

**Planning Committee**  
**PJM Conference and Training Center, Audubon, PA**  
**March 10, 2016**

## Administration

1. Mr. Steve Herling, PJM, called the meeting to order and asked if the Planning Committee had any additional items for the agenda. There were no suggestions for additional agenda items.
2. Mr. Herling asked Ms. Bridgid Cummings to review the meeting minutes of the February 11, 2016 Planning Committee meeting. Mr. Herling asked the Planning Committee to approve the minutes. Mr. Dave Pratzon made a motion to approve the minutes. Mr. Barry Trayers seconded the motion. In a voice vote, the Planning Committee approved the February 11<sup>th</sup> Planning Committee Minutes.

## First Readings

### 3. **Manual 19 Updates**

Mr. John Reynolds, PJM, presented redline changes to Manual 19. The changes correct formulae in the end-use and weather variables of Section 3 as well as remove Attachment B due to the expiration of the load research guidelines. The committee will be asked to endorse this language at the April meeting.

### X. **Short Circuit Breaker Replacement Upgrades in RTEP – formerly Item 11**

Mr. Mark Sims, PJM, presented background information and next steps regarding short circuit breaker upgrades and replacements, substation terminal equipment, and transmission owner criteria. PJM will develop language for the Operating Agreement to recommend that short circuit issues that can be solved by short circuit breaker upgrades or replacements be excluded from FERC Order 1000 competitive window process. The language will be distributed in time for the March 31, 2016 MRC meeting. The committee will be asked to endorse the language at the April meeting.

## Informational Updates

### 4. **NERC/RRO Update**

Mr. Mark Kuras, PJM, provided an update on recent NERC activities and PJM compliance activities. Currently under development is PRC-012-2 in regards to Phase 3 of Protection Systems: Remedial Action Schemes (RAS). Comments and ballots for on-going standard reviews can be found under the March 10<sup>th</sup> Planning Committee Material. NERC Standards subject to future enforcement can be found under the March 10<sup>th</sup> Planning Committee Material at the [Planning Committee Website](#).

## 5. Order 1000 Lessons Learned

Ms. Sue Glatz, PJM, provided an update on the topics covered at the February 23<sup>rd</sup> Special PC Session: Order 1000 Lessons Learned meeting. Additional meetings are currently being scheduled and the committee will be notified once the future meetings are scheduled.

## 6. Dominion SPS Removals

Mr. Liem Hoang, PJM, presented background and retirement details for the Carolina 22 SPS. The SPS has been retired since February 8, 2016 and the related Manual 03 procedure will be removed in the June update.

## 7. PPL SPS Removals

Ms. Lisa Krizenoskas, PPL Energy, presented background and retirement details for the Susquehanna Triple Circuit Outage Scheme. The scheme is to be retired and removed by April 2016; it will also be removed from PJM Manual 03.

## 8. Phasor Measurement Unit (PMU) Placement Strategy

Mr. Dave Hislop, PJM, provided an update on the PJM Phasor Measurement Units (PMU) strategy. An initial list of proposed locations has been developed. The PMU Placement Strategy document is available under the March 10th Planning Committee Materials at the Planning Committee Website. [Planning Committee Website](#). Information around individual locations will be shared with the member through direct outreach. General information can be obtained through contacting Dave Hislop directly. ([David.Hislop@pjm.com](mailto:David.Hislop@pjm.com)).

## 9. Proposal Window Documentation

Mr. Michael Herman, PJM, provided an update on the development of manual language for the RTEP Proposal Window Process. This documentation will be captured in the 14 series of PJM Manuals and will be brought back to a future Planning Committee meeting for review. PJM welcomes comments and suggestions, please email them to [RTEP@pjm.com](mailto:RTEP@pjm.com) with the subject "Proposal Window Documentation".

