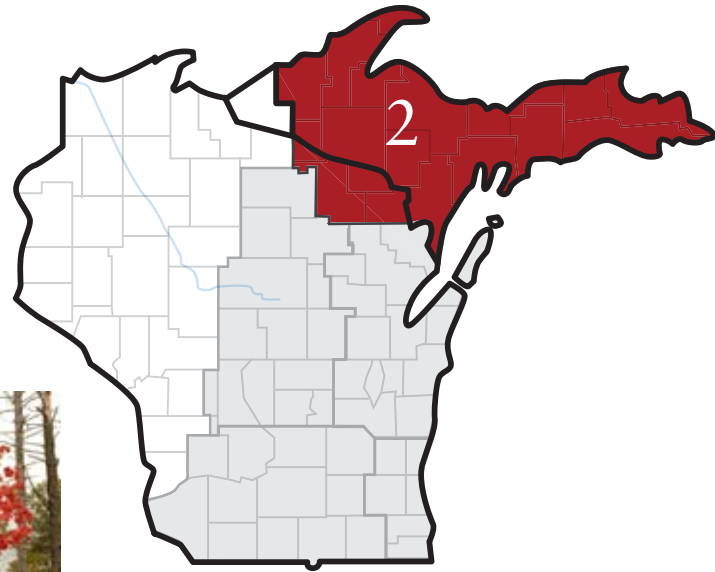


10-Year Transmission System Assessment

Proposals to ensure

- Electric system reliability
- Access to low-cost sources of power
- Access to renewable energy

www.atc10yearplan.com



Zone 2

Michigan's Upper Peninsula and Northern Wisconsin

ALGER, MICH.
BARAGA, MICH.
CHIPPEWA, MICH.
DELTA, MICH.
DICKINSON, MICH.
FLORENCE, WIS.
FOREST, WIS. (northern portion)
GOGEBIC, MICH. (eastern portion)
HOUGHTON, MICH.
IRON, MICH.

KEWEENAW, MICH.
LUCE, MICH.
MACKINAC, MICH.
MARINETTE, WIS. (northern portion)
MARQUETTE, MICH.
MENOMINEE, MICH. (northern portion)
ONTONAGON, MICH. (eastern portion)
SCHOOLCRAFT, MICH.
VILAS, WIS. (northern portion)

Planning for future reliability

American Transmission Co. was formed in 2001 to plan, permit, build, own, operate and maintain a high-voltage electric grid that meets the reliability and economic needs of our customers. Our planners continually conduct engineering studies on the electric transmission system looking for potential problems that may affect the future performance of the system. Our studies identify and prioritize future projects needed to improve the adequacy and reliability of the electric transmission system and meet evolving public priorities for increased availability of renewable generation.

Many projects serve to increase customer access to low-cost generation, which can reduce the cost of serving load in our footprint. In certain cases, expected economic benefits may be the primary driver of a project. Such is the case with our Paddock-Rockdale 345-kV line in southern Wisconsin. It is the first of its kind in the Midwest – while the line will enhance reliability, economics drove the decision to build. Local electric utilities will save through improved access to the wholesale electric market, and those savings will be passed on to end-use electric customers.

Whatever the need, we select best-value projects that resolve multiple system issues, and we do so in a transparent, collaborative process. We bring people into the process, engaging stakeholders in transmission discussion. We believe this open collaboration is critical to efficiently and economically meet renewable portfolio standards in the region. To that end, we are leading and participating in about a dozen regional and intra-regional studies and initiatives. We also are continuing to work with stakeholders in identifying projects that provide economic

benefits and upgrades that could improve access to lower-cost sources of power inside and outside our service territory.

In this, our ninth year of producing a 10-year forecast of transmission system needs, our focus remains on maintaining the adequacy and reliability of the system to meet the current and future needs of our customers. However, this is the first year that we have included asset renewal projects in the Assessment. While our reliability performance data indicates that our system is performing well, we are placing increased emphasis on managing the risk of aging infrastructure. Our approach to work that traditionally has been called maintenance is moving from a time-based program to a more-efficient process that is informed by performance analysis and operational experience.

The 2009 Assessment covers the years 2010 to 2019, and identifies \$2.5 billion in necessary transmission system improvements. The total includes \$1 billion for transmission network upgrades specifically described in this report, along with \$1.5 billion in interconnection and asset renewal projects, infrastructure replacements and relocations, and other smaller network reliability improvements.

