

Intermittent Resource Subcommittee
PJM Conference and Training Center
March 17, 2017
10:00 a.m. – 12:30 p.m. EPT

Administration

Mr. Ken Schuyler opened the meeting and reviewed the Agenda.

Mr. Joseph Carl reviewed the Anti-Trust and Code of Conduct and performed the roll call.

The meeting minutes from the September 19, 2016 meeting were approved.

Education

Mr. Joe Mulhern reviewed the current status of the Solar Power Forecasts in PJM. The need for such forecasts is being driven by the increasing amount of solar resources in PJM. Currently underway are mechanisms to determine benchmark accuracy and improvement of the forecasts and integrating the forecasts into Dispatch and Markets tools.

Mr. Joe Mulhern also reviewed the new Manual 14D Requirements for Solar Parks. Highlighted was the endorsement path of the changes, which include: thresholds for reporting data, data required, criteria, purpose of the need for such data and their related telemetry requirements.

Mr. Jerry Bell reviewed recent changes to Manual 21 regarding the calculation of the capacity values of intermittent resources. Resources that have no must offer requirement under Capacity Performance were defined and resources and circumstances requiring verification testing were discussed.

Mr. Tom Falin provided an update on Winter Season Resource Adequacy. Update provided areas of investigation around the accuracy of the winter peak forecast model, winter generation performance, possible needs for seasonal EFORD's and analysis of transmission system maintenance outages.

Mr. Jeff Bastian provided an update on Intermittent Resource Participation in RPM for 2020/2021 and beyond. Effective with the 2020/2021 delivery year, PJM will only procure Capacity Performance (CP) Resources in each RPM auction and intermittent resources will be categorically exempt from the RPM CP must offer requirement. Rules were also outlined for the aggregation and modeling of resources as well as the clearing of resources based on the proposals awaiting FERC approval.

Mr. Scott Baker provided a briefing on the Seasonal Capacity Resources Senior Task Force and Distributed Energy Resources from the MIC. The SCRSTF is currently in a waiting mode pending FERC decisions. Regarding Distributed Energy Resources, the focus thus far has been around education with a meeting to be held April 10th to discuss market issues, and design of solutions. Interconnection issues have been spun off to the planning committee.

Mr. Chris Pulong provided background information on the September 28, 2016 blackout in the South Australian Power Grid. Contributing to the blackout was a large portion of wind generation that was

unable to “ride through” the faults as expected which lead to the concurrent loss of multiple wind farms. PJM will review the Low Voltage Ride-Through Capabilities of wind generation and specifically any known limitations to the number of events within specific time frames that may limit a resources capability to ride through such events.

Mr. Hamad Ahmed highlighted enhancements to PJM’s interconnection process through the use of the Queue Point tool. Attachment N applications are currently available for submission with Attachments S, Y, BB, and EE becoming available for submission in June 2017. Queue Point simplifies the submission of interconnection requests, data routing within PJM, and data validations.

Mr. Aaron Berner discussed challenges to the interconnection queue process. The solution is to remove alternate queue screening allowing projects to be evaluated for impacts once the point of interconnection has been established. For projects with a less than \$5 million cost allocation, there would be an evaluation of the need for system reinforcements with the first request to cause the need for a reinforcement to be allocated 100% of the cost of the upgrade. Subsequent projects which contribute to the need for reinforcements would have cost allocation based on their MW impacts.

Future Agenda Items

None at this time

Future Meeting Dates

June 5, 2017	1:00 p.m.	PJM Conference & Training Center/ WebEx
September 18, 2017	1:00 p.m.	PJM Conference & Training Center/ WebEx
December 11, 2017	1:00 p.m.	PJM Conference & Training Center/WebEx

Author: Joseph M. Carl

Antitrust:

You may not discuss any topics that violate, or that might appear to violate, the antitrust laws including but not limited to agreements between or among competitors regarding prices, bid and offer practices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that might unreasonably restrain competition. If any of these items are discussed the chair will re-direct the conversation. If the conversation still persists, parties will be asked to leave the meeting or the meeting will be adjourned.

