission Tariff
  - Modifications to Schedule 12C to establish a new baseline for consideration of Localized Costs
  - Creation of new Tariff Section III.12.6.4 where the in-service date in the SQTPSA will be the in-service date utilized for a competitively developed transmission project in the FCM model
- The requested effective date is December 10, 2019



# Updating Area Study Plans

- Boston
  - Driven by the upcoming retirement of the Mystic generators, a number of transmission planning studies have been completed
    - In June 2019, the ISO completed a Needs Assessment for Boston
      - This Needs Assessment identified both time-sensitive needs (needed in three years or less) and non-time sensitive needs (needed in greater than three years)
        - » Time-sensitive needs are related to high voltages at minimum load
        - » Non-time sensitive needs are associated with system restoration and overloads at peak load level, both of which are due to the upcoming retirement of Mystic Generating Station
      - The ISO has worked with Eversource and National Grid to develop a transmission solution to the time-sensitive needs – minor upgrades in Boston
    - 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 anticipates issuing a Request for Proposal (RFP) to address the identified, non-time sensitive needs in December 2019

# Updating Area Study Plans

- Maine
  - The Maine study area has been split into 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
  - The Needs Assessment for Upper Maine is in progress
- New Hampshire
  - The draft Needs Assessment, including the impact of the NECEC, was published for stakeholder review. Time-sensitive N-1-1 voltage violations were identified that will be addressed through the Solutions Study process
  - Comments, and any necessary updates to the Needs Assessment, are being addressed
- Western and Central MA
  - The draft Needs Assessment scope was posted for stakeholder review
  - Comments, and any necessary updates to the scope, are being addressed

# Updating Area Study Plans

- Eastern CT
  - The draft Needs Assessment was posted for stakeholder review. Time-sensitive N-1 and N-1-1 thermal and voltage violations were identified that will be addressed through the Solutions Study process
  - Comments, and any necessary updates to the Needs Assessment, are being addressed
- Southwest CT
  - Solution development is on hold awaiting the details on the solution to the Glenbrook STATCOM asset condition issues
- Southeastern MA/RI
  - Due to the number of ongoing resource changes in this area, an updated Needs Assessment is on hold

# Recent Information for Ongoing Reliability Based Studies

- Maine

- [Update to the Upper Maine \(ME\) 2029 Needs Assessment Assumptions and Study Files](#), notice posted September 2019
- [Upper Maine \(ME\) 2029 Needs Assessment Details](#), presentation posted June 2019

- New Hampshire

- [Draft New Hampshire \(NH\) 2029 Needs Assessment](#), report posted October 2019
- [New Hampshire \(NH\) 2029 Needs Assessment](#), presentation posted October 2019
- [New Hampshire \(NH\) 2029 Needs Assessment Details – Revision 1](#), presentation posted August 2019

# Recent Information for Ongoing Reliability Based Studies, cont.

- [Eastern Connecticut](#)
  - [Draft Eastern Connecticut \(ECT\) 2029 Needs Assessment](#), report posted October 2019
  - [Eastern Connecticut \(ECT\) 2029 Needs Assessment – Revision 1](#), presentation posted October 2019
- [Western and Central Massachusetts](#)
  - [Western and Central Massachusetts Area 2029 Needs Assessment – Scope of Work](#), report posted August 2019



# Recent Information for Ongoing Reliability Based Studies, cont.

- [Boston](#)

- [Boston 2028 Solutions Study](#), report posted October 2019
- [Boston 2028 Needs Assessment Addendum](#), report posted October 2019
- [Boston 2028 Needs Assessment Update](#), report posted October 2019
- [Boston 2028 Needs Assessment Addendum](#), presentation posted September 2019
- [Boston 2028 Preliminary Preferred Solution – Revision 1](#), presentation posted September 2019
- [Boston 2028 Needs Assessment Update – Revision 1](#), presentation posted September 2019
- [Boston 2028 Solutions Study and Needs Assessment Update Revision 1](#), presentation posted August 2019
- [Boston 2028 Solution Alternatives for Time-sensitive Needs](#), presentation posted June 2019
- [Boston 2028 Needs Assessment](#), report posted June 2019
- [Boston Area 2028 Needs Assessment – Update and Results – Revision 1](#), presentation posted May 2019