While the cost estimate in our 2009 Assessment is slightly less than the \$2.7 billion identified in last year’s report, we may increase our overall 10-year capital spending because of increased focus on regional transmission support to move renewable generation to areas where the power is needed. With more than \$2.1 billion invested in the system since 2001, we have become a recognized, national leader in planning, permitting and building electric transmission infrastructure.

Cost estimate of system improvements					
	2005	2006	2007	2008	2009
Total 10-Year Capital Cost	\$3.4B	\$3.1B	\$2.8B	\$2.7B	\$2.5B



Helping to **keep the lights on,**
businesses running and communities strong™



Michigan's Upper Peninsula and Northern Wisconsin – Zone 2

Electric System Overview

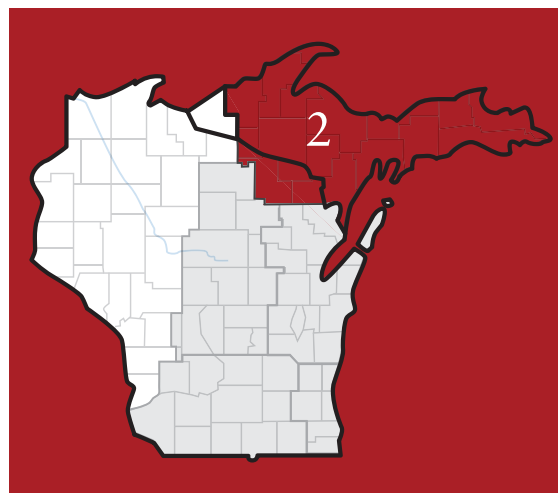
Small increases in population, employment

Population in Zone 2 is projected to grow about 0.2 percent annually between now and 2019, and employment is expected to grow about 0.8 percent each year in the same time period. Marquette County, Mich., is projected to realize the largest increase in employment, while Luce County is projected to have the highest growth rate.

Electricity usage growing

Zone 2 typically experiences peak electric demands during the winter months. Ore mining and paper mills are the largest electricity users in the zone.

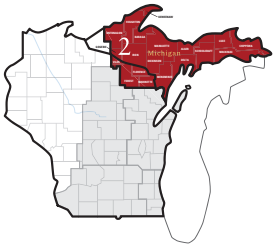
Electric load is projected to increase by 0.6 percent annually through 2019.



www.atc10yearplan.com

Transmission is the vital link in bringing power to communities

Transmission lines move electricity at high voltages over long distances – from power plants to communities where local utilities deliver power to homes and businesses via distribution lines. A reliable transmission network provides access to many sources of power, whether they are local or regional. Having multiple paths to get power from producers to consumers lessens the chance that they will experience service interruptions. With an increasing emphasis on renewable energy, transmission system planning will become even more important to put the power of wind on the wires.



System Limitations Michigan's Upper Peninsula and Northern Wisconsin – Zone 2

Transmission system characteristics in Zone 2

ATC delivers power in Zone 2 through various transmission facilities including:

- a north-south 345-kV line extending from near Marquette to the Iron Mountain area and southwest to the Oconto area,
- 138-kV lines from Arnold to the Manistique area,
- a 138/69-kV network in the western portion of the zone and
- a 69-kV network in the eastern portion of the zone.

There are a number of transmission system performance issues in Zone 2 including limited ability to import or export power, generator instability, overloaded lines and equipment, low system voltages and the chronic limitations to transmission service. Primary drivers of these issues include a mismatch of low-cost generation to load in the Upper Peninsula and aging facilities in poor or obsolete condition.

