Accreditation Reforms: Sensitivity Analyses with Performance Weighting

ELCCSTF

April 3, 2025

Review: Performance Weighting

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

Review: Performance Weighting (cont'd)

- 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
- We are working on running additional sensitivity analyses now using the official 26/27 BRA case as a new baseline
- The following slide provides an initial set of sensitivity results against the official 26/27 BRA case that looks at three initial sensitivities:
  - The 26/27 BRA using a performance weighting alpha of 0.1
  - The 26/27 BRA with the filed DR reforms implemented
  - The 26/27 BRA with the filed DR reforms and a performance weighting alpha of 0.1

Results of New Sensitivity Analyses

Results	26/27 BRA	26/27 BRA Alpha	26/27 BRA DR	26/27 BRA DR Alpha
Solved Load	160,682	160,815	160,998	161,080
IRM	19.10%	19.00%	18.80%	18.80%
Overall Winter LOLH Share	82.40%	81.70%	78.20%	77.30%
LOLH Risk Contribution of Jan 7 2014 Performance Pattern	41.80%	19.50%	41.20%	19.70%
LOLH Risk Contribution of Dec 24 2022 Performance Pattern	20.40%	38.20%	18.20%	35.20%
LOLH Risk Contribution of Winter 2013/14 Performance Pattern	51.50%	26.50%	50.40%	26.70%
LOLH Risk Contribution of Winter 2022/23 Performance Pattern	28.60%	53.00%	25.20%	48.30%

Note: Performance Weighting Alpha = 0.1

ELCC Class Ratings	26/27 BRA	26/27 BRA Alpha	26/27 BRA DR	26/27 BRA DR Alpha
Onshore Wind	41%	46%	39%	44%
Offshore Wind	69%	72%	67%	69%
Fixed-Tilt Solar	8%	8%	10%	9%
Tracking Solar	11%	10%	13%	11%
Landfill Intermittent	50%	47%	51%	48%
Hydro Intermittent	38%	38%	38%	38%
4-hr Storage	50%	50%	56%	57%
6-hr Storage	58%	59%	65%	66%
8-hr Storage	62%	63%	69%	69%
10-hr Storage	72%	72%	78%	79%
Demand Response	69%	68%	88%	88%
Coal	83%	82%	83%	83%
Diesel Utility	91%	91%	91%	92%
Gas CC	74%	73%	75%	74%
Gas CT	60%	61%	62%	63%
Gas CT Dual	78%	81%	78%	81%
Nuclear	95%	95%	95%	96%
Steam	73%	75%	74%	76%

Additional Sensitivities on Performance Weighting

- We are in the process of running and analyzing additional sensitivities using the official 26/27 BRA case to share in upcoming meetings to help ensure we collectively have a full understanding of the implications of using performance weighting in the analyses, including:
  - Additional sensitivities under various alpha values (recall higher alpha values put greater weight on more recent performance than lower alpha values)
  - Incorporating winter 2025 performance data within the analyses and accreditation under various weighting assumptions and sensitivities (this requires some additional assumptions in the analyses as we won't have the full set of input data for this delivery year)

Contact

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ELCCSTF –Accreditation Reforms: Performance Weighting

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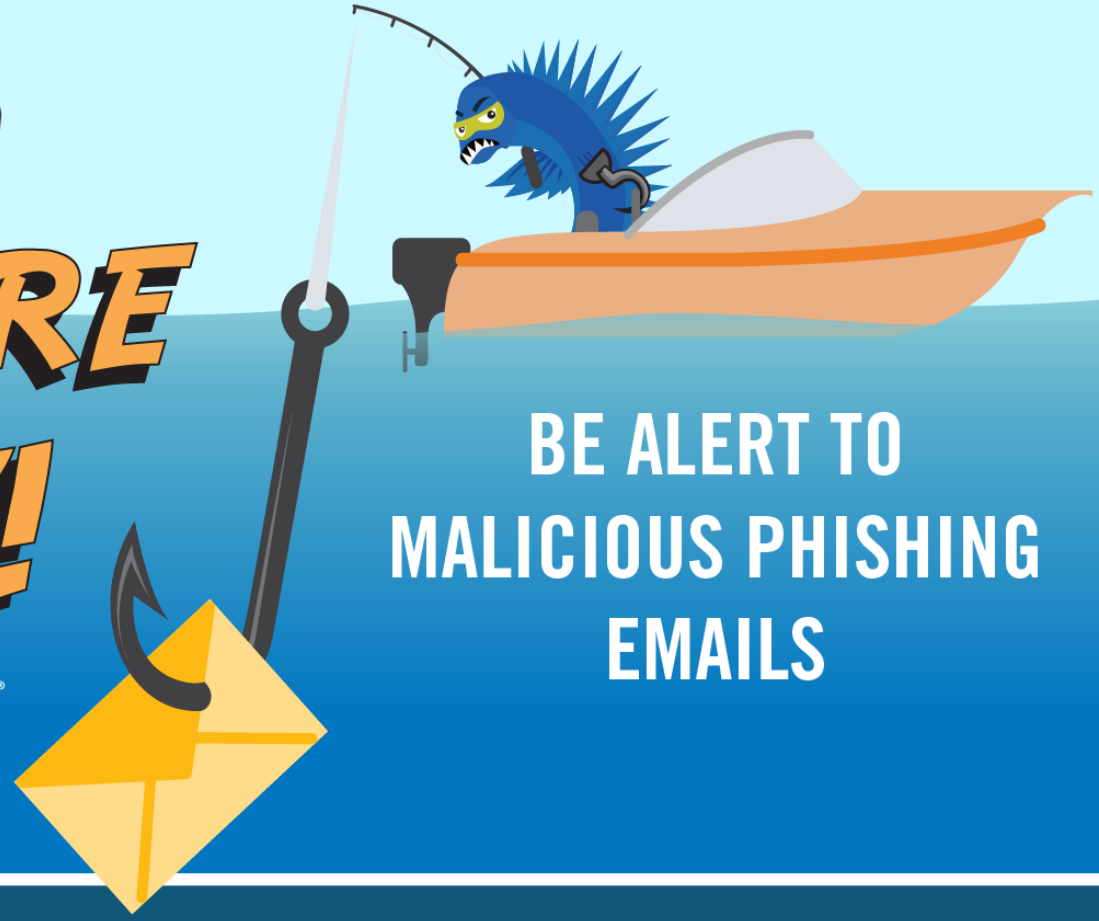

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