

Markets & Reliability Committee

Webex Only

March 23, 2022

9:00 a.m. – 12:40 p.m. EPT

Administration

Stu Bresler and Dave Anders welcomed stakeholders and provided the Anti-trust, Code of Conduct, and Meeting Participation announcements.

Consent Agenda

Items A through E were **approved/endorsed** by acclamation with no objections and two abstentions:

- A. Minutes of the February 24, 2022 meeting of the Markets and Reliability Committee (MRC).
- B. Proposed revisions to Manual 12: Balancing Operations resulting from its periodic review.
- C. Proposed revisions to Manual 13: Emergency Operations resulting from its periodic review.
- D. Proposed revisions to Manual 18: PJM Capacity Market conforming with PJM's 7/30/21 filing to reform application of the MOPR, PJM's 10/21 compliance filing made in accordance with FERC's 9/2/21 Order to amend the default MSOC, FERC's 12/22/21 order directing PJM to reinstate the historic net EAS methodology, and FERC's 1/20/22 order directing PJM to remove the 10% adder from the net EAS calculation for the reference resource CT.
- E. Proposed revisions to Manual 37: Reliability Coordination resulting from its periodic review.

Endorsements

1. Pseudo Modeled Combined Cycle Minimum Run Time Guidance

Tom Hauske reviewed a proposed solution and corresponding revisions to Manual 11: Energy & Ancillary Services Market Operations addressing Pseudo Modeled Combined Cycle Minimum Run Time Guidance. Following discussion, the committee **endorsed** the proposed manual revisions by acclamation with no objections or abstentions.

[Issue Tracking: Pseudo Modeled Combined Cycle Minimum Run Time Guidance](#)

2. Capacity Capability Senior Task Force (CCSTF) Sunset

Melissa Pilog reviewed the work of the Capacity Capability Senior Task Force (CCSTF) and sought sunset of the task force. Following discussion, the committee **approved** sunsetting the CCSTF by acclamation with no objections or abstentions.

[Issue Tracking: Effective Load Carrying Capability for Limited Duration Resources and Intermittent Resources](#)

3. Max Emergency Changes

- A. Chris Piong reviewed proposed revisions to Manual 13: Emergency Operations addressing the extension of a temporary change to Max Emergency for gas combustion turbines and steam generators. Following discussion the committee **approved** the Issue Charge and **endorsed** the proposed Manual 13 revisions as part of the Quick Fix process outlined in Section 8.6.1 of Manual 34 by acclamation with no objections and one abstention.
- B. Chris Piong discussed a proposed Issue Charge to address this issue with a longer-term solution. Following discussion, the committee **approved** the proposed Issue Charge by acclamation with no objections and one abstention.

[Issue Tracking: Max Emergency Correction for Gas CTs](#)

First Readings

4. Deactivation Process Timing

Dave Egan reviewed a proposed solution to update the process timing for generation deactivations. The committee will be asked to endorse the proposed revisions and corresponding Tariff revisions at its next meeting.

[Issue Tracking: Deactivation Analysis Period](#)

5. Interconnection Process Reform

- A. Jack Thomas reviewed proposed solutions to reform the interconnection process and address a transition to the new rules.
- B. John Wieland, Leeward Renewable Energy, reviewed a proposed amendment on behalf of the PJM Interconnection Customers Coalition.
- C. Jim Davis, Dominion Energy, and Alex Stern, PSEG, reviewed a proposed amendment.

The committee will be asked to endorse the proposed solution and corresponding Tariff revisions at its next meeting. Same day endorsement may be sought at the Members Committee for the Tariff revisions.

[Issue Tracking: Interconnection Process Reform](#)

6. Documenting the Appropriate UFLS Requirements Applicable to EKPC

Denise Foster Cronin, EKPC, reviewed a proposed solution and corresponding Operating Agreement (OA) revisions to appropriately document the underfrequency relay requirements applicable to EKPC. The committee will be asked to endorse the proposed solution and OA revisions at its next meeting.

7. EPFSTF Charter

Susan Kenney reviewed proposed revisions to the EPFSTF Charter. The committee will be asked to approve the proposed revisions at its next meeting.