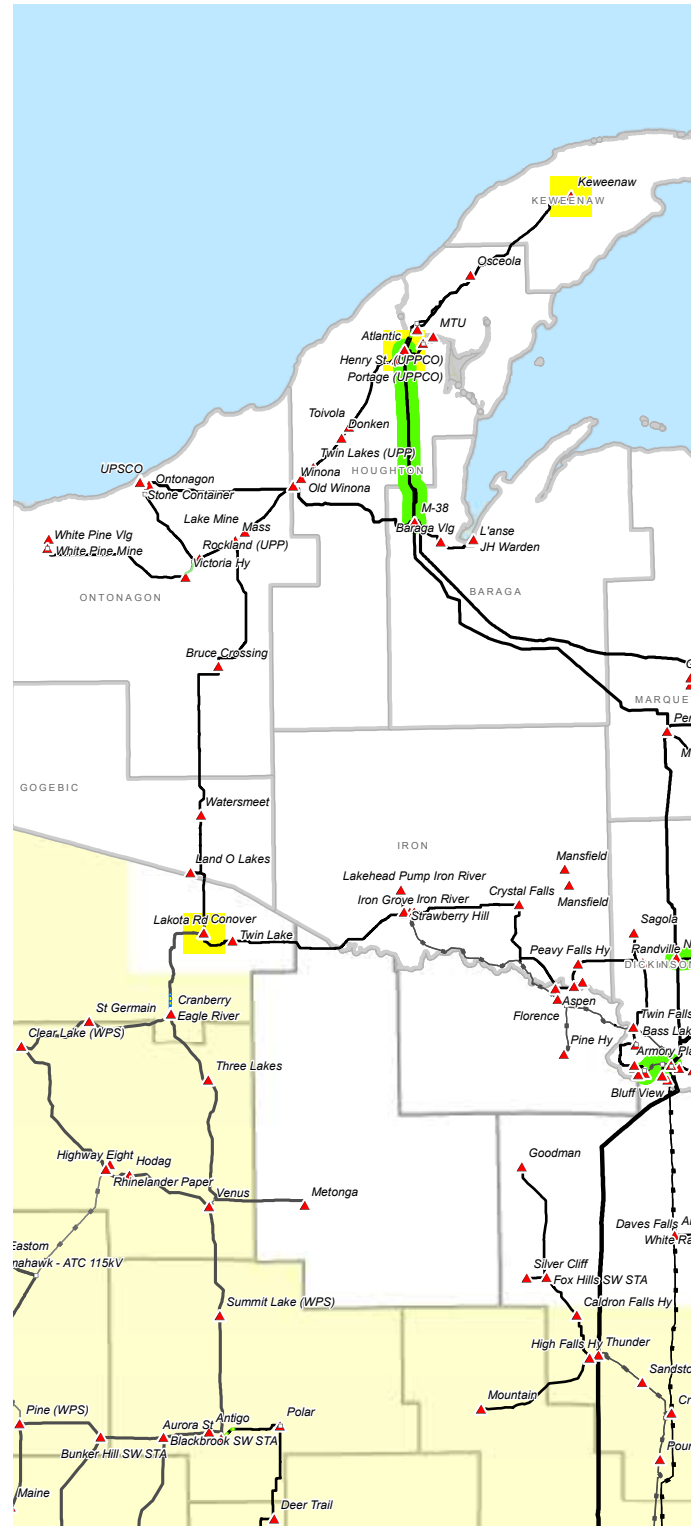
ATC has completed or has under construction a series of significant upgrades across the Upper Peninsula. The most notable projects of this effort include the Northern Umbrella Projects, scheduled for completion in 2010. Even with these significant upgrades, operational challenges remain in this region due to the delicate balance among generation, load, market flows and transmission that currently exists.

