

# Midwest Transmission Planning

**Summer 2004 Reliability Workshop**

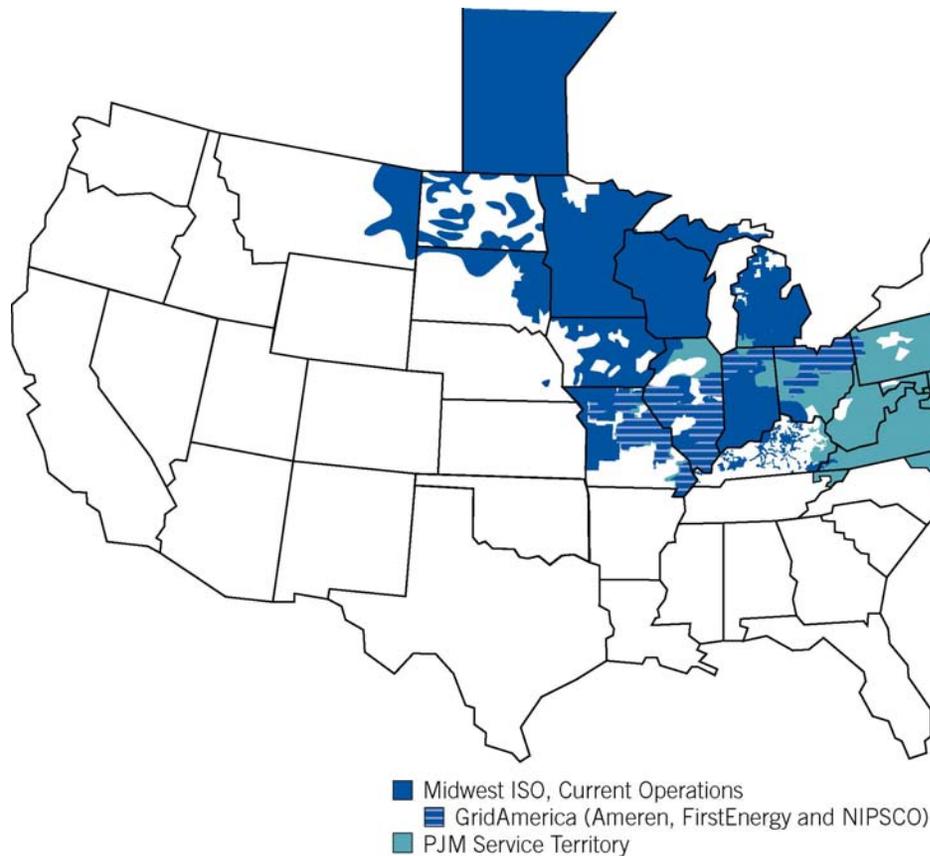
**July 15, 2004**

**Cleveland, Ohio**

Jeff Webb, Director of Planning Midwest ISO



# Who's Planning for Transmission in the Midwest?

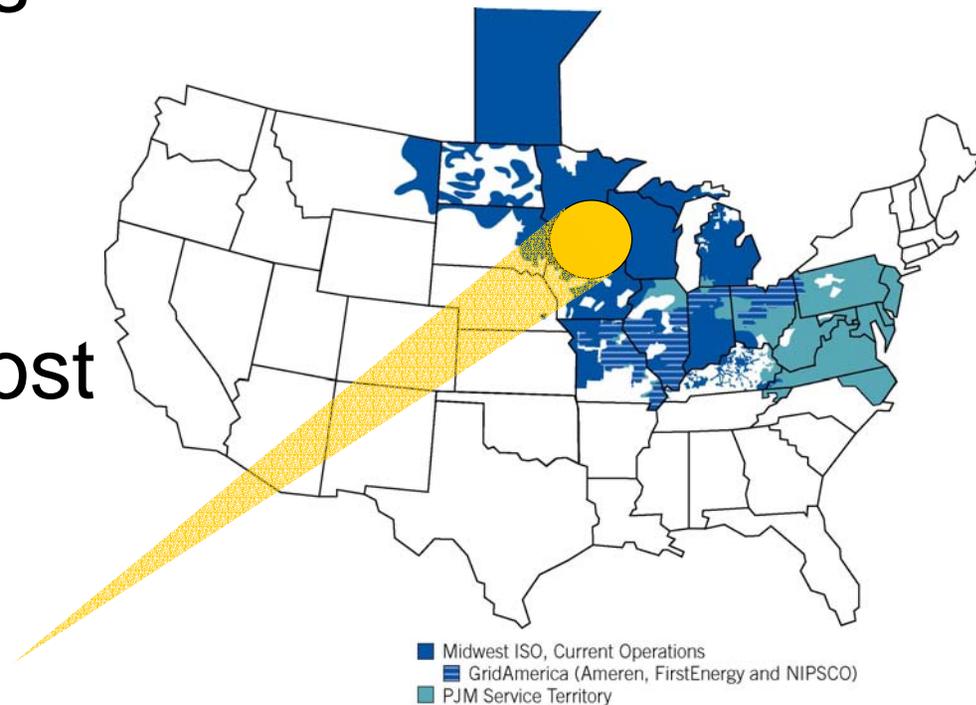


- MISO
- PJM
- TVA
- 24 TOs and ITCs in MISO
- 10 TOs in PJM

**MISO**

# Perspectives of Transmission Owners

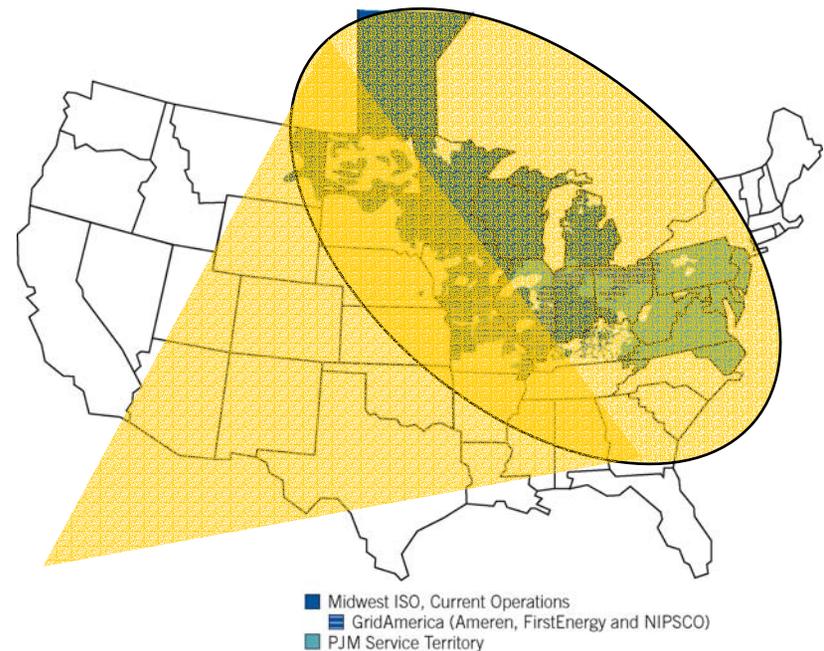
- Have obligations to reliably serve load responsibilities
- Develop least cost plans to meet reliability needs
- Focus is on local service territory



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# Perspectives of RTOs

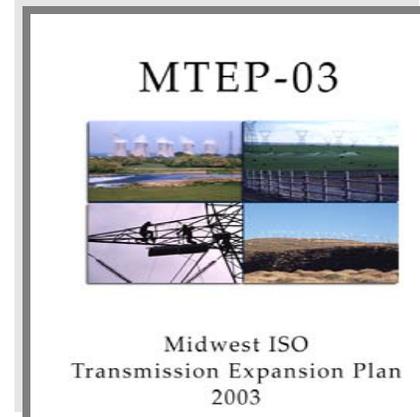
- Charged with ultimate coordinated planning responsibility for region
- Identification of both reliability and commercially beneficial expansions
- Focus is on integrating regional needs for benefit of electricity customers



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# MISO Regional Plan

- First Midwest ISO 5-Year Transmission Expansion Plan (MTEP) issued June 2003
    - Identified regional expansion concepts to reduce congestion, facilitate new generation
    - \$1.8 billion planned for reliability
    - Mostly local reliability plans
- 85% of new transmission at 230 kV and below

