



# MISO Overview of Major Topics

Minnesota Public Utilities  
Commission

*November 12, 2013*

# *MISO's Functioning Context*

- **Independence**
- **Commitment to reliable, cost-effective delivery of electricity to consumers**
- **Unbiased, third-party operator of the grid**
- **Transparency**
- **Use of an Independent Market Monitor “Auditor”**

## ***MAJOR TOPICS ADDRESSED TODAY***

- 1. Resource Adequacy**
- 2. EPA Rules Compliance**
- 3. Seams Coordination**
- 4. The South Region's Integration**
- 5. MISO Transmission Expansion Plan (MTEP)**
- 6. Market Enhancement & the Market Vision Study**

# *Today's Discussion*

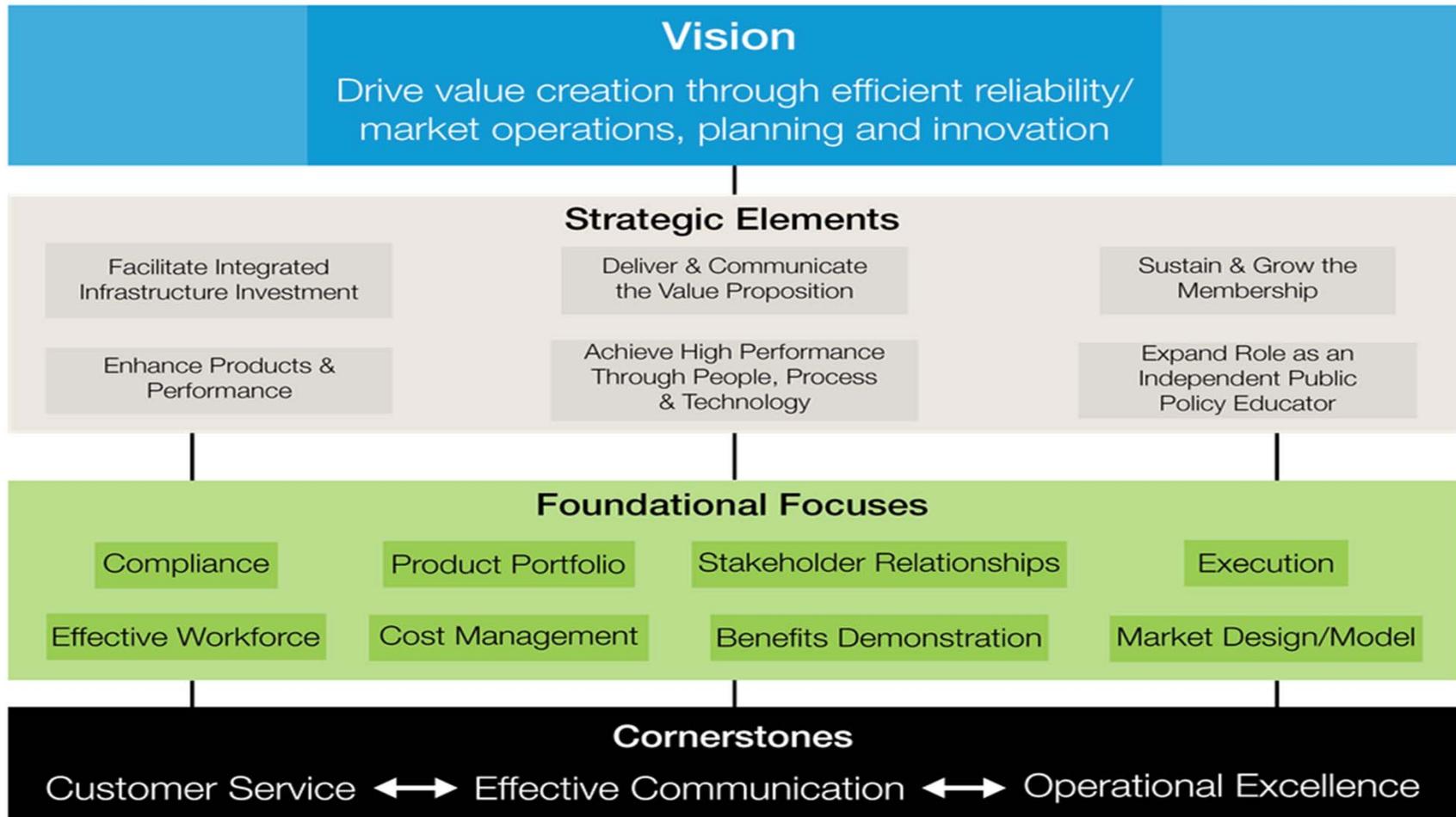
- **Major Topics – Discussion Structure**
  - What is it?
  - How did it start?
  - How does it fit within MISO's work?
  - What are main components/tasks?
  - How will this impact/benefit Consumers?

