

FINAL

A meeting of the NEPOOL Participants Committee was held via teleconference beginning at 10:00 a.m. on Friday, April 6, 2018, pursuant to notice duly given. A quorum determined in accordance with the Second Restated NEPOOL Agreement was present and acting throughout the meeting. Attachment 1 identifies the members, alternates and temporary alternates who participated in the teleconference meeting.

Mr. Thomas Kaslow, Chair, presided and Mr. David Doot, Secretary, recorded.

APPROVAL OF MARCH 2, 2018 MEETING MINUTES

Mr. Kaslow referred the Committee to the preliminary minutes for the March 2, 2018 meeting, as circulated in advance of the meeting. Following motion duly made and seconded, the preliminary minutes of the March 2 meeting were unanimously approved without change.

CONSENT AGENDA

Mr. Kaslow referred the Committee to the Consent Agenda that was circulated in advance of the meeting. Following motion duly made and seconded, the Consent Agenda was unanimously approved with abstentions noted by: BP Energy Company, CLEAResult Consulting, Cross-Sound Cable, Direct Energy Business, DTE Energy Trading, Galt Power, Mercuria Energy America, The Energy Consortium, Vermont Energy Investment Corporation, and the AR Sector's Small Load Response Group Member.

ISO CEO REPORT

Mr. Kaslow, noting that Mr. Gordon van Welie, ISO Chief Executive Officer (CEO), was not able to participate in the meeting, referred the Committee to the summaries of the ISO Board and Board Committee meetings that had occurred since the March 2 meeting, which had been circulated and posted in advance of the meeting. There were no questions or comments on the summaries.

ISO COO REPORT

Dr. Vamsi Chadalavada, ISO Chief Operating Officer (COO), referred to the April COO report, which was circulated in advance of the meeting and posted on the NEPOOL and ISO websites. He said the April COO report reflected data through March 27, 2018. During that time: (i) Energy Market value was \$339 million, down \$62 million from February 2018 and down \$68 million from March 2017; (ii) average natural gas prices were 4.6% lower than average prices in February 2018; (iii) average Real-Time Hub LMPs (\$34.25/MWh) were 7.2% lower than February 2018 LMPs; (iv) average daily (peak hour) Day-Ahead cleared physical Energy, as a percent of forecasted load, was 97.1% in March, down from 98.5% in February 2018; and (v) daily Net Commitment Period Compensation (NCPC) for March (based on data through March 26, 2018) totaled \$3.5 million, up \$1.5 million from February 2018 and down \$1.7 million from March 2017. He reported that March NCPC was 1% of total Energy Market value, comprised of (a) \$2 million in first contingency payments (up \$145,000 from February 2018), and (b) \$1.4 million in voltage payments, all in NEMA and associated with a scheduled transmission line outage that has since ended. He noted the several blizzards in March in the Northeast, particularly referencing the impact in the SEMA/NEMA area. He said that system operations on the distribution side was adversely impacted, with no material transmission-related concerns. He flagged for the Committee that the minimum and maximum clearing in the Day-Ahead Market was quite volatile with values over 100% at some times and as low as 92.4% on March 17.

Dr. Chadalavada then discussed FCA13, reporting that the Existing Capacity Qualification was complete with over 2,000 MW of price retirement requests and 40 MW of permanent De-List Bids received. He reminded members that Show-of-Interest requests and Substitution Auction Supply-Side participation requests were due on April 27.

Reporting on final results of the 2017/18 Winter Program, he reported that the winter period began with about 2.9 million barrels of oil in inventory and ended, following replenishments, with about 2.56 million barrels in inventory as of March 15. Three Demand Response (DR) assets, providing 7.5 MW of interruption capability, participated. No liquefied natural gas (LNG) resources had participated. Total Program costs for Winter 2017/18 were preliminary expected to be \$24.4 million for oil and \$33,000 for DR.

