



Energy Price Formation Sr. Task Force PJM Conference and Training Center June 25, 2018 11:00 a.m. – 3:00 p.m. EPT

Administration

- 1. Mr. Dave Anders and Mr. Vijay Shah provided announcements, reviewed the Anti-trust, Code of Conduct and PJM meeting guidelines policies and perform in-room roll-call
- 2. The Senior Task Force approved draft minutes from the June 8, 2018 Energy Price Formation Senior Task Force (EPFSTF) meeting.
- 3. The Senior Task Force approved draft minutes from the June 13, 2018 Energy Price Formation Senior Task Force (EPFSTF) meeting.
- 4. Stakeholders had the opportunity to ask questions regarding the Price Formation paper that was recently published by PJM. The paper can be found in the June 25, 2018 meeting materials labeled "Item 4 EPFSTF Drivers of PJM Reserve Market Enhancement Proposal."
- 5. As requested by stakeholders, a chart comparing Reserves product through various markets has been posted for reference. Stakeholder had the opportunity to ask any questions they may have regarding the chart. The chart can be found in the June 25, 2018 meeting materials labeled "Item 5 EPFSTF Reserves Comparison Chart."

Reserve Zone Modeling

6. Reserve Zone Modeling

Mr. Adam Keech, PJM, gave a summary of the presentation on Locational Reserve Zone Modeling that was given at the June 8, 2018 EPFSTF meeting. PJM is currently investigating if Nodal Reserve Pricing would be feasible. Stakeholders had the opportunity to ask any additional questions regarding Locational Reserve Zone Modeling.

Offer Margin

7. Offer Margin Adder

Dr. Catherine Tyler, IMM, provided a presentation on the current offer margin and analysis done to suggest a new Offer Margin.

Matrix

8. Matrix

Mr. Vijay Shah led a discussion capturing design components and options to the EPFSTF matrix focusing on synchronized reserves. An updated matrix with additional feedback from the meeting has been posted as part of the meeting material.





Operating Reserve Demand Curve (ORDC)

9. ORDC Discussion

- A. Dr. Catherine Tyler, IMM, gave a presentation on conceptual thoughts and items to consider for ORDC
- B. Ms. Cheryl Mae Velasco and Dr. Patricio A. Rocha Garrido, PJM, expanded on the ORDC framework that was presented previously by focusing on how the Synchronized Reserve and Primary Reserve products would be co-optimized.

Future Agenda Items

- Stakeholders will have the opportunity to ask questions regarding the Price Formation paper that was recently published by PJM. The paper can be found in the June 25, 2018 meeting materials labeled "Item 4 – EPFSTF – Drivers of PJM Reserve Market Enhancement Proposal."
- 2. Ms. Cheryl Mae Velasco and Dr. Patricio A. Rocha Garrido, PJM, will complete their presentation on ORDC framework focusing on how the Synchronized Reserve and Primary Reserve products would be co-optimized.

Future Meeting Dates

July 17, 2018	9:30 a.m.	PJM Conference & Training Center/ WebEx
August 6, 2018	10:00 a.m.	PJM Conference & Training Center/ WebEx
August 22, 2018	10:00 a.m.	PJM Conference & Training Center/ WebEx
September 10, 2018	10:00 a.m.	PJM Conference & Training Center/ WebEx
October 12, 2018	9:00 a.m.	PJM Conference & Training Center/ WebEx
November 1, 2018	9:00 a.m.	PJM Conference & Training Center/ WebEx
November 28, 2018	9:00 a.m.	PJM Conference & Training Center/ WebEx
December 14, 2018	9:00 a.m.	PJM Conference & Training Center/ WebEx
December 14, 2010	3.00 a.m.	Town Conticiona a Training Conton Webex

Author: Vijay Shah

In Attendance (In Person)

