2023 Reserve Requirement Study (RRS) Preliminary Results

Patricio Rocha Garrido
Resource Adequacy Planning
Planning Committee
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2023 Reserve Requirement Study (RRS)

- The study results will re-set the FPR and IRM for 2024/25, 2025/26, 2026/27 and establish initial FPR and IRM for 2027/28.
- The study was conducted using two software tools and therefore, two sets of assumptions (the assumptions were approved at the June PC meeting)
  - PRISM (Assumptions Set #1)
  - Hourly loss of load model used to perform the ELCC study (Assumptions Set #2)
- The PRISM Load Model (LM) is based on the 2013-2019 time period and 2023 PJM Load Forecast (LM was approved at the August PC meeting)
- The Capacity Model (CM) was built with GADS data from 2018-2022 time period for all weeks of the year except the winter peak week.
  - For the winter peak week, the capacity model is created using historical actual RTO-aggregate outage data from time period DY 2007/08 – DY 2022/23

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Capacity Benefit of Ties (CBOT) in the 2023 RRS

- The study assumptions consider calculating the CBOT to be used in the 2023 RRS as the average of the most recent historical CBOT values since the 2017 RRS (including the value calculated this year with PRISM)

RRS	CBOT
2017	1.6%
2018	1.5%
2019	1.6%
2020	1.5%
2021	1.4%
2022	1.0%
2023 PRISM	2.2%

Average Value = 1.5%

(to be used in the 2023 RRS)

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2023 RRS Results (PRISM and Hourly Model) vs 2022 RRS Results

2023 RRS Study results - PRISM:

RRS Year	Delivery Year Period	Calculated IRM	Average EFORd	Calculated FPR*
2023	2024 / 2025	**17.7%**	5.10%	**1.1170**
2023	2025 / 2026	**17.7%**	5.09%	**1.1171**
2023	2026 / 2027	**17.7%**	5.08%	**1.1172**
2023	2027 / 2028	**17.6%**	5.06%	**1.1165**

2023 RRS Study results - Hourly Model:

RRS Year	Delivery Year Period	Calculated IRM	Average EFORd	Calculated FPR*
2023	2024 / 2025	**18.5%**	5.10%	**1.1246**
2023	2025 / 2026	**18.4%**	5.09%	**1.1237**
2023	2026 / 2027	**18.4%**	5.08%	**1.1239**
2023	2027 / 2028	**18.3%**	5.06%	**1.1231**

2022 RRS Study results:

RRS Year	Delivery Year Period	Calculated IRM	Average EFORd	Calculated FPR*
2022	2023 / 2024	**14.9%**	4.87%	**1.0930**
2022	2024 / 2025	**14.8%**	4.83%	**1.0926**
2022	2025 / 2026	**14.7%**	4.81%	**1.0918**
2022	2026 / 2027	**14.7%**	4.81%	**1.0918**

*** FPR = (1 + IRM)*(1 - Average EFORd)**

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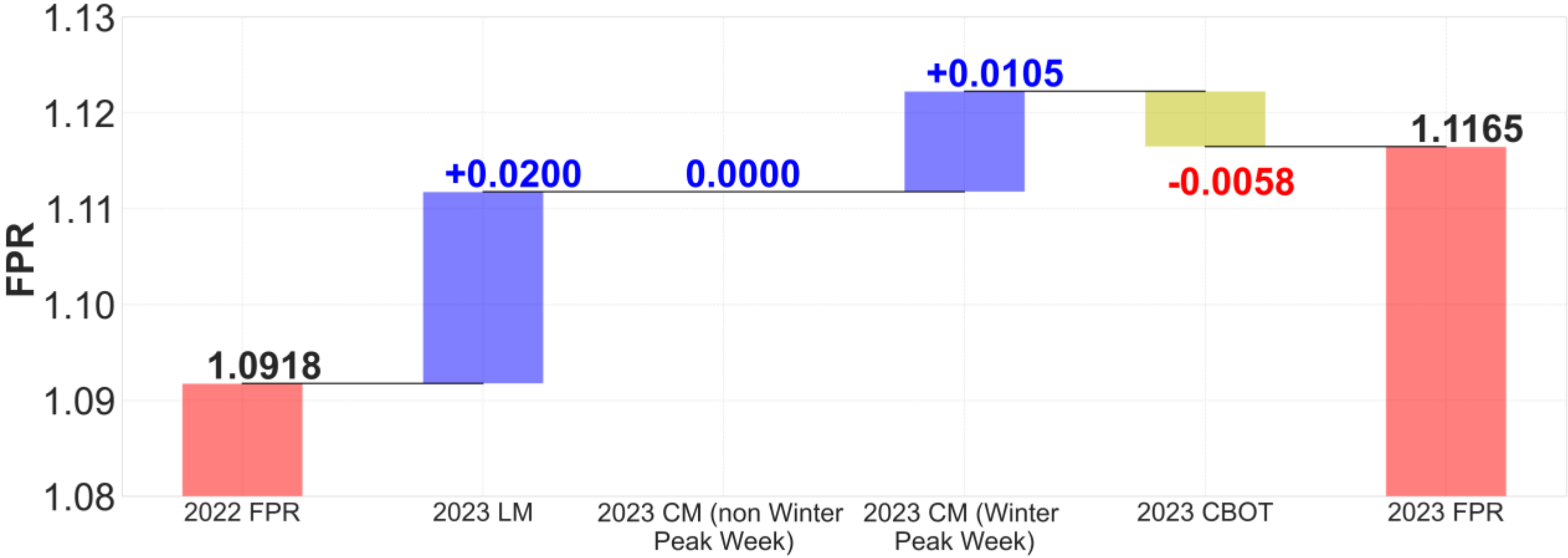
2023 FPR – PRISM – Waterfall Chart