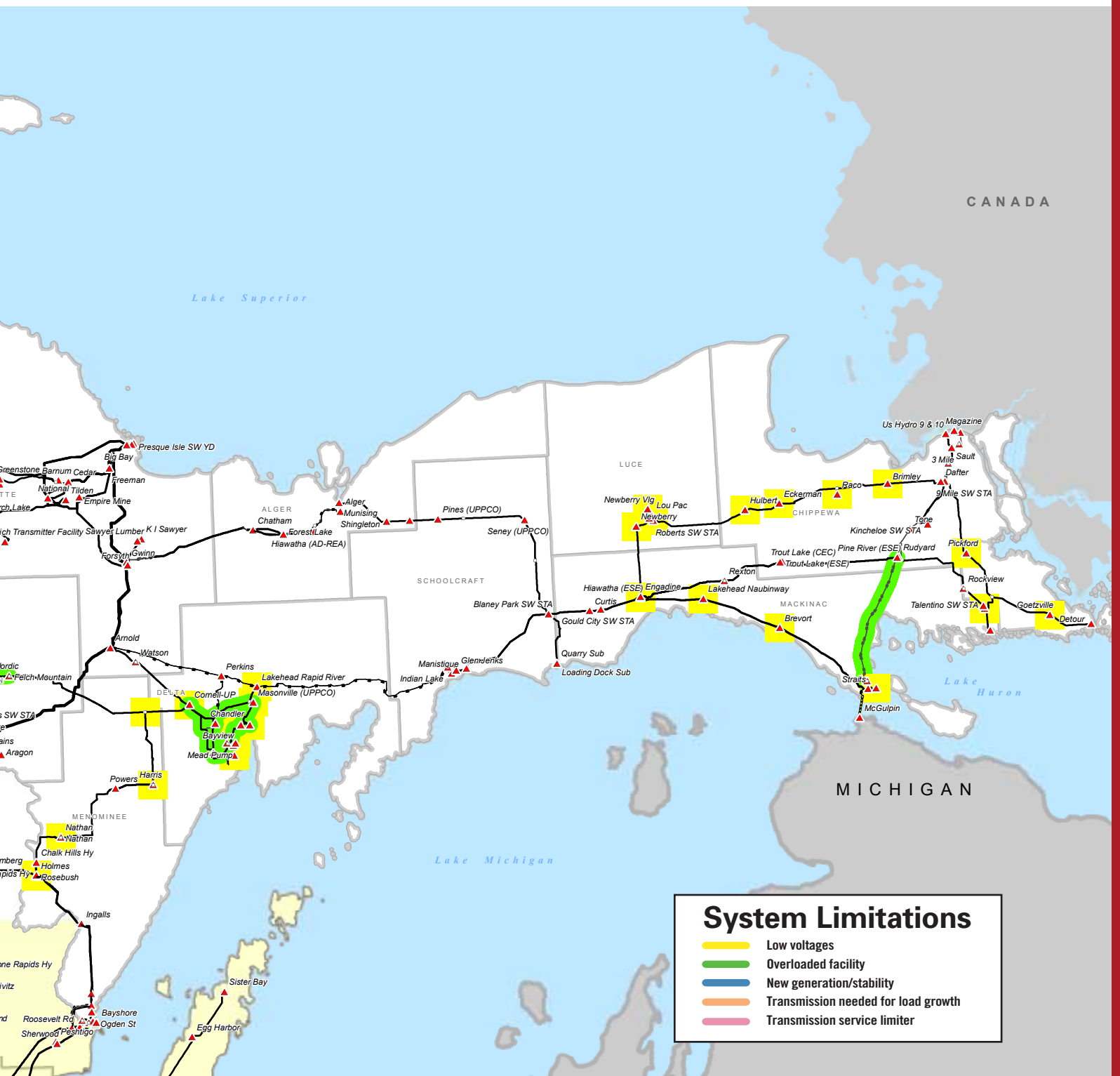
To vet our planning assumptions for the intermediate (three-to-five year) and long term (10-15 year) periods, we engaged stakeholders in a collaborative process (known as the ATC Energy Collaborative – Michigan) to examine the bounds of several plausible futures. From this process, we are developing a plan that will provide more operational flexibility and may impact Lower Michigan or Canada as well as Upper Michigan and northern Wisconsin. Please refer to www.atc10yearplan.com, ATC Energy Collaborative – Michigan, for details.

Transmission system limitations in Zone 2

In the analysis of Zone 2, we identified low voltages, transmission facility overloads and transmission service limitations. In addition, heavily loaded facilities during off-peak periods, especially when the Ludington Pumped Storage Facility in Lower Michigan is pumping, continue to keep the system working with very small operating margins.

The potential for generation at Presque Isle Power Plant becoming unstable after certain disturbances on the transmission system has been a long-standing limitation and the reason for an automated tripping scheme in place at Presque Isle. We are continuing to evaluate alternatives to this complex scheme.





