Installed Reserve Margin (IRM), Forecast Pool Requirement (FPR), and Effective Load Carrying Capability (ELCC) for 2026/2027 3rd IA

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Markets and Reliability Committee
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Parameter Overview

Parameter	26/27 BRA	26/27 3rd IA
Load Scenarios	2025 PJM Load Forecast	2026 PJM Load Forecast
Weather Data	June 1, 1993 through May 31, 2024	June 1, 1993 through May 31, 2025
Unlimited Resource Performance Data	June 1, 2012 through May 31, 2024	June 1, 2012 through May 31, 2025
Variable Resource Performance Data	June 1, 2012 through May 31, 2024	June 1, 2012 through May 31, 2025
DR ICAP	2025 PJM Load Forecast	2026 PJM Load Forecast

Highlights on Data Inputs: Resource Mix

1. **Notice of Intent to Offer (NOI):**
   Planned resources that submitted a Notice of Intent to Offer for the 2026/27 3rd IA were included in the assumed resource mix

2. **Installed Capacity Ratings (ICAP Ratings):**
   ICAP Ratings reflect any 2026/27 transitional system capability awarded

3. **Announced Deactivations:**
   Resources with announced deactivations scheduled to occur before June 1, 2027 were removed from the assumed resource mix

Overall decrease of 583 MW ICAP in the 26/27 3rd IA versus the 26/27 BRA

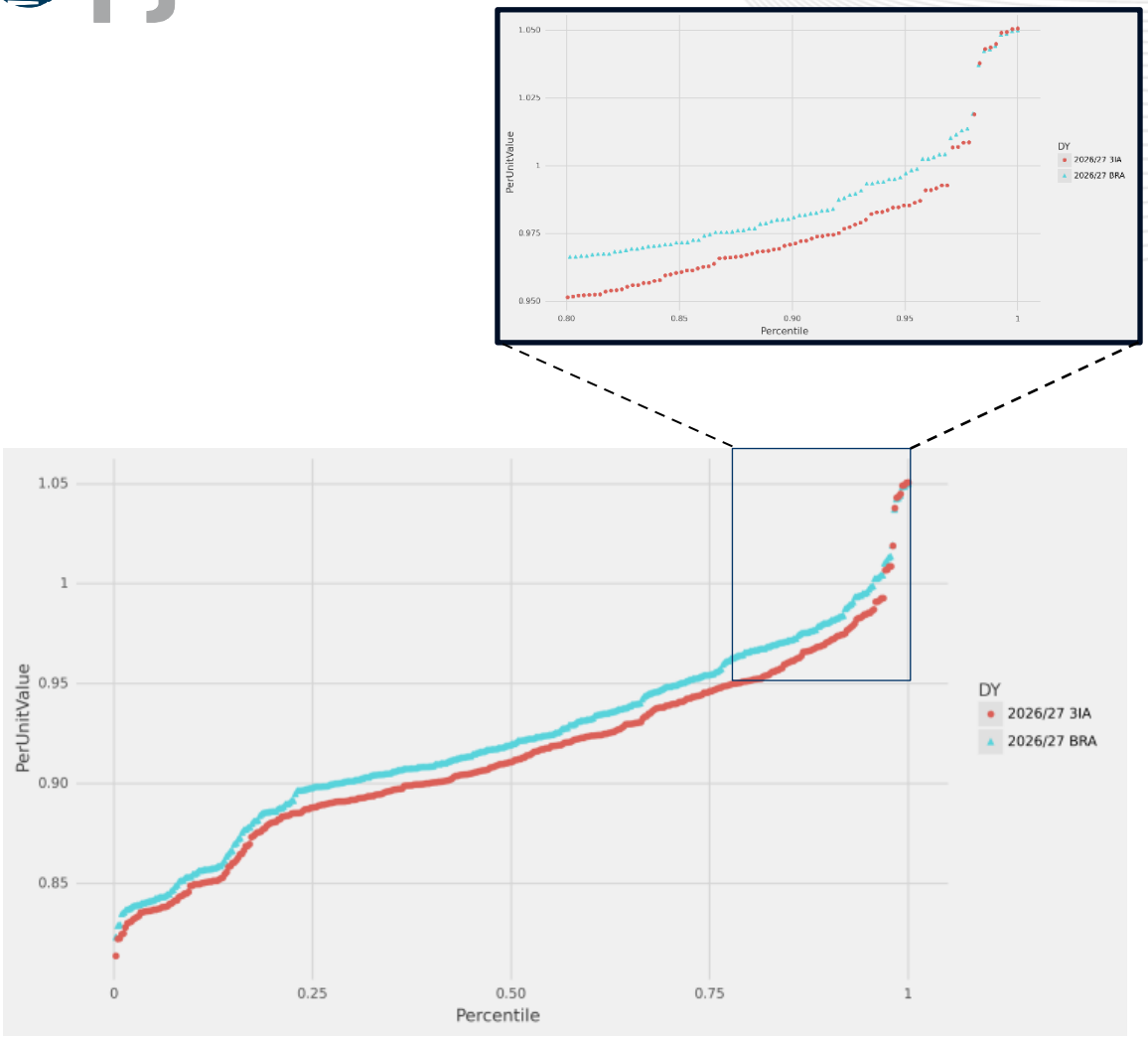
Highlights on Data Input: Load Scenarios

