

Energy Price Formation Sr. Task Force
PJM Conference and Training Center
March 5, 2018
10:00 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 February 15, 2018 Energy Price Formation Senior Task Force meeting.

Interest Identification

3. Dr. Scott Harvey, FTI Consulting provided a presentation reviewing the History of LMP, discussing the goals of implementing LMP pricing in the 1990s, constraints with the LMP design and implementation and the evolution of LMP.

Dr. Scott Harvey is a Consultant in the Economic Consulting segment and is located in Boston. Prior to joining FTI Consulting, he was a consultant for 12 years with LECG and 11 years with Putnam, Hayes & Bartlett, Inc. He has been actively involved at FTI Consulting, LECG, and Putnam, Hayes & Bartlett with the restructuring of the PJM, New York and New England Power Pools, the development of the MISO Stage 2 congestion management system implemented in April 2005, and the development and implementation of the California ISO's MRTU market design in April 2009.

Senior Task Force Charter and Work Plan

4. Mr. Anders led a discussion on the latest version of the draft charter for the Energy Price Formation Sr. Task Force (EPFSTF). The first read of the draft_charter was presented at the Markets and Reliability Committee meeting on February 22, 2018 meeting.
5. Mr. Anders led a discussion of the work plan and meeting schedule for the EPFSTF.

Fast Start Education

6. Ms. Melissa Maxwell, PJM, will review examples of single period integer relaxation.

Identification of Design Criteria

7. Mr. Anders led a discussion around identification of design criteria for key work activity item 2 from the issue charge and review design criteria that were captured at the February 15, 2018 EPFSTF meeting.

Identification of Gaps for Energy and Reserve Markets

8. Identification of Gaps for Energy and Reserve Markets
 - A. Mr. Anders led a discussion around identification of gaps for key work activity item 3 from the issue charge.

- B. Mr. Adam Keech, PJM, gave a presentation on gaps to consider between EPFSTF criteria and current market design from PJM perspective.
 - C. Mr. Anders led a discussion around identification of gaps for key work activity item 3 from the issue charge to capture stakeholder identification of gaps with current market design.
9. Mr. Anders led a discussion to provide an update to the options Matrix for EPFSTF focusing on Shortage pricing and Reserves pricing.

Future Agenda Items

Future Meeting Dates

March 29, 2018	9:30 a.m.	PJM Conference & Training Center/ WebEx
April 18, 2018	1:00 p.m.	PJM Conference & Training Center/ WebEx
May 4, 2018	9:00 a.m.	The Chase Center on the Riverfront/ WebEx
May 23, 2018	9:30 a.m.	PJM Conference & Training Center/ WebEx
June 8, 2018	9:00 a.m.	PJM Conference & Training Center/ WebEx
June 25, 2018	10:00 a.m.	PJM Conference & Training Center/ WebEx
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

Author: Vijay Shah

In Attendance (In Person)

Name	Company	Sector
Anders, David	PJM Interconnection, LLC	Not Applicable
Borgatti, Mike	Gable and Associates	Not Applicable
Burdis, Tim	PJM Interconnection, LLC	Not Applicable
Callaghan, Chris	PJM Interconnection, LLC	Not Applicable
Carroll, Rebecca	PJM Interconnection, LLC	Not Applicable
Ciabattoni, Joseph	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
Fort, Jim	The Energy Authority	Other Supplier
Fuess, Christian	Other	Not Applicable
Fuess, James	PBF Power Marketing LLC	Generation Owner
Gebolys, Debbie	Public Utilities Commission of Ohio (The)	Not Applicable
Horger, Tomothy	PJM Interconnection, LLC	Not Applicable
Horstmann, John	Dayton Power & Light Company (The)	Transmission Owner
Hyzinski, Tom	GT Power Group	Not Applicable
Janicki, Diane	Boston Energy Trading & Marketing, LLC	Generation Owner
Johnson, Carl	Customized Energy Solutions, Ltd.*	Not Applicable
Keech, Adam	PJM Interconnection, LLC	Not Applicable
Kelly, Stephen	Brookfield Energy Marketing LP	Other Supplier

