

# Planning for the Future

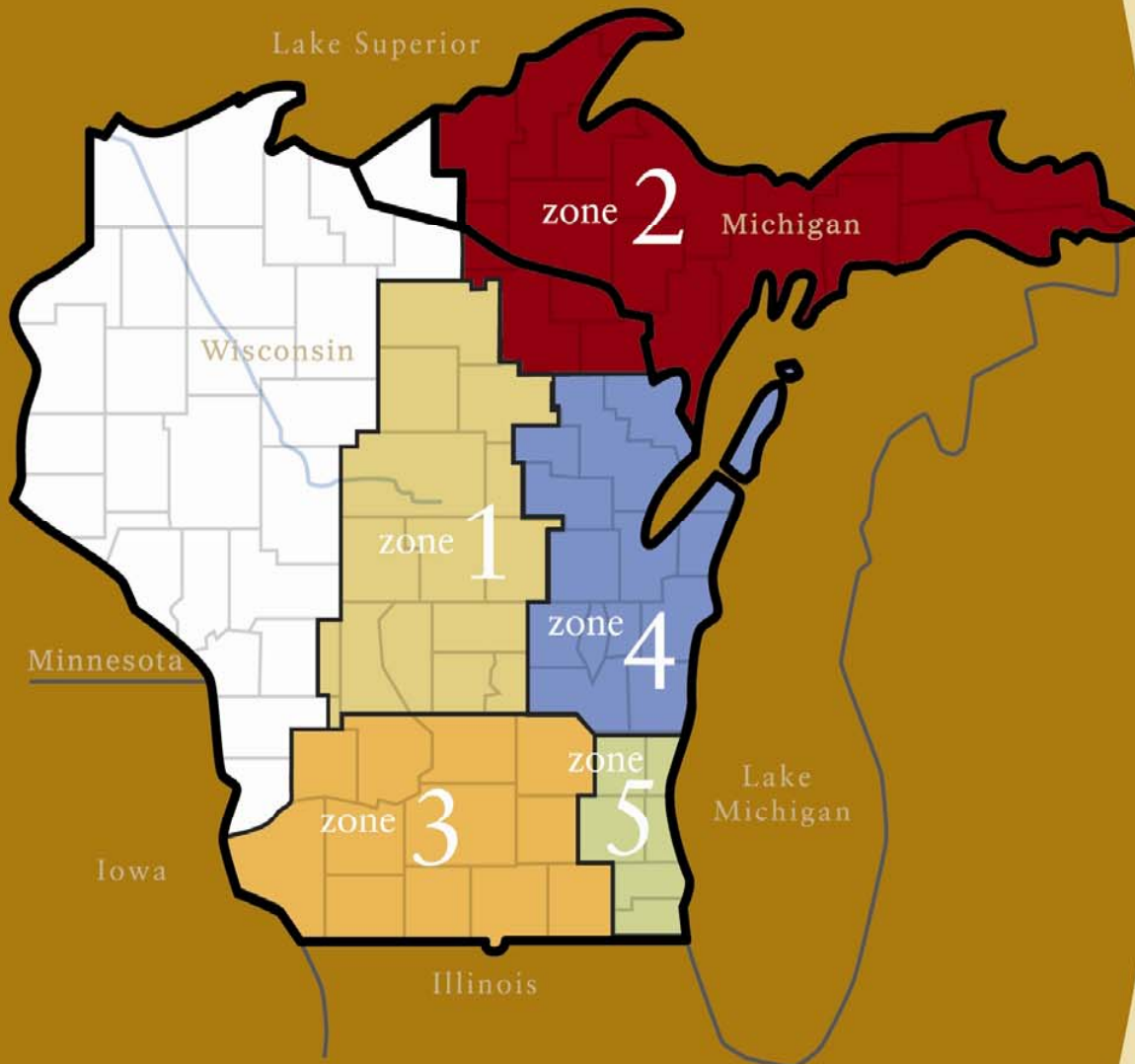
## Transmission – the tie that binds.....

