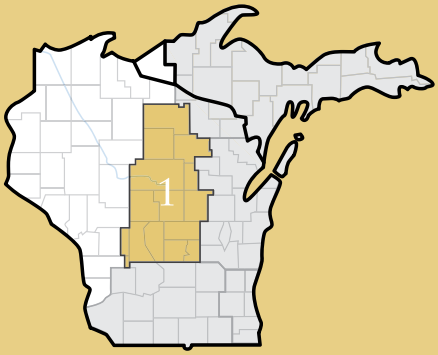
AMERICAN TRANSMISSION COMPANY®

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

An excerpt from ATC's 2011 10-Year Transmission System Assessment

An annual report describing economic and regional solutions to electric reliability needs



Zone 1 – North Central Wisconsin

ADAMS
FOREST (southwestern portion)
FOND DU LAC (northwest portion)
GREEN LAKE
JUNEAU
LANGLADE
LINCOLN
MARATHON
MARQUETTE
MONROE (eastern portion)
ONEIDA
PORTAGE
SHAWANO (western portion)
VERNON (eastern portion)
VILAS (southern portion)
WAUPACA
WAUSHARA
WINNEBAGO (western portion)
WOOD

Economics, public policy increasingly influence transmission planning

Mandatory reliability standards, renewable portfolio requirements affect plans

While reliably meeting the needs of electricity customers is the top priority for any transmission owner, market economics and public policy initiatives are playing a major role in how utilities plan for their system needs. Traditionally, transmission owners performed planning studies and analysis for their individual needs; today, however, while local reliability remains the responsibility of the owner, the trend is toward broader-based planning driven by regional transmission organizations, government agencies and electricity market economics.

Changing the way transmission system costs are allocated also affects the planning as well as permitting for system improvements. Regional planning initiatives increasingly focus on projects that provide additional benefits beyond local-area reliability. These multi-benefit, or Multi-Value Projects (as defined by Midwest Independent System Operator, Inc.), also include economic savings and the ability to move renewable energy from where it is generated to where it can be used. As these projects are identified, regulators from multiple states will need to work together to determine cost sharing as well as permitting. We are working diligently with all stakeholders to design an incremental regional build-out of these projects to move forward efficiently and cost-effectively.

Enforceable, mandatory reliability standards, developed by the North American Electric Reliability Corp. and approved by the Federal Energy Regulatory Commission in 2007, also play a role in how we plan, operate and maintain our system. Earlier this year, NERC issued a set of high-priority reliability issues to help the industry focus on standards setting, compliance, training and education. Several of those priorities, including a changing resource mix and the integration of new technologies, will impact the way we plan and operate our system.

Our planning process also is affected by pending Environmental Protection Agency regulations for electric generators and the recently issued FERC Order 1000 governing regional planning, public policy requirements and cost allocation.

The 2011 Assessment covers the years 2011 through 2020 and indicates a need for $3.8 to $4.4 billion in transmission system improvements. The total includes $1.0 billion in specific network projects, $1.0 billion in asset maintenance, $0.7 billion in multi-benefits projects, and this year a range of $1.1 to $1.7 billion in other capital categories. Other capital categories can include developing or unspecified network projects, interconnection projects and infrastructure relocation.

Cost estimate of system improvements

	2007	2008	2009	2010	**2011**
Total 10-Year Capital Cost	$2.8B	$2.7B	$2.5B	$3.4B	**$3.8/$4.4B**

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.

www.atc10yearplan.com

GREEN TIER

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businesses running and communities strong®

North Central Wisconsin – Zone 1

Electric System Overview

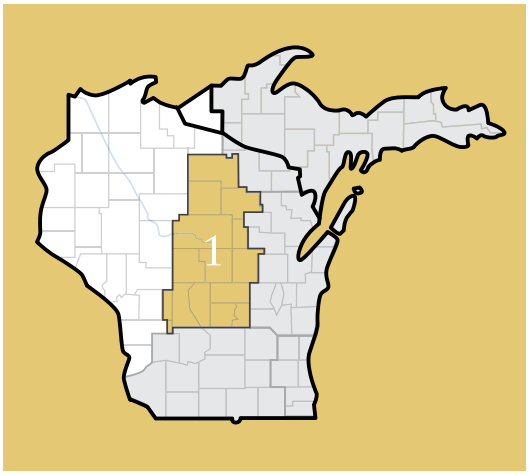
Slight increases expected in population, employment

