Installed Reserve Margin (IRM), Forecast Pool Requirement (FPR), and Effective Load Carrying Capability (ELCC) for 2025/2026 BRA

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Recalculation of IRM and FPR for 2025/26

With FERC's approval of Docket # ER24-99, the Installed Reserve Margin (IRM) and Forecast Pool Requirement (FPR) for 2025/26 needed to be recalculated. They had originally been calculated as part of the 2023 RRS.

Relevant Provisions in Docket # ER24-99 for IRM and FPR

Calculation of the IRM using an hourly loss of load model and the LOLE criteria of 1 day in 10 years where IRM is based on the total installed capacity included in the model, reduced by the Capacity Benefit of Ties (CBOT).

Calculation of the Pool-Wide Average Accredited UCAP Factor is based on the ratio of total UCAP to total ICAP in the model

Calculation of the FPR is performed using the following formula:

FPR = (1 + IRM) x Pool-Wide Average Accredited UCAP Factor

ELCC/RRS Model Overview

Provided at PC Education Session

Review of Input Data for 2025/26 Calculations

In the past 4 weeks, PJM has performed a thorough review of the input data used for the 2025/26 calculations. The review process yielded the following changes to the inputs:

1. Installed Capacity of Certain Resources

Some resources, chiefly among them pseudo-tied resources, had inaccurate ICAP values.

2. Notice of Intent to Offer

A few resources that submitted a binding Notice of Intent fail to meet the definition of a Planned Generation Capacity Resource that will be in service by 6/1/2025. These resources were removed from the resource mix, as they are ineligible to offer into the 25/26 BRA.

3. Reclassifying Resources ELCC Type

The Market Monitor and PJM identified a handful of resources which were modeled and operate as different ELCC class types. This can happen due to repowering of the resource with a different fuel type, or other changes between the initial queue of the resource and actual operations.

Review of Input Data for 2025/26 Calculations

4. Announced Deactivations

The model was updated to reflect the current list of announced deactivations, including those recently submitted and some deactivations that had not been captured in the prior run.

5. Ambient Derate Data

For ambient derate tickets with variable MW reductions throughout the duration of the ticket, the data used in previous calculations utilized the MW reduction at the end of the ticket. The data has been modified to capture the variable MW reduction of these ambient derate tickets.

2025/26 Assumed Resource Portfolio

ELCC Class	Effective Nameplate (MW)	Installed Capacity (MW)
Onshore Wind	11,957	2,405
Offshore Wind	Small Sample Size	Small Sample Size
Solar Fixed Panel	3,058	1,469
Solar Tracking Panel	12,249	7,504
Landfill Gas Intermittent	172	125
Hydro Intermittent	736	528
4-hr Storage, 6-hr Storage, 8-hr Storage, 10-hr Storage	5,704	5,704
Solar-Storage Hybrid	Small Sample Size	Small Sample Size
DR	7,814	7,814
Nuclear	Not Applicable	32,181
Coal	Not Applicable	36,270
Gas CC (Single and Dual Fuel)	Not Applicable	56,960
Gas CT	Not Applicable	12,612
Gas CT Dual Fuel	Not Applicable	13,123
Diesel	Not Applicable	333
Steam	Not Applicable	9,857
Hydro with Non-Pumped Storage	1,959	1,948
Other Thermal	Not Applicable	2,841

2025/26 ELCC Class Ratings

ELCC Class	Final Rating
Onshore Wind	35%
Offshore Wind	60%
Solar Fixed Panel	9%
Solar Tracking Panel	14%
Landfill Gas Intermittent	54%
Hydro Intermittent	37%
4-hr Storage	59%
6-hr Storage	67%
8-hr Storage	68%
10-hr Storage	78%
DR	76%
Nuclear	95%
Coal	84%
Gas CC	79%
Gas CT	62%
Gas CT Dual Fuel	79%
Diesel	92%
Steam	75%

