



# **Midwest ISO Update**

**to the Energy Development  
and Transmission Committee  
of the  
North Dakota Legislature  
Bismarck**

**By Bill Malcolm, Manager--State Regulatory Affairs**

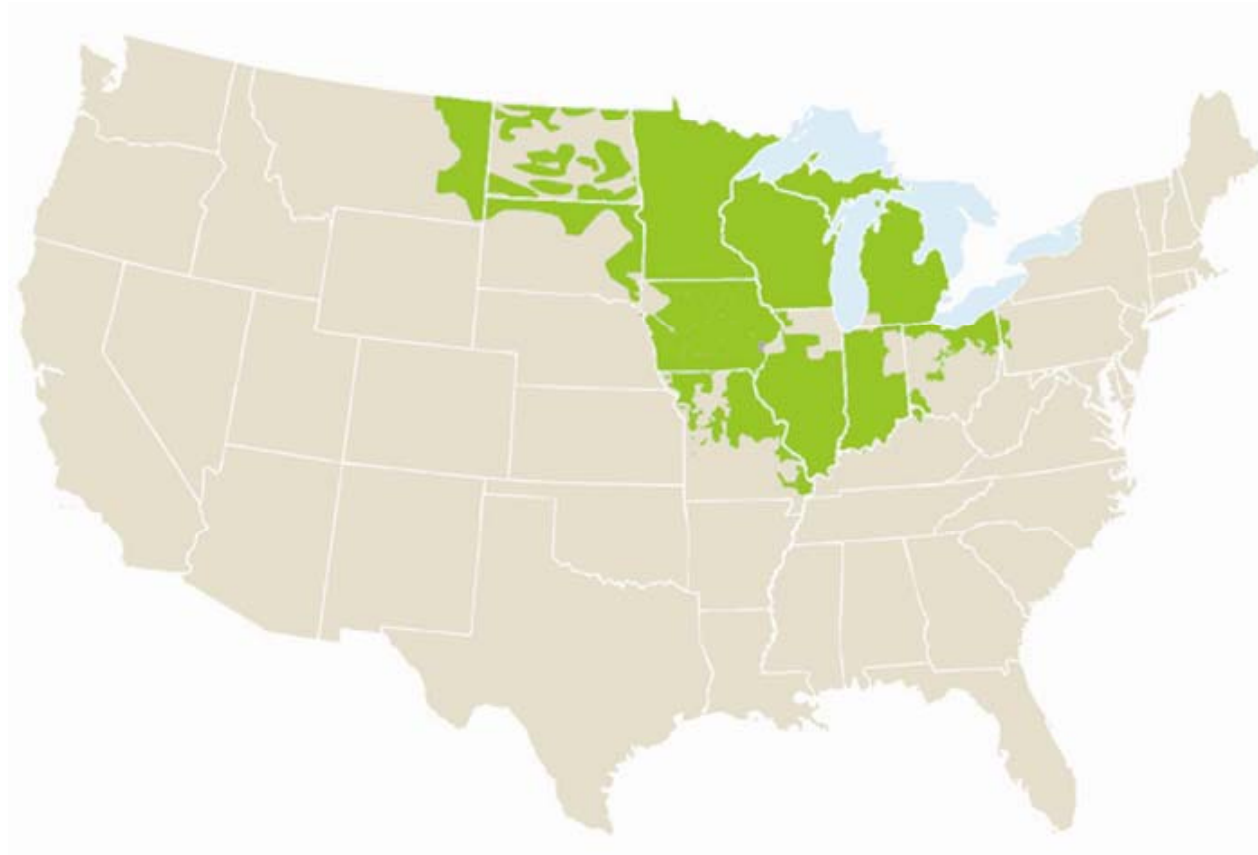
**November 24, 2009**

# Midwest ISO Services



- Oversee the flow of power over the high voltage wholesale transmission system in all or part of 13 states
- Provide independent wholesale transmission system access
- Manage power congestion
- Reliability coordination
- Regional transmission planning
- Operate day-ahead and real-time energy markets