Members then asked a series of questions. In response to a question concerning voltage-related uplift, Dr. Chadalavada explained that, separate from the March 14 event, there had been a four-day event at the very beginning of March (March 1-4), when some out-of-merit units were called on for some hours because of a 345-kV line outage. Also in response to a question about the lack of LNG participation in the Winter Program over the past 3 years, Dr. Chadalavada opined that the compensation rate was simply too low to incent participation, but the ISO did not want to change the Winter Program that was approved for that period.

Dr. Chadalavada then reviewed the events that occurred on March 14, beginning with a fault at Boston's Andrews Square substation at 8:38 a.m. He referenced charts that showed the voltage swings and Energy prices during those events, explaining the following:

- Snow pack caused the initial failure of a transformer
- Voltage sagged because of the delay in clearing the fault
- Multiple 115-kV breakers in area opened as voltage sagged
- Mystic 9 and Phase II station service tripped, resulting in the loss of approximately 2,000 MW of Energy
- The trips caused low voltages across the system and at the New York border (also contributing to the magnitude of low voltages was the outage of the Pleasant Valley-Long Mountain 398 Line (a 345-kV line between Connecticut and New York (NY)) that was out of service for work in NY
- Heavy flows into New England resulted in the New York ISO implementing emergency procedures to reduce Central-East interface flows in NY

- System operators recovered Area Control Error (ACE) and relieved impacted interfaces within NERC's 10-minute requirements, thereby meeting all reliability criteria.

Dr. Chadalavada explained in response to questions that the ISO was considering lessons learned, particularly those from the severe weather conditions on March 14, and committed to report back to NEPOOL. Opining as to why Mystic 9 and Phase II tripped when other generation resources did not, he noted that voltage at Mystic 9 before the trip had dipped as low as 260 kV, which understandably tripped the under-voltage relay. He noted that the Phase II under-voltage relay may have exhibited higher sensitivity than other relays, and its tuning had already been addressed. He explained that substations had experienced problems in the past with wet, heavy packed snow, but the March 14 event was abnormal because of the sensitivity of the under-voltage relays and the magnitude of the voltage dip. He confirmed that, had PFP been in effect for this event, there would have been a Capacity Scarcity Condition for 10 minutes. A member commented that the system appears not to have been re-dispatched during this 10-minute interval, and the interval might possibly have been shortened if the system had been re-dispatched after the first five-minute interval. Dr. Chadalavada responded that the immediate impact if tie lines are not fully loaded is for immediately increased tie line flow, but that New England is not able with re-dispatched resources to offset an immediate loss of 2,000 MW. Mr. Kaslow indicated that additional questions would be discussed at the Reliability Committee and Dr. Chadalavada requested that any questions be directed to him in advance of that discussion.

DISCUSSION OF NEAR-TERM FUEL SECURITY CONCERNS

Dr. Chadalavada referred the Committee to materials circulated and posted in advance of the meeting then proceeded to discuss issues related to the bid by Exelon to retire Mystic units 7, 8, 9 and the jet unit for FCA13 and related to the fuel security project generally. He first gave an overview of the fuel security-related work. He explained that the ISO planned to address fuel

security risk in New England in three separate chapters. In Chapter 1, later in April, it planned to seek waivers to permit it to permit the ISO to enter into a fuel security agreement with Mystic 8 and 9 to preserve the availability of those generators and the related LNG supply for the 13th and 14th Capacity Commitment Periods (June 1, 2022 through May 31, 2024). Following that waiver request, in Chapter 2, the ISO would begin working with stakeholders on Tariff revisions of general applicability that could be used to authorize ISO in the future to retain units needed for fuel security, with a targeted filing for Tariff changes late in November 2018. In Chapter 3, the ISO would explore market-based solutions to provide the necessary market incentives to minimize the need for out-of-market agreements to address fuel security risks, with a goal to file Market Rule changes with the FERC before July 2019.

