Periodic Review of Default Gross CONE and Gross ACR Values

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March 8, 2023

Application of Default CONE and ACR

Minimum Offer Price Rule (MOPR) – Attachment DD § 5.14 (h-2)

- New resources can elect a default Net Cost of New Entry (CONE) by using the default Gross CONE and subtracting the default Energy and Ancillary Service (E&AS) revenue.
- Existing resources can elect a default Net Avoidable Cost Rate (ACR) by using the default Gross ACR and subtracting the unit-specific E&AS revenue.

Market Seller Offer Cap (MSOC) – Attachment DD § 6.4

- Existing resources calculate a Net ACR by using the default Gross ACR and subtracting the unit-specific E&AS revenue.

Unit-specific request is an option to calculate MOPR or MSOC.

PJM Periodic Review of MOPR and MSOC Values

Beginning with the 2022/2023 Delivery Year, every four delivery years, PJM will update default Gross CONE and default Gross ACR values for MOPR purposes.

OATT Attachment DD § 5.14

Updated default Gross ACR values will also be used for MSOC purposes.

Updated Gross CONE and Gross ACR for the 2026/2027 Delivery Year

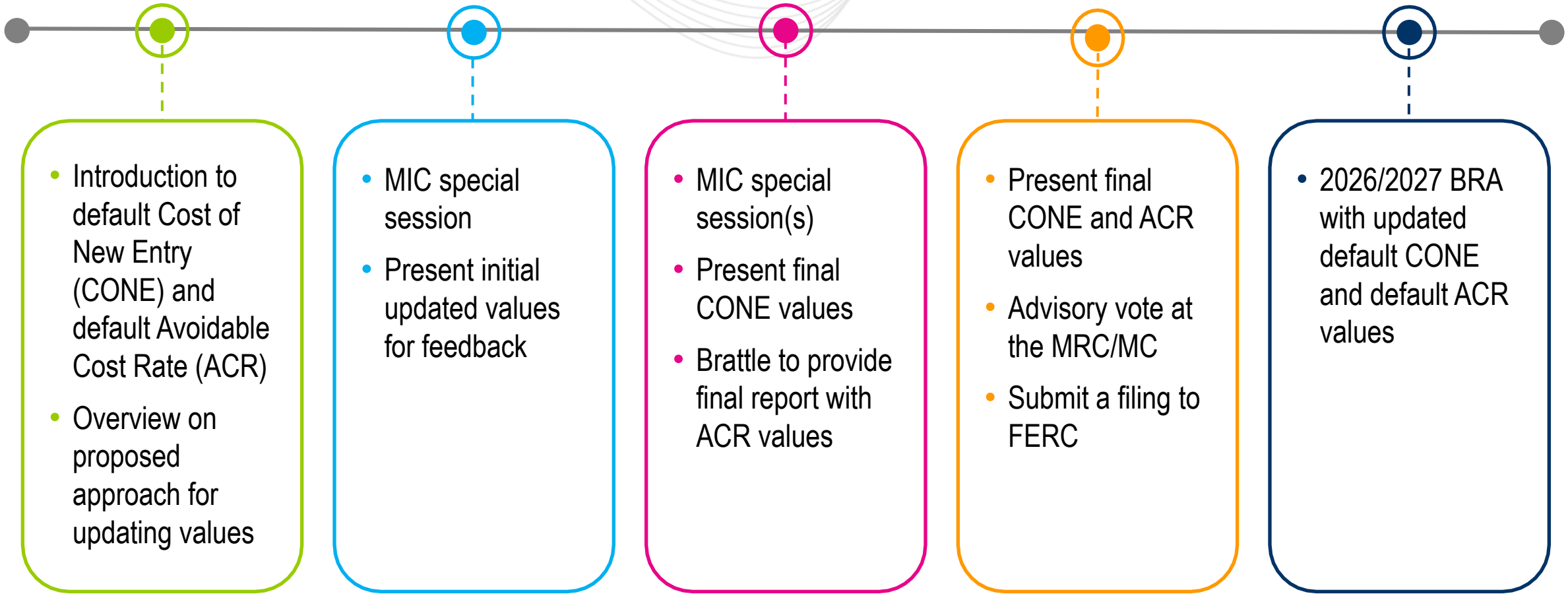
PJM updated the Gross CONE values using updated values from public sources and assumptions used in the Quadrennial Review.

New Gross CONE values will start being used for the 2026/2027 Delivery Year.

PJM retained The Brattle Group (Brattle) and Sargent & Lundy (S&L) to analyze gross avoidable costs for existing generation.

New Gross ACR values will start being used for the 2026/2027 Delivery Year.

Monthly Timeline



2026/2027 Updated Default CONE Values

Application of Default CONE

Minimum Offer Price Rule (MOPR) – Attachment DD § 5.14 (h-2)

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Unit-specific request is an option to calculate MOPR.

Updated Gross CONE for the 2026/2027 Delivery Year

PJM updated the Gross CONE values using updated values from public sources and assumptions used in the Quadrennial Review.

New Gross CONE values will start being used for the 2026/2027 Delivery Year.