## 10. PJM Manual 14E

Mr. Jason Connell, PJM, presented an update on the reorganization of Manual 14E as a result of changes approved at the July 2015 MRC to the Merchant Network Upgrade process. A first draft of Manual 14E is available under the March 10th Planning Committee Materials at the Planning Committee Website. [Planning Committee Website](#)

## 11. Moved to Item X in the First Readings Section

## 12. TO Spare Equipment Strategies in TPL-001-4

Mr. Sims, PJM, discussed evaluation of TO spare equipment strategies that may result in 1 year outages or longer as a result of TPL-001-4 Requirement 2.1.5. PJM is considering surveying TOs directly, but welcomes additional participation. Please email questions and comments to [RTEP@pjm.com](mailto:RTEP@pjm.com).

## 13. RAAS Update

Mr. Tom Falin, PJM, provided an update on RAAS activities. The RAAS discussed the Southwest Power Pool (SPP) Reserve Margin, Capacity Benefit Margin, and the PJM Capacity Model. The RAAS is working to finalize study assumptions and send a recommendation to the PC at the April or May meeting. [RAAS website](#)

## 14. Capacity Performance Update

Mr. Falin, PJM, facilitated a discussion regarding UCAP and CIR determinations of intermittent resources. Mr. Falin reviewed PJM responses to the data requests made at the February PC meeting as well as reviewed MISO's methodology for determining the UCAP value of wind through a computation of an Effective Load Carrying Capability (ELCC) value. The discussion for this item will continue at the April PC meeting.

## 15. BGE Transmission Planning Standards Update

Mr. Eric Yeh, BGE, presented administrative updates to the BGE Transmission Planning Standards.

## Informational Section

### CIP 002 and CIP 014 Process

PJM has begun work internally to develop the necessary documentation and schedule as discussed at the February Planning Committee. PJM will work with impacted parties including the TODO PSWG to establish necessary documentation and bring back to the Planning Committee for feedback where appropriate.

### Local Planning Update (End of Life Senior Task Force)

The problem statement regarding the development of PJM Criteria/Guidelines for Assessing End of Life Transmission Facilities was approved at the 2/25/2016 Markets and Reliability Committee (MRC) meeting. The MRC authorized the creation of this senior task force to develop end of life criteria and guidelines for establishing, communicating and reviewing end of life criteria projects in the Regional Transmission Expansion Planning process. The End of Life Senior Task Force (EOLSTF) will report directly to the MRC. Its first meeting will take place on March 29th at PJM's Conference & Training Center from 9:30-3:00 EPT. Interested stakeholders are encouraged to register for the session by 3/28/2016.

## Model On Demand Update

Review of Model on Demand data submittals by TOs is well under way. Upon completion of the data submittals, preliminary cases for the 2016 series of MMWG cases will be put together for base case years 1, 2, 5, and 10 and TOs will be asked to review these cases. The anticipated timeframe for the model builds is the second week in March. For questions or comments, please email [MOD@PJM.com](mailto:MOD@PJM.com)

## Subcommittee/Task Force Updates

### Earlier Queue Submittal Task Force (EQSTF)

At the 2/26 meeting of the EQSTF, PJM provided education on the impacts of shifting the interconnection queue on participation in the Base Residual Auction. PJM also provided a draft of Tariff language. Through discussion, stakeholders identified several areas for further revision. PJM agreed to re-work some of the language and provide a second draft at its next meeting on March 24.

[EQSTF website](#)

### Designated Entity Design Standards Task Force (DEDSTF)

The DEDSTF last met on 2/23/2015. At that meeting the group agreed to sub-divide into 3 subgroups (Substations, lines and protection) to break up the assignment of developing minimum design standards. On 3/22/2015 the subgroups will meet for the first time in this new structure. All interested parties are encouraged to participate.

[DEDSTF website](#)

## Future Meeting Dates

April 7, 2016	9:30 a.m.	PJM Conference and Training Center, Audubon, PA
May 12, 2016	9:30 a.m.	PJM Conference and Training Center, Audubon, PA
June 9, 2016	9:30 a.m.	PJM Conference and Training Center, Audubon, PA
July 14, 2016	9:30 a.m.	PJM Conference and Training Center, Audubon, PA
August 11, 2016	9:30 a.m.	PJM Conference and Training Center, Audubon, PA
September 15, 2016	9:30 a.m.	PJM Conference and Training Center, Audubon, PA
October 6, 2016	9:30 a.m.	PJM Conference and Training Center, Audubon, PA
November 3, 2016	9:30 a.m.	PJM Conference and Training Center, Audubon, PA
December 15, 2016	9:30 a.m.	PJM Conference and Training Center, Audubon, PA