Mr. Kaslow then asked for questions intended to clarify what the ISO intended in each of its three chapters, explaining to the Committee that discussions thereafter during this meeting were intended to be limited to the Chapter 1 issues (the ISO's proposed waiver request). In response to a question, Dr. Chadalavada explained that the waiver was intended to permit a two-year contract. The ISO was working to define criteria that should be satisfied as a threshold standard to justify an out-of-market reliability agreement, but full definition on that standard would occur in Chapter 2. At a high level, he explained that the ISO saw the need as assurance of sufficient fuel to maintain reliability for 90 days of winter without resorting to OP-7 actions to meet reliability needs. He clarified in response to a question that the agreement was intended to be a reliability must-run agreement (RMR) for purposes of ensuring fuel security. Some members complained that the ISO's proposed waiver request reflected a lack of commitment to markets, when it was entirely plausible in their view that markets might respond to the need created by the retirement of the Mystic units. In support, they cited CASPR as designed to ensure timely substitution of resources and Pay-for-Performance (PFP) to ensure resources are

available when needed. Dr. Chadalavada agreed in clarification that, without Mystic fueled by Distrigas, the ISO did not believe that there would be enough fuel to maintain the system reliably.

The Committee then proceeded to discuss Chapter 1 as defined by the ISO. Dr. Chadalavada said the waiver filing would explain that the proposed retirement of the Mystic units presented substantial risk to reliability for the Winters beginning in 2022 and 2023. He explained that the ISO had rejected the Dynamic De-List Bids of Mystic 7 and 8 in FCA12 for transmission concerns during the summer peak, but its concerns with the proposed permanent retirements beginning with FCA13 were winter fuel security concerns and ISO's filing would make that clear. He explained that the ISO had concluded that the fuel security concerns superseded transmission concerns. He said that, in addition to permitting a reliability agreement for fuel security, the waiver request would also seek to relax some time lines in the FCA13 process to permit Mystic to determine whether it had an acceptable agreement in place before being required to make a final decision on conditional or unconditional retirement. He explained that the agreement itself would be filed by Exelon, and he reported that Exelon had advised that it needed certainty by the end of 2018 that it would receive its cost-of-service for Mystic under an agreement. He explained that the ISO did not intend in its waiver filing to address cost allocation issues, but would discuss the cost allocation method in the NEPOOL stakeholder process.

Mr. Kaslow then invited comments and questions by Sector. The ISO was asked whether there were other options that should be considered, to which the ISO responded the gap created by the proposed retirement was too big to rely reasonably on other options. He explained that Exelon was requiring a two-year agreement in order not to retire Mystic 8 and 9. A member urged the ISO to ensure careful attention to market power and market manipulation concerns in

addressing upcoming needs, acknowledging that there could well be other generators that might seek similar treatment. Dr. Chadalavada explained that the ISO considered the Mystic units and Distrigas as a package, and did not believe that Distrigas would continue to provide gas after the Mystic stations retire. He also indicated that he did not believe Distrigas had the ability to inject into the pipeline the entire amount consumed by Mystic, although that question was still being analyzed.

There were numerous questions about what the agreement with Exelon might contain and whether it would be modeled after the *pro forma* RMR agreement in the Tariff. The ISO responded that Exelon would be filing the agreement to which interested parties may respond. The ISO expressed the hope that Exelon would model its agreement closely after the *pro forma* agreement, and that the final agreement would be approved by the FERC after consideration of questions and concerns raised in response to Exelon's filing.

A number of members asked questions aimed at understanding better the risk the ISO was seeking to address with its waiver filing. Dr. Chadalavada explained that, when considering Mystic 8 and 9 and Distrigas as a package, there was no reasonable substitute that the ISO could identify to meet the needs of the system. He acknowledged that, if the FERC rejected the request for a fuel security agreement, the ISO might still have the need for an RMR agreement with one or more of the Mystic units in order to address transmission security constraints. He said the ISO did not intend to conduct the transmission security analysis on the De-List Bids until the FERC provided guidance on the request for a fuel security agreement. The ISO did not intend to seek any changes to the retirement rules at this time but would consider that question more thoroughly in the Chapter 2 discussions. The ISO was urged to consider whether any other combination of resources might satisfy the identified concerns and how market responses might be solicited to meet the need.