# *MISO's Foundation*

Transmission Owners' Agreement Article Two, Section I(A):

**“MISO is not to be organized for profit and shall be operated exclusively for the promotion of social welfare.”**

# MISO's Vision



# *MISO's Three Primary Functions*

- **Reliability** - keeping the lights on throughout the Midwest.
- **Wholesale Market Management** - allowing the sale and transfer of wholesale electricity to maintain reliability at the lowest cost.
- **Regional Transmission Planning** - working with all stakeholders to develop the region's transmission grid in a way that promotes the public interest; reliability, and enables lowest-cost delivery of electricity and implementation of public policies.

# ***MISO has Five Focus Areas***



# *Resource Adequacy*

- **Ensure continually adequate, efficient, reliable delivery of electric generation**
- **Some specific Tasks are: Reserves Sharing, Ancillary Services, OMS RA Survey, DA and RT markets, SSRs, various planning studies,**
- **MISO continues to focus on Resource Adequacy as generation uncertainty can impact reliability in the next few years and beyond.**
- **Not only is sufficient capacity important, but enough capacity in the right locations to meet local system needs.**

# *EPA Rules Compliance*

- **A series of Rules promulgated by the Federal Environmental Protection Agency to limit emissions from power plants (primarily coal-fired power plants.)**
- **The Rules compliance deadlines are very stringent—**
  - 2015 but extension may be requested to 2016 (which some generation owners have already requested) and,
  - 2017 under certain circumstances.
- **Many tasks/initiatives result directly or indirectly—**
  - EPA Compliance Quarterly Surveys
  - Electric & Natural Gas Coordinating Task Force
  - Outage Management and Planning
  - OMS-MISO Resource Adequacy Survey
  - Increases in System Support Resources (SSRs)

# *Seams Coordination*

- **Where RTO/ISO territories adjoin, the borders are referred to as “seams”**
- **MISO has seams with PJM, SPP, TVA and Ontario**
- **MISO remains engaged with our seams partners in optimizing system efficiency at the seams for the benefit of consumers.**

