

Markets and Reliability Committee
PJM, Conference and Training Center, Audubon, PA
May 24, 2018
9:00 a.m. – 3:30 p.m. EPT

Administration (9:00-9:05)

Ms. Denise Foster (serving as Chair at the designation of Ms. Daugherty) and Mr. Dave Anders welcomed the participants, and provided the antitrust and code of conduct announcements.

Mr. Bob O'Connell, PPGI, objected to the formation of the agenda with respect to agenda item 3: Planning Committee Cost Containment. Specifically Mr. O'Connell stated that the proposal which passed with 64 percent of the vote at the Planning Committee referenced in the slides for agenda item 3A should have been placed on the agenda under item 3B. Mr. O'Connell referred to interpretation of Manual 34: PJM Stakeholder Process rules regarding the related votes on the subject taken at the January 25, 2018 Markets and Reliability Committee and May 3, 2018 Planning Committee meetings. Mr. O'Connell noted his intention to pursue clarifications of the Manual 34 rules at the Stakeholder Process Forum. Mr. O'Connell did not request any action of the Chair.

Mr. Stu Bresler provided an overview of the results of the 2021/22 Base Residual Auction, and discussed the FERC's order rejecting PJM's recent filing regarding Incremental Auctions, noting that it was not PJM's intention to seek rehearing.

Endorsements/Approvals (9:05-10:55)

1. Draft Minutes (9:05-9:10)

Minutes of the April 19, 2018 meeting of the Markets and Reliability Committee (MRC) were approved by acclamation with no objections or abstentions.

2. PJM Manuals (9:10-9:45)

- A. Mr. Glen Boyle presented proposed changes to Manual 36: System Restoration as a part of the periodic review process for manuals.
- B. Mr. Yuri Smolanitsky presented proposed changes to Manual 03: Transmission Operations.
- C. Mr. Keyur Patel reviewed conforming revisions to Manual 11: Energy & Ancillary Services Market Operations, related to the FERC Order on Virtual Bidding. Ms. Susan Kenney reviewed revisions to Manual 11 to update when Generation and Load Response resources may report hourly differentiated Notification times, Minimum Run times, and Minimum Downtimes in Markets Gateway. Additionally, Ms. Kenney also reviewed conforming revisions to Manual 11 to correct certain provisions regarding price-based offers. Dr. Joe Bowring, Monitoring Analytics discussed concerns regarding the proposed revisions related to price-based offers.
- D. Mr. Peter Lamaina presented Manual 14A: New Services Request Process updates to Attachment F and G, to align with the current data submission process in Queue Point.

- E. Mr. Glen Bray presented the revisions proposed by the Relay Subcommittee's cover to cover periodic review of Manual 07: Protection Standards.
- F. Ms. Rebecca Stadelmeyer presented proposed revisions to Manual 14D: Generator Operational Requirements regarding the generation transfer process.

Following discussion, the proposed manual revisions in items 2A through 2.E (except the conforming changes regarding price-based offers in item 2C) were **endorsed** by acclamation with no objections or abstentions. The vote on the conforming changes regarding price-based offers in item 2C was deferred to the committee's next meeting, and stakeholders will discuss the concerns raised at the next Markets Implementation Committee.

3. Planning Committee (PC) Cost Containment (9:45-10:25)

- A. Ms. Janell Fabiano provided an update on the Cost Containment issue being worked through special sessions of the PC, noting that the votes taken at the May 3rd PC were non-binding informational votes.

Following Ms. Fabiano's presentation, Mr. Bob O'Connell moved and Ms. Ford, ODEC, seconded:

- Remand the whole agenda item including the LS proposal back the PC.
- Direct the PC to take whatever time is required to complete deliberations on all proposals under consideration, conduct a vote according to the rules for voting at standing committees, and bring the result back to the MRC to be placed in the MRC agenda using the rules for structuring voting items sent to the MRC from subordinate committees.
- While deliberations are taking place, the chair of the PC is to report on progress of the item to the MRC at each MRC meeting.

This motion was **failed** in a sector-weighted vote with 1.95 in favor.

