

Energy Price Formation Sr. Task Force
PJM Conference and Training Center
July 17, 2018
9:30 a.m. – 4:00 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 performed in-room roll-call
2. The Senior Task Force approved draft minutes from the Jun 25, 2018 Energy Price Formation Senior Task Force (EPFSTF) meeting.

Operating Reserve Demand Curve (ORDC)

3. ORDC Discussion
 - A. Ms. Cheryl Mae Velasco and Dr. Patricio A. Rocha Garrido, PJM, continued their presentation expanding on the ORDC framework by focusing on how the Synchronized Reserve and Primary Reserve products would be co-optimized.
 - B. Mr. Angelo Marcino, PJM, provided a presentation on potential adjustments to the ORDC for Operator Actions.

Reserve Zone Modeling

4. Reserve Zone Modeling

Mr. Lisa Morelli, PJM, provided an update on Locational Reserve Zone Modeling for short term goals.

Administration

5. Stakeholders had the opportunity to ask any questions regarding the Price Formation paper that was recently published. The paper can be found in the June 25, 2018 meeting material folder as Item 4 - *Drivers of PJM Reserve Market Enhancement Proposal*.
6. 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 material folder as Item 5 - Reserves Comparison Chart.
7. Mr. Dave Anders led a discussion on the EPFSTF work plan and remaining meeting schedule. Stakeholders were reminded about the short, mid and long term goals of EPFSTF.

Real-Time 30 minute Reserves

8. Real-Time 30 minute Reserves update from Operating Committee

Mr. Vincent Stefanowicz, PJM, provided a presentation on 30 minute Reserve Market requirements that were developed through the Operating Committee.

Matrix

9. Matrix

Mr. Dave Anders led a discussion capturing design components and options to the EPFSTF matrix focusing on synchronized reserves and ORDC. Stakeholders were encouraged bring their design components and options for the matrix to near a vote on the short term goals for EPFSTF.

Future Agenda Items

Future Meeting Dates

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

Author: Vijay Shah

In Attendance (In Person)

Last Name, First Name	Company	Sector
Anders, David	PJM Interconnection, LLC	Not Applicable
Barker, Jason	Exelon Business Services Company, LLC	Transmission Owner
Benner , Scott	PJM Interconnection, LLC	Not Applicable
Bowring, Joe	Monitoring Analytics, LLC	Not Applicable
Bresler, Frederick	PJM Interconnection, LLC	Not Applicable
Callaghan, Chris	PJM Interconnection, LLC	Not Applicable
Cawley, Troy	PJM Interconnection, LLC	Not Applicable
Chao, Hung-Po	PJM Interconnection, LLC	Not Applicable
Falin, Tom	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
Ford, Adrien	Old Dominion Electric Cooperative	Electric Distributor
Fuess, Christian	Other	Not Applicable
Fuess, James	PBF Power Marketing LLC	Generation Owner
Greening, Michele	PJM Interconnection, LLC	Not Applicable

Horger, Tim	PJM Interconnection, LLC	Not Applicable
Johnson, Carl	Customized Energy Solutions, Ltd.*	Not Applicable
Kenney, Susan	PJM Interconnection, LLC	Not Applicable
Kogut, George	New York Power Authority	Other Supplier
Marcino, Angelo	PJM Interconnection, LLC	Not Applicable
McAneny-Binetsky, Michael	PJM Interconnection, LLC	Not Applicable
Midgley, Sharon	Exelon Business Services Company, LLC	Transmission Owner
Morelli, Lisa	PJM Interconnection, LLC	Not Applicable
Nix, Emma	PJM Interconnection, LLC	Not Applicable
Park, Jinny	PJM Interconnection, LLC	Not Applicable
Pratzon, David	GT Power Group	Not Applicable
Rocha Garrido, Patricio	PJM Interconnection, LLC	Not Applicable
Shah, Vijay	PJM Interconnection, LLC	Not Applicable
Stefanowicz, Vincent	PJM Interconnection, LLC	Not Applicable
Sweeney, Rory	RTO Insider	Not Applicable
Thomas, Henry	PJM Interconnection, LLC	Not Applicable
Tyler, Catherine	Monitoring Analytics	Not Applicable
Velasco, Cheryl Mae	PJM Interconnection, LLC	Not Applicable
Warshel, Kim	PJM Interconnection, LLC	Not Applicable
Whitehead, Jeffrey	GT Power Group	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
Benckek, Jim	American Transmission Systems, Inc.	Transmission Owner
Berend, Seth	Calpine Energy Services, L.P.	Generation Owner
Bickerstaff, Dean	Hartree Partners	Other Supplier
Bilash, Jason	PJM Interconnection, LLC	Not Applicable
Brodbeck, John	EDP Renewables North America, LLC	Other Supplier
Bruce, Susan	McNees Wallace & Nurick LLC	Not Applicable
Campbell, Bruce	EnergyConnect, Inc.	Other Supplier
Canter, David	Appalachian Power Company	Transmission Owner
Chintapalli, Raj	Galt Power Inc.	Other Supplier
Cocco, Michael	Old Dominion Electric Cooperative	Electric Distributor
Dasher, Brett	Energy Authority, Inc. (The)	Other Supplier
Daugherty, Suzanne	PJM Interconnection, LLC	Not Applicable
DeBellis, Eric	Environmental Law and Policy Center	Not Applicable
DeLosa, Joseph	DE Public Service Commission	Not Applicable

