Planning Committee
PJM Interconnection
July 9, 2015
9:30 a.m. – 12:00 p.m. [EST]

Administration

1. Administrative Items
   
   A. Mr. Herling called the meeting to order and asked if the Planning Committee had any additional items for the agenda. There were no suggestions for additional agenda items.

   B. Mr. Herling asked Ms. Thomas to review the meeting minutes of the June 11, 2015 Planning Committee meeting. Mr. Pratzon then made a motion to approve the minutes. Mr. Kopinski seconded the motion. In a voice vote, the Planning Committee approved the June 11, 2015 Planning Committee minutes.

   C. 2015 RTEP Proposal Window Update
      
      Mr. Sims discussed the 2015 RTEP Proposal Window. The first proposal window opened on June 19th and will close on July 20th. Participants were given until August 4th to refine detailed documentation and cost estimate. The first window included the Baseline, Generation Deliverability, Common Mode Outage, Load Deliverability, and N-1-1 thermal and voltage analyses. The next window is anticipated to open in August for TO Criteria and Light Load analysis.

   D. Long Term Firm Transmission Service Requests Update
      
      Mr. McGlynn provided an updated regarding the June 30th Long Term Firm Transmission Service Request meeting. At that meeting PJM discussed the current modeling, Capacity Import Limit and Generation Deliverability studies. Mr. McGlynn informed the Planning Committee that the next meeting will be July 31st.

   E. MOD-032 Procedure Document
      
      Mr. Thompson provided an update regarding the MOD-032 Procedure document. MOD-32 Requirement 1 became effective July1st 2015. Requirement 2 which will be effective July 1st 2016, will require the TOs, GOs, and LSEs to submit the modeling data based on the MOD-032 R1 standards. In preparation for the future data submittal, PJM will have a pilot at the end of the year going into the beginning of 2016 to have GOs submit data to the new web portal that is currently being developed.

   F. PARTF Update
      
      Mr. McGlynn provided an update regarding the Phase Angle Regulator Task Force. Currently the task force is comparing PAR to variable frequency technology and HVDC technology to determine if PARs can be controllable. The task force is also determining the Operational impacts of PARs as well as establishing the megawatt value that a PAR may be able to control. The next meeting is July 16th.
Endorsements/Approvals

2. Design, Engineering, and Construction Standards

Ms. Glatz discussed the problem statement and issue charge for standards for competitively solicited projects. Under Order 1000 Lessons Learned problem statement, PJM staff will be asking the Planning Committee to form a taskforce to develop guidelines and standards for design, engineering, and construction of transmission equipment for non-incumbent designated entities. Mr. Herling asked the Planning Committee to endorse the problem statement and issue charge. Mr. Scarpignato made a motion to endorse the charter and Mr. Trayers seconded. IN A VOICE VOTE, THE PLANNING COMMITTEE ENDORSED THE PROBLEM STATEMENT AND ISSUE CHARGE FOR DESIGNING STANDARDS FOR COMPETITIVELY SOLICITED PROJECTS.

3. Merchant Network Upgrade

Mr. Connell discussed the tariff language changes to merchant network upgrades. There are four tariff changes related to the merchant network upgrade definition, queue entry, agreements, and RPM. Mr. Herling asked the Planning Committee to endorse the language changes. Mr. Scarpignato made a motion to endorse and Mr. Trayers seconded. IN A VOICE VOTE, THE PLANNING COMMITTEE ENDORSED THE TARIFF LANGUAGE CHANGES RELATED TO MERCHANT NETWORK UPGRADES.

4. Order 1000 Proposal Fee

Mr. Barrett reviewed the Order 1000 proposal fees for future RTEP Proposal Windows. The proposal fee structure has been tiered to include different fees depending on the cost of the proposed upgrade or greenfield project. Mr. Herling asked the Planning Committee to endorse the proposal fees. Mr. Khadr made a motion to endorse and Mr. Johnson seconded. IN A VOICE VOTE, THE PLANNING COMMITTEE UNANIMOUSLY ENDORSED THE ORDER 1000 PROPOSAL FEES WITH NO ABSTENTIONS.