UPPCO Electric Conference  
April 18, 2007

Mark Williamson, Vice President  
American Transmission Company



# Who is ATC?



## ATC at a glance

- Formed in 2001 as the first multi-state, **transmission-only utility**.
- Owner and operator of approximately **9,100 miles of transmission line** and **480 substations**.
- Meeting electric needs of approximately **five million people**.
- Transmission facilities in **66 counties** in Wisconsin, Michigan and Illinois.
- **\$1.8 billion** in total assets.
- **Seven offices** in the communities of Cottage Grove, De Pere, Madison, Waukesha and Wausau, Wis.; Kingsford, Mich.; and Washington DC.



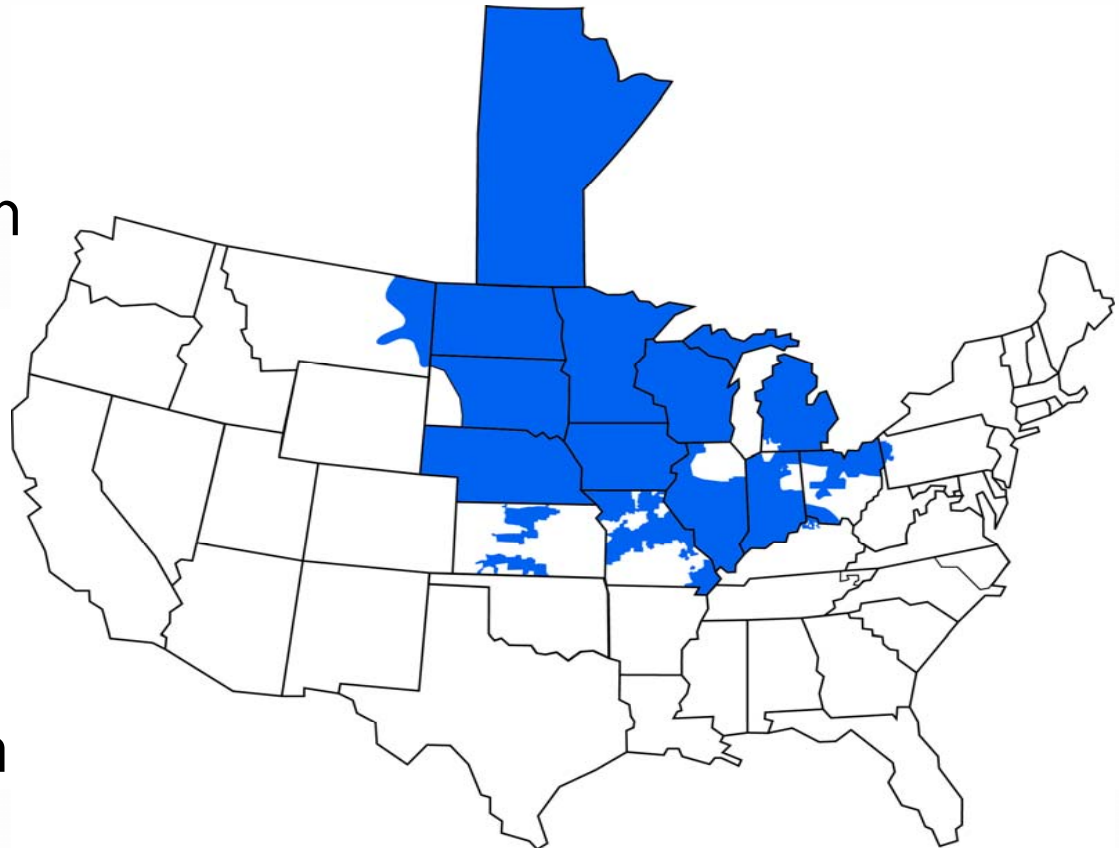
# Who is ATC?

