



LOLE Continuing Error

Resource Adequacy Subcommittee

August 20, 2025

Executive Summary



- MISO discovered and verified a third-party software coding error that incorrectly uses "all hours" for purposes of performing Loss of Load Expectation (LOLE) calculations instead of the Tariff-defined "daily peak hours." The error was discovered in June 2025, and dates back to 2017 for the 2018/19 planning year.
- MISO has determined that the software error constitutes a Continuing Error under the MISO Tariff.
- Appropriate adjustments will be made to impacted entities with megawatt imbalances (long or short).
- MISO is committed to improving software testing and validation processes moving forward.

MISO discovered an error in the third-party software used to calculate Loss of Load Expectation (LOLE)

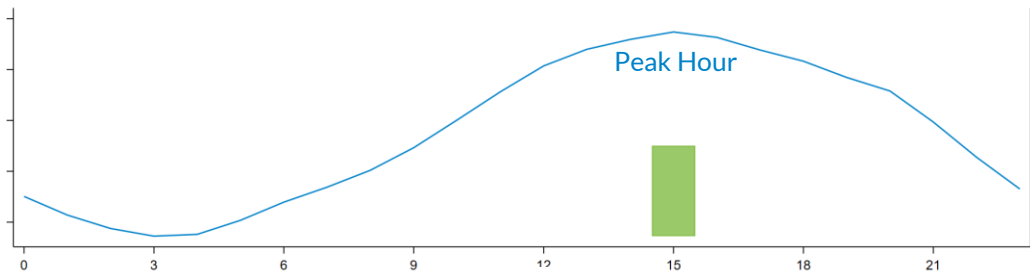
- MISO identified the error in June 2025 while running simulations of LOLE in preparation for the proposed definition change in the Tariff from “daily peak hour” to “all hours.”
- Instead of the software using the required daily peak hour methodology, it used an all-hours approach.
- Software documentation and user interface indicate that the software is compliant with the Tariff, both providing specific instructions for calculating LOLE based on the use of daily peak hours only.
- After MISO discovered the error, the vendor confirmed the software has never calculated LOLE based on the daily peak hour methodology since implemented in the 2018/19 PRA.

*The **LOLE** is a measure of power system reliability. It impacts the calculation of Planning Reserve Margins (PRM) used in the Planning Resource Auction.*

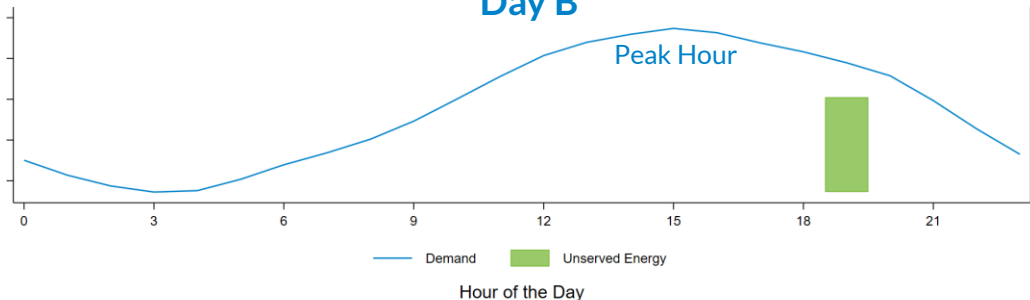
*The **PRM** is an explicit percentage of additional capacity above expected peak demand that planners require to ensure resource adequacy.*

LOLE calculations based on integrated daily peak hour vs. all hours

Day A



Day B



Daily Peak Hour Only Calculation

The Tariff-defined calculation accounts for a Loss of Load Event in Day A only, because this event occurs during the **peak hour**, and ignores Day B because the Loss of Load Event does not cover the peak hour.

All Hour Calculation

The LOLE determination accounts for a Loss of Load Event in both Day A and in Day B because an identified unserved energy event occurring during any hour is included in LOLE calculations.

- This is the manner in which the MISO software inadvertently calculates LOLE.
- This is also the manner in which MISO proposes to calculate LOLE going forward, since the risk profile is shifting.

Relevant Tariff Language

Loss of Load Expectation Tariff definition:

- **Current:** “The sum of the loss of Load probability for the integrated daily peak hour for each day of the year.”
- **Proposed:** “An estimate of the average number of days with supply interruption to end customers, whether for a single hour or all 24 hours.”

Continuing Error current Tariff definition:

“A continuing software, system or other execution that is inconsistent with the Tariff.”
(Module A)

- The relevant remedy for a Continuing Error is set forth in Section 12A.e of the Tariff:

[I]f the Transmission Provider discovers and verifies a Continuing Error, even if there is no timely market settlement or transmission settlement dispute, the Transmission Provider shall post a notification on its website describing the existence of the Continuing Error and make the appropriate adjustments up to one year going backward from the date of that notification.

