

**MINUTES OF THE  
PLANNING ADVISORY COMMITTEE (PAC)  
MEETING HELD ON AUGUST 21, 2024**

J. Truswell (Cair)	ISO New England, Inc.
J. Macura (Secretary)	ISO New England, Inc.
A. Trotta	Avangrid (CMP/UI)
A. Chaplin	New Leaf Energy
A. Lawton	Advanced Energy United
A. Wang	Connecticut Office of Consumer Counsel
A. Gillespie	Calpine
A. Kniska	ISO New England, Inc.
A. Kleeman	ISO New England, Inc.
A. Sarmadi	National Grid
A. Robertson	Federal Energy Regulatory Commission
B. Deonarine	ConEdison Transmission
B. Oberlin	ISO New England, Inc.
B. Robertson	Eversrouce Energy
B. Wilson	ISO New England, Inc.
B. Fowler	Sigma Power Consulting
B. Andrew	Eversrouce Energy
B. Snook	Maine Governor's Energy Office
B. Ward	Federal Energy Regulatory Commission
B. Forshaw	Energy Market Advisors
B. Thomson	Rhode Island Energy
C. Bilchheck	IEEE
C. Perez-Perez	National Grid
C. Heilferty	ISO New England, Inc.
C. CullenHitt	Vineyard Wind
C. Reed	ISO New England, Inc.
C. Mattioda	Synapse Energy
C. Zhu	National Grid
C. Szmodis	Rhode Island Energy
C. RichardsJr	Rhode Island Energy
C. Bothwell	Department of Energy
D. Bradt	NESCOE
D. Cavanaugh	Energy New England
D. Conroy	RLC Engineering
D. Bergeron	Maine PUC
D. Qirollari	National Grid
D. Matthews	National Grid
D. Basler	Chaco Companies
E. Ross	ISO New England, Inc.

E. Arnim	Jupiter Power
E. Chapin	Onward Energy
E. Runge	Day Pitney
E. Steltzer	Mott MacDonald
F. Kugell	Avangrid (CMP/UI)
F. Pullaro	RENEW New England
F. Ettori	VELCO
F. Walsh	Avangrid (CMP/UI)
G. Twigg	NECPUC
G. Saulmon	ISO New England, Inc.
G. Garcia	Avangrid (CMP/UI)
H. Presume	VELCO
J. Fundling	Eversrouce Energy
J. Halpin	Eversrouce Energy
J. Ruzekowicz	Union of Concerned Scientists
J. Bihrlle	Commonweath of Massachussetts Attorney General's Office
J. Hansen	Eversrouce Energy
J. Lowe	ISO New England, Inc.
J. Talbert-Slagle	Connecticut Office of Consumer Counsel
J. Donovan	Commonweath of Massachussetts Attorney General's Office
J. Rauch	Avangrid (CMP/UI)
J. Dannels	Shell Corp.
J. Fenn	Fennco
J. Iafrati	Customized Energy solutions
J. Cebrik	Avangrid (CMP/UI)
J. Marinstein	Invenergy
J. Kasow	ISO New England, Inc.
J. Augelli	Eversrouce Energy
J. Zhang	ISO New England, Inc.
J. LaRusso	Acadia Center
J. Brodbeck	EDP Renewables
J. Porter	Rhode Island Energy
J. Slocum	Massachusetts Department of Public Utilities
J. Lamson	RTO Insider
J. Breard	ISO New England, Inc.
J. Walters	Connecticut DEEP
J. Ansah	OW Ocean Winds
K. Boucher	ISO New England, Inc.
K. Esbenshade	Union of Concerned Scientists
K. Sirowich	ISO New England, Inc.
K. Caiazza	Commonweath of Massachussetts Attorney General's Office
K. Schlichting	ISO New England, Inc.
K. Huang	National Grid