# *Seams Coordination Benefits*

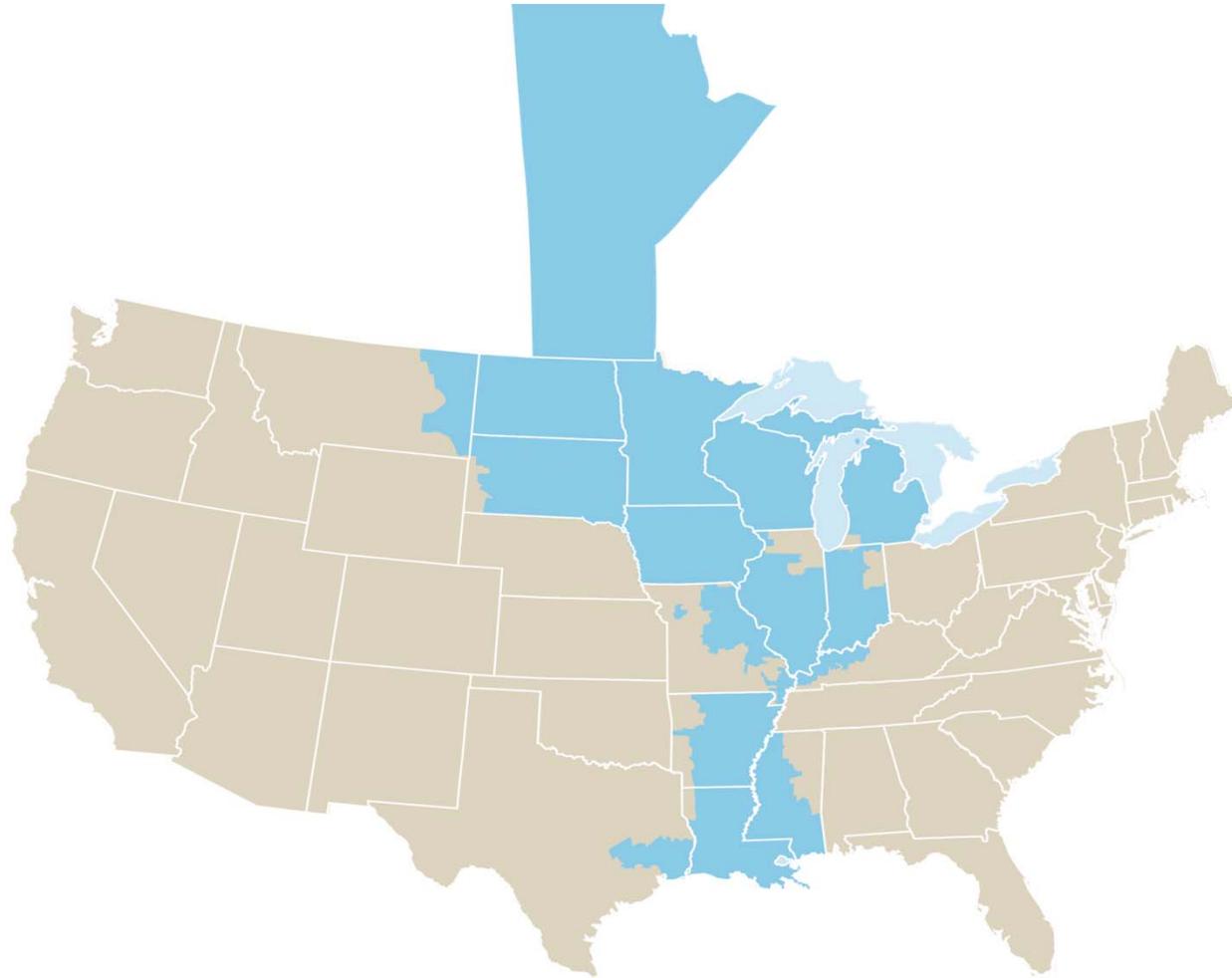
## **Effective Seams Coordination is Important:**

- **For ensuring reliable power flows across/beside Seams**
- **To identify market opportunities to enable buyers and sellers to transact low-cost reliable power sources for their customers.**
- **To facilitate effective planning for future needs beside and across seams and regions.**

# *Entergy & South Region Integration*

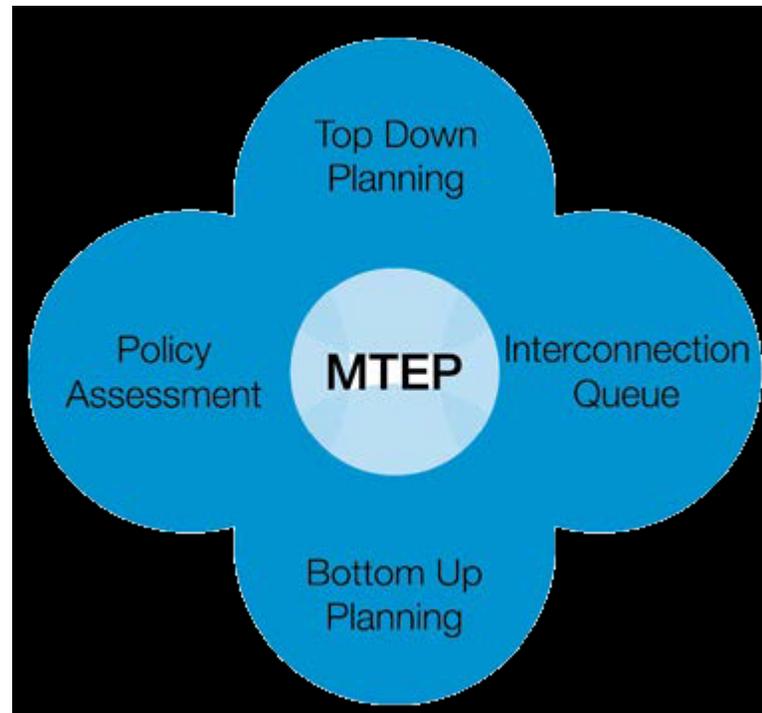
- **MISO successfully transitioned to Reliability Coordinator and grid operator for the Entergy system in December 2012 and the rest of the South Region June 1, 2013**
- **On December 19, 2013, MISO will welcome the South Region, including Entergy, CLECO, SMEPA, LAFA, LAGN, and LEPA as Local Balancing Areas and many Market Participants in the MISO Energy and Operating Reserve Market**
- **The addition of the South Region to the MISO Balancing Area will significantly increase its size—the MISO Midwest peak load is around 100GW and the South Region will bring an additional 30+ GW**
- **The integration will benefit customers in all of MISO**

