

Markets and Reliability Committee
The Chase Center on the Riverfront, Wilmington, DE
August 24, 2017
9:00 a.m. – 12:45 p.m. EPT

Administration

Ms. Suzanne Daugherty and Mr. Dave Anders welcomed the participants, and provided the antitrust and code of conduct announcements.

Endorsements/Approvals

1. Draft Minutes

Minutes of the July 27, 2017 meeting of the Markets and Reliability Committee (MRC) were **approved** by acclamation with no objections or abstentions.

2. PJM Manuals

A. Mr. Michael Olaleye presented conforming revisions to Manual 11: Energy & Ancillary Services and Mr. Bhushan Dhuri presented associated revisions to the Regional Transmission and Energy Scheduling Practices document regarding with Coordinated Transaction Scheduling. Following discussion the proposed Manual 11 and Regional Practices revisions were **endorsed** by acclamation with the no objections or abstentions.

3. Governing Document Revisions to the Limitation on Claims

Ms. Michelle Harhai presented Tariff and Operating Agreement (OA) revisions related to the Limitation on Claims. Following discussion the committee **endorsed** the proposed Tariff and OA revisions by acclamation with no objections and one abstention.

4. Seasonal Capacity Resources Sr. Task Force (SCRSTF)

Mr. Scott Baker presented a proposed Problem Statement and Issue Charge regarding items related to market participation by seasonal resources that were discussed in the SCRSTF, but not ultimately addressed in the enhanced aggregation proposal that was filed and approved by FERC. Mr. John Farber proposed a friendly amendment to add the following phrase to issue charge Key Work Activity 3: "... mechanisms, *including the load forecast*, to value Demand Response ...". Mr. Tom Rutigliano proposed a friendly amendment to add "... sub-annual *capacity* products ..." to Out of Scope item 2. Mr. Jim Wilson proposed modifying Out of Scope item 2 as follows: "Re-establishing non-Capacity Performance capacity products such as Base Capacity or Limited DR". Mr. Baker accepted these as friendly and therefore they were incorporated into the proposed Issue Charge. Mr. Greg Poulos offered a proposed friendly amendment to remove Out of Scope item 2. Mr. Baker indicated that this was not considered friendly, since the MRC had previously addressed this issue. Following discussion the committee **approved** the proposed Problem Statement and Issue Charge, and sunsetting the SCRSTF by acclamation with no objections or abstentions.

5. Dynamic Schedule Pro Forma Agreement

Mr. Phil D'Antonio discussed the proposed Dynamic Schedule Pro Forma Agreement. Following discussion the committee **endorsed** the proposed Agreement by acclamation with no objections and one abstention.

First Readings

6. Primary Frequency Response Sr. Task Force (PFRSTF)

Mr. Glen Boyle presented the draft charter for the PFRSTF. The committee will be asked to approve the charter at its next meeting.

7. Governing Documents Enhancement & Clarification Subcommittee (GDECS)

Ms. Janell Fabiano presented proposed Tariff, OA and Reliability Assurance Agreement revisions regarding clean-up of definitions. The committee will be asked to endorse the proposed revisions at its next meeting.

8. PJM Manuals

- A. Mr. Ron Deloach presented proposed revisions to Manual 03A: EMS Model Updates and Quality Assurance identified in the periodic review of the manual. The committee will be asked to endorse the proposed revisions at its next meeting.
- B. Mr. Brian Chmielewski presented proposed revisions to Manual 6: Financial Transmission Rights associated with FTR Forfeitures. The committee will be asked to endorse the proposed revisions at its next meeting.
- C. Ms. Lisa Morelli presented proposed conforming revisions to Manual 11: Energy & Ancillary Services associated with the implementation of Intraday Offers. The committee will be asked to endorse the manual revisions at its next meeting. Mr. Rami Dirani discussed development of proposed revisions to Manual 11 associated with the offer verification process for the implementation of Order 831: Energy Offer Verification. Dr. Joe Bowring, Monitoring Analytics, Ms. Morelli and Mr. Dirani discussed ongoing dialogue between PJM and the Independent Market Monitor regarding some specific details of the proposed Manual 11 revisions and associated potential OA and Tariff revisions for both of these issues.
- D. Mr. Joe Hay presented proposed updates to Manual 14A: Generation and Transmission Interconnection Process identified in the periodic review of the manual. The committee will be asked to endorse the proposed revisions at its next meeting.
- E. Mr. Ray Fernandez presented proposed revisions to Manual 28: Operating Agreement Accounting associated with the implementation of Intraday Offers. The committee will be asked to endorse the proposed revisions at its next meeting.

