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# Operations Initiatives

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October 2008



# Agenda

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- 2008 System Performance
- Major changes
- Wind
- UP operations initiatives



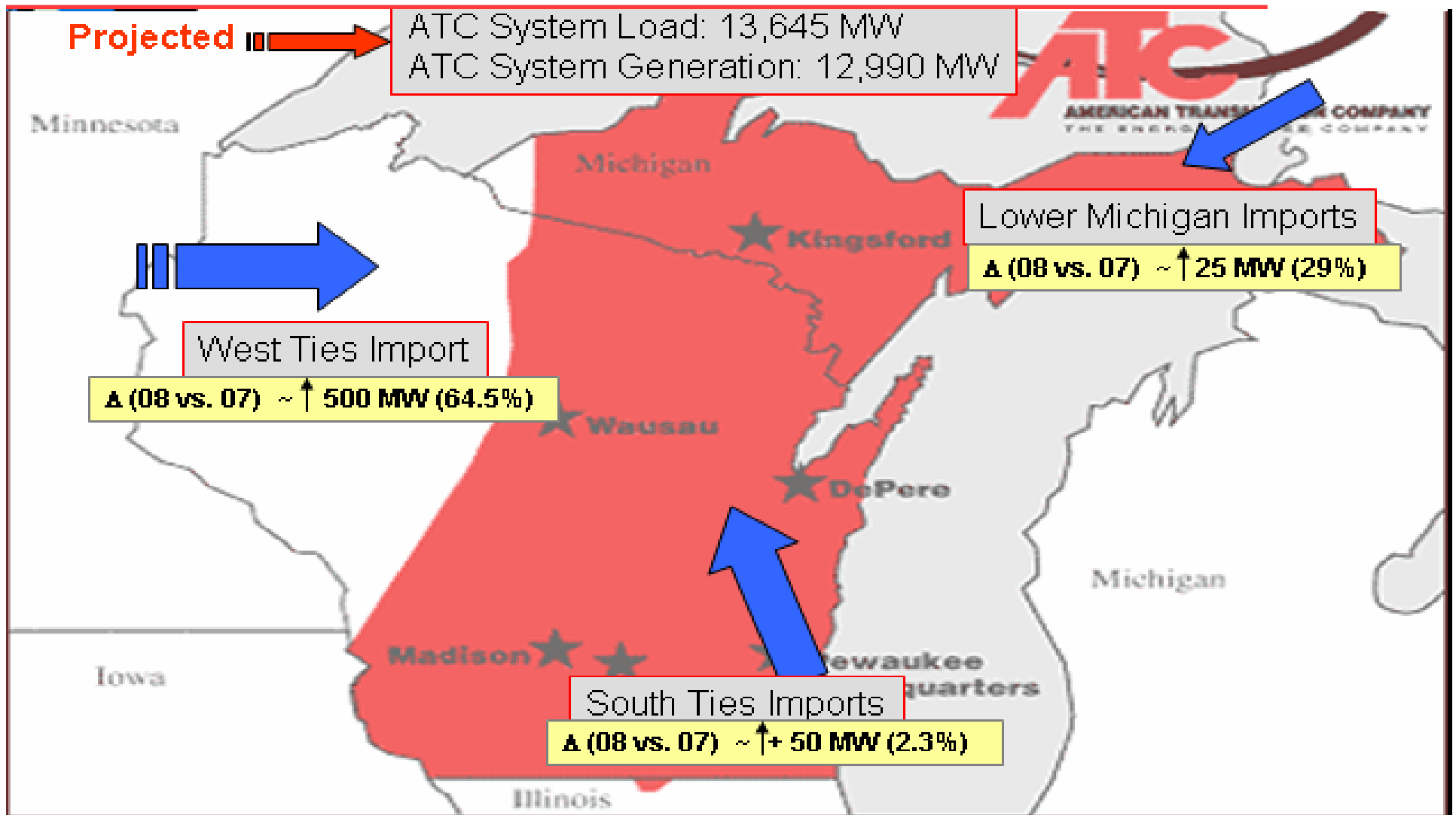
## ATC 'Past' and 2008 System Load Peak

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- With hot and humid weather, both ATC and MISO set new hourly system load peaks in their footprints on July 17th and July 31st in 2006.
  - First record system peak was set at hour ending 17:00 on July 17th, when usage on the system reached 13,055 MW.
  - ATC's all time system peak as reported by LDC's load accounting, of 13,059 MW at hour ending 15:00 occurred on July 31st.
- ATC Projected Summer 2008 System Peak is 13,645 MW
- Summer 2008 loading was below 12,000 MW



# Demand, Generation, and Interface Limits



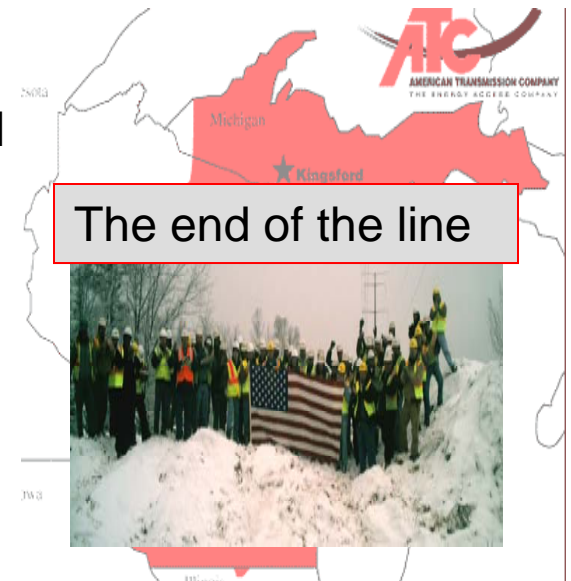


# ATC Reliability Improvement

## *Arrowhead – Stone Lake – Gardner Park (Weston) 345 kV line energized January 23, 2008*

### Performance Benefits:

- Increased transfer capability between Minnesota – Wisconsin for about 500 MW
- Allowed maintenance work that was deferred to occur in Spring of 2008
- Minimal impact for unplanned line outages
- Multiple N-2 voltage stability contingencies eliminated
- Supported commercial operation of Weston 4 unit
- Stone Lake supports non ATC NW Wisconsin Area
- Supported flow into MRO



