 Capacity Exchange Education Session

Josh Bruno  
Analyst, Capacity Market Operations  
Carla Thew, Project Manager  
July 24, 2018
Capacity Exchange

- Capacity Exchange will replace eRPM as part of PJM’s Legacy Application Refresh
  - New Look and Feel
    - Reorganized Menu/Screens
    - Will be compatible with Modern Browsers
  - Enhanced Security/Authorization Procedures
    - There is an additional authentication step that will be required similar to Markets Gateway and FTR Center
    - New Target URLs
    - SUMA Compatible similar to Markets Gateway and FTR Center
### 2018 Roadmap for Capacity Exchange

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
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<td></td>
<td></td>
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<td>Week of Sept. 26</td>
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</tbody>
</table>

- **Implementation**
  - Train: August 2018
  - Production: week of 9/26/2018
- There **will not** be a parallel operations period
- **Member education dates**
  - July 24, 2018
  - September 19, 2018
New Left Navigation Bar

- Primary and secondary menus now accessible on left
- Utilities is where you will do your UI queries and submits (similar to Markets Gateway and FTR Center)
## Load & Obligation Screens

### Zonal Load & Obligation

#### Capacity Exchange

**Delivery Year:** 2017/2018

<table>
<thead>
<tr>
<th>Issue</th>
<th>Final Zonal MW Summer Peak</th>
<th>Final Zonal Load Forecast</th>
<th>Final Zonal RPM Scaling Factor</th>
<th>Final Zonal UCAP Obligation</th>
<th>Final Zonal Capacity Price</th>
<th>Final Zonal CTR Credit Rate</th>
<th>Final Zonal Net Load Price</th>
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<td>153.7500</td>
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</table>

**Note:** Final Zonal CTR Credit Rate is represented by $($/MW-UCAP Obligation-day)
Load & Obligation Screens
Wholesale Area Load
### Load & Obligation Screens

#### Daily Load & Obligation

![Image of Load & Obligation Screen]

- **Date**: 7/23/2018

**Zonal Load & Obligation**

<table>
<thead>
<tr>
<th></th>
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<td>PA-FTST</td>
<td>PECO</td>
<td>PECO</td>
<td>149,055</td>
<td>213,436</td>
<td>149,055</td>
<td>213,436</td>
<td>149,055</td>
<td>213,436</td>
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<td>PA-FTST</td>
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<td>288,385</td>
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<td>357,080</td>
<td>288,385</td>
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</tbody>
</table>

**Totals**

- PECO: 683,934
- AECO: 683,934
- TECO: 683,934

**Row Count**: 3

**Note**: All values for operation day are preliminary until 12:00 EPT the following business day.

---

**Contact**: www.pjm.com

---

**Date**: 7/23/2018

**Time**: 12:00 EPT

---

**PJM**: PJM©2018
### Load & Obligation Screens
#### Peak Load Summary

**Date:** 07/23/2018

**Grid:** PJMST

<table>
<thead>
<tr>
<th>Zone</th>
<th>Area</th>
<th>Upload MW</th>
<th>Scaling Factor</th>
<th>Obligation Peak Load MW</th>
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<tr>
<td>AECO</td>
<td>AECO</td>
<td>100.0</td>
<td>0.9245</td>
<td>95.245</td>
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<tr>
<td>BGE</td>
<td>BGE</td>
<td>100.0</td>
<td>0.93607</td>
<td>93.607</td>
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<tr>
<td>PECO</td>
<td>PECO</td>
<td>300.0</td>
<td>0.94128</td>
<td>288.385</td>
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<tr>
<td><strong>Totals</strong></td>
<td></td>
<td><strong>400.0</strong></td>
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<td><strong>377.844</strong></td>
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</table>

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**Note:** All values for operation day are preliminary until 12:00 EPT the following business day.
### Load & Obligation Screens

#### NSPL

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<th></th>
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</tr>
</thead>
<tbody>
<tr>
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<td>AECO</td>
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<td>96</td>
<td>96</td>
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<td>BGE</td>
<td>BGE</td>
<td>194</td>
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<td>PAINTST</td>
<td>PECO</td>
<td>PECO</td>
<td>289.3</td>
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<td><strong>Totals</strong></td>
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</table>

