



Market Implementation Committee
PJM Conference & Training Center, Audubon, PA
April 4, 2018
9:00 a.m. – 3:45 p.m. EPT

#### Administration

- 1. Ms. Christina Stotesbury, PJM, provided announcements, reviewed the Antitrust, Code of Conduct, and Public Meetings/Media Participation Guidelines, and Issue Tracking.
- 2. The committee approved the draft minutes from the March 7, 2018 Market Implementation Committee meeting by acclamation with 0 objections and 0 abstentions.

#### 3. Administration Updates

- A. Mr. Hal Loomis, PJM, provided an update on changes to the upcoming FTR Credit Auction.
- B. Mr. Eric Hsia, PJM, provided an update on the Regulation Filing from FERC, Docket ER18-87-001.
- C. Dr. Joe Bowring, Monitoring Analytics, provide an update on 2017 State of the Market Report Errata.

#### **Endorsements/Approvals**

#### 4. Variable Operations & Maintenance Packages

- A. Ms. Melissa Pilong, PJM, reviewed all three solution packages to address the Variable Operations & Maintenance (VOM) Costs issue that were proposed in the VOM Special Session meetings.
- B. Dr. Catherine Tyler, Monitoring Analytics, presented the IMM VOM proposal.
- C. Mr. Gary Helm, PJM, provided an update on the 2018 Net CONE assessment and the impact on VOM. The committee endorsed two packages.

The <u>Default VOM</u> package received greatest support and will move to the MRC as the main motion with 178 in favor (81%), 43 opposed (19%) and 7 abstentions.

The PJM package was endorsed with 169 in favor (75%), 57 opposed (25%) and 3 abstentions.

The <u>IMM package</u> was not endorsed with 24 in favor (11%), 200 opposed (89%), and 5 abstentions.

The committee also preferred the Default VOM package over Status Quo with 139 in favor (71%) and 57 opposed (29%).

<u>Issue Tracking: Variable Operations & Maintenance</u>

#### Manual 28 Revisions

Mr. Ray Fernandez, PJM, reviewed conforming revisions to Manual 28: Operating Agreement Accounting, to address changes based on a recent FERC Compliance Order and a technical correction for Revenue Data for Settlements calculation for generation resources.

The Committee endorsed the Manual 28 revisions by acclamation with 0 objections and 0 abstentions.





#### First Readings

#### 6. Manual 11 Revisions

Mr. Keyur Patel, PJM, presented a first read of conforming revisions to Manual 11: Energy & Ancillary Services Market Operations, related to the FERC Order on Virtual Bidding. The Committee will be asked to endorse the Manual 11 revisions at the May MIC Meeting.

#### Working Issues

#### 7. FTR Nodal Remapping

Mr. Brian Chmielewski, PJM, reviewed a draft proposal to address the FTR Nodal Remapping issue, and stakeholders were given an opportunity to propose options and packages.

Issue Tracking: FTR Nodal Remapping

## 8. Long Term FTR Auction

Mr. Brian Chmielewski, PJM, reviewed the Long Term FTR issue and presented a proposed package. Stakeholders were given an opportunity to provide interests and design components.

Issue Tracking: Long Term FTR Auction

#### 9. FTR Forfeiture Rule

Mr. Seth Hayik, Monitoring Analytics, presented education on the FTR Forfeiture Rule. Issue Tracking: FTR Forfeiture Rule Changes

#### 10. Market Seller Offer Cap Balancing Ratio

- A. Dr. Joseph Bowring, Monitoring Analytics, presented education on the Balancing Ratio issue. Dr. Bowring stated that Out of Scope Item #1, the general determination of the default Market Seller Offer Cap (MSOC), as Net CONE x B, should be moved back in scope, as proposed changes to the Non-Performance Charge Rate can have an impact on the underlying equations used to derive the default MSOC as Net CONE x B.
- B. Mr. Pat Bruno, PJM, continued working the Offer Cap Balancing Ratio issue, and presented additional education and a draft solution for discussion. Stakeholders were given an opportunity to propose additional options and packages.

To address the Market Monitor's concern, a motion was made by Mr. Bob O'Connell, Panda Power Funds, to amend the Market Seller Offer Cap Balancing Ratio Issue Charge to allow discussion related to Net CONE x B as the default MSOC (Out of Scope Item #1). The motion was seconded by Adrien Ford, Old Dominion Electric Cooperative.

