

**FINAL**

Pursuant to notice duly given, a meeting of the NEPOOL Participants Committee was held via teleconference beginning at 9:30 a.m. on Thursday, February 18, 2021. Attachment 1 identifies the members, alternates and temporary alternates who participated in the teleconference meeting.

Mr. David Cavanaugh, Chair, presided and Mr. Sebastian Lombardi, Assistant Secretary, recorded. Mr. Cavanaugh welcomed everyone to the kick-off of the Pathways to the Future Grid evaluation process. He explained that the intended goal of this process was to help the ISO scope and define its proposed deeper analysis of two potential pathways, net carbon pricing and a forward clean energy market (FCEM), with additional consideration about the joint optimization process and resource adequacy. At this first meeting, the ISO would review the intended scope of its evaluation to help identify key elements for effective modeling. At future meetings, stakeholders would have the chance to discuss additional design elements for the ISO to consider. He noted that those future meetings had tentatively been scheduled for Thursday, March 18, Thursday April 15, Thursday May 13, and Friday, June 11.

***Chadalavada Presentation***

Dr. Vamsi Chadalavada, ISO Executive Vice President and Chief Operating Officer, began the ISO presentation, referring to materials that had been circulated and posted in advance of the meeting. He highlighted that the study time horizons for the various ongoing and planned Future Grid-related studies would span 2030 to 2050. He explained that the time period required for conducting these studies/analyses would encompass the remainder of the year with results from Phase 1 of NEPOOL's Future Grid Reliability Study expected to be completed in the first quarter of 2022. He then proceeded through the presentation, sequentially reviewing the various

studies planned and the ISO's reasons for its proposed sequencing and involvement of stakeholders.

During his review of the presentation, Dr. Chadalavada responded to comments and questions. He noted the importance of defining balancing resources in the context of the various ancillary services needed in the future. He acknowledged the immediate need to address the Minimum Offer Price Rule (MOPR), to build out effective load carrying capability (ELCC) for various technologies in order to improve the calculation of future capacity needs, and to ensure currency in understanding evolving technology such as evolutions with inverter technology. Dr. Chadalavada flagged the importance of maintaining reliability during the region's transition to the future grid, anticipating the possibility of disorderly retirements in light of how MOPR is addressed, noting that interim changes might be needed to the markets if reliability concerns are identified by the studies. He agreed that the ISO would need to stay focused on ramping capability as the resource mix changes with additional intermittent resources on the grid. He explained that stakeholder input would be sought through the Planning Advisory Committee (PAC) in defining the future transmission topology for the various studies and scenarios.

#### ***Geissler Introductory Presentation***

Following Dr. Chadalavada's remarks, Dr. Chris Geissler from the ISO reviewed his presentation that was circulated in advance of the meeting entitled "Evaluating clean energy and carbon pricing frameworks as alternative market designs to advance the region's clean energy transition." He highlighted the ISO's specific request for stakeholder feedback on the following: (i) what study year(s) should be evaluated; (ii) what are the regional and state carbon emissions targets for the study year(s); (iii) what are the assumed load levels and shapes; and (iv) what are the assumptions regarding the MOPR. He reviewed the anticipated stakeholder schedule and opportunities for stakeholder input and feedback through the first three quarters of 2021.

In response to questions and comments, Dr. Geissler noted the importance of the States' engagement in finding a market-based solution to the current challenges imposed by MOPR. The ISO was still working to define the model(s) that will be used for their Pathways analysis, with the intent to produce both quantitative and qualitative outcomes, considering the impact on the markets and consumers. He agreed that the modeling needed to reflect that some but not all resources will have Power Purchase Agreements (PPAs), as well as many other factors that impact design. The ISO planned to identify those study factors that will have the biggest impact on actual modeling outcomes and feasibility. He agreed those factors needed to consider whether the procurement of clean energy through a FCEM would be separate or accomplished instead through in a single forward capacity auction each year. Further, the modeling would need to account for the objectives of the states in the region deciding how their loads are to be served. The model would be adjusted as needed to account for changes to or replacement of MOPR and Offer Review Trigger Prices (ORTPs).

Concluding the process discussion, Mr. Geissler noted that the ISO would work to reflect stakeholder feedback into the models developed; the ISO's ability to accommodate that feedback, however, would depend on the degree of stakeholder consensus, feasibility and time constraints.