- B. Ms. Sue Glatz presented for informational purposes PJM Alternate proposals that were developed at the Special PC and presented to the PC.
- C. As Ms. Sharon Segner took the floor, Mr. Bob O'Connell raised a point of order questioning whether the January 25th Alternative Motion was still on the agenda. Ms. Foster noted that at the January 25, 2018 MRC meeting the main motion (the PJM motion) failed, and that then LS Power moved on behalf of several members and the DC Office of the Peoples' Counsel seconded an alternate proposal (the LS Power proposal). Ms. Foster further recounted that a motion to defer the vote on the LS Power proposal until the May 2018 MRC meeting was approved at the January 25th MRC meeting, and therefore the LS Power proposal was properly before the May 24, 2018 MRC meeting.

Mr. O'Connell sought to appeal the decision of the Chair stating that the Alternative Motion needed to re-moved and seconded, and at such time out of an abundance of caution, Ms. Susan Bruce, PJM ICC, moved and Mr. Heinle seconded the LS Power alternate proposal presented at the

January 25, 2018 MRC meeting including the updates posted for the May 24th meeting which were offered as proposed friendly amendments. Mr. Anders noted that this motion effectively mooted the appeal.

Ms. Sharon Segner presented the LS Power solution package (including what had been labeled as proposed friendly amendments) developed through discussion at the special sessions for the PC. The movers and seconders of the January 25th LS alternate motion allowed the proposed friendly amendments.

Mr. Steve Lieberman, AMP, proposed an additional friendly amendment as follows (the below language reflects the omission of a sentence that Mr. Lieberman agreed to delete upon committee discussion):

In evaluating any cost, ROE and/or capital structure proposal, PJM is not making a determination that the cost, ROE or capital structure results in just and reasonable rates, which shall be addressed in the required rate filing with the FERC. Stakeholders seeking to dispute a particular ROE analysis utilized in the selection process may ~~shall~~ address such disputes with the Designated Entity in the applicable rate proceeding where the Designated Entity seeks approval of such rates from the Commission. Neither PJM, the Designated Entity nor any stakeholders are waiving any of their respective FPA section 205 or 206 rights through this process. Challenges to the Designated Entity Agreements are subject to the just and reasonable standard.

The movers and seconders of the LS Power Alternate Motion at the January 25, 2018 MRC meeting and those of the motion at the May 24th meeting allowed the proposed friendly amendment. Therefore, it was incorporated into the LS Power proposal.

Ms. Pauline Foley clarified that the redlining of the proposed OA sections was not accurate and that the last sentence of the proposed OA, Schedule 6, Section 1.5.8 (c)(ii) should be redlined to indicate that it is new language. Ms. Segner agreed.

Following discussion, the LS Power proposal (incorporating all friendly amendments) was **endorsed** in a sector-weighted vote with 3.79 in favor.

4. Variable Operations & Maintenance Packages (10:25-10:45)

Ms. Melissa Pilonig reviewed the solution packages endorsed at the Market Implementation Committee (MIC) to address the Variable Operations & Maintenance (VOM) Costs issue. Mr. Bob O'Connell moved and Mr. Brian Wilke, Rockland Electric, seconded that voting on the proposals be deferred to the next MRC meeting, and to require review of related analysis performed by the Independent Market Monitor at the next MIC meeting. The motion to defer was **approved** by acclamation with no objections or abstentions.

5. Operating Agreement (OA) Confidentiality Provision (10:45-10:55)

Mr. Dave Souder reviewed an update to the confidentiality provision of the OA to specify that PJM may share member confidential information with reliability entities in addition to NERC. Following discussion, the proposed revisions were **endorsed** by acclamation with no objections or abstentions.

First Readings (10:55-11:50)

6. Governing Document Enhancement & Clarifications Subcommittee Updates (GDECS) (10:55-11:10)

Ms. Jacquelynn Hugee presented proposed revisions to clean-up governing agreement cross-references in the Tariff, OA and Reliability Assurance Agreement. The committee will be asked to endorse these revisions at its next meeting.

7. FTR Nodal Remapping (11:10-11:20)

Mr. Brian Chmielewski reviewed the FTR Nodal Remapping issue, and presented a first read of PJM's proposed package. The committee will be asked to endorse this proposal at its next meeting.

