

**Planning Advisory Committee
WebEx Teleconference
August 18, 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
R. Andrew	Eversource Energy
E. Annes	Connecticut Public Utilities Commission
D. Bergeron	Maine Public Utilities Commission
P. Bernard	ISO New England Inc.
J. Breard	ISO New England Inc.
J. Brodbeck	Marble River
D. Burnham	Eversource Energy
E. Camp	Synapse Energy Economics Inc.
D. Capra	NESCOE
J. Cebrik	Avangrid
R. Collins	ISO New England Inc.
D. Conroy	RLC Engineering
K. Davenport	Avangrid
M. Drzewianowski	ISO New England Inc.
F. Etori	VELCO
K. Flynn	ISO New England Inc.
E. Foley	ISO New England Inc.

B. Forshaw	CMEEC
G. Ghanavati	Eversource Energy
M. Gonzalez	ISO New England Inc.
J. Gordon	CPV Towantic
L. Guilbault	HQ US
G. Hollis	NextEra Energy Marketing
P. Holloway	Massachusetts Department of Public Utilities
N. Hutchings	ISO New England Inc.
J. Iafrati	Customized Energy Solutions
B. Jagolinzer	Avangrid
E. Johnson	ISO New England Inc.
S. Judd	ISO New England Inc.
S. Kaminski	New Hampshire Electric CoOp
T. Kaslow	First Light Power Management
S. Kirk	Exelon Generation Company
A. Kniska	ISO New England Inc.
N. Krakoff	Conservation Law Foundation
A. Krich	Boreas Renewables
B. Kruse	Calpine
K. Kumar	ISO New England Inc.
S. Lamotte	ISO New England Inc.
P. Lopes	Massachusetts DOER
J. Lucas	Eversource Energy
K. Mankouski	ISO New England Inc.
A. McBride	ISO New England Inc.

B. McKinnon	Norwood Municipal, South Hadley Municipal
J. Moskal	U.S. EPA
D. Nelson	Massachusetts DPU
A. Nichols	ISO New England Inc.
B. Oberlin	ISO New England Inc.
K. O'Hora	Eversource Energy
L. Ortiz	Anbaric Development Partners
H. Presume	VELCO
J. Reardon	ISO New England Inc.
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
J. Saunders	EDP Energy
K. Schlichting	ISO New England Inc.
D. Schwarting	ISO New England Inc.
C. Sedlacek	ISO New England Inc.
P. Shattuck	Anbaric Development Partners
P. Silva	ISO New England Inc.
R. Snook	Connecticut DEEP
P. Sousa	Massachusetts Department of Public Utilities
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
F. Walsh	Avangrid
A. Weinstein	Dynegy Marketing and Trade
P. Wong	ISO New England Inc.
A. Worsley	Transmission Analytics
J. York	New England Energy Connection
J. Zhang	ISXO New England Inc.

Item 1.0 – Chairs Remarks

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

Item 2.0 – Singer 345 kV Substation – Flood Mitigation Project Update

Ms. Katelyn Davenport (UI/Avangrid) provided an update regarding the Singer 345 kV Substation Flood Mitigation Project. The presentation explained the interaction between UI’s proposed project and the Bridgeport Area Resiliency Project funded by HUD. The status of the Bridgeport Area Resiliency Project remains unclear and the project is not being designed to meet the ISO’s flood recommendation described in ISO-NE PP 4. UI’s floodwall elevation (approx. 11ft 6in) will be built to the 100-year plus 3 feet requirement. Construction is proposed to start in the Q1 2023. Project costs are expected to be \$24M for both PTF and non-PTF (+10/-10%).

In response to stakeholder questions, the Avangrid representative provided the following statements:

- Avangrid is reviewing other substations in the UI service area to assess to the need for flood potential and remediation. Avangrid has identified five additional substations that are at risk and are being addressed separately.
- Avangrid will not need to submit a PPA for any substation work that is associated as part of potential flood mitigation. However, a TCA will be submitted for any work of this type greater than \$5M.

- A stakeholder commented that Avangrid should check the insurance requirements for issues related to flood mitigation. Some insurance requirements are being revised to a 500-year level in flood prone areas that will require requiring flood mitigation.