Informational Updates

Cost-based Start Up and No Load in Market-based Offers

Dr. Joe Bowring discussed the requirements for updating Start Up and No Load components of market-based offers, and noted some recent experiences with updates requested by market participants.

9. Capacity Construct / Public Policy Sr. Task Force (CCPPSTF)

Mr. Dave Anders provided an informational update on the activities of the CCPPSTF.

10. Energy Market Price Formation

Mr. Adam Keech provided an informational update on PJM's recently published whitepaper entitled Energy Price Formation and Valuing Flexibility.

11. Stakeholder Satisfaction Survey

Ms. Janell Fabiano provided an update on the 2017 Stakeholder Satisfaction Survey.

12. Modelling Generation Sr. Task Force (MGSTF)

Mr. Stan Williams provided an informational update on the activities of the MGSTF including the group's work plan.

13. PJM/MISO Joint Operating Agreement (JOA)

Mr. Tim Horger provided an update on stakeholder and coordination efforts associated with Pseudo Tie resources including double-counting of congestion and JOA revisions.

Five-Minute Settlements

Mr. Ray Fernandez provided an update on Market Settlement Reports documentation posted on pjm.com.

Solar Output During August 21, 2017 Total Solar Eclipse

Mr. Ken Seiler discussed the forecast and actual experience with the solar eclipse that occurred on August 21, 2017.

Future Agenda Items

No new future agenda items were identified.

Future Meeting Dates

September 28, 2017	9:00 a.m.	Valley Forge, PA
October 26, 2017	9:00 a.m.	Wilmington, DE
December 7, 2017	9:00 a.m.	Philadelphia, PA

December 21, 2017

9:30 a.m.

Wilmington, DE

Author: D. A. Anders

CHAIR/SECRETARY		Company	Sector
Daugherty	Suzanne	PJM Interconnection, LLC	Not Applicable
Anders	David	PJM Interconnection, LLC	Not Applicable

VOTING PARTICIPANTS

Last Name	First Name	Company	Sector
Benchek	Jim	American Transmission Systems, Inc.	Transmission Owner
Bruce	Susan	Rep.'g Air Products & Chemicals, Inc.	End User Customer
Bruce	Susan	Rep.'g ArcelorMittal USA LLC	End User Customer
Bruce	Susan	Rep.'g Gerdau Ameristeel Energy, Inc.	Other Supplier
Bruce	Susan	Rep.'g Industrial Energy Users-Ohio	Other Supplier
Bruce	Susan	Rep.'g Kimberly-Clark Corporation	Generation Owner
Bruce	Susan	Rep.'g Lehigh Portland Cement Company	End User Customer
Bruce	Susan	Rep.'g Letterkenny Industrial Development Authority - PA	Electric Distributor
Bruce	Susan	Rep.'g Linde, LLC	End User Customer
Bruce	Susan	Rep.'g MeadWestvaco Corporation	End User Customer
Bruce	Susan	Rep.'g Praxair, Inc.	End User Customer
Bruce	Susan	Rep.'g Procter & Gamble Paper Products Company (The)	Generation Owner
Bruce	Susan	Rep.'g Trustees of the University of Pennsylvania	End User Customer
Bruce	Susan	Rep.'g Wellsboro Electric Company	Electric Distributor
Campbell	Bruce	Enerwise Global Technologies, Inc.	Other Supplier
Campbell	Bruce	MidAtlantic Power Partners, LLC	Other Supplier
Dugan	Chuck	East Kentucky Power Cooperative, Inc.	Transmission Owner
Evrard	David	Pennsylvania Office of Consumer Advocate	End User Customer
Fitch	Neal	NRG Power Marketing, LLC	Generation Owner
Ford	Adrien	Old Dominion Electric Cooperative	Electric Distributor
Garnett	Bryan	Duke Energy Business Services LLC	Transmission Owner
Hoatson	Tom	Riverside Generating, LLC	Generation Owner
Hoatson	Tom	West Deptford Energy, LLC	Generation Owner
Hohenshilt	Jennifer	Talen Energy Marketing, LLC	Generation Owner
Horstmann	John	Dayton Power & Light Company (The)	Transmission Owner
Hyzinski	Thomas	Dynegy Marketing and Trade, LLC	Generation Owner
Jardot	Gina	Essential Power Rock Springs, LLC	Transmission Owner
Johnson	Carl	Rep.'g Allegheny Electric Cooperative, Inc.	Electric Distributor
Johnson	Carl	Rep.'g American Municipal Power, Inc.	Electric Distributor
Johnson	Carl	Rep.'g Blue Ridge Power Agency, Inc.	Electric Distributor
Johnson	Carl	Rep.'g Borough of Chambersburg	Electric Distributor
Johnson	Carl	Rep.'g Borough of Mont Alto, Pennsylvania	Electric Distributor