MISO will make appropriate adjustments to the results of the 2025/26 PRA

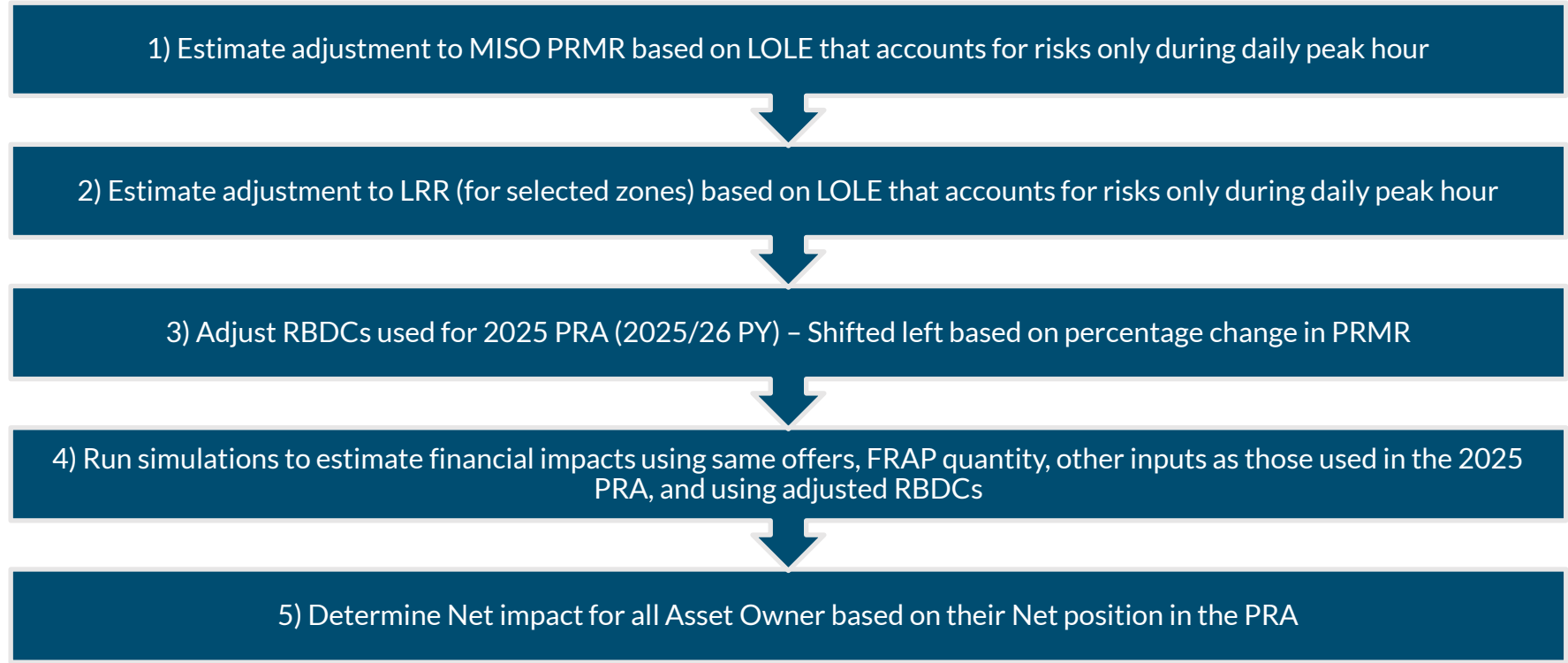
MISO
recognizes the
role the PRA
plays in our
footprint

- MISO is not rerunning or resettling the PRA, taking new bids, or establishing a new auction clearing price.
- MISO will make appropriate adjustments to applicable settlement statements to more accurately reflect the correct LOLE and PRMR for the 2025/26 PRA.
- The total financial impact based on net positions is approximately \$280 million, with more than 80% in the 2025 summer season.

MISO has determined that no adjustment is appropriate for the 2024/25 PRA

- 2024/25 Planning Year has concluded
- The final auction results were established outside of the 1-year window under the Tariff
- Parties have already fully met their must offer and Resource Adequacy obligations

Approach to determine “Appropriate Adjustments”



MISO is committed to working with stakeholders, and will improve software testing and validation processes moving forward

MISO will:

- File the updated LOLE definition with FERC by August 30, 2025.
- Communicate with affected stakeholders regarding adjustments.
- Hold a workshop in September to discuss the approach for appropriate adjustments and changes stakeholders should expect on settlement statements/invoices.
- Issue settlement statement/invoice with adjustments for the summer season by September 25.
- Strengthen validation and product testing for critical software.



Questions?
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