# Market Efficiency and Public Policy Based Transmission

- No changes since the May 2019 IPSAC meeting
- The Public Policy process will be initiated in January 2020



# Regional System Plan Project List and Asset Condition List Update

- June 2019
  - Updates to the Regional System Plan (RSP) Project List were minimal
    - No significant changes in cost
    - No new projects added
    - Updates driven by ongoing projects that were placed in service or cancelled
      - 4 projects placed in service
      - 1 project cancelled
  - Updates to the Asset Condition List were minor
    - 1 new project added
    - 3 projects placed in service
  - Final RSP Project List and Asset Condition List update
    - [Final PAC presentation](#)
    - [Final Project List](#)
    - [Final Asset Condition List](#)
- October 2019
  - Updates to the Regional System Plan (RSP) Project List
    - \$157M increase in cost estimates for the Greater Boston project
    - No new projects added
    - Updates driven by ongoing projects that were placed in service
      - 3 projects placed in service
  - Updates to the Asset Condition List
    - 34 new projects added, mostly 345 kV structure replacements
    - 12 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 2020

# Regional System Plan 2019 (RSP19)

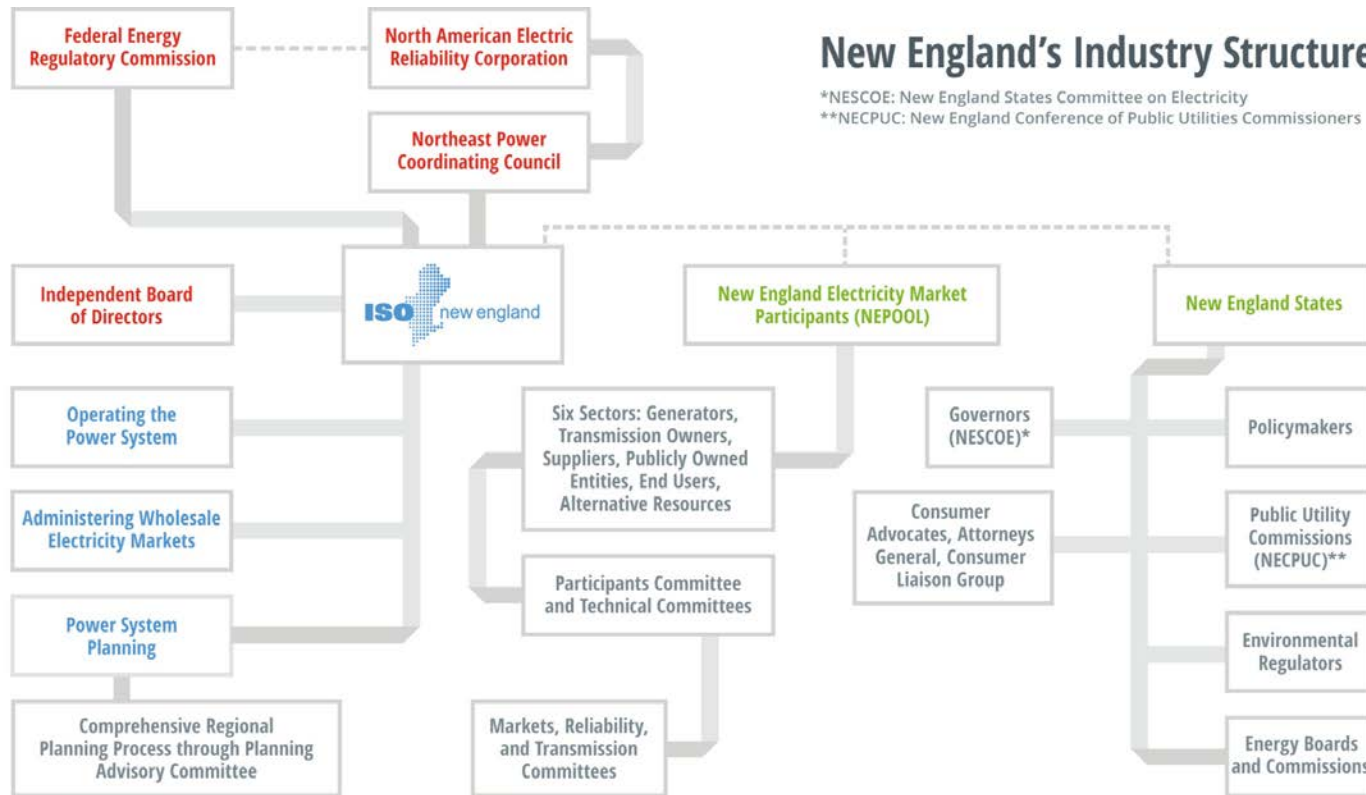
- For reference, this biennial report provides the foundation for long-term power-system planning in New England
- The 2019 Regional System Plan is complete and was posted to the ISO-NE website on November 1, 2019. It is available at:  
[https://www.iso-ne.com/static-assets/documents/2019/10/20191031\\_pr\\_2019\\_rsp.pdf](https://www.iso-ne.com/static-assets/documents/2019/10/20191031_pr_2019_rsp.pdf)
- RSP19 details power system needs for the next 10 years, through 2028, and how these needs may be addressed
  - Forecasts of annual energy use and peak demand from 2019 to 2028
  - Strategic issues facing the region, including the integration of variable energy resources, such as wind generation and photovoltaic (PV) installations, resource retirements and additions, energy security risks, and emerging technologies (e.g. electric vehicles and electric heat pumps) that impact demand consumption
  - The need for resources, including generators and demand-side resources, to meet consumer demand for power and replace retiring power plants
  - How the region's power system can continue to address reliability concerns by identifying areas of the grid where resource additions or transmission upgrades are needed
  - Coordination of New England's planning process with those of neighboring regions