K. Kilgallen	Avangrid (CMP/UI)
K. Mankouski	ISO New England, Inc.
L. Durkin	ISO New England, Inc.
L. Looman	VELCO
M. Sullivan	Green Development, LLC
M. Berninger	ConEdison Transmission
M. RibeiroDahan	ISO New England, Inc.
M. Doolin	Eversource Energy
M. Safi	Rhode Island Energy
M. Stoker	Avangrid (CMP/UI)
M. Tremblay	Eversource Energy
M. Perben	ISO New England, Inc.
M. Coleman	JERA Americas
M. Krolewski	Vermont PUC
M. Fossum	New Hampshire Office of Consumer Advocate
M. Ide	MMWEC
M. Pescatore	ISO New England, Inc.
M. Scott	National Grid
M. Winne	ISO New England, Inc.
M. Drzewianowski	ISO New England, Inc.
M. Haskell	Maine PUC
M. Spector	Grid United
M. Farhan Siddiqui	National Grid
N. Forster	NESCOE
N. Raike	ISO New England, Inc.
N. Gangi	ISO New England, Inc.
N. Hutchings	NextEra Energy
N. Krakoff	Conservation Law Foundation
P. Boughan	ISO New England, Inc.
P. Lopes	Massachusetts Department of Energy Resources
P. Sousa	Avangrid (CMP/UI)
P. Asarese	ISO New England, Inc.
P. Bernard	ISO New England, Inc.
P. Shattuck	Power Advisory, LLC
P. Turner	Conservation Law Foundation
R. Collins	ISO New England, Inc.
R. Gaudet	Connecticut Municipal Electric Energy Cooperative
R. Kornitsky	ISO New England, Inc.
R. Lafayette	Rhode Island Energy
R. Guay	Maine Public Utilities Commission
R. Harvey	IEEE
S. Walcott	Eversource Energy
S. Herbert	LineVision, Inc.

S. Lamotte	ISO New England, Inc.
S. Kaplan	OW Ocean Winds
S. Ali	NextEra Energy
S. Beale	NESCOE
S. Siddiqui	RMS Energy Co., LLC
S. Hall	ISO New England, Inc.
S. Keane	NESCOE
S. Abhyankar	ISO New England, Inc.
S. Allen	Eversource Energy
S. Garwood	Power Grid Strategies
S. Molodetz	NextEra Energy
S. Judd	ISO New England, Inc.
T. Brennan	National Grid
T. Lundin	LS Power
T. Ryan	Eversource Energy
T. Blanco	National Grid
T. Sweeney	New Hampshire Department of Energy
V. Divatia	Eversource Energy
W. Coste	ISO New England, Inc.
W. Nuara	Massachusetts Executive Office of Energy and Environmental Affairs
Z. Logan	Avangrid (CMP/UI)

### **Item 1.0 – Chairs Remarks**

Ms. Jody Truswell (ISO-NE) welcomed PAC and announced that the Boston 2033 Solution Study team (comprised of the ISO, National Grid, and Eversource personnel) anticipates providing PAC an update in October.

### **Item 2.0 – Brayton Point Substation Asset Replacements**

Mr. Tony Blanco (National Grid) discussed alternatives for the asset condition needs at Brayton Point substation located in Somerset, MA. Recent inspections and maintenance records have identified various asset condition related issues with the substation’s transformers, circuit breakers, disconnects, and flooding. The substation’s two 345/115 kV transformers are located within the Base Flood Elevation (BFE). As such, National Grid proposed two alternatives, with Option 2 being preferred. This includes the Base Alternative with online monitoring and additional circuit breakers. The estimated cost for this project is \$46.6M with an estimated in-service date of Q2 2030.

In response to questions, National Grid issued the following statements:

- The project drivers are based solely on asset condition needs and do not address interconnection upgrades.

- Two additional series breakers could provide approximately 400 MW of additional resources online at Brayton Point substation.
- The project only addresses flooding concerns related to circuit breakers and transformers. Other projects will address other flooding concerns at the station.
- The revised presentation posted on August 20, 2024 did not include substantive changes.
- National Grid will provide more information on its plans to modernize protection and communications systems at Brayton Point substation.
- National Grid is confident that there is room for the additional breakers, including in the gas insulated substation (GIS).

### **Item 3.0 – Railroad Corridor Transmission Line Asset Condition Assessment Update**

Mr. Zach Logan (Avangrid) provided an update on the Railroad Corridor Transmission Line asset condition project. This presentation focused on Segment A, which spans from Fairfield to the Congress substation. Structures have failed asset condition assessments and structural analysis. The Connecticut Siting Council (CSC) approved the project's application in February 2024 but required a design change between Ash Creek and the Eversource connection at structure B648 adjacent to Sasco Creek (referred to as Phase 2), which affects 4 miles on Segment A. The project's estimated total cost is \$397.5M (\$68M increase as a result of the CSC order). Phase 1 has an estimated in-service date of May 2028 and Phase 2 has an estimated in-service date of December 2030.