2025/26 Final ELCC Class Ratings vs February 2024 Ratings

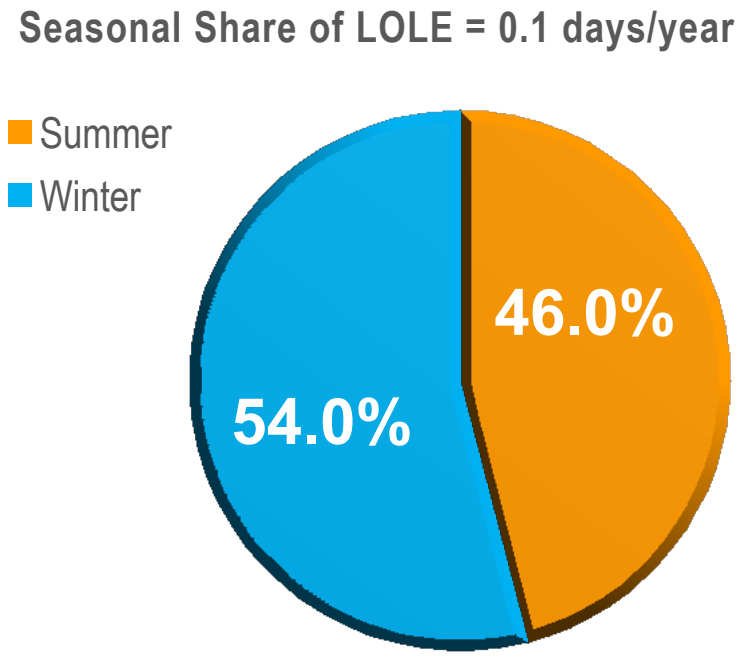
ELCC Class	Final Rating	February 2024 Rating	Change (%)
Onshore Wind	35%	35%	0
Offshore Wind	60%	60%	0
Solar Fixed Panel	9%	9%	0
Solar Tracking Panel	14%	14%	0
Landfill Gas Intermittent	54%	55%	-1
Hydro Intermittent	37%	36%	+1
4-hr Storage	59%	59%	0
6-hr Storage	67%	67%	0
8-hr Storage	68%	69%	-1
10-hr Storage	78%	78%	0
DR	76%	77%	-1
Nuclear	95%	96%	-1
Coal	84%	85%	-1
Gas CC	79%	80%	-1
Gas CT	62%	62%	0
Gas CT Dual Fuel	79%	78%	+1
Diesel	92%	90%	+2
Steam	75%	70%	+5

- The majority of ratings remained unchanged or moved by ± 1%.
- The largest change was for the **Steam** class. The driver for this change is that the total ICAP of the Steam class increased by ~2,500 MW once units that recently switched fuel and some recent announced deactivations were factored in.

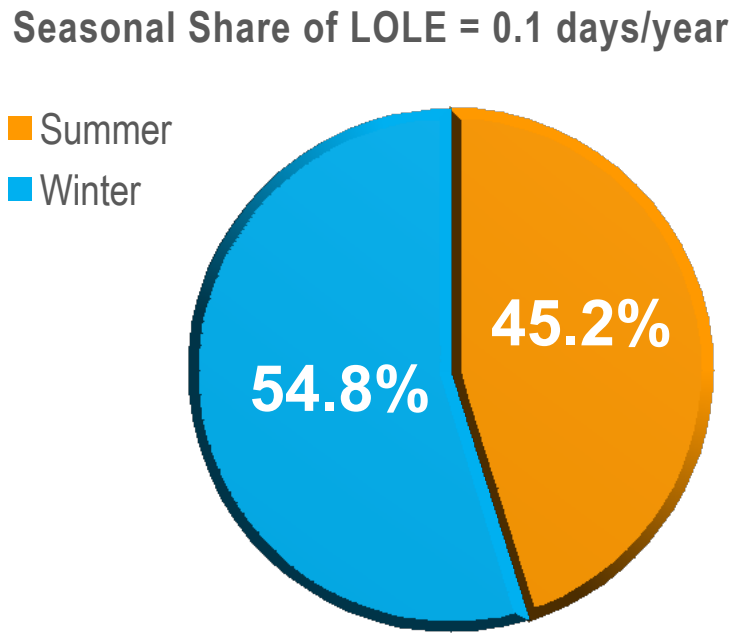
A comparison of the February 2024 results vs the Preliminary results posted in December 2023 is available at: https://www.pjm.com/-/media/committees-groups/committees/pc/2024/20240216-special/elcc-education.ashx