Dugan, Chuck	East Kentucky Power Cooperative, Inc.	Transmission Owner
Fields, William	Maryland Office of Peoples Counsel	End User Customer
Filomena, Guy	Customized Energy Solutions, Ltd.	Not Applicable
Gebolys, Debbie	Public Utilities Commission of Ohio (The)	Not Applicable
Gilani, Rehan	ConEdison Energy, Inc.	Other Supplier
Gledhill, Andrew	PJM Interconnection, LLC	Not Applicable
Greiner, Gary	PSEG Energy Resources and Trade LLC	Other Supplier
Guo, Jaulia	Appalachian Power Company	Transmission Owner
Hanser, Erik	Michigan Public Service Commission	Not Applicable
Hastings, David	Market Interconnection LLC	Not Applicable
Heinle, Frederick	Office of the People's Counsel	End User Customer
Heisey, Bradley	Wolf Hills Energy, LLC	Generation Owner
Helms, Joseph	Rainbow Energy Marketing Corporation	Other Supplier
Hendrzak, Chantal	PJM Interconnection, LLC	Not Applicable
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
Holter, Natasha	PJM Interconnection, LLC	Not Applicable
Horstmann, John	Dayton Power & Light Company (The)	Transmission Owner
Horton, Dana	Appalachian Power Company	Transmission Owner
Hsia, Eric	PJM Interconnection, LLC	Not Applicable
Jha, Monica	PCI	Not Applicable
Kauffman, Brian	EnerNOC, Inc.	Other Supplier
Kelly, Stephen	Brookfield Energy Marketing LP	Other Supplier
Kilgallen, Kevin	Avangrid Renewables LLC	Generation Owner
Kimmel, David	PJM Interconnection, LLC	Not Applicable
Kinser, Cynthia	Tennessee Department of Agriculture	Not Applicable
Kreitler, Ginny	National Audobon	Not Applicable
Langbein, Pete	PJM Interconnection, LLC	Not Applicable
Libbos, Robin	FirstEnergy Solutions Corp.	Transmission Owner
Lowe, Connie	Dominion Virginia Power	Not Applicable
Mariam, Yohannes	Office of the Peoples Counsel for the District of Columbia	End User Customer
Markiewicz, Cindy	FirstEnergy Solutions Corp.	Transmission Owner
Marton, David	FirstEnergy Solutions Corp.	Transmission Owner
Matzen, Jeff	Dominion Retail, Inc.	Not Applicable
Maxwell, Melissa	PJM Interconnection, LLC	Not Applicable
Mendelsohn, Mark	Noble Americas Gas & Power Corp.	Other Supplier

Moye, Bob	Rainbow Energy Marketing Corporation	Other Supplier
Murray, Kevin	McNees Wallace & Nurick LLC	Not Applicable
O'Hara, Brian	Mercuria Energy Inc.	Other Supplier
Ondayko, Brock	Appalachain Power Company	Transmission Owner
Pakula, Maggie	Invenergy, LLC	Generation Owner
Patel, Keyurbhai	PJM Interconnection, LLC	Not Applicable
Pelletier, Eveline	Hydro-Quebec	Not Applicable
Peoples, John	Duquesne Light Company	Transmission Owner
Philips, Marjorie	Direct Energy Business, LLC	Other Supplier
Price, Ruth Ann	Division of the Public Advocate of the State of Delaware	End User Customer
Rohrbach, John	Southern Maryland Electric Cooperative	Electric Distributor
Sanders, Melanie	Exelon Business Services Company, LLC	Transmission Owner
Sasser, Jonathan	Customized Energy Solutions, Ltd.*	Not Applicable
Schneider, Jonathan	FirstEnergy Solutions Corp.	Transmission Owner
Schreim, Morris	Maryland Public Service Commission	Not Applicable
Shanker, Roy	H.Q. Energy Services (U.S.), Inc.	Other Supplier
Sturgeon, John	Duke Energy Carolinas, LLC	Other Supplier
Thompson, Matt	XO Energy MA, LP	Other Supplier
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
Wilhite, Chad	FirstEnergy Solutions Corp.	Transmission Owner
Wilkie, Brian	Consolidated Edison Solutions, Inc	Other Supplier
Williams, Stanley	PJM Interconnection, LLC	Not Applicable
Wilson, Bram	Diamond State Generation Partners, LLC	Generation Owner
Wilson, James	Wilson Energy Economics	Not Applicable

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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Meeting Minutes

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