

Planning Committee
PJM Conference and Training Center, Audubon, PA
September 15, 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. Mr. Herling also announced the implementation of [DocuSign](#) and the Order 1000 Lessons Learned meetings being conducted as special PC sessions.
2. Mr. Herling asked Ms. Bridgid Cummings to review the meeting minutes of the August 11, 2016 Planning Committee meeting. Mr. Herling asked the Planning Committee to approve the minutes. Mr. Carl Johnson made a motion to approve the minutes. Mr. Jim Bencheck seconded the motion. In a voice vote, the Planning Committee approved the August 11th Planning Committee Minutes.

Endorsements/Approvals

3. Manual 14B and 14C Updates

Mr. Mike Herman, PJM, presented changes to Manual 14B (PJM Regional Transmission Planning Process) and 14C (Generation and Transmission Interconnection Facility Construction) that incorporate a checklist for the energization process of new equipment. These changes are being incorporated to serve as a guide for users and are not a change to the current process or the requirements. There was a request to add an additional checklist item, as shown on slide 7 of the presentation, for Transmission Owners to verify/re-submit planning modeling data based on "as-built" parameters. Mr. Dave Pratzon made a motion to endorse and Mr. Kyle Hannah seconded the motion, there were no objections and two abstentions. **In a voice vote, the Planning Committee endorsed these updates and additional checklist item for Manuals 14B and 14C.**

4. Manual 14B Updates

Mr. Herman, PJM, presented updates to Manual 14B (PJM Regional Transmission Planning Process) to allow PJM Transmission Owners to propose winter temperature ratings lower than 50F for PJM review and approval as appropriate. The alternate ratings set would be applied on an individual TO basis and all within NERC standards. There was a request to modify the proposed language to include clarity that this applies to transmission facilities. Mr. John Kopinski made a motion to endorse and Mr. John Syner seconded the motion, there no objections and no abstentions. **In a voice vote, the Planning Committee endorsed these updates and additional language change for Manual 14B.**

First Readings

5. Manual 14A Updates

Mr. Joe Hay, PJM, presented changes to Manual 14A (Generation and Transmission Interconnection Process) that are a result of the work completed at the Earlier Queue Submittal

Task Force. The tariff changes corresponding to these manual updates were filed with FERC on August 31, 2016. The committee will be asked to endorse the proposed revisions at its next meeting.

6. Manual 14C Updates

Ms. Sue Glatz, PJM, presented updates to Manual 14C related to tie lines and applicable technical standards for Order 1000 projects. She discussed the proposed manual language and the relevant sections of the Designated Entity Agreement (DEA) and Interconnection Coordination Agreement (ICA). This will be brought to the next PC Meeting for endorsement.

7. Transmission Substation Equipment in FERC 1000

Mr. Mark Sims, PJM, discussed Regional Transmission Expansion Plan (RTEP) process enhancements related to the treatment of transmission substation equipment in PJM FERC Order 1000 Proposal Windows. Mr. Sims also presented PJM Operating Agreement revisions to implement the proposed changes. The committee will be asked to endorse the proposed revisions at its next meeting.

8. 2016 Installed Reserve Margin Study Results

Mr. Tom Falin, PJM, reviewed the 2016 Installed Reserve Margin (IRM) study results. The recommended IRM for the 2020/2021 Delivery Year is 16.6%, an increase of 0.1% from last year. The committee will be asked to endorse the recommended RPM parameters for each of the next four years at the October meeting.

Informational Updates

9. Regional Transmission Expansion Plan (RTEP) Case Updates

Mr. Jonathan Thompson, PJM, provided an update on the Regional Transmission Expansion Plan (RTEP) base case build schedule. Transmission Owners are asked to verify topology and correct Model on Demand (MOD) project files for 2022 representation as well as upload the updated load profiles, reactive devices, and ratings profiles by 9/23/2016. The remainder of the timeline can be found under the September 15th Planning Committee Material at the [Planning Committee Website](#).

10. PJM/NYISO Wheel Modeling

Mr. Sims, PJM, provided an update regarding updates to the operational and planning protocols related to the termination of the ConEd Wheel. There was discussion regarding different case assumptions and meetings which are being conducted which look at operations, planning, and markets as well as impacts to PJM, NYISO, and impacted member companies. Members are encouraged to participate in these joint meetings regarding the termination of the ConEd wheel. The ConEd/PSEG Wheel Replacement Proposal is available [here](#). Please email RTEP@pjm.com if you have additional questions or concerns.