Hourly load profiles for the 2026/2027 3rd IA were derived using the 2026 PJM load forecast

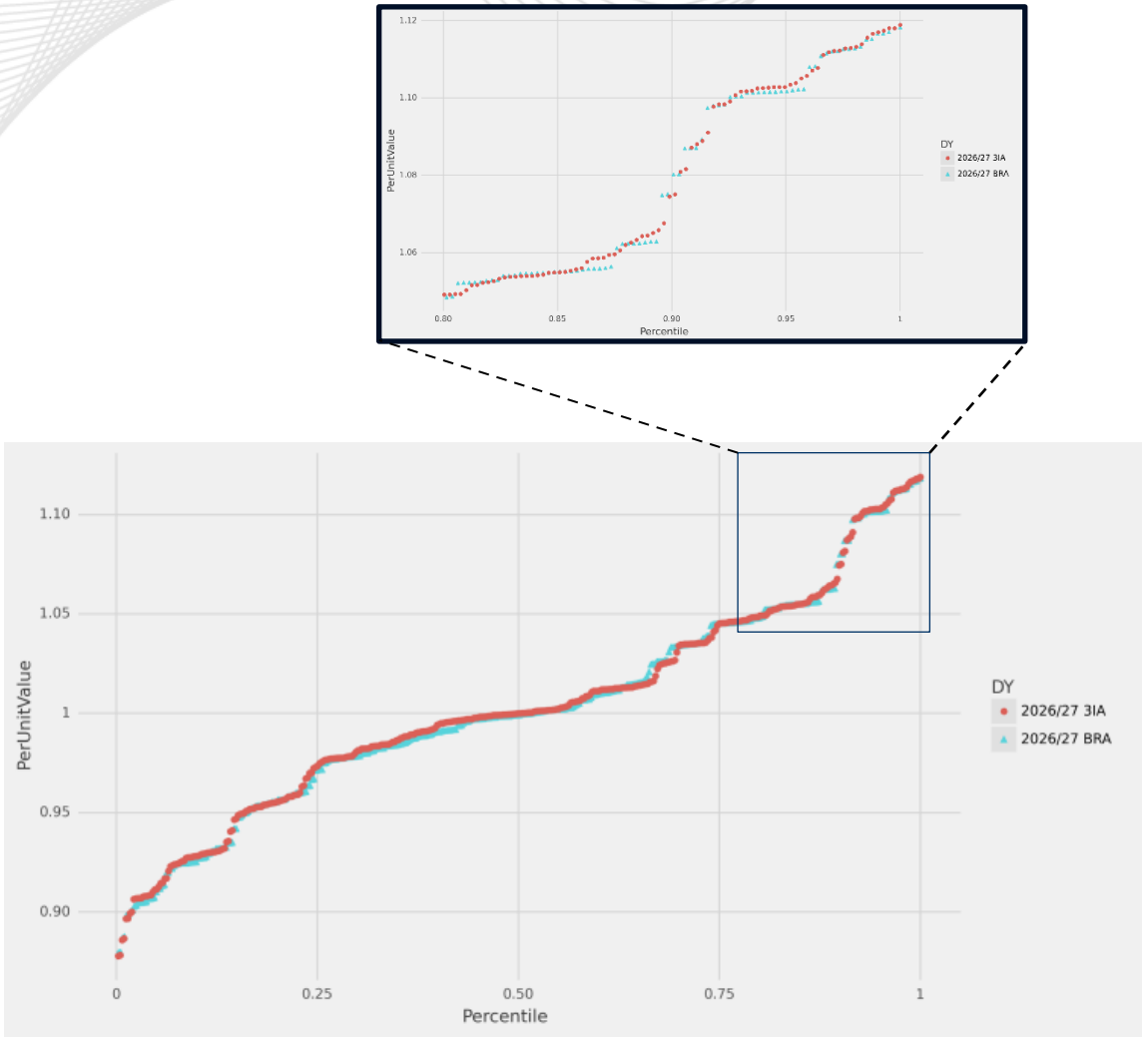
- 2026/2027 BRA run used scenarios from the 2025 PJM Load Forecast
- Summer extreme loads relative to the 50/50 annual peaks are slightly lower in the 2026 PJM Load Forecast than the 2025 PJM Load Forecast
- Winter extreme loads relative to the 50/50 annual peaks are lower in the 2026 PJM Load Forecast than the 2025 PJM Load Forecast

