

**MINUTES OF THE
PLANNING ADVISORY COMMITTEE (PAC)
MEETING HELD ON JUNE 15, 2023
VIA WEBEX & TELECONFERENCE**

Attendee	Organization
J. Truswell - Chair	ISO New England
J. Macura - Secretary	ISO New England
S. Adams	ISO New England
Z. Ahmed	ISO New England
R. Albrect	Consulting Energy
J. Anderson	Eversource Energy
B. Andrew	Eversource Energy
P. Asarese	ISO New England
M. Babula	ISO New England
K. Bane	ISO New England
D. Basler	Chaco Companies
P. Bernard	ISO New England
C. Bothwell	DOE
P. Boughan	ISO New England
J. Beard	ISO New England
J. Brodbeck	EDPR
D. Burnham	Eversource Energy
M. Chapin	Onward Energy
A. Chaplin	New Leaf Energy
W. Coste	ISO New England
N. Cote	Eversource Energy
T. Dalakos	RWE
F. Dallorto	ISO New England
B. Donmez	Long Road Energy
M. Drzewianowski	ISO New England
L. Durkin	ISO New England
J. Fenn	FENNCO LLC
A. Feygin	ISO New England
B. Forshaw	Energy Market Advisors
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
J. Frost	Synapse Energy
M. Gonzalez	ISO New England
J. Gordon	CPV

R. Guay	Maine PUC
R. Harlan	Onward Energy
R. Harvey	IEEE
M. Haskell	Maine PUC
H. Hunt	NESCOE
N. Hutchings	NextEra Energy
J. Iafrati	Customized Energy Solutions
S. Judd	ISO New England
T. Kaslow	First Light Power
S. Keane	NESCOE
R. Kornitsky	ISO New England
F. Kugell	Central Maine Power Company
S. Lamotte	ISO New England
G. Larangeria	ISO New England
L Loopman	VELCO
P. Lopes	MA DOE
X. Luo	ISO New England
J. Martin	New England Power Company
T. Martin	New England Power Company
A. Mechery	ISO New England
B. Oberlin	ISO New England
L Oliveira	ARUP
A. Patel	Eversource Energy
D. Patnaude	Eversource Energy
M. Perben	ISO New England
J. Porter	National Grid
H. Presume	VELCO
E. Ross	ISO New England
J. Rotger	Customized Energy Solutions
E. Runge	Day Pitney
H. Saarela	ISO New England
M Saravanan	ISO New England
D. Schwarting	ISO New England
M. Scott	National Grid
J. Slocum	MA Dept. Transportation
C. Soderman	Eversource Energy
P. Sousa	South Coast Wind
R. Stein	H.Q. Energy Services
Z Teti	Avangrid
B. Thomson	PPLWEB
M Valencia-Perez	ISO New England
P. Vijayan	ISO New England

B. Wilson	ISO New England
H. Yoshimura	ISO New England
J. Zhang	ISO New England

Item 1.0 – Chairs Remarks

Ms. Jody Truswell welcomed PAC and reviewed the day’s agenda. On behalf of the Environmental Advisory Group (EAG), Ms. Truswell asked PAC members to complete an email survey to help improve emissions reporting.

Item 2.0 – Net ICRs, Representative Future Net ICRs, and Operable Capacity Analysis

Helve Saarela & Gui Larangeira (ISO-NE) provided an overview of the Representative Net ICRs and Op Cap analysis under 50/50 and 90/10 seasonal demand peaks.

In response to stakeholder questions, ISO-NE provided the following statements:

- Import levels were calculated based on FCA 17.
- The winter months are modeled from October through May.
- GE MARS modeling has shown some winter load risk, noting the Winter LOLE percentage of risk rises from .02 in CCP 2028-29 to 23% in CCP 2032-33. New England could experience a future system where winter load is higher than summer load.
- The ISO utilizes an internal tool for the gas sector and utility loads based off of weather. The tool allows the ISO to determine whether residual gas pipeline capacity after firm gas contracts have been satisfied on peak days.
- The ISO assumes LNG runs as one continuous system.
- ISO includes state sponsored policy resources in the Representative ICR, not the OP Cap analysis.
- The ISO’s monthly forced outage analysis is based on historical data, not specific fuel types.

The following comments were issued:

- A stakeholder noted their strong objection to ISO’s use of “tie-benefits” on slide 22 due to its association to Action 5.
- A stakeholder raised concern about “double dipping” data when projecting winter fuel shortages, stating unit outages could be accounted for in both planned and unplanned outages.

Item 3.0 – Economic Planning for the Clean Energy Transition (EPCET) Pilot Study

Ben Wilson (ISO-NE) presented a Policy Scenario Assumption Update based on stakeholder feedback. Here, fixed O&M costs were implemented into the expansion modeling (existing/new generating resources), as well as, declining capital cost over time. This accounts for new technology developments and new generating resources’ supply chain.