Code of Conduct:

As a mandatory condition of attendance at today's meeting, attendees agree to adhere to the PJM Code of Conduct as detailed in PJM Manual M-34 section 4.5, including, but not limited to, participants' responsibilities and rules regarding the dissemination of meeting discussion and materials.

In-Person Attendees:

Schuyler	Ken	PJM Interconnection, LLC	Not Applicable
Carl	Joseph	PJM Interconnection, LLC	Not Applicable
Baker	Scott	PJM Interconnection, LLC	Not Applicable
Bastian	Jeff	PJM Interconnection, LLC	Not Applicable
Falin	Tom	PJM Interconnection, LLC	Not Applicable
Mulhern	Joe	PJM Interconnection, LLC	Not Applicable
Pilong	Chris	PJM Interconnection, LLC	Not Applicable

In Attendance via WebEx / Teleconference:

Ahmed	Hamad	PJM Interconnection, LLC	Not Applicable
Bell	Jerry	PJM Interconnection, LLC	Not Applicable
Berner	Aaron	PJM Interconnection, LLC	Not Applicable
Brophy	Conor	PJM Interconnection, LLC	Not Applicable
Davis	James	Dominion Energy	Generation Owner
Farber	John	DE Public Service Commission	Not Applicable
Feierabend	Rick	Dominion Virginia Power	Not Applicable
Filomena	Guy	Customized Energy Solutions, Ltd	Not Applicable
Fort	Jim	TEA Inc	Not Applicable
Gilani	Rehan	ConEdison Energy Inc.	Other Supplier
Hagaman	Derek	GT Power Group	Not Applicable
Hamilton	Brian	ComCast	Not Applicable
Heise	Randi	Dominion Virginia Power	Not Applicable
Hoatson	Tom	Riverside Generating, LLC	Other Supplier
Horstmann	John	Dayton Power & Light	Transmission Owner
Hsia	Eric	PJM Interconnection, LLC	Not Applicable
Jacobs	Mike	Union of Concerned Scientists	Not Applicable
Kauffman	Brian	NRG Curtailment	Other Supplier
Kelly	Stephen	Brookfield Energy Marketing, LP	Other Supplier
Leimann	John	Dominion Virginia Power	Not Applicable
Lukach	Jaclynn	PJM Interconnection, LLC	Not Applicable
Ma	Alex	Invenergy, LLC	Generation Owner
Mariam	Yohannes	Office of the Peoples Counsel for the District of Columbia	End Use Customer
Marton	David	First Energy Solutions Corp	Transmission Owner
McShea	Anne Marie	New Jersey Board of Public Utilities	Not Applicable
Midgley	Sharon	Exelon Business Services	Transmission Owner
Murphy	Kelly	Steffes Corporation	Not Applicable
Ondayko	Brock	Appalachian Power	Transmission Owner
Patten	Kevin	Appalachian Power	Transmission Owner
Peoples	John	Duquesne Light Company	Transmission Owner
Robichaud	Donna	QF Solutions, LLC	Not Applicable
Sasser	Jonathan	Customized Energy Solutions, Ltd	Not Applicable
Schwarz	Rebecca	AEP Ohio Transmission	Transmission Owner
Schweizer	David	PJM Interconnection, LLC	Not Applicable
Scoglietti	Barbara	Tangent Energy Solutions Inc	Other Supplier
Stadelmeyer	Rebecca	PJM Interconnection, LLC	Not Applicable
Thomson	Heather	Mid-Atlantic Renewable Energy	Not Applicable
Tsao	Stephanie	SPGlobal	Not Applicable
Weiss	Glenn	PJM Interconnection, LLC	Not Applicable
Whitehead	Jeffrey	Direct Energy Business Marketing, LLC	Other Supplier