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 McQueeny 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     FirstEnergy Corporation
Evan Dean  
FirstEnergy Corporation

Martin Bolan  
FirstEnergy Solutions Corporation

David Marton  
FirstEnergy Solutions Corporation

Jim Bencheck  
FirstEnergy Solutions Corporation

David Pratzon  
GT Power Group

John Webster  
Icetec.com, Inc.

Kenneth Foladare  
IMG Midstream LLC

Alex Ma  
Invenergy

Robert O’Connell  
JPMorgan Ventures Energy Corporation

Kevin Dean  
McNees Wallace & Nurick LLC

Howard Haas  
Monitoring Analytics, LLC

Mariani Wilczek  
New York ISO

George Kogut  
New York Power Authority

Fred Heizer  
Ohio PUC

Greg Carmean  
Organization of PJM States, Inc. (OPSI)

William Kouam Kamwa  
Other

John Brodbeck  
Potomac Electric Power Company

Tom Hyzinski  
PPL EnergyPlus, L.L.C.

John Citrolo  
PSEG Energy Resources and Trade LLC

Frank Czigler  
Public Service Electric & Gas Company

Tom Hoatson  
Riverside Generating, LLC

Steven Lichtin  
Stasis Energy, LLC

Louis Slade  
Virginia Electric & Power Company

**PJM Staff Present:**

Michael Herman, Facilitator  
PJM Interconnection, LLC

Bhavana Keshavamurthy  
PJM Interconnection, LLC

Dave Pomian  
PJM Interconnection, LLC

David Schweizer  
PJM Interconnection, LLC

Doug MacGibbon  
PJM Interconnection, LLC

Janell Fabiano  
PJM Interconnection, LLC

Jeffrey Bastian  
PJM Interconnection, LLC

Jennifer Tribulski  
PJM Interconnection, LLC

Jerry Bell  
PJM Interconnection, LLC

Jonathan Sasser  
PJM Interconnection, LLC

Joseph Ciabattoni  
PJM Interconnection, LLC

Keyur Patel  
PJM Interconnection, LLC

Michael Olaleye  
PJM Interconnection, LLC

Michael Ward  
PJM Interconnection, LLC

Murty Bhavaraju  
PJM Interconnection, LLC

Paul Scheidecker  
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

Author: Jason Quevada, PJM
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