



2028/2029 RPM Base Residual Auction Planning Period Parameters

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Introduction

The updated planning parameters for the 2028/2029 RPM Base Residual Auction (BRA) that is to be conducted in July of 2026 were posted on the PJM RPM website on April 29th, 2026. Please note that the planning parameters include VRR curve data established by a price cap and price floor as approved by FERC in docket ER25-1357. This document describes the posted parameters and provides a comparison to the 2027/2028 BRA planning parameters.

Summary

- The forecast peak load for the PJM RTO for the 2028/2029 Delivery Year is 165,954 MW which is 1,375 MW, or 0.8%, above the forecast peak load of 164,579 MW for the 2027/2028 BRA.
- The PJM RTO Reliability Requirement for the 2028/2029 Delivery Year is 156,013 MW which is 3,613 MW, or 2.4%, higher than the 2027/2028 BRA value prior to adjustment for FRR obligations.
- The 2028/2029 Delivery Year is the first year for the application of the new Periodic/Quad Review.
 - Gross CONE values significantly increased based on the most recent cost information.
 - The VRR Curve equation has changed, impacting the prices used and point c of the VRR Curve.
- The MAAC, EMAAC, SWMAAC, PS, PS-NORTH, PEPCO, DPL-SOUTH, ATSI, ATSI-CLEVELAND, COMED, BGE, PPL, DAYTON, DEOK, DOM and JCPL LDAs will be modeled in the 2028/2029 BRA. These are the same LDAs that were modeled in the 2027/2028 BRA.
- The DOM and SWMAAC LDA CETL/CETO ratios, which represents the amount, under emergency conditions, that can be imported into the LDA divided by the amount needed to import is less than 1. This represents an inability to import enough capacity into the DOM and SWMAAC LDAs to satisfy projected reliability needs during certain emergency conditions.
- As approved by FERC in Docket ER26-1556, a price cap of \$325.00/MW-day (UCAP) and price floor of \$175.00/MW-day (UCAP) has been established for the 2028/2029 BRA.

PJM RTO Region Reliability Requirement

The PJM RTO forecast peak load, the PJM RTO Region Reliability Requirement and the parameters used to derive the requirement for the 2028/2029 BRA are shown and compared to the 2027/2028 BRA parameters in **Table 1**.

The forecast peak load for the PJM RTO for the 2028/2029 Delivery Year is 165,953.5 MW (with adjustments for load served outside PJM) which increased by 1,374.5 MW, or 0.8% compared to the forecast peak load of 164,579 MW for the 2027/2028 BRA. The forecast PJM system peak load is reported in Table B-10 of the 2026 PJM Load Forecast Tables¹. The PJM RTO Reliability Requirement for the 2028/2029 Delivery Year is 156,012.9 MW which increased by 3,612.9 MW, or 2.4% compared to the 2027/2028 BRA value prior to any adjustment for FRR obligations².

The Installed Reserve Margin (IRM) and Forecast Pool Requirement (FPR) represent the level of capacity reserves needed to satisfy the PJM reliability criterion of a Loss of Load Expectation not exceeding one occurrence in ten years. The IRM and FPR represent the same level of required reserves but are expressed in different terms of capacity value. The IRM expresses the required reserve level in terms of installed capacity MW (ICAP) as a percent of the forecast peak load, whereas the FPR expresses the required reserve level in terms of unforced capacity MW (UCAP) as a percent of the forecast peak load. Beginning with the 2025/2026 BRA, the FPR is equal to (1 + IRM) times the Pool Wide Accredited UCAP Factor. The PJM RTO Reliability Requirement expressed in terms of unforced capacity is used as the basis of the target reserve level to be procured in each RPM BRA and is equal to the forecast RTO peak load, multiplied by the FPR.

Table 1. Reserve Requirement Parameters for 2027/2028 and 2028/2029 BRAs

Reserve Requirement Parameters	2027/2028 BRA	2028/2029 BRA	Change in Value	Change in Percent
Installed Reserve Margin (IRM)	20.00%	20.00%	0.0%	0.0%
Reference Resource AUCAP Factor	77.00%	79.00%	2.0%	2.6%
Pool Wide Accredited UCAP Factor	77.20%	78.30%	1.1%	1.4%
Forecast Pool Requirement (FPR)	0.926	0.9401	0.0141	1.5%
Forecast Peak Load (MW)	164,579	165,954	1,375	0.8%
PJM RTO Reliability Requirement (UCAP MW)	152,400	156,013	3,613	2.4%
FRR Obligation (UCAP MW)*	11,299	10,864	-435	-3.9%
PJM RTO Reliability Requirement adjusted for FRR (UCAP MW)*	141,101	145,149	4,048	2.9%

¹ The 2026 RPM Forecast is located at <https://www.pjm.com/-/media/DotCom/planning/res-adeq/load-forecast/2026-load-report-tables.xlsx>

² The total UCAP Obligation of all Fixed Resource Requirement (FRR) Entities is subtracted from the PJM RTO Reliability Requirement, and any applicable LDA Reliability Requirement, when determining the target reserve levels to be procured in each RPM BRA.

