

Markets and Reliability Committee
PJM Conference & Training Center, Valley Forge, PA
May 26, 2016
9:30 a.m. – 3:00 p.m. EPT

Administration (9:30-9:35)

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

Mr. Stu Bresler discussed the results of the recently conducted 2019/20 Base Residual Auction. He noted that PJM will be performing scenario/sensitivity analysis on the results of the auction, and he requested that stakeholders submit any suggested scenarios to the RPM Hotline.

Mr. Adam Keech alerted stakeholders to actions they must take by May 31, 2016 regarding capacity resource day-ahead offers for June 1, 2016 and beyond.

Endorsements/Approvals (9:35-1:15)

1. Draft Minutes (9:35-9:40)

Minutes of the April 28, 2016 meeting of the Markets and Reliability Committee (MRC) were **approved** by acclamation with no objections or abstentions.

2. PJM Manuals (9:40-10:10)

- A. Ms. Nicole Scott presented proposed revisions to Manual 03: Transmission Operations related to the periodic review of the manual.
- B. Mr. Keyur Patel presented a proposed problem statement / issue charge related to revisions to Manual 11: Energy & Ancillary Services Market Operations regarding Day Ahead Scheduling Reserve Eligibility.
- C. Mr. Chris Pilog presented proposed revisions to Manual 13: Emergency Operations related to the periodic review of the manual.
- D. Mr. Jason Connell presented proposed revisions to Manual 14E: Merchant Transmission Specific Requirements regarding Merchant Network Upgrades and reorganizing for readability.
- E. Mr. Glen Boyle presented proposed revisions to Manual 36: System Restoration incorporating lessons learned from the annual restoration drill and the periodic review of the Manual.

Following discussion, the committee **endorsed** the proposed revisions and problem statement / issue charge in items 2.A through 2.E by acclamation with no objections or abstentions.

3. External Capacity Performance Enhancements (10:10-10:30)

Mr. Asanga Prera presented a problem statement / issue charge related to External Capacity Performance Enhancements. Following discussion, the committee **approved** the proposed problem statement / issue charge by acclamation with one objection and no abstentions.

4. Real-Time Values (10:30-10:45)

Mr. Tong Zhao presented proposed Manual 11: Energy & Ancillary Services Market Operations revisions to incorporate Real-Time Values. Following discussion, the committee **endorsed** the proposed revisions by acclamation with no objections or abstentions.

5. Transmission Replacement Processes Sr. Task Force (TRPSTF) (10:45-11:00)

Mr. Fran Barrett presented the proposed charter for the TRPSTF (previously entitled the End of Life Sr. Task Force). Following discussion, the committee **approved** the proposed charter by acclamation with no objections or abstentions.

6. Energy Market Uplift Senior Task Force (EMUSTF) (11:00-11:15)

Mr. Dave Anders presented a proposed revision to the EMUSTF charter to incorporate the scope of the recently approved Problem Statement and Issue Charge regarding "Review of Virtual Transaction Rules". Following discussion, the committee **approved** the proposed revision by acclamation with no objections or abstentions.

7. Earlier Queue Submittal Task Force (EQSTF) (11:15-11:30)

Mr. Dave Egan presented the recommendations of the EQSTF, including proposed Tariff revisions. Following discussion, the committee **endorsed** the proposed revisions by acclamation with no objections or abstentions.

8. Replacement Resources (11:30-11:45)

Mr. Barry Trayers, CitiGroup, moved and Mr. Bruce Campbell seconded adding to Manual 18: PJM Capacity Market Section 8.7, Replacement Resources an additional acceptable reason for early capacity replacement. Dr. Joe Bowring and others requested friendly amendments to delete the words "Wind, Solar, Demand Response and" and insert the word "cleared" before "Incremental Auction buy bids". Mr. Trayers and Mr. Campbell accepted this friendly amendment. Following discussion, the committee **endorsed** the amended proposed Manual 18 revisions by acclamation with three objections and six abstentions.