In response to stakeholder questions, Avangrid issued the following statements:

- The CSC's order to relocate lines 1430 and 1130 stemmed from aesthetic concerns. During the Transmission Cost Allocation process, the Reliability Committee will determine whether it is appropriate to localize or regionalize the associated \$68M cost.
- The project's higher cost per mile is due to the location's congestion and environmental concerns.
- The cost of the project is higher than others referenced by stakeholders due to the segment being in a highly congested area, environmental concerns, and coordination with Metro-North.
- Avangrid considered underground cables, but its cost was an order of magnitude higher and not cost competitive.
- The project's structures will be steel monopoles. Angle and dead end structures will be on foundations, and the rest will be direct buried.
- The total 2024 cost estimate is now \$397.5M, which accounts for an additional \$68M to address the CSC order.
- The Asset Condition List (ACL) provides the most accurate in-service dates for previously installed segments.
- Avangrid will confirm if there were discussions with Metro-North related to moving its facilities to the new structures.
- The standard clearance for lines reflective of areas abutting the line has increased from 15 feet in 2018 to 25 feet in 2024.

The following comments were issued:

- The additional costs that resulted from the CSC order should be localized.

#### **Item 4.0 – 313/343 Asset Condition Refurbishment Project**

Mr. Tony Blanco (National Grid) discussed the asset condition drivers for the refurbishment of the 313 and 343 lines. National Grid conducted ground line, aerial, and cyclical inspections, which identified pole and cross arm degradation, damaged insulators, missing ground wire and other concerns. The inspections indicated 18 “priority reject” structures on line 313 and 52 “priority reject” structures on line 343. As such, National Grid discussed two alternatives, with Targeted Structure Replacement being preferred. The estimated cost for this alternative is \$79.8M, with an estimated in-service date of Q4 2025.

In response to questions, National Grid issued the following statements:

- The project’s scope improves access to the 17-mile corridor of the existing right-of-way (ROW). The improved ROW access will be useful for future asset condition projects.
- A majority of the pole structures were constructed in the mid-1970s and 1980’s.
- This project has a targeted scope and does not include opportunity replacements.
- National Grid conducted ground line inspections rather than relying on the degradation curve to assess structures.

The following comments were issued:

- A stakeholder felt an estimated \$1M per H-frame structure seemed higher than the average in New England.
- A stakeholder suggested it would be helpful to review all Level 3 structures to gain better perspective on future asset condition needs.

#### **Item 5.0 – 2025 RNS Rate Overview and Forecast**

Mr. Jim Augelli (Chair, PTO AC Rates Working Group) provided the annual RNS rate update in accordance with Attachment F of the ISO’s Open Access Transmission Tariff (OATT). The RNS rate increased \$30.92, from \$154.35/kW-year to \$185.28/kW-year. The 2025 RNS rate change was driven by regional project forecasting (\$10.20), annual true-ups (\$13.80), the billing determinant (\$5.21), and other revenue requirements (\$1.71). Additionally, the presentation reviewed the RNS rate’s five-year forecast through 2029, as well as planned asset condition project investments in 2024 and 2025.

There were no questions or comments regarding this topic.

#### **Item 6.0 – Overview of Planned Updates to New England Transmission Owner (NETO) Asset Condition Process Guide (ACPG)**

Mr. Robin Lafayette (Rhode Island Energy), on behalf of the NETOs, provided an update on the recent changes to the ACPG following the April 2024 PAC presentation and subsequent

stakeholder comments. Moving forward, PAC presentations will follow a standard template, including a project’s “primary” and “secondary” needs. Additionally, PAC presentations will provide relevant industry standards, codes, and criteria, as well as review recent ISO studies with correlations to longer-term, reliability, and/or interconnection studies. The NETOs are still developing the PAC presentation template and anticipate sharing a completed version at an upcoming PAC meeting.

In response to questions, the NETOs issued the following statements:

- The NETOs acknowledge the stakeholders’ desire for the timely implementation of the revised PAC presentation template. The NETOs are individually vetting a draft template to ensure it works for each Transmission Owner (TO) specifically. The NETOs plan to provide an update on the template’s implementation timeline at an upcoming PAC meeting.
- The NETOs will review the project’s planning landscapes against recent ISO studies to find any applicable correlations. Prior to PAC meetings, the ISO’s staff reviews and provides feedback on the TOs asset condition presentations.