# Midwest ISO Market Footprint



# North Dakota & the Midwest ISO

- **Otter Tail, MDU, MP, GRE and Xcel are members**
- **ND State partnership on DOE-funded smart grid project**
- **3,845 MW of generation on-line in the MISO part of the state**
- **996 MW of wind on-line in the state**
- **39 active wind projects (7,932 MW) in the queue**

# What's new @ MISO

- Winter reliability assessment issued
- New members: MidAm, Dairyland
- RECB/CARP considers “injection – withdrawal” cost allocation proposal to share cost of new transmission investment

# Winter Reliability Assessment

- Winter reserve margin report issued
- Economy contributed to the decrease
- Net internal demand: 77,909 MW
- 144,966 MW of capacity available

# Smart Grid DOE Grant

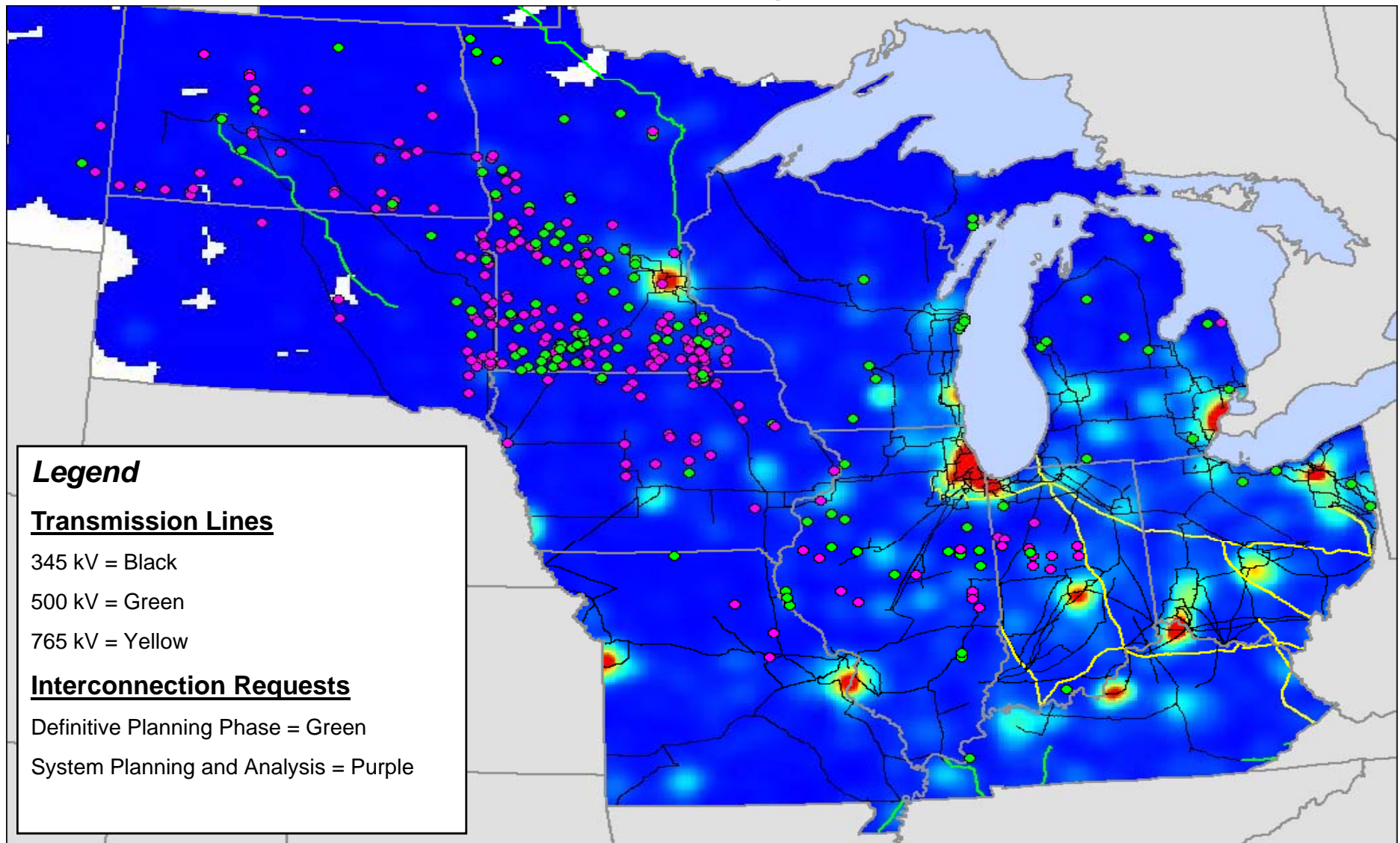
- **Matching grant from DOE for a smart grid project under the ARRA**
  - Total Cost = \$34.5 million (50% DOE funding)
  - Total Time = 36 months
  - Approved 10/26
- **Project consists of:**
  - Installation, testing, integration and monitoring of approximately 150 Phasor Measurement Units (“PMU”) at strategic locations across the Midwest ISO footprint
  - Research on collected phasor data by two leading academic institutions (Partnership with North Dakota State University and the University of Tennessee)

