

**Planning Advisory Committee
WebEx Teleconference
December 15, 2021**

Attendee	Organization
J. Truswell - Chair	ISO New England Inc.
M. Lyons - Secretary	ISO New England Inc.
S. Allen	Eversource Energy
B. Anderson	NEPGA
R. Andrew	Eversource Energy
E. Annes	Connecticut Public Utilities Commission
C. Belew	Massachusetts Attorney General Office
D. Bergeron	Maine Public Utilities Commission
P. Bernard	ISO New England Inc.
P. Boughan	ISO New England Inc.
J. Breard	ISO New England Inc.
M. Birchard	Acadia Center
J. Burlew	ISO New England Inc.
D. Burnham	Eversource Energy
D. Capra	NESCOE
D. Cavanaugh	Energy New England
R. Collins	ISO New England Inc.
W. Coste	ISO New England Inc.
J. Dannels	Shell Energy
B. D'Antonio	NESCOE
F. Deing	Eversource Energy

M. Drzewianowski	ISO New England Inc.
J. Fenn	Versant Power
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
N. Gangi	ISO New England Inc.
J. Gordon	CPV Towantic
B. Griffiths	Jericho Power
L. Guilbault	HQ US
G. Hollis	NextEra Energy Marketing
D. Hurley	Synapse Economics
J. Iafrati	Customized Energy Solutions
S. Judd	ISO New England Inc.
S. Kaminski	New Hampshire Electric CoOp
S. Keane	NESCOE
S. Kirk	Exelon
A. Kniska	ISO New England Inc.
R. Kornitsky	ISO New England Inc.
M. Kotha	ISO New England Inc.
N. Krakoff	Conservation Law Foundation
A. Krish	Boreas Renewables
B. Kruse	Calpine
F. Kugell	Avangrid
E. Laine	ISO New England Inc.
S. Lamotte	ISO New England Inc.

J. London	Eversource Energy
J. Lucas	Eversource Energy
T. Lundin	LS power
J. Martin	New England Power Company
T. Martin	New England Power Company
B. Marszalowski	ISO New England Inc.
A. Memic	Eversource Energy
A. Mitreski	Brookfield Renewables
A. Nichols	ISO New England Inc.
B. Oberlin	ISO New England Inc.
K. O'Hora	Eversource Energy
R. Panos	New England Power Company
H. Presume	VELCO
S. Rastegar	ISO New England Inc.
C. Richards	PPL Energy Plus
J. Rotger	Galt Power, Cross Sound Cable, BP Energy, Mercuria Energy and DTE Energy
E. Runge	Day Pitney
D. Schwarting	ISO New England Inc.
K. Scully	ISO New England Inc.
C. Sedlacek	ISO New England Inc.
P. Shattuck	Anbaric Development Partners
P. Silva	ISO New England Inc.
J. Slocum	Massachusetts Department of Public Utilities
R. Snook	Connecticut DEEP
C. Soderman	Eversource Energy

P. Sousa	Marble River
R. Stein	Generation Group Member, NRG Power Marketing, HQ Energy Services, PSEG Energy Resources & Trade, SunEdison
D. Thompson	Connecticut OCC
B. Thomson	MMWEC
P. Turner	Conservation Law Foundation
A. Weinstein	Dynegy Marketing and Trade
B. Wilson	ISO New England Inc.
P. Wong	ISO New England Inc.
A. Worsley	Transmission Analytics
F. Zeng	ISO New England Inc.

Item 1.0 – Chairs Remarks

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

Item 2.0 – V-174 (Carpenter Hill – Millbury #2) 115 kV Line Asset Condition Needs & Optical Ground Wire (“OPGW”) Installation

Mr. Raphael Panos (New England Power) reviewed the V-174 (Carpenter Hill – Millbury #2) 115 kV Line Asset Condition Needs & Optical Ground Wire (“OPGW”) Installation.

There were no questions from the committee on this topic.

Item 3.0 – M-139/N-140 (Tewksbury #22 – Woburn) 115 kV Lines Pilot Protection Schemes

Mr. Rafael Panos (New England Power Company) reviewed the M-139/N-140 (Tewksbury #22 – Woburn) 115 kV Lines Pilot Protection Schemes Project.

Eversource requested that New England Power coordinate with them regarding the fiber/telecom portion of the project at Woburn.

Item 4.0 - Eversource 115 kV and 345 kV Structure Replacements

Mr. Chris Soderman (Eversource Energy) provided a review of the Eversource 115 kV and 345 kV Structure Replacements.

There was a stakeholder comment that the Consumer Advocate clients are becoming frustrated with the costs associated with the extensive structure replacements by the New England Transmission Owners in the region. There was a request that the projects be reviewed for to keep the project costs down or spread the projects further out in order to keep the transmission rates down for the customers.