### ***Fuller Presentation***

Next, Mr. Peter Fuller of Autumn Lane Energy Consulting, and Mr. David O'Connor of ML Strategies, on behalf of NRG, provided an overview of the necessary and desirable characteristics of a potential FCEM for New England. Mr. Fuller reviewed the process undertaken with other regional stakeholders that helped to inform the contents of the December 2020 paper summarizing potential FCEM framework parameters, which had been circulated and posted in advance of the meeting. Then Mr. Fuller reviewed the objectives of FCEM, generally

and specifically as outlined in an accompanying presentation, also circulated in advance of the meeting. He reviewed the alternative market and regulatory integration approaches contained in the presentation, emphasizing that clean energy attributes would be tradable separate from energy, with the ISO settling the market annually much as the renewable energy credit market is currently settled. He completed his remarks by reviewing critical open questions listed in the presentation.

Following his presentation, Mr. Fuller responded to numerous questions and comments. He clarified that, while the FCEM design parameters paper was the product of extensive outreach with the ISO, states and Market Participants, it could not be represented to be a consensus position of all involved. He encouraged any stakeholder that wished to join the FCEM working group. Mr. Fuller noted for modeling purposes the importance of starting with a simple product definition. He acknowledged the need for FCEM proponents to demonstrate the importance of the model to the states and how it fits into a well-functioning market.

#### ***Geissler Presentation on Modeling Plans for FCEM and Net Carbon Pricing***

Dr. Geissler followed Mr. Fuller's presentation with a review of the remaining 11 slides of the ISO's presentation, beginning with the ISO's plans for modeling a FCEM. More specifically, he flagged the numerous key design questions outlined in the presentation that needed to be answered before the model could be constructed. He noted for a potential design that would jointly optimize forward capacity and "clean energy" positions (referred to as the Integrated Clean Capacity Market (ICCM) framework) the ISO would rely on the presentation provided to NEPOOL by Ms. Kathleen Spees in October 2020, but questions still remained.

Before proceeding to talk about the proposed modeling for net carbon pricing, Dr. Geissler received and responded to a number of questions and comments concerning FCEM. He noted that much work was needed to define the study parameters and it was suggested that the ISO could help that effort by presenting its views of the tradeoffs associated with the

various options. He indicated that the ISO would be concerned with market power and efficiency if renewable energy credits were split into multiple sub-attributes.

Dr. Geissler then reviewed the slides from the presentation concerning the ISO's net carbon pricing framework, which he characterized as having far fewer questions to be resolved in order to be modelled. He reviewed the questions in the presentation that were yet to be addressed and encouraged stakeholder input on suggested responses.

Dr. Geissler concluded his presentation noting that the ISO would evaluate market outcomes under the FCEM and the net carbon pricing frameworks with the assistance of stakeholders and the Analysis Group. He noted that stakeholder feedback was welcome on the model assumptions and outstanding questions related to these frameworks to facilitate modeling efforts. The final report on modeled market outcomes associated with these frameworks would be shared in February 2022. He noted in response to concluding questions that the ISO intended the net carbon pricing model to rebate revenues back to load. He acknowledged the modeling would need to account for the varying impacts net carbon pricing could have on both marginal and infra-marginal resources.

Mr. Cavanaugh concluded the meeting by noting that the next working session would take place on March 18<sup>th</sup>, urging interested persons to e-mail written feedback or comments to Dr. Geissler and himself.

There being no further business, the meeting adjourned shortly after 3:00 p.m.

Respectfully submitted,

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Sebastian Lombardi, Assistant Secretary

