

Markets and Reliability Committee  
The Chase Center on the Riverfront, Wilmington, DE  
August 25, 2016  
9:30 a.m. – 3:00 p.m. EPT

## Administration (9:30-9:35)

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

## Endorsements/Approvals (9:35-10:10)

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

Minutes of the July 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. Mr. Ron DeLoach presented proposed revisions to Manual 3A: Energy Management System (EMS) Model Updates and Quality Assurance (QA) regarding administrative and modeling process updates.
- B. Mr. Tong Zhao presented proposed revisions to changes to Manual 11: Energy & Ancillary Services Market Operations as part of the periodic review process.
- C. Mr. Tom Hauske presented proposed revisions to Manual 12: Balancing Operations regarding administrative and conforming updates.
- D. Mr. David Schweizer presented proposed revisions to Manual 14D: Generator Operational Requirements including updates to the unit cold weather testing process and the clarification of VAR-001 exception criteria.
- E. Mr. Phil D'Antonio presented proposed revisions to Manual 37: Reliability Coordination as part of the manual's periodic review.

Following discussion, the committee endorsed the proposed revisions in items 2.A through 2.D by acclamation with no objections or abstentions.

## First Readings (10:10-12:30)

### 3. Release of Capacity in 17/18 Delivery Year 3rd Incremental Auction (10:10-10:40)

Mr. Jeff Bastian reviewed the proposal and continued discussion in response to the reporting directive in FERC Docket ER16-532 concerning the release of annual capacity in the 2017/2018 Delivery Year 3<sup>rd</sup> Incremental Auction related to excess capacity procured in the Capacity Performance Transition Incremental Auction. The committee will be asked to endorse the proposal at a future meeting.

#### 4. Manual 15: Cost Development Guidelines (10:40-11:10)

- A. Mr. Jeff Schmitt discussed proposed revisions to Manual 15: Cost Development Guidelines developed as part of the periodic review process. The committee will be asked to endorse these proposed revisions at its next meeting.
- B. Mr. Jeff Schmitt also discussed proposed revisions to Manual 15: Cost Development Guidelines regarding fuel cost policies. The committee will be asked to endorse these proposed revisions at its next meeting contingent upon FERC approval of PJM's related compliance filing.

#### 5. Metering Task Force (MTF) (11:10-11:30)

Ms. Nancy Huang and Mr. Ryan Nice discussed MTF activities, including the proposed solution package to the PJM Manual Metering Requirements Review and Update issue. Mr. Nice also presented associated proposed revisions to Manual 1: Control Center and Data Exchange Requirements. The committee will be asked to endorse these proposed revisions at its next meeting.

#### 6. Planning Committee Charter (11:30-11:40)

Mr. Paul McGlynn presented a proposed update to the Planning Committee Charter. The updates are administrative updates only. The committee will be asked to endorse these proposed revisions at its next meeting.

#### 7. PJM Capacity Problem Statement / Issue Charge (11:40-12:00)

Mr. Ed Tatum, American Municipal Power presented a proposed problem statement / issue charge regarding PJM Capacity. The committee will be asked to approve the proposed problem statement / issue charge at its next meeting.

#### 8. PJM Manuals (12:00-12:30)

- A. Mr. Mike Herman presented proposed revisions to Manual 14B: PJM Region Transmission Planning Process and 14C: Generation & Transmission Interconnection Facility Construction related to the new equipment energization process. The committee will be asked to endorse these proposed revisions at its next meeting.
- B. Mr. Ron DeLoach presented proposed revisions to Manual 3A: Energy Management System (EMS) Model Updates and Quality Assurance (QA) including a new appendix defining a process checklist for energizing new equipment. The committee will be asked to endorse these proposed revisions at its next meeting.
- C. Mr. Herman presented proposed revisions to Manual 14B: PJM Region Transmission Planning Process related to winter temperature ratings. The committee will be asked to endorse these proposed revisions at its next meeting.

## Informational Updates (12:30-12:40)

### 9. Special Protection Scheme (SPS) Removal (12:30-12:40)

This item was deferred to the September 29, 2016 MRC meeting.

## Future Agenda Items (12:40)

No new future agenda items were identified.

