Members in Attendance:

Williams, Stanley (Chair)  PJM Interconnection  Not Applicable
Ciampaglio, Tony  Constellation Energy Commodities Group, Inc.  Generation Owner
Scarpignato, David  Direct Energy Business LLC  Other Supplier
Gomez, Luis  Exelon Generation Co., LLC  Transmission Owner
Hansel, David  Exelon Generation Co., LLC  Transmission Owner
Walter, Laura (Secretary)  PJM Interconnection  Not Applicable

Also in Attendance:

Dugan, William  Monitoring Analytics  Not Applicable
Bowring, Joseph  Monitoring Analytics, LLC  Not Applicable
Dirani, Rami  PJM Interconnection  Not Applicable
Hauske, Thomas  PJM Interconnection  Not Applicable
Hendrzak, Chantal  PJM Interconnection  Not Applicable
Zadlo, Thomas  PJM Interconnection  Not Applicable

Attended via WebEx / Teleconference:

Jacobson, Casey  AES Energy Storage LLC  Generation Owner
Gilani, Rehan  ConEdison Energy, Inc.  Other Supplier
Filomena, Guy  Customized Energy Solutions, Ltd.*  Not Applicable
McDonald, Steve  Customized Energy Solutions, Ltd.*  Not Applicable
Horstmann, John  Dayton Power & Light Company (The)  Transmission Owner
Keefer, Brian  Dominion Energy Marketing, Inc.  Generation Owner
Simms, Chris  Downes Associates, Inc.  Other Supplier
Hoag, Richard  FirstEnergy Solutions Corp.  Transmission Owner
Palick, Ron  FirstEnergy Solutions Corp.  Transmission Owner
Siegrist, Hal  GenOn Energy Management, LLC  Generation Owner
O'Connell, Robert  J.P. Morgan Ventures Energy Corporation  Other Supplier
Wisersky, Megan  Madison Gas and Electric Company  Other Supplier
Jeremko, Steven  New York State Electric & Gas Corporation  Other Supplier
Ford, Adrien  PJM Interconnection  Not Applicable
Sandherr, Bob  PPL Energy Plus, LLC  Generation Owner
Miller, Rod  PPL Generation, LLC  Generation Owner
Diamant, Martin  Public Service Electric and Gas Company  Transmission Owner
Hastings, David  Saracen Energy East LP  Other Supplier
Brodbeck, John  Shell Energy North America (US), LP  Other Supplier
Dolan, Patrick  Wisconsin Electric Power Co. d/b/a WE Power Co.  Generation Owner
Jacobs, Michael  Xtreme Power  Other Supplier
1. **ADMINISTRATION**

CDS endorsed the amended minutes from the 268th CDS held on January 9, 2012 by acclamation.

One member requested that the proposed Manual 15 language for storage devices (Agenda Item 3) be tabled to allow for additional PJM staff contact with the battery industry; CDS decided that it should stay on the agenda to be discussed. CDS endorsed the Agenda for the 269th CDS.

2. **CDS UPDATE**

Stan Williams updated the CDS on the Combined Cycle modeling Issue ([issue tracking](#)). The MRC directed PJM to draft a problem statement for consideration and action by the MRC at their next meeting based on feedback from stakeholders. Mr. Williams also asked for any feedback to be sent to PJM.

The proposals to remove overhaul costs for Combined Cycles and Combustion Turbines from Variable Operation and Maintenance (VOM) Costs, clarity on the development of No Load Costs and updates to Manual 15 with respect to Non-Regulatory and Energy Market Opportunity Costs were approved by the PJM Board of Managers February 8. These changes to Manual 15 will be incorporated as soon as practicable and noticed to stakeholders.

3. **INFORMATION FOR UNIT TYPES NOT ADDRESSED BY MANUAL 15: ISSUE TRACKING**

CDS reviewed draft manual language for Flywheels and Batteries. CDS members also expressed the opinion that compressed air units may be another unit type that may need to be address as part of this effort. CDS members asserted that batteries have different types of costs, such as:

- Wear and tear through MWh throughput/ lifecycle deterioration
- Accessory Costs (auxiliary equipment) such as filters, fans and cooling equipment
- Labor and Maintenance
- Inverter Conversion Loss (similar to a heat rate)
- Energy cost to charge
- Ambient Adjustment (unknown, question by a CDS member)

Battery owners agreed to meet with PJM staff to develop categories of costs that are relevant as well as a glossary of terms. PJM will meet with stakeholders who own smaller aggregated regulating units or thermal storage to see if there is a need for cost offer development for these categories.
The Independent Market Monitor (IMM) emphasized the importance of finding the short run incremental cost, while discussing costs for new unit types.

Laura Walter, PJM, reviewed PJM Discussion Paper: $0 cost offers. After some discussion CDS decided that $0 cost floor was appropriate for wind units and units that fire solid waste, biomass, or landfill gas. PJM staff will modify the proposed wind language to incorporate a $0 floor in section 2.3 of M15.

4. **IMMATURE UNIT DEFINITION: ISSUE TRACKING**

CDS reviewed interest investigation and filled out the collaborative solution matrix design criteria for immature units. The following was agreed upon:

1. Immature unit status will be for units that have less than 30,000 equivalent service hours and less than 10 years of operational history.
2. All units shall submit their basis for maintenance cost development to the IMM.
3. Immature units may blend calculated cost and forecasted cost to be reviewed by IMM:
   a. The weighted blend should be based on the ratio of historical operating hours to projected,
   b. Or achieving ten years of operation,
   c. With priority going to the one satisfied first.
4. A Mature unit owner can choose either a 10 or 20 year history and use actual costs (i.e. 11 year old unit can use 11 years of history if 20 year history is selected. If a 10 year history is selected, then only 10 years of historical cost data can be used).
5. Market Participant estimates are based on methodologies such as, but not limited to: regional industry average, industry average in PJM, budgeted value for the business case, information from OEM or information from sister units. All methodologies are submitted per the Cost Development and Approval Process.

PJM will bring 2 numerical examples to the next CDS:

1. A Combustion Turbine with a 2% capacity factor after 10 years with unknown VOM
2. Base load steam unit with 3 years of operational history

PJM will attempt to explain the impact that the proposed matrix has on these 2 examples. PJM will also bring draft manual language incorporating the consensus decisions of CDS.

5. **CDS WORK PLAN AND FUTURE TOPICS**

Cyclic Peaking Factors: Issue Tracking. (referred by MRC)

6. **FUTURE MEETINGS**

Monday, March 12, 2012 10:00 am until 3:00 pm PJM Interconnection Offices
<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td>Monday, April 9, 2012</td>
<td>10:00 am until 3:00 pm</td>
<td>PJM Interconnection Offices</td>
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<tr>
<td>Monday, May 7, 2012</td>
<td>10:00 am until 3:00 pm</td>
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<tr>
<td>Monday, June 11, 2012</td>
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<td>Monday, July 9, 2012</td>
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<td>Monday, September 10, 2012</td>
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<tr>
<td>Monday, October 15, 2012</td>
<td>10:00 am until 3:00 pm</td>
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<tr>
<td>Monday, November 5, 2012</td>
<td>10:00 am until 3:00 pm</td>
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