8. Long Term FTR Auction (11:20-11:30)

- A. Mr. Brian Chmielewski reviewed the Long Term FTR Auction issue, and presented a first read of PJM's proposed package.
- B. Dr. Howard Haas, Monitoring Analytics, reviewed an alternate proposal for the Long Term FTR Auction issue.

The committee will be asked to endorse a proposal at its next meeting.

9. PJM Manuals (11:30-11:50)

- A. Mr. Eric Endress reviewed proposed revisions to Manual 11: Energy & Ancillary Services Market Operations. The committee will be asked to endorse the proposed manual revisions at its next meeting.
- B. Dr. Patricio Rocha-Garrido presented proposed revisions to Manual 20: PJM Resource Adequacy Analysis. The committee will be asked to endorse the proposed manual revisions at its next meeting.

Informational Updates (11:50-12:00)

10. Primary Frequency Response Senior Task Force (PFRSTF) (11:50-12:00)

Mr. Glen Boyle provided a status update on the work of the PFRSTF.

Future Agenda Items (12:00-12:05)

No new future agenda items were identified.

Future Meeting Dates

June 21, 2018	9:00 a.m.	Wilmington, DE
July 26, 2018	9:00 a.m.	Wilmington, DE
August 23, 2018	9:00 a.m.	Valley Forge, PA
September 27, 2018	9:00 a.m.	Valley Forge, PA
October 25, 2018	9:00 a.m.	Wilmington, DE
December 6, 2018	9:00 a.m.	Wilmington, DE
December 20, 2018	9:30 a.m.	Valley Forge, PA

Chair and Secretary

Anders	David	PJM Interconnection	Not Applicable
Foster	Denise	PJM Interconnection	Not Applicable

Voting Members

Last Name	First Name	Company	Sector
Benchek	Jim	American Transmission Systems, Inc.	Transmission Owner
Bleiweis	Bruce	DC Energy, LLC	Other Supplier
Borgatti	Michael	Covanta Energy Group, LLC	Generation Owner
Borgatti	Michael	Jersey Green Energy, LLC	Other Supplier
Borgatti	Michael	Longview Power, LLC	Generation Owner
Borgatti	Michael	Moxie Freedom LLC	Generation Owner
Borgatti	Michael	Newark Energy Center, LLC	Generation Owner
Borgatti	Michael	NextEra Energy Marketing, LLC	Other Supplier
Borgatti	Michael	York County Solid Waste and Refuse Authority	Generation Owner
Brodbeck	John	EDP Renewables North America, LLC	Generation Owner
Bruce	Susan	Air Products & Chemicals, Inc.	End User Customer
Bruce	Susan	ArcelorMittal USA LLC	End User Customer
Bruce	Susan	Gerdau Ameristeel Energy, Inc.	Other Supplier
Bruce	Susan	Industrial Energy Users-Ohio	Other Supplier
Bruce	Susan	Kimberly-Clark Corporation	Generation Owner
Bruce	Susan	Lehigh Portland Cement Company	End User Customer
Bruce	Susan	Letterkenny Industrial Development Authority - PA	Electric Distributor
Bruce	Susan	Linde, LLC	End User Customer
Bruce	Susan	MeadWestvaco Corporation	None
Bruce	Susan	Praxair, Inc.	End User Customer
Bruce	Susan	Procter & Gamble Paper Products Company (The)	Generation Owner
Bruce	Susan	Trustees of the University of Pennsylvania	End User Customer
Bruce	Susan	Wellsboro Electric Company	Electric Distributor