# Midwest Transmission Expansion Plan (MTEP)

- **576 projects**
- **\$4.3B of investment**
- **274 new projects in 2009, \$903 million of investment**
- **22 projects eligible for cost sharing, \$302 million of investment**
- **Approximately \$1 billion in market congestion benefits through 2014 for projects**
- **MTEP 2010 planning has begun.**
- **West sub region meeting in Saint Paul next month (Dec 2)**

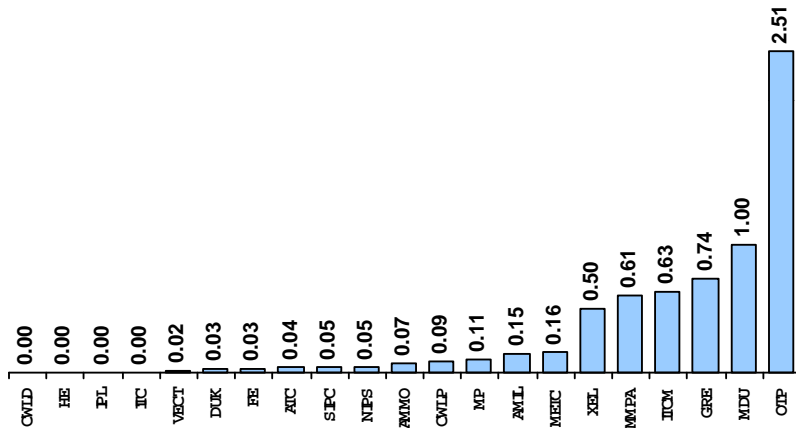


# Queue Requests



# Generator Interconnection Cost Allocation Formula

Ratio - Current Queue to Demand



- 1. Queue MW are based on assumption that 21% of the requests will reach commercial operation – consistent with historical average. 2. Zone demand MW equal to 12-month coincident peak average.

## Generator Interconnection Cost Allocation

### Former Methodology<sup>1</sup>

- 50% - Interconnection Customer
- 50% - Transmission Owner
  - For 345 kV and above 20% of TO share is MISO Postage Stamp

