



**DRAFT**  
**Meeting Minutes**  
**PJM Interconnection**  
**Energy Storage Resources in RPM Discussion**  
**PJM Conference and Training Center**  
**Valley Forge, PA**  
**July 2, 2014**  
**9:00 AM - 12:00 PM**

**Members Present:**

Tom Rutigliano	Achieving Equilibrium LLC
David Canter	AEP
Mark Smith	AEP Energy Partners, Inc. (AEP Retail)
Praveen Kathpal	AES Energy Storage, LLC
Takis Laios	American Electric Power
Chris Norton	American Municipal Power, Inc.
Gary Fuerst	American Transmission Systems, Inc.
Kevin Patten	Appalachian Power Company
Brock Ondayko	Appalachian Power Company
John Fernandes	Baltimore Gas and Electric
Joseph Kerecman	Calpine Energy Services, L.P.
Stewart Harris	Carmen Group
Rehan Gilani	ConEdison Energy, Inc.
Guy Filomena	Customized Energy Solutions, Ltd.
Bill Dugan	Customized Energy Solutions, Ltd.
Carl Johnson	Customized Energy Solutions, Ltd.
Judith Judson McQueeney	Customized Energy Solutions, Ltd.
John Horstmann	Dayton Power & Light Company
John Farber	DE Public Service Commission
Steve Steffel	Delmarva Power & Light Company
Andrea Maucher	Division of the Public Advocate of the State of Delaware
Catharine Lacy	Dominion Virginia Power
Nancy Connelly	Duke Energy
Jeff Gates	Duke Energy
Kenneth Jennings	Duke Energy Business Services LLC
Spencer Hanes	Duke Energy Business Services LLC
Jason Cox	Dynegy Power Marketing, Inc.
Katherine Hamilton	Energy Storage Association
Melanie Sanders	Exelon Business Services Company, LLC



Grant Marchewka  
Evan Dean  
Martin Bolan  
David Marton  
Jim Bencheck  
David Pratzon  
John Webster  
Kenneth Foadare  
Alex Ma  
Robert O'Connell  
Kevin Dean  
Howard Haas  
Mariann Wilczek  
George Kogut  
Fred Heizer  
Greg Carmean  
William Kouam Kamwa  
John Brodbeck  
Tom Hyzinski  
John Citrolo  
Frank Czigler  
Tom Hoatson  
Steven Lichtin  
Louis Slade

FirstEnergy Corporation  
FirstEnergy Corporation  
FirstEnergy Solutions Corporation  
FirstEnergy Solutions Corporation  
FirstEnergy Solutions Corporation  
GT Power Group  
Icetec.com, Inc.  
IMG Midstream LLC  
Invenergy  
JPMorgan Ventures Energy Corporation  
McNees Wallace & Nurick LLC  
Monitoring Analytics, LLC  
New York ISO  
New York Power Authority  
Ohio PUC  
Organization of PJM States, Inc. (OPSI)  
Other  
Potomac Electric Power Company  
PPL EnergyPlus, L.L.C.  
PSEG Energy Resources and Trade LLC  
Public Service Electric & Gas Company  
Riverside Generating, LLC  
Stasis Energy, LLC  
Virginia Electric & Power Company

**PJM Staff Present:**

Michael Herman, Facilitator  
Bhavana Keshavamurthy  
Dave Pomian  
David Schweizer  
Doug MacGibbon  
Janell Fabiano  
Jeffrey Bastian  
Jennifer Tribulski  
Jerry Bell  
Jonathan Sasser  
Joseph Ciabattoni  
Keyur Patel  
Michael Olaleye  
Michael Ward  
Murty Bhavaraju

PJM Interconnection, LLC  
PJM Interconnection, LLC



Paul Scheidecker	PJM Interconnection, LLC
Scott Baker	PJM Interconnection, LLC
Stanley Williams	PJM Interconnection, LLC
Stanley Williams	PJM Interconnection, LLC
Tom Falin	PJM Interconnection, LLC
Tom Hauske	PJM Interconnection, LLC
Jason Quevada, Secretary	PJM Interconnection, LLC

## 1. **ADMINISTRATION**

Mr. Herman called the meeting to order and then asked Mr. Quevada to call the roll. Mr. Herman then asked for additional items for the agenda, and there were no suggestions.

## 2. **DISCUSS TARGETED WORK PLAN**

Mr. Herman reviewed a targeted work plan for the discussion. The plan has moved to bi-monthly meetings until August 2014, leaving time for any recommended proposal to be implemented in advance of the May 2015 Base Residual Auction.

## 3. **EDUCATION/ACTION ITEMS**

PJM provided education and led discussions on topics as listed in the meeting's agenda. Education will be on-going as requested by the members for future meetings.

## 4. **ESA PRESENTATION (10:20-10:50)**

Energy Storage Association led a presentation on "Valuing Storage in the PJM Capacity Market (RPM)"

## 5. **OPTIONS MATRIX**

PJM continued gathering design components from the members, and will continue to solicit further design components in future meetings. PJM will make available the updated design component matrix on the meeting's website. PJM will also be polling the members to solicit their input in future meetings.

## 6. **ACTION ITEMS**

Through discussion, several action items (and questions) were identified for PJM to discuss in future meetings:

- PJM will lead a discussion on the question: How are advanced energy storage resources treated in NYISO, CAISO and other entities, specifically with respect to time capability and other design components in our Matrix?
- PJM will lead a discussion on considering the topic of allowing energy storage resources to collocate with intermittent resources and provide capacity as one unit under this problem statement
- Should the following discussion be taken up at the OC: "If a unit schedules 5 starts in a given week and uses all of those up by Wednesday, are they forced to take an outage?"
- Should Run of River Hydro resources have their ICAP limited? – Is this item within the scope of this Problem Statement



- PJM Should validate the analysis performed by ESA regarding the 20 Coincident peaks, the 3.3 MWh, and the effective load carrying capability
- The Representation of Status Quo in the Matrix may need adjusting: Maybe two Status quo columns, 1 for Energy Storage Resources in RPM currently (IE N/A) and another for how batteries are treated now and/or how other units in RPM are treated
- Where is the topic of Pumped Storage maximum power output over 1 hour referred to in PJM manuals
- Can PJM provide education on Metering/Telemetry requirements?
- What is the status quo of the Make Resource Available design component/How will the interconnection process (and determination of rating) work for Energy Storage Resources?

## 7. **FUTURE MEETINGS**

July 23, 2014	9:00am – 1:00pm	Webinar/CTC, Norristown, PA
August 15, 2015	9:00am – 1:00pm	Webinar/CTC, Norristown, PA
August 29, 2015	9:00am – 1:00pm	Webinar/CTC, Norristown, PA

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