Campbell	Bruce	Enerwise Global Technologies, Inc.	Other Supplier
Campbell	Bruce	MidAtlantic Power Partners, LLC	Other Supplier
Crystle	Gil	UGI Development Company	Generation Owner
Davis	James	Virginia Electric & Power Company	Transmission Owner
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
Fondacci	Luis	North Carolina Electric Membership Corporation	Electric Distributor
Ford	Adrien	Old Dominion Electric Cooperative	Electric Distributor
Greiner	Gary	Public Service Electric & Gas Company	Transmission Owner
Guerry	Katie	EnerNOC, Inc.	Other Supplier
Hastings	David	Mercuria Energy America, Inc.	Other Supplier
Hastings	David	Northstar Trading Ltd.	Other Supplier
Hastings	David	Saracen Energy East, L.P.	Other Supplier
Hastings	David	SESCO Enterprises, LLC	Other Supplier
Hastings	David	Solios Power Mid-Atlantic Trading, LLC	Other Supplier
Helms	Joseph	Rainbow Energy Marketing Corporation	Other Supplier
Hoatson	Tom	Riverside Generating, LLC	Generation Owner
Hoatson	Tom	Rock Island Clean Line LLC	Other Supplier
Hoatson	Tom	Twin Eagle Resource Management, LLC	Other Supplier
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
Horton	Dana	Appalachian Power Company	Transmission Owner
Hyzinski	Thomas	Dynegy Marketing and Trade, LLC	Generation Owner
Johnson	Carl	Blue Ridge Power Agency, Inc.	Electric Distributor
Johnson	Carl	Borough of Chambersburg	Electric Distributor
Johnson	Carl	Borough of Mont Alto, Pennsylvania	Electric Distributor
Johnson	Carl	Buckeye Power, Inc.	Electric Distributor
Johnson	Carl	Central Virginia Electric Cooperative	Electric Distributor
Johnson	Carl	City of Dover, Delaware	Electric Distributor
Johnson	Carl	Delaware Municipal Electric Corporation, Inc.	Electric Distributor
Johnson	Carl	Easton Utilities Commission	Electric Distributor
Johnson	Carl	Energy Cooperative Association of Pennsylvania (The)	Other Supplier
Johnson	Carl	Galt Power, Inc.	Other Supplier
Johnson	Carl	Hagerstown Light Department	Electric Distributor
Johnson	Carl	Illinois Municipal Electric Agency	Electric Distributor
Johnson	Carl	Indiana Municipal Power Agency	Generation Owner

Johnson	Carl	Madison Gas & Electric Co.	Other Supplier
Johnson	Carl	North Carolina Municipal Power Agency Number 1	Other Supplier
Johnson	Carl	Northern Illinois Municipal Power Agency	Electric Distributor
Johnson	Carl	Northern Virginia Electric Cooperative (NOVEC)	Electric Distributor
Johnson	Carl	Thurmont Municipal Light Company	Electric Distributor
Johnson	Carl	Town of Williamsport (The)	Electric Distributor
Johnson	Carl	WPPI Energy	Other Supplier
Kelly	Stephen	Brookfield Energy Marketing LP	Other Supplier
Kogut	George	New York Power Authority	Other Supplier
Lieberman	Steven	American Municipal Power, Inc.	Electric Distributor
Long	Scott	Allegheny Electric Cooperative, Inc.	Electric Distributor
Midgley	Sharon	Exelon Business Services Company, LLC	Transmission Owner
O'Connell	Robert	PPGI Fund A/B Development, LLC.	Generation Owner
Pakela	Greg	DTE Energy Trading, Inc.	Other Supplier
Pakula	Maggie	Invenergy, LLC	Generation Owner
Pelletier	Eveline	H.Q. Energy Services (U.S.), Inc.	Other Supplier
Poulos	Greg	Consumer Protection and Advocate Division of the Tennessee Attorney General	End User Customer
Poulos	Greg	Delaware Division of the Public Advocate	End User Customer
Poulos	Greg	Illinois Citizen Utility Board	End User Customer
Poulos	Greg	Indiana Office of Utility Consumer Counselor (IN OUCC)	End User Customer
Poulos	Greg	Maryland Office of People's Counsel	End User Customer
Poulos	Greg	Michigan Department of Attorney General, Environment, Natural Resources, & Agriculture Division	End User Customer
Poulos	Greg	New Jersey Division of Rate Counsel	End User Customer
Poulos	Greg	Office of the Attorney General, Kentucky	End User Customer
Poulos	Greg	Office of the People's Counsel for the District of Columbia	End User Customer
Poulos	Greg	Ohio Consumers' Counsel	End User Customer
Poulos	Greg	Public Staff - North Carolina Utilities Commission	End User Customer
Poulos	Greg	Virginia Division of Consumer Counsel	End User Customer
Poulos	Greg	West Virginia Consumer Advocate Division	End User Customer
Pratzon	David	Eastern Generation, LLC	Generation Owner
Pratzon	David	Essential Power Rock Springs, LLC	Transmission Owner
Pratzon	David	Wheelabrator Frackville Energy Co., Inc.	Generation Owner
Prokop	Brenda	ITC Interconnection LLC	Transmission Owner