9. Seasonal Capacity Resources Sr. Task Force (SCRSTF) (11:45-12:00)

Mr. Scott Baker presented the draft charter for the SCRSTF. Following discussion, the committee **approved** the proposed draft charter in a sector weighted vote with 4.10 in favor.

10. Distributed Energy Resources (DER) (12:45-1:00)

Mr. Dave Anders presented proposed revisions to the previously approved DER problem statement which were reviewed at the special MRC meeting on April 18, 2016. Following discussion, the committee **approved** the proposed revisions by acclamation with no objections or abstentions.

11. Joint Owned Resource Communication Model (1:00-1:15)

Mr. Mike Bryson presented proposed revisions to Manual 14D Attachment L regarding Joint Owned Resource Communication Model. Following discussion, the committee **endorsed** at their first reading the proposed revisions by acclamation with no objections or abstentions.

First Readings (1:15-2:30)

12. PLS Exception Process (1:15-1:30)

Mr. Tong Zhao presented a PLS Exception process proposal for consideration. The Committee will be asked to endorse this proposal at its next meeting.

13. Transmission Owner Upgrades (1:30-1:45)

Mr. Paul McGlynn discussed RTEP process enhancements related to transmission substation equipment. Mr. McGlynn will also present PJM Operating Agreement revisions to implement the proposed changes. The committee will be asked to endorse the proposed revisions at a future meeting.

14. PJM Manuals (1:45-2:30)

- A. Mr. Glenn Bray, PJM Relay Subcommittee Chairman, presented proposed revisions to PJM Manual 7: PJM Protection Standards recommended as part of the PJM Relay Subcommittee's biennial review of the Manual. The Committee will be asked to endorse these proposed revisions at its next meeting.
- B. Mr. David Schweizer reviewed proposed changes to Manual 10: Pre-Scheduling Operations to clarify that outage reporting rules for planned, maintenance and forced outages are applicable to both capacity and energy resources. The Committee will be asked to endorse these proposed revisions at its next meeting.
- C. Mr. Keyur Patel reviewed proposed revisions to Manual 11: Energy & Ancillary Services Market Operations. These changes are being presented as conforming changes to align with Manual 12: Balancing Operations revision 34 (addition of Attachment F) which was recently endorsed by the Markets and Reliability Committee. The Committee will be asked to endorse these proposed revisions at its next meeting.
- D. Mr. Mark Kuras noted a replacement for the CEII section of the Introduction in PJM Manual 14B: PJM Region Transmission Planning Process. The Committee will be asked to endorse these proposed revisions at its next meeting.
- E. Mr. Michael Herman presented proposed revisions to PJM Manual 14B: PJM Region Transmission Planning Process including updates to Light Load and Winter Peak Reliability analyses to align

with current practices, references to TPL-001-4 and updates to Appendix to M14B Attachment G. The Committee will be asked to endorse these proposed revisions at its next meeting.

- F. Mr. Jason Shoemaker presented proposed revisions to Manual 14C: Generation and Transmission Interconnection Facility Construction to support the inclusion of Order 1000 processes. The Committee will be asked to endorse these proposed revisions at its next meeting.
- G. Mr. Keyur Patel presented proposed revisions to Manual 15: Cost Development Guidelines as part of the periodic review process and additional conforming changes. The Committee will be asked to endorse the proposed conforming revisions at its next meeting, and will discuss whether the remaining revisions identified in the periodic review should be reviewed by the Cost Development Subcommittee.
- H. Ms. Terri Esterly presented proposed revisions to Manual 18: PJM Capacity Market related to the manual's periodic review, conforming changes related to Capacity Performance and the Deploy All Resource Action. The Committee will be asked to endorse these proposed revisions at its next meeting.
- I. Mr. Nick Disciullo presented proposed revisions to Manual 28: Operating Agreement Accounting as part of the periodic review process. The Committee will be asked to endorse these proposed revisions at its next meeting.

Informational Updates (2:30-3:00)

15. IRM Study Assumptions (2:30-2:45)

Mr. Tom Falin presented the IRM study assumptions as developed in the Resource Adequacy Analysis Subcommittee.