Kenney, Susan	PJM Interconnection, LLC	Not Applicable
Kinser, Cynthia	Tennessee Department of Agriculture	Not Applicable
Kogut, George	New York Power Authority	Other Supplier
Liang-Nicol, Cecilia	Monongahela Power Company d/b/a Allegheny Power	Transmission Owner
Lieberman, Steven	American Municipal Power, Inc.	Electric Distributor
Mariam, Yohannes	Office of the Peoples Counsel for the District of Columbia	End User Customer
Maxwell, Melissa	PJM Interconnection, LLC	Not Applicable
Morelli, Lisa	PJM Interconnection, LLC	Not Applicable
Murray, Kevin	McNees Wallace & Nurick LLC	Not Applicable
Nix, Emma	PJM Interconnection, LLC	Not Applicable
Ondayko, Brock	Appalachian Power Company	Transmission Owner
Pakela, Greg	DTE Energy Trading, Inc.	Other Supplier
Park, Jinny	PJM Interconnection, LLC	Not Applicable
Perera, Asanga	PJM Interconnection, LLC	Not Applicable
Pratzon, David	GT Power Group	Not Applicable
Price, Ruth	Division of the Public Advocate of the State of Delaware	End User Customer
Reichert, Joshua	Scotia Bank	Not Applicable
Rismiller, Randy	Illinois Commerce Commission	Not Applicable
Robinson, Maria	Advanced Energy Economy, Inc.	Not Applicable
Scarpignato, David	Calpine Energy Services, L.P.	Generation Owner
Shah, Vijay	PJM Interconnection, LLC	Not Applicable
Shegarfi, Roozbeh	Exelon Energy Company	Transmission Owner
Sock, Bryan	PSEG Energy Resources and Trade LLC	Transmission Owner
Suh, Jung	Calpine Energy Services, L.P.	Generation Owner
Thomas, Henry	PJM Interconnection, LLC	Not Applicable
Tyler, Catherine	Monitoring Analytics	Not Applicable
Vargo, Daniel	Allegheny Electric Cooperative, Inc.	Electric Distributor
Velasco, Cheryl Mae	PJM Interconnection, LLC	Not Applicable
Warshel, Kim	PJM Interconnection, LLC	Not Applicable
Wei, Jane	Monitoring Analytics	Not Applicable
Whitehead, Jeffrey	GT Power Group	Not Applicable
Wilhite, Chad	FirstEnergy Solutions Corp.	Transmission Owner
Wilson, Bram	Diamond State Generation Partners, LLC	Generation Owner
Woo, Harry	Ares Manangement	Not Applicable

In Attendance (Teleconference)

Name	Company	Sector
Ainspan, Malcolm	Energy Curtailment Specialists, Inc.	Other Supplier
Bagot, Nancy	Electric Power Supply Association	Not Applicable
Belley, Guillaume	Merrill Lynch Commodities, Inc.	Other Supplier
Benchek, Jim	FirstEnergy Solutions Corp.	Transmission Owner
Berlinski, Mike	Customized Energy Solutions, Ltd.*	Not Applicable
Bloodworth, Michelle	American Coalition for Clean Coal Electricity	Not Applicable
Bolan, Martin	FirstEnergy Solutions Corp.	Transmission Owner

Brodbeck, John	EDP Renewables North America, LLC	Other Supplier
Brown, Rich	PJM Interconnection, LLC	Not Applicable
Bruce, Susan	McNees Wallace & Nurick LLC	Not Applicable
Bruno, Patrick	PJM Interconnection, LLC	Not Applicable
Bryson, Mike	PJM Interconnection, LLC	Not Applicable
Campbell, Bruce	EnergyConnect, Inc.	Other Supplier
Canchi, Devendra	Monitoring Analytics, LLC	Not Applicable
Carmean, Gregory	OPSI	Not Applicable
Chen, Jennifer	Natural Resources Defense Council	Not Applicable
Chintapalli, Raj	Galt Power Inc.	Other Supplier
Cocco, Michael	Old Dominion Electric Cooperative	Electric Distributor
Coyne, Suzanne	PJM Interconnection, LLC	Not Applicable
Croop, Danielle	PJM Interconnection, LLC	Not Applicable
Crystle, Gil	UGI Development Company	Transmission Owner
Dasher, Brett	Energy Authority, Inc. (The)	Other Supplier
Daugherty, Suzanne	PJM Interconnection, LLC	Not Applicable
Davis, Elizabeth	Talen Energy Marketing, LLC	Generation Owner
Davis, James	Dominion Energy Marketing, Inc.	Generation Owner
DeBellis, Eric	Environmental Law and Policy Center	Not Applicable
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
Dugan, Chuck	East Kentucky Power Cooperative, Inc.	Transmission Owner
Erickson, David	Appalachian Power Company	Transmission Owner
Falin, Tom	PJM Interconnection, LLC	Not Applicable
Fan, Zhenyu	PJM Interconnection, LLC	Not Applicable
Feliks, Kent	Appalachian Power Company	Transmission Owner
Fields, William	Maryland Office of Peoples Counsel	End User Customer
Filomena, Guy	Customized Energy Solutions, Ltd.	Not Applicable
Fink, Sari	Office of the Ohio Consumers' Counsel	End User Customer
Gerlach, Kathryn	PSEG Energy Resources and Trade, LLC	Other Supplier
Giacomoni, Anthony	PJM Interconnection, LLC	Not Applicable
Gilani, Rehan	ConEdison Energy, Inc.	Other Supplier
Gledhill, Andrew	PJM Interconnection, LLC	Not Applicable
Grau, Patrick	Dynegy Marketing & Trade, LLC	Generation Owner
Grimes, Jordan	Morningstar Commodity Data	Not Applicable
Guo, JauJia	Appalachian Power Company	Transmission Owner
Hall, Tim	Southern OPCO's: APC, GPC, GuPC, MPC, SPC - J&S	Not Applicable
Hanser, Erik	Michigan Public Service Commission	Not Applicable