Author: Bridgid Cummings

## Attendees

Attendees	Company	Sector
Steve Herling (Chair)	PJM Interconnection, LLC	Not Applicable
Bridgid Cummings (Secretary)	PJM Interconnection, LLC	Not Applicable
Kiran Thammineni	Ameren Corporation	Not Applicable
Chris Norton	American Municipal Power, Inc.	Electric Distributor
Dale Burmester	American Transmission Systems, Inc.	Transmission Owner
Jim Zweig	American Transmission Systems, Inc.	Transmission Owner

Richard Seide	Apex Clean Energy	Not Applicable
Brock Ondayko	Appalachain Power Company	Transmission Owner
Kevin Patten	Appalachain Power Company	Transmission Owner
Dana Horton	Appalachian Power Company	Transmission Owner
Takis Laios	Appalachian Power Company	Transmission Owner
Craig Lockwood	Appalachian Power Company	Transmission Owner
Deniz Ozkan	Atlantic Wind Connection	Not Applicable
David Bloom	Baltimore Gas and Electric Company	Transmission Owner
Kishan Ellepola	Baltimore Gas and Electric Company	Transmission Owner
Hugh Scott	Baltimore Gas and Electric Company	Transmission Owner
Eric Yeh	Baltimore Gas and Electric Company	Transmission Owner
James Jablonski	Borough of Butler, Butler Electric Division	Electric Distributor
Ron Pezon	Borough of Chambersburg	Electric Distributor
Travis Bouslog	Burns McDonnell	Not Applicable
David Scarpignato	Calpine Energy Services, L.P.	Generation Owner
Tom Hoatson	Carroll County Energy LLC	Other Supplier
Michael Natrin	Carroll County Energy LLC	Other Supplier
Yan Du	Central Transmission, LLC	Transmission Owner
Barry Trayers	Citigroup Energy, Inc.	Other Supplier
Connie Davis	City of Cleveland, DPU, Div of Cleveland Public Pwr	Electric Distributor
Jonathan Abebe	Clean Line Energy Partners, LLC	Not Applicable
Keith Semrau	Cleveland Public Power	Not Applicable
William Allen	Commonwealth Edison Company	Transmission Owner
Alan Engelmann	Commonwealth Edison Company	Transmission Owner
Thomas Leeming	Commonwealth Edison Company	Transmission Owner
Paul Mills	Commonwealth Edison Company	Transmission Owner
Paul Mills	Commonwealth Edison Company	Transmission Owner
Ronald Regner	Commonwealth Edison Company	Transmission Owner
Diana McNally-Barsotti	Consolidated Edison	Other Supplier
Dan Griffiths	Consumer Advocates of PJM States	Not Applicable
Jamie Lejcar	CPS Energy	Electric Distributor
Guy Filomena	Customized Energy Solutions, Ltd.*	Not Applicable
Carl Johnson	Customized Energy Solutions, Ltd.*	Not Applicable
Jonathan Sasser	Customized Energy Solutions, Ltd.*	Not Applicable
John Horstmann	Dayton Power & Light Company (The)	Transmission Owner
Mike Hurd	Dayton Power & Light Company (The)	Transmission Owner
John Farber	DE Public Service Commission	Not Applicable
Jaclyn Cantler	Delmarva Power & Light Company	Electric Distributor
David Hastings	Dhast Co	Not Applicable
Matt Hartigan	Division of the Public Advocate of the State of Delaware	Other Supplier