[Issue Tracking: Operating Reserve Demand Curve \(ORDC\) & Transmission Constraint Penalty Factors](#)

8. Procurement of Clean Resource Attributes

David Anders and Walter Graf reviewed a proposed RASTF Issue Charge addressing the procurement of clean resource attributes. The committee will be asked to approve the recommendation at its next meeting.

9. Manuals

A. Ryan Nice reviewed proposed revisions to Manual 01: Control Center and Data Exchange Requirements resulting from its periodic review. The committee will be asked to endorse the proposed Manual 01 revisions at its next meeting.

B. Joseph Hay reviewed proposed revisions to Manual 14F: Competitive Planning Process resulting from its periodic review. The committee will be asked to endorse the proposed Manual 14F revisions at its next meeting.

Future Agenda Items

No new future agenda items were identified.

Future Meeting Dates and Materials			Materials Due to Secretary	Materials Published
Date	Time	Location		
<i>April 27, 2022</i>	9:00 a.m.	Webex	April 15, 2022	April 20, 2022
<i>May 25, 2022</i>	9:00 a.m.	PJM Conference & Training Center and WebEx	May 13, 2022	May 18, 2022
<i>June 29, 2022</i>	9:00 a.m.	PJM Conference & Training Center and WebEx	June 17, 2022	June 22, 2022
<i>July 27, 2022</i>	9:00 a.m.	PJM Conference & Training Center and WebEx	July 15, 2022	July 20, 2022
<i>August 24, 2022</i>	9:00 a.m.	PJM Conference & Training Center and WebEx	August 12, 2022	August 17, 2022
<i>September 21, 2022</i>	9:00 a.m.	PJM Conference & Training Center and WebEx	September 9, 2022	September 14, 2022
<i>* October 24, 2022 *tentative dates & time</i>	<i>* 1:00 p.m.</i>	<i>Off-site TBD</i>	<i>* October 12, 2022</i>	<i>* October 17, 2022</i>
<i>November 16, 2022</i>	9:00 a.m.	PJM Conference & Training Center and WebEx	November 4, 2022	November 9, 2022
<i>December 21, 2022</i>	9:00 a.m.	PJM Conference & Training Center and WebEx	December 9, 2022	December 14, 2022

Author: D. Anders

Meeting Attendance

Chair/Secretary

Last Name	First Name	Company	Sector
Bresler	Stu	PJM Interconnection, LLC	Not Applicable
Anders	David	PJM Interconnection, LLC	Not Applicable

Voting Attendees

Last Name	First Name	Company Name	Sector
Barker	Jason	Constellation Energy Generation, LLC	Generation Owner
Benchek	Jim	American Transmission Systems, Inc.	Transmission Owner
Bleiweis	Bruce	DC Energy, LLC	Other Supplier
Borgatti	Michael	Rep.'g Energy Harbor LLC	Generation Owner
Borgatti	Michael	Rep.'g Hazleton Generation LLC	Generation Owner
Borgatti	Michael	Rep.'g Jersey Green Energy, LLC	Other Supplier
Borgatti	Michael	Rep.'g 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	Other Supplier
Borgatti	Michael	Rep.'g Recurrent Energy, LLC	Other Supplier
Borgatti	Michael	Rep.'g York County Solid Waste and Refuse Authority	Generation Owner
Brodbeck	John	EDP Renewables North America LLC	Generation Owner
Bruce	Susan	Rep.'g Air Products & Chemicals, Inc.	End-Use Customer
Bruce	Susan	Rep.'g Cleveland-Cliffs Steel LLC	End-Use Customer
Bruce	Susan	Rep.'g Gerdau Ameristeel Energy, Inc.	End-Use 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-Use Customer
Bruce	Susan	Rep.'g Letterkenny Industrial Development Authority - PA	Electric Distributor
Bruce	Susan	Rep.'g Linde Inc.	End-Use Customer
Bruce	Susan	Rep.'g MeadWestvaco Corporation	End-Use Customer
Bruce	Susan	Rep.'g Messer LLC	End-Use Customer
Bruce	Susan	Rep.'g Procter & Gamble Paper Products Company (The)	End-Use Customer
Bruce	Susan	Rep.'g Trustees of the University of Pennsylvania	End-Use Customer
Bruce	Susan	Rep.'g Wellsboro Electric Company	Electric Distributor
Canter	David	Appalachian Power Company	Transmission Owner
Chu	Michael	Forest Investment Group, LLC	Other Supplier
Conn	Jeff	Big Bend Trading, LLC	Other Supplier
Davis	James	Virginia Electric & Power Company	Transmission Owner

