

FirstEnergy's Perspective on PJM's Wholesale Electricity Markets: 2022

Q2 2022 ISSUES

This report will be updated on a quarterly basis (December 1, March 1, June 1, and September 1). The purpose of this report is to provide an overview of key FERC and PJM initiatives active in each quarter.

Executive Summary

PJM and its stakeholders continue to discuss broad, holistic reforms in PJM's capacity, energy, and ancillary services markets. These conversations will continue at FERC, as the Commission has stated that markets may require reforms in light of the changing resource mix and load profiles. More operational flexibility may be needed from resources to reliably serve loads as the resource mix evolves to include more weather dependent variable energy resources and load requirements change due to weather-dependent distributed energy resources, electrification, and other factors. Based on the record from 2021 resource adequacy and energy and ancillary services technical conferences, FERC has requested all RTOs to file reports on necessary market reforms (see below for details).

Capacity Market Issues

PJM Capacity Reforms: The Resource Adequacy Senior Task Force ("RASTF") was formed in Q4 2021 and tasked with Phase II Capacity Market reforms. The RASTF's Issue Charge encompasses potential Capacity Market reforms that were identified in the Capacity Market Workshops held in early 2021. Targeting holistic capacity market reform, the scope includes Performance Assessments; Capacity Resource Qualification and Accreditation; Procurement Process, Timeframes, and Levels; Capacity Resource Obligations; Supply-Side Market Power Mitigation Rules; Fixed Resource Requirement Rules; and Procurement of Clean Resource Attributes and Inclusion of the Social Cost of Carbon in Markets. Work is scheduled to continue through the end of 2023.

Quadrennial Review: PJM's Tariff requires PJM to review the shape of the Variable Resource Requirement ("VRR") Curve, the calculation of the Cost of New Entry ("CONE") used in the VRR Curve, and the methodology for determining the Net Energy & Ancillary Services ("E&AS") revenue offset used to calculate Net CONE every four years. PJM presented its proposal to stakeholders at the May 11, 2022 Markets Implementation Committee meeting. Recommendations were largely in alignment with Brattle's recommendations, including moving from a Combustion Turbine ("CT") to a Combined Cycle ("CC") for the reference resource, switching to a forward-looking Energy and Ancillary Services offset, and moving to a steeper curve. Members will have the opportunity to vote on proposals no later than August 31, 2022, and PJM will submit its FERC filing by October 1, 2022. Any updates to the VRR Curve parameters will apply for planning years 2026/2027 through 2029/2030.

Energy Market Issues

Energy Price Formation: On December 22, 2021, FERC partially reversed its May 2020 decision on

PJM's proposed energy price formation revisions, requiring tariff and Operating Agreement revisions within 60 days. In a 3-1 vote, the Commission reaffirmed its previous decision directing PJM to consolidate its tier 1 and tier 2 reserve products, but it said it erred in its approval of changes to the shape of the RTO's operating reserve demand curve (ORDC). FERC ordered PJM to maintain its currently effective reserve penalty factors of \$850/MWh for the synchronized reserve requirement and primary reserve requirement and \$300/MWh for the extended requirements. FERC also reversed its decision on PJM's forward-looking energy and ancillary services ("E&AS") offset, a key variable in calculating the net cost of new entry ("CONE") for resources in capacity auctions. PJM submitted compliance filings to adjust the E&AS offset on May 20, 2022.

[Fuel Cost Policy](#): On April 6, 2022, PJM submitted Operating Agreement revisions to: (1) add an explicit requirement that Fuel Cost Policies must be verifiable and systematic to PJM's fuel cost policy requirements; and (2) clarify that incorrect cost-based offers caused by the same underlying error will be treated as a single penalty inclusive of all hours associated with the error. PJM requested an effective date of June 7, 2022.

Ancillary Services Market Issues

[Intelligent Reserve Deployment](#): On March 4, 2022, PJM submitted revisions to the PJM Tariff and Operating Agreement to effectuate the PJM Intelligent Reserve Deployment (IRD) package coming out of the Synchronous Reserve Deployment Task Force. An IRD is a security-constrained economic dispatch case simulating the loss of the largest generation contingency on the system, and approval of that case will trigger a spin event. The proposal included taking the megawatts of the largest generator contingency and adding them to the RTO forecast to simulate the unit loss. PJM can then flip condensers and other inflexible synchronized resources cleared for reserves to energy megawatts and procure additional reserves to meet the next largest contingency. PJM requested the revisions to become effective as of June 1, 2022.

Emerging Technologies

[PJM's Order 2222 Compliance Filing](#): On February 1, 2022, PJM submitted its compliance filing in response to FERC Order 2222, requesting an effective date of February 2, 2026. A few highlights from PJM's compliance filing include the following: the PJM tariff establishes DER Aggregators as Market Participants and a DER Aggregation Participation Model for wholesale market participation, allowing for both homogeneous and heterogeneous aggregations; state processes and interconnection jurisdiction is preserved; PJM proposes a nodal model for energy market participation and simultaneously a multi-nodal model for capacity and ancillary services-only DER Aggregation Resources; telemetry shall be required for each DER Aggregation Resource, but not at the individual Component DER level; DER Aggregators must provide all individual Component DER meter data necessary to facilitate the settlement of the DER Aggregation Resource; state implementation process will occur at State/Local levels. Comments on PJM's compliance filing were filed on April 1, 2022. On May 18, 2022, FERC issued a request for additional data from PJM on a variety of topics related to their compliance filing, including double counting, the role of the EDC and the role of the RERRA. PJM requested an extension to the June 17 deadline to respond.

[Hybrid Resources](#): On March 22, 2022, PJM submitted revisions to the Tariff and Operating Agreement to clarify rules for participation of PJM's Hybrid Resources. This proposal seeks to eliminate barriers to the participation of these non-traditional resource types and provides a mechanism through which these new technology types can provide energy, ancillary services, and capacity in the PJM marketplace in a competitive and efficient way. PJM requested that an effective date of June 1, 2022

for most aspects of the filing and December 31, 9998 for the energy and ancillary services market provisions. PJM will make an informational filing at least 30 days before the effective date indicating the software changes have been completed and tested so a final effective date can be set, correcting the December 31, 9998 placeholder.

Other

[RTO reports on market reforms](#): In response to a series of energy and ancillary services technical conferences and the resource adequacy technical conference, FERC issued a request on April 21, 2022 for RTOs to file reports on needed market reforms. Reports are due within 180 days and are to include (1) current RTO/ISO system needs given changing resource mixes and load profiles; (2) how each RTO/ISO expects its system needs to change over the next five years and over the next 10 years; (3) whether and how each RTO/ISO plans to reform its energy and ancillary services (E&AS) markets to meet expected system needs over the next five years and over the next 10 years; and (4) information about any other reforms, including capacity market reforms and any other resource adequacy reforms that would help each RTO/ISO meet changes in system needs.

[Hill Energy Default](#): Hill Energy Resource and Services defaulted on a \$921,000 margin call in the Financial Transmission Rights market on January 11, 2022. PJM worked with stakeholders to determine a course of action that will produce the least financial impact on market participants. The total costs to resolve the Hill portfolio, including liquidation, positions that went to settlement, costs from prior sales, and expected administration fees was \$1.17M. PJM held \$6.1M in collateral to cover the loss, resulting in an excess remaining credit of nearly \$5M.

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Summary: Report Quarterly Update Report Pursuant to Section V.C.2. of the Third Supplemental Stipulation and Recommendation electronically filed by Ms. Kristen M. Fling on behalf of Ohio Edison Company and The Cleveland Electric Illuminating Company and The Toledo Edison Company