16. Joint Operating Agreement Language Updates (2:45-3:00)

Mr. Paul McGlynn reviewed a draft of MISO/PJM Joint Operating Agreement language to develop targeted market efficiency projects.

Future Agenda Items (3:00)

No new future agenda items were identified.

Future Meeting Dates

June 30, 2016	9:00 a.m.	Wilmington, DE
July 28, 2016	9:00 a.m.	Wilmington, DE
August 25, 2016	9:00 a.m.	Wilmington, DE
September 29, 2016	9:00 a.m.	Wilmington, DE
October 27, 2016	9:00 a.m.	Wilmington, DE
November 17, 2016	9:00 a.m.	Wilmington, DE
December 22, 2016	9:00 a.m.	Wilmington, DE

In Attendance (Chair/Secretary):

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

PJM Interconnection, LLC

Not Applicable

In Attendance (Voting Participants):

Batta, Michael	Virginia Electric & Power Company	Transmission Owner
Benchek, Jim	FirstEnergy Solutions Corp.	Transmission Owner
Bleiweis, Bruce	DC Energy, LLC	Other Supplier
Borgatti, Michael	Rep'g Newark Energy Center, LLC	Generation Owner
Borgatti, Michael	Rep'g NextEra Energy Power Marketing, LLC	Generation Owner
Borgatti, Michael	Rep'g Jersey Green Energy LLC	Other Supplier
Borgatti, Michael	Rep'g Covanta Energy Group, LLC	Generation Owner
Borgatti, Michael	Rep'g York County Solid Waste and Refuse Authority	Generation Owner
Borgatti, Michael	Rep'g Elgin Energy Center, LLC	Generation Owner
Borgatti, Michael	Rep'g Longview Power, LLC	Generation Owner
Brown, Jason	Dynasty Power, Inc.	Other Supplier
Bruce, Susan	Rep'g Air Liquide Industrials U.S., L.P.	End User Customer
Bruce, Susan	Rep'g MeadWestvaco Corporation	End User Customer
Bruce, Susan	Rep'g Kimberly-Clark Corporation	Generation Owner
Bruce, Susan	Rep'g Procter & Gamble Paper Products Company (The)	End User Customer
Bruce, Susan	Rep'g Linde, LLC	End User Customer
Bruce, Susan	Rep'g Letterkenny Industrial Development Authority	Electric Distributor
Bruce, Susan	Rep'g Wellsboro Electric Company	Electric Distributor
Bruce, Susan	Rep'g Praxair, Inc.	End User Customer
Bruce, Susan	Rep'g Trustees of the University of Pennsylvania	End User Customer
Bruce, Susan	Rep'g Industrial Energy Users-Ohio	Other Supplier
Bruce, Susan	Rep'g Gerdau Ameristeel Energy, Inc.	Other Supplier
Bruce, Susan	Rep'g Lehigh Portland Cement Company	End User Customer
Bruce, Susan	Rep'g Air Products & Chemicals, Inc.	End User Customer
Campbell, Bruce	Rep'g MidAtlantic Power Partners, LLC	Other Supplier
Campbell, Bruce	Rep'g EnergyConnect, Inc.	Other Supplier
Dugan, Chuck	East Kentucky Power Cooperative, Inc.	Transmission Owner
Ellison, Alan	Grays Ferry Cogeneration Partnership	Generation Owner
Esposito, Patricia	TransCanada Power Marketing Ltd.	Generation Owner
Fitch, Neal	NRG Power Marketing, LLC	Generation Owner
Fondacci, Luis	North Carolina Electric Membership Corporation	Electric Distributor
Greening, Michele	Talen Energy Marketing, LLC	Generation Owner
Greiner, Gary	Public Service Electric & Gas Company	Transmission Owner
Griffiths, Dan	Rep'g West Virginia Consumer Advocate Division	End User Customer