Domian	Christin	Duquesne Light Company	Transmission Owner
Domer	Amber	Rockland Electric Company	Transmission Owner
Duensing	Allison	Saracen Energy East LP	Other Supplier
Dugan	Chuck	East Kentucky Power Cooperative, Inc.	Transmission Owner
Fazio	Danielle	Engelhart CTP (US) LLC	Other Supplier
Fishback	Luke	Affirmed Energy LLC	Other Supplier
Foladare	Kenneth	Geenex Solar LLC	Other Supplier
Fuess	Christian	Rep.'g Diamond State Generation Partners, LLC	Generation Owner
Fuess	Christian	Rep.'g Ictec.com, Inc.	Other Supplier
Fuess	Christian	Rep.'g Kuehne Chemical Company, Inc.	End-Use Customer
Fuess	Christian	Rep.'g NextPower III US Holdco Inc.	Generation Owner
Fuess	Christian	Rep.'g PBF Power Marketing, LLC	End-Use Customer
Garnett	Bryan	Duke Energy Business Services LLC	Transmission Owner
Gibbs	Ike	Citadel FNGE Ltd.	Other Supplier
Gorman	Kevin	The Highlands Energy Group, LLC	Other Supplier
Hepplewhite	Peter	Wrigley Capital LLC	Other Supplier
Hoatson	Tom	Riverside Generating Company, L.L.C.	Generation Owner
Hohenshilt	Jennifer	Talen Energy Marketing, LLC	Generation Owner
Horstmann	John	Dayton Power & Light Company (The)	Transmission Owner
Hurwich	Mark	Elliott Bay Energy Trading, LLC	Other Supplier
Hyzinski	Thomas	Rep.'g Carroll County Energy LLC	Generation Owner
Hyzinski	Thomas	Rep.'g Dynegy Marketing and Trade, LLC	Generation Owner
Hyzinski	Thomas	Rep.'g GenOn Energy Management, LLC	Generation Owner
Janicki	Diane	Boston Energy Trading and Marketing LLC	Other Supplier
Jardot	Gina	NRG Power Marketing LLC	Generation Owner
Johnson	Carl	Rep.'g Allegheny Electric Cooperative, 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	Electric Distributor
Johnson	Carl	Rep.'g Michigan Public Power Agency	Electric Distributor
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 Illinois Municipal Power Agency	Electric Distributor
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
Kauffman	Brian	Enel X North America, Inc.	Other Supplier
Keenan	Matthew	Elwood Energy, LLC	Generation Owner
Kelly	Stephen	Brookfield Renewable Trading and Marketing LP	Other Supplier
Klein	Abram	Appian Way Energy Partners MidAtlantic, LLC	Other Supplier
Li	Grace	Altro Power LLC	Other Supplier
Lieberman	Steven	American Municipal Power, Inc.	Electric Distributor
Midgley	Sharon	Exelon Business Services Company, LLC	Transmission Owner
Pelletier	Eveline	H.Q. Energy Services (U.S.), Inc.	Other Supplier
Poulos	Greg	Rep.'g Consumer Protection and Advocate Division of the Tennessee Attorney General	End-Use Customer
Poulos	Greg	Rep.'g Delaware Division of the Public Advocate	End-Use Customer
Poulos	Greg	Rep.'g Illinois Citizen Utility Board	End-Use Customer
Poulos	Greg	Rep.'g Indiana Office of Utility Consumer Counselor (IN OUCC)	End-Use Customer
Poulos	Greg	Rep.'g Maryland Office of People's Counsel	End-Use Customer
Poulos	Greg	Rep.'g Michigan Department of Attorney General, Environment, Natural Resources, & Agriculture Division	End-Use Customer
Poulos	Greg	Rep.'g New Jersey Division of Rate Counsel	End-Use Customer
Poulos	Greg	Rep.'g Office of the Attorney General, Kentucky	End-Use Customer
Poulos	Greg	Rep.'g Office of the People's Counsel for the District of Columbia	End-Use Customer
Poulos	Greg	Rep.'g Ohio Consumers' Counsel	End-Use Customer
Poulos	Greg	Rep.'g Pennsylvania Office of Consumer Advocate	End-Use Customer
Poulos	Greg	Rep.'g Public Staff - North Carolina Utilities Commission	End-Use Customer
Poulos	Greg	Rep.'g Virginia Division of Consumer Counsel	End-Use Customer
Poulos	Greg	Rep.'g West Virginia Consumer Advocate Division	End-Use Customer
Ramsey	James	Perast Fund LP	Other Supplier
Rohrbach	John	Rep.'g Big Savage, LLC	Generation Owner
Rohrbach	John	Rep.'g Kentucky Municipal Energy Agency	Electric Distributor
Rohrbach	John	Rep.'g Southern Maryland Electric Cooperative, Inc.	Electric Distributor
Rohrbach	John	Rep.'g Wabash Valley Power Association, Inc.	Electric Distributor