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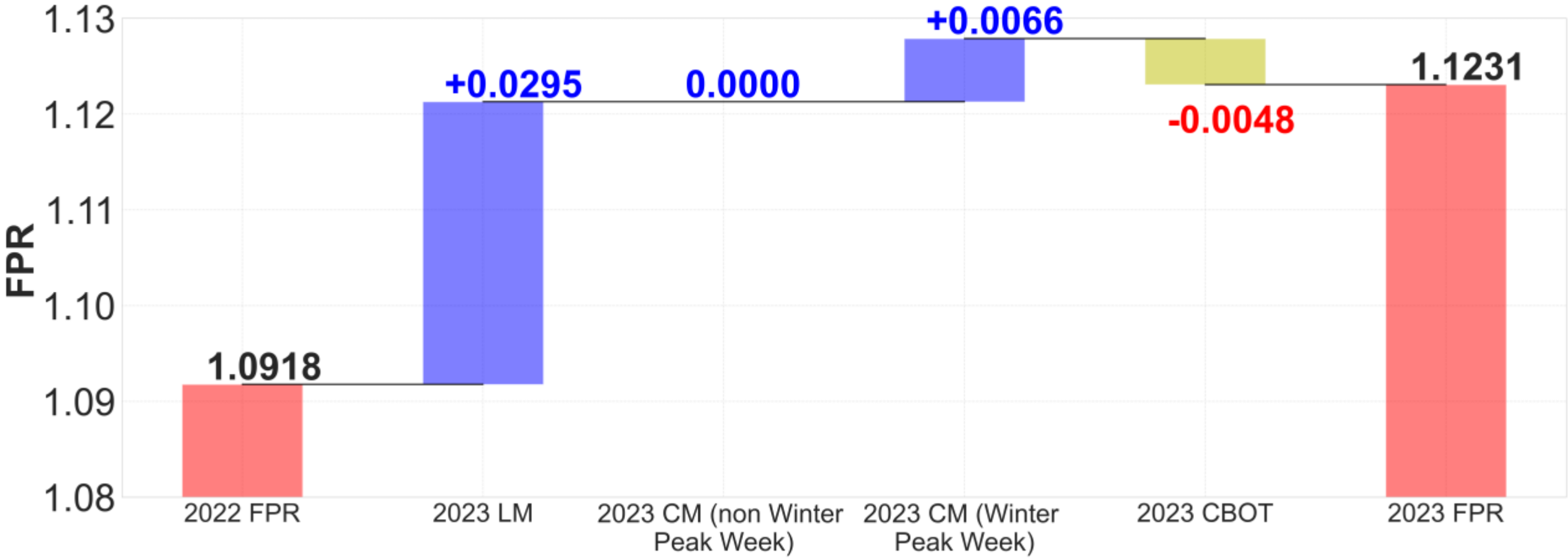
2023 FPR – Hourly Model – Waterfall Chart



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Next Steps

- For FPR and IRM
  - Sep, PC: first read of FPR and IRM
  - Sep, MRC: first read of FPR and IRM
  - Oct, PC: vote on FPR and IRM
  - Oct-Nov, MRC and MC: review and vote on FPR and IRM
  - Dec, PJM Board: final approval of FPR and IRM

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Contact

SME/Presenter:

Patricio Rocha-Garrido

Patricio.Rocha-Garrido@pjm.com

2023 Reserve Requirement Study (RRS)
Preliminary Results

Member Hotline

(610) 666 – 8980

(866) 400 – 8980

custsvc@pjm.com

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Appendix

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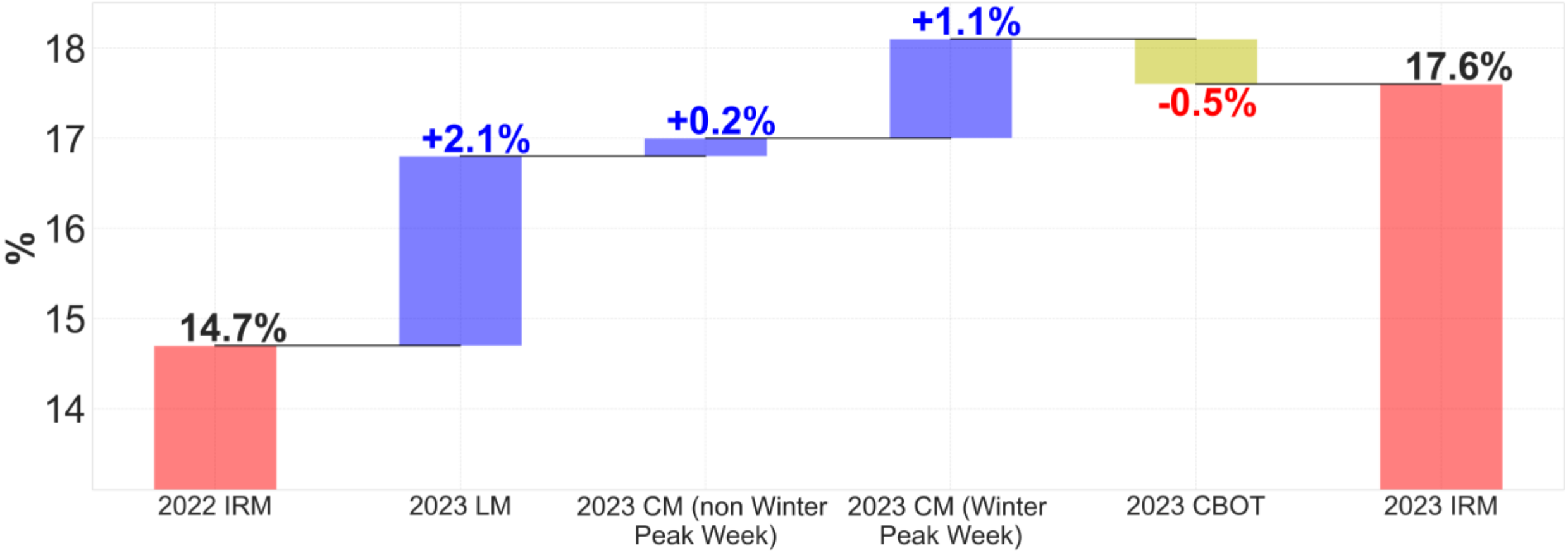
2023 IRM – PRISM – Waterfall Chart



