

Operating Committee
PJM Conference and Training Center
November 3rd, 2015
9:00 a.m.

Administration

1. The OC Agenda for this meeting was approved.
2. Draft Minutes of the October 6th, 2015 OC meeting were reviewed and approved.
3. The OC Work Plan was reviewed.
4. The OC Posting Report Card was reviewed.

Review of Operations

5. Mr. Pilong reviewed PJM Operations since the last OC Meeting which included a complete summary of September operational events, a partial summary of October events, and several important, upcoming events and deadlines. The September operational events included 3 Hot Weather Alerts, 3 Geomagnetic Disturbance Warnings, 3 Synchronous Reserve events, and 7 Shared Reserve events. The Partial October update included 2 Geomagnetic Disturbance Warnings and 5 Shared Reserve events, as well as a summary of the military blimp event which impacted the PPL territory on October 28th. There were several BES facility outages associated with the blimp event, but none of the customer load loss was attributed to these BES outages.
6. Ms. Hendrzak reviewed the PJM Operating Metrics Slides, updated with September and October metrics data. Metrics included PJM's load forecast error, BAAL performance, transmission / generation outage statistics, and Perfect Dispatch performance.
7. Mr. D'Antonio reviewed the most recent NERC Lessons Learned entitled 'Loss of EMS Due to RTU LAN and UPS Failure'.
8. Mr. Hoang reviewed the new ComEd reactive transfer interface definition. The existing ComED closed-loop interface definition will be replaced with a new open-loop definition consisting of 6 EHV tie lines. The new definition will become effective on March 1, 2016, and will be named 'CE-EAST'. The impacts to PJM operations are expected to be minimal (as they are today), with the potential for interface binding only occurring during peak summer conditions. The new interface definition is expected to provide more efficient voltage control actions during such conditions.
9. Mr. Pilong reviewed the details of the September 10th Synchronous Reserve event. The event was called for Low ACE conditions driven by low interconnection frequency, slow internal generator response, and rapid load increase. The event lasted for approximately 8 minutes (06:04:25 to 06:12:32).

10. Mr. Patel reviewed the Day Ahead Scheduling Reserve (DASR) impacts of Hot Weather DASR triggers for September 2015. There were 5 Hot Weather Alert days during this time for which additional DASR was cleared for conservative operations purposes.
11. Ms. Jayachandran reviewed the results of the Winter 2015/16 OATF Study. The 50/50 non-diversified peak load system analysis identified no reliability concerns. All thermal and voltage violations were found to be localized, and controllable through generation redispatch and operational switching solutions. There were also several sensitivity analyses performed, including a study of significant Gas Pipeline contingencies. The results of these sensitivity studies showed no significant operating concerns for the 2015/16 Winter peak season.

OC Subcommittee Updates

12. Mr. Pilog provided a summary of the SOS meeting.
13. Mr. Graff provided a summary of the SIS meeting.
14. The SRCS had not met since the last OC meeting.

Endorsements / Approvals

15. Ms. Scott reviewed changes to Manual 03: Transmission Operations. Changes included clarifying language throughout the manual around the use of the term System Operating Limit (SOL). Administrative changes were made to Sections 1.2, 1.5.2, 1.7, and 3.3.1. The term 'eData' was replaced with 'Data Viewer' throughout the Manual to reflect the new tool. Several voltage limit updates were made to Section 3 Exhibit 5, and numerous changes were made throughout Section 5 to reflect operating procedure revisions and updates. **The Operating Committee endorsed these changes with 0 objections and 0 abstentions.**
16. Mr. Pilog reviewed the proposed changes to Manual 13: Emergency Operations. Section 2.2 of Manual 13 identifies the Day Ahead Scheduling Reserve (DASR) requirement. The final DASR requirement for 2016 is 5.70%. Other changes included the updating of Max Emergency terminology for consistency with the PJM Tariff. Language was removed from Section 2.3 which indicated that generators connected below 230kV participate in voltage reduction. Lastly, various updates were made to Section 3.7: Geo-Magnetic Disturbances. **The Operating Committee endorsed these changes with 0 objections and 0 abstentions.**
17. Mr. Falin reviewed the 2015 / 2016 Winter Weekly Reserve Target. PJM is recommending a Winter Weekly Reserve Target of 27%, which is unchanged from the 2014 / 2015 Winter value. **The Operating Committee approved the Winter Reserve Target value with 0 objections and 0 abstentions.**
18. Ms. Ike-Egbunu reviewed changes to Manual 12: Balancing Operations. Changes included the elimination of MISO as the Interconnection Time Monitor in section 3.2. Changes were also made to Section 4 and Attachment A (Exhibits 17, 18 and 19) for consistency with new Instantaneous Reserve Check. **The Operating Committee endorsed these changes with 0 objections and 0 abstentions.**