Craig Crider	Dominion Virginia Power	Transmission Owner
Linda Haskins	Dominion Virginia Power	Transmission Owner
George Owens	Downes Associates, Inc.	Other Supplier
Greg Pakela	DTE Energy Trading, Inc.	Other Supplier
Julie Mason	Duke Energy Ohio, Inc.	Transmission Owner
Judy Stubbe	Duke Energy Ohio, Inc.	Transmission Owner
Elizabeth Cook	Duquesne Light Company	Transmission Owner
Chad Hirsh	Duquesne Light Company	Transmission Owner
Iker Chocarro	E.on Climate & Renewables North America, Inc	Generation Owner
Chris Adams	East Kentucky Power Cooperative, Inc.	Transmission Owner
Darrin Adams	East Kentucky Power Cooperative, Inc.	Transmission Owner
Nathan Bradley	East Kentucky Power Cooperative, Inc.	Transmission Owner
Chuck Dugan	East Kentucky Power Cooperative, Inc.	Transmission Owner
Wes Fluty	East Kentucky Power Cooperative, Inc.	Transmission Owner
Justin Campbell	Edison Transmission, LLC	Other Supplier
John Brodbeck	EDP Renewables North America, LLC	Other Supplier
Kevin Kilgallen	Emerald Energy Consulting, LLC	Not Applicable
Malcolm Ainspan	Energy Curtailment Specialists, Inc.	Not Applicable
Neil Burbure	Energy Initiatives Group	Not Applicable
Chris Rugh	EverPower Commercial	Generation Owner
Melanie Sanders	Exelon Business Services Company, LLC	Transmission Owner
Robert Taylor	Exelon Business Services Company, LLC	Transmission Owner
Sharon Midgley	Exelon Generation Co., LLC	Generation Owner
Roozbeh Shegarfi	Exelon Generation Co., LLC	Generation Owner
Nicole Buell	Federal Energy Regulatory Commission (The)	Not Applicable
Alina Halay	Federal Energy Regulatory Commission (The)	Not Applicable
Thomas Bainbridge	FirstEnergy Solutions Corp.	Transmission Owner
Martin Bolan	FirstEnergy Solutions Corp.	Transmission Owner
Lou D'Alessandris	FirstEnergy Solutions Corp.	Transmission Owner
David Marton	FirstEnergy Solutions Corp.	Transmission Owner
Jeff Stuchell	FirstEnergy Solutions Corp.	Transmission Owner
John Syner	FirstEnergy Solutions Corp.	Transmission Owner
Jody Holland	Gridliance, GP, LLC	Not Applicable
Derek Hagaman	GT Power Group	Not Applicable
David Pratzon	GT Power Group	Not Applicable
Roy Shanker	H.Q. Energy Services (U.S.), Inc.	Other Supplier
Robert Patrylo	H-P Energy Resources, LLC	Other Supplier
Kenneth Foladare	IMG Midstream LLC	Generation Owner
Thomas Piascik	IMG Midstream LLC	Generation Owner
Alex Ma	Invenergy, LLC	Generation Owner

David Mindham	ITC Mid-Atlantic Development LLC	Other Supplier
Ben Abing	ITC Transmission	Not Applicable
Hasam Sehwal	ITC Transmission	Not Applicable
Sandeep Baidwan	LS Power Transmission, LLC	Transmission Owner
Robert O'Connell	Main Line Electricity Market Consultants	Not Applicable
Heather Thomson	Marec	Not Applicable
David Mabry	McNees Wallace & Nurick LLC	Not Applicable
Erik Hanser	Michigan Public Service Commission	Not Applicable
Arash Nezam Sarmadi	New England Power Company	Not Applicable
George Kogut	New York Power Authority	Other Supplier
David Davis	NextEra Energy Power Marketing, LLC	Generation Owner
Frederico Von Pinho	NextEra Energy Transmission, LLC	Other Supplier
Shaun Mora	NiSource Inc	Not Applicable
James Manning	North Carolina Electric Membership Corporation	Electric Distributor
Neal Fitch	NRG Power Marketing LLC	Generation Owner
Yohannes Mariam	Office of the Peoples Counsel for the D.C.	End User Customer
John Donelson	Old Dominion Electric Cooperative	Electric Distributor
Steven Lieberman	Old Dominion Electric Cooperative	Electric Distributor
Robert Duan	Ontario Power Generation Inc.	Other Supplier
Gregory Carmean	OPSI	Not Applicable
Iris Boci	PECO Energy Company	Transmission Owner
Mike Donnelly	PECO Energy Company	Transmission Owner
Pulin Shah	PECO Energy Company	Transmission Owner
Dhruv Acharya	PEPCO Holdings, Inc.	Transmission Owner
Gloria Godson	PEPCO Holdings, Inc.	Transmission Owner
Patricia Kurowski	PEPCO Holdings, Inc.	Transmission Owner
Amber Young	PEPCO Holdings, Inc.	Transmission Owner
Jerry Bell	PJM Interconnection, LLC	Not Applicable
Tim Burdis	PJM Interconnection, LLC	Not Applicable
Mary Ellen Driscoll	PJM Interconnection, LLC	Not Applicable
Tom Falin	PJM Interconnection, LLC	Not Applicable
Zhenyu Fan	PJM Interconnection, LLC	Not Applicable
Suzanne Glatz	PJM Interconnection, LLC	Not Applicable
Andrew Gledhill	PJM Interconnection, LLC	Not Applicable
Jim Glennon	PJM Interconnection, LLC	Not Applicable
Michael Herman	PJM Interconnection, LLC	Not Applicable
Dave Hislop	PJM Interconnection, LLC	Not Applicable
Tim Horger	PJM Interconnection, LLC	Not Applicable
Melissa Maxwell	PJM Interconnection, LLC	Not Applicable
Paul McGlynn	PJM Interconnection, LLC	Not Applicable