The ISO issued the following comments:

- The ISO confirmed it would review NETOs cross references to ISO studies for accuracy in future PAC presentations.
- There is a need for future right-sizing discussions between the TOs and the stakeholder community after the region is satisfied with the changes to asset condition materials and information.

Stakeholders issued the following comments:

- Many stakeholders emphasized a need for urgency implementing the revised template into PAC asset condition presentations.
- A stakeholder requested more insight into how the TOs plan to operationalize feedback.
- A few stakeholders voiced the importance of right-sizing discussions coupled with Longer-Term Transmission Planning to improve efficiencies with asset condition maintenance.

#### **Item 7.0 – 2050 Transmission Study: Results from Additional Analysis on Offshore Wind Screening**

Mr. Reid Collins (ISO-NE) provided additional analysis on offshore wind point of interconnection (POI) screening. This analysis identified screening-level constraints using DC thermal analysis. Constraints on injecting offshore wind at multiple POIs simultaneously were identified, providing stakeholders with a best-case estimate of the quantity of offshore wind that could be interconnected at different parts of New England before requiring significant curtailments or transmission upgrades. The ISO plans to publish a summary document containing all of the offshore wind POI results in Q4 2024.

In response to questions, the ISO issued the following statements:

- The presentation provides links to corresponding completed System Impact Studies (SIS) at the applicable POIs.
- The 50 POIs included in this analysis is close to an exhaustive list. A few were not included due to their close proximity to tested locations.
- The Department of Energy's announcement of Grid Resilience and Innovation Partnerships (GRIP) funding extends beyond the scope of this analysis. The ISO indicated areas where GRIP funding could have potential impact within the presentation's footnotes. The ISO will not be performing additional analysis to assess the impact of the GRIP projects.
- In 2034, certain hours could see significant curtailments due to decreases in net load.
- The light load without solar is 12,500 MW.
- The ISO simultaneously tested multiple combinations of eastern New England POIs (Boston, Maine, New Hampshire, SEMA, and Rhode Island). At 12,500 MW of load, additional wind generation beyond the 9,600 tested could not interconnect without curtailing other offshore wind or nuclear units.
- Other constraints may exist outside of the scope of this study.
- The ISO will review recent Queue Position (QP) studies against these results to confirm there are no inconsistencies.
- Battery storage and exports were beyond the scope of this study.
- The 2,400 MW indicated in the single POI summary results does not represent a single source, but rather two 1,200 sources.

#### **Item 8.0 – 2024 Economic Study: Benchmark Scenario & Policy Scenario Assumptions**

Mr. Richard Kornitsky and Ms. Elinor Ross (ISO-NE) presented the Final Benchmark Scenario results, Public Benchmark Scenario, and Policy Scenario Assumptions.

In response to questions, the ISO issued the following statements:

- The 2024 Economic Study will have increasing intra-year capital costs for PV and Batteries as more units are built. This assumption is made to reflect tightness in supply chains/labor and increases in interconnection cost as development grows and derives from the ISO New England Pathways Study. The ISO will confirm internally whether these same assumptions still hold true.
- The Economic Process Improvements Phase 2 process is set to kick off at the Transmission Committee. The Phase 2 Tariff changes will provide a clear process for the Market Efficiency Needs Scenario (MENS). The ISO anticipates a Q2 filing subject to any unforeseen changes.
- The 2024 Economic Study's retirement assumptions are building a baseline.
- The ISO will explore whether price sensitivities correlate to import levels.
- It is challenging selecting import levels absent an inter-regional map. As such, the ISO is open to discussion on the matter.

#### **Item 9.0 – Economic Planning for the Clean Energy Transition (EPCET) Draft Report Publication**



Mr. Patrick Boughan (ISO-NE) presented the key findings from the EPCET draft report for the New England grid.

There were no questions or comments on this topic.

**Item 10.0 – Closing Remarks/Adjourn for the Day**

Ms. Truswell announced the next PAC meeting is on Wednesday, September 18, 2024.

**The meeting adjourned at 2:06 P.M.**

Respectfully submitted,

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Jillian Macura

Secretary, Planning Advisory Committee