

Market Implementation Committee
PJM Conference & Training Center, Audubon, PA
March 11, 2020
9:00 a.m. – 4:00 p.m. EPT

Administration

Ms. Bhavana Keshavamurthy, PJM, reviewed the Antitrust, Code of Conduct, Public Meetings/Media Participation and the WebEx Participant Identification Requirement.

The Committee approved the draft minutes from the Feb. 5, 2020 Market Implementation Committee meeting with **0 objections and 0 abstentions**.

- A. Mr. Tim Horger, PJM, provided an update on the Five Minute Dispatch and Pricing issue. This issue was a first read at the February MIC and was scheduled to be voted at the March MIC. However, based on discussions at the Feb. 27 MIC Special Session, PJM will defer voting on this change until PJM receives feedback from conversations with SPP and MISO and additional analysis is completed. PJM plans to return with details on the path forward at the April MIC.
- B. Mr. Dave Anders, PJM, provided an update to a potential credit risk identified with an Incremental Auction that commenced on Feb.24, 2020. This was initially reported at the MC Webinar on Feb. 18 followed by email notification to stakeholders. The risk PJM identified did not materialize. PJM had initially indicated that a new Issue Charge would be proposed to address this issue but has since determined that additional time is needed before the Issue Charge is finalized. PJM would like to review the charter of the Credit Subcommittee and review the scope of the charter and the reporting structure and determine if this the best forum to have the discussion. PJM plans to bring the Credit Subcommittee Charter for discussion to a future MRC meeting.

Working Items

- 1. **Stability Limits in Markets and Operations**
 - A. Mr. Joe Ciabattoni, PJM, reviewed the Issue Charge and PJM's current approach to modeling stability limits.
 - B. Mr. Keyur Patel, PJM, provided an overview of the capacity constraint concept and how it can be utilized to address stability limits.
 - C. Ms. Lisa Morelli, PJM, led a discussion to gather solution options from the group. Stakeholders are requested to provide additional solution options for the group's consideration. Absent additional feedback from stakeholders, the committee will begin reviewing packages at the April MIC.

[Issue Tracking: Stability Limits in Markets and Operations](#)
- 2. **OC/MIC: Fuel Requirements for Black Start Resources**

Ms. Janell Fabiano, PJM, provided a status update on the Fuel Requirements for Black Start Resources issue. This issue was scheduled to be voted this month but PJM is recommending a 4-8

month hiatus while additional analysis are performed. A status report will be provided at the Mar.26 MRC.

[Issue Tracking: Fuel Requirements for Black Start Resources](#)

Additional Items

3. **Update on Effective Load Carrying Capability for Limited Duration and Intermittent Resources**
Mr. Andrew Levitt, PJM, reviewed the Issue Charge addressing the Effective Load Carrying Capability (ELCC) for limited duration and Intermittent Resources that will be presented at the Mar. 26 MRC for a vote at first read.
4. **Load Management Mid-year Performance Report**
Mr. Jack O'Neill, PJM, provided a summary of Load Management performance from mandatory tests conducted this summer and from the October 2nd, 2019 PAI event.
5. **Capacity Market Minimum Offer Price Rule (MOPR) Order**
 - A. PJM staff reviewed the planned guidance that will be provided to assist participants in determining which programs qualify as State Subsidies. Stakeholders provided feedback on information that should be included as part of this process.
 - B. Mr. Pat Bruno, PJM, provided an overview of PJM's planned application of the MOPR to gas-fired combustion turbines and combined cycle units.
 - C. Mr. Gary Helm, PJM, presented updated default Cost of New Entry and Energy & Ancillary Services Offset values.
 - D. Mr. Michael Hagerty, The Brattle Group, presented updated default Avoidable Cost Rate values.

Future Meeting Dates

April 15, 2020	9:00 a.m.	PJM Conference & Training Center/ WebEx
May 13, 2020	9:00 a.m.	PJM Conference & Training Center/ WebEx
June 3, 2020	9:00 a.m.	PJM Conference & Training Center/ WebEx
July 8, 2020	9:00 a.m.	PJM Conference & Training Center/ WebEx
August 5, 2020	9:00 a.m.	PJM Conference & Training Center/ WebEx
September 2, 2020	9:00 a.m.	PJM Conference & Training Center/ WebEx

Author: Bhavana Keshavamurthy

In-Person Meeting Attendees

Names	Company Name	Sector
Morelli, Lisa (Chair)	PJM Interconnection, LLC	Not Applicable
Keshavamurthy, Bhavana (Secretary)	PJM Interconnection, LLC	Not Applicable

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.