11. Single Element Derates

Mr. Sims, PJM, discussed modifications to planning processes to address breaker outage conditions that isolate lines/transformers on single transmission elements (CBs, disconnect switches, transformers, etc) whose rating is less than the line/transformer. The challenges with these modifications was discussed and will continue in future Planning Committee meetings.

12. Lower Voltage Facilities (LVF) Threshold Update

Ms. Glatz, PJM, provided an update on the status of lower voltage facilities threshold filing and the recent FERC Order issued on August 26, 2016. The compliance filing, due on September 26, 2016 must include revisions related to costs of facilities and Schedule 6. Full details of the FERC Compliance Filing are available under the September 15th Planning Committee Material at the [Planning Committee Website](#).

13. Overview of Topics to be included in PJM Manual F

Mr. Michael Herman, PJM, presented an overview of the topics that will be included in a new Manual within the 14 series of manuals. This new manual, slated to be Manual 14F, will address the competitive planning process. This manual is still under development and members are encouraged to provide feedback in regards to the content of the manual, please email RTEP@pjm.com with comments and suggestions.

14. Transmission Expansion Advisory Committee (TEAC) Redesign

Mr. Fran Barrett, PJM, discussed the Transmission Expansion Advisory Committee (TEAC) redesign efforts that are currently underway. Areas identified for improvement include: communication methods and timing; quality control check process and change management; and RTEP cycle structure and timeline. The redesign will not include changes to the 24 month RTEP cycle or the Market Efficiency 12 or 24 month cycles. PJM strongly encourages members to share ideas and provide feedback regarding the TEAC process and special stakeholder meetings will be conducted to confirm TEAC Redesign direction(s) and stakeholder identified areas for improvement.

15. Transmission Replacement Processes Senior Task Force (TRPSTF) Update

Mr. Barrett updated the PC on the practical impacts of FERC's Order to Show Cause to the TRPSTF efforts. Mr. Barrett advised the PC that a formal vote was being taken to consider suspending the TRPSTF efforts until FERC, PJM and the PJM TO's fully complete the associated Section 206 compliance activities. He shared that the vote closes on September 21st and that the results would be shared simultaneously with the members of the TRPSTF and the MRC. This topic has been added to the MRC agenda for September 29, 2016.

16. Designated Entity Design Standards Task Force (DEDSTF) Update

Mr. Herman, PJM, provided an update on the status of work performed by the Designated Entity Design Standards Task Force (DEDSTF). He provided an update on each of the subgroups formed

to focus on specific design standards, including: transmission lines; substations; system protection and control design and coordination. Deliverables are expected early to mid-2017.

17. Transmission & Substation Subcommittee

Mr. Ray Rouault, Chair of the Transmission & Substation Subcommittee (TSS), reported recent TSS activities on reviewing Transmission Owner Technical Guidelines. Members are strongly encouraged to participate in the TSS meetings and provide review comments.

18. Manual 21 Review

Mr. Jerry Bell, PJM, reviewed proposed draft changes for Manual 21 (Rules and Procedures for Determination of Generating Capability) related to generator testing requirements. Some items were discussed in further detail, but discussion will continue once redline changes are presented. The redline changes should be presented within the next two months.

19. Preliminary 2017 Budget

Mr. Jim Snow, PJM, provided an update regarding the preliminary 2017 budget. He reviewed the annual capital expenditures, preliminary 2017 capital budget, and several projects. The proposed 2017 budget recommendations will be made to the Finance Committee on September 28, 2016.

20. NERC/RRO Update

Mr. Sri Kappagantula, PJM, provided an update on recent NERC activities and PJM compliance activities. NERC standards subject to future enforcement can be found under the September 15th Planning Committee Material at the [Planning Committee Website](#).

21. COMED SPS Removal

Mr. Al Engelmann, COMED, presented an update on the removal of the SPS at Cordova Energy Center.

Informational Section

DocuSign Implementation

PJM Interconnection Projects will be implementing the use of DocuSign to execute agreements in the future (targeting the end of September 2016). DocuSign is a legally accepted, digital signature process. Please visit [this link](#) for full details regarding the DocuSign Implementation.