# *MISO Footprint including South Region*



## *MISO's Transmission Expansion Plan (MTEP)*

- 18-month (June to next December) rolling cycles
- These four major work-products feed into MTEP



- MTEP13: 311 projects/\$1.49B total/cost-shared at \$3.95M
- West Region: BRP=\$191.8M/GIP=\$33/other=\$734

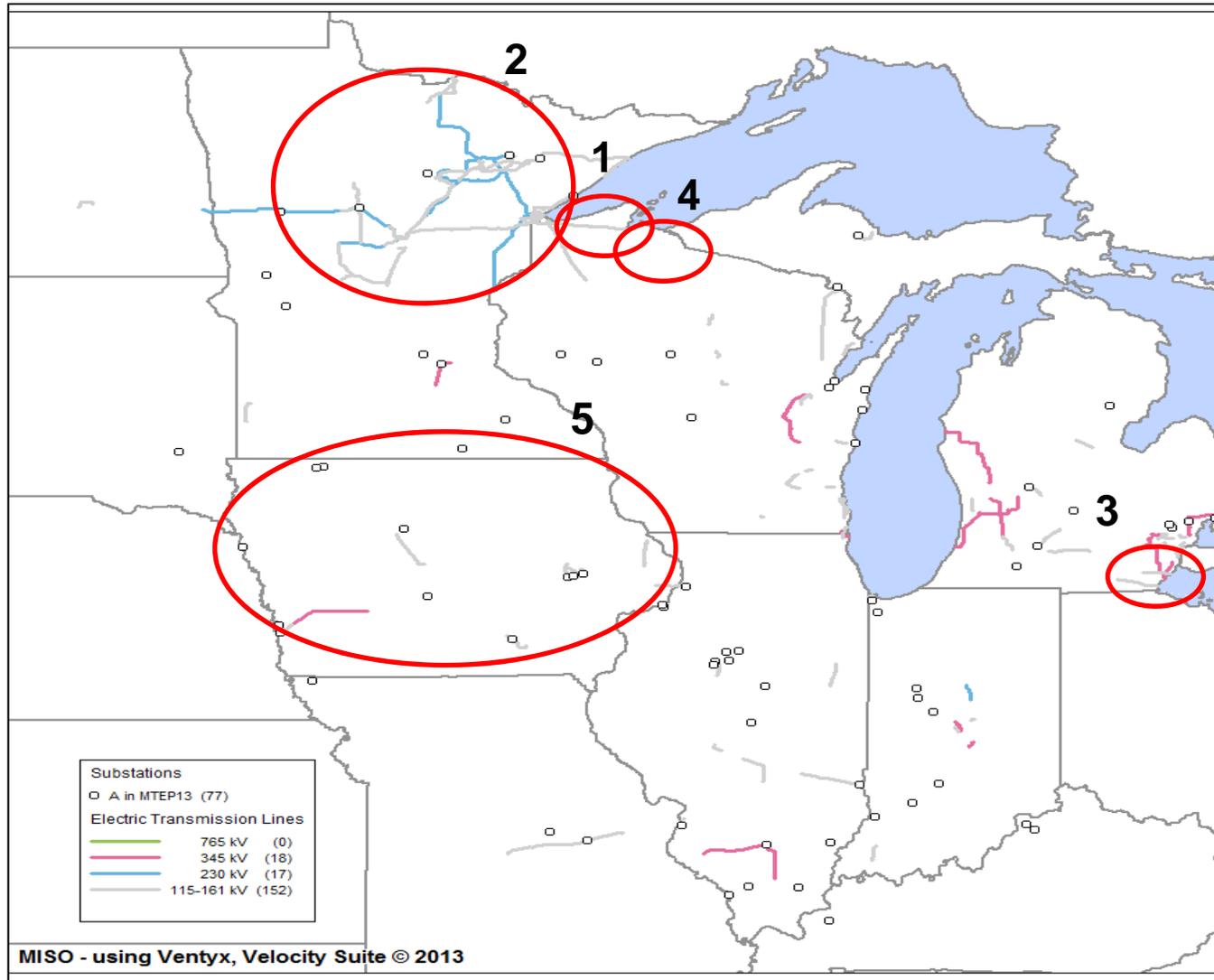
# MTEP13 Themes

- **EPA Rules Compliance continues to drive analyses, particularly around Long Term Resource Adequacy and Natural Gas Coordination.**
- **Order 1000 and cross-border studies gain more focus.**
- **During MTEP13, a parallel effort also introduces and integrates the South Region into the planning process in anticipation of the South Region's inclusion in MTEP14.**
- **As with MTEP12, the studies on included (potentially MEP) projects find modest but widespread economic benefit potential, however, several potential “fixes” to congestion issues in Indiana are included and tested against the MISO-PJM sharing protocols.**

# ***MTEP13 – Largest Projects***

- **75% of projects recommended for approval are < \$5 million**
- **The top 5 (2%) highest cost projects represent 16% of the total cost and are primarily driven by local needs (“Other”)**
- **1.\$64M - Bayfield Loop 115 kV**
- **2.\$56M - NERC Facility Ratings Alert Mitigation**
- **3.\$40M - Toll Road Static VAR Compensator**
- **4.\$38M - Ashland - Ironwood 88 kV**
- **5.\$34M - Breaker Replacement Program**

# MTEP13 – Map of Largest Projects



## ***Market Enhancement/Market Vision Study***

- **Two slightly different but related Initiatives:**
  - Market Enhancements work focuses on addressing the IMM's 2012 State of the Market recommendations and prioritizing projects based on/related to the recommendations
  - Market Vision Study is a broader effort of MISO and Stakeholders to assess current market programs and tools to identify changes to improve efficiency or effectiveness. If the need for new processes/tools is identified, then further investigation on creating new processes/tools may be initiated.
