Needs For and Alternatives To

APPENDIX 5.1

MISO Corporate Fact Sheet July 2012

This page is intentionally left blank.

Corporate Information / 1

Overview

The Midwest Independent Transmission System Operator, Inc. (MISO) is a non-profit, member-based organization committed to being the leader in electricity markets by providing our customers with valued service, reliable, cost-effective systems and operations, dependable and transparent prices, open access to markets, and planning for long-term efficiency.

Scope of Operations

- Generation Capacity
  131,581 MW (market)
  143,765 MW (reliability)
- Historic Peak Load (set July 23, 2012)
  98,576 MW (market)
  104,669 MW (reliability)
- 49,670 miles of transmission
  500kV, 345kV, 230kV, 161kV, 138kV, 120kV, 115kV, 69kV
- 11 states
- One Canadian province
- Control Centers
  Carmel, IN
  St. Paul, MN
- 594 TWhours annual billing (2011 transmission service)

Reliability

MISO built and continuously refines its extensive network computer model of the MISO interconnected reliability region and surrounding systems.

- Network Model (June 2012)
  42,521 network buses
  268,093 SCADA data points*
  6,009 generating units
  34,616 loads

Reliability Analysis

- State Estimator and Real Time Contingency Analysis
  249,000 real-time measurements, solving <90 seconds
  8,300 "what-if" contingencies, solving <5 minutes on average
- 13,600 one-line station diagrams
- Balancing Authorities - 4 - including MISO Balancing Authority (reliability)
  28 Local Balancing Authorities
- Alarming Tools
  Voltage v. limits
  Flows v. limits
  Status
  Topology processor
- Automatic Generation Control Tool
- Delta Flow and Voltage Tools
- Flowgate Monitoring Tool
- Generation Monitoring Tool
- Interface and Frequency Tools
- ICCP Data Quality Tool
- Power Supply Monitoring Tool

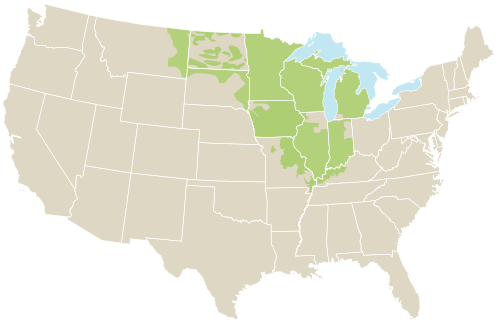
Markets Overview

MISO manages one of the world's largest energy and operating reserves markets using security-constrained economic dispatch of generation. The Energy and Operating Reserves Market includes a Day-Ahead Market, a Real-Time Market, and a Financial Transmission Rights (FTR) Market. These markets are operated and settled separately.

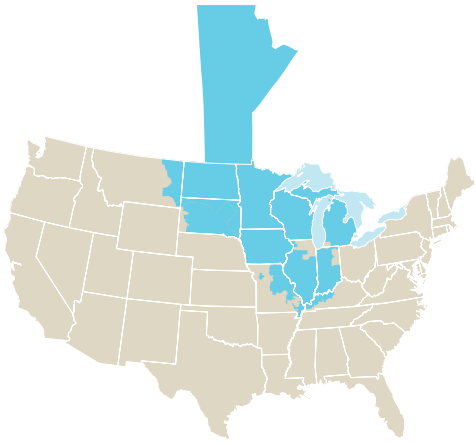
- $23.6 billion annual gross market charges (2011)
- 1,928 pricing nodes
- Five-minute dispatch
- Offers locked in 30 minutes prior to the scheduling hour
- Spot market prices calculated every five minutes
- 356 Market Participants who serve 38.9 million people

Employees

- 771 full-time employees (2012 budget year)



Market Area



Reliability Coordination Area

Governance

MISO is governed by an independent eight-member Board of Directors, with seven independent directors elected by the membership, plus the president of MISO.

No board member may have been a director, officer or employee of a member, user, or affiliate of a member or user for two years before or after election to the Board.

Under MISO's Standards of Conduct, all MISO board members, employees and their immediate family members are required to divest of any holdings in member or user companies.

