

Accreditation Reforms: Sensitivity Analyses with Performance Weighting

ELCCSTF

April 22, 2025

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 the previous ELCCSTF meeting, an initial set of sensitivity results against the official 26/27 BRA case were provided (see [https://www.pjm.com/-/media/DotCom/committees-groups/task-forces/elccstf/2025/20250403/20250403-item-03---sensitivity-analyses-of-weighting-approach---pjm-presentation.pdf](#))
- Today, we provide additional sensitivities against the official 26/27 BRA case:
 - 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

- 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
- Rolling in THI data from 2024-06-01 through 2025-01-28 results in the above two dates falling in the second coldest temperature bin
 - The coldest bin remains unchanged (18 days with 7 of them post 2012-06-01)
 - The second coldest bin goes from a membership of 20 days to 22 days (with 15 of them post 2012-06-01)

Results of New Sensitivity Analyses

Results	26/27 BRA	26/27 BRA Alpha = 0.1	26/27 BRA DR	26/27 BRA DR Alpha = 0.1	26/27 BRA Inc 24/25 Data*	26/27 BRA Inc 24/25 Data* Alpha=0.1	26/27 BRA Inc 24/25 Data* Alpha=0.2	26/27 BRA Inc 24/25 Data* Alpha=0.3
Solved Load	160,682	160,815	160,998	161,080	160,960	160,642	160,508	159,841
IRM	19.10%	19.00%	18.80%	18.80%	18.90%	19.10%	19.20%	19.70%
Overall Winter LOLH Share	82.40%	81.70%	78.20%	77.30%	80.30%	82.40%	82.32%	86.94%
LOLH Risk Contribution of Jan 7 2014 Performance Pattern	41.80%	19.50%	41.20%	19.70%	42.20%	16.20%	11.60%	8.30%
LOLH Risk Contribution of Dec 24 2022 Performance Pattern	20.40%	38.20%	18.20%	35.20%	20.10%	42.10%	43.30%	52.90%
LOLH Risk Contribution of Winter 2013/14 Performance Pattern	51.50%	26.50%	50.40%	26.70%	50.30%	23.10%	16.50%	11.40%
LOLH Risk Contribution of Winter 2022/23 Performance Pattern	28.60%	53.00%	25.20%	48.30%	26.80%	55.30%	60.60%	70.9%

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

Facilitator:
Michele Greening,
Michele.Greening@pjm.com

Secretary:
Matthew Connolly,
Matthew.Connolly@pjm.com

SME/Presenter:
Patricio Rocha Garrido
Patricio.Rocha-Garrido@pjm.com

ELCCSTF –Accreditation Reforms: Performance Weighting



Member Hotline

(610) 666-8980

(866) 400-8980

custsvc@pjm.com

**PROTECT THE
POWER GRID**
**THINK BEFORE
YOU CLICK!**



**BE ALERT TO
MALICIOUS PHISHING
EMAILS**



Report suspicious email activity to PJM.
Call (610) 666-2244 or email it_ops_ctr_shift@pjm.com