- **The Market Enhancement Effort could be considered part of the Market Vision Study**

# *Market Enhancement*

- **Market Enhancement has three focuses:**
  - Efficient Pricing (examples: ELMP, real-time price signals)
  - Seams (examples: JOA with SPP, JCM with PJM)
  - Value-driven Enhancements (example: ramp capability, reduce software “solve” times)
- **MISO’s Workplan has a number of current projects in study/development considering:**
  - Market efficiency benefits
  - System reliability benefits
  - Regulatory drivers

# *Market Vision Study*

- MISO offered a “straw proposal” to stakeholders to illustrate MISO’s thoughts on this effort. Stakeholders provided feedback.
- MISO proposed a number of Guiding Principles. Stakeholders provided comment and prioritized
- MISO also proposed a number of Focus Areas. Stakeholders are in the process of commenting.
- Based on Stakeholder feedback, MISO expects to finalize the draft Vision, Principles and Focus Areas in January 2014.
- By January 2014, MISO also expects to propose a “Road Map” for moving forward with the Principles and Focus Areas. Then, in February 2014, MISO will develop the Road Map.

# Summary

- **“MISO is not to be organized for profit and shall be operated exclusively for the promotion of social welfare.” (TOA Article Two, Section I (A))**
- **MISO’s Basic Functions:**
  - “Keeping the Lights on” (reliable energy service)
  - Operating markets that support lowest cost energy for customers,
  - Planning to ensure the continuation of the first two

**MISO focuses on providing reliable, low cost delivered power.**



## For Further Information

- Visit our website: [www.misoenergy.org](http://www.misoenergy.org)
- Tour the new Eagan Control Room starting in December
- Attend stakeholder meetings (in Eagan periodically)
- Contact [mwhite@misoenergy.org](mailto:mwhite@misoenergy.org) for more information or assistance with any of the above or anything with which MISO may help you.

***Thank you for the Opportunity to  
Present this Information to you  
today!***