

Reserve Price Formation Order on Voluntary Remand (Docket Nos. EL19-58; ER19-1486)

Thomas DeVita
Assistant General Counsel
Office of the General Counsel
Market Implementation Committee
January 12, 2022

PJM Reserve Market Filing

- Consolidate Tier 1 & Tier 2 into “Synchronized Reserve” Product
- Increase Penalty Factors from \$850 to \$2,000
- Sloped ORDC
- Align reserve procurement in DA/RT



- Affirmed prior findings that PJM met its FPA 206 burden regarding:
 - Bifurcation of Tier 1/Tier 2 Synchronized Reserve products;
 - Misalignment of the day-ahead and real-time reserve markets;
 - Provisions regarding resources' reserve capability and offer rules.
- Reversed prior findings that PJM met its FPA 206 burden regarding:
 - Current reserve penalty factors;
 - Current two-step ORDC;
 - Backward-looking E&AS Offset.
- Denied request to extend effective date from May 1, 2022 to October 1, 2022.

Due February 21, 2022 (60 days) –

- PJM must revise its Tariff/OA eTariff records to reflect the currently-effective reserve penalty factors and ORDCs, and restore provisions related to the prior backward-looking E&AS Offset.
 - Prior BRAs using forward-looking E&AS Offset will not be re-run.

Due January 21, 2022 (30 days) –

- PJM must propose a new schedule for the BRA for the 2023/2024 delivery year and subsequent BRAs.

SME/Presenter:

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**Reserve Price Formation
Order on Voluntary Remand
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Member Hotline

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Compliance of FERC ORDC Remand Order Capacity Auction Schedule Changes

Pete Langbein

Capacity Market & Demand Response Operations

Market Implementation Committee

January 12, 2022

- 30 Day compliance filing (1/21/22) - update capacity auction schedule
 - Key Impacts of change to Historic EAS offset from Forward EAS offset
 - netCONE for reference resource used for VRR curve
 - MSOC – default and unit specific
 - MPOR – default and unit specific
- 60 Day compliance filing (2/20/22) – Consolidation of the Tier 1 and Tier 2 synchronized reserve products; historic EAS offset, Alignment of the reserve products cleared in the day-ahead and real-time markets and Enhanced Operating Reserve Demand Curves (ORDCs)

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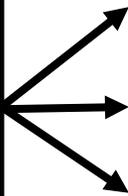
Focus for
update
today

- Allow updates for activities impacted by EAS change
 - Maintain current 120 day timeframe for MSOC unit specific review process
 - Expect to allow Sellers to maintain previously submitted/approved Gross ACRs
 - VRR curve
 - MOPR process
- Auction delay from above will result in an update to CETO/CETL and load forecast which impacts:
 - reliability requirement, FRR commitment & plan, and the elimination of 1 additional EE installation period
- Pre-auction activities not impacted will maintain existing information
- Continue to return to normal auction schedule for 27/28 BRA
- Leverage existing IA cancellation criteria

PJM plans to conduct the 22/23 3rd IA based on the current schedule and forward EAS offset (netCONE used to develop updated VRR curve for IA is same as the BRA)

Delivery Year	Current BRA Schedule	Draft Revised BRA Schedule	IAs Cancelled
2023/24	Jan 2022	Jun 2022	1 st and 2 nd
2024/25	Aug 2022	Dec 2022	1 st and 2 nd
2025/26	Feb 2023	June 2023	1 st and 2 nd
2026/27	Aug 2023	Nov 2023	1 st
2027/28 (back on schedule)	May 2024	May 2024	

Pre-Auction activity deadlines consistent with prior filing



Time between BRAs reduced by ~20 days (~195 days to ~175 days) and cancelled some additional IAs



Pre-Auction Activity Schedule

Activity Type	Activity	Current Date	Responsible	Draft Revised Dates
MOPR	Last day for a Capacity Market Seller to certify if subject to State Conditioned Support and/or Buyer Side Market Power	10/13/21, Wed	GEN	2/1/22, Tue
MOPR	PJM posts preliminary MOPR screen prices	7/4/21, Sun	PJM	2/3/22, Thu
MOPR	PJM/IMM notifies Capacity Market Seller of bases for inquiry and initiation of fact specific review	10/28/21, Thu	GEN	2/4/22, Fri
Must Offer	Last day for Capacity Market Sellers to request must-offer exception for the reason specified under OATT Attachment M-Appendix § II.C.4.A	7/19/21, Mon	GEN	2/8/22, Tue
MOPR	Last day for Capacity Market Seller resource-specific MOPR exception request	8/3/21, Tue	GEN/DR/EE	2/8/22, Tue
Must Offer	Last day for Capacity Market Sellers to request must-offer exception for the reason specified under OATT Attachment M-Appendix § II.C.4.A	10/1/21, Fri	GEN	2/8/22, Tue
Sell Offer Caps	Last day for Capacity Market Sellers to submit sell offer cap data	10/1/21, Fri	GEN	2/8/22, Tue
Planning Parameters	Post Planning Parameters	8/23/21, Mon	PJM	2/28/22, Mon
MOPR	IMM provides participant with determination on resource-specific MOPR exception request	9/2/21, Thu	IMM	3/10/22, Thu
Sell Offer Caps	IMM provides participant with determination of offer cap	10/31/21, Sun	IMM	3/10/22, Thu
Must Offer	IMM provides participant with determination on must offer exception	10/31/21, Sun	IMM	3/10/22, Thu
Sell Offer Caps	Last day for Capacity Market Sellers to notify PJM/IMM of agreement with IMM determination of offer cap	11/5/21, Fri	GEN	3/20/22, Sun
Must Offer	Last day for Capacity Market Sellers to notify PJM/IMM of agreement with IMM determination on must offer exception	11/5/21, Fri	GEN	3/20/22, Sun