19. Mr. Nice reviewed changes to Manual 01: Control Center and Data Exchange Requirements. Language related to interpersonal communication was updated in Sections 2.3, 3.1, and 4 to align with the NERC COM-001-2 standard. **The Operating Committee endorsed these changes with 0 objections and 0 abstentions.**

First Readings

20. Mr. Schweizer reviewed proposed changes to Manual 10: Pre-Scheduling Operations. The changes included the renaming of several subsections under Section 2, and the addition of definitions for Generator Planned Outage, Maintenance Outage, and Unplanned (Forced) Outage under sections 2.2, 2.3, and 2.4 respectively. There were also several wording changes and deletions of outdated or redundant information throughout sections 2, 3, and 4. ****The Operating Committee will be asked to endorse these changes at the next Operating Committee meeting.**
21. Mr. Schweizer reviewed proposed changes to Manual 39: Nuclear Plant Interface Coordination. Grammatical corrections were made to Sections 1 through 4; Attachments A through C to align with NERC standard NUC-001-3. Section 2.6 was updated to include plant specific safe shutdown loading requirements. Attachment A; Appendix 1 was also updated to replace text taken from PJM governing documents with references to the associated document. ****The Operating Committee will be asked to endorse these changes at the next Operating Committee meeting.**
22. Mr. Kimmel and Mr. Ciabattoni reviewed proposed changes to Manual 14D: Generator Operational Requirements. Exhibit 10 was updated to include Minimum Generation Advisory and revised Minimum Generation limits to 2500MW. The definition of Generator Planned Outage, Maintenance Outage, and Unplanned (Forced) Outage was added to sections 7.3.1, 7.3.2, and 7.3.3 respectively. Attachment D was updated to include additional reactive capability curve reporting requirements. Attachment E was updated with several changes to the Synchronous Condenser Reactive Capability Testing section. Lastly, updates were made to Attachments M and L to reflect changes to the Wind Dispatchability Check List and Wind Farm Communication Model. ****The Operating Committee will be asked to endorse these changes at the next Operating Committee meeting.**
23. Mr. Ford presented proposed changes to the Data Management Subcommittee (DMS) charter. The changes were administrative in nature, and were made for clarification and business practice alignment purposes. ****The Operating Committee approved the changes to the DMS charter (upon first read) with 0 objections and 0 abstentions.**

Tool and Informational Updates

24. Mr. Ferrell of First Energy discussed the removal of the Black Oak 500/138kV #3 transformer Special Protection Scheme (SPS) in the Allegheny Power transmission zone.
25. Mr. Engelmann of ComEd discussed the modification / removal of several SPS's in the ComEd transmission zone. The Byron unit stability SPS will be retired upon energization of the new Byron – Wayne 345kV line. The line is planned to be in-service by June 2017. The Powerton bus configuration and associated unit stability SPS is being modified to reduce complexity and meet planning criteria. The expected completion date for the project is 2017. Lastly, ComEd is planning the removal of the

Northbrook / Highland Park Transfer Trip SPS upon completion of a normally-closed bus tie installation at Highland Park. The expected completion date of this project is December 2016.

26. Ms. Huang provided an update on the Metering Task Force. A member survey has been sent out to gather information in preparation for the Task Force kickoff.
27. Mr. Kuras provided an update on NERC, SERC and RFC standards and other pertinent regulatory and compliance information, and solicited feedback from the members on the N&RC departmental efforts. There are currently several standards under development, and several standards subject to future enforcement.
28. Mr. Hauske and Mr. Ciabattini reviewed the new “Soak Time” generator operating parameter. The proposed definition of Soak Time is – *“The minimum number of hours a unit must run, in real-time operations, from the time the unit is put online (breaker closure) to the time the unit is at economic minimum or dispatchable.”*
29. Ms. Jani reviewed additional details and timelines related to the Unit Specific Operating Parameter Adjustment Process.