Anders, David	PJM Interconnection, LLC	Not Applicable
Bastian, Jeff	PJM Interconnection, LLC	Not Applicable
Bhavaraju, Murty	PJM Interconnection, LLC	Not Applicable
Bruno, Patrick	PJM Interconnection, LLC	Not Applicable
Ciabattoni, Joe	PJM Interconnection, LLC	Not Applicable
DeVita, Thomas	PJM Interconnection, LLC	Not Applicable
Fabiano, Janell	PJM Interconnection, LLC	Not Applicable
Greening, Michele	PJM Interconnection, LLC	Not Applicable
Hauske, Thomas	PJM Interconnection, LLC	Not Applicable
Helm, Gary	PJM Interconnection, LLC	Not Applicable
Horger, Tim	PJM Interconnection, LLC	Not Applicable
Keech, Adam	PJM Interconnection, LLC	Not Applicable
Levitt, Andrew	PJM Interconnection, LLC	Not Applicable
Lu, Chenchao	PJM Interconnection, LLC	Not Applicable
O'Neill, Jack	PJM Interconnection, LLC	Not Applicable
Patel, Keyur	PJM Interconnection, LLC	Not Applicable
Scheidecker, Paul	PJM Interconnection, LLC	Not Applicable

Webex Meeting Attendees

Names	Company Name	Sector
Abdur-Rahman, Muhsin	ABB	Not Applicable
Ament, Todd	Cube Hydro	Generation Owner
Anderson, Bob	Tenaska Power Services	Generation Owner
Arnold, Jonathan	Vertical Research Partners	Not Applicable
Baker, Scott	PJM Interconnection, LLC	Not Applicable
Barker, Jason	Exelon Business Services Company, LLC	Transmission Owner
Baur, Sean	GlidePath Power Operations LLC	Generation Owner
Benchek, Jim	American Transmission Systems, Inc.	Transmission Owner
Bernstein, Matthew	PJM Interconnection, LLC	Not Applicable
Bleiweis, Bruce	DC Energy LLC	Other Supplier
Bockhorn, Tim	AES Ohio Generation, LLC	Generation Owner
Borgatti, Michael	Gabel and Associates	Not Applicable
Bowring, Joe	Monitoring Analytics, LLC	Not Applicable
Boyle, Glen	PJM Interconnection, LLC	Not Applicable
Brouillette, Kyle	Indiana Municipal Power Agency	Generation Owner
Brunner, Markus	Mercuria Energy America	Other Supplier
Bruno, Joshua	PJM Interconnection, LLC	Not Applicable
Campbell, Bruce	EnergyConnect, Inc.	Other Supplier
Canter, David	Appalachian Power Company	Transmission Owner
Carmean, Greg	OPSI	Not Applicable
Carrier, Ron	Direct Energy Business, LLC	Other Supplier
Chang, Sean	Shell Energy North America (US), LP	Other Supplier
Chen, Hong	PJM Interconnection, LLC	Not Applicable
Chintapalli, Raj	BP Energy Company	Other Supplier
Chmielewski, Brian	PJM Interconnection, LLC	Not Applicable
Christopher, Mahila	Ohio Public Utility Commission	Not Applicable
Chu, George	PJM Interconnection, LLC	Not Applicable
Cocco, Michael	Old Dominion Electric Cooperative	Electric Distributor
Collins, Ryan	Wright Law	Not Applicable