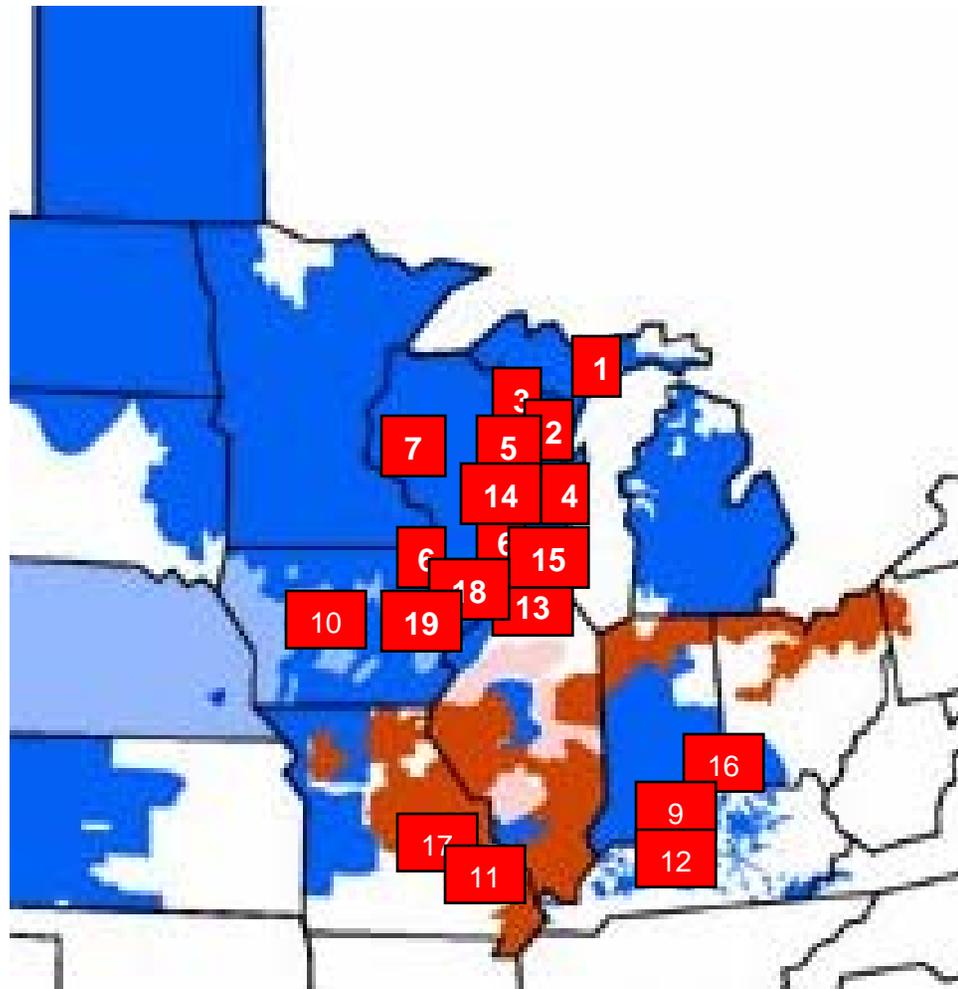


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# RELIABLE BUT CONSTRAINED

*Top MISO* ■  
*CONSTRAINTS*  
*CAUSING*  
*ECONOMIC*  
*CURTAILMENTS*

*MISO CALLS 65%*  
*of ALL*  
*CURTAILMENTS*  
*in EASTERN*  
*INTERCONNECT*



# Key Findings from 1<sup>st</sup> Plan

- ❑ Forecast LMP differentials between regions indicate potential for market transactions that will be constrained with the planned system
- ❑ System can accommodate addition of gas generation with less congestion than other scenarios
- ❑ Gas price volatility could result in large increase in marginal energy costs
- ❑ New coal and wind resources could mitigate gas price effect