Future Meeting Dates

December 1, 2015	9:00 am	PJM Conference and Training Center
January 5, 2016	9:00 am	PJM Conference and Training Center
February 9, 2016	9:00 am	PJM Conference and Training Center
March 8, 2016	9:00 am	PJM Conference and Training Center
April 5, 2016	9:00 am	PJM Conference and Training Center
May 10, 2016	9:00 am	PJM Conference and Training Center
June 7, 2016	9:00 am	PJM Conference and Training Center

Author: Jeff McLaughlin

In Attendance (In Person)

Last Name	First Name	Company	Sector
Bryson (Chair)	Mike	PJM Interconnection, LLC	Not Applicable
McLaughlin (Secretary)	Jeffrey	PJM Interconnection, LLC	Not Applicable
Benchek	Jim	FirstEnergy Solutions Corporation	Transmission Owner
Blair	Tom	Monitoring Analytics, LLC	Not Applicable
Bleiweis	Bruce	DC Energy LLC	Other Supplier
Borgatti	Michael	Gable and Associates	Not Applicable
Foladare	Kenneth	IMG Midstream LLC	Generation Owner

Hagaman	Derek	GT Power Group	Transmission Owner
Hastings	David	Market Interconnection LLC	Not Applicable
Herel	Suzanne	RTO Insider	Not Applicable
Horstmann	John	Dayton Power & Light Company	Transmission Owner
Johnson	Carl	Customized Energy Solutions, Ltd.*	Not Applicable
Kogut	George	New York Power Authority	Other Supplier
Lieberman	Steve	Old Dominion Electric Cooperative	Electric Distributor
O'Connell	Bob	Main Line Electricity Market Consultants	Not Applicable
Pratzon	David	GT Power Group	Not Applicable
Scarp	David	Calpine Energy Services LP	Generation Owner
Stewart	Travis	Gable and Associates	Not Applicable
Trayers	Barry	Citigroup Energy, Inc.	Other Supplier

In Attendance (Via Conference Call)

Last Name	First Name	Company	Sector
Ainspan	Malcolm	Energy Curtailment Specialists, Inc.	Other Supplier
Alfayyumi	Mohammed	Dominion Virginia Power	Not Applicable
Barker	Jason	Exelon Corporation	Transmission Owner
Bonner	Charles	Dominion Virginia Power	
Chamberlain	Kevin	Commonwealth Edison Company	Transmission Owner
Davis	Connie	City of Cleveland, DPU	Electric Distributor
DeLosa	Joe	State of Delaware	Not Applicable
DiNicola	Laura	First Energy Solutions Corporation	
Duan	Robert	Ontario Power Generation	Other Supplier

Engelmann	Alan	Commonwealth Edison Company	Transmission Owner
Erickson	Bruce	Allegheny Electric Cooperative, Inc.	Electric Distributor
Farber	John	State of Delaware	Not Applicable
Ferrell	Evan	FirstEnergy Solutions Corporation	Transmission Owner
Filomena	Guy	Customized Energy Solutions, Ltd.*	Not Applicable
Fitch	Neal	NRG Power Marketing LLC	Generation Owner
Gabel	Dan	Commonwealth Edison Company	Transmission Owner
Garavaglia	John	Commonwealth Edison Company	Transmission Owner
Gates	Terry	Appalachian Power Company	Transmission Owner
Gebele	Don	Dayton Power & Light Company	Transmission Owner
Gebolys	Debbie	Other	Not Applicable
Griffiths	Dan	Consumer Advocates of PJM States	Not Applicable
Hanebuth	Michele	Orange & Rockland	Transmission Owner
Hastings	David	Market Interconnection LLC	Not Applicable
Heise	Randi	Dominion Virginia Power	
Hoatson	Tom	LS Power	
Hostetler	Tim	Appalachian Power Company	Transmission Owner
Hunter	Andy	First Energy Solutions Corporation	Transmission Owner
Jardot	Gina	Essential Power Rock Springs, LLC	Transmission Owner
Liang-Nicol	Cecilia	First Energy Solutions Corporation	Transmission Owner
Lumbrazo	Laura	Orange & Rockland	Transmission Owner
Mabry	David	McNees Wallace & Nurick LLC	Not Applicable
Markiewicz	Cindy	Allegheny Power	Transmission Owner

