Regulation Market Issues Senior Task Force PJM Conference and Training Center Jan. 24, 2016 9:30 a.m. – 1:30 p.m. EPT

### Administration (9:30-9:45)

1. Mr. Anders opened the meeting and reviewed the agenda.

Ms. Volinsky collected attendance, provided the Antitrust and Code of Conduct announcements, and requested endorsement of the Dec. 8 meeting minutes. The Dec. 8 meeting minutes were approved without objection or abstention.

## FERC Notice of Proposed Rulemaking (9:45-9:55)

 Mr. Shparber reviewed the FERC Notice of Proposed Rulemaking on energy storage and distributed energy resources: Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators.

### **RMISTF Timeline (9:55-10:00)**

3. Mr. Anders reviewed the timeline for the Regulation Market Issues Senior Task Force.

# Signal Implementation Review (10:00-11:30)

4. Mr. Endress reviewed the performance of the new regulation signal and requirements implemented Jan. 9. PJM took an action item to provide periodic updates on the new signal at future Operating Committee meetings.

### Regulation Clearing Example Spreadsheet (11:45-11:50)

5. Mr. Fereshetian presented a regulation clearing example spreadsheet that simulates the Marginal Rate of Technical Substitution (MRTS) framework. An updated version of this spreadsheet will be posted with RMISTF materials to allow stakeholders to further test it out.

## Matrix Discussion (11:50-1:30)

6. PJM/IMM and stakeholders discussed several changes to the matrix to finalize packages. PJM presented proposed performance scoring changes as well as a detailed transition plan. Mr. Rutigliano presented a compromise proposal to be added to the matrix for the Energy Storage Association, which will be an additional package to the original ESA package currently on the matrix.

Mr. Anders announced that pending the posting of all new and updated matrix materials, and data requests from stakeholders, the RMISTF will vote on packages using the online Surveymonkey tool between the Jan. 24 and Feb. 27 meetings. Results will be discussed at the Feb. 27 RMISTF meeting.

## **Future Meeting Dates**

February 27, 2017 9:30 a.m.-3:00 p.m.