The ISO was also asked whether, if Mystic 8 and 9 received a fuel security agreement, they would have any opportunity thereafter to return to the market. The ISO indicated that this was a question to address during Chapter 3. There was also a question as to whether Exelon would be making any longer term commitment with respect to Distrigas. The ISO's response was that it expected such issues would all be raised and addressed in the proceeding to consider Exelon's filing.

In response to a question on cost allocation, the ISO clarified that it believed that cost allocation needed to be Pool-wide rather than local, but was not taking a position on how that allocation should be accomplished. The ISO acknowledged that the fuel security concern was present during the winters but the facilities to address that concern needed sufficient revenues year-round to remain available for both winters. The ISO made clear that it would be requesting FERC action on its filing within 60 days of filing and shared Exelon's desire for resolution by year's end so that Market Participants might have, to the maximum extent possible, complete information regarding Mystic's participation going into FCA13. At the conclusion of questions and comments from Sector members, Mr. Kaslow stated he would review at the end of the day's meeting the administrative process for continuation of this item on April 10.

LITIGATION REPORT

Mr. Doot referred the Committee to the April 4 Litigation Report that had been circulated and posted in advance of the meeting. He encouraged anyone with questions on the report to contact NEPOOL Counsel following the meeting.

COMMITTEE REPORTS

Mr. Robert Stein reported that the Reliability Committee was scheduled to meet on April 25 to discuss fuel security issues. To ensure time to cover all issues, he reported that the Reliability Committee also would convene a meeting on April 24, following the Transmission

Committee meeting to cover regular Reliability Committee business and to begin discussion of fuel security issues as it relates to FCA14.

Mr. William Fowler reported that the Markets Committee was scheduled to meet on April 10 in Milford, followed by the continuation of the Participants Committee meeting.

Mr. José Rotger reported that the Transmission Committee was scheduled to meet on April 24. The agenda would include a vote on a compliance filing with Order 842, which was the FERC's final rule on primary frequency response requirements.

OTHER BUSINESS

Mr. Kaslow reported that the May 4 Participants Committee meeting was scheduled to be held at the Doubletree Hilton North Shore Hotel in Danvers, Massachusetts. He ended the meeting proposing without objection that the meeting be continued to Tuesday, April 10, 2018, following the conclusion of the Markets Committee meeting to be held earlier that day. The continuation of the meeting would be to resume discussion and consideration of the ISO's planned actions in response to the potential retirement of the Mystic units for FCA13, with the benefit of additional ISO analysis and information.

The meeting adjourned then at 12:27 p.m. to reconvene on Tuesday, April 10, 2018 at 3:00 p.m.

[Minutes of the April 10, 2018 session begin on the next page]