Seasonal Changes in 25/26 LOLE

Final Results

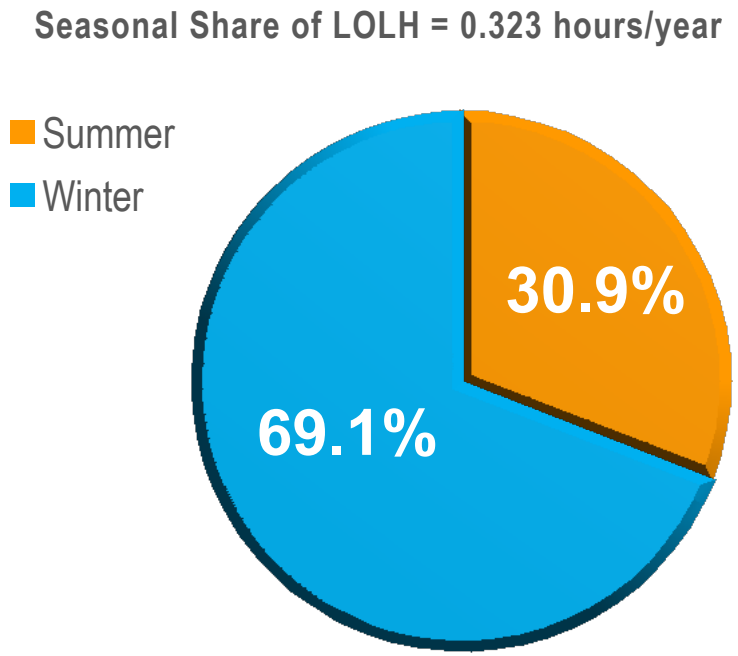


February 2024 Results

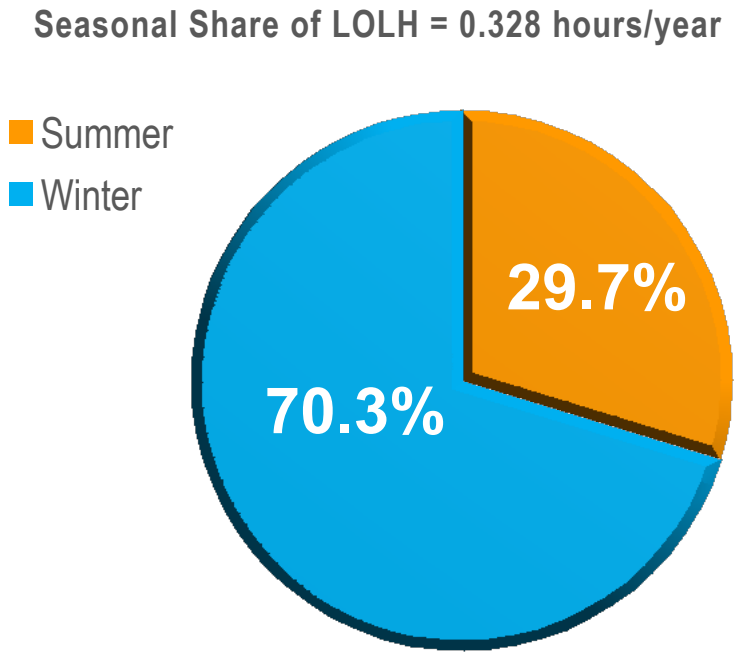


Seasonal Changes in 25/26 LOLH

Final Results



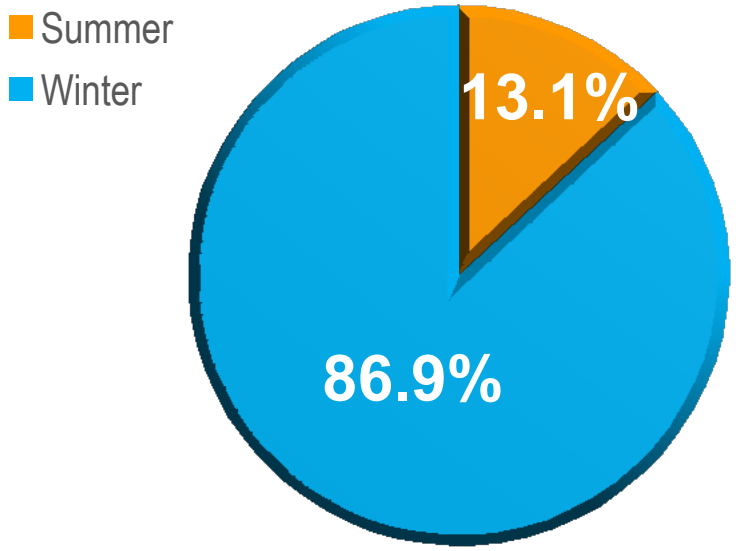
February 2024 Results



Seasonal Changes in 25/26 EUE

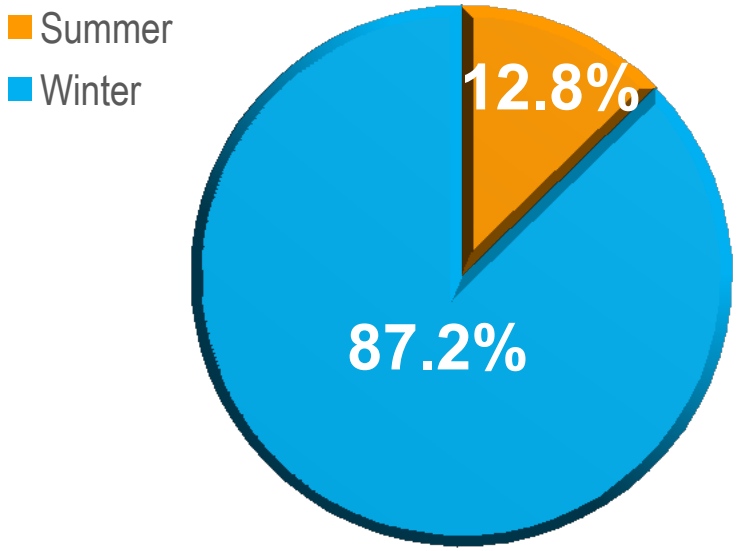
Final Results

Seasonal Share of EUE = 1452.6 MWh/year



February 2024 Results

Seasonal Share of EUE = 1462.6 MWh/year



Key Historical Load and Performance Days Based on LOLH contribution

Load Day	LOLH Share
1/15/1994	8.2%
1/21/1994	7.3%
1/16/1994	6.0%
1/20/1994	5.4%
1/19/1994	4.4%
2/19/2015	4.0%
2/20/2015	2.9%
2/16/2015	2.4%
1/8/2014	2.3%
7/29/2006	2.1%
1/18/1994	2.1%
1/7/2018	2.0%
7/17/2011	2.0%
1/6/2018	1.9%
2/3/1996	1.8%
7/21/2011	1.8%
7/17/1995	1.7%
7/15/2011	1.7%
1/28/2014	1.6%
7/8/1995	1.5%

About 60% of the LOLH is concentrated in 20 **load days**:

- 14 in the winter
- 6 in the summer

Performance Day	LOLH Share
1/7/2014	43.2%
12/24/2022	11.9%
1/8/2014	4.2%
1/28/2014	2.1%
12/26/2022	1.9%
1/22/2014	1.8%
7/18/2012	1.7%
12/25/2022	1.5%
7/17/2012	1.2%
6/29/2012	0.9%
10/30/2012	0.9%
1/31/2019	0.7%
12/23/2022	0.5%
6/29/2021	0.4%
7/25/2016	0.4%
8/25/2020	0.4%
7/7/2012	0.4%
7/19/2012	0.3%
7/18/2013	0.3%
7/17/2013	0.3%

About 75% of the LOLH is concentrated in 20 **performance days**:

