

Market Implementation Committee Special Session: Quadrennial Review

Webex

February 11, 2022

9:00 a.m. – 12:00 p.m. EPT

[Issues Tracking Page](#)

Administration (9:00-9:05)

1. Rebecca Carroll, PJM, provided a welcome and announcements.

Rebecca explained that to allow Brattle to present all analyses for Gross & Net Cone, VRR Curve and E&AS Offset at the same time, the decision was made to shorten today's Quadrennial Review Meeting. An additional meeting on March 25, 2022 has been scheduled at which Brattle will present, for the final time, all of their analyses prior to their report publication. In addition, the May 4, 2022 meeting has been cancelled and PJM will present their position at the May MIC. Based on stakeholder feedback, PJM will also look for additional meeting time in June and July.

Nikki Militello, PJM reviewed the Antitrust, Code of Conduct, and Public Meetings/ Media Participation Guidelines. **The committee approved the draft minutes from December 8, 2021 Special Session.**

Education (9:05-11:55)

2. Joe Bowring, Monitoring Analytics, provided comments on the reference technology options, gross CONE values, net CONE values, detailed assumptions for all calculations and a broader conversation of quadrennial review issues related to net CONE. (9:05 – 10:00)
3. David Cherney and Mark Repsher, PA Consulting, provided comments on the E&AS offset and VRR curve methodologies. (10:00 – 10:55)
4. Tanya Bodell, Energyzt, provided comments on the reference technology and VRR curve.(10:55 – 11:50)

Future Agenda Items (11:50-12:00)

CC/CT & Battery CONE Reports
E & AS Offset Report
VRR Curve Reports

Action Items

1. PJM to review stakeholder calendar and potentially add additional special session in the summer months
2. Monitoring Analytics to share more granular VOM used in analysis
3. Monitoring Analytics to provide Installed cost/KW (inclusive of IDC)
4. Monitoring Analytics to provide updated slide deck after Brattle presentation
5. PA Consulting to provide date on which material they reviewed to feed comments in presentation

- a. The source of underlying PJM data used in PA Consulting's analysis (slide 4 & 5) is posted in 2022/23 BRA page. Please refer to this link: <https://www.pjm.com/-/media/markets-ops/rpm/rpm-auction-info/2022-2023/2022-2023-supporting-files-for-new-forward-looking-net-eas-offset-methodology.ashx>
- 6. PA Consulting to provide links to ERCOT Reports
- 7. P3/Energyzt to confirm if slide 4 is estimated UCAP or ICAP

| Future Meeting Dates and Materials | | | Materials Due to Secretary  | Materials Published |
|------------------------------------|-------------------|----------|--|---------------------|
| Date | Time | Location | | |
| March 25, 2022 | 9:00 am – 2:00 pm | TBD | March 17, 2022 | March 22, 2022 |
| June 1, 2022 | 1:00 pm – 4:00 pm | TBD | May 23, 2022 | May 26, 2022 |
| June 10, 2022 | 1:00 pm – 4:00 pm | TBD | June 3, 2022 | June 8, 2022 |

Author: Nikki Miliello

Antitrust:

You may not discuss any topics that violate, or that might appear to violate, the antitrust laws including but not limited to agreements between or among competitors regarding prices, bid and offer practices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that might unreasonably restrain competition. If any of these items are discussed the chair will re-direct the conversation. If the conversation still persists, parties will be asked to leave the meeting or the meeting will be adjourned.

Code of Conduct:


As a mandatory condition of attendance at today's meeting, attendees agree to adhere to the PJM Code of Conduct as detailed in PJM Manual M-34 section 4.5, including, but not limited to, participants' responsibilities and rules regarding the dissemination of meeting discussion and materials.

Public Meetings/Media Participation:

Unless otherwise noted, PJM stakeholder meetings are open to the public and to members of the media. Members of the media are asked to announce their attendance at all PJM stakeholder meetings at the beginning of the meeting or at the point they join a meeting already in progress. Members of the Media are reminded that speakers at PJM meetings cannot be quoted without explicit permission from the speaker. PJM Members are reminded that "detailed transcriptional meeting notes" and white board notes from "brainstorming sessions" shall not be disseminated. Stakeholders are also not allowed to create audio, video or online recordings of PJM meetings. PJM may create audio, video or online recordings of stakeholder meetings for internal and training purposes, and your participation at such meetings indicates your consent to the same.

Participant Identification in Webex:

When logging into the Webex desktop client, please enter your real first and last name as well as a valid email address. Be sure to select the "call me" option. PJM support staff continuously monitors Webex connections during stakeholder meetings. Anonymous users or those using false usernames or emails will be dropped from the teleconference.