Pre-Auction Activity Schedule (continued)

Activity Type	Activity	Current Date	Responsible	Draft Revised Dates
MOPR	PJM notifies participant/IMM with determination on resource-specific MOPR exception request	9/27/21, Mon	PJM	4/4/22, Mon
Sell Offer Caps	PJM notifies participant/IMM of determination on proposed offer cap	11/25/21, Thu	PJM	4/4/22, Mon
Must Offer	PJM notifies participant/IMM of its determination on must offer exception for the reason specified under OATT Attachment M-Appendix § II.C.4.A	11/25/21, Thu	PJM	4/4/22, Mon
Must Offer	Last day for Capacity Market Sellers to notify PJM/IMM whether it intends to exclude from its Sell Offer some or all capacity from its generation resource on the basis of an identified exception to the RPM Must Offer Obligation	11/25/21, Thu	GEN	4/4/22, Mon
MOPR	Participant provides commitment on MOPR price to be used	10/2/21, Sat	GEN	4/9/22, Sat
FRR	Last day for DR Plan Template and Officer Certification for FRR Capacity Plan	10/13/21, Wed	FRR	4/20/22, Wed
FRR	Last day for submission of FRR Capacity Plan due	11/1/21, Mon	FRR	5/9/22, Mon
Demand Resource	DR Setup Window opens	11/2/21, Tue	DR	5/10/22, Tue
Energy Efficiency	EE Setup Window Opens	11/15/21, Mon	EE	5/23/22, Mon
Demand Resource	DR Setup Window closes	1/21/22, Fri	DR	6/5/22, Sun
Energy Efficiency	EE Setup Window Closes	1/21/22, Fri	EE	6/5/22, Sun
Auction	Auction window opens	1/25/22, Tue	All	6/8/22, Wed
Auction	Auction window closes	1/31/22, Mon	All	6/14/22, Tue
Auction	Auction results posted	2/7/22, Mon	PJM	6/21/22, Tue

SME/Presenter:

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Compliance of FERC ORDC remand order Pricing Caps

- December 22, 2021 Order on Voluntary Remand did not reference anything about capping prices
 - Existing caps on maximum prices are administratively determined
 - The Synch Reserve Market Clearing Price is capped at $2 * \text{Penalty Factor}$ (\$1,700)
 - The Primary Reserve Market Clearing Price is capped at the Penalty Factor (\$850)
 - PJM proposed to remove this price capping in the reserve pricing filing, and FERC initially accepted that change
 - The order on remand required maintaining the current ORDCs, but did not address price capping
- PJM intends to ask FERC for clarification on price capping before making compliance filing
 - Indicate in clarification request that PJM assumes removal of Pricing Caps unless told otherwise by FERC before making compliance filing



Price-Capping Options and Resulting Increases to Max Energy & Reserve Prices

The change in penalty factor applicable to the ORDCs will result in the following changes to the maximum energy and reserve clearing prices in the unlikely scenario of simultaneous shortage of all three reserve products in all locations.

Product	Current Caps (\$/MWh)	Previously Filed Maximum Clearing Price (\$/MWh) <i>(Reversed by FERC Order)</i>	Maximum Clearing Price if FERC allows Maximum Clearing using existing Penalty Factor	Maximum Clearing Price maintaining current caps, using existing penalty factor and adding 30-min	Maximum Clearing Price using existing Penalty Factor, adding 30-min, and recognizing increasing value of products
Secondary Reserves	N/A	\$2,000*	\$850*	\$850*	\$850*
Primary Reserves	\$850	\$6,000*	\$2,550*	\$850*	\$1700*
Synchronized Reserves	\$1,700	\$10,000*	\$4,250*	\$1,700*	\$2,550*
Energy (assumes the marginal energy resource is \$2,000)	\$3,750	\$12,000+*	\$6,300+*	\$3,750+*	\$4,600+*

* Assumes the sub-zone is not modeled for 30-Minute Reserve. In instances when the sub-zone is modeled, the max penalty factor on the 30-Minute Reserve Sub-Zone ORDC would also cascade through the above prices.

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