Coultas, Ann	Invenergy, LLC	Generation Owner
Coyne, Suzanne	PJM Interconnection, LLC	Not Applicable
Croop, Danielle	PJM Interconnection, LLC	Not Applicable
Crystle, Gil	UGI Development Company	Transmission Owner
D'Antonio, Phil	PJM Interconnection, LLC	Not Applicable
Davis, Elizabeth	PJM Interconnection, LLC	Not Applicable
Davis, Jim	Dominion Energy	Transmission Owner
DeLosa, Joe	NJ Board of Public Utilities	Not Applicable
Dennis, Jeff	Advanced Energy Economy	Not Applicable
DePillo, Ray	PSEG Energy Resources and Trade LLC	Transmission Owner
Diiorio, Michelle	PSEG Energy Resources and Trade LLC	Transmission Owner
Dillon, Matt	UGI Development Company	Generation Owner
DiNicola, Laura	FirstEnergy Solutions Corp.	Transmission Owner
Dolan, Jim	PJM Interconnection, LLC	Not Applicable
Domian, Christin	Duquesne Light Company	Transmission Owner
Dorko, Keri	Monitoring Analytics, LLC	Not Applicable
Douglass, Robert	Constellation Energy Services, Inc.	Other Supplier
Drom, Richard	Eckert Seamans	Not Applicable
Dugan, Chuck	East Kentucky Power Cooperative, Inc.	Transmission Owner
Egan, Amanda	PJM Interconnection, LLC	Not Applicable
Esterly, Theresa	PJM Interconnection, LLC	Not Applicable
Everngam, Scott	Blue Horse Shoe Energy	Not Applicable
Fakhoury, Ray	Pattern Energy	Not Applicable
Fee, George	Appalachian Power Company	Transmission Owner
Fernandez, Ray	PJM Interconnection, LLC	Not Applicable
Fidler, Danielle	Earth Justice	Not Applicable
Filomena, Guy	Customized Energy Solutions, Ltd.	Not Applicable
Fink, Sari	American Wind Energy Management Corporation	Not Applicable
Fishback, Luke	Affirmed Energy	Other Supplier
Foldare, Kenneth	Tangible	Not Applicable
Foley, Imelda	Environmental Defense Fund	Not Applicable
Ford, Adrien	Old Dominion Electric Cooperative	Electric Distributor
Fuess, Christian	PBF Power Marketing	Generation Owner
Fuller, Pete	Autumn Lane Energy	Not Applicable
Gallo, Mike	Solar Frontier	Not Applicable
Gates, Terry	Appalachian Power Company	Transmission Owner
Garnett, Bryan	Duke Energy	Transmission Owner
Ghodsian, Arash	EDF Renewable Energy	Not Applicable
Gilani, Rehan	ConEdison Energy, Inc.	Other Supplier
Glazer, Craig	PJM Interconnection, LLC	Not Applicable
Gluck, Jim	PJM Interconnection, LLC	Not Applicable
Gregoire, Ann	Gilberton Coal	Not Applicable
Greiner, Gary	PSEG Energy Resources and Trade LLC	Other Supplier
Guntle, Vince	UGI Development Company	Generation Owner
Hagerty, Mike	The Brattle Group	Not Applicable
Han, Yizhen	PA Consulting	Not Applicable
Hanser, Erik	Michigan Public Service Commission	Not Applicable
Hasan, Prusha	Advanced Energy Economics	Not Applicable
Hastings, David	Market Interconnection LLC	Not Applicable
Heidorn, Richard	RTO Insider	Not Applicable

Helms, Joe
 Herel, Suzanne
 Hilaski, Steve
 Hoatson, Tom
 Hohenshilt, Jennifer
 Holland, Cynthia
 Holter, Natasha
 Horning, Lynn Marie
 Horstmann, John
 Horton, Dana
 Huang, Jame
 Hudis, Gabriella
 Hull, Gerit
 Hurwich, Mark
 Hyzinski, Tom
 Janicki, Diane
 Jens, Tom
 Jha, Monica
 Johnson, Carl
 Kauffman, Brian
 Kazerooni, Hamid
 Keenan, Mathew
 Kelly, Stephen
 Kenney, Susan
 Kilgallen, Kevin
 Kimmel, David
 Kirk, Ryan
 Langbein, Pete
 LaRocque, Matthew
 Laymon, Angelita
 Lazerwitz, Brianna
 Leasure, Jill
 Lejcar, Jamie
 Liang-Nicol, Cecilia
 Libbos, Robin
 Lieberman, Steve
 Litchfield, Matt
 Lowe, Connie
 Mabry, David
 Mariam, Yohannes
 Markiewicz, Cindy
 Martin, Valerie
 Matsuzak, Alex
 McGovern, Jason
 Meadors, Mandy
 Messina, Emmy
 Midgley, Sharon
 Mok, Alan
 Newell, Sam
 Nix, Emma

Rainbow Energy Marketing Corporation
 PJM Interconnection, LLC
 Potomac Electric Power Company
 LS Power
 Talen Energy Marketing, LLC
 New Jersey Board of Public Utilities
 PJM Interconnection, LLC
 Customized Energy Solutions, Ltd.*
 Dayton Power & Light Company (The)
 Appalachian Power Company
 ConEdison Energy, Inc.
 Jersey Green Energy LLC
 American Municipal Power, Inc.
 Elliott Bay Energy Trading, LLC
 GT Power Group
 Boston Energy Trading & Marketing, LLC
 Blackoak Capital
 PCI
 Customized Energy Solutions, Ltd.*
 EnerNOC, Inc.
 Invenergy, LLC
 Elwood Energy
 Brookfield Energy Marketing LP
 PJM Interconnection, LLC
 Avangrid Renewables, LLC
 PJM Interconnection, LLC
 Appalachian Power Company
 PJM Interconnection, LLC
 PJM Interconnection, LLC
 FirstEnergy Solutions Corp.
 Bloomberg
 Keystone-Conemaugh Projects, LLC
 Allegheny Electric Cooperative, Inc.
 Monongahela Power Company d/b/a Allegheny Power
 FirstEnergy Solutions Corp.
 American Municipal Power, Inc.
 CPV Maryland, LLC
 Dominion Virginia Power
 McNees Wallace & Nurick LLC
 Office of the Peoples Counsel for the District of Columbia
 FirstEnergy Solutions Corp.
 The Federal Energy Regulatory Commission
 UGI Energy Services
 PJM Interconnection, LLC
 Duke Energy Ohio, Inc
 PJM Interconnection, LLC
 Exelon Business Services Company, LLC
 Duke Energy Kentucky, Inc.
 The Brattle Group
 Gable Associates

