

Markets and Reliability Committee
The Chase Center on the Riverfront, Wilmington, DE
July 27, 2017
9:00 a.m. – 12:15 p.m. EPT

Administration

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

Ms. Daugherty provided an announcement to members regarding the Pennsylvania General Assembly's negotiation of plans to close a \$2 billion budget gap. During the May Finance Committee meeting, PJM noted that one option under consideration was a tax on PJM virtual transactions. Late Wednesday July 26, 2017 the Senate Appropriations committee amended HB542 (Tax Code) to include an Electric Grid Virtual Financial Transactions Tax (<http://www.legis.state.pa.us/cfdocs/billInfo/billInfo.cfm?sYear=2017&sInd=0&body=H&type=B&bn=0542>). HB 542 is on the Senate Calendar for Thursday July 27, 2017. If the amendments pass the Senate, the bill will go back to the House for consideration. Ms. Daugherty confirmed that PJM continues to oppose this tax and will continue to communicate its jurisdictional, financial and market impact concerns of this potential tax on virtual transactions in PJM's markets. PJM will keep the Members informed of developments on this topic.

Ms. Daugherty acknowledged the retirement of former Members Committee Chair Jim Jablonski, noting his many contributions to PJM and the membership.

Endorsements/Approvals

1. Draft Minutes

Minutes of the June 22, 2017 meeting of the Markets and Reliability Committee (MRC) were **approved** by acclamation with no objections and one abstention.

2. PJM Manuals

- A. Ms. Bilge Derin reviewed proposed revisions to Manual 01: Control Center and Data Exchange Requirements.
- B. Ms. Lisa Morelli presented revisions to Manual 11: Energy & Ancillary Services and Manual 18: PJM Capacity Market, for revisions associated with Capacity Performance Shortfall and Bonus MW calculations.

Following discussion, items 2.A and 2.B were **endorsed** by acclamation with the no objections or abstentions.

3. Pseudo-tie Pro Forma

Ms. Jacqui Huges reviewed pseudo-tie agreements and Tariff and Operating Agreement (OA) revisions

shown below:

- Pro forma pseudo-tie agreements
- Pseudo-tie reimbursement agreement for pseudo-tie into PJM
- Associated Tariff and OA revisions

Following discussion the committee **endorsed** the proposed agreements and Tariff and OA revisions by acclamation with 22 objections and 3 abstentions.

4. Governing Document Revisions to the Limitation on Claims

This item was deferred to the committee's next meeting to allow additional consideration by the Market Implementation Committee.

5. PJM M14B and PJM Operating Agreement Updates – TEAC Redesign

Ms. Melissa Maxwell presented updates to PJM Manual 14B: PJM Regional Transmission Process and the OA regarding the proposal window timeline. Following discussion the committee **endorsed** the proposed OA revisions by acclamation with no objections or abstentions.

First Readings

6. Seasonal Capacity Resources

Mr. Pete Langbein presented a problem/opportunity statement and issue charge regarding items related to non-capacity 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. The committee will be asked to endorse the proposed problem statement and issue charge at its next meeting.

7. PJM Manuals

- A. This item was deferred to the committee's next meeting to allow additional consideration by the Operating Committee.
- B. Mr. Michael Olaleye presented conforming revisions to Manual 11: Energy & Ancillary Services and Mr. Jeff McLaughlin will present associated revisions to the Regional Transmission and Energy Scheduling Practices document regarding with Coordinated Transaction Scheduling. The committee will be asked to endorse the proposed revisions at its next meeting.
- C. Mr. Michael Herman presented revisions to Manual 14B: PJM Regional Transmission Process resulting from the NYSIO/PJM Wheel Replacement and PJM System Planning department responsibilities. The committee will be asked to endorse the proposed revisions at its next meeting.

Informational Updates

8. 2020/2021 Base Residual Auction Scenario Analysis

Mr. Jeff Bastian discussed scenario analyses performed on the results of the 2020/2021 Base Residual Auction. He noted that the results of the standard BRA scenario analyses have been posted to the RPM website under the 2020/2021 delivery year material. He also noted that requests for additional scenarios may be sent to the RPM hotline. Additional discussion will of the scenario analysis will occur at the next Members Committee Webinar.