Richardson	Frank (Chip)	PPL Electric Utilities Corporation d/b/a PPL Utilities	Transmission Owner
Rohrbach	John	Southern Maryland Electric Cooperative, Inc.	Electric Distributor
Rohrbach	John	Wabash Valley Power Association, Inc.	Electric Distributor
Scarpignato	David	Calpine Energy Services, L.P.	Generation Owner
Skucas	Ruta	Aeon Energy Trading LLC	Other Supplier
Skucas	Ruta	Alphataraxia Palladium LLC	Other Supplier
Skucas	Ruta	Ames Energy, LLC	Other Supplier
Skucas	Ruta	Big Bend Trading, LLC	Other Supplier
Skucas	Ruta	BJ Energy, LLC	Other Supplier
Skucas	Ruta	Boston Energy Group, Inc.	Other Supplier
Skucas	Ruta	Dufossat Capital I, LLC	Other Supplier
Skucas	Ruta	Endurance Energy Midwest LLC	Other Supplier
Skucas	Ruta	Energia VM Gestion de Energia S.L.U.	Other Supplier
Skucas	Ruta	Falcon Energy, LLC	Other Supplier
Skucas	Ruta	Great Bay Energy III, LLC	Other Supplier
Skucas	Ruta	Greene Energy NE LLC	Other Supplier
Skucas	Ruta	Hexis Energy Trading, LLC	Other Supplier
Skucas	Ruta	Liberty Hill Power, LLC	Other Supplier
Skucas	Ruta	MAG Energy Solutions, Inc.	Other Supplier
Skucas	Ruta	Monterey MA, LLC	Other Supplier
Skucas	Ruta	Precept Power LLC	Other Supplier
Skucas	Ruta	Pure Energy, Inc.	Other Supplier
Skucas	Ruta	Red Wolf Energy Trading, LLC	Other Supplier
Skucas	Ruta	Southard Energy Partners LLC	Other Supplier
Skucas	Ruta	Taller Cube, LLC	Other Supplier
Skucas	Ruta	Velocity American Energy Master I, L.P.	Other Supplier
Skucas	Ruta	XO Energy MA, L.P.	Other Supplier
Skucas	Ruta	Yasmin Partners LLC	Other Supplier
Sturgeon	John	Duke Energy Business Services LLC	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 Pemberton, 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
Wadsworth	Joe	Vitol Inc.	Other Supplier
Whitehead	Jeffrey	Direct Energy Business, LLC	Other Supplier
Wicks	Tonja	Duquesne Light Company	Transmission Owner
Wilkie	Brian	Rockland Electric Company	Transmission Owner

Non-Voting Participants

Last Name	First Name	Company	Sector
Abend	Erik	Erik Abend Consulting	Not Applicable
Ainstan	Malcolm	NRG Curtailment Solutions, Inc.	Other Supplier
Alan	Ellison	Grays Ferry Cogeneration Partnership	Generation Owner
Alex	Stern	Public Service Electric & Gas Company	Transmission Owner
Batta	Mike	Dominion Energy	Transmission Owner
Binder	Gerald	SESCO Enterprises, LLC	Other Supplier
Bolan	Martin	FirstEnergy Solutions Corp.	Transmission Owner
Branch	John	Edgecombe Genco, LLC	Generation Owner
Bray	Glenn	PPL Electric Utilities Corporation d/b/a PPL Utilities	Transmission Owner
Brian	Kauffman	EnerNOC, Inc.	Other Supplier
Brown	David	Board of Public Utilities	Not Applicable
Canchi	Devendra	Monitoring Analytics	Not Applicable
Carmean	Gregory	OPSI	Not Applicable
Carrado	Regina	Exelon Business Services Company, LLC	Transmission Owner
Chintapalli	Raj	BP Energy Company	Other Supplier
Chocarro	Iker	E.ON Climate & Renewables North America Inc.	Generation Owner
Coffey	Cecilia	Federal Energy Regulatory Commission	Not Applicable
Dadourian	John	Monitoring Analytics	Not Applicable
Dasher	Brett	Energy Authority, Inc. (The)	Other Supplier
David	Weaver	Exelon Business Services Company, LLC	Transmission Owner
Delosa	Joe	Delaware Public Service Commission	Not Applicable
Dillon	Matt	UGI Development Company	Generation Owner
Dolan	Ryan	American Municipal Power, Inc.	Electric Distributor
Domian	Christin	Duquesne Light Company	Transmission Owner
Drom	Rick	Affirmed Energy LLC	Other Supplier
Essah	David	Virginia State Corporation Commission	Not Applicable
Filomena	Guy	Customized Energy Solutions, Ltd.*	Not Applicable
Frank	Rainey	PEI Power Corporation	Generation Owner