PJM Conference & Training Center/WebEx

Author: Sheila Volinsky

# In Person Attendees

| Anders David PJM Interconnection, LLC  Benner Scott PJM Interconnection, LLC  Borgatti Michael Gabel and Associates  Boyle Glen PJM Interconnection, LLC  Croop Danielle PJM Interconnection, LLC  Endress Eric PJM Interconnection, LLC  Fereshetian Damon PJM Interconnection, LLC  Foladare Ken Tangibl  Ford Adrien PJM Interconnection, LLC  Gallagher William A.F. Mensah, Inc.  Haas Howard Monitoring Analytics, LLC  Hitt Carrie NextEra  Hoffman Jeff PJM Interconnection, LLC  Horstmann John Dayton Power & Light Company (The)  Hsia Eric PJM Interconnection, LLC  Customized Energy Solutions, Ltd.*  Keech Adam PJM Interconnection, LLC  Kilgallen Kevin Iberdrola  Lowe Benjamin Alevo  Morelli Lisa PJM Interconnection, LLC | Last Name   | First Name  | Company                            |
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| Benner Scott PJM Interconnection, LLC Borgatti Michael Gabel and Associates Boyle Glen PJM Interconnection, LLC Croop Danielle PJM Interconnection, LLC Endress Eric PJM Interconnection, LLC Fereshetian Damon PJM Interconnection, LLC Foladare Ken Tangibl Ford Adrien PJM Interconnection, LLC Gallagher William A.F. Mensah, Inc. Haas Howard Monitoring Analytics, LLC Hitt Carrie NextEra  Hoffman Jeff PJM Interconnection, LLC  Horstmann John Dayton Power & Light Company (The) Hsia Eric PJM Interconnection, LLC  Customized Energy Solutions, Ltd.*  Keech Adam PJM Interconnection, LLC  Kilgallen Kevin Iberdrola  Lowe Benjamin Alevo  | Last Name   | I list Name | Company                            |
| Borgatti Michael Gabel and Associates  Boyle Glen PJM Interconnection, LLC  Croop Danielle PJM Interconnection, LLC  Endress Eric PJM Interconnection, LLC  Fereshetian Damon PJM Interconnection, LLC  Foladare Ken Tangibl  Ford Adrien PJM Interconnection, LLC  Gallagher William A.F. Mensah, Inc.  Haas Howard Monitoring Analytics, LLC  Hitt Carrie NextEra  Hoffman Jeff PJM Interconnection, LLC  Horstmann John Dayton Power & Light Company (The)  Hsia Eric PJM Interconnection, LLC  Johnson Carl Customized Energy Solutions, Ltd.*  Keech Adam PJM Interconnection, LLC  Kilgallen Kevin Iberdrola  Lowe Benjamin Alevo   | Anders      | David       | PJM Interconnection, LLC           |
| Boyle Glen PJM Interconnection, LLC Croop Danielle PJM Interconnection, LLC Endress Eric PJM Interconnection, LLC Fereshetian Damon PJM Interconnection, LLC Foladare Ken Tangibl Ford Adrien PJM Interconnection, LLC Gallagher William A.F. Mensah, Inc. Haas Howard Monitoring Analytics, LLC Hitt Carrie NextEra  Hoffman Jeff PJM Interconnection, LLC  Horstmann John Dayton Power & Light Company (The) Hsia Eric PJM Interconnection, LLC  Johnson Carl Customized Energy Solutions, Ltd.*  Keech Adam PJM Interconnection, LLC  Kilgallen Kevin Iberdrola  Lowe Benjamin Alevo   | Benner      | Scott       | PJM Interconnection, LLC           |
| Croop Danielle PJM Interconnection, LLC  Endress Eric PJM Interconnection, LLC  Fereshetian Damon PJM Interconnection, LLC  Foladare Ken Tangibl  Ford Adrien PJM Interconnection, LLC  Gallagher William A.F. Mensah, Inc.  Haas Howard Monitoring Analytics, LLC  Hitt Carrie NextEra  Hoffman Jeff PJM Interconnection, LLC  Horstmann John Dayton Power & Light Company (The)  Hsia Eric PJM Interconnection, LLC  Johnson Carl Customized Energy Solutions, Ltd.*  Keech Adam PJM Interconnection, LLC  Kilgallen Kevin Iberdrola  Lowe Benjamin Alevo   | Borgatti    | Michael     | Gabel and Associates               |
| Endress Eric PJM Interconnection, LLC  Fereshetian Damon PJM Interconnection, LLC  Foladare Ken Tangibl  Ford Adrien PJM Interconnection, LLC  Gallagher William A.F. Mensah, Inc.  Haas Howard Monitoring Analytics, LLC  Hitt Carrie NextEra  Hoffman Jeff PJM Interconnection, LLC  Horstmann John Dayton Power & Light Company (The)  Hsia Eric PJM Interconnection, LLC  Johnson Carl Customized Energy Solutions, Ltd.*  Keech Adam PJM Interconnection, LLC  Kilgallen Kevin Iberdrola  Lowe Benjamin Alevo  | Boyle       | Glen        | PJM Interconnection, LLC           |