Johnson	Carl	Rep.'g Buckeye Power, Inc.	Electric Distributor
Johnson	Carl	Rep.'g Central Virginia Electric Cooperative	Electric Distributor
Johnson	Carl	Rep.'g City of Dover, Delaware	Electric Distributor
Johnson	Carl	Rep.'g Delaware Municipal Electric Corporation, Inc.	Electric Distributor
Johnson	Carl	Rep.'g Easton Utilities Commission	Electric Distributor
Johnson	Carl	Rep.'g Energy Cooperative Association of Pennsylvania (The)	Other Supplier
Johnson	Carl	Rep.'g Galt Power, Inc.	Other Supplier
Johnson	Carl	Rep.'g Hagerstown Light Department	Electric Distributor
Johnson	Carl	Rep.'g Illinois Municipal Electric Agency	Electric Distributor
Johnson	Carl	Rep.'g Indiana Municipal Power Agency	Generation Owner
Johnson	Carl	Rep.'g Madison Gas & Electric Co.	Other Supplier
Johnson	Carl	Rep.'g North Carolina Electric Membership Corporation	Electric Distributor
Johnson	Carl	Rep.'g North Carolina Municipal Power Agency Number 1	Other Supplier
Johnson	Carl	Rep.'g Northern Virginia Electric Cooperative (NOVEC)	Electric Distributor
Johnson	Carl	Rep.'g Old Dominion Electric Cooperative	Electric Distributor
Johnson	Carl	Rep.'g Thurmont Municipal Light Company	Electric Distributor
Johnson	Carl	Rep.'g Town of Williamsport (The)	Electric Distributor
Johnson	Carl	Rep.'g WPPI Energy	Other Supplier
Kilgallen	Kevin	Avangrid Renewables, LLC	Generation Owner
Long	Scott	Allegheny Electric Cooperative, Inc.	Electric Distributor
Lowe	Connie	Virginia Electric & Power Company	Transmission Owner
Midgley	Sharon	Exelon Business Services Company, LLC	Transmission Owner
Phillips	Marji	Direct Energy Business, LLC	Other Supplier
Phillips	Marji	Newark Energy Center, LLC	Generation Owner
Poulos	Greg	Rep.'g Consumer Protection and Advocate Division of the Tennessee Attorney General	End User Customer
Poulos	Greg	Rep.'g Delaware Division of the Public Advocate	End User Customer
Poulos	Greg	Rep.'g Illinois Citizen Utility Board	End User Customer
Poulos	Greg	Rep.'g Indiana Office of Utility Consumer Counselor (IN OUCC)	End User Customer
Poulos	Greg	Rep.'g Maryland Office of People's Counsel	End User Customer
Poulos	Greg	Rep.'g New Jersey Division of Rate Counsel	End User Customer
Poulos	Greg	Rep.'g Office of the Attorney General, Kentucky	End User Customer
Poulos	Greg	Rep.'g Office of the People's Counsel for the District of Columbia	End User Customer
Poulos	Greg	Rep.'g West Virginia Consumer Advocate Division	End User Customer
Pratzon	David	Rep.'g Eastern Generation, LLC	Generation Owner
Pratzon	David	Rep.'g Wheelabrator Frackville Energy Co., Inc.	Generation Owner
Rushing	Nathan	CPV Power Holdings, LP	Generation Owner
Rushing	Nathan	Homer City Generation, L.P.	Generation Owner
Stern	Alex	Public Service Electric & Gas Company	Transmission Owner
Trayers	Barry	Citigroup Energy, Inc.	Other Supplier

