

**MINUTES OF THE
PLANNING ADVISORY COMMITTEE (PAC)
MEETING HELD ON APRIL 20, 2023
VIA WEBEX & TELECONFERENCE**

Attendee	Organization
J. Truswell - Chair	ISO New England
J. Macura - Secretary	ISO New England
A. Abdelsamad	Q Cells
M. Ainspan	NRG Power Marketing, LLC
R. Albrect	Consulting Energy
S. Allen	Eversource Energy
P. Asarese	ISO New England
N. Baldenko	Eversource Energy
D. Basler	Chaco Companies
D. Bergeron	Maine PUC
J. Black	ISO New England
C. Bothwel	DOE
P. Boughan	ISO New England
J. Beard	ISO New England
J. Brodbeck	EDPR
J. Burlew	ISO New England
D. Burnham	Eversource Energy
K. Burnham	AEE
D. Cavanaugh	ENE
E. Chapin	Onward Energy
A. Chapin	New Leaf Energy
R. Collins	ISO New England
D. Conroy	RLC Engineering
A. Copland	ISO New England
W. Coste	ISO New England
B. Deonarine	ConEdison
A. DiGrande	ISO New England
B. Donmez	Long road Energy
M. Drzewianowski	ISO New England
L. Durkin	ISO New England
J. Fenn	FENCO LLC
B. Forshaw	Energy Market Advisors, LLC
B. Fowler	Wheelabrator North Andover Inc.; Exelon Generating Company LLC; Nautilus Power; Dynegy Power Marketing, LLC; Entergy Nuclear Power Marketing LLC; Great River Hydro, LLC

A. Gagnon	MA AG
M. Gonzalez	ISO New England
J. Gordon	CPV
R. Guay	Maine PUC
J. Halpin	Eversource Energy
R. Harvey	Institute of Electrical and Electronics Engineers
M. Haskell	Maine Gov
R. Heidon	RTO Insider
P. Holloway	MA DOER
N. Hutchings	ISO New England
J. Iafrati	Customized Energy Solutions
S. Judd	ISO New England
T. Kaslow	First Light Power
S. Keane	NESCOE
K. Kilgallen	Avangrid
A. Kniska	ISO New England
R. Kornitsky	ISO New England
N. Krakoff	CLF
A. Krich	Boreas Renewables
F. Kugell	Central Maine Power Company
R. Lafayette	Eversource Energy
E. Laine	ISO New England
S. Lamotte	ISO New England
A. Lawton	Synapse Energy
P. Lopes	MA AG
X. Luo	ISO New England
T. Martin	New England Power Company
J. Martin	New England Power Company
A. McBride	ISO New England
J. McDiarmid	Advanced Energy United
B. McKinnon	South Hadley Electric Light and Norwood Municipal
S. Molodetz	NextEra Energy
A. Newcomb	Daymark Energy Advisors
A. Nichols	ISO New England
B. Oberlin	ISO New England
R. Panos	National Grid
A. Patel	Eversource Energy
D. Patnaude	Eversource Energy
D. Phelan	NH Energy Gov
H. Presume	VELCO
C. Richards	PPLWeb

E. Roedel	United Illuminating Company
V. Rojo	ISO New England
J. Rotger	Customized Energy Solutions
E. Runge	Day Pitney
K. Schlichting	ISO New England
D. Schwarting	ISO New England
P. Shattuck	Anabarc Development Partners, LLC
J. Slocum	MA Gov
B. Snook	CT DEEP
E. Snyder	Eversource Energy
C. Soderman	Eversource Energy
P. Sousa	Marble River
R. Stein	H.Q. Energy Services
E. Steltzer	Mottmac
B. Swalwell	Tangent Energy
B. Thompson	PPLWeb
P. Turner	CLF
O. Vejzovic	Ultieg
P. Vijayan	ISO New England
S. Welch	Doral, LLC
H. Yoshimura	ISO New England
J. Zhang	ISO New England

Item 1.0 – Chairs Remarks

Ms. Jody Truswell welcomed the committee and reviewed the days’ agenda.