| Fereshetian Damon PJM Interconnection, LLC  Foladare Ken Tangibl  Ford Adrien PJM Interconnection, LLC  Gallagher William A.F. Mensah, Inc.  Haas Howard Monitoring Analytics, LLC  Hitt Carrie NextEra  Hoffman Jeff PJM Interconnection, LLC  Horstmann John Dayton Power & Light Company (The)  Hsia Eric PJM Interconnection, LLC  Johnson Carl Customized Energy Solutions, Ltd.*  Keech Adam PJM Interconnection, LLC  Kilgallen Kevin Iberdrola  Lowe Benjamin Alevo   | Croop       | Danielle    | PJM Interconnection, LLC           |
| Foladare Ken Tangibl  Ford Adrien PJM Interconnection, LLC  Gallagher William A.F. Mensah, Inc.  Haas Howard Monitoring Analytics, LLC  Hitt Carrie NextEra  Hoffman Jeff PJM Interconnection, LLC  Horstmann John Dayton Power & Light Company (The)  Hsia Eric PJM Interconnection, LLC  Johnson Carl Customized Energy Solutions, Ltd.*  Keech Adam PJM Interconnection, LLC  Kilgallen Kevin Iberdrola  Lowe Benjamin Alevo   | Endress     | Eric        | PJM Interconnection, LLC           |
| Ford Adrien PJM Interconnection, LLC  Gallagher William A.F. Mensah, Inc.  Haas Howard Monitoring Analytics, LLC  Hitt Carrie NextEra  Hoffman Jeff PJM Interconnection, LLC  Horstmann John Dayton Power & Light Company (The)  Hsia Eric PJM Interconnection, LLC  Johnson Carl Customized Energy Solutions, Ltd.*  Keech Adam PJM Interconnection, LLC  Kilgallen Kevin Iberdrola  Lowe Benjamin Alevo   | Fereshetian | Damon       | PJM Interconnection, LLC           |
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| Haas Howard Monitoring Analytics, LLC  Hitt Carrie NextEra  Hoffman Jeff PJM Interconnection, LLC  Horstmann John Dayton Power & Light Company (The)  Hsia Eric PJM Interconnection, LLC  Johnson Carl Customized Energy Solutions, Ltd.*  Keech Adam PJM Interconnection, LLC  Kilgallen Kevin Iberdrola  Lowe Benjamin Alevo  | Ford        | Adrien      | PJM Interconnection, LLC           |
| Hitt Carrie NextEra  Hoffman Jeff PJM Interconnection, LLC  Horstmann John Dayton Power & Light Company (The)  Hsia Eric PJM Interconnection, LLC  Johnson Carl Customized Energy Solutions, Ltd.*  Keech Adam PJM Interconnection, LLC  Kilgallen Kevin Iberdrola  Lowe Benjamin Alevo   | Gallagher   | William     | A.F. Mensah, Inc.                  |
| Hoffman Jeff PJM Interconnection, LLC  Horstmann John Dayton Power & Light Company (The)  Hsia Eric PJM Interconnection, LLC  Johnson Carl Customized Energy Solutions, Ltd.*  Keech Adam PJM Interconnection, LLC  Kilgallen Kevin Iberdrola  Lowe Benjamin Alevo  | Haas        | Howard      | Monitoring Analytics, LLC          |
| Horstmann John Dayton Power & Light Company (The)  Hsia Eric PJM Interconnection, LLC  Johnson Carl Customized Energy Solutions, Ltd.*  Keech Adam PJM Interconnection, LLC  Kilgallen Kevin Iberdrola  Lowe Benjamin Alevo   | Hitt        | Carrie      | NextEra                            |
| Hsia Eric PJM Interconnection, LLC  Johnson Carl Customized Energy Solutions, Ltd.*  Keech Adam PJM Interconnection, LLC  Kilgallen Kevin Iberdrola  Lowe Benjamin Alevo  | Hoffman     | Jeff        | PJM Interconnection, LLC           |
| Johnson Carl Customized Energy Solutions, Ltd.*  Keech Adam PJM Interconnection, LLC  Kilgallen Kevin Iberdrola  Lowe Benjamin Alevo  | Horstmann   | John        | Dayton Power & Light Company (The) |
| Keech Adam PJM Interconnection, LLC  Kilgallen Kevin Iberdrola  Lowe Benjamin Alevo   | Hsia        | Eric        | PJM Interconnection, LLC           |
| Kilgallen Kevin Iberdrola  Lowe Benjamin Alevo  | Johnson     | Carl        | Customized Energy Solutions, Ltd.* |
| Lowe Benjamin Alevo   | Keech       | Adam        | PJM Interconnection, LLC           |
| ·   | Kilgallen   | Kevin       | Iberdrola                          |
| Morelli Lisa PJM Interconnection, LLC   | Lowe        | Benjamin    | Alevo                              |
| 1   | Morelli     | Lisa        | PJM Interconnection, LLC           |