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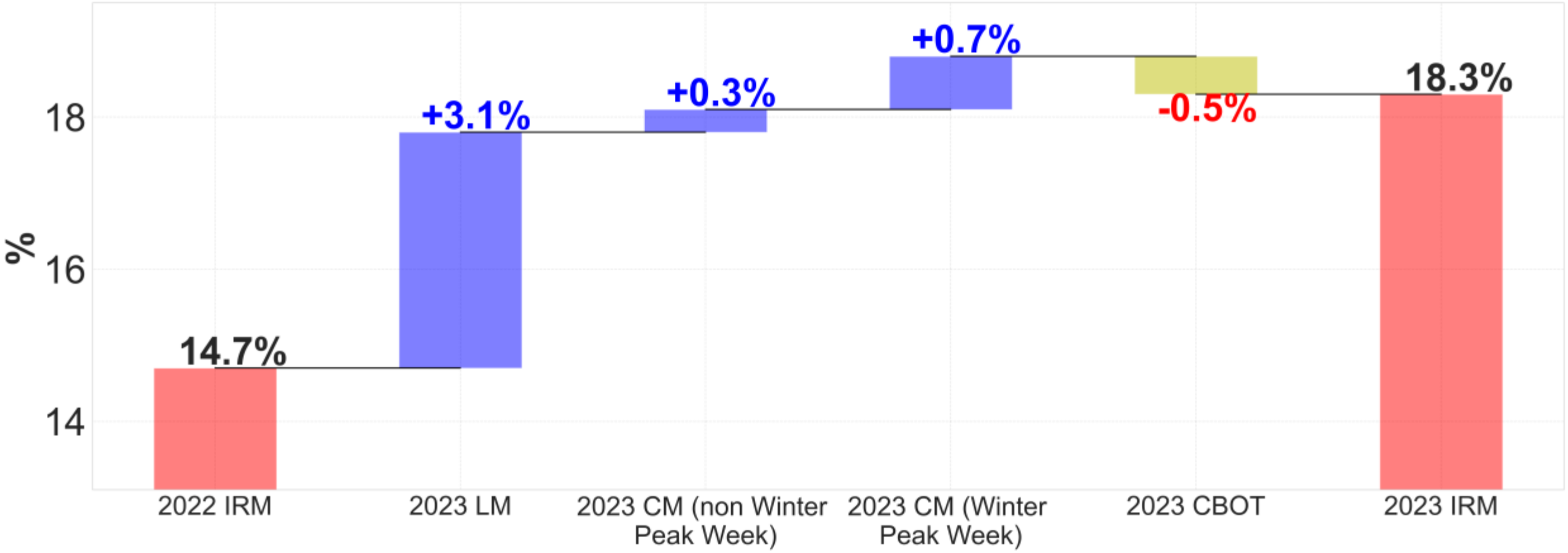
2023 IRM – Hourly Model – Waterfall Chart



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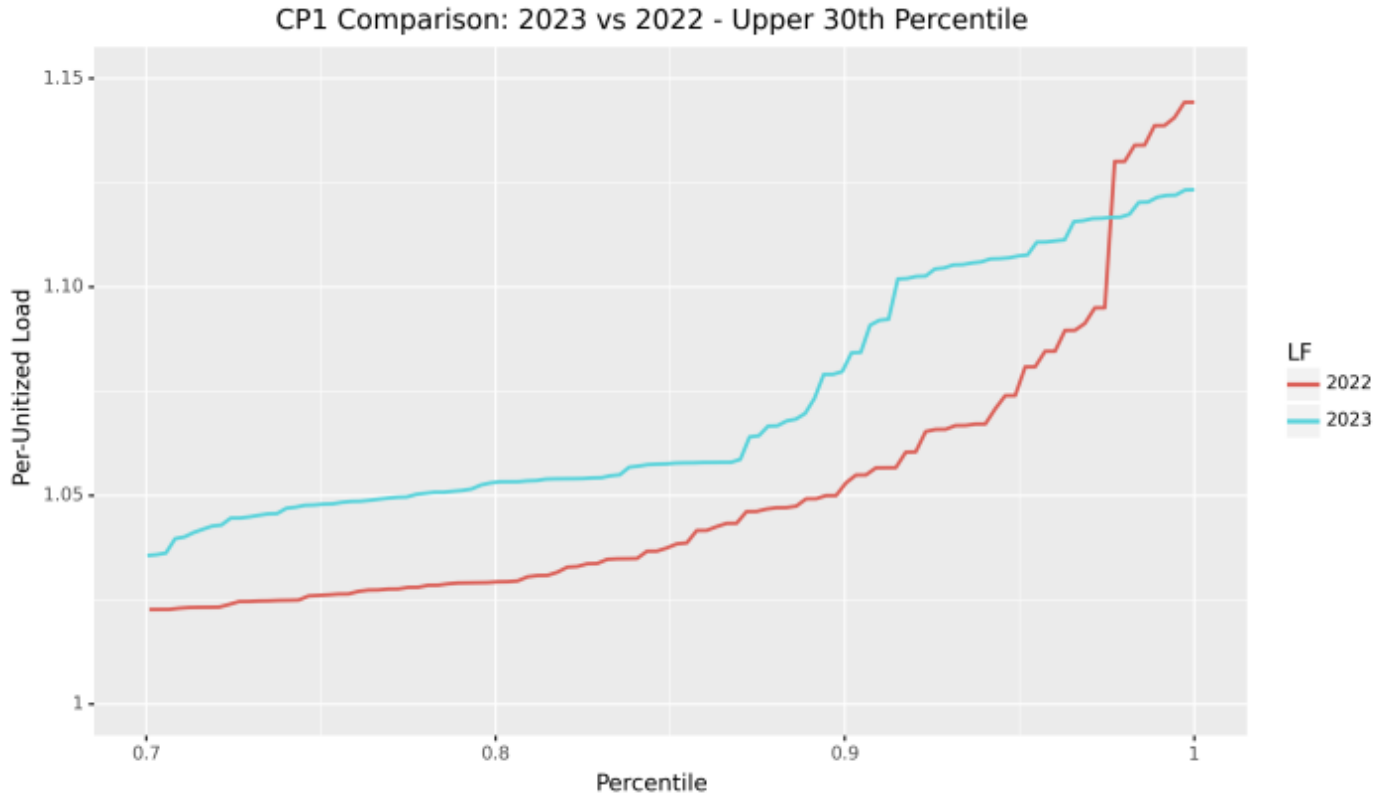
Explanation Of Changes