Transmission projects in Zone 2

Michigan's Upper Peninsula and Northern Wisconsin – Zone 2



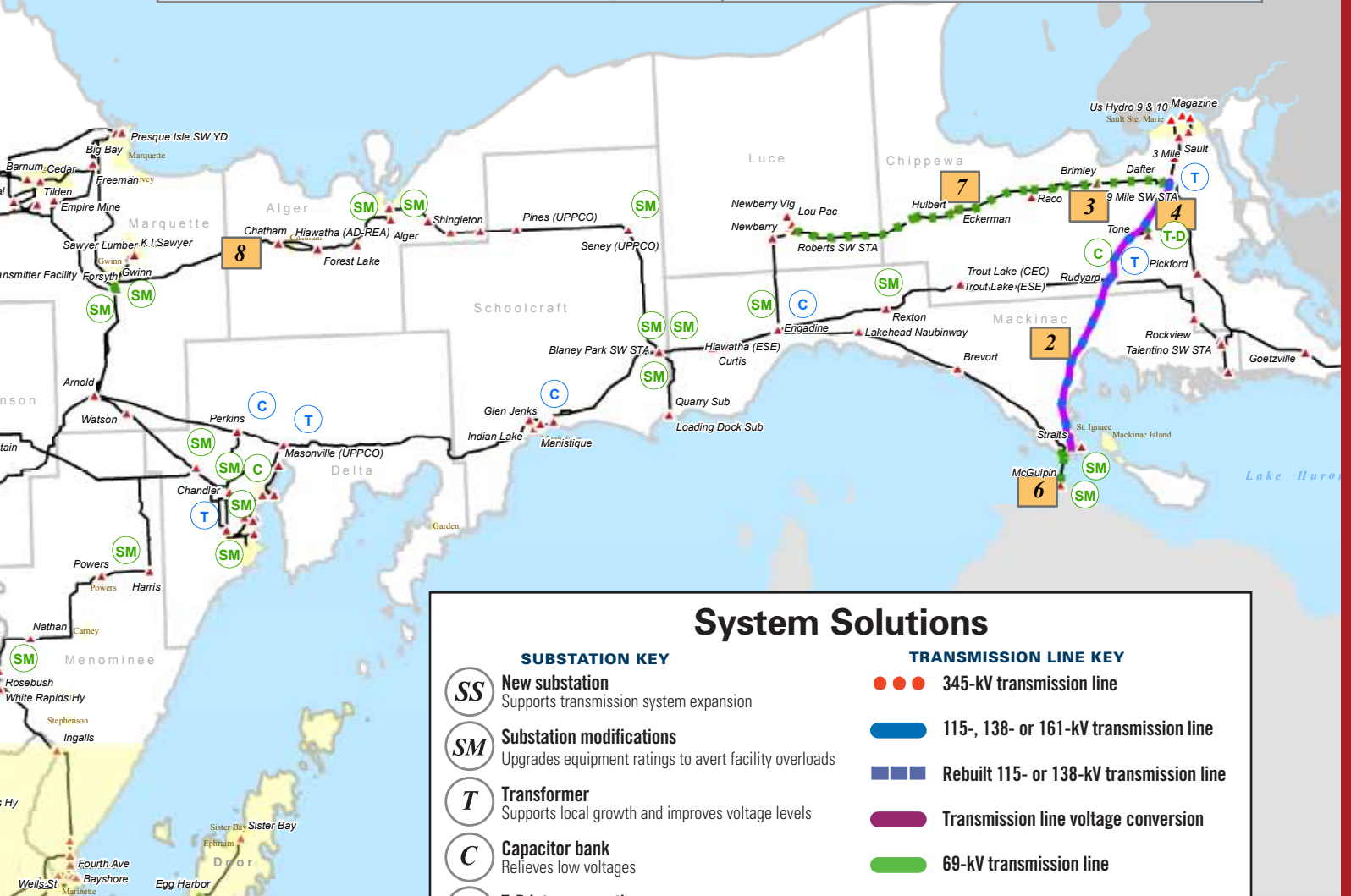
Transmission system limitations in Zone 2

ATC completed eight projects in Zone 2 since the 2008 Assessment. These projects include capacitor bank installations, transformer installations and upgrades, and line upgrades.

Our current plans in Zone 2 include more than 25 system reliability and economic projects between 2009 and 2023 to address network issues. These projects are in various stages of development. The most notable planned, provisional and asset renewal projects in Zone 2, along with their projected year of completion and the factors driving the need for the projects, are listed at right.