**PARTICIPANTS COMMITTEE MEMBERS AND ALTERNATES
PARTICIPATING IN
APRIL 6, 2018 TELECONFERENCE MEETING**

PARTICIPANT NAME	SECTOR/ GROUP	MEMBER NAME	ALTERNATE NAME	PROXY
AR Small Load Response (LR) Group Member	AR-LR	Doug Hurley	Brad Swalwell	
AR Small Renewable Generation (RG) Group Member	AR-RG	Erik Abend		
American PowerNet Management	Supplier			Mary Smith
Ashburnham Municipal Light Plant	Publicly Owned		Brian Thomson	
Associated Industries of Massachusetts	End User			Roger Borghesani
AVANGRID: CMP/UI	Transmission		Alan Trotta	
Reading Municipal Light Department	Publicly Owned		Jane Parenteau	
Belmont Municipal Light Department	Publicly Owned		Dave Cavanaugh	
Block Island Power Company	Supplier	Dave Cavanaugh		
Boylston Municipal Light Department	Publicly Owned		Brian Thomson	
BP Energy Company	Supplier			Nancy Chafetz
Braintree Electric Light Department	Publicly Owned			Dave Cavanaugh
Brookfield Energy Marketing	Supplier	Aleks Mitreski		
Chester Municipal Light Department	Publicly Owned		Dave Cavanaugh	
Chicopee Municipal Lighting Plant	Publicly Owned		Brian Thomson	
CLEAResult Consulting, Inc.	AR-DG	Doug Hurley		
Competitive Energy Services, LLC	Supplier			Glenn Poole
Concord Municipal Light Plant	Publicly Owned		Dave Cavanaugh	
Connecticut Municipal Electric Energy Coop. (CMEEC)	Publicly Owned	Brian Forshaw		
Connecticut Office of Consumer Counsel (CT OCC)	End User			Dave Thompson
Conservation Law Foundation	End User		Jerry Elmer	
Consolidated Edison Energy, Inc. (ConEd)	Supplier	Jeff Dannels		
CPV Towantic, LLC	Generation	Dan Pierpont		
Cross-Sound Cable Company (CSC)	Supplier		Jose Rotger	
Danvers Electric Division	Publicly Owned		Dave Cavanaugh	
DC Energy, LLC	Supplier	Bruce Bleiweis		
Direct Energy Business, LLC	Supplier	Ron Carrier		Nancy Chafetz
Dominion Energy Generation Marketing, Inc.	Generation	Michael Purdie		
DTE Energy Trading, Inc.	Supplier			Nancy Chafetz
Dynegy Marketing and Trade, LLC	Supplier			Bill Fowler
Emera Energy Services	Transmission	Sandi Hennequin		Bill Fowler
Emera Maine	Transmission	Lisa Martin		
Enerwise Global Technologies Inc. d/b/a CPower	AR-LR		Herb Healy	
ENGIE Energy Marketing NA, Inc.	Generation	Joe Dalton		
Entergy Nuclear Power Marketing, LLC	Generation			Bill Fowler
Environmental Defense Fund	End User	Liz Delaney		
Eversource Energy	Transmission	James Daly	Cal Bowie	Vandan Divatia
Exelon Generation Company	Supplier	Steve Kirk	Bill Fowler	
FirstLight Power Resources Management	Generation	Tom Kaslow		
Galt Power, Inc.	Supplier	Nancy Chafetz		
Generation Group Member	Generation	Abby Krich		Bob Stein, Susan Muller
Georgetown Municipal Light Department	Publicly Owned		Dave Cavanaugh	
Great River Hydro, LLC	AR-RG			Bill Fowler
Groton Electric Light Department	Publicly Owned		Brian Thomson	
Groveland Electric Light Department	Publicly Owned		Dave Cavanaugh	
H.Q. Energy Services (U.S.) Inc.	Supplier		Bob Stein	
Harvard Dedicated Energy Limited	End User	Mary Smith		Roger Borghesani; Paul Peterson; Doug Hurley
High Liner Foods (USA) Incorporated	End User		William P. Short III	

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APRIL 6, 2018 TELECONFERENCE MEETING**

