

# Capacity Performance – Performance Assessment Hour

Chris Pilong Operating Committee January 2016



### Performance Assessment Hour Questions

- How will PJM communicate Performance Assessment Hour (PAH) start/stop times?
- At what production output level should my resource be at and how communicated?



## **Emergency Procedure Application**

Apjm Emergency Procedures

|         |          |                     |                        |                          | Postings                        | A Performance Asse  | Sanche Incode               |
|---------|----------|---------------------|------------------------|--------------------------|---------------------------------|---|-----------------------------|
| Post    | ings     | Message Definitions | Message Priorities     | Regions                  | formance Assessment<br>Guidance | mergency Bid Form   |                             |
| om 8    | /2/2015  | To 8/15/20          | 15 Filters Mes         | sage Types 🔻 PJM         | Drill Include                   | Active Only Auto Refresh Reset  |                             |
|         |          |                     | Last Updated: 11.18.20 | 15 13:48:04 Filters:     | 11/16/2015 to 11/18             | 8/2015; Regions: (filtered); Include PJM Drill  |                             |
|         |          |                     | <i>T</i>               | Records Per Page:        | 15 🔻 🕅 🕶                        | (1 of 6) 🗰 🙀  |                             |
| listory | Msg ID ⊖ | Priority O<br>All   | Message Type ⊖         | Effective<br>Timestamp ⊖ | Regions O                       | Emergency Message O   | Cancellation<br>Timestamp ⊖ |
| 0       | 100709   | Action              | Voltage Reduction      | 11.18.2015 23:18         | PJM RTO                         | A Performance Assessment Message – See Guidance<br>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Proin fringilla<br>arcu a ipsum congue, ut semper turpis consectetur.   |                             |
| 0       | 100709   | Action              | Max Emergency Gen      | 11.18.2015 23:18         | MIDATL                          | A Performance Assessment Message - See Guidance<br>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Proin fringilla<br>arcu a ipsum congue, ut semper turpis consectetur.   |                             |
| 0       | 100709   | Action              | High System Voltage    | 11.18.2015 23:18         | PJM RTO                         | Lorem ipsum dolor sit amet, consectetur adipiscing elit. Proin fringilla<br>arcu a ipsum congue, ut semper turpis consectetur. Ut tellus mi,<br>accumsan hendrerit convallis sit amet, consectetur in eros. Cras<br>aliquam, ligula placerat aliquet consequat. |                             |
| 0       | 100709   | Alert               | Low Voltage Alert      | 11.18.2015 23:18         | EKPC                            | Lorem ipsum dolor sit amet, consectetur adipiscing elit. Proin fringilla<br>arcu a ipsum congue, ut semper turpis consectetur. Ut tellus mi,<br>accumsan hendrerit convallis sit amet, consectetur in eros. Cras<br>aliquam, ligula placerat aliquet consequat. |                             |
|         |          |                     | ·                      | Records Per Page:        | 15 <b>v</b> H ++                | (1 of 6) 🗰 📕  |                             |

### New "Performance Assessment Guidance" tab

Section for active notices

Performance Assessment Guidance

#### ACTIVE – Performance Assessment Emergency Action Triggers

| Active  |        | Emergency Action Trigger                       | <b>B</b> -1-1-1-1 |  |
|---------|--------|--|-------------------|--|
| Warning | Action | Emergency Action Trigger                       | Regions           |  |
| N/A     |        | Pre-Emergency Load Management Reduction Action |                   |  |
| N/A     |        | Pre-Emergency Load Management Reduction Action |                   |  |
|         | N/A    | Primary Reserve                                |                   |  |
|         |        |  |                   |  |
|         |        | Voltage Reduction                              |                   |  |
|         |        | Manual Load Dump                               |                   |  |
| N/A     |        | Load Shed                                      |                   |  |

### \_\_\_\_\_

#### ACTIVE - Performance Assessment Guidance

| Resource Type      | Regions |
|--------------------|---------|
| Online Generator   |         |
| - Guidance Wording |         |
| Off-line Generator |         |
| - Guidance Wording |         |
| Pre-Emg            |         |
| - Guidance Wording |         |
| Emg                |         |
| - Guidance Wording |         |

#### **Summary Table**

Postings

| Date | Region | Start Time | Stop Time | Emergency Action Trigge |
|------|--------|------------|-----------|-------------------------|
|      |        |            |           |                         |
|      |        |            |           |                         |
|      |        | ×          |           |                         |
|      |        |            |           |                         |

- Section for Active guidance by resource type and region
- Summary/History section listed in the bottom that will indicate when Assessment hours are/were in affect.

A Performance Assessment Messag



### PAH Guidance Matrix

| Performance Assessment Hour (PAH) Guidance Matrix                   |   |  |  |   |  |  |  |
|---|---|--|--|---|--|--|--|
| Emergency Action  | On-line Generator Performance<br>Guidance | Off-line Generator Performance Guidance  | Pre-Emergency Load<br>Management Performance<br>Guidance   | Emergency Load Management<br>Performance Guidance |  |  |  |
| Pre-Emergency Load Management Reduction Action                      |   |  |  |   |  |  |  |
| Emergency Load Management Reduction Action                          |   | The posting of this message serves as notification that all generators in the applicable region should be on-  |  |   |  |  |  |
| Primary Reserve Warning   |   | line. Units that are not on-line and following PJM   |  |   |  |  |  |
| Maximum Generation Emergency Action                                 |   | dispatch instructions during the effective times of this   | <ol> <li>All Load Management dispatched by PJM will be considered<br/>for PAH.</li> <li>PJM will dispatch desired Load Management resources<br/>through the eLRS System (i.e. electronic notification).</li> </ol> |   |  |  |  |
| Emergency Voluntary Energy Only Demand Response<br>Reduction Action |   | procedure may be assessed a Non-Performance<br>Charge.<br>NOTE: Generators are required to notify PJM prior to<br>coming on-line.  |  |   |  |  |  |
| Curtailment of Non-Essential Building Load                          |   |  |  |   |  |  |  |
| Manual Load Dump Warning  |   |  |  |   |  |  |  |
| Voltage Reduction Warning   | TBD - See new OC Problem<br>Statement     | PJM will directly call resource owners that are<br>available to help mitigate the emergency  | 3.) Load Management resources will normally be dispatched<br>based upon their lead time. However, lead times may be  |   |  |  |  |
| Voltage Reduction Action  |   | The posting of this message serves as notification that<br>all generators in the applicable region should be on-<br>line. Units that are not on-line and following PJM<br>dispatch instructions during the effective times of this | truncated based on system cond<br>- PJM will post a new message w<br>webpage if lead times are short<br>posting.   | ia the Emergency Procedures                       |  |  |  |
| Manual Load Dump Action   |   | procedure may be assessed a Non-Performance<br>Charge.<br>NOTE: Generators are required to notify PJM prior to<br>coming on-line.  |  |   |  |  |  |
| Load Shed Directive   |   | PJM will directly call resource owners t   | hat are available to help mitigate   | the emergency                                     |  |  |  |



- Should the "PAH Guidance Matrix" be a static table or should it be 'smart' in that only the applicable guidance will show based upon the active EP messages. (i.e.) Normally nothing is displayed unless there is a PAH procedure in affect.
  - PJM thought is to keep the Matrix static but utilize the PAH active sections below the table to inform the user as to current status
- DRILL messages. Should the message indicate "DRILL PAH" or simply "DRILL" to eliminate any confusion?