Scarpignato	David	Calpine Energy Services, L.P.	Generation Owner
Sidhom	Noha	Viribus Fund LP	Other Supplier
Skucas	Ruta	Rep.'g Alphataraxia Palladium LLC	Other Supplier
Skucas	Ruta	Rep.'g Ames Energy, LLC	Other Supplier
Skucas	Ruta	Rep.'g BJ Energy, LLC	Other Supplier
Skucas	Ruta	Rep.'g Boston Energy Group, Inc.	Other Supplier
Skucas	Ruta	Rep.'g Greene Energy NE LLC	Other Supplier
Skucas	Ruta	Rep.'g Hexis Energy Trading, LLC	Other Supplier
Skucas	Ruta	Rep.'g MAG Energy Solutions, Inc.	Other Supplier
Skucas	Ruta	Rep.'g Monterey MA LLC	Other Supplier
Skucas	Ruta	Rep.'g Precept Power LLC	Other Supplier
Skucas	Ruta	Rep.'g Pure Energy, Inc.	Other Supplier
Skucas	Ruta	Rep.'g Red Wolf TX2, LLC	Other Supplier
Skucas	Ruta	Rep.'g Taller Cube, LLC	Other Supplier
Skucas	Ruta	Rep.'g Velocity American Energy Master I, L.P.	Other Supplier
Steele	Robert	Sanitas Power, LLC	Other Supplier
Stern	Alex	Public Service Electric and Gas Company	Transmission Owner
Stupar	Rob	Invenergy, LLC	Generation Owner
Sun	Xijian	Saugatuck River Power Trading LLC	Other Supplier
Swalwell	Bradley	Tangent Energy Solutions, Inc.	Other Supplier
Tashakkori	Cyrus	Open Road Renewables, LLC	Other Supplier
Thompson	Matt	XO Energy MA, L.P.	Other Supplier
Vayda	Brian	Rep.'g Borough of Butler, Butler Electric Division	Electric Distributor
Vayda	Brian	Rep.'g Borough of Lavallette, New Jersey	Electric Distributor
Vayda	Brian	Rep.'g Borough of Madison, New Jersey	Electric Distributor
Vayda	Brian	Rep.'g Borough of Milltown, New Jersey	Electric Distributor
Vayda	Brian	Rep.'g Borough of Park Ridge, New Jersey	Electric Distributor
Vayda	Brian	Rep.'g Borough of Pemberton, New Jersey	Electric Distributor
Vayda	Brian	Rep.'g Borough of Seaside Heights, New Jersey	Electric Distributor
Vayda	Brian	Rep.'g Borough of South River, New Jersey	Electric Distributor
Vayda	Brian	Rep.'g Vineland Municipal Electric Utility	Electric Distributor
Wadsworth	Joe	Vitol Inc.	Generation Owner
Whitehead	Jeffrey	Rep.'g Eastern Generation, LLC	Generation Owner
Whitehead	Jeffrey	Rep.'g Essential Power Rock Springs, LLC	Generation Owner
Whitehead	Jeffrey	Rep.'g Neptune Regional Transmission System, LLC	Transmission Owner
Whitehead	Jeffrey	Rep.'g Wheelabrator Falls Inc.	Generation Owner
Wieland	John	Leeward Asset Management, LLC	Generation Owner
Woodyard	Phillip	WGL Energy Services, Inc.	Other Supplier

