

**Planning Advisory Committee  
WebEx Teleconference  
July 22, 2021**

Attendee	Organization
J. Truswell - Chair	ISO New England Inc.
M. Lyons - Secretary	ISO New England Inc.
M. Ainspan	NRG
R. Albrecht	National Diesel Bio Board
S. Allen	Eversource Energy
B. Anderson	NEPGA
R. Andrew	Eversource Energy
E. Annes	Connecticut Public Utilities Commission
K. Bashford	ISO New England Inc.
D. Bergeron	Maine Public Utilities Commission
P. Boughan	ISO New England Inc.
J. Breard	ISO New England Inc.
D. Burnham	Eversource Energy
E. Camp	Synapse Energy Economics Inc.
D. Capra	NESCOE
D. Cavanaugh	Energy New England
D. Chatterjee	Eversource Energy
R. Collins	ISO New England Inc.
W. Coste	ISO New England Inc.
F. Dallorto	ISO New England Inc.
B. D'Antonio	NESCOE
J. Dong	Eversource Energy

M. Drzewianowski	ISO New England Inc.
F. Etori	VELCO
J. Fairchild	Avangrid
B. Forshaw	CMEEC
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. Frayer	London Economics
N. Gangi	Eversource Energy
S. Garwood	New Hampshire Transmission
M. Gonzalez	ISO New England Inc.
P. Holloway	Massachusetts Department of Public Utilities
S. Judd	ISO New England Inc.
S. Kaminski	New Hampshire Electric CoOp
S. Kaplan	Marble River
T. Kaslow	First Light Power Management
S. Kirk	Exelon Generation Company
A. Kniska	ISO New England Inc.
R. Kornitsky	ISO New England Inc.
N. Krakoff	Conservation Law Foundation
B. Kruse	Calpine
P. Lopes	Massachusetts DOER
J. Lucas	Eversource Energy
E. Mailhot	ISO New England Inc.
T. Martin	New England Power Company
A. McBride	ISO New England Inc.

B. McKinnon	Norwood Municipal, South Hadley Municipal
A. Mitchell	New England Power Company
A. Nichols	ISO New England Inc.
B. Oberlin	ISO New England Inc.
K. O'Hora	Eversource Energy
R. Panos	New England Power Company
T. Paradise	Anbaric
H. Presume	VELCO
J. Rotger	Galt Power, Cross Sound Cable, BP Energy, Mercuria Energy and DTE Energy
E. Runge	Day Pitney
M. Saravanan	ISO New England Inc.
A. Sarmadi	New England Power Company
K. Schlichting	ISO New England Inc.
D. Schwarting	ISO New England Inc.
C. Sedlacek	ISO New England Inc.
C. Sickinger	Connecticut DEEP
R. Snook	Connecticut DEEP
C. Soderman	Eversource Energy
P. Sousa	Massachusetts Department of Public Utilities
M. Spencer	Jericho Power
K. Sreenivasachar	ISO New England Inc.
R. Stein	Generation Group Member, NRG Power Marketing, HQ Energy Services, PSEG Energy Resources & Trade, SunEdison
B. Swalwell	Tangent Energy
Z. Teti	Avangrid

B. Thomson	MMWEC
R. Vega	ISO New England Inc.
A. Weinstein	Dynegy Marketing and Trade

### **Item 1.0 – Chairs Remarks**

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

Ms. Dorothy Capra (NESCOE) made a request for stakeholder comments regarding their NESCOE ONE Transmission concept presented at the April 14, 2021 PAC meeting. The NESCOE proposal combines reliability planning with public policy. Please submit comments to [PACMatters@iso-ne.com](mailto:PACMatters@iso-ne.com) by July 30, 2021.

### **Item 2.0 – C-129N 115 kV Line (Millbury #2 to Beaver Pond) Fiber Installation Project**

Mr. Rafael Panos (New England Power) reviewed the C-129N 115 kV Line (Millbury #2 to Beaver Pond) Fiber Installation Project.

There were no questions from the committee on this topic.

### **Item 3.0 – X-176 115 kV Line (Ludlow to Palmer) Asset Condition Project**

Mr. Rafael Panos (New England Power) reviewed the X-176 115 kV Line (Ludlow to Palmer) Asset Condition Project.

There were no questions from the committee on this topic.

### **Item 4.0 – 478-508 and 478-509 115 kV Lines Asset Condition and Optical Ground Wire (OPGW) Project**

Mr. Chris Soderman (Eversource Energy) reviewed the 478-508 and 478-509 115 kV Lines Asset Condition and OPGW Project.

In response to a stakeholder question, Eversource stated that this portion of the 478-508 & 478-509 do not have structures capable of handling 230 kV transmission lines. There is another portion of the line that is capable of handling 230 kV transmission lines.

### **Item 5.0 – 282-520 and 282-521 115 kV Lines High Pressure Fluid Filled (HPFF) Cable Refurbishment Project**

Mr. Chris Soderman (Eversource Energy) reviewed the 282-520 and 282-521 115 kV Lines HPFF Refurbishment Project.

In response to stakeholder questions, Eversource provided the following comments;

- This project plans to address the manhole entry point corrosion issues in addition to the pipe corrosion. Q – What does LPP stand for?
- LPP is an acronym for Laminate Paper Polypropylene.
- The expected life cycle for the cable is estimated to be 40 years. However, that timeframe could be impacted by local environmental issues.