Item 2.0 – E131 Asset Condition Refurbishment

Mr. Rafael Panos (National Grid) presented E131’s asset condition refurbishment project. This 115 kV transmission line originates at the Harriman #8 substation and terminates at the Adams #21 substation. The wood poles show signs of deterioration due to woodpecker damage and splitting pole tops. The estimated total cost is \$138.3 million, with a projected in-service date of Q3, 2027.

In response to Stakeholder questions, National Grid responded with the following:

- On slide 3, blue represents 115 kV and green notates 230 kV.
- National Grid will circle back as to why Bear Swamp uses a 115 kV line.
- This rebuild will reuse the same conductors.

Comments:

- ISO-NE currently does not have a right sizing process in place. ISO-NE is collaborating with New England’s states and Transmission Owners to determine a process for right-sizing upgrades for future rebuilds, which may lean on Phase 2 of the longer-term transmission process.

Item 3.0 – Lines 1132 & 1505 Asset Condition Structure Replacements

Mr. Chris Soderman (Eversource Energy) presented 1132 and 1505's asset condition structure replacements. Eversource aims to replace the 40 remaining wood structures. Inspections indicated the line's wood structures suffered from significant degradation caused by insect/woodpecker damage and pole splitting. The estimated PTF cost is \$13.38 million (-25% / +50%), with an in-service date of Q1, 2024.

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

- The majority of structures being replaced are C & D grade.
- Construction commences end of Q2.

Item 4.0 – Transmission Line Refurbishment Projects K43 Line

Mr. Hantz Presume (VELCO) presented K43's transmission refurbishment project addressing pole degradation. The project seeks to replace 105 out of 245 wood H-frame structures. The total estimated cost is \$16.9 million (+/-10%) PTF and estimated completion is 2026.

In response to Stakeholder questions, VELCO responded with the following:

- Here, project managers could provide a narrow cost estimate because it is in the cost allocation application phase.

Item 5.0 – Economic Planning for the Clean Energy Transition (EPCET) Pilot Study – Status Update & Assumptions for Policy Cases Scenario

Mr. Ben Wilson and Mr. Richard Kornitsky (ISO-NE) presented EPCET's Pilot Study Update and Assumptions for Policy Case Scenarios laid out in Section 17 of the Tariff's Attachment K. The Policy Scenario uses a capacity expansion tool and a production cost tool to project a carbon-reduced system where all energy policies and goals are achieved at the state and/or federal level.

In response to Stakeholder questions, ISO-NE responded with the following:

- ISO-NE is working on RENEW's December PAC request to reevaluate Maine's congestion assumptions and historical comparisons. Modeling is more sensitive than initially anticipated, so there no estimated completion at this time.
- Zonal assumptions are unconstrained in the RSP sub-areas.
- As of right now, ISO-NE is considering one-year horizons for capacity expansion with a time and glide path. The software does have capability to solve multiple years, but it is best for accuracy to take it one year at a time, over long run periods.
- Load forecasting is projected for later assumptions.
- Load assumptions will come from ISO-NE Load Forecasting. In regards to reliability considerations, ISO-NE is actively building out resource adequacy to model how that system would operate. Ancillary services and reserves are modeled directly from production cost run data (ramping/spinning reserves).
- ISO-NE noted it might model existing resources' capital costs within retirement calculations, but that data needed for precise modeling is not yet available.
- ISO-NE uses data from the Energy Information Administration (EIA) to create cost assumptions, adding modifiers to account for transmission cost.
- ISO-NE may provide potential sensitivities modeling Everett's LNG Facility retiring.

Comments:

- A stakeholder expressed concern that not modeling capital costs assumptions for existing resources over a 30-year period could be problematic (*see* slide 10).
- A stakeholder noted not modeling capital costs for state contracted resources could skew economic impressions.

Item 6.0 – Economic Planning For the Clean Energy Transition (EPCET) Pilot Study – Stakeholder-Requested Scenario: Future Grid Reliability Study Phase 2

Mr. Patrick Boughan and Dr. Chris Geissler (ISO-NE) presented EPCET’s pilot study stakeholder-requested scenario, FGRS Phase II.