In response to stakeholder questions, ISO-NE provided the following statements:

- EPCET modeled 4-hour and 8-hour batteries, but ISO plans to include longer storage durations in future modeling.
- EPCET has several months until completion and the ISO is still determining modeling parameters, such as options for the capacity expansion tool.
- In 2050, the high cost of de-carbonization is attributed to an overbuilt system.
- Imports are modeled bi-directionally based on historical trends and export capabilities
- The ISO has the capability to include Resource Adequacy Assessments (RAA) in EPCET's future modeling, but the EPCET team will use tools other than GE MARS, such as PLEXOS.
- The next round of modeling will utilize ISO-NE load-forecasting profiles.
- If ISO observes zero cost energy 70+ percent of the hours, the ISO would consider whether a marginal cost based energy capacity reserve construct could work.
- The modeling assumes no additional retirements outside of the initial assumptions. The ISO plans to do future modeling focused on retirements.
- David Burnham (Eversource Energy) inquired why ISO highlighted Hybrid pricing (see slides 24-28), rather than REC or carbon pricing, in its presentation. Ben Wilson (ISO-NE) stated this option offered a high-level middle ground.
- The data displayed on slide 32 is a very high-level analysis. Here, ISO modeled more offshore wind connecting to the system in Boston than what was modeled in the 2050 Transmission Study, so the Boston interface is not as problematic.

The following comments were issued:

- A stakeholder thanked the ISO for the useful information provided in this presentation.
- A stakeholder commented that last 2% of carbon emissions reductions will be as expensive the other 98% total costs.
- A stakeholder suggested using 2-hour battery storage in 2050 could be better than longer durations.
- A stakeholder suggested the ISO model renewable fuels in the study to help fill in any gaps.
- A stakeholder recommended the ISO could model the 2050 decarbonized grid against a non-decarbonized one, noting the benefits to distinguishing de-carbonization costs versus overall grid expansion costs necessary to meet peak.
- A stakeholder suggested the ISO model a variety of costs and durations for batteries to encouraged additional research to diversify technology types.

Item 4.0 – 1704/1722 Underground Cable Rebuild Project

Mr. Chris Soderman (Eversource Energy) presented the 1704/1722 Underground Cable Rebuild Project. HPFF cables on lines 1704 & 1722 are past industry-accepted useful life of 40 years. Recent line inspections indicated significant vaults/ducts deterioration, ultimately posing long-term reliability concerns. Eversource's preferred solution (Alternative 2) has a total estimated cost of \$301.6M (-25/+50%) and an in-service date of Q4, 2026.

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

- Eversource's estimates include new ducts due to HPFF concern. It is not feasible to reuse existing pipes.
- Reconductoring is not a viable option because smaller XLPE inside pipes would cause a de-rating.
- Eversource has HPFF programs that focus on implementing broader efficiencies system wide. The process is typically drawn out because of limited suppliers and contractors, and the location of many pipes that need to be replaced are in the most congested parts of the system. Coordination is essential for this type of project.
- Eversource is going in front of Connecticut Siting Council this year and construction is anticipated to begin in early 2024.

The following comments were issued:

- For Alternative #1, Eversource could conduct magnetic testing to get an idea of thin walls and proceed with repairs strategically.

Item 5.0 – Eversource Laminated Wood Structure Replacement Program Phase III

Mr. Chris Soderman (Eversource Energy) presented Eversource's Laminated Wood Structure Replacement Program Phase III. The project seeks to replace 771 laminated wood structures and 64 natural wood structures with weathering steel structures across 10 New Hampshire 115 kV transmission lines. Notably, Eversource will install 31.07 circuit miles of OPGW on Lines A164, R169, F162, G146 & I158. The project's total estimated cost is \$269.88M (-25/+50).

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

- A previous program replaced many vintage 1970s structures after 2014.

Item 6.0 – Deerfield 345/115 kV Relay Upgrades

Mr. Nathan Cote (Eversource Energy) presented Deerfield's 345/115 kV Relay Upgrades. Eversource seeks to replace 15 relays (14 GE, 1 SEL) with new SEL relays. Two existing SEL relays will be modified and PLC equipment (including wave traps and line tuning units) will be removed. The project's estimated PTF cost is \$5.47 Million (-25% / +50%) with an in-service date of Q2, 2025.

There were no stakeholder questions.

Item 7.0 – RSP Project List and Asset Condition List June 2023 Update

Mr. Zeeshan Ahmed (ISO-NE) presented the RSP Project List updates highlighting cost estimate changes occurring between March and June 2023 that were greater than \$5M.

In response to stakeholder questions, ISO-NE provided the following statements:

- The ISO will think about an asset condition presentation organized by company.

Item 8.0 – 2023 Public Policy Transmission Upgrade Process

Mr. Brent Oberlin (ISO-NE) concluded the 2023 Public Policy Transmission Upgrade Process, stating a PPTS will not be conducted this year. This determination was made based on NESCOE and state feedback.

There were no stakeholder questions.

Item 9.0 – Closing Remarks/Adjourn for the Day

Ms. Truswell announced the next PAC meeting is on Tuesday, July 25, 2023.

The meeting adjourned at 11:59 A.M.

Respectfully submitted,

_____/s/____

Jillian Macura

Secretary, Planning Advisory Committee