The committee endorsed the Issue Charge revisions be taken to the May MRC for a vote by acclamation with 0 objections and 12 abstentions.

Issue Tracking: Balancing Ratio Determination





#### 11. Must Offer Exception Process

Mr. Pat Bruno, PJM, presented education on the Must Offer Exception Process issue. <u>Issue Tracking: Must Offer Exemption Process</u>

### 12. FERC Order 841 on Energy Storage

Ms. Laura Walter, PJM, provided an overview of the FERC Order 841 on Energy Storage. Stakeholder participation and feedback is requested at upcoming MIC special sessions. PJM's response to FERC is due on December 3, 2018.

#### 13. Market Operations Price Transparency

Mr. Rami Dirani, PJM, provided an update on efforts to increase data transparency related to market operations and uplift. The proposed data postings, which require Manual 33 revisions, will be brought for a first read at the May MIC meeting.

Issue Tracking: Market Operations Price Transparency

#### Additional Updates

## 14. SPS Retirement Notification – University Park North

Mr. Alan Engelmann, ComEd, presented the University Park Special Protection Scheme retirement.

## 15. Reactive Transfer Interface Definition Changes

Mr. Yuri Smolanitsky, PJM, presented updated Reactive Transfer Interface definitions.

Committee will be scheduled to review the Manual 21 revisions with members.

# 16. Revisions to Manual 21: Rules and Procedures for Determination of Generating Capability Mr. Jerry Bell, PJM, introduced potential changes to Manual 21 related to generator testing rules, and to ensure the language is consistent with the RAA. Additional special session meetings as part of the Planning

#### Informational Section

#### Credit Subcommittee (CS)

Meeting materials will be posted to the <u>CS website</u>.

#### **Demand Response Subcommittee (DRS)**

Meeting materials will be posted to the DRS web site.

#### Intermittent Resources Subcommittee (IRS)

Meeting materials will be posted to the <u>IRS web site.</u>

#### **Interregional Coordination Update**

Materials are posted as informational only.





## Market Settlements Subcommittee (MSS)

Meeting materials are posted to the MSS web site.

## **Report on Market Operations**

The Report on Market Operations will be reviewed during the MC Webinar.

## **Revisions to Manual 3: Transmission Operations**

Materials are posted as informational only. Mr. Yuri Smolanitsky, PJM, was available for questions.

## Future Meeting Dates

May 2, 2018 June 6, 2018 July 11, 2018	9:00 a.m. 9:00 a.m. 9:00 a.m.	PJM Conference & Training Center/ WebEx PJM Conference & Training Center/ WebEx PJM Conference & Training Center/ WebEx
August 8, 2018 September 12, 2018	9:00 a.m. 9:00 a.m.	PJM Conference & Training Center/ WebEx PJM Conference & Training Center/ WebEx
October 10, 2018	9:00 a.m.	PJM Conference & Training Center/ WebEx
November 7, 2018 December 12, 2018	9:00 a.m. 9:00 a.m.	PJM Conference & Training Center/ WebEx PJM Conference & Training Center/ WebEx