2026 Load Forecast resulted in downward pressure on winter risk

Seasonal Peak Distributions: 26/27 BRA vs 26/27 3IA



Winter



Summer

Highlights on Data Input: Performance/Availability Data

Performance Data:

- Based on data form June 1st, 2012 through May 31st, 2025
  - Includes performance post 2025 MLK weekend (Jan 21/22) which was bucketed in the second coldest bin post merging
- Oil-Fired CT and Waste to Energy Steam classes are not applicable to the 2026/27 DY

Demand Response Availability:

- Seasonal Performance windows applied in 2026/27 3rd IA
- Hourly DR performance throughout the year is a function of the ratio of hourly load to 50/50 annual peak

New performance data resulted in slight downward pressure on winter risk

2026/27 3IA Assumed Resource Portfolio

ELCC Class	Effective Nameplate (MW)	Installed Capacity (MW)
Onshore Wind	12,981	3,580
Offshore Wind	Small Sample Size	Small Sample Size
Solar Fixed Panel	1,789	879
Solar Tracking Panel	14,740	9,602
Landfill Gas Intermittent	145	100
Hydro Intermittent	721	515
4-hr Storage, 6-hr Storage, 8-hr Storage, 10-hr Storage	5,654	5,654
Solar-Storage Hybrid	Small Sample Size	Small Sample Size
DR	n/a	7,864

ELCC Class	Effective Nameplate (MW)	Installed Capacity (MW)
Nuclear	n/a	32,316
Coal	n/a	35,629
Gas CC *(Single and Dual Fuel)*	n/a	57,514
Gas CT	n/a	10,953
Gas CT Dual Fuel	n/a	12,945
Diesel	n/a	332
Steam	n/a	9,983
Hydro with Non-Pumped Storage	2,056	1,987
Other Unlimited Resource	n/a	3,291

2026/27 3IA ELCC Class Ratings

ELCC Class	Final Rating
Onshore Wind	38%
Offshore Wind	64%
Solar Fixed Panel	10%
Solar Tracking Panel	13%
Landfill Gas Intermittent	49%
Hydro Intermittent	38%
4-hr Storage	54%
6-hr Storage	61%
8-hr Storage	65%
10-hr Storage	73%

ELCC Class	Final Rating
DR	72%
Nuclear	95%
Coal	85%
Gas CC	77%
Gas CT	63%
Gas CT Dual Fuel	79%
Diesel	93%
Steam	75%

2026/27 3IA ELCC Class Ratings vs. 2026/27 BRA Ratings

ELCC Class	2026/27 BRA	2026/27 3IA	Change (%)
Onshore Wind	41%	38%	-3
Offshore Wind	69%	64%	-5
Solar Fixed Panel	8%	10%	+2
Solar Tracking Panel	11%	13%	+2
Landfill Gas Intermittent	50%	49%	-1
Hydro Intermittent	38%	38%	0
4-hr Storage	50%	54%	+4
6-hr Storage	58%	61%	+3
8-hr Storage	62%	65%	+3
10-hr Storage	72%	73%	+1
DR	69%	72%	+3
Nuclear	95%	95%	0
Coal	83%	85%	+2
Gas CC	74%	77%	+3
Gas CT	60%	63%	+3
Gas CT Dual Fuel	78%	79%	+1
Diesel	91%	93%	+2
Steam	73%	75%	+2

- Majority of ELCC Classes see an increase in rating due to less winter risk share.
- ELCC Classes with larger decreases are those with better performance in winter relative to summer, Onshore and Offshore Wind.