### New Approved “RECB Phase I” Methodology approved by FERC 10/23

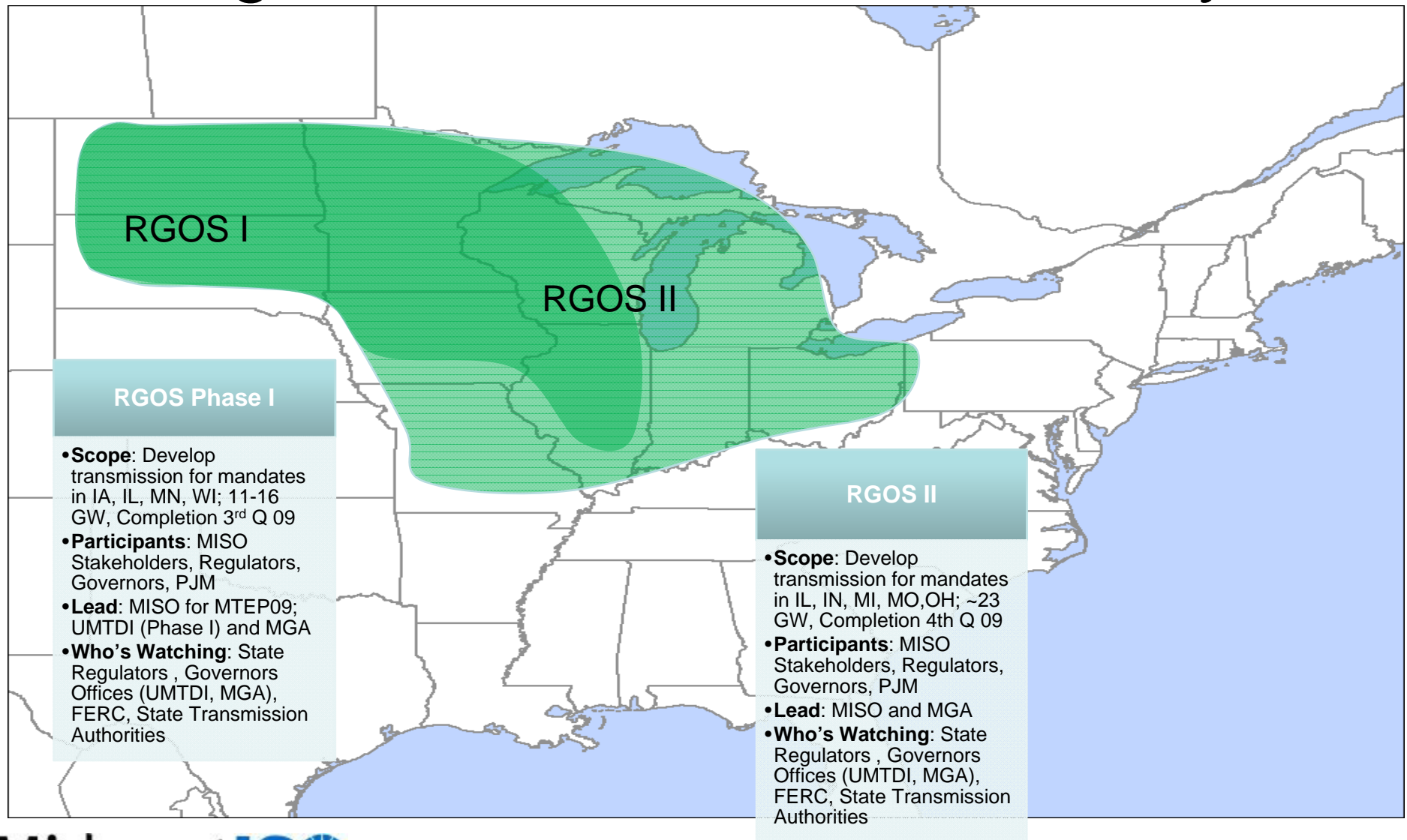
- For 345 kV and above:
  - 90% - Interconnection Customer
  - 10% - MISO Postage Stamp
- For less than 345 kV:
  - 100% - Interconnection Customer

1. If the connected facilities are not either designated as a network resource or contractually committed (1yr +) to a MISO network customer, then 100% goes to Interconnection Customer.

