



2021 Reserve Requirement Study Results

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Resource Adequacy Planning
Members Committee
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- Study results will re-set the Forecast Pool Requirement (FPR) and Installed Reserve Margin (IRM) for 2022/23, 2023/24, 2024/25 and establish initial IRM and FPR for 2025/26.
- Capacity model built with GADS data from 2016-2020 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 2020/21 (in addition, data from DY 2013/14 was dropped and replaced with data from DY 2014/15)
- PJM and World load models based on 2001-2013 time period and 2021 PJM Load Forecast (released in January).
- Study assumptions were endorsed at June, 2021 PC meeting.
- Load Model selection was endorsed at August, 2021 PC meeting.

2021 RRS Results vs 2020 RRS Results

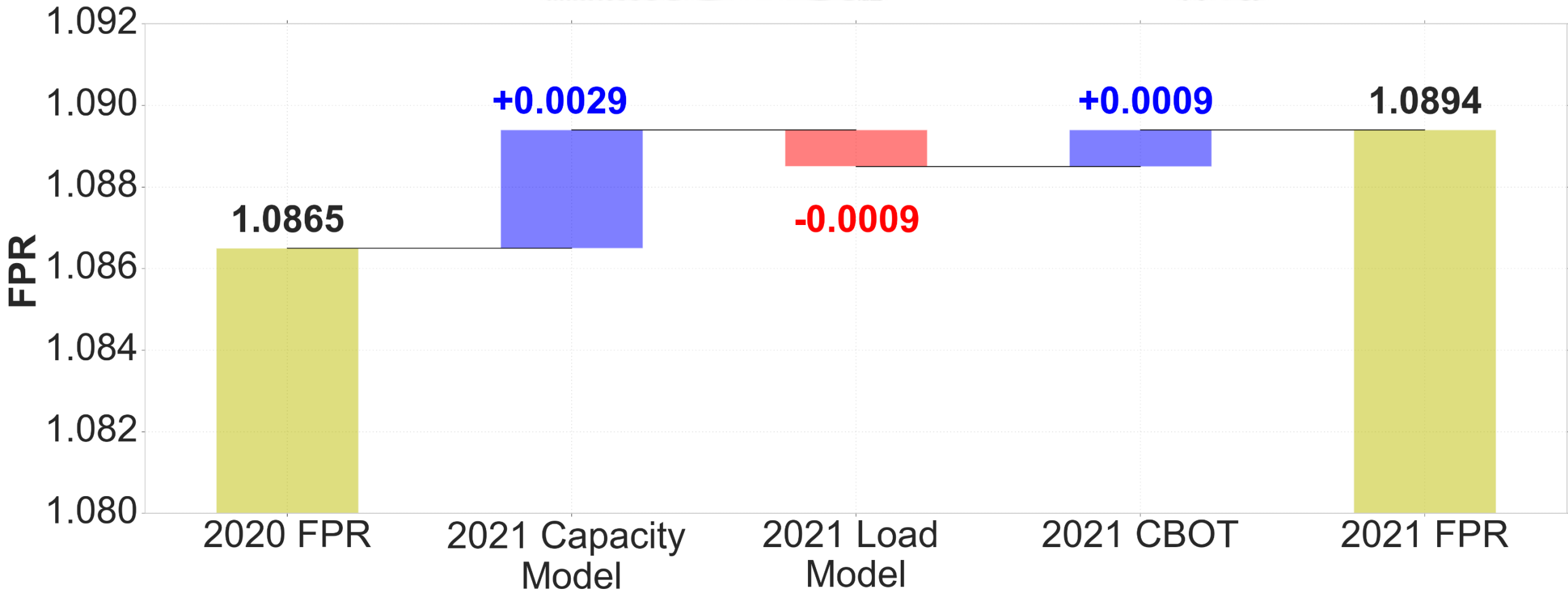
2021 RRS Study results:

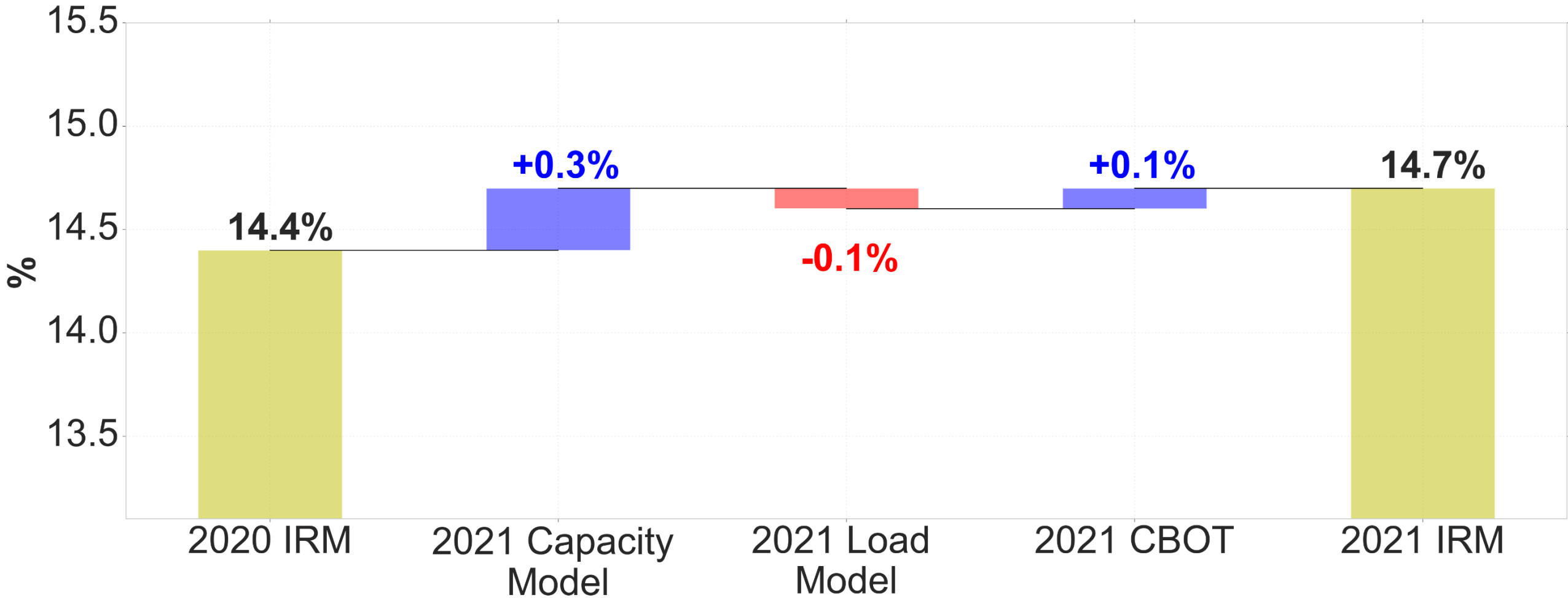
RRS Year	Delivery Year Period	Calculated IRM	Recommended IRM	Average EFORD	Recommended FPR*
2021	2022 / 2023	14.93%	14.9%	5.08%	1.0906
2021	2023 / 2024	14.76%	14.8%	5.04%	1.0901
2021	2024 / 2025	14.68%	14.7%	5.02%	1.0894
2021	2025 / 2026	14.66%	14.7%	5.02%	1.0894

2020 RRS Study results:

RRS Year	Delivery Year Period	Calculated IRM	Recommended IRM	Average EFORD	Recommended FPR*
2020	2021 / 2022	14.73%	14.7%	5.22%	1.0871
2020	2022 / 2023	14.51%	14.5%	5.08%	1.0868
2020	2023 / 2024	14.42%	14.4%	5.04%	1.0863
2020	2024 / 2025	14.39%	14.4%	5.03%	1.0865

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





- The 2021 Load Model puts downward pressure on both the FPR and the IRM
- The 2021 Capacity Benefit of Ties (CBOT) puts upward pressure on both the FPR and the IRM
 - The CBOT decreased to 1.47% (2021 RRS) from 1.54% (2020 RRS)
- The 2021 Capacity Model is driving the increase in the IRM and FPR.
 - Specifically, the removal of ELCC Resources from the model which had two impacts:
 - The 2,500 MW ambient derating in the summer now represents a larger share of the total summer ICAP (1.41% in the 2021 RRS vs 1.28% in the 2020 RRS). Therefore, the effective forced outage rate in the summer peak period is greater in the 2021 RRS.
 - The PJM average unit size increased to 175 MW (in 2021 RRS) from 159 MW (in 2020 RRS)

- Based on the previous slide, it can be concluded that, **relative to the 2020 RRS**, the removal of ELCC Resources from the 2021 RRS is playing a key role in the FPR's mild increase.
- Regarding the above conclusion, the following clarification is important to note:
 - **The removal of the ELCC Resources from the 2021 RRS is an improvement in the way the RRS is run.** This should be taken into consideration when interpreting the comparison to last year's study results.

- The 2021 RRS Report has been posted alongside this presentation
- There are no major changes/additions/deletions to the report's structure relative to the 2020 RRS Report

- **November, MC: Request for endorsement**
- December, PJM Board: Request for final approval

- Endorsement of the Recommended FPR and IRM values in the table below

2021 RRS Study results:

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The Markets & Reliability Committee (MRC), Planning Committee (PC) and the Resource Adequacy Analysis Subcommittee (RAAS) endorsed these values.

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2021 Reserve Requirement Study



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