Yovanovich	Laura	PPL Electric Utilities Corporation d/b/a PPL Utilities	Transmission Owner
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Non-Voting Attendees

Last Name	First Name	Company Name	Sector
Adams	Sean	Public Service Electric and Gas Company	Transmission Owner
Barrow	Kim	Pennsylvania Public Utility Commission	Not Applicable
Berkow	Josh	BG Energy Merchants, LLC	Not Applicable
Berman	Dave	Wright Talisman	Not Applicable
Berton	Tyler	Appalachian Power Company	Transmission Owner
Bowring	Joe	Monitoring Analytics, LLC	Not Applicable
Boyle	Stephen	Merion Energy	Not Applicable
Brady	George	Ohio Valley Electric	Transmission Owner
Brahman	Azade	Orsted US Trading LLC	Other Supplier
Bumham	Kat	Advance Energy Economy Inc.	Not Applicable
Callen	Zac	Illinois Commerce Commission	Not Applicable
Carmean	Gregory	OPSI	Not Applicable
Carrier	Ron	Big Lake Consulting	Not Applicable
Chen	Monica	Capstone	Not Applicable
Christopher	Mahila	Public Utilities Commission Of Ohio	Not Applicable
Chu	Michael	Forest Investment Group LLC	Other Supplier
Circelli	Roseanne	Public Service Electric and Gas Company	Transmission Owner
Cocco	Michael	Old Dominion Electric Cooperative	Electric Distributor
Conn	Jeff	Big Bending Trading, LLC	Other Supplier
Corash	Richard	Public Service Electric and Gas Company	Transmission Owner
Curtis	Kenneth	Enverus	Not Applicable
Dadourian	John	Monitoring Analytics, LLC	Not Applicable
Davis	David	Not Applicable	Not Applicable
Dixit	Anuj	Recurrent Energy, LLC	Other Supplier
Domian	Christin	Duquesne Light Company	Transmission Owner
Dugan	Chuck	East Kentucky Power Cooperative, Inc.	Transmission Owner
Duquaine	Mark	Southern Maryland Electric Cooperative, Inc.	Electric Distributor
Eaker	Katie	Tenaska Power Services Co.	Generation Owner
Elkins	Rachel	Energy Harbor LLC	Generation Owner
Erickson	Christine	Illinois Commerce Commission	Not Applicable
Evrard	David	Pennsylvania Office Of Consumer Advocate	End-Use Customer
Fazio	Danielle	Engelhart CTP (US) LLC	Other Supplier
Filomena	Guy	Customized Energy Solutions, Ltd.	Not Applicable
Fishback	Luke	Affirmed Energy LLC	Other Supplier

Foster	Denise	East Kentucky Power Cooperative, Inc.	Transmission Owner
Fuller	Peter	Autumn Lane Energy Consulting	Not Applicable
Gates	Terry	Appalachian Power Company	Transmission Owner
Ghayas	Awais	Lightsource Renewable Energy Development, LLC	Other Supplier
Ghodsian	Arash	EDP Renewables North America LLC	Generation Owner
Gibbons	Jaret	Arippa	Not Applicable
Gibbs	Ike	Citadel FNGE Ltd.	Other Supplier
Gilani	Rehan	Consolidated Edison Energy, Inc.	Other Supplier
Gonzalez	Rodrigo	Acciona Energy North America Corporation	Generation Owner
Good	Megan	Pennsylvania Public Utility Commission	Not Applicable
Gorman	Brad	Energy Harbor LLC	Generation Owner
Gorman	Kevin	The Highlands Energy Group, LLC	Other Supplier
Grieve	Andrew	Pine Gate Renewables, LLC	Not Applicable
Halay	Alina	FERC	Not Applicable
Hanser	Erik	Michigan Public Service Commission	Not Applicable
Hastings	David	DHAST Co.	Not Applicable
Hehir	Flannan	Appian Way Energy Partners MidAtlantic, LLC	Other Supplier
Heider	Benjamin	Aces Power Marketing	Not Applicable
Heinle	Erik	Office of the People's Counsel for the District of Columbia	End-Use Customer
Herbert	Sebastian	DC Energy, LLC	Other Supplier
Hicks	Dave	Perast Fund	Other Supplier
Hohenshilt	Jennifer	Talen Energy Marketing, LLC	Generation Owner
Holstein	Matt	Duke Energy Business Services LLC	Transmission Owner
Horning	Lynn	Customized Energy Solutions, Ltd.	Not Applicable
Hudis	Gabriella	Gabel & Associates	Not Applicable
Hudson	Jeff	Urban Grid Solar Projects, LLC	Other Supplier
Hull	Gerit	American Municipal Power	Electric Distributor
Huntoon	Steve	Chesapeake Transmission LLC	Other Supplier
Iler	Art	Indiana Office of Utility Consumer Counselor (IN OUCC)	End-Use Customer
Islam	Lubaba	Rockland Electric Company	Transmission Owner
Janapareddy	Anupana	National Grid Renewables	Not Applicable
Jett	William	Duke Energy Business Services LLC	Transmission Owner
Kazerooni	Hamid	Invenergy, LLC	Generation Owner
Keenan	Matthew	Elwood Energy LLC	Generation Owner
Kent	Janessa	Duquesne Light Company	Transmission Owner
Knotts	Pamela	Delaware Public Service Commission	Not Applicable
Kogut	George	New York Power Authority	Other Supplier
Kuhn	Tyler	Citadel FNGE Ltd.	Other Supplier

