

Accreditation Reforms: Sensitivity Analyses with Performance Weighting

ELCCSTF

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Reflect improved performance in accreditation and risk model as it happens, and quicker than status quo

- Under status quo, all historical days in a temperature-performance bin are weighted equally when making Monte Carlo draws
- By using a weighting approach, more recent historical days in a temperature-performance bin can receive a higher weight, making such days to be more likely to be drawn by the Monte Carlo (and therefore, older historical days in a bin, less likely to be drawn)
- This increases investment incentives given more recent observations of performance will now hold greater weight when determining the capacity value of resources and the capacity compensation they receive going forward

- A review of the performance weighting methodology using exponential smoothing and prior sensitivity analyses against the old 26/27 BRA case run back in June 2024 can be found below:
 - [20250219-item-04---continued-discussion-on-accreditation-reforms---weighting-approach---pjm-presentation.pdf](#)
- At a previous ELCCSTF meeting, an initial set of sensitivity results against the following case were provided (see [https://www.pjm.com/-/media/DotCom/committees-groups/task-forces/elccstf/2025/20250422/20250422-item-03---accreditation-reforms---sensitivity-analyses-of-weighting-approach---pjm-presentation.pdf](#)):
 - The 26/27 BRA case using preliminary 24/25 weather, load and resource performance data
 - The above case using performance weighting alpha values of: 0.1, 0.2 and 0.3

- Today, we provide additional sensitivities using the following case
 - The 26/27 BRA case +
 - DR changes DR changes recently accepted by FERC in Docket No. ER25-1525 +
 - “WICAP” sensitivity + (as described in slides 15-18 at <https://www.pjm.com/-/media/DotCom/committees-groups/task-forces/elccstf/2025/20250522/20250522-item-02---elcc-accreditation-methodology-update-on-sensitivity-analyses---pjm-presentation.pdf>)
 - “Align” sensitivity + (as described in slides 11-15 at <https://www.pjm.com/-/media/DotCom/committees-groups/task-forces/elccstf/2025/20250522/20250522-item-02---elcc-accreditation-methodology-update-on-sensitivity-analyses---pjm-presentation.pdf>)
 - Preliminary 24/25 weather, load and resource performance data (repeated *once* and *twice*)
 - Performance weighting alpha values of: 0.2 and 0.3

- Actual unrestricted loads between the 2024-06-01 and 2025-02-28 were used, adjusted for applicable growth rate for DY 26/27 per 2025 PJM Load Forecast
 - For the period between 2025-03-01 and 2025-05-31, load data from DY 24/25 was used
- For the period between 2024-11-01 and 2025-05-31, an hourly forced outage value of 10% was used
 - This value was selected as proxy for the performance observed during the most recent cold weather event during 2025-01-21 and 2025-01-22
 - For the rest of the months in DY 24/25, forced outage rates from DY 23/24 were used

- The preliminary RTO-wide Temperature Humidity Index (THI) values for 2025-01-21 and 2025-01-22 are 6.03 and 5.47, respectively
- For the sensitivities shown today, PJM **merged** the two coldest bins
- Rolling in THI data from 2024-06-01 through 2025-01-28 **once (x1)** results in the above two dates falling in the coldest temperature bin
 - The coldest bin has 22 days post 2012-06-01
- Rolling in THI data from 2024-06-01 through 2025-01-28 **twice (x2)** results in the above two dates falling in the coldest temperature bin
 - The coldest bin has 24 days post 2012-06-01

Results of New Sensitivity Analyses

Results	24/25 Data* x1 No Alpha	24/25 Data* x1 Alpha=0.2	24/25 Data* x1 Alpha=0.3	24/25 Data* x2 No Alpha	24/25 Data* x2 Alpha=0.2	24/25 Data* x2 Alpha=0.3
Solved Load	160,476	160,759	160,242	160,560	160,682	161,087
IRM	19.2%	19.0%	19.4%	19.2%	19.1%	18.8%
Overall Winter LOLH Share	69%	68%	77%	64%	68%	59%
LOLH Risk Contribution of Jan 7 2014 Performance Pattern	32%	16 %	12%	27%	14%	10%
LOLH Risk Contribution of Dec 24 2022 Performance Pattern	34%	49%	63%	35%	51%	46%
LOLH Risk Contribution of Winter 2013/14 Performance Pattern	34%	17%	12%	28%	15%	11%
LOLH Risk Contribution of Winter 2022/23 Performance Pattern	35%	52%	65%	36%	53%	48%
Conditional Probability of Drawing PV1 or WSE Performance (PV1 + WSE)	9.1% (4.55% + 4.55%)	9.9% (2.9% + 7.0%)	10.6% (2.1% + 8.5%)	8.3% (4.17% + 4.17%)	8.1% (2.3% + 5.8%)	7.9% (1.52% + 6.33%)
Weight in Perf. Adj Calculation of 24/25 winter performance (x1 or x2)	6.1%	11.9%	18.7%	10.5%	21.8%	25.5%

* The 24/25 data to calculate loads, temperature bins and resource performance is preliminary. For some hours, estimated values have been used.

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