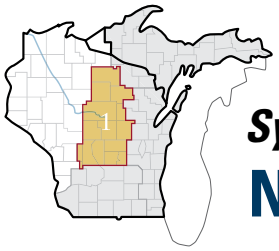
Population in Zone 1 is projected to grow at 0.6 percent annually between now and 2020. Employment is projected to grow at 0.9 percent annually between now and 2020. Marathon County will realize the largest increase in population and employment, while Adams County will have the highest growth rate.

Electricity usage growing

Peak electric demand typically occurs during the summer months, with some winter peaks appearing in the northern portion. Primary electricity users in Zone 1 include a number of large paper mills and food processing plants.

Electric load is projected to grow approximately 0.66 percent annually through 2020.





System Limitations

North Central Wisconsin – Zone 1

Transmission system characteristics in Zone 1

ATC delivers power in Zone 1 with various transmission facilities including:

- East-west 345-kV line from Arpin Substation through Stevens Point extending to the Appleton area,
- 345-kV line extending from Wausau to northeastern Minnesota,
- 345-kV line extending from Wausau to Stevens Point to eastern Outagamie County (Highway 22),
- 115-kV network in the northern portion of the zone, and
- 138-kV and 69-kV network in the southern portion of the zone.

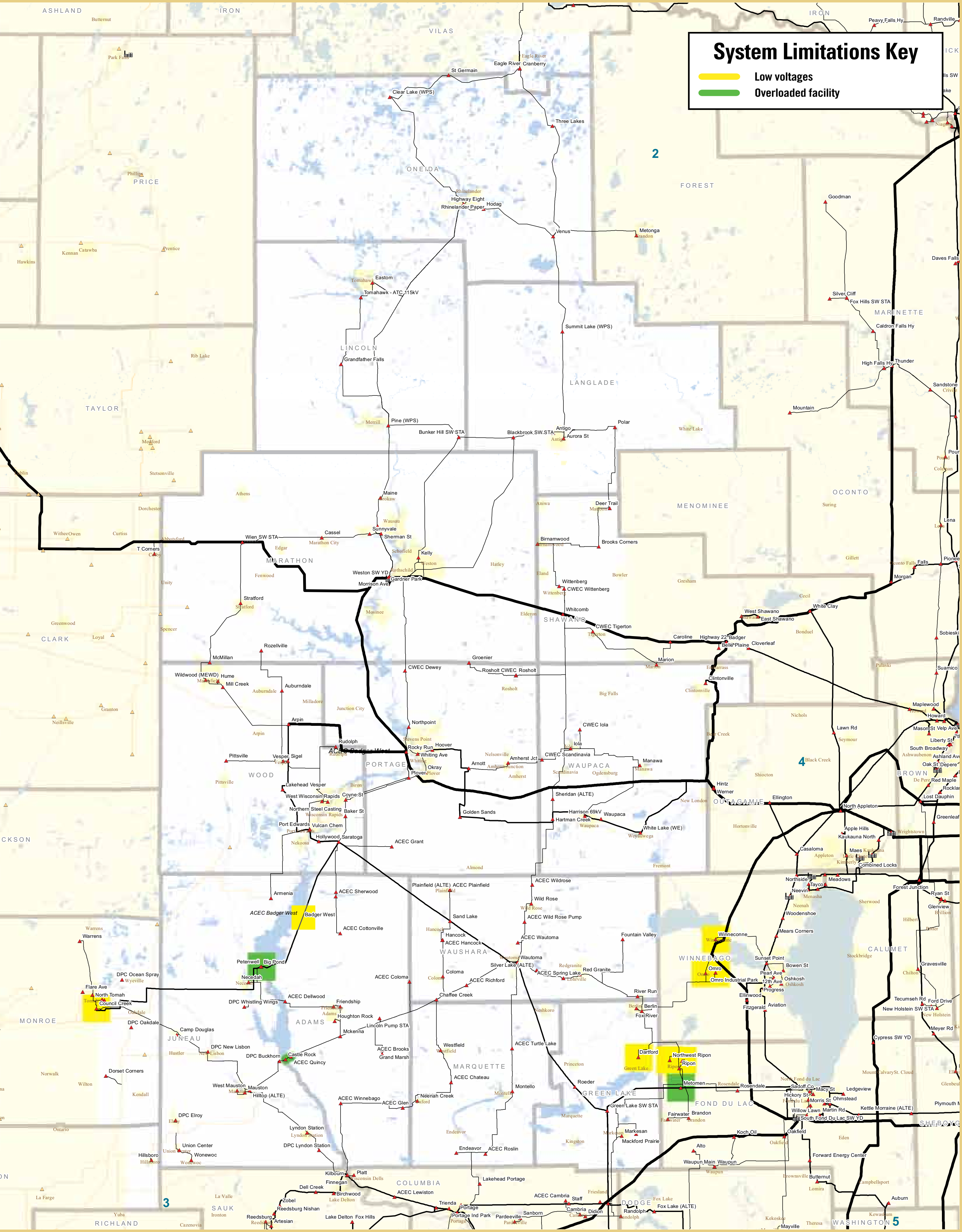
There are a number of transmission system performance issues in Zone 1 including overloaded lines and equipment and low system voltages.