Griffiths, Dan	Rep'g Maryland Office of People's Counsel	End User Customer
Griffiths, Dan	Rep'g Illinois Citizens Utility Board	End User Customer
Griffiths, Dan	Rep'g Ohio Consumers' Counsel	End User Customer
Griffiths, Dan	Rep'g Indiana Office of Utility Consumer Counselor (IN OUCC)	End User Customer
Griffiths, Dan	Rep'g Office of the Attorney General, Kentucky	End User Customer
Griffiths, Dan	Rep'g Pennsylvania Office of Consumer Advocate	End User Customer
Griffiths, Dan	Rep'g New Jersey Division of Rate Counsel	End User Customer
Griffiths, Dan	Rep'g Delaware Division of the Public Advocate	End User Customer
Guerry, Katie	EnerNOC, Inc.	Other Supplier
Hoatson, Tom	West Deptford Energy, LLC	Generation Owner
Horstmann, John	Dayton Power & Light Company (The)	Transmission Owner
Horton, Dana	Appalachian Power Company (AEP Generation)	Transmission Owner
Jablonski, James	Rep'g Borough of South River, New Jersey	Electric Distributor
Jablonski, James	Rep'g Borough of Milltown, New Jersey	Electric Distributor
Jablonski, James	Rep'g Borough of Park Ridge, New Jersey	Electric Distributor
Jablonski, James	Rep'g Borough of Seaside Heights, New Jersey	Electric Distributor
Jablonski, James	Rep'g Vineland Municipal Electric Utility	Electric Distributor
Jablonski, James	Rep'g Borough of Pemberton	Electric Distributor
Jablonski, James	Rep'g Borough of Butler, Butler Electric Division	Electric Distributor
Jablonski, James	Rep'g Borough of Madison, New Jersey	Electric Distributor
Jablonski, James	Rep'g Borough of Lavallette, New Jersey	Electric Distributor
Johnson, Carl	Rep'g American Municipal Power, Inc.	Electric Distributor
Johnson, Carl	Rep'g Northern Virginia Electric Cooperative (NOVEC)	Electric Distributor
Johnson, Carl	Rep'g Illinois Municipal Electric Agency	Electric Distributor
Johnson, Carl	Rep'g Hagerstown Light Department	Electric Distributor
Johnson, Carl	Rep'g Borough of Mont Alto, Pennsylvania	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 Energy Cooperative Association of PA	Other Supplier
Johnson, Carl	Rep'g Madison Gas & Electric Co.	Other Supplier
Johnson, Carl	Rep'g North Carolina Municipal Power Agency # 1	Other Supplier
Johnson, Carl	Rep'g WPPI Energy	Other Supplier
Johnson, Carl	Rep'g Buckeye Power, Inc.	Electric Distributor
Johnson, Carl	Rep'g Indiana Municipal Power Agency	Generation Owner
Johnson, Carl	Rep'g Easton Utilities Commission	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 Borough of Chambersburg (DTEET)	Electric Distributor
Johnson, Carl	Rep'g Central Virginia Electric Cooperative	Electric Distributor
Johnson, Carl	Rep'g Blue Ridge Power Agency, Inc.	Electric Distributor
Johnson, Carl	Rep'g Old Dominion Electric Cooperative	Electric Distributor
Johnson, Carl	Rep'g Allegheny Electric Cooperative, Inc.	Electric Distributor
Johnson, Carl	Rep'g Galt Power, Inc.	Other Supplier
Kogut, George	New York Power Authority	Other Supplier
Lieberman, Steven	Old Dominion Electric Cooperative	Electric Distributor
Melnyk, Markian	Atlantic Grid Operations A, LLC	Other Supplier
Midgley, Sharon	Exelon Business Services Company, LLC	Transmission Owner
Mok, Alan	Duke Energy Business Services LLC	Transmission Owner
Norton, Chris	American Municipal Power, Inc.	Electric Distributor
Pakela, Greg	DTE Energy Trading, Inc.	Other Supplier
Peoples, John	Duquesne Light Company	Transmission Owner
Prokop, Brenda	Rep'g ITC Interconnection LLC	Other Supplier
Prokop, Brenda	Rep'g ITC Mid-Atlantic Development LLC	Other Supplier
Richardson, Frank (Chip)	PPL Electric Utilities Corp. dba PPL Utilities (LSE)	Transmission Owner
Riding, MQ	Essential Power Rock Springs, LLC	Transmission Owner
Rohrbach, John	Rep'g Southern Maryland Electric Cooperative, Inc.	Electric Distributor
Rohrbach, John	Rep'g Wabash Valley Power Association, Inc.	Electric Distributor
Rutigliano, Tom	Rep'g Demansys Energy, LLC	Other Supplier
Rutigliano, Tom	Rep'g Enerwise Global Technologies, Inc.	Other Supplier
Rutigliano, Tom	Rep'g Earth Networks, Inc.	Other Supplier
Rutigliano, Tom	Rep'g Achieving Equilibrium LLC	Other Supplier
Rutigliano, Tom	Rep'g EMC Development Company, Inc.	Other Supplier
Scarpignato, David	Calpine Energy Services, L.P.	Generation Owner
Scoglietti, Barbara	Tangent Energy Solutions, Inc.	Other Supplier
Sitaraman, Nicole	Office of the People's Counsel for the District of Columbia	End User Customer
Trayers, Barry	Citigroup Energy, Inc.	Other Supplier
Tripoli, Matt	IMG Midstream LLC	Generation Owner
Vargo, Daniel	Allegheny Electric Cooperative, Inc.	Electric Distributor
Wadsworth, Joe	Vitol Inc.	Other Supplier
Whitehead, Jeffrey	Direct Energy Business, LLC	Other Supplier
Wiegand-Jackson, Laurie	IPKeys Power Partners, LLC	Other Supplier
Yu, Joel	Rockland Electric Company	Transmission Owner