Seasonal Changes in 26/27 3IA vs. 26/27 BRA

2026/2027
3IA

SEASONAL SHARE OF:

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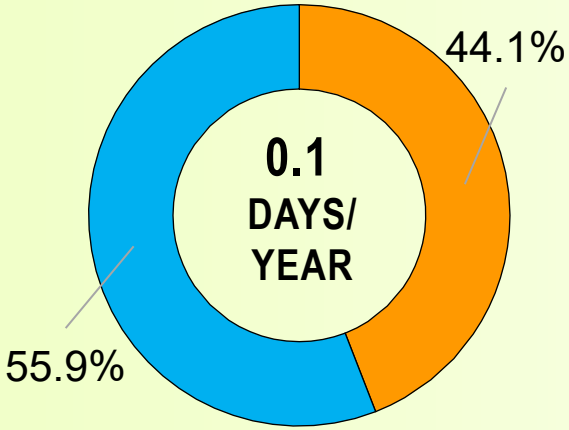

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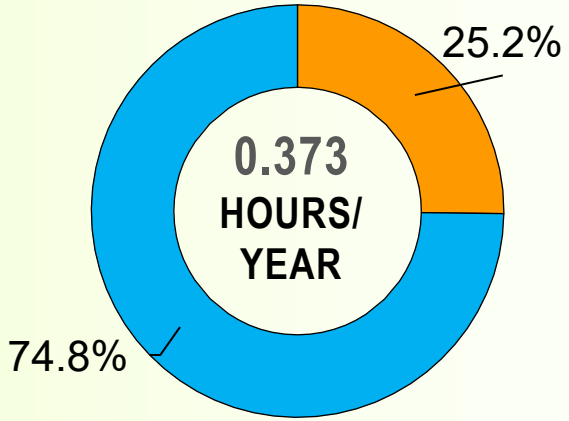

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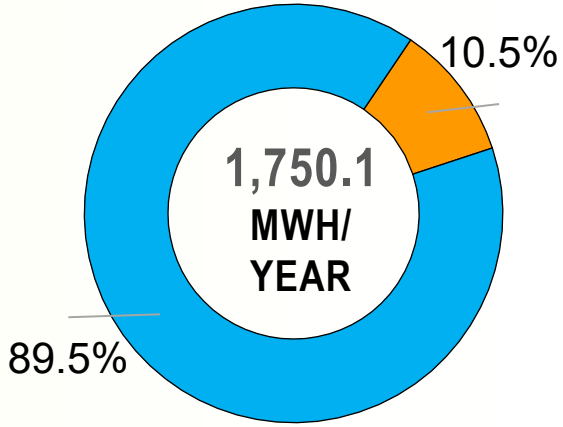

2026/27
BRA

SEASONAL SHARE OF:

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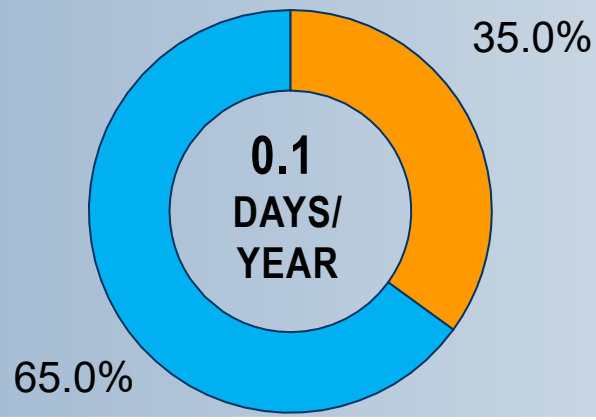

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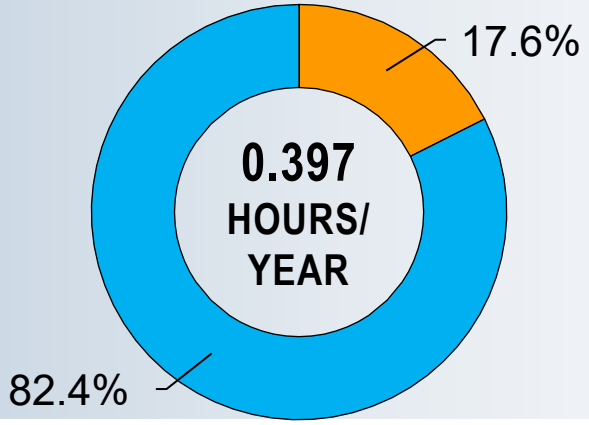