PJM retained The Brattle Group (Brattle) and Sargent & Lundy (S&L) to analyze gross avoidable costs for existing generation.

New Gross ACR values will start being used for the 2026/2027 Delivery Year.

Summary of Gross CONE Changes

PJM updated Gross CONE values similarly to the previous iteration.

Notable changes:

- Changes in ITC and bonus depreciation due to planned sunset of the TCJA
- New reference resource for CC and onshore wind
- Quadrennial Review included BES data

All Gross CONE values increased except for batteries primarily due to ITC eligibility.

Final Default CONE Values

Resource Types	Gross Cost of New Entry (2022/2023 $/MW-Day) (Nameplate)	Gross Cost of New Entry (2026/2027 $/MW-Day) (Nameplate)
1. Nuclear	$2,000	$2,568
2. Coal	$1,068	$1,480
3. Combined Cycle	$320	$540
4. Combustion Turbine	$294	$427
5. Fixed Solar PV	$271	$298
6. Tracking Solar PV	$290	$321
7. Onshore Wind	$420	$438
8. Offshore Wind	$1,155	$1,351
9. Battery Energy Storage	$532	$502

Gross CONE will continue to be escalated for each subsequent delivery year.

2026/2027 Default Net CONE Calculation

Resource Type	Fixed O&M Cost ($/kW-Year)	Installed Capital Cost ($/kW)	Investment Tax Credit %	Gross CONE ($/MW-Day) (Nameplate)	Average Zonal Net Energy Revenue Offset ($/MW-Day) (Nameplate)	Average Zonal Net Ancillary Services Revenue Offset ($/MW-Day) (Nameplate)	Net CONE ($/ICAP-MW-Day)	Capacity Value Percentages or Factors	Net CONE ($/UCAP-MW-Day)
Nuclear	$127	$6,695	0%	$2,568	$786	$9	$1,773	99.1%	$1,790
Coal	$42	$4,074	0%	$1,480	$186	$9	$1,285	87.2%	$1,473
Combined Cycle			0%	$540	$347	$9	$184	96.4%	$191
Combustion Turbine	$40	$927	0%	$427	$137	$6	$284	95.5%	$297
Solar PV – Tracking	$16	$1,327	30%	$298	$264	$9	$25	47.0%	$53
Solar PV – Fixed	$16	$1,234	30%	$321	$165	$9	$147	31.0%	$474
Onshore Wind	$28	$1,718	30%	$438	$325	$9	$104	14.0%	$742
Offshore Wind	$115	$4,833	30%	$1,351	$478	$9	$864	34.0%	$2,541
Battery Energy Storage	$37	$1,681	30%	$502	$182	$9	$311	95.0%	$818

NOTES:

- Fixed O&M and installed capital costs are from EIA report 2022. PV (fixed) costs are 93% of the costs for Solar PV (Tracking).
- Combined Cycle CONE value is the average of the CONE values from the as filed 2022 Quadrennial Review for 2026.
- Solar and Wind Investment Tax Credit depends on prevailing wage and apprenticeship requirements. An optimistic 30% value is assumed for solar and wind resources. The additional 10% ITC adder for domestic content, and additional 10% for building in an energy community, are not included.
- Class average ELCC values, estimated for the 2026/2027 Delivery Year, as percent of nameplate MW solar, wind and battery generation are used to calculate Net CONE in $/UCAP-MW-day. Class average EFORd percentages are the values used in the 2024/2025 Delivery Year MOPR calculations.
- Battery energy storage costs are the average of the CONE values from the as-filed 2022 Quadrennial Review for 2026 for a four-hour plant with 15-year life. Gross CONE is calculated including an optimistic 30% Investment Tax Credit. The additional 10% ITC adder for domestic content, and additional 10% for building in an energy community, are not included. Net CONE ($/UCAP-MW-day) is calculated by multiplying Net CONE ($/ICAP-MW-day) by 2.5, and dividing by a 100% ELCC value and a 5% class average EFORd.
- Net Energy Revenue Offset is based on the posted 2025/2026 E&AS values, and Ancillary Service Revenue Offset is based on reactive services of $3,350/MW-year or $9/MW-day. The CT value is from the Tariff: $2,199/MW-year or $6/MW-day.

2026/2027 Updated Default ACR Values

Application of Default ACR

Minimum Offer Price Rule (MOPR) – Attachment DD § 5.14 (h-2)

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Market Seller Offer Cap (MSOC) – Attachment DD § 6.4

- Existing resources calculate a Net ACR by using the default Gross ACR and subtracting the unit-specific E&AS revenue.

Unit-specific request is an option to calculate MOPR or MSOC.

Updated Gross ACR for the 2026/2027 Delivery Year

PJM updated the Gross CONE values using updated values from public sources and assumptions used in the Quadrennial Review.

New Gross CONE values will start being used for the 2026/2027 Delivery Year.

PJM retained The Brattle Group (Brattle) and Sargent & Lundy (S&L) to analyze gross avoidable costs for existing generation.