Locational Deliverability Areas

Prior to each BRA, the Capacity Emergency Transfer Objective (CETO) and Capacity Emergency Transfer Limit (CETL) are calculated for each of twenty-seven potential Locational Deliverability Areas (LDAs) that are defined in Schedule 10.1 of the PJM Reliability Assurance Agreement³. Pursuant to Section 5.10 of Attachment DD of the PJM Open Access Transmission Tariff (OATT), for any Delivery Year, a separate Variable Resource Requirement (VRR) Curve is established for each LDA for which (1) the CETL is less than 1.15 times its CETO; (2) the LDA had a Locational Price Adder in any one or more of the three immediately preceding BRAs; and (3) the MAAC, EMAAC and SWMAAC LDAs are modeled in a BRA regardless of the outcome of the CETL/CETO test or prior BRA results. An LDA not otherwise qualifying under the above three tests may also be modeled if PJM finds that such LDA is determined to be likely to have a Locational Price Adder based on historic offer price levels or if such LDA is required to achieve an acceptable level of reliability consistent with the Reliability Principles and Standards.

Based on an application of the above criteria, a separate VRR Curve will be established for the 2028/2029 BRA for each of the LDAs listed in Table 2. The list includes the same LDAs that were modeled with a separate VRR Curve in the 2027/2028 BRA. Once an LDA is required to be modelled, it remains modelled in order to maintain an acceptable level of reliability consistent with the Reliability Principles and Standards. Establishing a separate VRR Curve for an LDA does not predestine the LDA to clear the BRA with a Locational Price Adder; an LDA will only clear at a higher clearing price if reliability constraints are reached when attempting to import capacity into the LDA in the auction clearing process.

A Reliability Requirement and a separate Variable Resource Requirement (VRR) Curve are established for each LDA that is modeled in the BRA and the LDA CETL acts as a maximum limit on the quantity of capacity that can be imported into the LDA. **Table 2** shows the Reliability Requirement and the CETL for each LDA being modeled in the 2028/2029 BRA. For comparison purposes, the LDA Reliability Requirement and CETL values used in the 2027/2028 BRA are also shown in **Table 2**.

Changes in LDA reliability requirement are primarily driven by changes in the forecast peak load of the LDA and changes in the availability of capacity resources located in the LDA. The reliability requirement of an LDA will decrease for a decrease in the forecasted peak load of the LDA or an increase in the availability of capacity resources located in the LDA. The reliability requirement of an LDA will increase for an increase in the forecasted peak load of the LDA or a decrease in the availability of capacity resources located in the LDA.

³ CETO and CETL values were calculated for each of the twenty-seven potential LDAs defined in Schedule 10.1 of the PJM RAA and these values are shown on the detailed planning parameters spreadsheet posted on the PJM RPM website.

Year-over-year changes in the CETL of an LDA are primarily driven by the addition or removal of transmission facilities, the magnitude and location of generation deactivations and generation additions, and changes in the load distribution profile within the LDA. LDA CETL values for the 2028/2029 BRA vary significantly in some cases from those of the 2027/2028 BRA in both the upward and downward direction but, in general, the magnitude of the changes for most regions lies within the year-to-year changes historically experienced with some exceptions. The nearly 60% decline in the COMED CETL is attributed to a combination of generator deactivations, increases in load and impacts to the system model from regions external to PJM. Decreases in the MAAC and SWMAAC LDAs, and in other eastern LDAs, are all primarily driven by delays to key transmission upgrades, the majority of which are in the DOM LDA. Increases in the JCPL and DEOK LDAs are results of a new baseline upgrade and topology changes, respectively.

Of those LDAs that had a Locational Price Adder in one or more of the last three BRAs, both BGE and DOM had slightly lower CETLs as compared to 2027/2028. The COMED LDA CETL had the largest overall percentage decrease compared to 2027/2028. The MAAC LDA CETL is 1,695 MW lower for the 2028/2029 BRA, a 56% decrease from the 2027/2028 BRA CETL.