Item 5.0 – Edgar Station 150 Brown Glass and Obsolete Equipment Replacement

Mr. Paul Melzen (Eversource Energy provided a review of the Edgar Station 150 Brown Glass and Obsolete Equipment Replacement Project.

In response to a stakeholder question, Eversource stated that there could be similar projects that come forward in the coming months or years because the larger stations will need to be fully inspected.

Item 6.0 – 2021 Economic Study Phase I – Future Grid Reliability Study (“FGRS”) – Probabilistic Resource Availability & Resource Adequacy Screen Results – Part 3

Mr. Fei Zeng, Mr. Steven Judd and Ms. Manasa Kotha (ISO-NE) reviewed the 2021 Economic Study Phase I – Future Grid Reliability Study (“FGRS”) – Probabilistic Resource Availability & Resource Adequacy Screen Results – Part 3.

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

- As a result of the revisions on slide 5 of the presentation, we do expect some minor changes to the results. Those results will be captured as part of the final study report.
- The study assumptions could be anything we want for the year 2040. The results are arbitrary until we get some solid scientific data from EPRI.
- ISO-NE took the revised proposal regarding the impacts of extreme weather events. We ran a case for snowstorm and hurricane events. The results showed that it may not be valuable or insightful to run extreme weather events for all the scenarios.
- ISO-NE determines “at criterion” by bringing the system to Loss of Load Expectation (LOLE) of 0.1 days/year. In order to get to that condition, we may need to add generic proxy units.
- ISO-NE does not feel that the assumption of removing 90% of the load during a hurricane for a week is excessive. Dependent on the strength of the storm, we are assuming that there will be significant coastal damage to generation and transmission and that where the majority of regional load is located. We have broken it out into two impacted “zones”. The southern zone of CT/SEMA/RI and the northern zone of Boston/NH/ME.
- Eversource agreed to review the ratings on the light duty steel transmission poles and if they could be impacted during a significant hurricane. A stakeholder mentioned that the DOE/NRIL is performing a study that is looking into those potential impacts.
- As part of the calculation for LOLE in each of the scenarios, we don’t include any storm event for the base case. We calculate load loss based on expected damage from the storm and recovery time dependent on what time of the year the storm hit in the sensitivity cases.

Stakeholders had a number of comments regarding the presentation:

- On slide 48 where each of the sensitivities for the LOLE is greater than 0. Days/year, ISO-NE should consider adding a proxy resource to get it back to 0.1.
- It is my understanding that the regulators and consumers are not tolerant of long duration outages due to storm damage.
- In regards to the changing away from the extreme weather events to make them less impactful, perhaps we have gone too far in eliminating the extreme storm impacts because not every storm is a 1 in 100-year event, but there are significant storm impacts in the region due to severe weather.
- ISO-NE should consider the potential impact if there was significant storm damage to offshore substations that could take out large-scale offshore wind farms for an extended period of time.
- The results on slide 11 lead me to believe that the system may be overbuilt by 2040 due to the lack of expected retirements as well as the increased penetration of renewables in the scenarios.
- Stakeholders thanked ISO-NE taking the feedback last month regarding the extreme weather events.
- Perhaps ISO-NE and the stakeholders should consider splitting our capacity auctions into two different seasons.

Item 7.0 – 2021 Economic Study Phase I – Future Grid Reliability Study (“FGRS”) – High Level Transmission Analysis Part 2

Mr. Patrick Boughan and Mr. Steven Judd (ISO-NE) reviewed the 2021 Economic Study Phase I – Future Grid Reliability Study (“FGRS”) – High Level Transmission Analysis Part 2.

- In regards to the why battery storage is not fulfilling the unserved energy needs, we have reached the limits of the study software capability that reflects battery storage. We are looking for ways to overcome this.
- A stakeholder commented that ISO-NE should please note in the final report that the injection into Vermont is well into the southern portion of the state to Coolidge. The injection is not at the Vermont border.

Item 8.0 – 2021 Economic Study Phase I – Future Grid Reliability Study (“FGRS”) – Preliminary Ancillary Services Analysis Results Part 3

Mr. Patrick Boughan and Mr. Steven Judd (ISO-NE) reviewed the 2021 Economic Study Phase I – Future Grid Reliability Study (“FGRS”) – Preliminary Ancillary Services Analysis Results Part 3.

- Although the MARS analysis showed a deficiency of resources in Scenario 3, it is different from the Regulation need for Scenario 3 although both show insufficient resources and resource flexibility for need of this resource mix.

Item 9.0 – Closing Remarks

The next regularly scheduled PAC meeting will be Thursday, January 20, 2022. The meeting will be held through WebEx Teleconference. There will be a Joint MC/RC meeting following today's PAC meeting to continue discussions on the FGRS study.

Meeting Adjourned at 2:00 PM

Respectively submitted,

Marc Lyons
Secretary, Planning Advisory Committee