9. Winter Season Resource Adequacy and Capacity Requirements

Mr. Patricio Rocha Garrido provided an update on work related to the MRC-approved problem statement and issue charge regarding Winter Season Resource Adequacy and Capacity Requirements.

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

Mr. Anders provided an update on the activities of the CCPPSTF, including a determination not to post the recording of the July 17-18, 2017 meeting as requested.

Future Agenda Items

No new future agenda items were identified.

Future Meeting Dates

August 24, 2017	9:30 a.m.	Wilmington, DE
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

Daugherty	Suzanne	PJM Interconnection, LLC	Not Applicable
Anders	David	PJM Interconnection, LLC	Not Applicable

VOTING PARTICIPANTS

Last Name	First Name	Company	Sector
Barker	Jason	Exelon Business Services Company, LLC	Transmission Owner
Benchek	Jim	American Transmission Systems, Inc.	Transmission Owner
Borgatti	Michael	Covanta Energy Group, LLC	Generation Owner
Borgatti	Michael	Elgin Energy Center, LLC	Generation Owner
Borgatti	Michael	Jersey Green Energy LLC	Other Supplier
Borgatti	Michael	Longview Power, LLC	Generation Owner
Borgatti	Michael	Rep.'g Moxie Freedom LLC	Generation Owner

Borgatti	Michael	Rep.'g Newark Energy Center, LLC	Generation Owner
Borgatti	Michael	Rep.'g NextEra Energy Marketing, LLC	Generation Owner
Borgatti	Michael	York County Solid Waste and Refuse Authority	Generation Owner
Bruce	Susan	Rep.'g Gerdau Ameristeel Energy, Inc.	Other Supplier
Bruce	Susan	Rep.'g Linde, LLC	End User Customer
Bruce	Susan	Rep.'g MeadWestvaco Corporation	End User Customer
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 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	Electric Distributor
Bruce	Susan	Rep.'g Praxair, Inc.	End User Customer
Bruce	Susan	Rep.'g Procter & Gamble Paper Products Company (The)	End User Customer
Bruce	Susan	Rep.'g Trustees of the University of Pennsylvania	End User Customer
Bruce	Susan	Rep.'g Wellsboro Electric Company	Electric Distributor
Davis	James	Virginia Electric & Power Company	Transmission Owner
Dillon	Matthew	UGI Development Company	Generation Owner
Dugan	Chuck	East Kentucky Power Cooperative, Inc.	Transmission Owner
Ellison	Alan	Grays Ferry Cogeneration Partnership	Generation Owner
Evrard	David	Pennsylvania Office of Consumer Advocate	End User Customer
Foladare	Kenneth	Tangibl	None
Fondacci	Luis	North Carolina Electric Membership Corporation	Electric Distributor
Ford	Adrien	Old Dominion Electric Cooperative	Electric Distributor
Garnett	Bryan	Duke Energy Business Services LLC	Transmission Owner
Greiner	Gary	Public Service Electric & Gas Company	Transmission Owner
Guerry	Katie	EnerNOC, Inc.	Other Supplier
Hastings	David	Solios Power Mid-Atlantic Trading, LLC	Other Supplier
Hastings	David	Mercuria Energy America, Inc.	Other Supplier
Hastings	David	Saracen Energy East, L.P.	Other Supplier
Hastings	David	Aspirity Energy, LLC	Other Supplier
Hastings	David	SESCO Enterprises, LLC	Other Supplier
Hastings	David	Northstar Trading Ltd.	Other Supplier
Helms	Joe	Rainbow Energy Marketing Corporation	Other Supplier
Horstmann	John	Dayton Power & Light Company (The)	Transmission Owner
Horton	Dana	Appalachian Power Company (AEP Generation)	Transmission Owner
Hudis	Gabriella	Jersey Green Energy LLC	Other Supplier
Hurwich	Mark	Elliott Bay Energy Trading, LLC	Other Supplier
Hyzinski	Thomas	GT Power Group	Not Applicable
Jablonski	James	Borough of Butler, Butler Electric Division	Electric Distributor
Jablonski	James	Borough of Lavallette, New Jersey	Electric Distributor
Jablonski	James	Borough of Madison, New Jersey	Electric Distributor
Jablonski	James	Borough of Milltown, New Jersey	Electric Distributor
Jablonski	James	Borough of Park Ridge, New Jersey	Electric Distributor
Jablonski	James	Borough of Pemberton	Electric Distributor
Jablonski	James	Borough of Seaside Heights, New Jersey	Electric Distributor