## Future Meeting Dates

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

## Attendance

### Chair/Secretary

Last Name	First Name	Company	Role
Anders	Dave	PJM Interconnection, LLC	Secretary
Daugherty	Suzanne	PJM Interconnection, LLC	Chair

### Voters

Last Name	First Name	Company	Sector
Barker	Jason	Exelon Business Services Company, LLC	Transmission Owner
Bruce	Susan	Rep.'g Air Liquide Industrials U.S., L.P.	End User Customer
Bruce	Susan	Rep.'g Air Products & Chemicals, Inc.	End User Customer
Bruce	Susan	Rep.'g Gerdau Ameristeel Energy, Inc.	Other Supplier
Bruce	Susan	Rep.'g Industrial Energy Users-Ohio	Other Supplier
Bruce	Susan	Rep.'g Kimberly-Clark Corporation	Generation Owner
Bruce	Susan	Rep.'g Lehigh Portland Cement Company	End User Customer
Bruce	Susan	Rep.'g Letterkenny Industrial Development Authority	Electric Distributor
Bruce	Susan	Rep.'g Linde, LLC	End User Customer
Bruce	Susan	Rep.'g MeadWestvaco Corporation	End User Customer
Bruce	Susan	Rep.'g Praxair, Inc.	End User Customer
Bruce	Susan	Rep.'g Procter & Gamble Paper Products Company (The)	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
Campbell	Bruce	Rep.'g Enerwise Global Technologies, Inc.	Other Supplier
Campbell	Bruce	Rep.'g MidAtlantic Power Partners, LLC	Other Supplier
Cox	Jason	Dynegy Marketing and Trade, LLC	Generation Owner
Crystle	Gil	UGI Development Company	Generation Owner
Dugan	Chuck	East Kentucky Power Cooperative, Inc.	Transmission Owner
Esposito	Patricia	TransCanada Power Marketing Ltd.	Generation 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
Greiner	Gary	Public Service Electric & Gas Company	Transmission Owner
Griffiths	Dan	Rep.'g Delaware Division of the Public Advocate	End User Customer
Griffiths	Dan	Rep.'g Illinois Citizens Utility Board	End User Customer
Griffiths	Dan	Rep.'g Indiana Office of Utility Consumer Counselor (IN OUCC)	End User Customer
Griffiths	Dan	Rep.'g Maryland Office of People's Counsel	End User Customer
Griffiths	Dan	Rep.'g New Jersey Division of Rate Counsel	End User Customer
Griffiths	Dan	Rep.'g Office of the Attorney General, Kentucky	End User Customer
Griffiths	Dan	Rep.'g Office of the People's Counsel for the District of Columbia	End User Customer
Griffiths	Dan	Rep.'g Ohio Consumers' Counsel	End User Customer
Griffiths	Dan	Rep.'g West Virginia Consumer Advocate Division	End User Customer
Guerry	Katie	EnerNOC, Inc.	Other Supplier
Helms	Joseph	Rainbow Energy Marketing Corporation	Other Supplier
Hoatson	Tom	West Deptford Energy, LLC	Generation Owner
Horstmann	John	Dayton Power & Light Company (The)	Transmission Owner
Hyzinski	Thomas	Talen Energy Marketing, LLC	Generation Owner
Jardot	Gina	Essential Power Rock Springs, LLC	Transmission Owner
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 Madison Gas & Electric Co.	Other Supplier
Johnson	Carl	Rep.'g North Carolina Municipal Power Agency # 1	Other Supplier
Johnson	Carl	Rep.'g Northern Virginia Electric Cooperative (NOVEC)	Electric Distributor
Johnson	Carl	Rep.'g Thurmont Municipal Light Company	Electric Distributor
Johnson	Carl	Rep.'g Town of Williamsport (The)	Electric Distributor
Johnson	Carl	Rep.'g WPPI Energy	Other Supplier

Kilgallen	Kevin	Avangrid Renewables, LLC	Generation Owner
Lacy	Catharine	Virginia Electric & Power Company	Transmission Owner
Lieberman	Steven	Old Dominion Electric Cooperative	Electric Distributor
Melnyk	Markian	Atlantic Grid Operations A, LLC	Other Supplier
Merola	Becky	Noble Americas Gas & Power Corp.	Other Supplier
Pakela	Greg	DTE Energy Trading, Inc.	Other Supplier
Peoples	John	Duquesne Light Company	Transmission Owner
Prokop	Brenda	ITC Interconnection LLC	Transmission Owner
Scarpignato	David	Calpine Energy Services, L.P.	Generation Owner
Trayers	Barry	Citigroup Energy, Inc.	Other Supplier
Vargo	Daniel	Allegheny Electric Cooperative, Inc.	Electric Distributor
Yu	Joel	Rockland Electric Company	Transmission Owner