# Questions



# APPENDIX

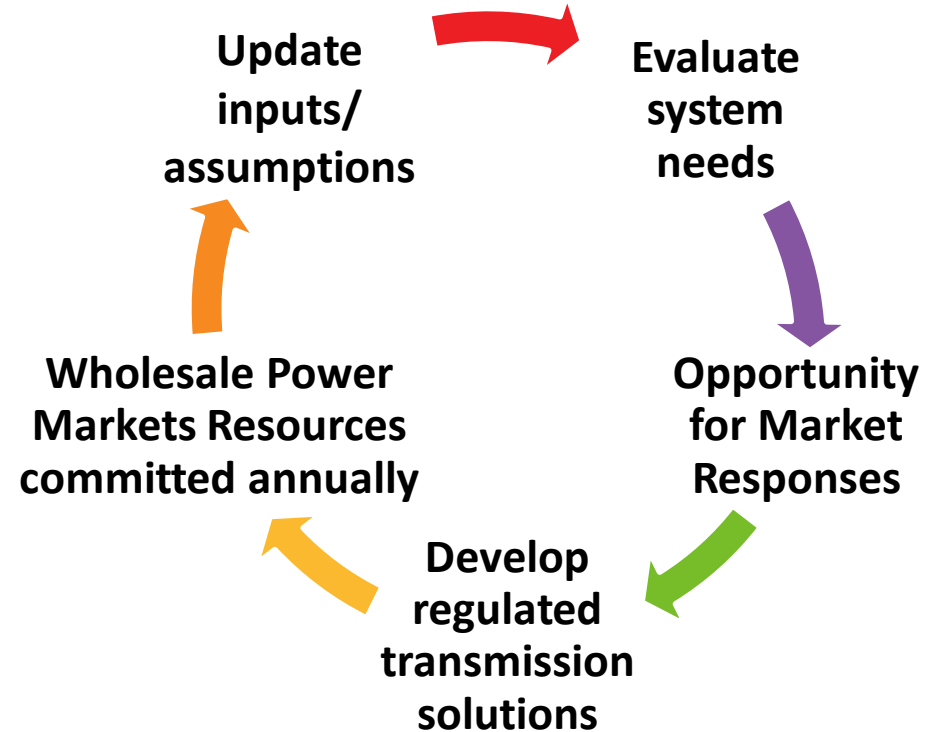
# Numerous Entities Including an Independent Board Provide Oversight of and Input on ISO's Responsibilities



# 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-guides/](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 (<https://www.iso-ne.com/participate/rules-procedures/tariff/oatt>)