Jablonski	James	Borough of South River, New Jersey	Electric Distributor
Jablonski	James	Vineland Municipal Electric Utility	Electric Distributor
Johnson	Carl	Rep.'g Madison Gas & Electric Co.	Other Supplier
Johnson	Carl	Rep.'g Northern Virginia Electric Cooperative (NOVEC)	Electric Distributor
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 PA	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 Town of Williamsport (The)	Electric Distributor
Johnson	Carl	Rep.'g WPPI Energy	Other Supplier
Johnson	Carl	North Carolina Electric Membership Corporation	Electric Distributor
Johnson	Carl	Old Dominion Electric Cooperative	Electric Distributor
Johnson	Carl	North Carolina Municipal Power Agency Number 1	Other Supplier
Johnson	Carl	Thurmont Municipal Light Company	Electric Distributor
Kelly	Stephen	Brookfield Energy Marketing LP	Other Supplier
Kier	Laura	EnergyHub	Other Supplier
Lieberman	Steven	American Municipal Power, Inc.	Electric Distributor
Long	Scott	Allegheny Electric Cooperative, Inc.	Electric Distributor
Melnyk	Markian	Atlantic Grid Operations A, LLC	Other Supplier
Pakela	Greg	DTE Energy Trading, Inc.	Other Supplier
Poulos	Greg	Rep.'g Consumer Advocates of the PJM States	End User Customer
Poulos	Greg	Rep.'g Delaware Division of the Public Advocate	End User Customer
Poulos	Greg	Rep.'g Illinois Citizens 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 Essential Power Rock Springs, LLC	Transmission Owner
Pratzon	David	Rep.'g Wheelabrator Frackville Energy Co., Inc.	Generation Owner
Pratzon	David	Rep.'g WM Renewable Energy, L.L.C.	Generation Owner
Prokop	Brenda	ITC Interconnection LLC	Transmission Owner
Rushing	Nathan	CPV Power Holdings	Generation Owner

Scarpignato	David	Calpine Energy Services, L.P.	Generation Owner
Trayers	Barry	Citigroup Energy Inc.	Other Supplier
Wadsworth	Joe	Vitol Inc.	Other Supplier
Wicks	Tonja	Duquesne Light Company	Transmission Owner
Wilkie	Brian	Consolidated Edison	Other Supplier

Non-Voting Participants

Last Name	First Name	Company	Sector
Ainspain	Malcolm	NRG	Generation Owner
Asplud	Russell	TransAlta	Other Supplier
Baer	Mitchell	ACE	None
Binder	Gerry	SESCO Enterprises, LLC	Other Supplier
Birnel	William	Westar Energy, Inc.	Other Supplier
Bleiweis	Bruce	DC Energy	Other Supplier
Bolan	Martin	First Energy	Transmission Owner
Bowring	Joe	Monitoring Analytics	Not Applicable
Broadbeck	John	EDP Renewables	Generation Owner
Carmean	Gregory	OPSI	None
Chen	Jennifer	NRDC	None
Chintapalli	Raj	BP Energy Company	Other Supplier
Cocco	Michael	Old Dominion Electric Cooperative	Electric Distributor
Crystle	Gil	UGI Energy Services	Generation Owner
Currier	Jeff	Virginia Electric & Power Company	Transmission Owner
Dalessandris	Lou	First Energy	Transmission Owner
Dillon	Matthew	UGI Development Company	Generation Owner
Domian	Christin	Duquesne Light	Transmission Owner
Douglass	Robert	Exelon Generation	Generation Owner
Erffmeyer	Jack	Citizens Utility Board	None
Esposito	Pat	A2A Energy	None
Farber	John	DE Public Service Commission	None
Filomena	Guy	Customized Energy Solutions, Ltd.	None
Fitch	Neal	NRG Power Marketing, LLC	Generation Owner
Foxen	Timothy	Osaka Gas USA	None
Fuhr	Gretchen	Just Energy Solutions	Other Supplier
Gahimer	Mike	OUC	None
Gilani	Rehan	ConEdison Energy	Other Supplier
Godson	Gloria	Exelon Business Services Company, LLC	Transmission Owner
Greening	Michele	PPL Electric Utilities Corp. dba PPL Utilities (LSE)	Transmission Owner
Haas	Howard	Monitoring Analytics	None
Harmon	Mike	Ameren	none
Hitch	George	Dominion Energy	Generation Owner
Horning	Lynn	LMH Energy Consulting	Not Applicable
Huntoon	Stephen	NextEra Energy Power Marketing, LLC	Generation Owner