**PARTICIPANTS COMMITTEE MEMBERS AND ALTERNATES  
PARTICIPATING IN FEBRUARY 18, 2021 TELECONFERENCE MEETING**

PARTICIPANT NAME	SECTOR/ GROUP	MEMBER NAME	ALTERNATE NAME	PROXY
Acadia Center	End User	Deborah Donovan		
Advanced Energy Economy	Fuels Industry Participant	Caitlin Marquis		
AR Large Renewable Generation (RG) Group Member	AR-RG	Alex Worsley		
AR Small Load Response (LR) Group Member	AR-LR	Brad Swalwell		
AR Small RG Group Member	AR-RG	Erik Abend		
Ashburnham Municipal Light Plant	Publicly Owned Entity		Brian Thomson	
AVANGRID: CMP/UI	Transmission		Alan Trotta	
Belmont Municipal Light Department	Publicly Owned Entity		Dave Cavanaugh	
Block Island Utility District	Publicly Owned Entity	Dave Cavanaugh		
Borrego Solar Systems Inc.	AR-DG	Liz Delaney		
Boylston Municipal Light Department	Publicly Owned Entity		Brian Thomson	
BP Energy Company	Supplier			José Rotger
Braintree Electric Light Department	Publicly Owned Entity			Dave Cavanaugh
Brookfield Renewable Trading and Marketing	Supplier	Aleks Mitreski		
Calpine Energy Services, LP	Supplier	Brett Kruse		Bill Fowler
Castleton Commodities Merchant Trading	Supplier			Bob Stein
Central Rivers Power	AR-RG		Dan Allegretti	Mike Booth
Chester Municipal Light Department	Publicly Owned Entity		Dave Cavanaugh	
Chicopee Municipal Lighting Plant	Publicly Owned Entity		Brian Thomson	
CLEARresult Consulting, Inc.	AR-DG	Tamera Oldfield		
Clearway Power Marketing LLC	Supplier			Pete Fuller
Concord Municipal Light Plant	Publicly Owned Entity		Dave Cavanaugh	
Connecticut Municipal Electric Energy Coop.	Publicly Owned Entity	Brian Forshaw		
Conservation Law Foundation (CLF)	End User	Phelps Turner		
Consolidated Edison Energy, Inc.	Supplier	Norman Mah		
CPV Towantic, LLC	Generation	Joel Gordon		
Cross-Sound Cable Company (CSC)	Supplier		José Rotger	
Danvers Electric Division	Publicly Owned Entity		Dave Cavanaugh	
Deepwater Wind Block Island, LLC	Generation	Eric Wilkerson		
Dominion Energy Generation Marketing, Inc.	Generation		Weezie Nuara	
DTE Energy Trading, Inc.	Supplier			José Rotger
Dynergy Marketing and Trade, LLC	Supplier	Andy Weinstein		Bill Fowler
Emera Energy Services	Supplier			Bill Fowler
Enel X North America, Inc.	AR-LR	Michael Macrae		
ENGIE Energy Marketing NA, Inc.	AR-RG	Sarah Bresolin		
Environmental Defense Fund	End User	Jollette Westbrook		
Eversource Energy	Transmission	James Daly	Dave Burnham	Jason Stark; Parker Littlehale
Excelerate Energy LP	Fuels Industry Participant	Gary Ritter		
Exelon Generation Company	Supplier	Steve Kirk	Bill Fowler	
FirstLight Power Management, LLC	Generation	Tom Kaslow		
Galt Power, Inc.	Supplier	José Rotger		
Generation Group Member	Generation		Abby Krich	
Georgetown Municipal Light Department	Publicly Owned Entity		Dave Cavanaugh	
Great River Hydro	AR-RG	Shawn Keniston		Bill Fowler
Groton Electric Light Department	Publicly Owned Entity		Brian Thomson	
Groveland Electric Light Department	Publicly Owned Entity		Dave Cavanaugh	
H.Q. Energy Services (U.S.) Inc. (HQUS)	Supplier	Louis Guilbault	Bob Stein	
High Liner Foods (USA) Incorporated	End User		William P. Short III	