Frederick	Heinle	Office of the People's Counsel for the District of Columbia	End User Customer
Gahimer	Mike	OUC	Not Applicable
Gebolys	Debbie	Public Utilities Commission of Ohio	Not Applicable
Gilani	Rehan	Consolidated Edison Energy, Inc.	Other Supplier
Gibelli	Stephen	NextEra Energy Power	Generation Owner
Grace	Sandy	Exelon Business Services Company, LLC	Transmission Owner
Guntle	Vince	UGI Energy Services, LLC	Other Supplier
Guy	Filomena	Customized Energy Solutions, Ltd.*	Not Applicable
Guy	Gary	Exelon Business Services Company, LLC	Transmission Owner
Hanser	Erik	Michigan Public Service Commission	Not Applicable
Harmon	Mike	Union Electric Company d/b/a Ameren Missouri	Other Supplier
Hayik	Seth	Monitoring Analytics	Not Applicable
Heidorn	Rich	RTO Insider	Not Applicable
Heisey	Bradley	Tenaska Pennsylvania Partners, LLC	Generation Owner
Hitch	George	Dominion Energy	Transmission Owner
Holland	Cynthia	New Jersey Board of Public Utilities	Not Applicable
Hollis	Gabriel	NextEra Energy Resources, LLC	Not Applicable
Howard	Haas	Monitoring Analytics	Not Applicable
Huntoon	Stephen	Energy Counsel LLP	Not Applicable
Hurwich	Mark	Elliott Bay Energy Trading, LLC	Other Supplier
Hyatt	John	Monitoring Analytics	Not Applicable
Janicki	Diane	Boston Energy Trading and Marketing LLC	Generation Owner
Jett	William	Duke Energy Business Services LLC	Transmission Owner
Joe	Bowring	Monitoring Analytics	Not Applicable
Jon	Schneider	FirstEnergy Solutions Corp.	Transmission Owner
Judy	Stubbe	Duke Energy Business Services LLC	Transmission Owner
Kenneth	Foladare	Tangibl	Not Applicable
Kinser	Cynthia	Consumer Protection and Advocate Division of the Tennessee Attorney General	End-Use Customer
Knernschild	Jenny	Old Dominion Electric Cooperative	Electric Distributor
Kogel-Smucker	Sarah	DC Office of The Attorney General	Not Applicable
Kuo	David	DC Energy, LLC	Other Supplier
Laios	Takis	Appalachian Power Company	Transmission Owner
Lawson	Ryen	Dominion Energy	Transmission Owner
Liang-Nicol	Cecilia	FirstEnergy Solutions Corp.	Transmission Owner
Logan	Sharon	Federal Energy Regulatory Commission	Not Applicable
Low	Connie	Dominion Energy	Transmission Owner

