Overview

• MISO Outage Submission Timelines
• MISO Study Process
• Coordination with Neighbors
• FTR, DA Market Feedback Loop
• Additional Efforts
Summary of MISO Submission Timelines

<table>
<thead>
<tr>
<th>Type</th>
<th>Planned Submittal Time</th>
<th>Time Considered Late</th>
<th>Unplanned Submittal Time</th>
<th>Comments</th>
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<tr>
<td>Generation</td>
<td>24 Months; 36 Months for Nuclear</td>
<td>12 Months; 24 Months for Nuclear</td>
<td>ASAP; 30 min. notification for Forced</td>
<td>Derates required; threshold applies</td>
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<td>Transmission</td>
<td>14 days for Class 1 7 days for Class 2</td>
<td>Less than submittal time</td>
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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

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
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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