In Attendance (Non-Voting Participants):

Ainspan, Malcolm	NRG Curtailment Solutions, Inc.	Other Supplier
Bainbridge, Thomas	FirstEnergy Solutions Corporation	Transmission Owner
Binder, Gerry	SESCO Enterprises LLC	Other Supplier
Birnel, William	Westar Energy, Inc.	Other Supplier
Bleiweis, Bruce	DC Energy, L.L.C.	Other Supplier
Bolan, Martin	FirstEnergy Solutions Corporation	Transmission Owner
Bowring, Joseph	Monitoring Analytics, LLC	Not Applicable
Bray, Glenn	PPL Electric Utilities Corporation d/b/a PPL Utilities	Transmission Owner
Brozina, Mark	Tangibl	Not Applicable
Carmean, Gregory	OPSI	Not Applicable
Cocco, Michael	Old Dominion Electric Cooperative	Electric Distributor
Cox, Bill	Exion Energy, Inc.	Other Supplier
Davis, Connie	Cleveland Public Power	Electric Distributor
DeLosa, Joseph	State of Delaware Public Service Commission	Not Applicable
Denavas, Joe	Pepco Holdings Incorporated	Not Applicable
DePillo, Raymond	PSEG	Transmission Owner
Dessenger, Harry	Customized Energy Solutions, Ltd.*	Not Applicable
Dillon, Matt	UGI Development Company	Transmission Owner
Dinicola, Laura	FirstEnergy Solutions Corporation	Transmission Owner
Duan, Robert	Ontario Power Generation Inc.	Other Supplier
Erbrick, Michael	MICS	Not Applicable
Farber, John	Delaware Public Service Commission	Not Applicable
Filomena, Guy	Customized Energy Solutions	Not Applicable
Gaston, Vilna	Public Service Electric & Gas Company	Transmission Owner
Gebolys, Debbie	Public Utilities Commission of Ohio	Not Applicable
Giles, Steven	Allegheny Electric Cooperative, Inc.	Electric Distributor
Goode, Cory	Yes Energy LLC	Not Applicable
Hagaman, Derek	GT Power Group	Not Applicable
Hanser, Erik	Michigan Public Service Commission	Not Applicable
Haynes, Greg	Energy Authority, Inc. (The)	Other Supplier
Heidorn, Richard	RTO Insider	Not Applicable
Helmick, Douglas	GenOps LLC	Other Supplier
Henry, Michelle	FirstEnergy Solutions Corporation	Transmission Owner
Herel, Suzanne	RTO Insider	Not Applicable
Hilaski, Steve	Pepco Holdings Incorporated	Not Applicable