### In-Person Attendees

Hendrzak, Chantal (Chair)	PJM Interconnection, LLC	Not Applicable
Stotesbury, Christina (Secretary)	PJM Interconnection, LLC	Not Applicable
Anders, David	PJM Interconnection, LLC	Not Applicable
Barker, Jason	Exelon Business Services Company, LLC	Transmission Owner
Bell, Jerry	PJM Interconnection, LLC	Not Applicable
Benner, Scott	PJM Interconnection, LLC	Not Applicable
Borgatti, Michael	Gabel and Associates	Not Applicable
Bowring, Joe	Monitoring Analytics, LLC	Not Applicable
Brodbeck, John	EDP Renewables North America, LLC	Other Supplier
Bruno, Patrick	PJM Interconnection, LLC	Not Applicable
Callaghan, Chris	PJM Interconnection, LLC	Not Applicable
Carroll, Rebecca	PJM Interconnection, LLC	Not Applicable
Chmielewski, Brian	PJM Interconnection, LLC	Not Applicable
Ciabattoni, Joseph	PJM Interconnection, LLC	Not Applicable
Crystle, Gil	UGI Development Company	Transmission Owner
D'Alessandris, Lou	FirstEnergy Solutions Corp.	Transmission Owner
Dillon, Matthew	UGI Development Company	Generation Owner
Dirani, Rami	PJM Interconnection, LLC	Not Applicable
Drauschak, Lisa	PJM Interconnection, LLC	Not Applicable
Driscoll, Mary Ellen	PJM Interconnection, LLC	Not Applicable
Dugan, Chuck	East Kentucky Power Cooperative, Inc.	Transmission Owner
Fabiano, Janell	PJM Interconnection, LLC	Not Applicable
Fernandez, Ray	PJM Interconnection, LLC	Not Applicable
Filomena, Guy	Customized Energy Solutions, Ltd.	Not Applicable
Foladare, Kenneth	Tangibl	Not Applicable
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Ford, Adrien Fuess, Christian Fuess, James Greiner, Gary Haas, Howard Hayik, Seth Holter, Natasha Horstmann, John Horton, Dana Hsia, Eric Hudis, Gabriella Josyula, Siva Keech, Adam Kenney, Susan Kogut, George Lieberman, Steven Loomis, Harold Lowe, Connie Mabry, David O'Connell, Robert Patel, Keyur

Sasser, Jonathan Schmitt, Jeffrey Sweeney, Rory Trayers, Barry Tyler, Catherine

Philips, Marjorie Pilong, Melissa PJM Interconnection, LLC Pratzon, David **GT** Power Group Romero-Luna, Joel

Vayda, Brian Wadsworth, Joseph Walter, Laura Whitehead, Jeffrey Wilkie, Brian

Old Dominion Electric Cooperative Other PBF Power Marketing LLC PSEG Energy Resources and Trade LLC Monitoring Analytics, LLC Monitoring Analytics, LLC

PJM Interconnection, LLC Dayton Power & Light Company (The) Appalachian Power Company PJM Interconnection, LLC Gabel and Associates Monitoring Analytics PJM Interconnection, LLC PJM Interconnection, LLC New York Power Authority American Municipal Power, Inc. PJM Interconnection, LLC **Dominion Virginia Power** McNees Wallace & Nurick LLC PPGI Fund A/B Development, LLC PJM Interconnection, LLC Direct Energy Business, LLC

**Monitoring Analytics** Customized Energy Solutions, Ltd.\* PJM Interconnection, LLC **RTO Insider** Citigroup Energy, Inc. **Monitoring Analytics** Borough of Park Ridge, NJ Vitol Inc.

PJM Interconnection, LLC **GT Power Group** Rockland Electric Co.

**Electric Distributor** Not Applicable **Generation Owner** Other Supplier Not Applicable Not Applicable Not Applicable

**Transmission Owner Transmission Owner** Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Other Supplier **Electric Distributor** Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Other Supplier Not Applicable Not Applicable

Not Applicable Not Applicable Not Applicable Other Supplier Not Applicable Electric Distributor Other Supplier Not Applicable Not Applicable Other Supplier

Not Applicable

## WebEx Participants

Ainspan, Malcolm Anderson, Jared Benchek, Jim Bhavaraju, Murty Bickerstaff, Dean Bolan, Martin

Energy Curtailment Specialists, Inc. S & P Global FirstEnergy Solutions Corp. PJM Interconnection, LLC Sapphire Power Marketing LLC FirstEnergy Solutions Corp.

Other Supplier Not Applicable **Transmission Owner** Not Applicable Generation Owner **Transmission Owner** 

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Boyle, Glen Britt, Debbie Brouillette, Kyle Brown, Rich Brown, William Bruno, Joshua Bryson, Mike Budney, Dave Clark, Alden Cloud, Cheryl Cocco, Michael Cockrell, Justin Coyle, Billy Coyne, Suzanne Croop, Danielle Cummings, Bridgid

Davis, Elizabeth
DeLosa, Joe
DePillo, Ray
Diiorio, Michelle
Dolan, Jim
Domian, Christin
Endress, Eric
Engelmann, Alan
Falin, Tom

D'Antonio, Phil

Fan, Zhenyu Feierabend, Rick Fitch, Neal Fox, Angela Garbini, Marjorie Genuario, Gabrielle Gokhale, Manali Gorman, Kevin