Last Name, First Name	Company	Sector
Anders, David	PJM Interconnection, LLC	Not Applicable
Borgatti, Mike	Gable and Associates	Not Applicable
Bowring, Joe	Monitoring Analytics, LLC	Not Applicable
Callaghan, Chris	PJM Interconnection, LLC	Not Applicable
Cawley, Troy	PJM Interconnection, LLC	Not Applicable
Dumitriu, Nicolae	PJM Interconnection, LLC	Not Applicable
Fereshetian, Damon	PJM Interconnection, LLC	Not Applicable
Fitch, Neal	NRG Power Marketing LLC	Generation Owner
Foladare, Kenneth	Tangibl	Not Applicable
Giacomoni, Anthony	PJM Interconnection, LLC	Not Applicable





Horger, Tim	PJM Interconnection, LLC	Not Applicable
Johnson, Carl	Customized Energy Solutions, Ltd.*	Not Applicable
Keech, Adam	PJM Interconnection, LLC	Not Applicable
Kenney, Susan	PJM Interconnection, LLC	Not Applicable
Kogut, George	New York Power Authority	Other Supplier
Lieberman, Steven	American Municipal Power, Inc.	Electric Distributor
Marcino, Angelo	PJM Interconnection, LLC	Not Applicable
Maxwell, Melissa	PJM Interconnection, LLC	Not Applicable
McMillen, Miranda	PJM Interconnection, LLC	Not Applicable
Midgley, Sharon	Exelon Business Services Company, LLC	Transmission Owner
Olaleye, Michael	PJM Interconnection, LLC	Not Applicable
Park, Jinny	PJM Interconnection, LLC	Not Applicable
Perera, Asanga	PJM Interconnection, LLC	Not Applicable
Rocha-Garrido, Patricio	PJM Interconnection, LLC	Not Applicable
Scarpignato, David	Calpine Energy Services, L.P.	Generation Owner
Shah, Vijay	PJM Interconnection, LLC	Not Applicable
Suh, Jung	Calpine Energy Services, L.P.	Generation Owner
Thomas, Henry	PJM Interconnection, LLC	Not Applicable
Tribulski, Jennifer	PJM Interconnection, LLC	Not Applicable
Tyler, Catherine	Monitoring Analytics	Not Applicable
Velasco, Cheryl Mae	PJM Interconnection, LLC	Not Applicable
Williams, Stanley	PJM Interconnection, LLC	Not Applicable

In Attendance (Teleconference)

Last Name, First Name	Company	Sector
Ainspan, Malcolm	Energy Curtailment Specialists, Inc.	Other Supplier
Belley, Guillaume	Merrill Lynch Commodities, Inc.	Other Supplier
Bolan, Martin	FirstEnergy Solutions Corp.	Transmission Owner
Bonner, Charles	Dominion Virginia Power	Not Applicable
Brown, Rich	PJM Interconnection, LLC	Not Applicable
Bruce, Susan	McNees Wallace & Nurick LLC	Not Applicable
Campbell, Bruce	EnergyConnect, Inc.	Other Supplier
Cocco, Michael	Old Dominion Electric Cooperative	Electric Distributor
Covino, Susan	PJM Interconnection, LLC	Not Applicable
Davis, Elizabeth	PJM Interconnection, LLC	Not Applicable
Davis, James Jim	Dominion Energy Marketing, Inc.	Generation Owner
DeLosa, Joseph	DE Public Service Commission	Not Applicable
Depillo, Raymond	PSEG Energy Resources and Trade LLC	Other Supplier
Dillon, Matthew	UGI Development Company	Generation Owner