Huntoon, Stephen	Energy Counsel, LLP	Not Applicable
Janicki, Diane	Boston Energy Trading and Marketing LLC	Generation Owner
Karrasch, Kim	IGS Energy	Not Applicable
Lacy, Catharine	Dominion Resources	Not Applicable
Leimann, John	Dominion Virginia Power	Not Applicable
Liang-Nicol, Cecilia	FirstEnergy Solutions Corporation	Transmission Owner
Lopez-Lopez, Tony	Bryndan Associates, Inc.	Not Applicable
Manning, James	North Carolina Electric Membership Corporation	Electric Distributor
Marsan, Mark	PSEG	Transmission Owner
McAlister, Lisa	American Municipal Power, Inc.	Generation Owner
Melnyk, Markian	Atlantic Grid Operations A, LLC	Other Supplier
Metzler, Jakob	Castleton Commodities Merchant Trading L.P.	Other Supplier
Midgley, Sharon	Exelon	Transmission Owner
Miller, John	Commonwealth Edison Company	Transmission Owner
Nadel, Steven	PPL	Transmission Owner
Norton, Chris	American Municipal Power, Inc.	Generation Owner
Nowell, Cynthia	Pepco Holdings Incorporated	Not Applicable
Ondayko, Brock	AEP	Transmission Owner
Owens, Nick	NorthBridge Group	Not Applicable
Patten, Kevin	American Electric Power	Transmission Owner
Pratzon, David	GT Power Group	Not Applicable
Price, Ruth	Delaware Public Advocates Office	Not Applicable
Rainey, Frank	PEI Power Corporation	Generation Owner
Rajan, Abhijit	Dominion Resources	Not Applicable
Rutigliano, Tom	Achieving Equilibrium, LLC	Not Applicable
Sasser, Jonathan	Customized Energy Solutions	Not Applicable
Seelaus, Tim	EMC Development Company, Inc.	Other Supplier
Shanker, Roy	East Coast Power L.L.C.	Not Applicable
Stacy, Amanda	East Kentucky Power Cooperative, Inc.	Transmission Owner
Stubbe, Judy	Duke Energy Business Services, Inc.	Generation Owner
Sunderhauf, Steve	Potomac Electric Power Company	Electric Distributor
Sutton, Ryan	University of Texas	Not Applicable
Tatum, Ed	American Municipal Power, Inc.	Generation Owner
Thompson, Matthew	XO Energy MA, LP	Other Supplier
Tibbetts, Maeve	Pierce Atwood LLP	Not Applicable
Walker, Jennifer	Exelon Business Services Company, LLC	Transmission Owner
Weber, Adam	Union Electric Company d/b/a Ameren Missouri	Other Supplier

Wilhite, Chad	FirstEnergy Solutions Corporation	Transmission Owner
Williams, Amber	New York State Electric & Gas Corporation	Other Supplier
Wilson, James	Wilson Energy Economics	Not Applicable
Wisersky, Megan	Madison Gas & Electric Company	Other Supplier
Wood, Gordon	ETC Endure Energy, LLC	Other Supplier

In Attendance (PJM Participants):

