Proposed Error Percentiles for Day Ahead Scheduling Reserve Quantities

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Day Ahead Scheduling Reserve Summary

- Consider peak load hour forecast for the next day
- Multiply risk determined percentile of load underforecast error and generation performance by peak load forecast
- Multiply risk determined percentile of solar and wind overforecast forecast error by forecasted output at peak load hour
- Resulting total MWs are the DASR requirement

Updated Percentiles and Percent Values

Medium shifted to 85th percentile based on additional analysis

Proposed Risk Values	Percentile	Load	Generator Performance	Solar	Wind
Low	80th Load / 50th Others	2.19%	2.03%	11.28%	9.68%
Medium	80th All	2.19%	3.12%	19.71%	21.48%
Medium	85th All	2.42%	3.49%	22.50%	24.19%
High	90th All	2.79%	3.88%	25.51%	26.54%
	95th All	3.55%	4.68%	31.33%	32.43%

Justification for Percentiles – High Risk

- Percentile chosen for high risk as 90th percentile of all components
- Median uncertainty for historic high uncertainty days was 6.85% of forecasted peak load
- Close to sum of historic 90th percentiles of peak load forecast error and generation loss at 6.60% (recent 90th percentiles add to 6.67%)
- Utilizing the 95th percentile to set reserve requirements would result in 8.23% of the peak load forecast, much higher than the median uncertainty of historic days (historic add to 7.98%)
- Shows similar position of historic high uncertainty days in uncertainty distribution and percentiles being used to set reserve requirements for high-risk days

Justification for Percentiles – Medium Risk

- Percentile chosen for medium risk as 80th percentile of all components
- Median uncertainty for historic medium uncertainty days was 5.85% of forecasted peak load
- Close to sum of historic 85th percentiles of load underforecast error and generation loss at 5.73% (recent 85th percentiles add to 5.91%)
- Historic 80th percentiles add to 5.16%, much lower than the median of historic medium uncertainty days (recent 80th percentiles add to 5.31%)
- Shows that 85th percentile would provide a better match of the position of historic medium uncertainty days in uncertainty distribution and percentiles being used to set reserve requirements for medium-risk days

Justification for Risk Level Percentiles Table

Proposed Risk Level	Percentile	Peak Load Forecast % Reserves	Historic Peak Load Forecast % Uncertainty*	Historic Median Uncertainty for Risk Level*
Low	80th Load/50th Others	4.22%	4.16%	2.17% - N/A
	80th All	5.32%	5.16%	
Medium	85th All	5.91%	5.73%	5.85%
High	90th All	6.67%	6.60%	6.85%
	95th All	8.23%	7.98%	

Appropriately conservative for everyday operations

Aligns with historic uncertainty for risk level

* Historic data is the data set from March 2018 forward used to assess historic uncertainty and train the uncertainty model. The DASR 2025 data set used for example reserve values is from November 2021 to October 2024

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Proposed Error Percentiles for Day Ahead Scheduling Reserve Quantities

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