Gorman, Kevin Guerry, Katie Hanser, Erik Harmon, Mike Hastings, David Hepplewhite, Peter Higgins, Sharon Hoang, Liem Hoatson, Tom

Hohenshilt, Jennifer Holland, Risa PJM Interconnection, LLC

North Carolina Electric Membership Corporation

Indiana Municipal Power Agency
PJM Interconnection, LLC
VECO Power Trading
PJM Interconnection, LLC
PJM Interconnection, LLC
PJM Interconnection, LLC

DC Energy LLC

PJM Interconnection, LLC

Old Dominion Electric Cooperative

DC Energy LLC

Dominion Energy Marketing, Inc.
PJM Interconnection, LLC
PJM Interconnection, LLC
PJM Interconnection, LLC
PJM Interconnection, LLC
Talen Energy Marketing, LLC
DE Public Service Commission

PSEG Energy Resources and Trade LLC PSEG Energy Resources and Trade LLC

PJM Interconnection, LLC

Mitsubishi Electric Power Products Inc.

PJM Interconnection, LLC

Commonwealth Edison Company

PJM Interconnection, LLC PJM Interconnection, LLC Dominion Virginia Power NRG Power Marketing LLC Wylan Energy, L.L.C.

Potomac Electric Power Company

PJM Interconnection, LLC

DC Energy LLC

Highlands Energy Group, LLC (The)

EnerNOC, Inc.

Michigan Public Service Commission

Union Electric Company d/b/a Ameren Missouri

Market Interconnection, LLC

DC Energy LLC

Duke Energy Commercial Asset Management, Inc.

PJM Interconnection, LLC Riverside Generating, LLC Talen Energy Marketing, LLC PJM Interconnection, LLC Not Applicable

Electric Distributor
Generation Owner

Met Applicable

Not Applicable Not Applicable

Not Applicable

Not Applicable

Not Applicable

Other Supplier

Not Applicable

**Electric Distributor** 

Other Supplier

Generation Owner

Not Applicable

Not Applicable

Not Applicable

Not Applicable

Generation Owner

Not Applicable
Other Supplier

Other Supplier

Not Applicable

Not Applicable
Not Applicable

**Transmission Owner** 

Not Applicable Not Applicable

Not Applicable

Generation Owner

Not Applicable

Electric Distributor

Not Applicable Other Supplier

Other Supplier
Other Supplier

Other Supplier

Not Applicable Other Supplier

Not Applicable

Other Supplier Generation Owner

Not Applicable
Other Supplier

Generation Owner
Not Applicable





Hollis, Gabriel Horger, Tim Hurwich, Mark Hyzinski, Tom Janicki, Diane Jens, Tom Johnson, Carl Kaczanowski, Marek Kauffman, Brian Kharod, Ankit Kilgallen, Kevin Kimmel, David Kinser, Cynthia

Kudryavtseva, Viktoriya

Kormos, Mike

Kuo, David LaRocque, Matt Leasure, Jill Lejcar, Jamie Leopold, Chris Lin, Michael Logan, Sharon Long, Amanda Long, Matthew Mae Velasco, Cheryl Mancuso, Melanie Manion, Evelyn Mariam, Yohannes

Markiewicz, Cindy Martin, Valerie Metzler, Jakob Midgley, Sharon Mok, Alan Morelli, Lisa Nawaz, Zainab Nix, Emma Ondayko, Brock O'Neill, Jack Pakela, Gregory Pakula, Maggie Park, Jinny

Pelletier, Eveline

Phillips, Amanda

Peoples, John

NextEra Energy Transmission, LLC

PJM Interconnection, LLC Elliott Bay Energy Trading, LLC

GT Power Group

Boston Energy Trading & Marketing, LLC

Black Oak Capital, LLC

Customized Energy Solutions, Ltd.\* Baltimore Gas and Electric Company

NRG Curtailment Solutions PJM Interconnection, LLC Avangrid Renewables LLC PJM Interconnection, LLC

Tennessee Department of Agriculture Exelon Business Services Company, LLC

LS Power Transmission, LLC

DC Energy LLC

PJM Interconnection, LLC

**Keystone Projects** 

Allegheny Electric Cooperative, Inc. Appalachian Power Company

DC Energy LLC

The Federal Energy Regulatory Commission

PJM Interconnection, LLC AEP Energy Partners, Inc. PJM Interconnection, LLC FirstEnergy Solutions Corp. PJM Interconnection, LLC

Office of the Peoples Council for D.C.