- We are responsible for **building, operating, upgrading and maintaining** the transmission system throughout Michigan's Upper Peninsula, most of Wisconsin and parts of Illinois and Minnesota.
- We help **ensure the reliability of the transmission system** that delivers power to all customers that rely on the grid.
- We are **the critical link between generating plants and the utilities** that provide power to your homes and businesses



# Who is MISO?

- MISO coordinates the electric energy system to ensure reliable operation and equal access to resources
- MISO maintains the energy market and dispatches generation



Midwest ISO Regional Reliability Area

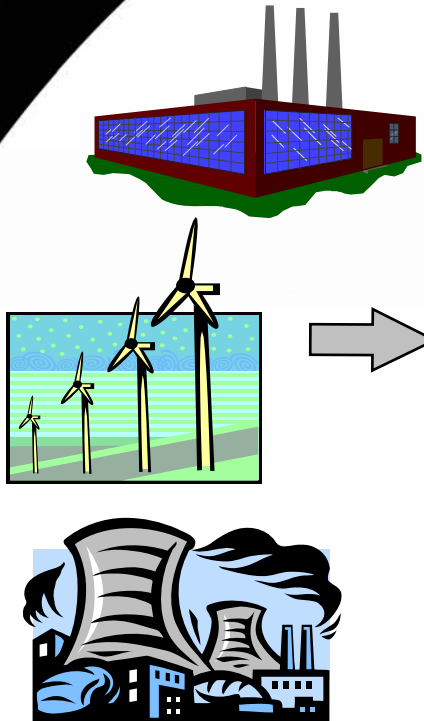


# Making Sense of the \$\$\$

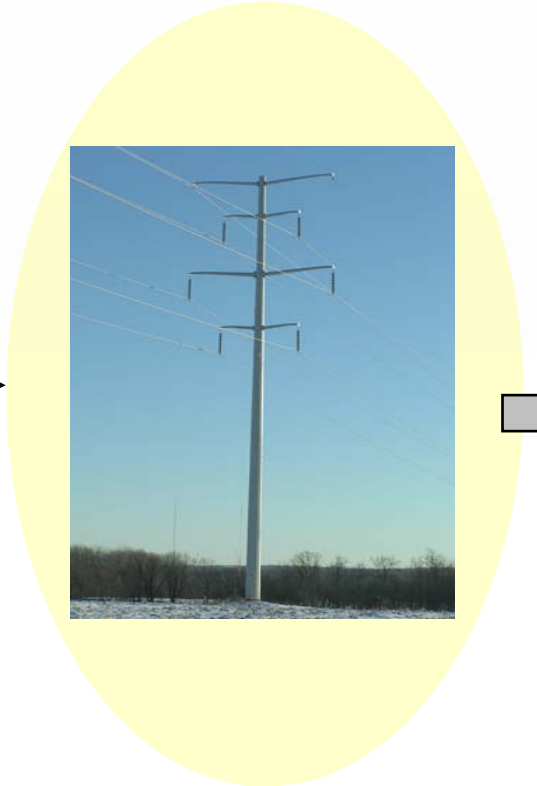
- ATC's rates are set by the Federal Energy Regulatory Commission (FERC)
  - 12.2% Return on Equity
    - Equity of ~\$530M in 2001
    - Equity of ~\$1.8B in 2006
- ATC's 2007 revenue requirement is ~\$386M, an increase of 21.3% over 2006
  - Billed according to "Load Ratio Share"
  - ~\$28M comes from the U.P. (**7.25%**)
- ATC plans to invest ~\$4.1 Billion between 2001-2016 in asset renewal and new construction
  - **~20% of this investment is directly tied to the U.P.**



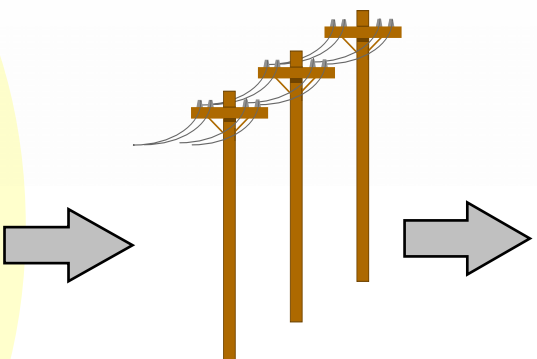
# The Energy System



**Multiple Sources of Generation**



**Interconnected Transmission System (Grid)**



**Distribution System**



**Customers**





# Current Assessment

- System at its limits
  - New generation and load growth requires reinforcement
  - Ensuring future reliability requires reinforcement
  - Minimal operating margin
  - Insufficient import/transfer capability
- Key drivers
  - Load growth and location of growth
  - New generating units
  - Access to markets
  - Economics