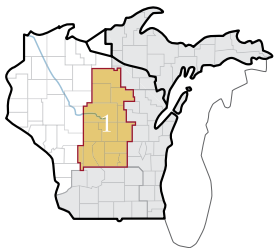
Transmission system limitations in Zone 1

Key system performance issues in Zone 1 include low voltages and thermal overloads in the southern portion of the zone. These issues will necessitate a combination of reinforcements.

Zone 1 includes the counties of:

ADAMS
FOREST (southwestern portion)
FOND DU LAC (northwest portion)
GREEN LAKE
JUNEAU
LANGLADE
LINCOLN
MARATHON
MARQUETTE
MONROE (eastern portion)
ONEIDA
PORTAGE
SHAWANO (western portion)
VERNON (eastern portion)
VILAS (southern portion)
WAUPACA
WAUSHARA
WINNEBAGO (western portion)
WOOD


System Limitations Key
Low voltages
Overloaded facility
ASHLAND
IRON
VILAS
ONEIDA
FOREST
MARINETTE
PRICE
LINCOLN
LANGLADE
TAYLOR
OCONTO
MENOMINEE
MARATHON
SHAWANO
CLARK
WOOD
PORTAGE
WAUPACA
OUTAGAMIE
BROWN
JACKSON
MONROE
JUNEAU
ADAMS
WAUSHARA
WINNEBAGO
CALUMET
MARQUETTE
GREEN LAKE
FOND DU LAC
SHEBOYGAN
COLUMBIA
DODGE
SAUK
RICHLAND
WASHINGTON
2
3
4
5
St Germain
Eagle River
Cranberry
Clear Lake (WPS)
Three Lakes
Rhinelander
Highway Eight
Rhinelander Paper
Hodag
Venus
Metonga
Goodman
Daves Falls
Peavy Falls Hy
Randville
Silver Cliff
Fox Hills SW STA
Caldron Falls Hy
High Falls Hy
Thunder
Sandstone
Mountain
Eastom
Tomahawk - ATC 115kV
Grandfather Falls
Summit Lake (WPS)
Pine (WPS)
Bunker Hill SW STA
Blackbrook SW.STA
Antigo
Aurora St
Polar
Maine
Sunnyvale
Sherman St
Cassel
Wien SW STA
T Corners
Kelly
Weston SW YD
Gardner Park
Morrison Ave
Stratford
Deer Trail
Birnamwood
Brooks Corners
Wittenberg
CWEC Wittenberg
Whitcomb
CWEC Tigerton
Caroline
Highway 22
Badger
Belle Plaine
Cloverleaf
West Shawano
East Shawano
White Clay
Morgan
Falls
Pioneer
Lena
Sobieski
Suamico
Maplewood
Howard
Mason St
Velp Ave
Liberty St
South Broadway
Ashland Ave
Oak St
Depere
Red Maple
Lost Dauphin
Greenleaf
Marion
Clintonville
Rozellville
McMillan
Wildwood (MEWD)
Hume
Mill Creek
Auburndale
Groenier
Rosholt CWEC Rosholt
CWEC Dewey
Arpin
Northpoint
Rudolph
ACEC Badger West
Rocky Run
Hoover
Whiting Ave
Okray
Plover
Pittsville
Vesper
Sigel
Arnott
Amherst Jct
CWEC Scandinavia
Iola
CWEC Iola
Manawa
Hintz
Werner
Ellington
North Appleton
Lawn Rd
Lakehead Vesper