Vayda	Brian	Borough of Butler, Butler Electric Division	Electric Distributor
Vayda	Brian	Borough of Lavallette, New Jersey	Electric Distributor
Vayda	Brian	Borough of Madison, New Jersey	Electric Distributor
Vayda	Brian	Borough of Milltown, New Jersey	Electric Distributor
Vayda	Brian	Borough of Park Ridge, New Jersey	Electric Distributor
Vayda	Brian	Borough of Seaside Heights, New Jersey	Electric Distributor
Vayda	Brian	Borough of South River, New Jersey	Electric Distributor
Vayda	Brian	Vineland Municipal Electric Utility	Electric Distributor
Wicks	Tonja	Duquesne Light Company	Transmission Owner
Yu	Joel	Rockland Electric Company	Transmission Owner

NON-VOTING PARTICIPANTS

Last Name	First Name	Company	Sector
Ahuja	Manan	S&P Global Market Intelligence	Not Applicable
Ainspan	Malcolm	Energy Curtailment Specialists, Inc.	Not Applicable
Barker	Jason	Exelon Business Services Company, LLC	Transmission Owner
Berlinski	Michael	Customized Energy Solutions, Ltd.	Not Applicable
Birnel	William	West AR energy	Not Applicable
Bolan	Martin	FirstEnergy Solutions Corp.	Transmission Owner
Borgatti	Michael	Gabel and Associates	Not Applicable
Bowring	Joe	Monitoring Analytics	Not Applicable
Carmean	Gregory	OPSI	Not Applicable
Chintapalli	Raj	BP Energy	Other Supplier
Cocco	Michael	Old Dominion Electric Cooperative	Electric Distributor
Cockrell	Justin	VECO Power Trading	Other Supplier
Crystle	Gil	UGI Development Company	Transmission Owner
Currier	Jeff	Dominion Virginia Power	Transmission Owner
Delosa	Joe	DE Public Service Commission	Not Applicable
Dillion	Matthew	UGI Development Company	Transmission Owner
Dillon	Matthew	UGI Development Company	Generation Owner
Domian	Christin	Mitsubishi Electric Power Products Inc.	Not Applicable
Ericson	Christine	Illinois Commerce Commission	Not Applicable
Farber	John	DE Public Service Commission	Not Applicable
Filomena	Guy	Customized Energy Solutions, Ltd.	Not Applicable
Foladare	Kenneth	IMG Midstream LLC	Generation Owner
Fondacci	Luis	North Carolina Electric Membership Corporation	Electric Distributor
Fox	Angela	Wylan Energy	Other Supplier
Gebolys	Debbie	Public Utilities Commission of Ohio (The)	Not Applicable
Gilani	Rehan	Leidos	Not Applicable
Glen	Thomas	GT Power Group	Not Applicable
Godson	Gloria	PEPCO Holdings, Inc.	Transmission Owner
Greening	Michele	PPL Electric Utilities Corp. dba PPL Utilities	Generation Owner
Greiner	Gary	PSEG Energy Resources and Trade LLC	Transmission Owner

