



## Overview

- **MISO Outage Submission Timelines**
- **MISO Study Process**
- **Coordination with Neighbors**
- **FTR, DA Market Feedback Loop**
- **Additional Efforts**



## Summary of MISO Submission Timelines

| Type         | Planned Submittal Time                    | Time Considered Late                | Unplanned Submittal Time              | Comments                                    |
|--------------|---|-------------------------------------|---------------------------------------|---|
| Generation   | 24 Months;<br>36 Months for Nuclear       | 12 Months;<br>24 Months for Nuclear | ASAP; 30 min. notification for Forced | Derates required; threshold applies         |
| Transmission | 14 days for Class 1<br>7 days for Class 2 | Less than submittal time            | ASAP                                  | Allow for Opportunity/Discretionary Outages |



## MISO Study Process

- **Utilize planning based model as base case**
  - Includes full bus/branch model for Adjacent BAs
- **Create individual study cases for each day with an outage; update assumptions at least 3 days**
  - Additional outages received (MISO and external)
  - Load Forecast
- **Thorough analysis process that includes sensitivity analysis to address uncertainty in forecasts**
  - Wind Output
  - Interface Transfers (e.g. ComEd to AEP flows)



## Coordination with Neighbors

- **Participate in Weekly Coordination Meetings**
  - Includes PJM, TVA, SPP, and IESO
  - Identify outage conflicts for next 3 weeks
  - Development of mitigation plans or reschedule
- **Bi-Monthly Review Meeting with PJM**
  - Identify outage conflicts for next 6-12 months
  - Identify potential constraints/mitigation/reschedule



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## MISO FTR and DA Market Feedback Loop

- **FTR Market**
  - Solicit potential outage submittals from TO's to include in Annual Auction
  - Engineers identify most impactful outage constraints to include in Monthly FTR Auction
  - Perform after the fact analysis on contributors to FTR shortfall
- **DA Market**
  - Constraints available to DA market clearing process
  - Daily metrics monitor accuracy of constraint identification



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## **Additional Efforts**

- **Review outage submittal statistics with Transmission Owners**
- **Reviewing current procedures and process with MISO Transmission Owners to identify enhancements**
- **Evaluating processes and tools to better identify economic impact of a specific outage**
- **Work with MISO's Neighbors to understand their processes and identify possible enhancements**





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