

**Intermittent Resource Subcommittee**  
**PJM Conference and Training Center**  
**December 10, 2018**  
**1:00 p.m. – 3:00 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 June 4, 2018 meeting were approved.

## Education

Mr. Patricio Rocha-Garrido provided an update on Effective Load Carrying Capability (ELCC) in regards to wind and solar units. ELCC education reviewed calculations and methodology which may be a future basis for calculating capacity credits of wind and solar resources.

Mr. Joe Mulhern provided wind power curtailment statistics, both SCED and manually curtailed from 2014 through the present.

Mr. Joe Mulhern provided an update on the status of obtaining meteorological information from solar resources. PJM continues to work with solar resource owners to obtain this data.

Ms. Molly Mooney provided an update on solar resources in long-term load forecasting. The presentation highlighted the work of the Load Analysis Subcommittee to determine historical impacts of distributed solar generation on the load forecast and forecasted future values of solar capacity and the methodology to utilize these values in long-term load forecasting.

Mr. Andrew Levitt provided an update on Smart Inverter Standards. The DER Ride-Through Task Force will be analyzing requirements for DER connected at the distribution level to provide ride-through support.

Mr. Scott Baker provided an update on work regarding Distributed Energy Resources by the DER Subcommittee. Activity includes DER market participation, Wholesale DER interconnection assessments for WMPA resources and very small DER, and DER provision of Primary Frequency Response service.

Mr. Scott Baker provided information regarding recent FERC filings regarding Energy Storage Resource integration into the PJM markets. Discussed were provision of Energy, Capacity and Ancillary Services and related accounting in both charge and discharge modes.

## Future Agenda Items

Mr. Schuyler stated that anyone who has any suggestions for future topics they would like to focus on should contact either himself or Mr. Carl.

## Future Meeting Dates

March 13, 2019	1:00 p.m.	WebEx
June 19, 2019	1:00 p.m.	WebEx
September 18, 2019	1:00 p.m.	WebEx
December 9, 2019	1:00 p.m.	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
Rocha-Garrido	Patricio	PJM Interconnection, LLC	Not Applicable
Mooney	Molly	PJM Interconnection, LLC	Not Applicable
Mulhern	Joe	PJM Interconnection, LLC	Not Applicable

## In Attendance via WebEx / Teleconference:

Ahmad	Syed	Federal Energy Regulatory Commission (FERC)	Not Applicable
Anders	Dave	PJM Interconnection, LLC	Not Applicable
Baker	Scott	PJM Interconnection, LLC	Not Applicable
Bencheck	Jim	American Transmission Systems, Inc.	Transmission Owner
Broadbeck	John	EDP Renewables North America, LLC	Other Supplier
Ciabattoni	Joe	PJM Interconnection, LLC	Not Applicable
D'Alessandris	Lou	FirstEnergy Solutions Corp.	Transmission Owner
Daily	Mike	Northern Virginia Electric Cooperative	Electric Distributor
Fan	Zhenyu	PJM Interconnection, LLC	Not Applicable
Filomena	Guy	Customized Energy Solutions, Ltd	Not Applicable
Ford	Adrien	Old Dominion Electric Cooperative	Not Applicable
Fort	Jim	The Energy Authority	Other Supplier
Garnett	Bryan	Duke Energy Ohio, Inc.	Transmission Owner
Gilani	Rehan	ConEdison Energy Inc.	Other Supplier
Hastings	David	Market Interconnection, LLC	Not Applicable
Heinle	Erik	DC Office of the People's Council	End Use Customer
Hoatson	Tom	Riverside Generating LLC	Other Supplier
Horstmann	John	Dayton Power & Light Co.	Transmission Owner
Hyzinski	Tom	GT Power Group	Not Applicable
Kelly	Stephen	Brookfield Energy Marketing	Other Supplier
Kilgallen	Kevin	Avangrid Renewables LLC	Generation Owner
Levitt	Andrew	PJM Interconnection, LLC	Not Applicable
Ondayko	Brock	Appalachian Power Company	Transmission Owner
Patel	Keyur	PJM Interconnection, LLC	Not Applicable
Pratley	Nicholas	EDF Energy Services	Not Applicable
Pratzon	David	GT Power Group	Not Applicable
Sarmadi	Arash	New England Power Co	Not Applicable
Sasser	Jonathan	Customized Energy Solutions, Ltd	Not Applicable