Item 3.0 – Transmission Planning for the Clean Energy Transition: Pilot Study Results and Proposed Changes to Assumptions

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

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

- A question was raised regarding the use of the proposed new assumptions in DER cluster studies. The Transmission Owners and the Reliability Committee are performing the analysis as part of the significant increase in renewables coming on line and these studies are reviewed by ISO-NE and the Reliability Committee. They are also considering including potential system load conditions as part of the interconnection review but the changes proposed in the TPCET effort will not directly affect those studies at this time.
- The primary scenario for DER generators tripping off line is due to under-voltage conditions caused by a fault during daytime minimum load conditions.
- ISO-NE has not performed a specific analysis of what year the DER generation tripping becomes a significant issue. We do know that the addition of reactive devices can mitigate the issue.
- ISO-NE has not had any direct discussions with the inverter manufacturers regarding the equipment specifications, but ISO-NE does have some inverter manuals that have provided some information regarding trip times.
- The DER parameters in the stability models are considered CEII.
- In regards to the costs of shunt reactors, ISO-NE anticipates that there will be one or two circuit breakers needed to be installed along with the shunt reactor. The costs of recent installations are similar of what ISO expects in the future.
- In regards to the upgrades mentioned on slide 22 of the presentation, these are the results of the pilot study and not a Needs Assessment. Those upgrades will be addressed as part of future Needs Assessment, Solution Studies, or RFP's.
- ISO-NE will consider to oversize future projects. In regards to fewer synchronous generators, cost efficiency could be achieved by changing the tariff so that any synchronous condensers that may be needed to support non-synchronous generators could have cost recovery captured through RNS. However, this could mean a significant revision to the Tariff. VELCO and Boreas Renewables echoes Bob comments for the

need for additional synchronous condensers to support the increasing penetration of non-synchronous resources.

- ISO-NE has considered that there may be thermal issues because of large numbers of DER installations that are not covered by ISO-NE or Transmission Owner interconnection process. If these issues arise, they will be addressed in a manner similar to a Needs Assessment.
- DER resources are being classified as everything from rooftop solar, less than 5 MW resources.
- ISO-NE agreed to discuss with the Load Forecast department on how they plan to collect the data to account for the trends in solar development for oversizing panels for both BTM and utility scale projects.
- Regarding the DER assumptions and their locations, ISO-NE is currently using geographic estimates based on DER location by city/town and transmission substation locations. We are moving toward including the specific locations of the DERs as well as the interconnecting substations. We plan to roll out the more accurate locations over the next year as data becomes available from transmission owners and distribution utilities.
- In regards to the next steps of the Pilot Program, SEMA/RI is being studied using the Transmission Planning Guide assumptions. We are planning to present those needs at the October PAC. We will see then if any adjustments need to be made because of the Pilot Study assumptions. We will treat these on a case-by-case basis. We will probably be using the Pilot Study assumptions for any

Additional stakeholder comments included:

- In regards to the addition of synchronous condensers, cost efficiency could be achieved by changing the tariff so that any synchronous generators that may be needed to support non-synchronous generators could operate as synchronous condensers and have cost recovery captured through the RNS rate. However, this would require a significant revision to the Tariff.
- Stakeholders expressed thanks for the ISO-NE efforts in putting together the Pilot Program study.

Item 4.0 – RSP 21 Process Update and Stakeholder Comments Review

Ms. Carissa Sedlacek (ISO-NE) reviewed the draft RSP 21 document and provided a Stakeholder Comment Review. This review is in preparation for the RSP 21 Public Meeting on October 6, 2021 where ISO will receive final stakeholder feedback. Most of the initial stakeholder feedback was accepted by ISO and will be added to RSP 21. ISO also provided reasons for any stakeholder feedback that was rejected. Changes to RSP 21 from previous RSP editions include streamlined RSP chapters, enhanced readability by adding hyperlinks to replace lengthy

footnotes. Greater focus has been placed on new and timely issues, as well as enhanced utilization of the ISO-NE website so that readers can easily find additional topic details.

- Stakeholders such as RENEW and NESCOE provided clarification to some of their comments that were partially rejected and requested to work off-line with ISO to rework the language in their comments so they could be included as part of the final RSP 21. ISO agreed to work with the stakeholder with any open questions or issues they may have.
- Stakeholders expressed thanks for putting together the stakeholder comment review and working with the submitters to clarify their observations on the Draft RSP 21 Report.

Ms. Sedlacek request that any additional comments regarding the Draft RSP 21 Report be submitted to ISO no later than Friday, August 27, 2021.

Item 5.0 – Closing Remarks

The next PAC meeting will be Wednesday, September 22, 2021 via WebEx Teleconference.

Ms. Truswell also reminded the committee to follow the established CEII protocols when trying to access PAC meetings. Please dial in 15 minutes prior to the start of the meeting and clearly announce you full name and organization when prompted. This will result in quicker processing through the waiting room and prevent delays for other individuals trying to access the meeting.

Meeting Adjourned at 1:05 PM

Respectively submitted,

Marc Lyons
Secretary, Planning Advisory Committee