5. Manual 20 Update

Mr. Falin reviewed the Manual 20 additions relating to the determination of Limited-Availability Resource Constraints under Capacity Performance. This new section to Manual 20 describes the technical procedures PJM uses to compute the Limited Availability Resource Constraints for use in the RPM auctions. Mr. Herling asked the Planning Committee to endorse the Manual 20 changes. Mr. Scarpignato made a motion to endorse and Mr. Manning seconded. IN A VOICE VOTE, THE PLANNING COMMITTEE ENDORSED THE MANUAL 20 ADDITIONS FOR THE DETERMINATION OF LIMITED AVAILABILITY RESOURCE CONSTRAINTS.

6. Load Model Selection for 2015 IRM Study

Mr. Rocha reviewed the 10 year load model selected for use in the 2015 IRM study. Mr. Herling asked the Planning Committee to endorse the load model to be used in the base case for the 2015 IRM study. Mr. Scarpignato made a motion to endorse and Mr. Pratzon seconded. IN A VOICE VOTE, THE PLANNING COMMITTEE ENDORSED THE LOAD MODEL SELECTION FOR THE 2015 IRM STUDY.
VOTE, THE PLANNING COMMITTEE ENDORSED THE LOAD MODEL FOR USAGE IN THE 2015 IRM STUDY.

First Readings

7. Winter Study Criteria

Mr. Sims provided a first read of Manual 14B additions regarding Winter Study Criteria. Mr. Sims reviewed the winter case topology and dispatch guidelines. Mr. Sims discussed the planning studies that would be conducted, specifically the Winter Generator Deliverability, Common Mode Outage, Winter Load Deliverability, N-1, and N-1-1 for both thermal and voltage. Mr. Sims noted that future queues will be studied under this new criteria. Members asked for clarity regarding temperature rating sets that should be used when submitting winter ratings since TOs have varying guidelines for winter ratings applications.

8. Order 1000 Lesson Learned

Mr. Herman discussed various templates to incorporate into the Proposal Window process such as Proposal Redaction Guidelines, Greenfield RTEP Template Proposal, and RTEP Upgrade Proposal Template. Members asked questions about submitting templates for multiple routes and the proposal fee for each submission. PJM clarified that the different templates should be submitted if the electrical characteristics are different.

9. Order 1000 Lesson Learned – Voltage Threshold and Administrative Items

Ms. Glatz will provided a first read of draft Operating Agreement language regarding voltage threshold and administrative changes. PJM proposed a 200kV voltage floor for the competitive process for reliability violations, excluding Market Efficiency competitive process. Sue also discussed administrative changes to the Operating Agreement language regarding pre-qualification updates and timing of the process steps for notification and acceptance of designation for RTEP projects.

Education

10. NERC/RRO Update

Mr. Kappagantula provided the Planning Committee with an update on recent NERC activities and PJM compliance activities. Comments for on-going standard reviews can be found under the July 9th Planning Committee Material. NERC Standards subject to future enforcement can be found under the June 11th Planning Committee Material.

11. Light Load Criteria Update

Mr. Sims will discuss next steps for light load criteria changes. Mr. Sims discussed next steps for light load criteria changes. Mr. Sims reviewed results from the sensitivity analysis done for the light load study specifically surrounding the dispatch of wind, coal, and gas generators. Mr. Sims will provide a first read of Manual 14B language changes at the conclusion of the sensitivity analysis. Members expressed concern over the impacts that the new criteria would have on future wind
developers entering the queue. Members expressed their preference to have the option to curtail wind power instead of being required to build infrastructure to address violations in the light load criteria.