Jardot	Gina	Cogentrix	Transmission Owner
Janicki	Diane	Boston Energy Trading & Marketing	Generation Owner
Jett	Bill	Duke Energy	Transmission Owner
Jones	Ryan	Allegheny Electric Cooperative	Electricity Distributor
Kaczanowski	Marek	Baltimore Gas & Electric Company	Transmission Owner
Kerecman	Joe	Calpine	Generation Owner
Kilgallen	Kevin	Avangrid Renewables, LLC	Generation Owner
Kinser	Cynthia	Tennessee Attorney General	Not Applicable
Kogut	George	New York Power Authority	Other Supplier
Liang-Nicole	Cecelia	First Energy	Transmission Owner
Martin	Valerie	Federal Energy Regulatory Commission	Not Applicable
McDaniel	John	Baltimore Gas & Electric Company	Transmission Owner
Midgley	Sharon	Exelon Business Services Company, LLC	Transmission Owner
Miller	John	ComEd	Transmission Owner
O'Connell	Robert	PPGI Fund A/B Development	Generation Owner
Ondayko	Brock	Appalachian Power Company (AEP Generation)	Transmission Owner
Patten	Kevin	American Electric Power	
Peoples	John	Duquesne Light Company	Transmission Owner
Philips	Marjorie	Direct Energy Business, LLC	Other Supplier
Pino	William	Baltimore Gas & Electric Company	Transmission Owner
Price	RuthAnn	Delaware Division of the Public Advocate	End Use Customer
Rainey	Frank	PEI Power Corporation	Generation Owner
Rutigliano	Tom	EMC	Other Supplier
Sasser	Jonathan	Customized Energy Solutions, Ltd.	None
Schneider	Jan	First Energy	Transmission Owner
Schum	Alice	Illinois Municipal Electric Agency	Electric Distributor
Shanker	Roy	East Coast Power & Gas of New Jersey, LLC	Other Supplier
Sillin	John	Federal Energy Regulatory Commission	None
Slifer	Diane	P3	None
Smaczniak	Kim	Earth Justice	None
Stern	Alexander	Public Service Electric & Gas Company	Transmission Owner
Stewart	Travis	Gable & Associates	Not Applicable
Stubbe	Judy	Duke Energy Business Services LLC	Transmission Owner
Sweeney	Rory	RTO Insider	Not Applicable
Tatum	Ed	American Municipal Power	Electric Distributor
Thomson	Heather	Mid-Atlantic Renewable Energy Coalition	Not Applicable
Tibbetts	Maeve	Pierce Atwood	Not Applicable
Tsao	Stephanie	S&P Global	
Vargo	Daniel	Allegheny Electric Cooperative	Electricity Distributor
Vayda	Brian	Borough of Park Ridge, New Jersey	Electric Distributor
Vogel	Anne	American Electric Power	
Walker	Jennifer	Exelon	Transmission Owner
Williams	Amber	NYSEG	Other Supplier
Wilson	Bram	PBE	

Wilson	James	Wilson Energy Economics	Not Applicable
Xenopoulos	Damon	SMXB	Not Applicable
York	Katherine	Tennessee Valley Authority	Other Supplier