# Generation

- **Weston 4** Generation in Operation  
*Benefits:* Ensure adequate local generation supporting the Central Wisconsin area  
*Benefits:* Support near term ATC reliability project construction in Central Wisconsin
- **Warden** Biomass Generation in Operation  
*Benefits:* Voltages in the area are improved for contingencies







# Emerging Operational Challenges

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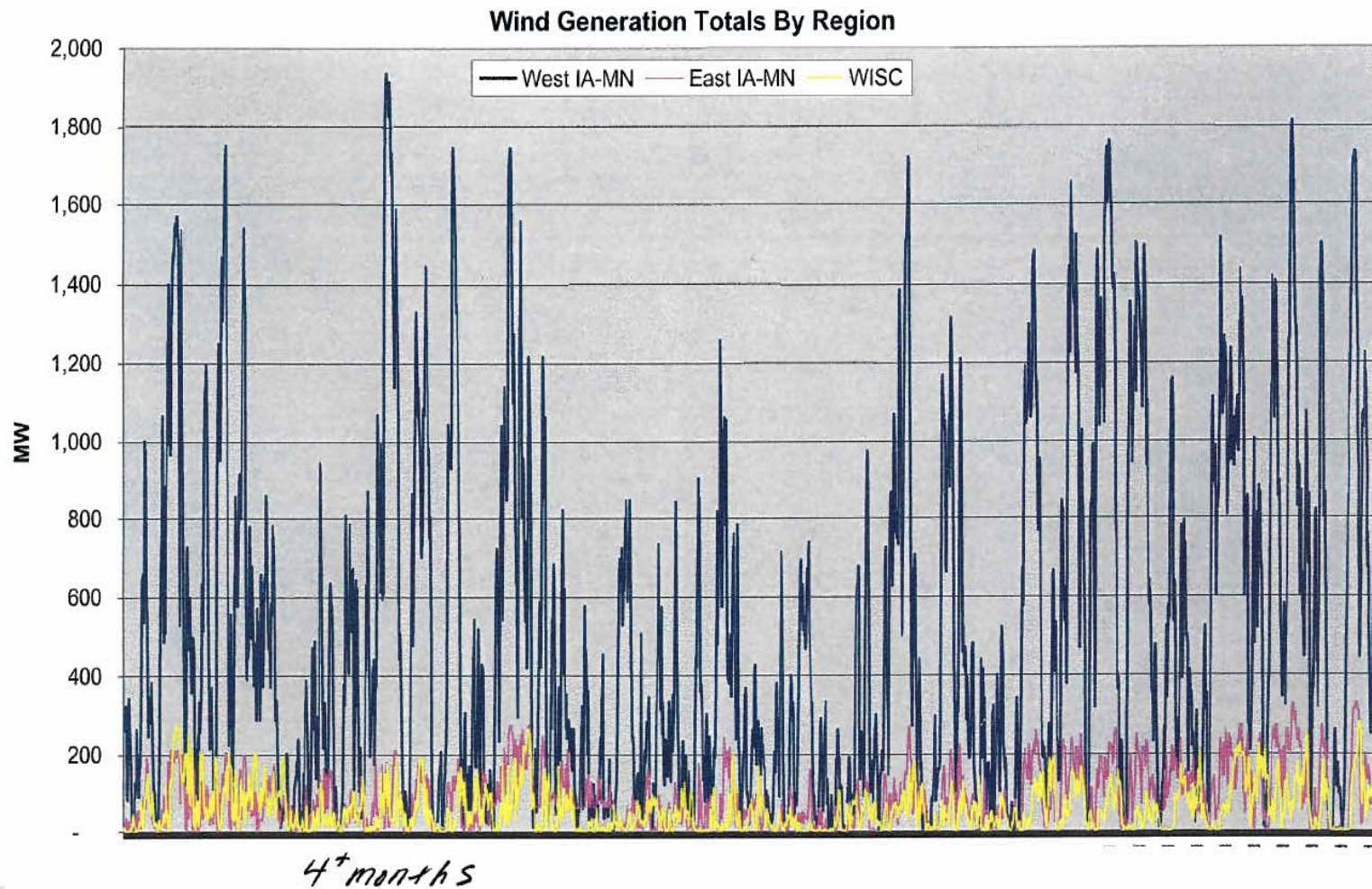
- **Wind Generation Events in MISO & ERCOT**
- **Rapid loss or increase in wind**
- **Surface wind forecasting accuracy**
- **Outage Planning**
- **Operation Tools**
- **Actual overloads**
- **Location of connection is important**







# Emerging Operational Challenges





# UP Operations Initiatives

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- Building training simulator scenarios
- Reviewing existing operating guides
- Working with Planning on options to reduce system separations from lower Michigan
- Blackstart



# Any Questions?

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