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| <p>On the Phone, Dial</p>  <p>to Mute/Unmute</p> | <p>Linking Teleconference Connection to Webex</p> <p>When logging in to the meeting, access Webex first and select the "call me" feature to receive a direct call to your phone. Using this feature will connect your name to your Webex presence.</p> |
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| <p>Join a Meeting</p> | <ol style="list-style-type: none"> 1. Join meeting in the Webex desktop client 2. Enter name (<i>First and Last*</i>) and corporate email 3. Under "Select Audio Option" select "Call Me" option from the dropdown menu |
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**Note: Anonymous users or those using false usernames or emails will be dropped from the teleconference.*

Attendance

| Last Name | First Name | Company | Sector |
|--------------|------------|--------------------------------------|--------|
| Abdur-Rahman | Muhsin | Vistra Corporation | N/A |
| Anders | David | PJM Interconnection | N/A |
| Barker | Jason | Constellation Energy Generation, LLC | GO |
| Bastian | Jeff | PJM Interconnection | N/A |
| Beban | Madalyn | PJM Interconnection | N/A |
| Benckek | Jim | American Transmission Systems, Inc. | TO |
| Bernabeu | Emanuel | PJM Interconnection | N/A |

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|-------------|----------|--|-----|
| Bodell | Tanya | EnergyZT | N/A |
| Bowring | Joe | Monitoring Analytics | N/A |
| Bresler | Stu | PJM Interconnection | N/A |
| Brodbeck | John | EDP Renewables | GO |
| Bruno | Patrick | PJM Interconnection | N/A |
| Bryson | Michael | PJM Interconnection | N/A |
| Canter | David | Appalachian Power Company (AEP Generation) | TO |
| Carless | Travis | The Brattle Group | N/A |
| Carmean | Gregory | OPSI | N/A |
| Carroll | Rebecca | PJM Interconnection | N/A |
| Chang | Sean | Shell Energy North America | OS |
| Chen | Hong | PJM Interconnection | N/A |
| Cherney | David | PA Consulting | N/A |
| Chintapalli | Raj | BP Energy Company | OS |
| Christopher | Mahila | Public Utilities Commission of Ohio | |
| Colaresi | Chandra | CPower Corp. | NA |
| Corash | Rich | PSEG Energy Resources & Trade LLC | OS |
| Dailey | Mike | Northern Virginia Electric Cooperative | ED |
| D'Antonio | Phil | PJM Interconnection | N/A |
| Davis | Jim | Dominion Energy Generation Marketing, Inc. | GO |
| DeLosa | Joe | NJ Board of Public Utilities | N/A |
| Dillon | Matt | UGI Energy Services, LLC | OS |
| Dolan | James | PJM Interconnection | N/A |
| Dorko | Keri | Monitoring Analytics | N/A |
| Downs | Jere | PJM Interconnection | N/A |
| Drom | Rick | Affirmed Energy LLC | OS |
| Dugan | Chuck | East Kentucky Power Cooperative, Inc. | TO |
| Fabiano | Janell | PJM Interconnection | N/A |
| Fan | Zhenyu | PJM Interconnection | N/A |
| Farhat | Michelle | PJM Interconnection | N/A |
| Fee | George | Appalachian Power Company | TO |
| Filomena | Guy | Customized Energy Solutions | N/A |
| Fink | Sari | American Wind Energy Association | N/A |
| Fitch | Neal | NRG Power Marketing, LLC | GO |
| Fitzpatrick | Brian | PJM Interconnection | N/A |

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| Foladare | Ken | Geenex Solar LLC | OS |
| Ford | Adrien | ODEC | ED |
| Fuess | Christian | White Pine Energy Consulting | N/A |
| Gates | Terry | Appalachian Power Company | TO |
| Gautam | Suman | PA Consulting | NA |
| Good | Megan | Pennsylvania Public Utility Commission | |
| Graf | Walter | PJM Interconnection | N/A |
| Graham | Sophie | Adapt2 Solutions | N/A |
| Guntle | Vince | American PowerNet Management, L.P. | EUC |
| Hagerty | Mike | The Brattle Group | N/A |
| Hanser | Erik | Michigan Public Service Commission | N/A |
| Hauske | Tom | PJM Interconnection | N/A |
| Heinle | Frederick | Office of the Peoples Counsel for DC | EUC |
| Helm | Gary | PJM Interconnection | N/A |
| Herel | Suzanne | PJM Interconnection | N/A |
| Hoatson | Thomas | West Deptford Energy, LLC | GO |
| Hohenshilt | Jennifer | Talen Energy Marketing, LLC | GO |
| Horning | Lynn | Customized Energy Solutions | N/A |
| Horstmann | John | Dayton Power & Light Company (The) | TO |
| Hull | Gerit | American Municipal Power | ED |
| Hyzinski | Tom | GT Power Group | N/A |
| Iler | Art | Indiana Office of Utility Consumer Counselor | EUC |
| Janicki | Diane | Boston Energy Trading and Marketing LLC | OS |
| Jardot | Gina | NRG Curtailment Solutions, Inc. | OS |
| Johnson | Carl | Customized Energy Solutions | N/A |
| Johnston | Dave | Indiana Utility Regulatory Commission | N/A |
| Josyula | Siva | Monitoring Analytics | N/A |
| Kalaskar | Rahul | AES Ohio Generation, LLC | GO |
| Kayne | Samuel | DE PSC | N/A |
| Keech | Adam | PJM Interconnection | N/A |
| Keegan | Jack | PJM Interconnection | N/A |
| Kelly | Stephen | Brookfield Renewable Trading and Marketing LP | OS |
| Kent | Janessa | Duquesne Light Company | TO |
| Knotts | Pam | DE PSC | N/A |
| Kogut | George | NYPA | OS |