## **Item 6.0 – 2021 Economic Study – Future Grid Reliability Study Phase I – Preliminary Production Cost Results – Part 2**

Mr. Patrick Boughan and Mr. Richard Kornitsky (ISO-NE) reviewed the 2021 Economic Study – Future Grid Reliability Study Phase I – Preliminary Production Cost Results – Part 2.

The presentation reviewed the second round of preliminary production cost results for the various scenarios in the 2021 Economic Study. The presentation reviewed a variety of scenario assumptions regarding resource retirements, on shore wind additions, transmission topology and load profiles. It also reviewed load assumptions for gross load, EE as well as heating and electrification magnitudes. The final assumptions included solar, off shore wind and energy storage additions. In the scenarios that have a shortfall of resources to serve load, an LMP of \$5,455/MWH will be applied reflection the Capacity Performance Payment Rate if scarcity conditions occur. The presentation also provided follow up responses to stakeholder questions on the topic from the June PAC meeting. The responses focused on dispatchable generation during curtailments, a revision to reflect the 2019 weather year, and energy banking and return. There was a detailed review using many different charts and graphs to represent the various scenarios and conditions that were studied. The remaining preliminary production cost results will be presented at the August PAC. Preliminary ancillary services analysis results will be presented at the September PAC. Preliminary probabilistic (MARS) analysis will be presented at the October PAC. Stakeholders will have an opportunity to discuss any assumption modifications at the November and December PAC meetings. Results for probabilistic analyses and final round of production cost and ancillary services are expected in Q3/Q4 2021. Most of the stakeholder questions focused on the meanings of some of the charts and graphs. The representative from Anbaric requested that Scenario 3 include more battery storage, similar to Alternatives D & E. Another scenario should include the amount of wind curtailments at various injection points such as Cape Cod, Boston, and Bridgeport etc... This could show how effective the off shore wind facilities are based on how much curtailment there is a various injection points.

## **Item 7.0 – RSP 21 Timeline and Process for Stakeholder Comments**

Ms. Carissa Sedlacek (ISO-NE) provided some brief remarks regarding the RSP 21 timeline and the stakeholder process for submission of comments on the report. There were two posted documents with today's meeting materials that will not be presented. The first is a draft of RSP21 report that is being shared to solicit stakeholder feedback. The second is the comment form we are requesting stakeholder to use, when providing feedback. The comment form is the same as was used for RSP19.

RSP21 will look a bit different from previous RSP's. Based on stakeholder survey results, there was a desire for a more streamlined report, focusing on future planning initiatives. The length of the report was reduced by 1/3. The document includes hyperlinks embedded in the body of the report rather than numerous footnotes.

Stakeholders should provide comments to ISO-NE by August 3, 2021 and should be sent to PACMatters@iso-ne.com with the reasons to support any changes to the RSP 21 report. ISO will review stakeholder comments at the August 18, 2021 PAC meeting. ISO's goal is to finalize the report by the end of September 2021 in preparation for the October 6, 2021 virtual Public Meeting.

**Item 8.0 – Transmission Planning for the Clean Energy Transition: Pilot Study Results**

Mr. Dan Schwarting, Mr. Andrew Kniska and Ms. Meena Saravanan (ISO-NE) reviewed the Transmission Planning for the Clean Energy Transition: Pilot Study Results.

The presentation reviewed further results from the Transmission Planning for the Clean Energy Transition (TPCET) Pilot Study since the June 16 PAC meeting. The presentation also discusses various strategies to prevent DER from tripping due to transmission system faults as well as future work and schedule for completion of the TPCET Pilot Study. The presentation reviewed the steady state condition of the Stoughton to K Street 3435 kV cable loading that connects SEMA and the high level of off shore wind interconnection to the area, to the Boston area. Study results shows overloading on the cables during the summer weekday mid-day peak load condition with high renewables. To relieve the overload, significant curtailments would be needed for both renewable and fossil fuel resources in the SEMA/RI area. Currently this will not have an impact on reliability as there enough resources outside of SEMA/RI to cover the curtailments. The loss of DER solar installations during and after transmission system faults is the primary stability concern in the TPCET Pilot Study. There are a number of potential mitigation strategies that could mitigate the DER losses. The first is to reduce the PV output under minimum load conditions during the shoulder months. Second, is using generators as synchronous condensers. Finally, the use of newer DERs operating with voltage control capability could possibly support distribution voltage during/after the fault and keep older DERs from tripping. The pilot study will continue to perform steady state analysis and stability analysis.

The August PAC will have the final presentation on steady state and stability results as well as a proposal for new study assumptions for load, solar generation, and wind generation. The September PAC will finalize and document new study conditions for load, solar generation, and wind generation. The representative from Anbaric questioned if ISO should be looking at future transmission upgrades for the SEMA/RI and NEMA areas due the anticipated penetration of off shore wind. ISO agreed with that proposal but they are not technically considered a need because we can meet area load with the resources we have. The ISO-NE Planning group is going to be looking at this constraint in detail to figure out how much of a problem it will become as we add offshore wind. This would tell us if it should/could be pursued as an economic or public policy upgrade rather than a reliability upgrade. Similar comments were raised at last month's PAC meeting. In response to another stakeholder question, ISO stated that the study year is 2031 and we are looking at three light and three peak load conditions with a variety of renewable resources

in the mix. A stakeholder also recommended that we consult with our neighboring control areas regarding the impacts of large-scale DER tripping events to us and to them.

**Item 9.0 – Closing Remarks**

The next PAC meeting will be Wednesday, August 18, 2021 via WebEx Teleconference.

**Meeting Adjourned at 1:35 PM**

Respectively submitted,

Marc Lyons  
Secretary, Planning Advisory Committee