#### Non-Voters

Last Name	First Name	Company	Sector
Benchek	Jim	FirstEnergy Solutions Corp.	Transmission Owner
Birnel	William	Westar Energy, Inc.	Other Supplier
Blair	Tom	Monitoring Analytics, LLC	Not Applicable
Bloom	David	Baltimore Gas and Electric Company	Transmission Owner
Bolan	Martin	FirstEnergy Solutions Corp.	Transmission Owner
Bowring	Joe	Monitoring Analytics, LLC	Not Applicable
Brozina	Mark	Tangibl LLC	Not Applicable
Caristia	James	Public Service Electric & Gas Company	Not Applicable
Carmean	Gregory	OPSI	Not Applicable
Chen	Jennifer	Natural Resources Defense Council	Not Applicable
Chocarro	Iker	E.ON Global Commodities North America LLC	Other Supplier
Cocco	Michael	Old Dominion Electric Cooperative	Electric Distributor
Collins	Leonard	State of Delaware	Not Applicable
Crystle	Gil	UGI Development Company	Transmission Owner
Currier	Jeff	Dominion Virginia Power	Not Applicable
Dalessandris	Lou	FirstEnergy Solutions Corp.	Transmission Owner
Davis	Connie	City of Cleveland, DPU, Div of Cleveland Public Pwr	Electric Distributor
Delosa	Joe	Delaware Public Service Commission	Not Applicable
Depillo	Ray	Public Service Electric & Gas Company	Generation Owner
Dillon	Matthew	UGI Development Company	Generation Owner
Ellison	Alan	Grays Ferry Cogeneration Partnership	Generation Owner
Erbrick	Michael	DhastCo, LLC	Not Applicable
Everngam	Scott	The Federal Energy Regulatory Commission	Not Applicable
Farber	John	DE Public Service Commission	Not Applicable
Filomena	Guy	Customized Energy Solutions, Ltd.*	Generation Owner
Foladare	Kenneth	IMG Midstream LLC	Generation Owner
Fondacci	Luis	North Carolina Electric Membership Corporation	Electric Distributor

Foxen	Tim	Osaka Gas USA	Not Applicable
Garnett	Bryan	Duke Energy Ohio, Inc.	Transmission Owner
Gilani	Rehan	ConEdison Energy, Inc.	Other Supplier
Giles	Steven	Allegheny Electric Cooperative, Inc.	Electric Distributor
Hagaman	Derek	GT Power Group	Not Applicable
Hanser	Erik	Michigan Public Service Commission	Not Applicable
Harmon	Mike	Union Electric Company d/b/a Ameren Missouri	Other Supplier
Hayes	Pat	Dominion Retail, Inc.	Not Applicable
Heidorn	Rich	RTO Insider	Not Applicable
Hitch	George	Dominion Energy Marketing, Inc.	Generation Owner
Horton	Dana	Appalachian Power Company	Transmission Owner
Hudis	Gabriella	Jersey Green Energy LLC	Other Supplier
Huntoon	Steve	NextEra Energy Power Marketing, LLC	Generation Owner
Jablonski	James	Borough of Butler, Butler Electric Division	Electric Distributor
Jia	Wufan	The Mobility House	Other Supplier
Johnson	Nick	Tenaska Power Services Co.	Generation Owner
Josyula	Siva	Monitoring Analytics, LLC	Not Applicable
Karrasch	Kim	Interstate Gas Supply, Inc.	Other Supplier
Katayama	Tomohiro	Osaka Gas USA	Not Applicable
Kauffman	Brian	NRG Curtailment Solutions	Other Supplier
Keefer	Brian	Dominion Energy Marketing, Inc.	Generation Owner
Kelly	Meg	eCap Network, LLC	Other Supplier
Kelly	Stephen	Brookfield Energy Marketing LP	Other Supplier
Kerecman	Joe	Calpine Energy Services, L.P.	Generation Owner
Killagen	Kevin	IBERDROLA RENEWABLES, LLC	Generation Owner
Kingston	Amber	North Carolina Electric Membership Corporation	Electric Distributor
Kliner	Alicia	The Federal Energy Regulatory Commission	Not Applicable
Kogut	George	New York Power Authority	Other Supplier
Kormos	Mike	Exelon Business Services Company, LLC	Generation Owner
Leasure	Jill	Keystone Projects	Not Applicable
Lee	Tina	Cogen Technologies	Generation Owner
Levine	Jeffrey	IPR-GDF SUEZ Energy Marketing NA, Inc.	Other Supplier
Lewis	Cara	Public Service Electric & Gas Company	Transmission Owner
Liang-Nicol	Cecilia	Monongahela Power Company d/b/a Allegheny Power	Transmission Owner
Mabry	David	McNees Wallace & Nurick LLC	Not Applicable
Manning	James	North Carolina Electric Membership Corporation	Electric Distributor
Mariam	Yohannes	Office of the Peoples Counsel for the District of Columbia	End User Customer
Martin	Valerie	The Federal Energy Regulatory Commission	Not Applicable
Mcalister	Lisa	American Municipal Power, Inc.	Electric Distributor
Midgley	Sharon	Exelon Business Services Company, LLC	Transmission Owner
Miller	John	Commonwealth Edison Company	Transmission Owner
Mohnhaupt	Michael	The Mobility House	Not Applicable
Mooney	Catherine	Monitoring Analytics, LLC	Not Applicable