Table 2. LDA Reliability Requirements and Capacity Import Limits for 2027/2028 and 2028/2029 BRAs

LDA	2027/2028 BRA		2028/2029 BRA		Delta			
	Reliability Requirement (UCAP MW)	CETL (MW)	Reliability Requirement (UCAP MW)	CETL (MW)	Reliability Requirement (UCAP MW)	CETL (MW)	Reliability Requirement (Percent)	CETL (Percent)
MAAC	54,568.8	3,013.0	54,479.4	1,318.0	-89.4	-1,695.0	0%	-56%
EMAAC	30,950.7	8,025.0	31,225.9	6,904.0	275.2	-1,121.0	1%	-14%
SWMAAC	13,494.8	7,319.0	13,327.0	5,862.0	-167.8	-1,457.0	-1%	-20%
PS	11,041.5	9,307.0	10,851.1	8,873.0	-190.4	-434.0	-2%	-5%
PS NORTH	5,508.3	4,623.0	5,230.7	4,656.0	-277.6	33.0	-5%	1%
DPL SOUTH	2,616.1	1,974.0	2,683.9	2,005.0	67.8	31.0	3%	2%
PEPCO	6,523.0	6,776.0	6,488.6	5,770.0	-34.4	-1,006.0	-1%	-15%
ATSI	12,210.8	9,919.0	12,544.3	11,803.0	333.5	1,884.0	3%	19%
ATSI-Cleveland	5,455.9	4,938.0	5,212.0	5,430.0	-243.9	492.0	-4%	10%
COMED	21,307.0	3,965.0	22,817.2	1,586.0	1,510.2	-2,379.0	7%	-60%
BGE	7,080.9	5,975.0	6,991.2	5,658.0	-89.7	-317.0	-1%	-5%
PL	10,697.5	6,181.0	10,155.0	5,312.0	-542.5	-869.0	-5%	-14%
DAYTON	3,724.7	4,665.0	3,792.1	4,432.0	67.4	-233.0	2%	-5%
DEOK	5,554.5	4,938.0	5,661.1	5,934.0	106.6	996.0	2%	20%
DOM	27507.3	6,441.0	30,015.5	5,992.0	2,508.2	-449.0	9%	-7%
JCPL	6,212.7	4,331.0	6,258.2	5,312.0	45.5	981.0	1%	23%

Variable Resource Requirement Curves

A Variable Resource Requirement (VRR) curve is established for the RTO and for each LDA modeled in the BRA. The VRR curve is a downward-sloping demand curve used in the clearing of the BRA that defines the price for a given level of capacity resource commitment relative to the applicable reliability requirement. Under normal procedures as established by the PJM Tariff, the VRR curves for the PJM Region and each LDA are based on a target level of capacity and the maximum of $(1.15 * \text{Gross CONE} \text{ minus } 75\% \text{ of the energy and ancillary services ("EAS") revenue offset and } 0.2 * \text{Gross CONE})$. For the 2026/2027, 2027/2028 and 2028/2029 BRAs, as approved by FERC in Docket ER26-1556, a price cap and price floor have been established to the normal VRR Curve. For the RTO and each LDA, the cap has been set at \$325.00/MW-day (UCAP) and the floor has been set at \$175.00/MW-day (UCAP) for the 2028/2029 BRA. For comparison, the cap and floor prices for the 2027/2028 BRA were \$333.44/MW-day (UCAP) and \$179.55/MW-day (UCAP) respectively. The differences result from the change in the Reference Resource UCAP factor from 77% to 79%.

Target Level of Capacity

In the development of the VRR curve, the target level of capacity to be procured for the PJM RTO Region is the PJM RTO Region Reliability Requirement, and the target level of capacity for each LDA is the LDA Reliability Requirement.

Gross and Net Cost of New Entry (CONE)

The Gross CONE (in UCAP terms) and the EAS revenue offset are used in the development of the RTO VRR Curve and the VRR Curve for each modeled LDA. **Table 3** shows the Gross CONE and EAS revenue offsets used to determine the VRR curves for the PJM RTO and each LDA to be modeled in the 2028/2029 BRA. For comparison purposes, the values (including Net CONE) used in the 2027/2028 BRA are also shown in **Table 3**. As previously noted, a cap and floor will be applied to the VRR Curve for the 2028/2029 BRA. The 2028/2029 BRA is the first year for the new Gross CONE values established in the Quad/Periodic Review (ER26-455), resulting in large differences between the 2027/2028 BRA gross CONE values.

The Net CONE for the RTO and each LDA is equal to the Gross CONE applicable to the RTO and each LDA minus the applicable EAS revenue offset. The Net CONE decreased only for the DOM LDA, a decline of 4.0%. Increases to Net CONE occurred in the RTO and the remaining thirteen modeled LDAs, ranging from 35.4% in ATSI to 92.6% in BGE. The large percentage increase in BGE was the result of a reduced EAS revenue offset and increase in Gross CONE. The Net EAS values for both the 2027/2028 and 2028/2029 Delivery Years were calculated using a forward method shaped on historic LMP data from calendar years 2023 through 2025.