Labrecque	Richard	Eversource	Not Applicable
Laios	Takis	Appalachian Power Company	Transmission Owner
Lee	Grace	Altro Power LLC	Other Supplier
Lichtin	Steven	Cypress Creek Renewables, LLC	Generation Owner
MacLearnsberry	Kirk	Teichos Energy	Not Applicable
Martin	Valerie	Federal Energy Regulatory Commission	Transmission Owner
Matheson	Eric	Delaware Public Service Commission	Not Applicable
Matuszak	Alex	UGI Utilities, Inc.	Transmission Owner
McDonald	Gary	HIS Market	Not Applicable
McNeil	Justin	Kentucky Public Service Commission	Not Applicable
Midgley	Sharon	Exelon Business Services Company, LLC	Transmission Owner
Miller	John	Commonwealth Edison Company	Not Applicable
Mooney	Jeff	Energy Harbor LLC	Generation Owner
Moye	Bob	Tyr Energy, LLC	Other Supplier
Nadel	Steven	Ppl Electric Utilities Corporation d/b/a PPL Utilities	Transmission Owner
Nader	Jordan	Public Staff Of Nc Utilities Commiss	Not Applicable
Nix	Emma	Gabel & Associates	Not Applicable
Noelsaint	Merancia	DC Public Service Commission	Not Applicable
Olinger	Robert	Gen Ops, LLC	Other Supplier
Ondayko	Brock	Appalachian Power Company	Transmission Owner
Pelletier	Eveline	H.Q. Energy Services (U.S.), Inc.	Other Supplier
Peoples	John	Duquesne Light Company	Transmission Owner
Pratt	Nicholas	Ppl Electric Utilities Corporation d/b/a PPL Utilities	Transmission Owner
Price	Mark	DC Energy, LLC	Other Supplier
Price	Ruth	Delaware Division of the Public Advocate	End-Use Customer
Price	Rob	Sun Energy 1	Not Applicable
Proconiar	Jason	Buckeye Power, Inc.	Electric Distributor
Ptak	Anton	EDP Renewables North America LLC	Generation Owner
Rahimi	Farrokh	OPEN ACCESS TECHNOLOGY INTERNATIONAL, INC.	Not Applicable
Rainey	Frank	PEI Power LLC	Generation Owner
Ranaweera	Aruna	Hecate Energy Highland LLC	Generation Owner
Robichaud	Donna	Geenex Solar LLC	Other Supplier
Robinson	Becky	Vistra Corporation	Not Applicable
Robson	Matt	Sesco Enterprises, LLC	Other Supplier
Rodriguez	Tomas	OPSI	Not Applicable
Rogers	Aaron	Kentucky Power Company	Transmission Owner
Rumsey	Amanda	Ppl Electric Utilities Corporation d/b/a PPL Utilities	Transmission Owner
Rutledge	Craig	Appalachian Power Company	Transmission Owner

