
MISO's carefully designed operating procedures ensure reliability and predictable outcomes during emergency or abnormal operating situations.

Protecting Reliability

To maintain the reliability of the electric system, MISO operates under a set of carefully designed operating procedures that define system conditions and guide system operator actions in a variety of conditions.

These procedures empower MISO to quickly adjust to system conditions as they unfold.

Operating Conditions

- **Normal Operations:** MISO's Normal Operating Procedures (NOPs) guide our operation of the bulk electric system and are used during normal grid operations. These procedures facilitate the reliable and efficient operation of the electric system and ensure compliance with the MISO tariff and state and federal regulations and standards.
- **Abnormal Operations:** MISO utilizes Abnormal Operating Procedures (AOPs) for events that deviate from normal but do not put the electric system at risk. Examples include malfunctioning software systems or other infrastructure problems affecting MISO or its members. The procedures help mitigate further risk and may include, but are not limited to, implementing a back-up process when a particular system fails.
- **Conservative Operations:** When conditions warrant, MISO declares Conservative Operations as an early indication that system conditions *may* require the use of emergency procedures. During Conservative Operations, non-critical maintenance of equipment is suspended or, in some cases, returned to service. This declaration may be initiated due to weather that poses a threat to the bulk electric system or the potential for geo-magnetic disturbances.
- **Emergency Operations:** Emergency Operating Procedures (EOPs) guide system operator actions when an event occurs on the electric system that has the potential to, or actually does, negatively impact system reliability. Emergency Operating Procedures are communicated in escalating order as advisories, alerts, warnings, and events. Advisories are provided for situational awareness of potential limited operating capacity. Alerts define the affected area and call to temporarily suspend generation unit maintenance in the defined area. During warnings, MISO may require external capacity resources to be available, or may curtail non-firm energy sales. MISO issues Maximum Generation Events when there is a shortage of capacity resources. During emergency events, MISO utilizes Emergency Pricing which does not affect system commitment or dispatch.

Did you know?

- MISO has never issued a call for rolling outages.
- Implementing emergency procedures enables MISO to access more than 9,000 MWs of resources that are unavailable during normal grid conditions.
- "Load shed" is the industry term for power interruptions.

Reference Documents

MISO website: [Reliability Operating Procedures](#)

General Guide to MISO’s Emergency Operations Messaging

MISO’s Emergency Operations messages define the area(s) involved, duration, and projections of system conditions. The table below is a summary and does not replace or redefine MISO’s Emergency Operations messages.

Note: Emergency pricing is an ex-post pricing change and does not affect system commitment or dispatch.

Message	Communication Intent	Potential Member/MISO Actions
Conservative Operations Declaration	Situational Awareness: Reliability issue possible for defined area	<ul style="list-style-type: none"> • Potentially suspend transmission maintenance • Review outage plans for deferral, cancellation
Hot Weather, Cold Weather or Severe Weather Alert	Situational Awareness: MISO could be approaching tight supply conditions	<ul style="list-style-type: none"> • Review outage plans for deferral, cancellation
Capacity Advisory	Situational Awareness: Forecasted capacity shortage in the next 2-3 days	<ul style="list-style-type: none"> • Update facility and generation outages, including de-rates • Update generation offers • Update Load Forecast Values • Update Load Modifying Resource availability and Self Scheduled MW values • Update Emergency Demand Response (EDR) offers
Min Gen Alert	Situational Awareness: MISO is forecasting a potential supply surplus	<ul style="list-style-type: none"> • Prepare for de-commitment (taking generation offline), reduction in purchases or other actions
Max Gen Alert	Situational Awareness: MISO is forecasting a potential capacity shortage	<ul style="list-style-type: none"> • Declare Conservative System Operations • Prepare for possible Max Gen Event • Implement Emergency Pricing Tier 0
Max Gen Warning	Prepare for Possible Event Reserve requirements <i>may not</i> be met in the near future without taking action	<ul style="list-style-type: none"> • Curtail non-firm exports • Schedule all available external resources into the MISO Market • Implement Emergency Pricing Offer Tier 1
Max Gen Event (Step 1)	Actions Taken to Preserve Operating Reserves: NERC Energy Emergency Alert 1 (EEA 1)	<ul style="list-style-type: none"> • All available resources in use • Generators instructed to start off-line resources. • Use of reserves not yet implemented. • Emergency Pricing Offer Tier 1 is still effective
Max Gen Event (Steps 2, 3, 4)	Actions Taken to Preserve Firm Load: NERC Energy Emergency Alert 2 (EEA 2: Step 3 declaration)	<ul style="list-style-type: none"> • Implement demand management programs • Utilize Contingency Reserves • Purchase Emergency Energy • Issue Public Appeals • Prepare for possible firm load shed • Implement Emergency Pricing Offer Tier 2
Max Gen Event (Step 5)	Event Occurring: NERC Energy Emergency Alert 3 (EEA 3)	<ul style="list-style-type: none"> • Shed firm load (power interruption) • Rolling outages for defined area • Emergency Pricing Offer Tier 2 is still effective



Operating Procedures

System Status Levels

MISO issues color-coded System Status Levels (SSL) for conditions related to infrastructure failures for MISO and its members. For more information, see [MISO's Abnormal Operating System Status Levels Procedure, SO-P-AOP-00-203](#).

Operating Conditions			
SSL Level 0	SSL Level 1	SSL Level 2	SSL Level 3
Description: System status is normal.	Description: Short, minor impact to system, can be quickly remedied. Examples: Temporary infrastructure issue.	Description: Longer term, major impact to system, cause unknown. Examples: Loss of monitoring data or member infrastructure	Description: Major impact on MISO's ability to reliably operate system or market. Examples: Hardware failure, bomb threat, sabotage, control center evacuation