New Gross ACR values will start being used for the 2026/2027 Delivery Year.

Summary of Gross ACR Changes

PJM contracted Brattle, along with S&L, to determine Gross ACRs.

Notable changes:

- Added Steam Oil & Gas for a new default unit type
- Additional analysis into NEI data to reflect costs for the nuclear fleet
- Refined property tax and insurance estimates

All Gross ACR values increased except for Nuclear – Single resource type.

PJM Fleet Capacity by Plant Type

Plant Type	Total MW (Summer ICAP)	% of Total PJM Capacity	Recommendation
NGCC	**55,828**	**28%**	**Included**
Coal	**41,554**	**21%**	**Included**
Nuclear	**32,556**	**16%**	**Included**
Simple Cycle CT	**28,496**	**14%**	**Included**
Wind	**9,911**	**5%**	**Included**
ST O&G	**9,240**	**5%**	**Included**
Solar	**7,790**	**4%**	**Included**
Pumped Storage	5,243	3%	Unit-specific review
Hydro	3,319	2%	Unit-specific review
Other	3,427	2%	Unit-specific review
PJM Total Installed Capacity	**197,364**	100%	

Notes and Sources: ABB, Energy Velocity Suite.

Gross Costs Estimates for Existing Generation

Resource Type	Representative Low-Cost Plant $/MW-day	Representative Plant $/MW-day	Representative High-Cost Plant $/MW-day
Multi-unit nuclear	476	**537**	552
Single-unit nuclear	-	**591**	-
Coal	88	**94**	142
Natural gas CC	94	**113**	160
Simple-cycle CT	43	**52**	69
Steam oil & gas	53	**64**	102
Onshore wind	140	**147**	204
Large-scale solar PV	65	**70**	74

Final Default ACR Values

Resource Types	Default Gross ACR (2022/2023 $/MW-Day) (Nameplate)	Default Gross ACR (2026/2027 $/MW-Day) (Nameplate)
1. Nuclear – Single	$697	$591
2. Nuclear – Dual	$445	$537
3. Coal	$80	$94
4. Combined Cycle	$56	$113
5. Combustion Turbine	$50	$52
6. Steam Oil & Gas	NA	$64
7. Solar PV (fixed and tracking)	$40	$70
8. Wind Onshore	$83	$147

Gross ACR will continue to be escalated for each subsequent delivery year.

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Periodic Review of Default CONE and ACR Values

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Appendix

PJM Requirements on Updating MOPR

OATT Attachment DD § 5.14

- *Beginning with the Delivery Year that commences June 1, 2022, and continuing no later than for **every fourth Delivery Year** thereafter, the Office of the Interconnection shall review the **default gross cost of new entry values**. Such review may include, without limitation, analyses of the fixed development, construction, operation, and maintenance costs for such resource types. Based on the results of such review, PJM shall propose either to modify or retain the default gross cost of new entry values stated in the table above. The Office of the Interconnection shall post publicly and solicit stakeholder comment regarding the proposal. If, as a result of this process, changes to the default gross cost of new entry values are proposed, the Office of the Interconnection shall **file such proposed modifications with the FERC by October 1**, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values would be applied.*

- *Beginning with the Delivery Year that commences June 1, 2022, and continuing no later than for **every fourth Delivery Year** thereafter, the Office of the Interconnection shall review the **default Avoidable Cost Rates** for Capacity Resource that is subject to the provisions of the Minimum Offer Price Rule pursuant to Tariff, Attachment DD, section 5.14(h-2)(2) that have cleared in an RPM Auction for any Delivery Year. Such review may include, without limitation, analyses of the avoidable costs of such resource types. Based on the results of such review, PJM shall propose either to modify or retain the default Avoidable Cost Rate values stated in the table above. The Office of the Interconnection shall post publicly and solicit stakeholder comment regarding the proposal. If, as a result of this process, changes to the default Avoidable Cost Rate values are proposed, the Office of the Interconnection shall **file such proposed modifications with the FERC by October 1**, prior to the conduct of the Base Residual Auction for the first Delivery Year in which the new values would be applied.*

PJM Requirements on Updating MSOC

OATT Attachment DD § 6.4 (a)

The Market Seller Offer Cap, stated in dollars per MW/day of unforced capacity, applicable to price-quantity offers within the Base Offer Segment for an Existing Generation Capacity Resource shall be the Avoidable Cost Rate for such resource, less the Projected PJM Market Revenues for such resource, stated in dollars per MW/day of unforced capacity. A Capacity Market Seller offering above $0/MW-day must support and obtain approval of a unit-specific Market Seller Offer Cap pursuant to the procedures and standards of subsection (b) of this section 6.4 or may, at its election, if available, utilize a Market Seller Offer Cap determined using the applicable default gross Avoidable Cost Rate for the applicable resource type shown in the table below, as adjusted for Delivery Years subsequent to the 2022/2023 Delivery Year to reflect changes in avoidable costs, net of projected PJM market revenues equal to the resource's net energy and ancillary service revenues for the resource type, as determined in accordance with Tariff, Attachment DD, section 6.8(d-1).

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