Sasser	Jonathan	Customized Energy Solutions, Ltd.	Not Applicable
Schmidt	David	New Jersey Board Of Public Utilities	Not Applicable
Schreim	Morris	Maryland Public Service Commission	Not Applicable
Seide	Richard	Apex Energy	Not Applicable
Sells	Scott	East Kentucky Power Cooperative, Inc.	Transmission Owner
Shah	Pulin	Exelon Business Services Company, LLC	Transmission Owner
Shanker	Roy	H.Q. Energy Services (U.S.), Inc.	Other Supplier
Sharpe	Ian	Leeward Renewable Energy, LLC	Not Applicable
Shegarfi	Roozbeh	Exelon Business Services Company, LLC	Transmission Owner
Sidhom	Noah	Virbus Fund LP	Other Supplier
Silveira	Fabiano	Strom Power, LLC	Other Supplier
Skumanich	Bill	RTR Energy Solutions	Not Applicable
Sock	Bryan	Cogentrix	Not Applicable
Sorber	Eric	UGI Utilities, Inc.	Transmission Owner
Squibb	Bill	Ohio Valley Electric	Transmission Owner
Stanfill	Susan	Pine Gate Renewables, LLC	Not Applicable
Steele	Robert	Hyllgarth Energy	Not Applicable
Stines	Zachary	Borrego Solar Systems, Inc.	Not Applicable
Stone	Andy	Gabel & Associates	Not Applicable
Stuchell	Jeff	Energy Harbor LLC	Generation Owner
Stupar	Rob	Invenergy, LLC	Generation Owner
Sturgeon	John	Duke Energy Business Services LLC	Transmission Owner
Sun	Xijian	Saugatuck River Power Trading LLC	Other Supplier
Svenson	Heather	Public Service Electric and Gas Company	Transmission Owner
Tanenhaus	Stefanie	Citadel FNGE Ltd.	Other Supplier
Tatum	Ed	American Municipal Power	Electric Distributor
Taylor	Robert	Exelon Business Services Company, LLC	Transmission Owner
Thomas	Amber	Exelon Business Services Company, LLC	Transmission Owner
Tibbetts	Maeve	K&Gatz	Not Applicable
Trinkle	Elizabeth	Wright & Talisman	Not Applicable
Vanderlaan	Bill	Illinois Commerce Commission	Not Applicable
Velumylyum	Ganesh	Brightnight Power	Not Applicable
Villarreal	Jose	Acciona Energy North America Corporation	Generation Owner
Volpe	Mike	Open Road Renewables	Other Supplier
Walcatich	Collin	National Grid Renewables	Not Applicable
Walker	Jennifer	Exelon Business Services Company, LLC	Transmission Owner
Wehnes	Kathleen	Maryland of Department of the Environment	Not Applicable
Weiser	Spencer	CRA	Not Applicable

White	Brett	Pine Gate Renewables, LLC	Not Applicable
Wilkinson	Eric	Orsted US Trading LLC	Other Supplier
Woodyard	Phil	WGL Energy Services, Inc.	Other Supplier
Yoder	Michael	RTO Insider	Not Applicable
Young	Dan	Altro Power LLC	Other Supplier
Yovanovich	Laura	PPL Electric Utilities Corporation d/b/a PPL Utilities	Transmission Owner
Yu	Wang	AXPO U.S. LLC	Other Supplier

PJM Attendees

Last Name	First Name	Company	Sector
Alva	Christian	PJM Interconnection, LLC	Not Applicable
Asthana	Manu	PJM Interconnection, LLC	Not Applicable
Bastian	Jeff	PJM Interconnection, LLC	Not Applicable
Bernstein	Matthew	PJM Interconnection, LLC	Not Applicable
Blackwell	Terry	PJM Interconnection, LLC	Not Applicable
Bloczynski	Nigeria	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
Buehler	Susan	PJM Interconnection, LLC	Not Applicable
Bunting	Henry	PJM Interconnection, LLC	Not Applicable
Carroll	Rebecca	PJM Interconnection, LLC	Not Applicable
Caven	Augustine	PJM Interconnection, LLC	Not Applicable
Caven	Onyinye	PJM Interconnection, LLC	Not Applicable
Connell	Jason	PJM Interconnection, LLC	Not Applicable
Coyne	Suzanne	PJM Interconnection, LLC	Not Applicable
Croop	Danielle	PJM Interconnection, LLC	Not Applicable
D'Antonio	Phil	PJM Interconnection, LLC	Not Applicable
Delviscio	Mike	PJM Interconnection, LLC	Not Applicable
Dent	Duane	PJM Interconnection, LLC	Not Applicable
Devita	Thomas	PJM Interconnection, LLC	Not Applicable
Drauschak	Lisa	PJM Interconnection, LLC	Not Applicable
Egan	Amanda	PJM Interconnection, LLC	Not Applicable
Egan	David	PJM Interconnection, LLC	Not Applicable
Endress	Eric	PJM Interconnection, LLC	Not Applicable
Feng	Julian	PJM Interconnection, LLC	Not Applicable
Foster	Tom	PJM Interconnection, LLC	Not Applicable