12. PJM Manuals Update for Multi-Driver Approach

Mr. Herman discussed PJM Manual 14 series updates regarding Multi-Driver Approach. Manual 14B and other related manuals will be updated to include Multi-Driver Method Approach to be consistent with FERC filings. PJM is requesting members to provide feedback for these changes in anticipation for the first reading of redline manual language changes at the August Planning Committee meeting.

13. Load Forecast Update

Mr. Gledhill provided an update regarding potential changes to the load forecast model. Inclusion of a customer usage variable, use of a new weather specification, and the addition of an autoregressive error term are among the changes being considered. Mr. Gledhill discussed that PJM is also investigating the appropriate amount of weather history that should be included in the model. Members inquired how these changes would affect the winter load forecast. Mr. Gledhill explained that there would be more updates to come with Manual 19 language changes to be provided.


Mr. McGlynn provided an update regarding energy market uplift in the planning process. Mr. McGlynn provided examples of uplift charges, specifically informing members that uplift associated with Reactive Services will be the focus of the Planning Committee evaluation. Mr. McGlynn discussed next steps of performing sensitivity studies, designing benefit to cost metric tests, and Manual 14 B changes.

Future Agenda Items

There were no future agenda items suggested.

Future Meeting Dates

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 13, 2015</td>
<td>9:30 AM</td>
<td>PJM Conference and Training Center, Valley Forge, PA</td>
</tr>
<tr>
<td>September 10, 2015</td>
<td>9:30 AM</td>
<td>PJM Conference and Training Center, Valley Forge, PA</td>
</tr>
<tr>
<td>October 8, 2015</td>
<td>9:30 AM</td>
<td>PJM Conference and Training Center, Valley Forge, PA</td>
</tr>
<tr>
<td>November 5, 2015</td>
<td>9:30 AM</td>
<td>PJM Conference and Training Center, Valley Forge, PA</td>
</tr>
<tr>
<td>December 3, 2015</td>
<td>9:30 AM</td>
<td>PJM Conference and Training Center, Valley Forge, PA</td>
</tr>
</tbody>
</table>

Attendance

**Attendees**

<table>
<thead>
<tr>
<th>Name</th>
<th>Company Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steven Herling</td>
<td>PJM Interconnection, LLC</td>
</tr>
<tr>
<td>Amber Thomas</td>
<td>PJM Interconnection, LLC</td>
</tr>
</tbody>
</table>