O'Connell	Robert	Main Line Electricity Market Consultants	Not Applicable
Olinger	Robert	Keystone Projects	Not Applicable
Ondayko	Brock	Appalachain Power Company	Transmission Owner
Patten	Kevin	Appalachain Power Company	Transmission Owner
Patterson	Paul	Glenrock Associates	Not Applicable
Phillips	Marji	Direct Energy Business, LLC	Other Supplier
Phillips	Amanda	Wabash Valley Power Association, Inc.	Electric Distributor
Pratzon	David	GT Power Group	Not Applicable
Price	Ruth	Division of the Public Advocate of the State of Delaware	End User Customer
Reid	Ryan	Buckeye Power, Inc.	Electric Distributor
Reiss	Greg	Millenium Capital	Not Applicable
Riding	MQ	Essential Power OPP, LLC	Transmission Owner
Rohrbach	John	Southern Maryland Electric Cooperative	Electric Distributor
Rutigliano	Tom	Achieving Equilibrium LLC	Other Supplier
Schreim	Morris	Maryland Public Service Commission	Not Applicable
Schum	Alice	Illinois Municipal Electric Agency	Electric Distributor
Scoglietti	Barbara	Tangent Energy Solutions, Inc.	Other Supplier
Seibel	August	Roundtop Energy LLC	Generation Owner
Shanker	Roy	H.Q. Energy Services (U.S.), Inc.	Other Supplier
Shelton	Chris	Millenium Power, Inc	Not Applicable
Sidhom	Noha	Inertia Power I, LLC	Other Supplier
Stewart	Travis	Gable and Associates	Not Applicable
Stubbe	Judy	Duke Energy Ohio, Inc.	Transmission Owner
Sweeney	Rory	RTO Insider	Not Applicable
Tatum	Ed	American Municipal Power	Electric Distributor
Thomas	Glen	GT Power Group	Not Applicable
Thomson	Heather	Mid-Atlantic Renewable Energy	Not Applicable
Vennekotter	Kristin	American Municipal Power, Inc.	Electric Distributor
Vogel	Anne	AEP Appalachian Transmission Company, Inc.	Transmission Owner
Watson	Mark	Platts	Not Applicable
Weber	Adam	Union Electric Company d/b/a Ameren Missouri	Other Supplier
Wilhite	Chad	FirstEnergy Solutions Corp.	Transmission Owner
Williams	Amber	New York State Electric & Gas Corporation	Other Supplier
Wilmoth	Emily	Dominion Virginia Power	Not Applicable
Wilson	James	Wilson Energy Economics	Not Applicable
Wood	Gordon	ETC Endure Energy L.L.C.	Other Supplier
York	Katherine	Tennessee Valley Authority	Other Supplier
Zilliox	Skylar	RES America Developments Inc	Generation Owner