Joint Operating Agreement - Retirement Studies

In Docket No. EL13-88-000, PJM Interconnection, L.L.C. ("PJM") and Midcontinent Independent System Operator, Inc. were directed to develop generator retirement study coordination processes to include in the Joint Operating Agreement Between the Midcontinent Independent System Operator, Inc. and PJM Interconnection, L.L.C.. Discussions continue in regards to the development of these

processes and PJM is targeting to make the final form of the language available no later than the November PC meeting for review by the stakeholders.

New Service Request Cost Allocation & Study Methods

On August 22, 2016 a meeting was convened with the stakeholders who had registered for this scheduled meeting. During the meeting PJM personnel provided education as to the issues which PJM has identified as requiring discussion. The stakeholders participating in the discussion provided some initial feedback and questions. A meeting is currently scheduled for September 16th to discuss moving forward with any of the issues which were discussed.

Order 1000 Update

Special PC Sessions on Order 1000 are scheduled for September 16, 2016, October 3 and 21, 2016, and November 11, 2016 (all 9am – 12 Noon). The initial focus of the special sessions is to discuss guidelines to be developed for the Market Efficiency process. Other efforts to be discussed at future sessions are (1) draft manual on the Competitive Planning Process (PJM Manual 14F) and (2) TEAC Redesign. An educational session on the Market Efficiency process was held on September 2, 2016

Future Meeting Dates

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
January 12, 2017	9:30 a.m.	PJM Conference and Training Center, Audubon, PA
February 9, 2017	9:30 a.m.	PJM Conference and Training Center, Audubon, PA
March 9, 2017	9:30 a.m.	PJM Conference and Training Center, Audubon, PA
April 13, 2017	9:30 a.m.	PJM Conference and Training Center, Audubon, PA
May 4, 2017	9:30 a.m.	PJM Conference and Training Center, Audubon, PA
June 8, 2017	9:30 a.m.	PJM Conference and Training Center, Audubon, PA
July 13, 2017	9:30 a.m.	PJM Conference and Training Center, Audubon, PA
August 10, 2017	9:30 a.m.	PJM Conference and Training Center, Audubon, PA
September 14, 2017	9:30 a.m.	PJM Conference and Training Center, Audubon, PA
October 12, 2017	9:30 a.m.	PJM Conference and Training Center, Audubon, PA
November 9, 2017	9:30 a.m.	PJM Conference and Training Center, Audubon, PA
December 14, 2017	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
Nicolas Koehler	AEP Indiana-Michigan Transmission Company, Inc.	Transmission Owner
Jerod Marker	AEP Indiana-Michigan Transmission Company, Inc.	Transmission Owner
Toby Hu	Ameren Corporation	Not Applicable

Kiran Thammineni	Ameren Corporation	Not Applicable
Lisa McAlister	American Municipal Power, Inc.	Electric Distributor
Chris Norton	American Municipal Power, Inc.	Electric Distributor
Gary Fuerst	American Transmission Systems, Inc.	Transmission Owner
Jim Zweig	American Transmission Systems, Inc.	Transmission Owner
Brock Ondayko	Appalachain Power Company	Transmission Owner
Kevin Patten	Appalachain Power Company	Transmission Owner
Eric Swanger	Appalachain Power Company	Transmission Owner
Dana Horton	Appalachian Power Company	Transmission Owner
Takis Laios	Appalachian Power Company	Transmission Owner
Will Burkett	Appalachian Power Company	Transmission Owner
Craig Lockwood	Appalachian Power Company	Transmission Owner
Markian Melnyk	Atlantic Grid Operations A, LLC	Other Supplier
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
Diane Janicki	Boston Energy Trading and Marketing LLC	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
William Allen	Commonwealth Edison Company	Transmission Owner
Alan Engelmann	Commonwealth Edison Company	Transmission Owner
Dan Gabel	Commonwealth Edison Company	Transmission Owner
John Garavaglia	Commonwealth Edison Company	Transmission Owner
Kevin Happ	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
Joseph DeLosa	DE Public Service Commission	Not Applicable
John Farber	DE Public Service Commission	Not Applicable
Jaclyn Cantler	Delmarva Power & Light Company	Electric Distributor
Janhavi Dharmadhikari	Dominion Energy Marketing, Inc.	Generation Owner
Ronnie Bailey	Dominion Virginia Power	Transmission Owner
TJ Colombell	Dominion Virginia Power	Transmission Owner
Craig Crider	Dominion Virginia Power	Transmission Owner
Kyle Hannah	Dominion Virginia Power	Transmission Owner
Frank Zhang	Dominion Virginia Power	Transmission Owner
Rongda Zhao	Dominion Virginia Power	Not Applicable