PJM©2015
Patrick Hayes | Ameren Control Area
David Canter | American Electric Power
Takis Laios | American Electric Power
Chris Norton | American Municipal Power, Inc.
Mike Schlindwein | American Transmission Company LLC
Dale Burmester | American Transmission Company, LLC
Gary Fuerst | American Transmission Systems, Inc.
Brock Ondayko | Appalachian Power Company
Craig Lockwood | Appalachian Power Company
David Bloom | Baltimore Gas and Electric Company
John McDaniel | Baltimore Gas and Electric Company
Zelalem Tekle | Baltimore Gas and Electric Company
Barry Trayers | Citigroup Energy, Inc.
Connie Davis | City of Cleveland, DPU
Deral Danis | CLEAN LINE ENERGY PARTNERS LLC
William Allen | Commonwealth Edison Company
Thomas Leeming | Commonwealth Edison Company
Ronald Regner | Commonwealth Edison Company
Mark Tribett | Constellation Energy Commodities Group, Inc.
Dan Griffiths | Consumer Advocates of PJM States
Guy Filomena | Customized Energy Solutions, Ltd.*
Carl Johnson | Customized Energy Solutions, Ltd.*
Jonathan Sasser | Customized Energy Solutions, Ltd.*
John Horstmann | Dayton Power & Light Company (The)
Hertzel Shamash | Dayton Power & Light Company (The)
Mark Price | DC Energy Mid-Atlantic, LLC
Joseph DeLosa | DE Public Service Commission
John Farber | DE Public Service Commission
Michael Natrin | Delmarva Power & Light Company
Rongda Zhao (ES) | Dominion Virginia Power
George Owens | Downes Associates, Inc.
Greg Pakela | DTE Energy Trading, Inc.
Steve Steinkuhl | Duke Energy Business Services LLC
Julie Mason | Duke Energy Ohio, Inc.
Judith Stubbe | Duke Energy Ohio, Inc.
Jason Harchick | Duquesne Light Company
Darrin Adams | East Kentucky Power Cooperative, Inc.
Nathan Bradley | East Kentucky Power Cooperative, Inc.
Rebecca Davis | East Kentucky Power Cooperative, Inc.
Chuck Dugan | East Kentucky Power Cooperative, Inc.
Amanda Stacy  East Kentucky Power Cooperative, Inc.
Bruce Campbell  EnergyConnect, Inc.
Jason Barker  Exelon Business Services Company, LLC
Melanie Sanders  Exelon Business Services Company, LLC
Rebecca Stadelmeyer  Exelon Business Services Company, LLC
Robert Taylor  Exelon Business Services Company, LLC
Thomas Bainbridge  FirstEnergy Solutions Corporation
Martin Bolan  FirstEnergy Solutions Corporation
Laura DiNicola  FirstEnergy Solutions Corporation
David Marton  FirstEnergy Solutions Corporation
Jeff Stuchell  FirstEnergy Solutions Corporation
John Syner (FE)  FirstEnergy Solutions Corporation
Michael Borgatti  Gable and Associates
Charles Vansant  GenPower Coal III, LLC
Derek Hagaman  GT Power Group
David Pratzen  GT Power Group
James Nash  Hudson Transmission Partners, LLC
Bob Thomas  Illinois Municipal Electric Agency
Kenneth Foladare  IMG Midstream LLC
Brenda Prokop  ITC Mid-Atlantic Development LLC
Robert O’Connell  Main Line Electricity Market Consultants
David Hastings  Market Interconnection LLC
Ralph De Geeter  Maryland Public Service Commission
Kevin Dean  McNees Wallace & Nurick LLC
John Kopinski  MidAtlantic
Christin Domian  Mitsubishi Electric Power Products Inc.
George Kogut  New York Power Authority
David Davis  Nextera Energy
Steve Huntoon  NextEra Energy Power Marketing, LLC
James Manning  North Carolina Electric Membership Corporation
Miles Taylor  Northern Indiana Public Services Company
Neal Fitch  NRG Power Marketing LLC
John Donelson  Old Dominion Electric Cooperative
Steven Lieberman  Old Dominion Electric Cooperative
Gregory Carmean  OPSI
Abe Azar  Other
iris boci  PECO Energy Company
Pulin Shah  PECO Energy Company
Patricia Kurowski  PEPCO Holdings, Inc.
Amber Young  PEPCO Holdings, Inc.
<table>
<thead>
<tr>
<th>Name</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>David Gladey</td>
<td>Talen Energy Marketing, LLC</td>
</tr>
<tr>
<td>Michele Greening</td>
<td>Talen Energy Marketing, LLC</td>
</tr>
<tr>
<td>Joe Scialabba</td>
<td>Talen Energy Marketing, LLC</td>
</tr>
<tr>
<td>Jonathan Fernandez</td>
<td>The Federal Energy Regulatory Commission</td>
</tr>
<tr>
<td>Eric Sorber</td>
<td>UGI Utilities, Inc.</td>
</tr>
<tr>
<td>Adam Weber</td>
<td>Union Electric Company d/b/a Ameren Missouri</td>
</tr>
<tr>
<td>Ronnie Bailey</td>
<td>Virginia Electric &amp; Power Company</td>
</tr>
<tr>
<td>Michael Batta</td>
<td>Virginia Electric &amp; Power Company</td>
</tr>
<tr>
<td>James Wilson</td>
<td>Wilson Energy Economics</td>
</tr>
</tbody>
</table>

Author: Amber Thomas