2023 Reserve Requirement Study (RRS) Assumptions

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Resource Adequacy Planning

RAAS

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- The 2023 RRS will re-set the Forecast Pool Requirement (and the Installed Reserve Margin) for delivery years (DY) 2024/25, 2025/26, 2026/27 and establish initial FPR values for 2027/28.
  - The study will also set the Winter Weekly Reserve Target (WWRT) for Winter 2023/2024
- The 2023 RRS will be conducted using two software tools
  - PRISM, the tool that PJM has used historically to conduct the RRS
  - The hourly loss of load model used to perform the ELCC study
- Given the different characteristics of the two software tools, two sets of assumptions are required
  - Set #1, for PRISM
  - Set #2, for the hourly model
  - The full list of assumptions in both sets is posted alongside this presentation

- ELCC resources are excluded from the study (in both assumptions' sets)
  - Performance limitations of such resources are captured in their accreditation and therefore, should not increase the FPR (the main objective of the RRS)
- Resource performance metrics (EFORd, Equivalent Planned Outage Factor, Mean time to Failure, etc.) are estimated using eGADS data from period 2018-2022
- The capacity model for all weeks of the years except the winter peak week is built assuming that forced outages are independent
  - For the winter peak week, historical actual RTO-aggregate outage winter peak week data from period delivery year 2007/08 – delivery year 2022/23 is used
  - Given the resource performance during winter storm Elliott, this year PJM will not exclude and replace performance data from delivery year 2013/14 (i.e. first polar vortex)

- For Set #1, PJM will perform the Load Model Selection process, as performed in previous years
- For Set #2, the above Load Model Selection process is not needed. PJM models the monthly peak load uncertainty in the 2023 PJM Load Forecast by:
  - Deriving load scenarios for each year in the period DY 2012 – DY 2021
  - Deriving a frequency weight for each year in the period DY 2012 – DY 2021
  - This methodology was used in the most recent ELCC study in December 2022

- For both Set #1 and Set #2, the CBOT will be determined by averaging the most recent historical CBOT values since the 2017 RRS (including the value calculated this year with PRISM; a total of 7 CBOT values)

  – The 2017 RRS was the first RRS that did not include ISO-NE as part of the "World"

  – This is a departure from previous years' studies triggered by observed volatility in historical CBOT values from year to year due to load model changes

Note about the Critical Issue Fast Path – Resource Adequacy

- PJM staff will perform 2023 RRS-related analysis at the request of the Critical Issue Fast Path – Resource Adequacy (CIFP-RA) stakeholder group.

  – This additional analysis will not be subject to the 2023 RRS approval process

- May, PC: first read of 2023 RRS Assumptions
- May, RAAS: vote on 2023 RRS Assumptions
- June, PC: vote on 2023 RRS Assumptions

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Appendix

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