In response to Stakeholder questions, ISO-NE responded with the following:

- Despite on-going RCA discussion, ISO-NE will not be utilizing interim capacity accreditation modeling for this study.
- In this study, all constraints are modeled together.
- ISO-NE has not yet determined how to proceed with current PPA policy assumptions aside from what was discussed in the Pathways work. ISO-NE welcomes feedback on how to proceed modeling this in the future.
- ISO-NE will use modeling tools from the Pathways Study. However, that approach did not look at the reliability aspect, so the plan is to dig deeper and marry the reliability analysis from FGRS Phase 1.
- Pathways allowed significant negative pricing.
- FGRS Phase 2 will use tools (Plexos, capacity, resource adequacy, resource expansion) and assume different constraints to build out a resource mix that follows a more revenue sufficient construct.
- EPCET’s next section ties in how general policy will work and reserve products will be modeled.
- After initial runs, ISO-NE can determine how to fit ancillary services and reserves into the picture. ISO-NE is still considering how to bring revenue insufficient gaps forward.
- This study is comprised of year-by-year simulations and results. Retirements and constraints are applied in the model (past/future). This is synonymous to traveling along train tracks, rather than jumping forward to another period.

Comments:

- Stakeholders thanked ISO-NE for diligently working to complete this analysis by end-of-year. The FGRS and its results have been of deep interest.
- A stakeholder was concerned about modeling retirements.

Item 7.0 – 2050 Transmission Study – Solutions Development Update

Mr. Reid Collins (ISO-NE) presented a 2050 Transmission Study progress update, covering solution development progress, the approach for detailed cost estimates, defined “high-likelihood” concerns, feedback requests, and next steps.

In response to Stakeholder questions, ISO New England responded with the following:

- Right sizing line K43 does not mitigate the need for an additional parallel line due to system needs.
- ISO-NE hired consultants to help estimate the price for major transmission upgrades in New England. Many line rebuilds and other straightforward upgrades will use a per-mile cost assumption rather than a detailed cost estimate.
- The 2050 Transmission Study does not look at loss of right of way.
- The Timber Swamp to Ward Hill 345 kV line proposal is particularly complex, especially regarding routing decisions.
- The 2050 Transmission Study is not looking at voltage needs, reactive power, or stability.
- ISO-NE is procuring cost estimates for K Street lines.
- ISO-NE is not looking at the probability of particular study conditions or contingencies as part of the 2050 study. Numerical probabilities of system conditions are hard to assign because of the long-range nature of the 2050 study.
- ISO-NE agreed to use circles on slides to indicate the specific line(s) being discussed to avoid confusion.
- ISO-NE is looking at n-1 and n-1-1 for thermal levels.
- As far as loads are attributed, the probability of a given concern is difficult to quantify. However, if concern is seen at load levels from 30 GW to 57 GW, it is reasonable to assume concern in the future; 51 GW led to significant lower overloads.
- The consideration of different technology's competition affecting generation is beyond the scope of the 2050 Transmission Study.
- Generation assumptions from the Energy Pathways for Deep Decarbonization study are static. For this study, the specific generation type does not matter. Instead, the concern falls to interconnection locations and MWs.
- This study is informational and the current process includes development of cost estimates for transmission upgrades for the region in this hypothetical 2050 version but future tariff changes could enable decisions to be made from this information. The study's overall goal is to look at transmission needs and its cost in order to assist the region in long-term decision-making.

Comments:

- A stakeholder raised the issue of thermal overloads and the importance of dynamic converters.
- Multiple stakeholders commented about right sizing. A common theme was that 345 kV lines, rather than 230 kV lines, would be more beneficial to the standardization of the New England region (even if the line initially operates at 230 kV).
- A stakeholder expressed confusion about why the outlined upgrades were best for the area. ISO offered to clear up confusion offline.
- Stakeholder raised concerns about extreme needs testing and high winter cases.
- Stakeholder commented contingency testing could lead to concrete results.

Item 8.0 – 2023 Final Draft Energy and Seasonal Peak Forecasts

Ms. Victoria Rojo (ISO-NE) presented the 2023 final draft energy and seasonal peak forecasts.

In response to Stakeholder questions, ISO-NE responded with the following:

- Results are based on current usage patterns (no muted expectations).

Item 9.0 – Closing Remarks/Adjourn for the Day

Ms. Truswell announced the next Planning Advisory Committee meeting is on Thursday, May 18, 2023.

The meeting adjourned at 1:13 P.M.

Respectfully submitted,

_____/s/____

Jillian Macura

Secretary, Planning Advisory Committee