Mack	Amanda	NextEra Energy Resources, LLC	Not Applicable
Mancuso	Melanie	FirstEnergy Solutions Corp.	Transmission Owner
Manning	James	North Carolina Electric Membership Corporation	Electric Distributor
Marinelli	Richard	Public Service Electric & Gas Company	Transmission Owner
Martin	Valerie	Federal Energy Regulatory Commission	Not Applicable
Mcalister	Lisa	American Municipal Power, Inc.	Electric Distributor
Michael	Cocco	Old Dominion Electric Cooperative	Electric Distributor
Monn	Alex	MISO Energy	Not Applicable
Nadel	Steven	PPL Electric Utilities Corporation d/b/a PPL Utilities	Transmission Owner
Nakayama	Hiroki	Marubeni Power	None
Nawaz	Zainab	New Jersey Board of Public Utilities	Not Applicable
Nokayama	Hiroki	Marubeni Power	Generation Owner
O'Boyle	Brian	Rockland Electric Company	Transmission Owner
Ondayko	Brock	Appalachian Power Company	Transmission Owner
Peoples	John	Duquesne Light Company	Transmission Owner
Philips	Marji	Direct Energy Business Marketing, LLC	Other Supplier
Price	Dann	Cpower Corp	Not Applicable
Price	Mark	DC Energy Mid-Atlantic, LLC	Other Supplier
Pulin	Shah	Exelon Business Services Company, LLC	Transmission Owner
Rawley	Josh	Burns & McDonnell	Not Applicable
Reeping	Bob	FirstEnergy Solutions Corp.	Transmission Owner
Riehl	John	Federal Energy Regulatory Commission	Not Applicable
Romero	Joel	Monitoring Analytics	Not Applicable
Rory	Sweeney	RTO Insider	Not Applicable
Rutigliano	Tom	Achieving Equilibrium LLC	Other Supplier
Rutigliano	Tom	Achieving Equilibrium LLC	Other Supplier
Saini	Ishwar	Macquarie Energy	Other Supplier
Sasser	Jonathan	Customized Energy Solutions, Ltd.*	Not Applicable
Schreim	Morris	Maryland Public Service Commission	Not Applicable
Schultheis	Daniel	Exelon Business Services Company, LLC	Transmission Owner
Shanker	Roy	H.Q. Energy Services (U.S.), Inc.	Other Supplier
Sharon	Segner	LS Power	Not Applicable
Specht	Alexander	Maryland Public Service Commission	Not Applicable
Stone	Andy	Gabel & Associates	Not Applicable
Stuchell	Jeff	FirstEnergy Solutions Corp.	Transmission Owner
Tangirala	Subha	ABB	Not Applicable
Tatum	Ed	American Municipal Power, Inc.	Electric Distributor
Taylor	Robert	Exelon Business Services Company, LLC	Transmission Owner

Thomas	Bainbridge	FirstEnergy Solutions Corp.	Transmission Owner
Thompson	Matthew	XO Energy	Other Supplier
Tibbetts	Maeve	Pierce Atwood	Not Applicable
Travis	Stewart	Gabel & Associates	Not Applicable
Tsao	Stephanie	Standard & Poor's Global	Not Applicable
Tyler	Catherine	Monitoring Analytics	Not Applicable
Vargo	Daniel	Allegheny Electric Cooperative	Electricity Distributor
Vogel	Anne	AEP Appalachian Transmission Company, Inc.	Transmission Owner
Vu	John	NextEra Energy Resources, LLC	Not Applicable
Weber	Adam	Union Electric Company d/b/a Ameren Missouri	Other Supplier
Wilhite	Chad	FirstEnergy Solutions Corp.	Transmission Owner
Wilson	Bram	PBF Power	Generation Owner
Wilson	James	Wilson Energy Economics	Not Applicable
Wisersky	Megan	Madison Gas & Electric	Other Supplier
Yochelson	Cheri	Dominion Energy	Transmission Owner