*All values for operation day are preliminary until 12:00 EPT the following business day*
### Load & Obligation Screens

#### NSPL Summary

The image displays a screenshot of the PJM Capacity Exchange Load & Obligation screens. The screenshot shows a table with data for the date 7/23/2018. The table headings are:

- **Zone**
- **Area**
- **Unbanded MW**
- **Scaling Factor**
- **NSPL MW**

The table includes data for zones such as PJMST, ACCO, and others. The table rows are as follows:

1. **PJMST**
   - **Area**: ACCO
   - **Unbanded MW**: 100.0
   - **Scaling Factor**: 0.94982
   - **NSPL MW**: 94.800

2. **PJMST**
   - **Area**: FGE
   - **Unbanded MW**: 220.0
   - **Scaling Factor**: 0.94982
   - **NSPL MW**: 114.300

3. **PJMST**
   - **Area**: PEDD
   - **Unbanded MW**: 300.0
   - **Scaling Factor**: 0.94492
   - **NSPL MW**: 281.300

4. **Totals**
   - **Unbanded MW**: 420.0
   - **NSPL MW**: 379.300

**Note:** All values for operation day are preliminary until 12:00 EPT the following business day.

---

**Legal and Privacy**

**vLDR.17.000715121.1c355** Feedback

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Resource Position Screens
LDA Summary
Resource Position Screens
Generation Resource - Position Details
Resource Position Screens

Generation Resource - Position Details - Creating
Resource Position Screens
Demand Resources
**Resource Position Screens**

**Energy Efficiency**

---

**Capacity Exchange**

**Date:** 7/23/2016  
**Capacity Type:** KAP

**Row Count:** 1

<table>
<thead>
<tr>
<th>Resource Name</th>
<th>Zone</th>
<th>LHA</th>
<th>On/Off</th>
<th>Installation Period</th>
<th>Start Date</th>
<th>Stop Date</th>
<th>Owned</th>
<th>Available</th>
<th>RPM Max CP Connected</th>
<th>FEE Max CP Connected</th>
<th>RPM CP Connected</th>
<th>FEE CP Connected</th>
<th>Unutilized</th>
<th>RPM Position</th>
<th>Dk</th>
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<tbody>
<tr>
<td>29642912</td>
<td>PJMST IE,J1,AV18</td>
<td>AECO</td>
<td>Yes</td>
<td>INSTALLATIONPERIOD</td>
<td>08/01/2015</td>
<td>08/31/2015</td>
<td>10.0</td>
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**Total WH/Day:**

<table>
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<tr>
<th>RPM Position</th>
<th>Dk</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>10.0</td>
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</tbody>
</table>

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**My Tools**

- Load & Obligation
- Resource Position
- LHA Summary
- Generation Resources
- Demand Resources
- EE Resources
  - Aggregate Resources
  - Localized NRW
- Resource Model
- Transactions
- Auctions
- Credit
- FRR
- Performance
- Utilities

---

**www.pjm.com**
## Resource Position Screens

### Locational MW

The image displays a screen from a web application, likely used for energy trading or market operations. The screen is titled "Capacity Exchange" and contains tables and data fields.

**Table Data**

<table>
<thead>
<tr>
<th>LDA</th>
<th>Auction Type</th>
<th>Product Type</th>
<th>Start Date</th>
<th>Stop Date</th>
<th>Owned</th>
<th>Consolidated</th>
<th>Available</th>
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<tbody>
<tr>
<td>ENAIC</td>
<td>Second</td>
<td>Annual</td>
<td>07/11/2018</td>
<td>06/01/2019</td>
<td>10.0</td>
<td>10.0</td>
<td>20.0</td>
</tr>
<tr>
<td>ATSU</td>
<td>Third</td>
<td>Annual</td>
<td>06/20/2018</td>
<td>06/01/2019</td>
<td>15.0</td>
<td>5.0</td>
<td>20.0</td>
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</tbody>
</table>

**Note:**
- ENAIC and ATSU are examples of Locational MWs.
- The table shows the start and stop dates, owned, consolidated, and available MWs.