	Project description	In-service year	Need driver
Planned projects			
1	Cranberry-Conover 115-kV line (completed in 2008) and Conover-Iron River-Plains rebuild and conversion to 138 kV	2008-2010	Project for Rhinelander Loop, improves voltage profile in the area, addresses aging facilities with condition issues
Provisional projects			
2	Straits-Pine River 138-kV line rebuild/conversion	2012	Addresses facility overloads and low voltages
3	Kinross load-Pine River/Nine Mile 69-kV line	2012	T-D interconnection
4	Pine River-Nine Mile 69-kV rebuild to double-circuit 138/69-kV line	2012	Addresses facility overloads and low voltages
5	Increase ground clearance of M38-Atlantic 69-kV line from 120 to 167 degrees F	2013	Addresses facility overloads, improve condition and increase reliability performance of existing line
Asset Renewal projects			
6	Straits-McGulpin 138-kV lines submarine cable replacements	2020	Increase reliability performance of existing line
7	Nine Mile-Roberts 69-kV rebuild	2013	69-kV major maintenance renewal, improve condition and increase reliability performance of existing line
8	Forsyth-Munising 138-kV line re-insulate	2015	Improve condition and increase reliability performance of existing line



System Solutions

SUBSTATION KEY

- SS** New substation
Supports transmission system expansion
- SM** Substation modifications
Upgrades equipment ratings to avert facility overloads
- T** Transformer
Supports local growth and improves voltage levels
- C** Capacitor bank
Relieves low voltages
- T-D** T-D interconnection
Supports local growth

TRANSMISSION LINE KEY

- 345-kV transmission line
- ▬ 115-, 138- or 161-kV transmission line
- ▬ Rebuilt 115- or 138-kV transmission line
- ▬ Transmission line voltage conversion
- ▬ 69-kV transmission line
- ▬ Rebuilt 69-kV transmission line



P.O. Box 47
Waukesha, WI 53187-0047



Helping to **keep the lights on**, businesses running and communities strong™

ATC AT A GLANCE

- Formed in 2001 as the first multi-state, **transmission-only utility**.
- Owner and operator of approximately **9,400 miles of transmission line and 510 substations**.
- Meeting electric needs of more than **five million people** in 72 counties in four states: Wisconsin, Michigan, Minnesota and Illinois.
- \$2.5 billion** in total assets.

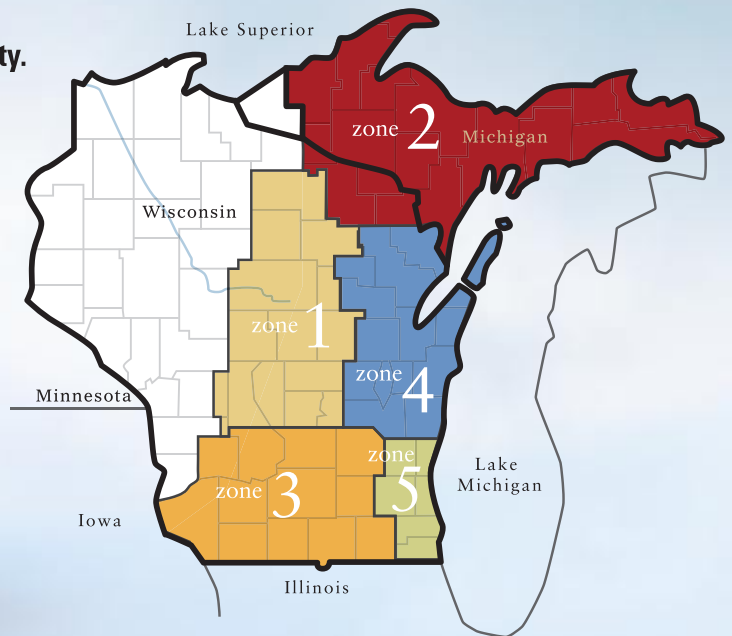
CONTACT

Mail P.O. Box 47 Waukesha, WI 53187-0047

Toll-free 1-866-899-3204

Web info@atcllc.com

More detailed information is available at www.atc10yearplan.com



P.O. Box 47 ■ Waukesha, WI 53187-0047 ■ Toll-free 866.899.3204 ■ 262.506.6700 ■ www.atcllc.com



Would you like a speaker from ATC to address your group? Give us a call, toll-free, at 1.866.899.3204, ext. 6922.