Guerry	Katie	EnerNOC, Inc.	Other Supplier
Hanser	Erik	Michigan Public Service Commission	Not Applicable
Harmon	Mike	Ameren Corporation	Not Applicable
Heinle	Frederick	Office of the Peoples Counsel for the D.C.	Not Applicable
Henry	Michelle	FirstEnergy Solutions Corp.	Transmission Owner
Herel	Suzanne	RTO Insider	Not Applicable
Hitch	George	Dominion Energy Generation Market, Inc.	Generation Owner
Hoatson	Tom	Carroll County Energy LLC	Other Supplier
Horning	Lynn	LMH Energy Consulting	Not Applicable
Horton	Dana	Appalachian Power Company	Transmission Owner
Hudis	Gabriella	Gabel and Associates	Not Applicable
Huntoon	Steve	Energy Counsel, LLP	Not Applicable
Hurwich	Mark	Elliott Bay Energy Trading, LLC	Other Supplier
Hyzinski	Tom	GT Power Group	Not Applicable
Janicki	Diane	Boston Energy Trading and Marketing LLC	Generation Owner
Jett	William	Duke Energy Business Services LLC	Transmission Owner
Johnson	Carl	Customized Energy Solutions, Ltd.	Not Applicable
Kelly	Stephen	Brookfield Energy Marketing LP	Other Supplier
Kerecman	Joe	Calpine Energy Services, L.P.	Generation Owner
Kilgallen	Kevin	Emerald Energy Consulting, LLC	Not Applicable
King	Anthony	Capital Energy LLC	Other Supplier
Kingston	Amber	Aces Power Marketing Inc.	Electric Distributor
Kinser	Cynthia	Consumer Advocate Lawyer for State of Tennessee Attorney General	Not Applicable
Kogut	George	New York Power Authority	Other Supplier
Liang	Nicol Cecilia	FirstEnergy Solutions Corp.	Transmission Owner
Lieberman	Steven	American Municipal Power, Inc.	Electric Distributor
Mabry	Dave	MWN	Not Applicable
Martin	Valerie	Federal Energy Regulatory Commission (The)	Not Applicable
Marzewski	Skyler	Monitoring Analytics	Not Applicable
Miller	John	Commonwealth Edison Company	Transmission Owner
O'Connell	Robert	Main Line Electricity Market Consultants	Not Applicable
Ondayko	Brock	Appalachain Power Company	Transmission Owner
Pakela	Gregory	DTE Energy Trading, Inc.	Other Supplier
Patten	Kevin	Appalachain Power Company	Transmission Owner
Peoples	John	Duquesne Light Company	Transmission Owner
Phillips	Amanda	Aces Power Marketing Inc.	Electric Distributor
Poulos	Greg	Consumer Advocates of PJM States	Not Applicable
Pratzon	David	GT Power Group	Not Applicable
Price	Ruth Ann	Division of the Public Advocate of the State of Delaware	Other Supplier
Prokop	Brenda	ITC Interconnect	Transmission Owner
Rainey	Frank	PEI Power Corporation	Generation Owner
Rohrbach	John	Southern Maryland Electric Cooperative	Electric Distributor

Rutigliano	Tom	EMC Development Company, Inc	Other Supplier
Sasser	Jonathan	Customized Energy Solutions, Ltd.	Not Applicable
Scarpignato	David	Calpine Energy Services, L.P.	Generation Owner
Schneider	Jon	FirstEnergy Solutions Corp.	Transmission Owner
Schreim	Morris	Maryland Public Service Commission	Not Applicable
Shanker	Roy	H.Q. Energy Services (U.S.), Inc.	Other Supplier
Sillin	John	The Federal Energy Regulatory Commission	Not Applicable
Slagel	Ron	Unknown	Unknown
Steele	Robert	Hyllgarth Energy	Not Applicable
Stewart	Travis	Gabel and Associates	Not Applicable
Stone	Andy	Gabel and Associates	Not Applicable
Stubbe	Judy	Duke Energy Ohio, Inc.	Transmission Owner
Sweeney	Rory	RTO Insider	Not Applicable
Thomas	Glen	GT Power Group	Not Applicable
Thompson	Matthew	XO Energy	Other Supplier
Thomson	Heather	Marec	Not Applicable
Tibbetts	Maeve	Pierce Atwood	Not Applicable
Tsao	Stephanie	S&P Global Market Intelligence	Not Applicable
Vargo	Daniel	Allegheny Electric Cooperative, Inc.	Electric Distributor
Vitiello	Jacqueline	Dominion Energy Generation Market, Inc.	Generation Owner
Wadsworth	Joe	Vitol	Other Supplier
Walker	Jennifer	Exelon Business Services Company, LLC	Transmission Owner
Whitehead	Jeffrey	GT Power Group	Not Applicable
Wilmoth	Emily	Dominion Energy Generation Market, Inc.	Generation Owner
Wilson	Brown	PBF PowerMarket	
Wilson	James	Wilson Energy Economics	Not Applicable
Wood	Gordon	ETC Endure Energy	Other Supplier
Xenopoulos	Damon	Stone Mattheis Xenopoulos & Brew, PC	Not Applicable
York	Katherine	Tennessee Valley Authority	Other Supplier