Marton	David	FirstEnergy Solutions Corporation	Transmission Owner
McAlister	Lisa	American Municipal Power, Inc.	Electric Distributor
Metzler	Jakob	Castleton Commodities Merchant Trading L.P.	Other Supplier
Norton	Chris	American Municipal Power, Inc.	Electric Distributor
O'Leary	Christopher	PSEG Energy Resources and Trade LLC	Transmission Owner
Ondayko	Brock	AEP Energy Supply	Generation Owner
Pleiss	Bob	Constellation Energy	
Price	Mark	DC Energy LLC	Other Supplier
Rutigliano	Tom	Achieving Equilibrium LLC	Other Supplier
Sasser	Jonathan	Customized Energy Solutions, Ltd.*	Not Applicable
Scoglietti	Barbara	Tangent Energy Solutions, Inc.	Other Supplier
Sillin	John	Federal Energy Regulatory Commission	Not Applicable
Skumanich	Bill	PPL Electric Utilities	Transmission Owner
Slade	Louis	Dominion Virginia Power	Transmission Owner
Snow	Robert	Federal Energy Regulatory Commission	Not Applicable
Stefanowicz	Vince	Talen Energy Marketing, LLC	Generation Owner
Sullivan	James	PowerBridge, LLC	Transmission Owner
Weaver	David	Exelon	Transmission Owner
Wharton	Ronald	Public Service Electric & Gas Company	Transmission Owner
Whitehead	Jeff	Direct Energy	Other Supplier
Wisersky	Megan	Madison Gas & Electric Company	Other Supplier

PJM Attendees

Last Name	First Name	Company	Sector
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Anders	Dave	PJM Interconnection, LLC	Not Applicable
Brown	Rich	PJM Interconnection, LLC	Not Applicable
Ciabattoni	Joe	PJM Interconnection, LLC	Not Applicable
DeMarco	Brian	PJM Interconnection, LLC	Not Applicable
Fabiano	Janell	PJM Interconnection, LLC	Not Applicable
Falin	Tom	PJM Interconnection, LLC	Not Applicable
Ford	Andy	PJM Interconnection, LLC	Not Applicable
Graff	Ron	PJM Interconnection, LLC	Not Applicable
Hauske	Tom	PJM Interconnection, LLC	Not Applicable
Heimbach	Mark	PJM Interconnection, LLC	Not Applicable
Hendrzak	Chantal	PJM Interconnection, LLC	Not Applicable
Hoang	Liem	PJM Interconnection, LLC	Not Applicable
Huang	Nancy	PJM Interconnection, LLC	Not Applicable
Hugee	Jacqui	PJM Interconnection, LLC	Not Applicable
Ike-Egbuonu	Chidi	PJM Interconnection, LLC	Not Applicable
Jani	Alpa	PJM Interconnection, LLC	Not Applicable
Kimmel	David	PJM Interconnection, LLC	Not Applicable
Kuras	Mark	PJM Interconnection, LLC	Not Applicable
Lee	Ray	PJM Interconnection, LLC	Not Applicable
Martini	Danielle	PJM Interconnection, LLC	Not Applicable
Mulhern	Joe	PJM Interconnection, LLC	Not Applicable
Nice	Ryan	PJM Interconnection, LLC	Not Applicable
Patel	Keyur	PJM Interconnection, LLC	Not Applicable

Pilong	Chris	PJM Interconnection, LLC	Not Applicable
Punjabi	Gautam	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
Tam	Simon	PJM Interconnection, LLC	Not Applicable
Ward	Mike	PJM Interconnection, LLC	Not Applicable
Weiss	Glenn	PJM Interconnection, LLC	Not Applicable
Zadlo	Thomas	PJM Interconnection, LLC	Not Applicable