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| Olaleye     | Michael  | PJM Interconnection, LLC               |
| Pilong      | Chris    | PJM Interconnection, LLC               |
| Pratzon     | Dave     | GT Power Group                         |
| Rutigliano  | Tom      | ESA                                    |
| Scarpignato | David    | Calpine Energy Services, L.P.          |
| Scornavacca | Kristian | NextEra Energy Power Marketing,<br>LLC |
| Shparber    | Steve    | PJM Interconnection, LLC               |
| Smith       | Melissa  | PJM Interconnection, LLC               |
| Stewart     | Travis   | Gabel Associates                       |
| Vaudreuil   | Greg     | Mosaic Power                           |
| Volinsky    | Sheila   | PJM Interconnection, LLC               |

# WebEx/Teleconference Attendees

| Last Name | First Name | Company                            |
|-----------|------------|------------------------------------|
| Ainspan   | Malcolm    | NRG                                |
| Akiyama   | Tetsuya    | Toshiba                            |
| Benetti   | Alex       | AES                                |
| Benchek   | Jim        | FirstEnergy Solutions Corp.        |
| Berlinski | Mike       | Customized Energy Solutions, Ltd.* |
| Bolan     | Martin     | FirstEnergy Solutions Corp.        |
| Bonner    | Charles    | Dominion                           |
| Burwen    | Jason      | Energy Storage Association         |
| Carmean   | Gregory    | OPSI                               |
| Cawley    | Troy       | PJM Interconnection, LLC           |
| Copeland  | Doug       | EDF Renewable Energy               |
| Coyle     | Billy      | Dominion Virginia Power            |

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| Diess       | Eva         | Mobility House                         |
| Dugan       | Chuck       | EKPC                                   |
| Elliot      | Sarah       | IGS Energy                             |
| Emnett      | Mason       | NextEra Energy Power Marketing,<br>LLC |
| Endicott    | Brendan     | NEC Energy Solutions                   |
| Fernandes   | John        | RES                                    |
| Filomena    | Guy         | Customized Energy Solutions, Ltd.*     |
| Finn-Foley  | Dan         | GTM Research                           |
| Fitch       | Neil        | NRG                                    |
| Frankowska  | Agata       | Eon                                    |
| Gallagher   | William     | A.F. Mensah                            |
| Garnett     | Bryan       | Duke Energy                            |
| Gates       | Jeff        | Alevo                                  |
| Gebolys     | Debbie      | PUCO Ohio                              |
| Gilani      | Rehan       | ConEd                                  |
| Guo         | JJ          | AEP                                    |
| Hamilton    | Brian       | Infinite Consulting                    |
| Hebert      | Christopher | Beacon Power, LLC                      |
| Hoatson     | Tom         | LS Power                               |
| Jia         | Wufan       | Mobility House                         |
| Kumaraswamy | Kiran       | AES                                    |
| Langbein    | Pete        | PJM Interconnection, LLC               |
| Libbos      | Robin       | First Energy Corp.                     |
| Lowe        | Connie      | Dominion Virginia Power                |
| Mabry       | Dave        | McNees Wallace & Nurick LLC            |
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|               |        | Company, LLC                      |
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| Scoglietti Ba | arbara | Tangent Energy Solutions, Inc.    |
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| Thompson Bil  | l l    | AEP                               |
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| Thrum      | Marc      | Intelgen       |
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| Wang       | Ting Ting | AEP            |
| Wheeler    | John      | Fermata Energy |
| Whitehead  | Jeff      | Direct Energy  |
| Wilmoth    | Emily     | Dominion       |
| Xenopoulos | Damon     | SMXB Law       |

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