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PARTICIPANT NAME	SECTOR/ GROUP	MEMBER NAME	ALTERNATE NAME	PROXY
Hingham Municipal Lighting Plant	Publicly Owned Entity	John Coyle	Dave Cavanaugh	
Holden Municipal Light Department	Publicly Owned Entity		Brian Thomson	
Holyoke Gas & Electric Department	Publicly Owned Entity		Brian Thomson	
Hull Municipal Lighting Plant	Publicly Owned Entity		Brian Thomson	
Ipswich Municipal Light Department	Publicly Owned Entity		Brian Thomson	
Jericho Power LLC (Jericho)	AR-RG	Mark Spencer	Nancy Chafetz	Herb Healy; Marji Philips
Littleton (MA) Electric Light and Water Department	Publicly Owned Entity		Dave Cavanaugh	
Littleton (NH) Water & Light Department	Publicly Owned Entity		Craig Kieny	
Long Island Power Authority (LIPA)	Supplier		Bill Killgoar	
Maine Public Advocate's Office	End User	Drew Landry		
Mansfield Municipal Electric Department	Publicly Owned Entity		Brian Thomson	
Maple Energy LLC	AR-LR			Doug Hurley
Marble River, LLC	Supplier		John Brodbeck	
Marblehead Municipal Light Department	Publicly Owned Entity		Brian Thomson	
Mass. Attorney General's Office (MA AG)	End User	Tina Belew	Ben Griffiths	Tim Reppucci
Mass. Bay Transportation Authority	Publicly Owned Entity		Dave Cavanaugh	
Mass. Municipal Wholesale Electric Company	Publicly Owned Entity	Brian Thomson		
Mercuria Energy America, LLC	Supplier			José Rotger
Merrimac Municipal Light Department	Publicly Owned Entity		Dave Cavanaugh	
Michael Kuser	End User		Jason York	
Middleborough Gas & Electric Department	Publicly Owned Entity		Dave Cavanaugh	
Middleton Municipal Electric Department	Publicly Owned Entity		Dave Cavanaugh	
National Grid	Transmission		Tim Martin	
Natural Resources Defense Council	End User	Bruce Ho		
Nautilus Power, LLC	Generation		Bill Fowler	
New Hampshire Electric Cooperative	Publicly Owned Entity	Steve Kaminski		Brian. Forshaw; Dave Cavanaugh; Brian Thomson
New Hampshire Office of Consumer Advocate (NHOCA)	End User	Pradip Chattopadhyay		
NextEra Energy Resources, LLC	Generation	Michelle Gardner		
North Attleborough Electric Department	Publicly Owned Entity		Dave Cavanaugh	
Norwood Municipal Light Department	Publicly Owned Entity		Dave Cavanaugh	
NRG Power Marketing LLC	Generation		Pete Fuller	
Pascoag Utility District	Publicly Owned Entity		Dave Cavanaugh	
Paxton Municipal Light Department	Publicly Owned Entity		Brian Thomson	
Peabody Municipal Light Department	Publicly Owned Entity		Brian Thomson	
Princeton Municipal Light Department	Publicly Owned Entity		Brian Thomson	
PSEG Energy Resources & Trade LLC	Supplier		Eric Stallings	
Reading Municipal Light Department	Publicly Owned Entity		Dave Cavanaugh	
Rodan Energy Solutions (USA) Inc.	Provisional Member	Aaron Breidenbaugh		
Rowley Municipal Lighting Plant	Publicly Owned Entity		Dave Cavanaugh	
Russell Municipal Light Dept.	Publicly Owned Entity		Brian Thomson	
Shrewsbury Electric & Cable Operations	Publicly Owned Entity		Brian Thomson	
South Hadley Electric Light Department	Publicly Owned Entity		Brian Thomson	
Sterling Municipal Electric Light Department	Publicly Owned Entity		Brian Thomson	
Stowe Electric Department	Publicly Owned Entity		Dave Cavanaugh	
Sunrun Inc.	AR-DG			Pete Fuller
Taunton Municipal Lighting Plant	Publicly Owned Entity		Dave Cavanaugh	
Templeton Municipal Lighting Plant	Publicly Owned Entity		Brian Thomson	
The Energy Consortium	End User		Mary Smith	

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<b>PARTICIPANT NAME</b>	<b>SECTOR/ GROUP</b>	<b>MEMBER NAME</b>	<b>ALTERNATE NAME</b>	<b>PROXY</b>
Union of Concerned Scientists	End User	Mike Jacobs	Francis Pullaro	
Vermont Electric Cooperative	Publicly Owned Entity	Craig Kieny		
Vermont Electric Power Co. (VELCO)	Transmission	Frank Ettori		
Vermont Energy Investment Corp (VEIC)	AR-LR		Doug Hurley	
Vermont Public Power Supply Authority	Publicly Owned Entity			Brian Forshaw
Versant Power	Transmission	Lisa Martin		
Village of Hyde Park (VT) Electric Department	Publicly Owned Entity		Dave Cavanaugh	
Vitol Inc.	Supplier	Joe Wadsworth		
Wakefield Municipal Gas & Light Department	Publicly Owned Entity		Brian Thomson	
Wallingford DPU Electric Division	Publicly Owned Entity		Dave Cavanaugh	
Wellesley Municipal Light Plant	Publicly Owned Entity		Dave Cavanaugh	
West Boylston Municipal Lighting Plant	Publicly Owned Entity		Brian Thomson	
Westfield Gas & Electric Department	Publicly Owned Entity		Dave Cavanaugh	
Wheeler North Andover Inc.	AR-RG		Bill Fowler	