Molly Mooney	PJM Interconnection, LLC	Not Applicable
Jason Quevada	PJM Interconnection, LLC	Not Applicable
John Reynolds	PJM Interconnection, LLC	Not Applicable
Patricio Rocha Garrido	PJM Interconnection, LLC	Not Applicable
Ken Schuyler	PJM Interconnection, LLC	Not Applicable
Ken Seiler	PJM Interconnection, LLC	Not Applicable
Mark Sims	PJM Interconnection, LLC	Not Applicable
Kerry Stroup	PJM Interconnection, LLC	Not Applicable
Mike Ward	PJM Interconnection, LLC	Not Applicable
Glenn Weiss	PJM Interconnection, LLC	Not Applicable
Art Wolfe	PJM Interconnection, LLC	Not Applicable
Alex Worcester	PJM Interconnection, LLC	Not Applicable
Mark Watson	Platts Energy Company	Not Applicable
Zelalem Tekle	PowerGEM	Not Applicable
Lisa Krizenoskas	PPL Electric Utilities Corp. dba PPL Utilities	Transmission Owner
Steven Nadel	PPL Electric Utilities Corp. dba PPL Utilities	Transmission Owner
Jessica Chamoun	PSEG Energy Resources and Trade LLC	Transmission Owner
Ricardo Galarza	PSM Consulting	Not Applicable
Michael Kayes	Public Service Electric & Gas	Transmission Owner
Vilna Gaston	Public Service Electric & Gas	Transmission Owner
James Caristia	Public Service Electric & Gas Company	Transmission Owner
Esam Khadr	Public Service Electric & Gas Company	Transmission Owner
Leonid Lyakhovich	Public Service Electric & Gas Company	Transmission Owner
Rich Marinelli	Public Service Electric & Gas Company	Transmission Owner
Glenn Catenacci	Public Service Electric and Gas	Transmission Owner
Chandana Bommareddy	Quanta Technology	Not Applicable
David Burnham	Rock Island Clean Line LLC	Not Applicable
Suzanne Herel	RTO Insider	Not Applicable
Gerry Binder	SESCO Enterprises LLC	Other Supplier
Andy Peebles	Shell Energy North America (US), LP	Other Supplier
Jack Halpern	Stantec	Not Applicable
Michele Greening	Talen Energy Marketing, LLC	Generation Owner
Barbara Scoglietti	Tangent Energy Solutions, Inc.	Other Supplier
Syed Ahmad	The Federal Energy Regulatory Commission	Not Applicable
John Sillin	The Federal Energy Regulatory Commission	Not Applicable
Pati Esposito-Hils	TransCanada Power Marketing Ltd.	Other Supplier
Pat Hayes	Union Electric Company d/b/a Ameren Missouri	Other Supplier
Adam Weber	Union Electric Company d/b/a Ameren Missouri	Other Supplier
Mike Batta	Virginia Electric & Power Company	Transmission Owner
James Wilson	Wilson Energy Economics	Not Applicable