- The 2023 Load Model (LM), relative to the 2022 LM, puts upward pressure on both the FPR and the IRM



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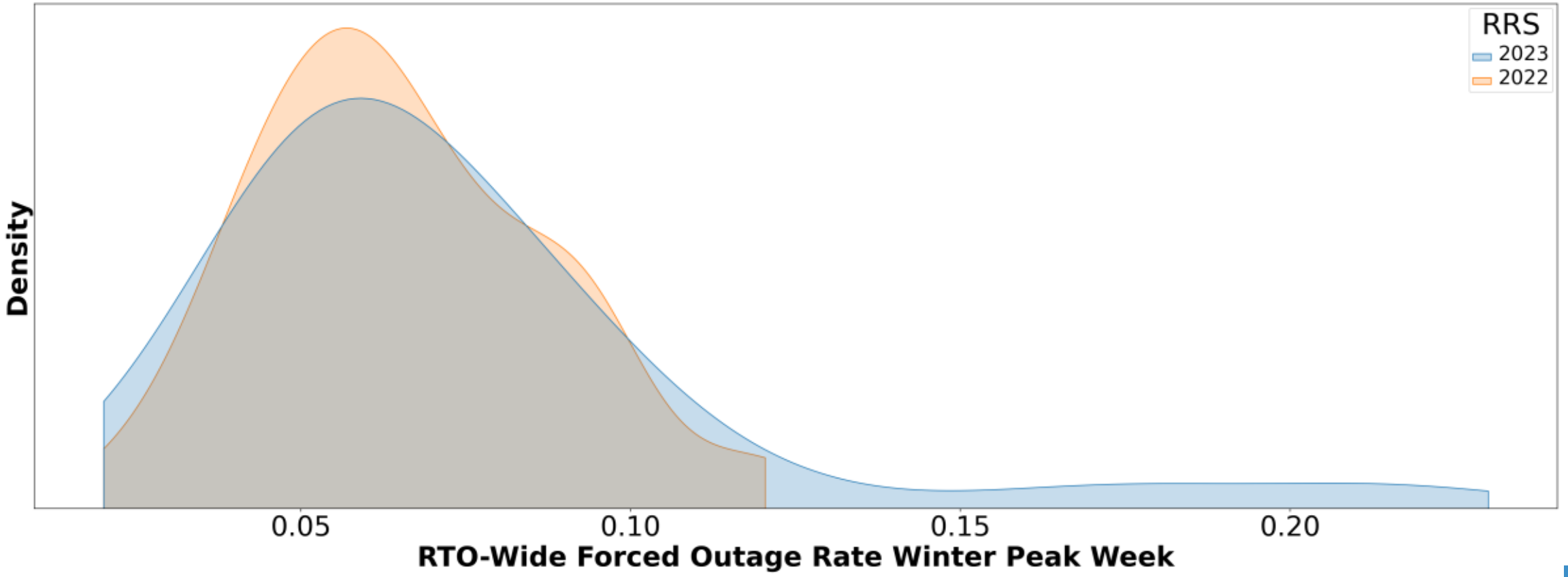
Explanation Of Changes

- The 2023 Winter Peak Week Capacity Model (WPWCM) relative to the 2022 WPWCM, puts upward pressure on both the FPR and the IRM.



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Explanation of Changes

- The 2023 Capacity Benefit of Ties (CBOT), relative to the 2022 CBOT, puts downward pressure on both the FPR and the IRM
  - The CBOT increased to 1.5% (2023 RRS) from 1.0% (2022 RRS).
- The 2023 Capacity Model (non Winter Peak Week), relative to the 2022 Capacity Model (non Winter Peak Week), puts upward pressure on the IRM.
  - The Average EEFORd in the 2023 RRS (for DY 2027) is 5.90% whereas in the 2022 RRS (for DY 2026) was 5.70 %

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