# ATC's Response

- \$3.1 billion investment during next 10 years
- 160 projects to support load growth and reliability
- 195 projects to support new interconnections
- 30 new generator interconnection proposals
- 41 projects required to support existing transmission service requests
- 31 projects eliminate service limitations and address age and condition of infrastructure
- 1 project based solely on economic benefits



# Northern Umbrella Plan

- 9 projects that were developed to increase reliability and transfer capacity in to/out of the U.P.
  - Currently estimated at \$559 million
  - \$207 million completed as of January 2007
- Progress report:
  - 5 are complete and have been placed in-service
  - 4 are in various stages of design and construction
- Completion of the NUP is expected by July 2010
- Widely recognized as being the solution to the electrical challenges of Michigan's U.P.



# Northern Umbrella Plan

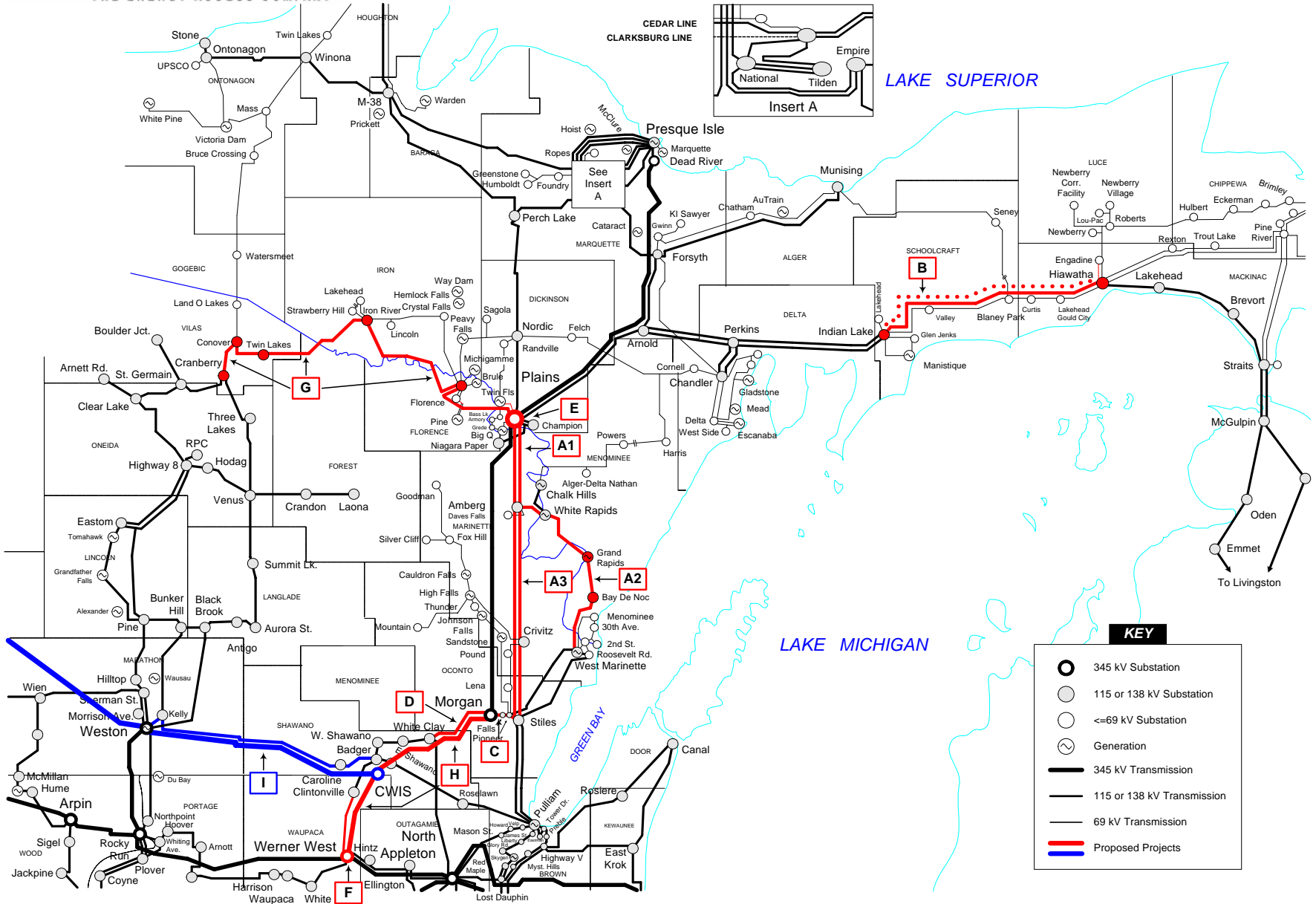
## Completed:

- A: Plains – Stiles 138 kV rebuild
- B: Indian Lake – Hiawatha 69 kV to 138 kV rebuild
- C: Morgan – Stiles 138 kV rebuild
- D: Morgan – White Clay 138 kV up-rate
- F: New Werner West 345/138 kV substation









## In-Progress:

- E: Second Transformer at Plains substation
- G: Cranberry – Conover – Plains
- H: Morgan – Werner West 345 kV Line
- I: Gardner Park – Central Wisconsin 345 kV Line

# Northern Umbrella Plan



**KEY**

-  345 kV Substation
-  115 or 138 kV Substation
-  <=69 kV Substation
-  Generation
-  345 kV Transmission
-  115 or 138 kV Transmission
-  69 kV Transmission
-  Proposed Projects



# Northern Umbrella Plan

Project Name	Key Need Drivers	Projected In-Service Date	Projected Cost	Status
<b>A: Plains – Stiles 138 kV Rebuild</b>	Physical condition; transfer capability; solution also results in a more robust parallel path for 2/3 of P-S corridor		\$94.3M	Complete
•A1: Plains – Amberg		October 2005	-	Complete
•A2: Amberg – West Marinette		November 2005	-	Complete
•A3: Amberg – Stiles		October 2006	-	Complete
<b>B: Indian Lake – Hiawatha 69 kV to 138 kV Rebuild</b>	TLR mitigation; voltage support; physical condition; local load-serving in Manistique area; required operating guide that splits the U.P. system			Complete
•Phase 1 – Rebuild Indian Lake – Glen Jenks		August 2004	\$6.1M	Complete
•Phase 2 – Rebuild as double circuit 138 kV, operate at 69 kV		March 2006	\$46.2M	Complete
•Phase 3 – Convert to 138 kV operation		N/A	N/A	Not part of the Northern Umbrella Plan
<b>C: Morgan – Stiles 138 kV Rebuild as double circuit</b>	Transfer capability	May 2006	\$8.0M	Complete



# Northern Umbrella Plan

Project Name	Key Need Drivers	Projected In-Service Date	Projected Cost	Status
<b>D:</b> Morgan – White Clay 138 kV uprate (eventual rebuild as part of Element H)	Transfer capability	March 2005	\$0.4M	Project Complete.
<b>E:</b> Add 2 <sup>nd</sup> Plains transformer (250 MVA 345/138 kV)	Transfer capability	4Q09	\$6.5M	Transformer ordered, project scope, schedule and cost being defined and planned.
<b>F:</b> New Werner West Substation with 345/138 kV transformer	TLR mitigation, system security	December 2006	\$14.2M	Project Complete.
<b>G:</b> Cranberry – Conover – Plains Project	Transfer capability; Transmission service; Reliability, physical condition	See below	\$118.7M	
• Phase 1: New 115 kV Cranberry – Conover		June 2008	-	Design/procurement activities and ROW acquisition underway.
• Phase 2, 3 & 4: Rebuild 69 kV Conover – Plains to 138 kV		June 2010	-	Design/procurement activities started. Will design/construct from west to east.
<b>H:</b> New Morgan – Werner West 345 kV line & Clintonville – Werner West 138 kV line	Transfer capability, reliability, and network service.	2009	\$132.3M	Engineering and ROW activities continuing on Werner West – Hwy 22 and Hwy 22 – White Clay. Construction has begun on White Clay – Morgan.
<b>I:</b> New Gardner Park – Central Wisconsin 345 kV line & Central Wisconsin 345 kV switching station	Required for new Weston 4 generation	2009	\$131.5M	Engineering and ROW activities continuing on Gardner Park – Whitcomb. Construction has begun on Belle Plain Tap – Hwy 22.