George Owens	Downes Associates, Inc.	Other Supplier
Greg Pakela	DTE Energy Trading, Inc.	Other Supplier
Steve Steinkuhl	Duke Energy Business Services LLC	Transmission Owner
Julie Mason	Duke Energy Ohio, Inc.	Transmission Owner
Tonja Wicks	Duquesne Light Company	Transmission Owner
Iker Chocarro	E.on Climate & Renewables North America, Inc	Generation Owner
Chuck Dugan	East Kentucky Power Cooperative, Inc.	Transmission Owner
Amanda Stacy	East Kentucky Power Cooperative, Inc.	Transmission Owner
Justin Campbell	Edison Transmission, LLC	Other Supplier
John Brodbeck	EDP Renewables North America, LLC	Other Supplier
Malcolm Ainspan	Energy Curtailment Specialists, Inc.	Not Applicable
John Marczewski	Energy Initiatives Group	Not Applicable
Nick Gangi	Eversource Energy	Not Applicable
Jason Barker	Exelon Business Services Company, LLC	Transmission 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
Shadrack Orero	Exelon Generation Co., LLC	Generation Owner
Roozbeh Shegarfi	Exelon Generation Co., LLC	Generation Owner
Alina Halay	Federal Energy Regulatory Commission (The)	Not Applicable
Thomas Bainbridge	FirstEnergy Solutions Corp.	Transmission Owner
Jim Benchek	FirstEnergy Solutions Corp.	Transmission Owner
Martin Bolan	FirstEnergy Solutions Corp.	Transmission Owner
Lou D'Alessandris	FirstEnergy Solutions Corp.	Transmission Owner
Thomas Siudak	FirstEnergy Solutions Corp.	Transmission Owner
Jeff Stuchell	FirstEnergy Solutions Corp.	Transmission Owner
John Syner	FirstEnergy Solutions Corp.	Transmission Owner
Gabriella Hudis	Gabel and Associates	Not Applicable
Travis Stewart	Gabel and Associates	Not Applicable
Rachel Hulett	Gridliance, GP, LLC	Not Applicable
Derek Hagaman	GT Power Group	Not Applicable
David Pratzon	GT Power Group	Not Applicable
William VanderLaan	Illinois Commerce Commission	Not Applicable
Kenneth Foladare	IMG Midstream LLC	Generation Owner
Thomas Fecho	Indiana Michigan Power Company	Transmission Owner
John Kopinski	ITC Mid-Atlantic Development LLC	Other Supplier
Brenda Prokop	ITC Mid-Atlantic Development LLC	Other Supplier
John Seelke	LS Power Transmission, LLC	Transmission Owner
Sharon Segner	LS Power Transmission, LLC	Transmission Owner
Robert O'Connell	Main Line Electricity Market Consultants	Not Applicable
David Mabry	McNees Wallace & Nurick LLC	Not Applicable
Erik Hanser	Michigan Public Service Commission	Not Applicable
Ron Slagel	MICS - gmail.com	Not Applicable
Christin Domian	Mitsubishi Electric Power Products Inc.	Not Applicable
John Dadourian	Monitoring Analytics	Not Applicable
Radha Soorya	Navigant	Not Applicable