*Includes real-time ICCP measurements, market SCADA points and various SCADA calculations requested for reliability and market operations

Key Dates

- January 6, 2009
  Ancillary Services Market Begins
- April 16, 2008
  NERC certifies MISO as Balancing Authority
- November 1, 2006
  Chosen Independent Entity for administration of Duke Power transmission services
- April 1, 2005
  Midwest Markets Launch
- February 1, 2002
  Transmission service begins under MISO Open Access Transmission Tariff
- December 2001
  RTO approval from FERC
  Reliability operations begin
- September 16, 1998
  FERC grants conditional approval
- February 12, 1996
  Transmission owners convene to form MISO

Fees for Services

Actual costs to provide services are recovered pursuant to a FERC accepted tariff. Schedule 10 of the tariff recovers the cost of transmission service and reliability coordination. Schedule 16 recovers the cost of the FTR market. Schedule 17 recovers the cost of the day-ahead and real-time energy markets.

Renewable Integration

- Wind in queue as of June 2011, 23,992 MW
- 11,857 MW registered wind capacity (June 2012)

Interconnections

The MISO-administered grid interconnects with the Independent Electricity System Operator of Ontario, the Mid-Continent Area Power Pool, PJM, Southwest Power Pool and the Tennessee Valley Authority. MISO has seams agreements or memorandums of understanding with each of these organizations to facilitate operations.

Diversified Fuel Mix

- Hydroelectric, coal, gas, oil, wind, and nuclear.

Membership

- 35 Transmission Owners with $18.1 billion in transmission assets under MISO's functional control
- 97 Non-transmission owners

Membership Sectors

- Transmission Owners
  Vertically Integrated
  Stand-Alone Transmission Companies
- Coordination Member
- Power Marketers
- Independent Power Producers / Exempt Wholesale Generators
- Municipals / Cooperatives / Transmission-Dependent Utilities
- End-Use Customers
- Environmental Groups
- State Regulatory Authorities
- Public Consumer Groups

Key Committees

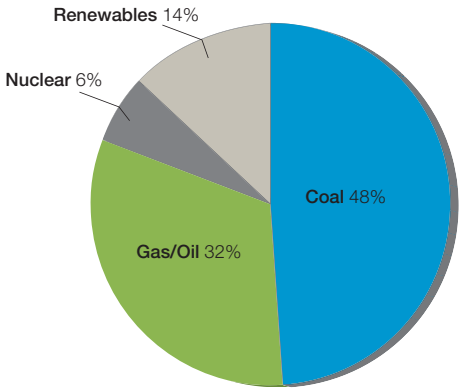
- Board of Directors
- Advisory Committee
  Reliability Subcommittee
  Finance Subcommittee
  Market Subcommittee
- Alternative Dispute Resolution Committee
- Transmission Owners Committees
- Planning Committee

State Regulatory Committee

- Organization of MISO States

Expansion Planning

- 215 approved new projects through 2021
- Approximately $2 billion in annual benefits from all approved projects
- Multi-Value Project Portfolio creating up to $49.2 billion in benefits through first 40 years of operation
- Benefits 1.8 to 3.0 times cost from the Multi-Value Project Portfolio



Awards and Recognition

- OSEG 2011 Governance, Risk Management and Compliance Achievement Award
- 2011 Franz Edelman Award Winner
  for extraordinary achievement in applying operations research in market operations
- North American Electric Reliability Corp
  Examples of Excellence (2007)
  Training
  Tools (3 honors)
  System Restoration
  Operational Scorecard
  Examples of Excellence (2005)
  Voltage stability analysis
  Best Practices (2005)
  Manual redispatch
- Computer World
  Laureate, *Data Storage*
  Best in Class; Best Practices (07)

How to Contact Us

Carmel
P.O. Box 4202
Carmel, IN 46082
866-296-6476
317-249-5400

Overnight Deliveries

720 City Center Drive
Carmel, IN 46032

St. Paul
1125 Energy Park Drive
St. Paul, MN 55108
651-632-8400

www.misoenergy.org