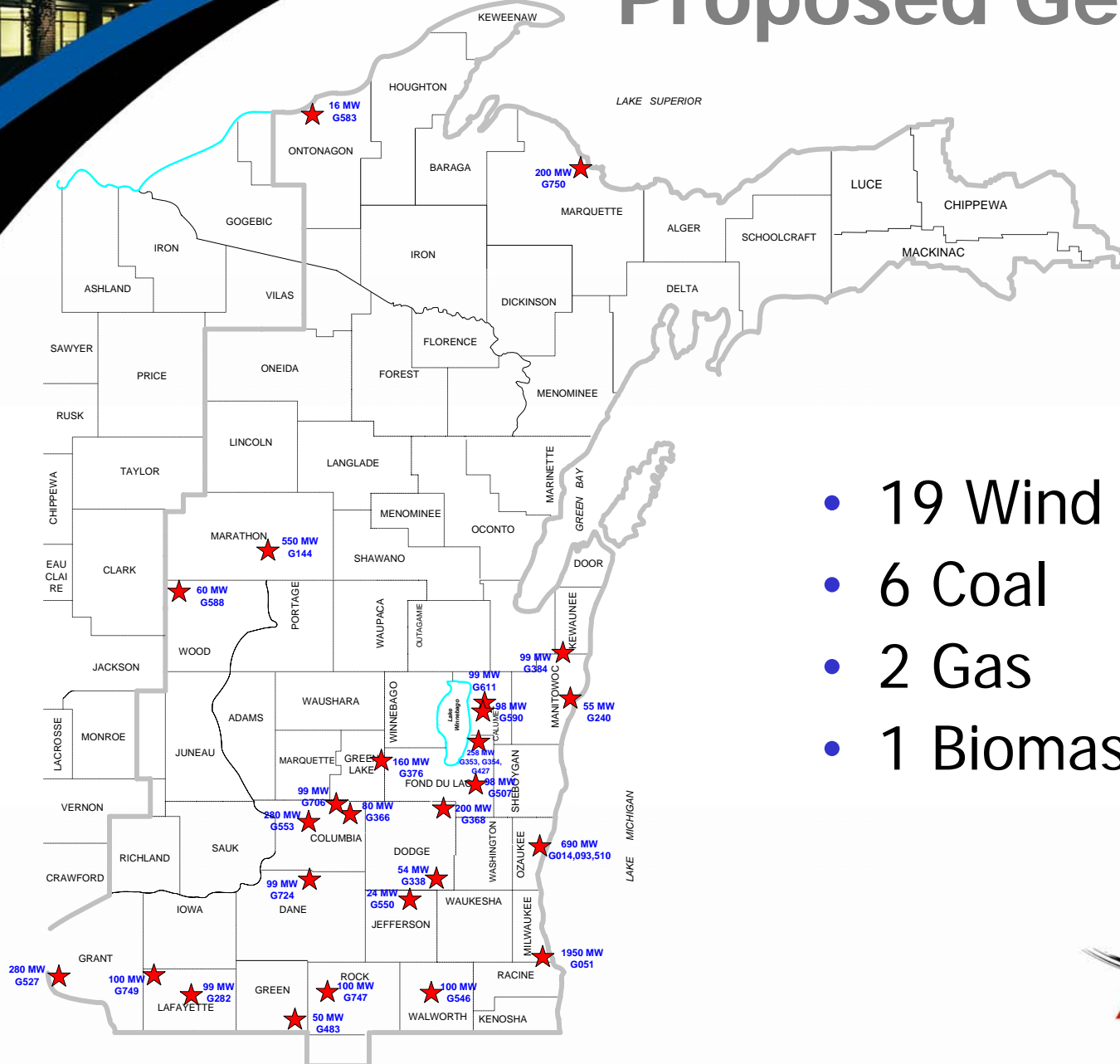


# Proposed Generation

- Requests for connecting new generators to ATC's system begin with the MISO.
- 28 requests are in the MISO Queue.
- 20 requests are for “renewable” sources.
- 2 requests are located in Michigan's Upper Peninsula.



# Proposed Generation



- 19 Wind
- 6 Coal
- 2 Gas
- 1 Biomass