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| Ladin | Sarah | | N/A |
| Lai | Erin | PJM Interconnection | N/A |
| LaRocque | Matt | PJM Interconnection | N/A |
| Levitt | Andrew | PJM Interconnection | N/A |
| Lu | Chen | PJM Interconnection | N/A |
| Mabry | David | McNees Wallace & Nurick LLC | N/A |
| Markiewicz | Cindy | American Transmission Systems, Inc. | TO |
| Marzewski | Skyler | PJM Interconnection | N/A |
| Mascarenhas | Sandeep | Brookfield Renewable Energy Marketing US LLC | OS |
| Matheson | Eric | N/A | N/A |
| McClelland | Maura | Public Utilities Commission of Ohio | N/A |
| McNeil | Justin | Office of the Attorney General - Kentucky | EUC |
| Midgley | Sharon | Exelon Business Services Company, LLC | TO |
| Militello | Nikki | PJM Interconnection | N/A |
| Mooney | Jeff | American Transmission Systems, Inc. | TO |
| Moye | Bob | Tyr Energy, LLC | OS |
| Newell | Sam | The Brattle Group | N/A |
| Nix | Emma | Jersey Green Energy, LLC | OS |
| Okenfuss | James | Savion, LLC | N/A |
| Ondayko | Brock | AEP Energy Partners, Inc. | TO |
| Pakela | Gregory | DTE Energy Trading, Inc. | OS |
| Pasteris | Ray | Monitoring Analytics | N/A |
| Patel | Anjali | Office of the People's Counsel for DC | EUC |
| Peacey | Denelle | TransAlta Energy Marketing (U.S.) Inc. | OS |
| Perera | Asanga | PJM Interconnection | N/A |
| Piehler | John | American Efficient, Inc. | N/A |
| Pilong | Melissa | PJM Interconnection | N/A |
| Poulos | Greg | OPSI | N/A |
| Proconiar | Jason | Buckeye Power, Inc. | ED |
| Pungaliya | Rajat | Pine Gate Mid-Atlantic, LLC | OS |
| Repsher | Mark | PA Consulting | N/A |
| Roberts | Casey | Sierra Club | N/A |
| Robinson | Becky | Dynegy Marketing and Trade, LLC | GO |
| Rodriguez | Tomas | OPSI | N/A |
| Rogers | Aaron | East Kentucky Power Cooperative, Inc. | TO |

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| Rohrbach | John | Wabash Valley Power Association, Inc. | ED |
| Salaneck | Alexandra | Monitoring Analytics | N/A |
| Sasser | Jonathan | Customized Energy Solutions | N/A |
| Scarpignato | David | Calpine Energy Services, L.P. | GO |
| Schmitt | David | NJ Board of Public Utilities | N/A |
| Schreim | Morris | MD PSC | N/A |
| Schuyler | Ken | PJM Interconnection | N/A |
| Sotkiewicz | Paul | E-Cubed Policy Associates | N/A |
| Spees | Kathleen | The Brattle Group | N/A |
| Spencer | Mark | LS Power | N/A |
| Squibb | Bill | Ohio Valley Electric Corporation | TO |
| Stern | Alexander | Public Service Electric & Gas Company | TO |
| Stines | Zachary | Borrego Solar Systems, Inc. | OS |
| Sussler | Philip | Maryland Public Service Commission | N/A |
| Svenson | Heather | Public Service Electric & Gas Company | TO |
| Sweeney | Rory | GT Power Group, LLC | N/A |
| Tacka | Natalie | PJM Interconnection | N/A |
| Thomas | Glen | GT Power Group | NA |
| Thompson | Andrew | The Brattle Group | N/A |
| Walcavich | Colin | National Grid Renewables, LLC | N/A |
| Whitehead | Jeffrey | GT Power Group | N/A |
| Willey | Amy | DE PSC | N/A |
| Wilson | James | Wilson Energy Economics | N/A |
| Wisersky | Megan | Madison Gas & Electric Co. | N/A |
| Yoder | Michael | RTO Insider | N/A |

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 Visit learn.pjm.com, an easy-to-understand resource about the power industry and PJM's role.