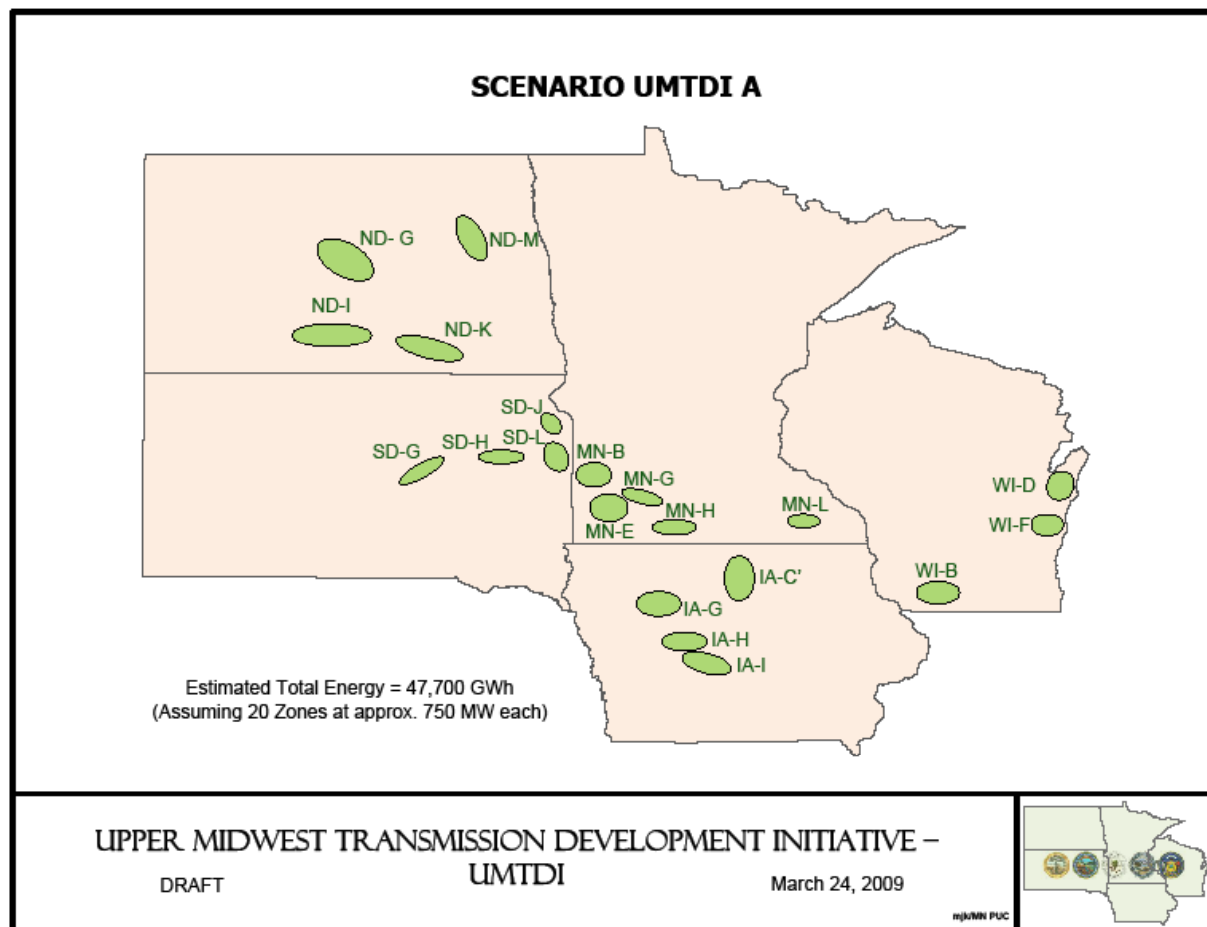
# Wind Integration Initiative

- Identify and develop solutions to issues that large scale wind generation integration may create
- New market products (wind following), new resource types (partially dispatchable)
- Enhanced forecasting tools
- Tariff filing in 2010 for any changes

# Regional Generator Outlet Study



# Upper Midwest Transmission Development Initiative/Regional Generator Outlet Study



# Upcoming

- Dec 2: MISO West sub-regional planning meeting, St Paul
- Dec 7: Tour Saint Paul
- December 16: RECB meeting
- April 20: Upper Great Plains Transmission Coalition meeting, Bismarck
- Mid-2010: Transmission cost allocation FERC filing



# For more information

- Schedule a tour of our control center
- Visit our website: [Midwestmarket.org](http://Midwestmarket.org)
- Bill Malcolm, [bmalmalm@midwestiso.org](mailto:bmalmalm@midwestiso.org)  
(317/409-3674)