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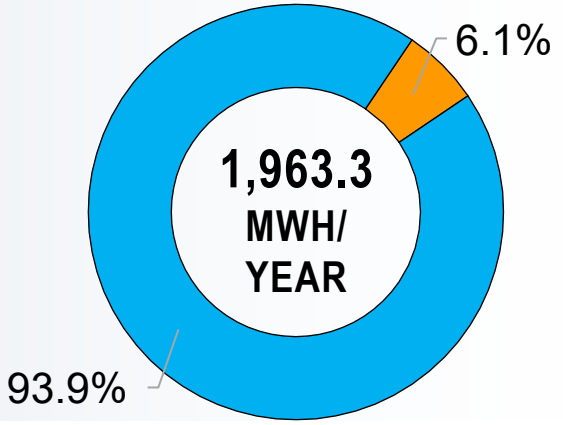

Winter Summer

IRM, AUCAP and FPR

- 2026/2027 Installed Reserve Margin (IRM) equals ***18.6%***
- Calculation of the Accredited UCAP factor is the ratio of Unforced Capacity (UCAP) to Installed Capacity (ICAP) in the model

  *This ratio is **0.7834***

The FPR is then:

- (1 + IRM) x Pool-Wide Average Accredited UCAP Factor
- (1 + 0.186) x 0.7834 = 0.9291

Main Driver for changes between BRA and 3IA

- The main driver for the changes in the 2026/27 3IA parameters relative to the 2026/27 BRA parameters is **the updated load shapes from the 2026 PJM Load Forecast (LF)**
  - If the 2026/27 BRA case is rerun using the load shapes for 2026/27 from the 2026 Load Forecast, the IRM is 18.7%
  - This means that the load shapes from the 2026 LF drive about 80% (0.4/0.5) of the decrease in IRM seeing for the 2026/27 3IA
    - 2026/27 3IA IRM is 18.6%, a total decrease of 0.5 percentage points with respect to the 2026/27 BRA IRM (19.1%)
  - The rest of the IRM decrease can be attributed to other inputs being updated for the 2026/27 3IA run

2026/27 3IA IRM and FPR vs. 2026/27 BRA

PARAMETER	26/27 BRA Value	26/27 3IA Value	Change	Driving Factor
ICAP (MW)	193,738	193,155	-583	Decreases in some classes not fully offset by increases in Solar Tracking
"Solved Load" (MW)	160,682	160,808	+126	2026 LF winter load shapes as a share of annual peak are lower than in the 2025 LF
CBOT (%)	1.5%	1.5%	-	
Installed Reserve Margin (IRM)	19.1%	18.6%	-0.5%	Lower extreme winter loads
Accredited UCAP (MW)	149,149	151,320	+2,171	Less winter risk share
Pool-Wide Average UCAP Factor	0.7699	0.7834	0.0135	Less winter risk share
Forecast Pool Requirement (FPR)	0.9170	0.9291	0.0121	Higher accreditation of resources

Supply/Demand Balance in 2026/27 3IA vs 2026/27 BRA cases

PARAMETER	26/27 BRA Value	26/27 3IA Value	Change
ICAP (MW)	193,738	193,155	-583
"Solved Load" (MW)	160,682	160,808	+126
CBOT (%)	1.5%	1.5%	-
Installed Reserve Margin (IRM)	19.1%	18.6%	-0.5%
Accredited UCAP (MW)	149,149	151,320	+2,171
Pool-Wide Average UCAP Factor	0.7699	0.7834	0.0135
Forecast Pool Requirement (FPR)	0.9170	0.9291	0.0121
2026/27 Peak Load Forecast (MW)	158,937	156,373	-2,564
"Reliability Requirement" (FPR x Peak Load Forecast)	145,745	145,286	-459
UCAP Surplus (Accredited UCAP – "Reliability Requirement")	3,404	6,034	+2,630

- The UCAP Surplus in the 3IA case is 2,630 MW greater than in the BRA case.
- The increase in UCAP Surplus is mainly driven by the lower 2026/27 Peak Load Forecast
- If the Peak Load Forecast for the 3IA would have been the same value as in the BRA, the "Reliability Requirement" would have been 147,668 MW (0.9291 x 158,397) and the UCAP Surplus would have been 3,652 MW (only 248 MW higher than in the BRA)
- This means that the updated IRM, FPR and accreditation also increase UCAP Surplus but only by 248 MW.

Appendix

Additional References

- 2026/2027 3rd IA Final ELCC Class Ratings
- 2025 PJM Effective Load Carrying Capability and Reserve Requirement Study (ELCC/RRS)
- E3 Evaluation of the PJM ELCC Model
  E3 Presentation E3 Report
- Additional Files will be posted on ELCC Webpage under the "2026/2027 3IA Data Files"

Contact

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