Franks	Ed	PJM Interconnection, LLC	Not Applicable
Glazer	Craic	PJM Interconnection, LLC	Not Applicable
Glazer	Craig	PJM Interconnection, LLC	Not Applicable
Graf	Walter	PJM Interconnection, LLC	Not Applicable
Green	Chris	PJM Interconnection, LLC	Not Applicable
Haque	Asim	PJM Interconnection, LLC	Not Applicable
Hatch	Kevin	PJM Interconnection, LLC	Not Applicable
Hauske	Thomas	PJM Interconnection, LLC	Not Applicable
Hay	Joseph	PJM Interconnection, LLC	Not Applicable
Heater	Megan	PJM Interconnection, LLC	Not Applicable
Herman	Michael	PJM Interconnection, LLC	Not Applicable
Horger	Timothy	PJM Interconnection, LLC	Not Applicable
Hsia	Eric	PJM Interconnection, LLC	Not Applicable
Hu	Yong	PJM Interconnection, LLC	Not Applicable
Kenney	Susan	PJM Interconnection, LLC	Not Applicable
Kovler	Ed	PJM Interconnection, LLC	Not Applicable
Krizenoskas	Lisa	PJM Interconnection, LLC	Not Applicable
Kuras	Mark	PJM Interconnection, LLC	Not Applicable
Lai	Erin	PJM Interconnection, LLC	Not Applicable
Langbein	Pete	PJM Interconnection, LLC	Not Applicable
Lu	Chen	PJM Interconnection, LLC	Not Applicable
McElwaine	Kathy	PJM Interconnection, LLC	Not Applicable
McGlynn	Paul	PJM Interconnection, LLC	Not Applicable
McLaverly	Megan	PJM Interconnection, LLC	Not Applicable
Ng	Perry	PJM Interconnection, LLC	Not Applicable
Nice	Ryan	PJM Interconnection, LLC	Not Applicable
Oakes	Brian	PJM Interconnection, LLC	Not Applicable
O'Brien	Tom	PJM Interconnection, LLC	Not Applicable
Patel	Anita	PJM Interconnection, LLC	Not Applicable
Pilong	Chris	PJM Interconnection, LLC	Not Applicable
Pilong	Melissa	PJM Interconnection, LLC	Not Applicable
Pincus	Steven	PJM Interconnection, LLC	Not Applicable
Rios	Virela	PJM Interconnection, LLC	Not Applicable
Robinson	Fabian	PJM Interconnection, LLC	Not Applicable
Rodriguez	Tomas	PJM Interconnection, LLC	Not Applicable
Salmon	Lisa	PJM Interconnection, LLC	Not Applicable
Scheirer	Alex	PJM Interconnection, LLC	Not Applicable
Schweizer	David	PJM Interconnection, LLC	Not Applicable

Shah	Vijay	PJM Interconnection, LLC	Not Applicable
Shoemaker	Jason	PJM Interconnection, LLC	Not Applicable
Sims	Mark	PJM Interconnection, LLC	Not Applicable
Souder	Michelle	PJM Interconnection, LLC	Not Applicable
Strella	Lauren	PJM Interconnection, LLC	Not Applicable
Swimm	Nora	PJM Interconnection, LLC	Not Applicable
Takahashi	Mark	PJM Interconnection, LLC	Not Applicable
Watkin	Erik	PJM Interconnection, LLC	Not Applicable
Waweru	James	PJM Interconnection, LLC	Not Applicable