PJM

Attendees

Last Name	First Name	Company	Sector
Aung	Thinzar	PJM Interconnection	Not Applicable
Baker	Scott	PJM Interconnection	Not Applicable
Barrett	Francis	PJM Interconnection	Not Applicable
Berner	Aaron	PJM Interconnection	Not Applicable
Boyle	Glen	PJM Interconnection	Not Applicable
Bresler	Stu	PJM Interconnection	Not Applicable
Bricklin	Brian	PJM Interconnection	Not Applicable
Brown	Rich	PJM Interconnection	Not Applicable
Budney	David	PJM Interconnection	Not Applicable
Buehler	Susan	PJM Interconnection	Not Applicable
Callis	Joe	PJM Interconnection	Not Applicable

Chao	Hung-Po	PJM Interconnection	Not Applicable
Chmielewski	Brian	PJM Interconnection	Not Applicable
Ciabattoni	Joe	PJM Interconnection	Not Applicable
Cloud	Cheryl	PJM Interconnection	Not Applicable
Connell	Jason	PJM Interconnection	Not Applicable
Coyne	Suzanne	PJM Interconnection	Not Applicable
D'Antonio	Phil	PJM Interconnection	Not Applicable
DeLoach	Ron	PJM Interconnection	Not Applicable
Dhuri	Bhushan	PJM Interconnection	Not Applicable
Dirani	Rami	PJM Interconnection	Not Applicable
Egan	Amanda	PJM Interconnection	Not Applicable
Egan	David	PJM Interconnection	Not Applicable
Endress	Eric	PJM Interconnection	Not Applicable
Fabiano	Janell	PJM Interconnection	Not Applicable
Falin	Thomas	PJM Interconnection	Not Applicable
Fernandez	Ray	PJM Interconnection	Not Applicable
Foster	Denise	PJM Interconnection	Not Applicable
Furnholm	Whitney	PJM Interconnection	Not Applicable
Harhai	Michelle	PJM Interconnection	Not Applicable
Hauske	Thomas	PJM Interconnection	Not Applicable
Hay	Joe	PJM Interconnection	Not Applicable
Hendrzak	Chantal	PJM Interconnection	Not Applicable
Herling	Steve	PJM Interconnection	Not Applicable
Holland	Risa	PJM Interconnection	Not Applicable
Holter	Natasha	PJM Interconnection	Not Applicable
Horger	Tim	PJM Interconnection	Not Applicable
Hsia	Eric	PJM Interconnection	Not Applicable
Hugee	Jacquelyn	PJM Interconnection	Not Applicable
Keech	Adam	PJM Interconnection	Not Applicable
Kelley	Michael	PJM Interconnection	Not Applicable
Kenney	Susan	PJM Interconnection	Not Applicable
Kimmel	David	PJM Interconnection	Not Applicable
Langbein	Pete	PJM Interconnection	Not Applicable
LaRocque	Matthew	PJM Interconnection	Not Applicable
Lloyd	Katy	PJM Interconnection	Not Applicable
Manion	Evelyn	PJM Interconnection	Not Applicable
McGlynn	Paul	PJM Interconnection	Not Applicable
McLaverty	Megan	PJM Interconnection	Not Applicable
Morelli	Lisa	PJM Interconnection	Not Applicable
O'Hara	Chris	PJM Interconnection	Not Applicable
Olaley	Michael	PJM Interconnection	Not Applicable
O'Neill	Jack	PJM Interconnection	Not Applicable
O'Neill	Jack	PJM Interconnection	Not Applicable
Park	Jinny	PJM Interconnection	Not Applicable

Patel	Keyur	PJM Interconnection	Not Applicable
Pincus	Steven	PJM Interconnection	Not Applicable
Rainer	Keith	PJM Interconnection	Not Applicable
Schmitt	Jeff	PJM Interconnection	Not Applicable
Schuyler	Ken	PJM Interconnection	Not Applicable
Schweizer	David	PJM Interconnection	Not Applicable
Seiler	Ken	PJM Interconnection	Not Applicable
Souder	Michelle	PJM Interconnection	Not Applicable
Tribulski	Jennifer	PJM Interconnection	Not Applicable
Velasco	Cheryl	PJM Interconnection	Not Applicable
Walter	Laura	PJM Interconnection	Not Applicable
Ward	Michael	PJM Interconnection	Not Applicable
Warshel	Kim	PJM Interconnection	Not Applicable
Williams	Stan	PJM Interconnection	Not Applicable