Abobi, Soada	PJM Interconnection, LLC	Not Applicable
Baker, Scott	PJM Interconnection, LLC	Not Applicable
Barrett, Francis	PJM Interconnection, LLC	Not Applicable
Berner, Aaron	PJM Interconnection, LLC	Not Applicable
Boyle, Glen	PJM Interconnection, LLC	Not Applicable
Bresler, Stu	PJM Interconnection, LLC	Not Applicable
Bruno, Patrick	PJM Interconnection, LLC	Not Applicable
Bryson, Michael	PJM Interconnection, LLC	Not Applicable
Burlew, Jim	PJM Interconnection, LLC	Not Applicable
Callis, Joe	PJM Interconnection, LLC	Not Applicable
Carroll, Rebecca	PJM Interconnection, LLC	Not Applicable
Caven, Augustine	PJM Interconnection, LLC	Not Applicable
Connell, Jason	PJM Interconnection, LLC	Not Applicable
Croop, Danielle	PJM Interconnection, LLC	Not Applicable
Cummings, Bridgid	PJM Interconnection, LLC	Not Applicable
Dotter, Ray	PJM Interconnection, LLC	Not Applicable
Egan, Dave	PJM Interconnection, LLC	Not Applicable
Ennis, Brad	PJM Interconnection, LLC	Not Applicable
Esterly, Teri	PJM Interconnection, LLC	Not Applicable
Fabiano, Janell	PJM Interconnection, LLC	Not Applicable
Falin, Thomas	PJM Interconnection, LLC	Not Applicable
Fan, Zhenyu	PJM Interconnection, LLC	Not Applicable
Fernandez, Ray	PJM Interconnection, LLC	Not Applicable
Ford, Adrien	PJM Interconnection, LLC	Not Applicable
Glazer, Craig	PJM Interconnection, LLC	Not Applicable
Hamilton, Bryant	PJM Interconnection, LLC	Not Applicable
Hauske, Thomas	PJM Interconnection, LLC	Not Applicable
Hendrzak, Chantal	PJM Interconnection, LLC	Not Applicable
Herling, Steven	PJM Interconnection, LLC	Not Applicable
Herman, Michael	PJM Interconnection, LLC	Not Applicable

Holland, Risa	PJM Interconnection, LLC	Not Applicable
Hsia, Eric	PJM Interconnection, LLC	Not Applicable
Keech, Adam	PJM Interconnection, LLC	Not Applicable
Koza, Frank	PJM Interconnection, LLC	Not Applicable
Kuras, Mark	PJM Interconnection, LLC	Not Applicable
Liebold, Chuck	PJM Interconnection, LLC	Not Applicable
MacGibbon, Doug	PJM Interconnection, LLC	Not Applicable
Manion, Evelyn	PJM Interconnection, LLC	Not Applicable
Maxwell, Melissa	PJM Interconnection, LLC	Not Applicable
McGlynn, Paul	PJM Interconnection, LLC	Not Applicable
McLaverty, Megan	PJM Interconnection, LLC	Not Applicable
Noonan, Tom	PJM Interconnection, LLC	Not Applicable
Olaleye, Michael	PJM Interconnection, LLC	Not Applicable
O'Neill, Jack	PJM Interconnection, LLC	Not Applicable
Patel, Keyur	PJM Interconnection, LLC	Not Applicable
Perera, Asanga	PJM Interconnection, LLC	Not Applicable
Pilong, Chris	PJM Interconnection, LLC	Not Applicable
Price, Robert	PJM Interconnection, LLC	Not Applicable
Quevada, Jason	PJM Interconnection, LLC	Not Applicable
Quintavalla, Ginger	PJM Interconnection, LLC	Not Applicable
Schuyler, Ken	PJM Interconnection, LLC	Not Applicable
Schweizer, David	PJM Interconnection, LLC	Not Applicable
Scott, Nicole	PJM Interconnection, LLC	Not Applicable
Sechrist, Erin	PJM Interconnection, LLC	Not Applicable
Shoemaker, Jason	PJM Interconnection, LLC	Not Applicable
Shparber, Steve	PJM Interconnection, LLC	Not Applicable
Stotesbury, Christina	PJM Interconnection, LLC	Not Applicable
Tribulski, Jennifer	PJM Interconnection, LLC	Not Applicable
Weiss, Glenn	PJM Interconnection, LLC	Not Applicable
Zhao, Tong	PJM Interconnection, LLC	Not Applicable

Author: D. A. Anders