FirstEnergy Solutions Corp.

The Federal Energy Regulatory Commission Castleton Commodities Merchant Trading L.P. Exelon Business Services Company, LLC

Duke Energy Kentucky, Inc. PJM Interconnection, LLC NJ Board of Public Utilities PJM Interconnection, LLC Appalachian Power Company PJM Interconnection, LLC DTE Energy Trading, Inc.

Invenergy, LLC

PJM Interconnection, LLC

Hydro-Quebec

**Duquesne Light Company** 

Delaware Municipal Electric Corporation, Inc.

Other Supplier Not Applicable Other Supplier Not Applicable **Generation Owner** Other Supplier Not Applicable **Transmission Owner** 

Other Supplier Not Applicable **Generation Owner** Not Applicable Not Applicable **Transmission Owner** 

Not Applicable Other Supplier Not Applicable Not Applicable **Electric Distributor Transmission Owner** Other Supplier

Not Applicable Not Applicable Other Supplier Not Applicable **Transmission Owner** Not Applicable

**End User Customer Transmission Owner** Not Applicable Other Supplier

**Transmission Owner Transmission Owner** Not Applicable Not Applicable Not Applicable **Transmission Owner** Not Applicable Other Supplier

**Generation Owner** Not Applicable Not Applicable **Transmission Owner Electric Distributor** 

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Phillips, Darlene
Poulos, Greg
Powers, Sean
Price, Mark
Price, Ruth Ann
Prokop, Brenda
Quevada, Jason
Ramsey, James
Reeping, Bob
Riehl, John
Robson, Matt

Rocha-Garrido, Patricio

Rohrbach, John
Rothey, Kristin
Ruck, Andrew
Rushing, Nathan
Rutigliano, Tom
Scarpignato, David
Schneider, Jon
Schuyler, Ken
Shah, Vijay
Shanker, Roy
Snyder, Sue
Souder, Dave
Souder, Michelle
Stone, Andy
Sturgeon, John

Thompson, Matthew Tibbetts, Maeve Tribulski, Jennifer Trinkle, Liz

Suh, Jung

Tsao, Stephanie Tutino, Joseph Ward, Michael Wei, Jane

Wiegand-Jackson, Laurie

Williams, Stanley Wilmoth, Emily Wilson, James PJM Interconnection, LLC

**CAPS** 

Linde Energy Services, Inc. DC Energy Mid-Atlantic, LLC

Division of the Public Advocate of the State of DE

ITC Mid-Atlantic, LLC PJM Interconnection, LLC Suffolk Fund, LLC Ohio Edison Company

The Federal Energy Regulatory Commission

SESCO Enterprises, LLC PJM Interconnection, LLC

Southern Maryland Electric Cooperative

American Municipal Power, Inc.

PSEG Energy Resources and Trade LLC

CPV Maryland, LLC
Achieving Equilibrium LLC
Calpine Energy Services, L.P.
FirstEnergy Solutions Corp.
PJM Interconnection, LLC
PJM Interconnection, LLC
H.Q. Energy Services (U.S.), Inc.
PJM Interconnection, LLC
PJM Interconnection, LLC
PJM Interconnection, LLC
PJM Interconnection, LLC

Calpine Energy Services, L.P. XO Energy MA, LP Pierce Atwood

PJM Interconnection, LLC PJM Interconnection, LLC

PJM Interconnection, LLC

Duke Energy Carolinas, LLC

S & P Global

PJM Interconnection, LLC PJM Interconnection, LLC Monitoring Analytics

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North America Power Partners LLC

PJM Interconnection, LLC Dominion Virginia Power Wilson Energy Economics Not Applicable
Not Applicable
End User Customer
Other Supplier
End User Customer
Other Supplier
Not Applicable

Other Supplier
Transmission Owner

Not Applicable
Other Supplier
Not Applicable
Electric Distributor
Electric Distributor
Other Supplier

Generation Owner Generation Owner Generation Owner Transmission Owner

Not Applicable
Not Applicable
Other Supplier
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Other Supplier
Generation Owner
Other Supplier

Not Applicable
Other Supplier
Not Applicable
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Not Applicable

Not Applicable

Author: Christina Stotesbury

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