Harvey, Scott	FTI Consulting LLC	Not Applicable
Heinle, Frederick	Office of the People's Counsel	End User Customer
Heisey, Bradley	Wolf Hills Energy, LLC	Generation Owner
Hendrzak, Chantal	PJM Interconnection, LLC	Not Applicable
Henry, Robert	FirstEnergy Solutions Corp.	Transmission Owner
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
Holland, Risa	PJM Interconnection, LLC	Not Applicable
Holter, Natasha	PJM Interconnection, LLC	Not Applicable
Horton, Dana	Appalachian Power Company	Transmission Owner
Hsia, Eric	PJM Interconnection, LLC	Not Applicable
Huang, Henry	Constellation Energy Services, Inc.	Other Supplier
Hudis, Gabriella	Jersey Green Energy LLC	Other Supplier
Hunter, Rebecca	Calpine Energy Solutions, LLC	Other Supplier
Joseph, Kelli	NRG Power Marketing LLC (NJ)	Generation Owner
Keeney, Jerry	Dynegy Marketing & Trade, LLC	Generation Owner
Kilgallen, Kevin	Avangrid Renewables LLC	Generation Owner
Kimmel, David	PJM Interconnection, LLC	Not Applicable
Langbein, Pete	PJM Interconnection, LLC	Not Applicable
Li, Kanning	PJM Interconnection, LLC	Not Applicable
Luna, Joel	Monitoring Analytics, LLC	Not Applicable
Mabry, David	McNees Wallace & Nurick LLC	Not Applicable
Matzen, Jeff	Dominion Retail, Inc.	Not Applicable
Mendelsohn, Mark	Noble Americas Gas & Power Corp.	Other Supplier
Metzler, Jakob	Castleton Commodities Merchant Trading L.P.	Other Supplier
Nawaz, Zainab	NJ Board of Public Utilities	Not Applicable
O'Neill, Jack	PJM Interconnection, LLC	Not Applicable
O'Neill, Richard	FERC	Not Applicable
Pakula, Maggie	Invenergy, LLC	Generation Owner
Pang, Michael	Merrill Lynch Commodities, Inc.	Other Supplier
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
Riehl, John	The Federal Energy Regulatory Commission	Not Applicable
Robson, Matt	SESCO Enterprises LLC	Other Supplier
Rocha-Garrido, Patricio	PJM Interconnection, LLC	Not Applicable

Rohrbach, John	Southern Maryland Electric Cooperative	Electric Distributor
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
Shanker, Roy	H.Q. Energy Services (U.S.), Inc.	Other Supplier
Sillin, John	The Federal Energy Regulatory Commission	Not Applicable
Slagel, Ronald	Other	Not Applicable
steele, Robert	Acorn Energy Trading, LLC	Other Supplier
Stoddard, Robert	Power Market Economics	Not Applicable
Thompson, Matt	XO Energy MA, LP	Other Supplier
Thundiyil, Kevin	Exelon Energy Company	Transmission Owner
Todd, George	EnerNOC Inc.	Other Supplier
Tsao, Stephanie	SPGlobal	Not Applicable
Vaudreuil, Greg	Mosaic Power	Other Supplier
Ward, Michael	PJM Interconnection, LLC	Not Applicable
Welch, Patrick	Trustees of the University of Pennsylvania	End User Customer
Wilkie, Brian	Consolidated Edison Solutions, Inc	Generation Owner
Wilson, James	Wilson Energy Economics	Not Applicable
Wisersky, Megan	Madison Gas & Electric Company	Other Supplier
Xu, Xu	PJM Interconnection, LLC	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.

Public Meetings/Media Participation:

Unless otherwise noted, PJM stakeholder meetings are open to the public and to members of the media. Members of the media are asked to announce their attendance at all PJM stakeholder meetings at the beginning of the meeting or at the point they join a meeting already in progress. Members of the Media are reminded that speakers at PJM meetings cannot be quoted without explicit permission from the speaker. PJM Members are reminded that "detailed transcriptional meeting notes" and white board notes from "brainstorming sessions" shall not be disseminated. Stakeholders are also not allowed to create audio, video or online recordings of PJM meetings. PJM may create audio, video or online recordings of stakeholder meetings for internal and training purposes, and your participation at such meetings indicates your consent to the same.

Participant Identification in WebEx:

When logging into the WebEx desktop client, please enter your real first and last name as well as a valid email address. Be sure to select the "call me" option. PJM support staff continuously monitors WebEx connections during stakeholder meetings. Anonymous users or those using false usernames or emails will be dropped from the teleconference.

On the Phone Dial



Mute / Unmute

Linking Teleconference Connection to WebEx

To link your teleconference connection (audio presence) to your WebEx presence, please dial *29 and enter your Personal Identification Number. Once you are logged in to the WebEx, this PIN can be found under the "Meeting Info" tab of your WebEx window.

Join a Meeting

1. Join meeting in the WebEx desktop client
2. Enter name (*First and Last**) and corporate email
3. Under "Select Audio Option" select "Call Me" option from the dropdown menu

**Note: Anonymous users or those using false usernames or emails will be dropped from the teleconference.*

Provide feedback on the progress of this group: [Facilitator Feedback Form](#)
Visit learn.pjm.com, an easy-to-understand resource about the power industry and PJM's role.