PJM PARTICIPANTS

Last Name	First Name	Company	Sector
Baker	Scott	PJM Interconnection	Not Applicable
Barrett	Fran	PJM Interconnection	Not Applicable
Bennett	Stephen	PJM Interconnection	Not Applicable
Berner	Aaron	PJM Interconnection	Not Applicable
Bhavaraju	Murty	PJM Interconnection	Not Applicable
Bresler	Stu	PJM Interconnection	Not Applicable
Bryson	Mike	PJM Interconnection	Not Applicable
Burdis	Tim	PJM Interconnection	Not Applicable
Burlew	Jim	PJM Interconnection	Not Applicable
Callis	Joe	PJM Interconnection	Not Applicable
Ciabattoni	Joseph	PJM Interconnection	Not Applicable
Cummings	Bridgid	PJM Interconnection	Not Applicable
Delviscio	Mike	PJM Interconnection	Not Applicable
Derin	Bilge	PJM Interconnection	Not Applicable
Dhuri	Bhushan	PJM Interconnection	Not Applicable
Dotter	Ray	PJM Interconnection	Not Applicable
Drauschak	Lisa	PJM Interconnection	Not Applicable
Driscoll	Maryellen	PJM Interconnection	Not Applicable
Duane	Vince	PJM Interconnection	Not Applicable
Egan	Amanda	PJM Interconnection	Not Applicable
Endress	Eric	PJM Interconnection	Not Applicable
Fabiano	Janell	PJM Interconnection	Not Applicable
Foster	Denise	PJM Interconnection	Not Applicable
Glazer	Craig	PJM Interconnection	Not Applicable
Gledhill	Andrew	PJM Interconnection	Not Applicable
Hendrzak	Chantal	PJM Interconnection	Not Applicable
Herling	Steven	PJM Interconnection	Not Applicable
Herman	Michael	PJM Interconnection	Not Applicable
Horger	Tim	PJM Interconnection	Not Applicable
Hugee	Jacquelynn	PJM Interconnection	Not Applicable
Keech	Adam	PJM Interconnection	Not Applicable
Kelley	Michael	PJM Interconnection	Not Applicable
Langbein	Pete	PJM Interconnection	Not Applicable
Larocque	Matthew	PJM Interconnection	Not Applicable
Long	Amanda	PJM Interconnection	Not Applicable
Maxwell	Melissa	PJM Interconnection	Not Applicable
McLaughlin	Jeffrey	PJM Interconnection	Not Applicable
McGlynn	Paul	PJM Interconnection	Not Applicable

McLavery	Megan	PJM Interconnection	Not Applicable
Monzon	Stephanie	PJM Interconnection	Not Applicable
Mooney	Molly	PJM Interconnection	
Morelli	Lisa	PJM Interconnection	Not Applicable
Nice	Ryan	PJM Interconnection	Not Applicable
O'Brien	Tom	PJM Interconnection	Not Applicable
O'Hara	Chris	PJM Interconnection	Not Applicable
Olaleye	Michael	PJM Interconnection	Not Applicable
Oskvig	O.H. Dean	PJM Interconnection	Not Applicable
Ott	Andrew	PJM Interconnection	Not Applicable
Pacella	Chris	PJM Interconnection	Not Applicable
Phillips	Darlene	PJM Interconnection	Not Applicable
Pilong	Chris	PJM Interconnection	Not Applicable
Quevada	Jason	PJM Interconnection	Not Applicable
Reynolds	John	PJM Interconnection	Not Applicable
Ritchie	Sandra	PJM Interconnection	Not Applicable
Rocha-Garrido	Patricio	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
Shah	Vijay	PJM Interconnection	Not Applicable
Shparber	Steve	PJM Interconnection	Not Applicable
Slusser	Jeff	PJM Interconnection	Not Applicable
Snyder	Susan	PJM Interconnection	Not Applicable
Souder	Rich	PJM Interconnection	Not Applicable
Swimm	Nora	PJM Interconnection	Not Applicable
Takahaski	Mark	PJM Interconnection	Not Applicable
Tiemann	Jeff	PJM Interconnection	Not Applicable
Tribulski	Jennifer	PJM Interconnection	Not Applicable
Walter	Laura	PJM Interconnection	Not Applicable
Ward	Mike	PJM Interconnection	Not Applicable
Wassinger	Donald	PJM Interconnection	Not Applicable