# Key Findings from 1<sup>st</sup> Plan

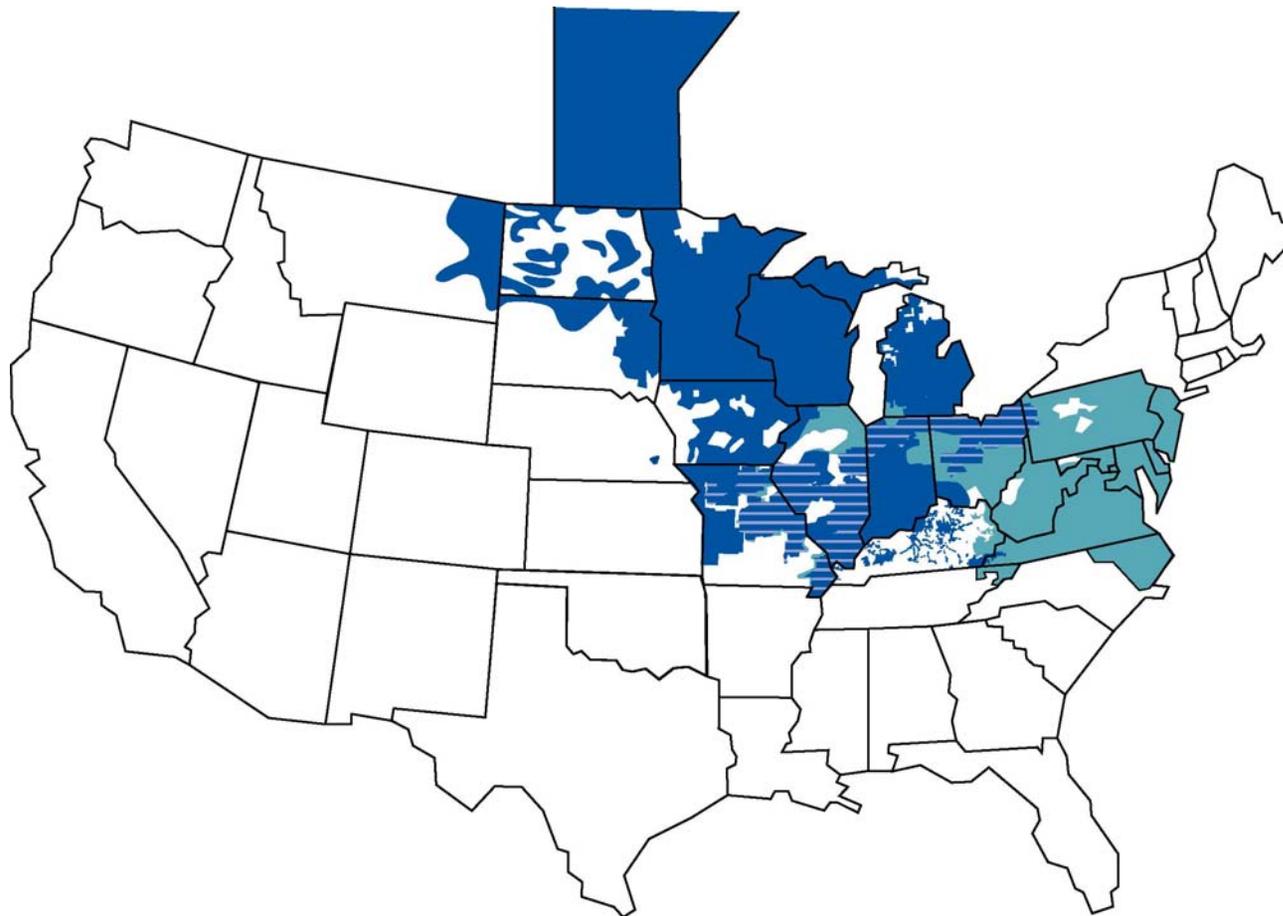
- ❑ New coal and wind resources are in constrained or remote locations
- ❑ Planned transmission system cannot accommodate most efficient existing and new units possible
- ❑ New transmission enables dispatch of more economic resources, with reduction in wholesale prices to consumers
- ❑ Benefits can extend beyond MISO footprint

# In Summary

- Grid generally meets reliability standards
- Grid is congested, and does not provide access to available renewable and low cost resources
- Grid is highly interconnected
  - Reliability Impacts
  - Economic Impacts
- Independent regional planning perspectives provide
  - Independent assessments of reliability needs
  - Unbiased macro view of economic benefits of regional transmission and non-transmission solutions to congestion

# Prospects for Needed Expansion

- Joint RTO planning with a macro-view will identify needs to maintain reliability and reduce customer energy costs
- Need protocols in transmission tariff to include economically beneficial projects in regional plans
- Regulatory help in developing and endorsing comprehensive regional expansion and cost recovery policies, and in facilitating the construction of identified needs



- Midwest ISO, Current Operations
- GridAmerica (Ameren, FirstEnergy and NIPSCO)
- PJM Service Territory

**MISO**