Table 3. Net CONE for PJM RTO and LDAs for 2027/2028 and 2028/2029 BRAs

Location	2027/2028 BRA				2028/2029 BRA				Change in Net CONE	
	Gross CONE ICAP Terms (\$/MW-Year)	E&AS Offset ICAP Terms (\$/MW-Year)	Net CONE ICAP Terms (\$/MW-Year)	Net CONE UCAP Terms (\$/MW-Day)	Gross CONE ICAP Terms (\$/MW-Year)	E&AS Offset ICAP Terms (\$/MW-Year)	Net CONE ICAP Terms (\$/MW-Year)	Net CONE UCAP Terms (\$/MW-Day)	Net CONE UCAP Terms (\$/MW-Day)	Net CONE UCAP Terms (%)
RTO	\$149,309	\$80,962	\$68,347	\$242.52	\$223,800	\$129,887	\$93,913	\$325.69	\$83.17	34.3%
MAAC	\$143,959	\$58,990	\$84,969	\$301.50	\$218,183	\$83,546	\$134,637	\$422.07	\$120.57	40.0%
EMAAC	\$142,216	\$41,088	\$101,128	\$358.84	\$218,000	\$61,498	\$156,502	\$541.75	\$182.91	51.0%
SWMAAC	\$147,601	\$85,945	\$61,655	\$218.78	\$222,000	\$123,850	\$98,150	\$319.75	\$100.97	46.2%
PS, PS NORTH	\$142,216	\$27,958	\$114,258	\$405.43	\$218,000	\$45,756	\$172,244	\$597.34	\$191.91	47.3%
DPL SOUTH	\$142,216	\$68,207	\$74,009	\$262.61	\$218,000	\$96,389	\$121,611	\$421.75	\$159.14	60.6%
PEPCO	\$147,601	\$65,224	\$82,377	\$292.30	\$222,000	\$106,346	\$115,654	\$401.09	\$108.79	37.2%
ATSI, Cleveland	\$152,979	\$88,624	\$64,355	\$228.35	\$215,000	\$125,837	\$89,163	\$309.22	\$80.87	35.4%
COMED	\$158,731	\$51,900	\$106,831	\$379.08	\$248,000	\$81,658	\$166,342	\$576.88	\$197.80	52.2%
BGE	\$147,601	\$106,667	\$40,934	\$145.25	\$222,000	\$141,354	\$80,646	\$279.68	\$134.43	92.6%
PL	\$145,017	\$56,131	\$88,886	\$315.40	\$216,000	\$76,504	\$139,496	\$483.77	\$168.37	53.4%
DAYTON	\$152,979	\$98,356	\$54,623	\$193.82	\$215,000	\$135,284	\$79,716	\$276.46	\$82.64	42.6%
DEOK	\$152,979	\$91,138	\$61,841	\$219.44	\$215,000	\$128,491	\$86,509	\$300.01	\$80.57	36.7%
DOM	\$152,979	\$102,776	\$50,203	\$178.14	\$215,000	\$165,670	\$49,330	\$171.08	-\$7.06	-4.0%
JCPL	\$142,216	\$29,620	\$112,595	\$399.53	\$218,000	\$47,264	\$170,736	\$592.11	\$192.58	48.2%

Price Responsive Demand (PRD)

Price Responsive Demand is provided by a PJM Member that represents retail customers having the ability to automatically reduce consumption in response to changing wholesale prices. In the PJM Capacity Market, a PRD Provider may voluntarily make a firm commitment of the quantity of PRD that will reduce its consumption in response to real time energy price during a Delivery Year.

In order to commit PRD for a Delivery Year, a PRD Provider must submit a PRD Plan for such Delivery Year that demonstrates to PJM's satisfaction that the nominated amount of PRD will be available by the start of the Delivery Year and that the Plan satisfies all requirements as described in section 3A of PJM Manual 18: PJM Capacity Market. A PRD Provider that is committing PRD in a BRA must also submit a PRD election in the Capacity Exchange system which indicates the Nominal PRD Value in MWs that the PRD Provider is willing to commit at different reservation prices (\$/MW-day). The VRR curve of the RTO and each affected LDA is shifted leftward along the horizontal axis by the UCAP MW quantity of elected PRD where the leftward shift occurs only for the portion of the VRR Curve at or above the PRD Reservation price. Once committed in a BRA, a PRD commitment cannot be replaced; the commitment can only be satisfied through the registration of price responsive load in the DR Hub system prior to or during the Delivery Year.

For the 2028/2029 Delivery Year, zero Price Responsive Demand offers were submitted.