**Additional Features**

- The screen includes options for date selection, which is set to 07/23/2018.
- There are buttons for Refresh and other functionalities.

**Website:**
- www.pjm.com

**Copyright:**
- ©2018 PJM
### Transactions Screens

#### Capacity Transactions

**Capacity Exchange**

- **Start Day:** 6/1/2018
- **Stop Day:** 7/20/2018

<table>
<thead>
<tr>
<th>Type</th>
<th>Resource Name</th>
<th>Start Date</th>
<th>Stop Date</th>
<th>MW</th>
<th>Status</th>
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<td>Capacity</td>
<td>PJMTST GENERATOR 1</td>
<td>6/1/2018</td>
<td>6/30/2018</td>
<td>500</td>
<td>Approved</td>
</tr>
<tr>
<td>Unit Specific</td>
<td>PJMTST GENERATOR 1</td>
<td>7/1/2018</td>
<td>7/31/2018</td>
<td>100</td>
<td>Approved</td>
</tr>
<tr>
<td>Capacity</td>
<td>PJMTST GENERATOR 2</td>
<td>6/1/2018</td>
<td>6/30/2018</td>
<td>300</td>
<td>Approved</td>
</tr>
</tbody>
</table>

- **Net MW:** Total MW: 1050
- **Total MW:** Total MW: 1050
- **Total MW:** Total MW: 1050
- **Total MW:** Total MW: 1050
Transactions Screens
Capacity Modification Transaction

**Capacity Exchange**

**Transactions**
- **Capacity Transactions**
- **Capacity Postings**

**Capacity Modification Transaction**

<table>
<thead>
<tr>
<th>ID</th>
<th>Type</th>
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<th>Start Date</th>
<th>Stop Date</th>
<th>MW</th>
<th>Status</th>
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<td>28468510</td>
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<td>07/20/2018</td>
<td>7/20/2018</td>
<td>PJMTT</td>
<td>PJMTT</td>
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<tr>
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<td>06/01/2018</td>
<td>12/11/9999</td>
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</table>

**Transaction ID:** 28468515

**Status:** Approved

**Start Date:** 06/01/2018

**Resource:** PJM/TST GENERATOR 1

**Type:** Planned Generator

**Summer MW (ICAP):** 100

**Note:** Enter value you want to change the rating by, not what you want to change the rating to.

**Add Comment**

**Status History**

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<th>Status</th>
<th>Timestamp</th>
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<tr>
<td>Dando</td>
<td>Approved</td>
<td>07/18/2018 08:43</td>
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</tbody>
</table>
Transactions Screens
Replacement Transactions
Transactions Screens
Unit Specific Transaction
### Additional Updates

- **Enhanced Functionality Included:**
  - Improved Filtering on Most Screens
  - Performance Tuning for PLC/NSPL Upload
  - Added bread crumb trails – like in Markets Gateway and FTR Center

- **Screen Retirements:**
  - ILR
  - CTR
  - Position Graph
Next steps for Members

• August 2018: Log in to Train and familiarize yourself with the new application
  – Provide any feedback to the PJM team CapacityExchangeSupport@pjm.com

• Additional Step for CSPs before 9/27/2018:
  – Download Load Management event data for events called before 2014/2015 or ILR data
  – This data will no longer be available through the UI when Capacity Exchange goes live. Any CSP that wants a copy of the data must download it via eRPM production.
Next Steps for Members that Utilize Browserless

- Prepare for transition to SSO authentication via XML:
  - Review [PJM RESTful API for Authentication Guide](#)
- Review XML examples for submits and query uploads on the [Capacity Exchange web page](#). While submits did not change for PLC and NSPL some optional fields were removed from the queries:
  - Zone name
  - Area name
  - Company Name
Additional Resources and Questions?

• Supporting Documentation:
  – Quick Start Guide
  – External Interface Specification Guide published in August

• Questions? Please contact:
  – CapacityExchangeSupport@pjm.com
  – Member Relations: (610) 666-8980 / (866) 400-8980
  – Visit Tech Change Forum Community page for Knowledge base on Support issues