PJM Participants

Last Name	First Name	Company	Sector
Baker	Scott	PJM Interconnection	Not Applicable
Barrett	Francis	PJM Interconnection	Not Applicable
Bastian	Jeff	PJM Interconnection	Not Applicable
Bautista	Alejandro	PJM Interconnection	Not Applicable
Bennett	Stephen	PJM Interconnection	Not Applicable
Berner	Aaron	PJM Interconnection	Not Applicable
Boyle	Glen	PJM Interconnection	Not Applicable
Bresler	Stu	PJM Interconnection	Not Applicable
Brown	Rich	PJM Interconnection	Not Applicable
Buehler	Susan	PJM Interconnection	Not Applicable
Burdis	Timothy	PJM Interconnection	Not Applicable
Burns	Gregory	PJM Interconnection	Not Applicable
Cabezas	Angela	PJM Interconnection	Not Applicable
Carrol	Rebecca	PJM Interconnection	Not Applicable
Chmielewski	Brian	PJM Interconnection	Not Applicable
Croop	Danielle	PJM Interconnection	Not Applicable
Darlene	Phillips	PJM Interconnection	Not Applicable
Davis	Elizabeth	PJM Interconnection	Not Applicable
Drauschak	Lisa	PJM Interconnection	Not Applicable

Driscoll	Mary Ellen	PJM Interconnection	Not Applicable
Endress	Eric	PJM Interconnection	Not Applicable
Fairchild	Shane	PJM Interconnection	Not Applicable
Fernandes	Anisha	PJM Interconnection	Not Applicable
Fitzpatrick	Brian	PJM Interconnection	Not Applicable
Foley	Pauline	PJM Interconnection	Not Applicable
Glatz	Suzanne	PJM Interconnection	Not Applicable
Gresh	Leslie	PJM Interconnection	Not Applicable
Hauske	Thomas	PJM Interconnection	Not Applicable
Hendrzak	Chantal	PJM Interconnection	Not Applicable
Herdrzak	Chantal	PJM Interconnection	Not Applicable
Herling	Steve	PJM Interconnection	Not Applicable
Herman	Michael	PJM Interconnection	Not Applicable
Hislop	David	PJM Interconnection	Not Applicable
Hoang	Liem	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	Jacquelynn	PJM Interconnection	Not Applicable
Kappagantula	Srinivas	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
Kuras	Mark	PJM Interconnection	Not Applicable
Lamaina	Peter	PJM Interconnection	Not Applicable
Larocque	Matthew	PJM Interconnection	Not Applicable
Lu	Chen	PJM Interconnection	Not Applicable
Manion	Evelyn	PJM Interconnection	Not Applicable
McGill	Susan	PJM Interconnection	Not Applicable
McGlynn	Paul	PJM Interconnection	Not Applicable
Mirhosseini	Niloufar	PJM Interconnection	Not Applicable
Morelli	Lisa	PJM Interconnection	Not Applicable
Murphy	Shaun	PJM Interconnection	Not Applicable
Nix	Emma	PJM Interconnection	Not Applicable
O'Hara	Chris	PJM Interconnection	Not Applicable
Patel	Keyurbhai	PJM Interconnection	Not Applicable
Pelletier	Eveline	PJM Interconnection	Not Applicable

Phillips	Darlene	PJM Interconnection	Not Applicable
Pilong	Chris	PJM Interconnection	Not Applicable
Pilong	Melissa	PJM Interconnection	Not Applicable
Price	Rob	PJM Interconnection	Not Applicable
Ritchie	Sandra	PJM Interconnection	Not Applicable
Robinson	Evelyn	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	Kenneth	PJM Interconnection	Not Applicable
Shah	Vijay	PJM Interconnection	Not Applicable
Sims	Mark	PJM Interconnection	Not Applicable
Sitarchyk	Mike	PJM Interconnection	Not Applicable
Smolanitsky	Yuri	PJM Interconnection	Not Applicable
Souder	Dave	PJM Interconnection	Not Applicable
Stadelmeyer	Rebecca	PJM Interconnection	Not Applicable
Stotesbury	Christina	PJM Interconnection	Not Applicable
Stout	Joe	PJM Interconnection	Not Applicable
Swimm	Nora	PJM Interconnection	Not Applicable
Tribulski	Jen	PJM Interconnection	Not Applicable
Velasco	Cheryl	PJM Interconnection	Not Applicable
Walter	Laura	PJM Interconnection	Not Applicable
Ward	Michael	PJM Interconnection	Not Applicable
Williams	Stan	PJM Interconnection	Not Applicable
Wolfe	Art	PJM Interconnection	Not Applicable
Xu	Xu	PJM Interconnection	Not Applicable
Zamojcin	Ann	PJM Interconnection	Not Applicable