Filomena, Guy	Customized Energy Solutions, Ltd.	Not Applicable
Fondacci, Luis	North Carolina Electric Membership Corporation	Electric Distributor
Ford, Adrien	Old Dominion Electric Cooperative	Electric Distributor
Gagen, Rod	Dominion Virginia Power	Not Applicable
Gahimer, Mike	IN Office of Utility Consumer Counselor	End User Customer
Gilani, Rehan	ConEdison Energy, Inc.	Other Supplier
Guo, JauJia	Appalachian Power Company	Transmission Owner
Hastings, David	Market Interconnection LLC	Not Applicable
Hauske, Thomas	PJM Interconnection, LLC	Not Applicable
Heinle, Frederick	Office of the People's Counsel	End User Customer
Herel, Suzanne	RTO Insider	Not Applicable
Hoatson, Tom	Riverside Generating, LLC	Other Supplier
Hohenshilt, Jennifer	Talen Energy Marketing, LLC	Generation Owner
Holdbrook, Ruth	Northern Virginia Electric Cooperative	Electric Distributor
Horton, Dana	Appalachian Power Company	Transmission Owner
Hudis, Gabriella	Jersey Green Energy LLC	Other Supplier
Hyzinski, Tom	GT Power Group	Not Applicable
Janicki, Diane	Boston Energy Trading & Marketing, LLC	Generation Owner
Kalle, Ibrahima	Tibiri Energies	Not Applicable
Kelly, Stephen	Brookfield Energy Marketing LP	Other Supplier
Kilgallen, Kevin	Avangrid Renewables LLC	Generation Owner
Kreitler, Ginny	National Audobon	Not Applicable
Leopold, Chris	Appalachian Power Company	Transmission Owner
Li, Kanning	PJM Interconnection, LLC	Not Applicable
Long, Scott	Allegheny Electric Cooperative, Inc.	Electric Distributor
Lowe, Connie	Dominion Virginia Power	Not Applicable
Matzen, Jeff	Dominion Retail, Inc.	Not Applicable
Mendelsohn, Mark	Noble Americas Gas & Power Corp.	Other Supplier
Murray, Kevin	McNees Wallace & Nurick LLC	Not Applicable
Nawaz, Zainab	NJ Board of Public Utilities	Not Applicable
Norton, Chris	American Municipal Power, Inc.	Electric Distributor
O'Boyle, Brian	Rockland Electric Company	Transmission Owner
O'Connell, Robert	PPGI Fund A/B Development, LLC	Generation Owner
O'Hara, Brian	Mercuria Energy Inc.	Other Supplier
Ondayko, Brock	Appalachain Power Company	Transmission Owner
Pakela, Greg	DTE Energy Trading, Inc.	Other Supplier
Patel, Rishad	Essential Power LLC	Generation Owner
Peoples, John	Duquesne Light Company	Transmission Owner
Price, Ruth Ann	Division of the Public Advocate of the State of Delaward	e End User Customer





Ruck, Andrew	PSEG Energy Resources and Trade, LLC	Other Supplier
Sasser, Jonathan	Customized Energy Solutions, Ltd.*	Not Applicable
Schuyler, Ken	PJM Interconnection, LLC	Not Applicable
Stewart, Travis	Gable and Associates	Not Applicable
Trayers, Barry	Citigroup Energy, Inc.	Other Supplier
Tsao, Stephanie	SPGlobal	Not Applicable
Vargo, Daniel	Allegheny Electric Cooperative, Inc.	Electric Distributor
Ward, Michael	PJM Interconnection, LLC	Not Applicable
Wei, Jane	Monitoring Analytics	Not Applicable
Wilhite, Chad	FirstEnergy Solutions Corp.	Transmission Owner
Wilkie, Brian	Consolidated Edison Solutions, Inc	Other Supplier

Antitrust

You may not discuss any topics that violate, or that might appear to violate, the antitrust laws including but not limited to agreements between or among competitors regarding prices, bid and offer practices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that might unreasonably restrain competition. If any of these items are discussed the chair will re-direct the conversation. If the conversation still persists, parties will be asked to leave the meeting or the meeting will be adjourned.

Code of Conduct:

As a mandatory condition of attendance at today's meeting, attendees agree to adhere to the PJM Code of Conduct as detailed in PJM Manual M-34 section 4.5, including, but not limited to, participants' responsibilities and rules regarding the dissemination of meeting discussion and materials.

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