- 9 in the winter
- 11 in the summer

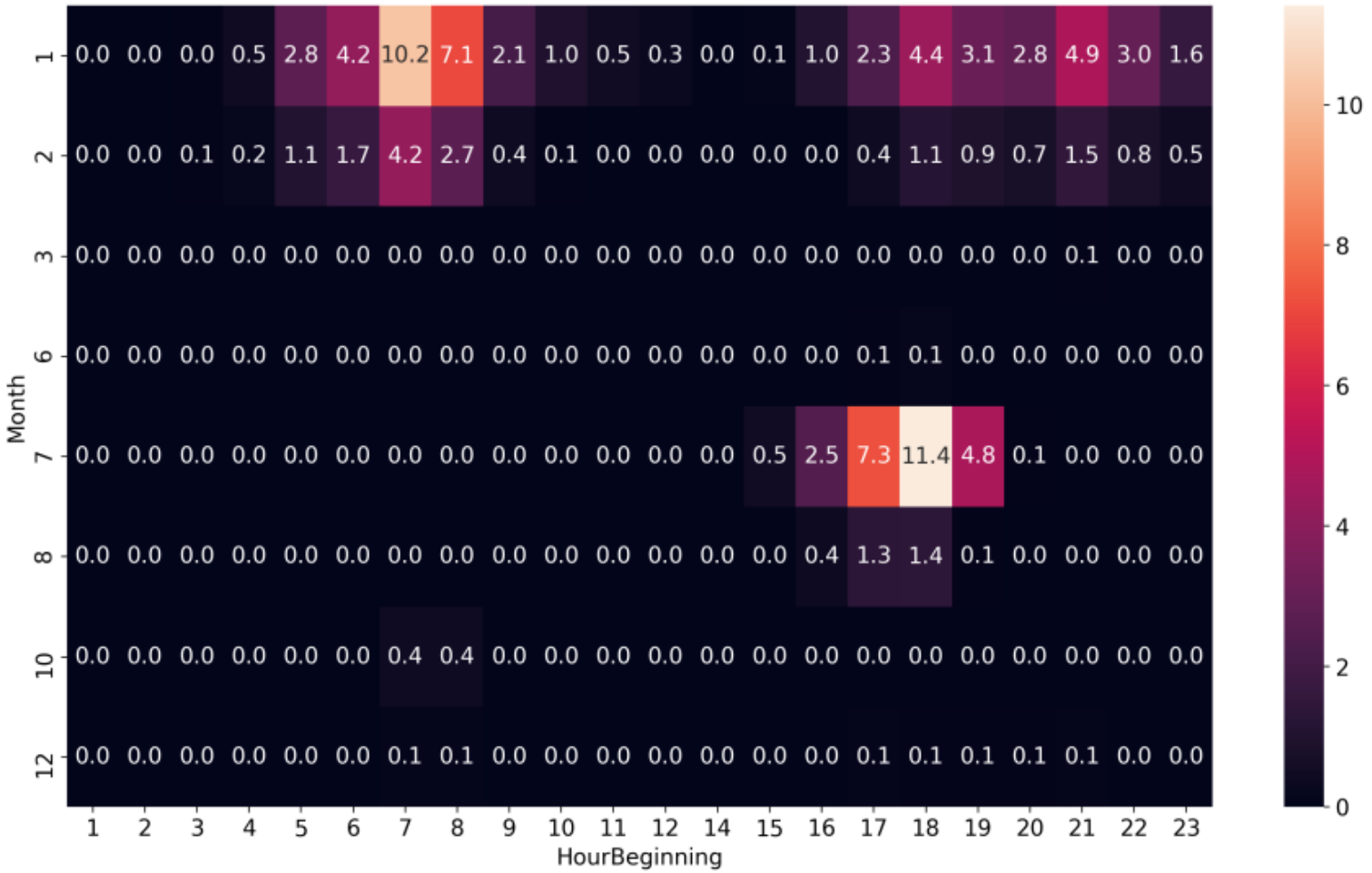
Key Historical Load and Performance Days Based on LOLH contribution

Load Day	Performance Day	LOLH Share
1/15/1994	1/7/2014	6.3%
1/21/1994	1/7/2014	6.1%
1/16/1994	1/7/2014	5.3%
1/20/1994	1/7/2014	5.0%
1/19/1994	1/7/2014	4.2%
2/20/2015	1/7/2014	2.9%
2/16/2015	1/7/2014	2.4%
2/19/2015	12/24/2022	2.3%
1/18/1994	1/7/2014	2.1%
1/7/2018	12/24/2022	1.7%
1/28/2014	1/7/2014	1.6%
1/6/2018	12/24/2022	1.4%
2/19/2015	1/8/2014	1.3%
2/3/1996	12/24/2022	1.3%
1/8/2014	12/24/2022	1.2%
1/7/2014	1/7/2014	1.1%
2/24/2015	1/7/2014	1.0%
1/22/2014	1/7/2014	1.0%
2/4/1996	1/7/2014	1.0%
1/19/1997	1/7/2014	1.0%