Douglas Dickson	New Jersey Board of Public Utilities	Not Applicable
Yachi Lin	New York Independent System Operator	Not Applicable
George Kogut	New York Power Authority	Other Supplier
David Davis	NextEra Energy Power Marketing, LLC	Generation Owner
Stephen Gibelli	NextEra Energy Power Marketing, LLC	Generation Owner
Frederico Von Pinho	NextEra Energy Transmission, LLC	Other Supplier
Gabriel Hollis	Nextera Energy, Inc	Other Supplier
James Manning	North Carolina Electric Membership Corporation	Electric Distributor
Miles Taylor	Northern Indiana Public Service Company	Other Supplier
Brian Kauffman	NRG Curtailment Solutions	Other Supplier
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
Gregory Carmean	OPSI	Not Applicable
Iris Boci	PECO Energy Company	Transmission Owner
Mike Donnelly	PECO Energy Company	Transmission Owner
Gloria Godson	PEPCO Holdings, Inc.	Transmission Owner
Amber Young	PEPCO Holdings, Inc.	Transmission Owner
Fran Barrett	PJM Interconnection, LLC	Not Applicable
Jerry Bell	PJM Interconnection, LLC	Not Applicable
Aaron Berner	PJM Interconnection, LLC	Not Applicable
Rich Brown	PJM Interconnection, LLC	Not Applicable
Christina Catalano	PJM Interconnection, LLC	Not Applicable
Kyle Clifford	PJM Interconnection, LLC	Not Applicable
Jason Connell	PJM Interconnection, LLC	Not Applicable
Mary Ellen Driscoll	PJM Interconnection, LLC	Not Applicable
David Egan	PJM Interconnection, LLC	Not Applicable
Tom Falin	PJM Interconnection, LLC	Not Applicable
Zhenyu Fan	PJM Interconnection, LLC	Not Applicable
Pauline Foley	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
Joe Hay	PJM Interconnection, LLC	Not Applicable
Michael Herman	PJM Interconnection, LLC	Not Applicable
Jeremy Lin	PJM Interconnection, LLC	Not Applicable
Amanda Long	PJM Interconnection, LLC	Not Applicable
Erich Mauroschadt	PJM Interconnection, LLC	Not Applicable
Susan McGill	PJM Interconnection, LLC	Not Applicable
Paul McGlynn	PJM Interconnection, LLC	Not Applicable
Molly Mooney	PJM Interconnection, LLC	Not Applicable
Dave Pomian	PJM Interconnection, LLC	Not Applicable
Jason Quevada	PJM Interconnection, LLC	Not Applicable
John Reynolds	PJM Interconnection, LLC	Not Applicable
Jason Shoemaker	PJM Interconnection, LLC	Not Applicable



Draft Minutes

Stan Sliwa	PJM Interconnection, LLC	Not Applicable
Mark Sims	PJM Interconnection, LLC	Not Applicable
Jim Snow	PJM Interconnection, LLC	Not Applicable
Mike Ward	PJM Interconnection, LLC	Not Applicable
Jeff Palermo	PJP Consulting	Not Applicable
Zelalem Tekle	PowerGEM	Not Applicable
Shadab Ali	PPL Electric Utilities Corp. dba PPL Utilities	Transmission Owner
Steven Nadel	PPL Electric Utilities Corp. dba PPL Utilities	Transmission Owner
Phil Penney	PPL Electric Utilities Corp. dba PPL Utilities	Transmission Owner
Frank Richardson	PPL Electric Utilities Corp. dba PPL Utilities	Transmission Owner
Sam Giordano	PSEG Energy Resources and Trade LLC	Transmission Owner
James Caristia	Public Service Electric & Gas Company	Transmission Owner
Richard Crouch	Public Service Electric & Gas Company	Transmission Owner
Kathleen Crowley	Public Service Electric & Gas Company	Transmission Owner
Daniel Hutt	Public Service Electric & Gas Company	Transmission Owner
Leonid Lyakhovich	Public Service Electric & Gas Company	Transmission Owner
Jerry Martinez	Public Service Electric & Gas Company	Transmission Owner
John Nagurney	Public Service Electric & Gas Company	Transmission Owner
Ming Zhou	Public Service Electric & Gas Company	Transmission Owner
Debbie Gebolys	Public Utilities Commission of Ohio (The)	Not Applicable
Chandana Bommareddy	Quanta Technology	Not Applicable
Raj Pudhota	Quanta Technology	Not Applicable
Ray Mason	Reliability First	Not Applicable
Roleto Mangonon	Rockland Electric Company	Transmission Owner
Suzanne Herel	RTO Insider	Not Applicable
Rory Sweeney	RTO Insider	Not Applicable
Andy Peebles	Shell Energy North America (US), LP	Other Supplier
Mohamed Ahmed	SNC-Lavalin	Not Applicable
Jack Halpern	Stantec	Not Applicable
Boone Staples	Tenaska Power Services Co	Generation Owner
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
Brian Hamilton	Unknown	Unknown
Steve Chafin	Virginia Electric & Power Company	Transmission Owner
Mike Jacobs	Xtreme Power	Not Applicable