Other Supplier
 Not Applicable
 Electric Distributor
 Not Applicable
 Generation Owner
 Not Applicable
 Not Applicable
 Not Applicable
 Transmission Owner
 Transmission Owner
 Other Supplier
 Other Supplier
 Electric Distributor
 Other Supplier
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 Generation Owner
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 Transmission Owner
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 Not Applicable
 Other Supplier
 Electric Distributor
 Transmission Owner
 Transmission Owner
 Electric Distributor
 Generation Owner
 Not Applicable
 Not Applicable
 End User Customer
 Transmission Owner
 Not Applicable
 Other Supplier
 Not Applicable
 Transmission Owner
 Not Applicable
 Transmission Owner
 Transmission Owner
 Not Applicable
 Not Applicable

Nowell, Cynthia
O'Connell, Robert
Olaleye, Michael
Ondayko, Brock
O'Neill, Jack
Oppel, Laurie
Pakela, Gregory
Peoples, John
Philips, Darlene
Philips, Marjorie
Picarelli, David
Pilong, Chris
Pilong, Melissa
Pincus, Steve
Poulos, Greg
Powers, Sean
Price, Mark
Rayhorn, Carolyn
Reeping, Bob
Robinson, Becky
Rohrbach, John
Rutigliano, Tom
Salaneck, Alexandra
Sasser, Jonathan
Schmitt, Jeff
Schuyler, Ken
Schweizer, David
Shanker, Roy
Sillin, John
Sotkiewicz, Paul
Squibb, Bill
Stern, Alexander
Stone, Andy
Strella, Lauren
Swalwell, Brad
Sweeney, Rory
Tangirala, Subha
Theodore, Sharon
Tibbetts, Maeve
Tribulski, Jennifer
Tyler, Catherine
VanAmburg, Cari
Ward, Michael
Warshel, Kim
Webster, John
Whitehead, Jeffrey
Widom, Stu
Wilmoth ES, Emily
Wilson, Bram
Wisersky, Megan

Potomac Electric Power Company
PPGI Fund A/B Development, LLC
PJM Interconnection, LLC
Appalachian Power Company
PJM Interconnection, LLC
Grid Advisors
DTE Energy Trading, Inc.
Duquesne Light Company
PJM Interconnection, LLC
Direct Energy Business, LLC
PJM Interconnection, LLC
PJM Interconnection, LLC
PJM Interconnection, LLC
PJM Interconnection, LLC
CAPS
Linde, LLC
DC Energy Mid-Atlantic, LLC
Dominion Virginia Power
Ohio Edison Company
Vistra Energy
ACES Power
NRDC
Monitoring Analytics, LLC
Customized Energy Solutions, Ltd.*
PJM Interconnection, LLC
PJM Interconnection, LLC
PJM Interconnection, LLC
PJM Interconnection, LLC
H.Q. Energy Services (U.S.), Inc.
The Federal Energy Regulatory Commission
E-Cubed Policy Associates LLC
Ohio Valley Electric Corporation
Public Service Electric & Gas Company
PJM Interconnection, LLC
PJM Interconnection, LLC
Tangent Energy
GT Power Group
ABB
Electric Power Supply Association
Pierce Atwood
PJM Interconnection, LLC
Monitoring Analytics, LLC
Recurrent Energy
PJM Interconnection, LLC
PJM Interconnection, LLC
Icetek.com, Inc.
GT Power Group
PJM Interconnection, LLC
Dominion Virginia Power
EFW, Inc
Madison Gas & Electric Co.

Electric Distributor
Generation Owner
Not Applicable
Transmission Owner
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Not Applicable
Other Supplier
Transmission Owner
Not Applicable
Other Supplier
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Not Applicable
Not Applicable
Not Applicable
End User Customer
Other Supplier
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Transmission Owner
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Generation Owner
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Generation Owner
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Other Supplier
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Not Applicable
Other Supplier



Draft Minutes

Yoder, Michael
Zolnierek, Jim

RTO Insider
Illinois Commerce Commission

Not Applicable
Not Applicable