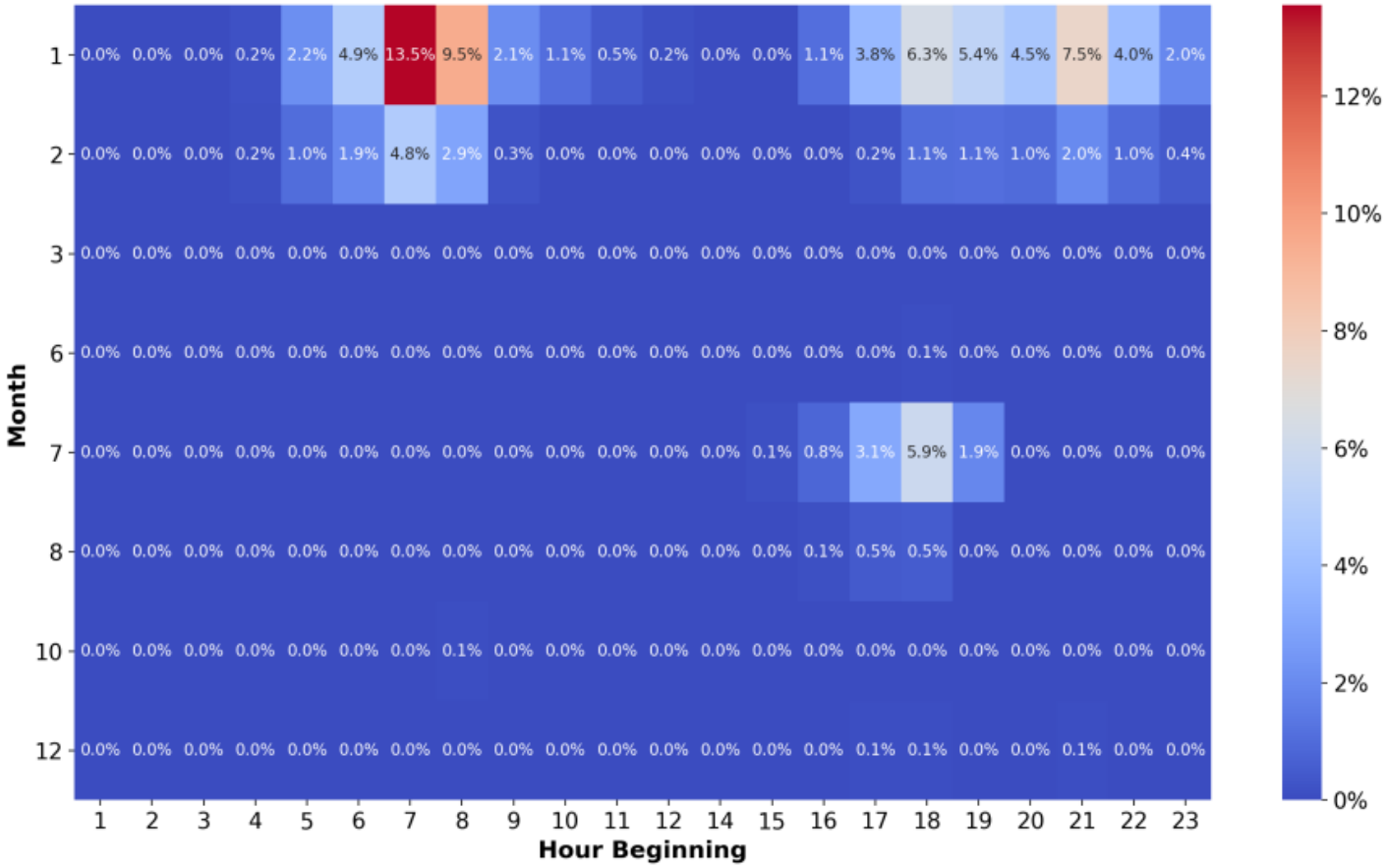
About 50% of the LOLH is concentrated in 20 **load days & performance days**:

- **20 in the winter**
- **0 in the summer**

LOLH Month/Hour Heatmap



EUE Month/Hour Heatmap



2025/26 IRM and FPR

- The total amount of **ICAP** in the model is **191,693 MW**
- The **peak load** ("solved load") that the above amount of ICAP can serve while meeting the LOLE criteria of 1 day in 10 years is **160,624 MW**
- The **Capacity Benefit of Ties** (CBOT) is assumed to be **1.5%**, the same value used in the 2023 RRS
- Therefore, the **2025/26 IRM** equals **17.8%**:
  - IRM = [(191,693 / 160,624) – 1] – 1.5%
  - IRM = [1.193 – 1] – 0.015 = 17.8%
- The total amount of **Accredited UCAP** in the model is **152,765 MW**
- The **Pool-Wide Average AUCAP Factor** is 152,765 / 191,693 = **0.7969**
- Therefore, the **2025/26 FPR** equals **0.9387**
  - FPR = (1 + 0.178) x 0.7969 = 0.9387

Action Requested from MRC

- Endorsement of the following values for 2025/26
  - **IRM = 17.8%**
  - **FPR = 0.9387**

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FPR, IRM, & ELCC for 25/26 BRA

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