PARTICIPANT NAME	SECTOR/ GROUP	MEMBER NAME	ALTERNATE NAME	PROXY
Hingham Municipal Lighting Plant	Publicly Owned		Dave Cavanaugh	
Holden Municipal Light Department	Publicly Owned		Brian Thomson	
Holyoke Gas & Electric Department	Publicly Owned		Brian Thomson	
Hull Municipal Lighting Plant	Publicly Owned		Brian Thomson	
Ipswich Municipal Light Department	Publicly Owned		Brian Thomson	
Jericho Power, LLC	AR	Tom Hoatson		
Littleton (MA) Electric Light and Waster Department	Publicly Owned		Dave Cavanaugh	
Littleton (NH) Water &Light Department	Publicly Owned		Craig Kienny	
Long Island Lighting Company (LIPA)	Supplier		William Killgoar	
Maine Power LLC	Small SOS Provider	Jeff Jones		
Mansfield Municipal Electric Department	Publicly Owned		Brian Thomson	
Maple Energy LLC	AR-LR		Rick Drom	
Marblehead Municipal Light Department	Publicly Owned		Brian Thomson	
Marble River, LLC	Supplier	Seth Kaplan	John Brodbeck	
Massachusetts Attorney General's Office (MA AG)	End User	Fred Plett	Christina Belew	
Mass. Municipal Wholesale Electric Company	Publicly Owned	Brian Thomson		
Mercuria Energy America, Inc.	Supplier			Nancy Chafetz
Merrimac Municipal Light Department	Publicly Owned		Dave Cavanaugh	
Middleborough Gas & Electric Department	Publicly Owned		Brian Thomson	
Middleton Municipal Electric Department	Publicly Owned		Dave Cavanaugh	
National Grid	Transmission		Tim Martin	
Nautilus Power, LLC	Generation	Chris Sherman	Bill Fowler	
New Hampshire Electric Cooperative (NHEC)	Publicly Owned	Steve Kaminski		Brian Forshaw
New Hampshire Office of Consumer Advocate (NH OCA)	End User	Paul Peterson		
NextEra Energy Resources, LLC	Generation	Michelle Gardner		
NRG Power Marketing LLC	Generation		Pete Fuller	
Pascoag Utility District	Publicly Owned		Dave Cavanaugh	
Paxton Municipal Light Department	Publicly Owned		Brian Thomson	
Peabody Municipal Light Department	Publicly Owned		Brian Thomson	
PowerOptions, Inc.	End User	Cindy Arcate		
Princeton Municipal Light Department	Publicly Owned		Brian Thomson	
PSEG Energy Resources & Trade LLC	Supplier	Joel Gordon		
Reading Municipal Light Department	Publicly Owned			Brian Forshaw
Repsol Energy North America Company	Gas Industry Part.		Nancy Chafetz	
Rowley Municipal Lighting Plant	Publicly Owned		Dave Cavanaugh	
Russell Municipal Light Dept.	Publicly Owned		Brian Thomson	
Shipyards Brewing LLC	End User		Stacy Dimou	
Shrewsbury Electric & Cable Operations	Publicly Owned		Brian Thomson	
South Hadley Electric Light Department	Publicly Owned		Brian Thomson	
Sterling Municipal Electric Light Department	Publicly Owned		Brian Thomson	
Stowe Electric Department	Publicly Owned		Dave Cavanaugh	
Taunton Municipal Lighting Plant	Publicly Owned		Dave Cavanaugh	
Templeton Municipal Lighting Plant	Publicly Owned		Brian Thomson	
The Energy Consortium	End User	Roger Borghesani		Paul Peterson, Fred Plett Doug Hurley
Union of Concerned Scientists	End User		Francis Pullaro	
Utility Services Inc.	End User			Paul Peterson
Vermont Electric Cooperative	Publicly Owned	Craig Kienny		
Vermont Electric Power Company	Transmission	Frank Ettori		

**PARTICIPANTS COMMITTEE MEMBERS AND ALTERNATES
PARTICIPATING IN
APRIL 6, 2018 TELECONFERENCE MEETING**

PARTICIPANT NAME	SECTOR/ GROUP	MEMBER NAME	ALTERNATE NAME	PROXY
Vermont Energy Investment Corporation	AR-LR	David Westman	Doug Hurley	
Vermont Public Power Supply Authority	Publicly Owned			Brian Forshaw
Verso Energy Services LLC	Generation	Glenn Poole		
Vitol Inc.	Supplier	Joe Wadsworth		
Wakefield Municipal Gas & Light Department	Publicly Owned		Brian Thomson	
Wallingford DPU Electric Division	Publicly Owned		Dave Cavanaugh	
Wellesley Municipal Light Plant	Publicly Owned		Dave Cavanaugh	
West Boylston Municipal Lighting Plant	Publicly Owned		Brian Thomson	
Westfield Gas & Electric Department	Publicly Owned		Dave Cavanaugh	
Wheelabrator/Calpine	AR-RG		Brett Kruse	Bill Fowler