#### PJM Attendees

Last Name	First Name	Company	Sector
Baker	Scott	PJM Interconnection, LLC	Not Applicable
Barrett	Fran	PJM Interconnection, LLC	Not Applicable

Bastian	Jeff	PJM Interconnection, LLC	Not Applicable
Berner	Aaron	PJM Interconnection, LLC	Not Applicable
Brown	Rich	PJM Interconnection, LLC	Not Applicable
Bruno	Patrick	PJM Interconnection, LLC	Not Applicable
Bryson	Mike	PJM Interconnection, LLC	Not Applicable
Budney	David	PJM Interconnection, LLC	Not Applicable
Burdis	Tim	PJM Interconnection, LLC	Not Applicable
Burlew	Jim	PJM Interconnection, LLC	Not Applicable
Carroll	Rebecca	PJM Interconnection, LLC	Not Applicable
Chao	Hungpo	PJM Interconnection, LLC	Not Applicable
Connell	Jason	PJM Interconnection, LLC	Not Applicable
Croop	Danielle	PJM Interconnection, LLC	Not Applicable
DeLoach	Ron	PJM Interconnection, LLC	Not Applicable
Dotter	Ray	PJM Interconnection, LLC	Not Applicable
Driscoll	Mary Ellen	PJM Interconnection, LLC	Not Applicable
Durdis	Tim	PJM Interconnection, LLC	Not Applicable
Egan	Amanda	PJM Interconnection, LLC	Not Applicable
Fabiano	Janell	PJM Interconnection, LLC	Not Applicable
Falin	Thomas	PJM Interconnection, LLC	Not Applicable
Franks	Chris	PJM Interconnection, LLC	Not Applicable
Freeman	Jennifer	PJM Interconnection, LLC	Not Applicable
Hamilton	Bryant	PJM Interconnection, LLC	Not Applicable
Hauske	Tom	PJM Interconnection, LLC	Not Applicable
Hendrzak	Chantal	PJM Interconnection, LLC	Not Applicable
Herling	Steven	PJM Interconnection, LLC	Not Applicable
Herman	Mike	PJM Interconnection, LLC	Not Applicable
Holland	Risa	PJM Interconnection, LLC	Not Applicable
Holter	Natasha	PJM Interconnection, LLC	Not Applicable
Hsia	Eric	PJM Interconnection, LLC	Not Applicable
Hugee	Jacquelynn	PJM Interconnection, LLC	Not Applicable
Keech	Jason	PJM Interconnection, LLC	Not Applicable
Kelley	Mike	PJM Interconnection, LLC	Not Applicable
Kenney	Susan	PJM Interconnection, LLC	Not Applicable
Koza	Frank	PJM Interconnection, LLC	Not Applicable
Larocque	Matthew	PJM Interconnection, LLC	Not Applicable
Manion	Evelyn	PJM Interconnection, LLC	Not Applicable
McGlynn	Paul	PJM Interconnection, LLC	Not Applicable
McLaverly	Megan	PJM Interconnection, LLC	Not Applicable
McLeod	Ian	PJM Interconnection, LLC	Not Applicable

Meres	Lana	PJM Interconnection, LLC	Not Applicable
Murphy-Lee	Lori	PJM Interconnection, LLC	Not Applicable
Murphy-Lee	Lori	PJM Interconnection, LLC	Not Applicable
Nice	Ryan	PJM Interconnection, LLC	Not Applicable
O'Brien	Tom	PJM Interconnection, LLC	Not Applicable
Olaleye	Michael	PJM Interconnection, LLC	Not Applicable
Park	Jinny	PJM Interconnection, LLC	Not Applicable
Patel	Keyur	PJM Interconnection, LLC	Not Applicable
Pilong	Chris	PJM Interconnection, LLC	Not Applicable
Quintavalla	Ginger	PJM Interconnection, LLC	Not Applicable
Schmitt	Jeff	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
Slusser	Jeff	PJM Interconnection, LLC	Not Applicable
Smith	Melissa	PJM Interconnection, LLC	Not Applicable
Snyder	Susan	PJM Interconnection, LLC	Not Applicable
Souder	David	PJM Interconnection, LLC	Not Applicable
Stadlmeyer	Rebecca	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
Zadlo	Thomas	PJM Interconnection, LLC	Not Applicable

Author: D. A. Anders