West Wisconsin Rapids
Coyne St
Northern Steel Casting
Baker St
Port Edwards
Vulcan Chem
Hollywood
Saratoga
ACEC Grant
Golden Sands
Sheridan (ALTE)
Harrison 69kV
Hartman Creek
Waupaca
White Lake (WE)
Apple Hills
Kaukauna North
Casaloma
Maes
Combined Locks
Northside
Tayco
Meadows
Neevin
Forest Junction
Ryan St
Glenview
Armenia
ACEC Sherwood
Badger West
ACEC Cottonville
Plainfield (ALTE)
ACEC Plainfield
ACEC Wildrose
Wild Rose
ACEC Wild Rose Pump
Sand Lake
Hancock
ACEC Hancock
ACEC Wautoma
Wautoma
Silver Lake (ALTE)
ACEC Spring Lake
Red Granite
Fountain Valley
Coloma
ACEC Coloma
ACEC Richford
Chaffee Creek
River Run
Berlin
Fox River
Winneconne
Omro
Omro Industrial Park
Sunset Point
Bowen St
Pearl Ave
12th Ave
Oshkosh
Progress
Ellinwood
Fitzgerald
Aviation
Woodenshoe
Mears Corners
Gravesville
Tecumseh Rd
Ford Drive
New Holstein SW STA
Meyer Rd
Cypress SW YD
Warrens
DPC Ocean Spray
Flare Ave
North Tomah
Council Creek
DPC Oakdale
Petenwell
Big Pond
Necedah
DPC Whistling Wings
ACEC Dellwood
Friendship
Houghton Rock
Lincoln Pump STA
Mckenna
Camp Douglas
DPC New Lisbon
DPC Buckhorn
Castle Rock
ACEC Quincy
ACEC Brooks
Grand Marsh
Westfield
ACEC Chateau
ACEC Turtle Lake
Montello
Roeder
Dartford
Northwest Ripon
Ripon
Metomen
Rosendale
Sadoff Co
Macy St
Ledgeview
Hickory St
Morris St
Ohmstead
Willow Lawn
Martin Rd
Kettle Morraine (ALTE)
South Fond Du Lac SW YD
Green Lake SW STA
Fairwater
Brandon
Markesan
Mackford Prairie
Koch Oil
Oakfield
Alto
Waupun Main
Waupun
Forward Energy Center
Butternut
Auburn
Dorset Corners
West Mauston
Mauston
Hilltop (ALTE)
ACEC Winnebago
ACEC Glen
Neenah Creek
DPC Elroy
Lyndon Station
DPC Lyndon Station
Union Center
Wonewoc
Hillsboro
Endeavor
ACEC Roslin
Kilbourn
Platt
Finnegan
Dell Creek
Birchwood
Zobel
Reedsburg Nishan
Reedsburg
Artesian
Lake Delton
Fox Hills
ACEC Lewiston
Lakehead Portage
Trienda
Portage
Portage Ind Park
Pardeeville
Sanborn
ACEC Cambria
Staff
Cambria
Didion
Randolph
Fox Lake (ALTE)
Mayville



Transmission projects in Zone 1

North Central Wisconsin – Zone 1

We have implemented one project in Zone 1 since the 2010 Assessment, which was the construction of a new 69-kV line to the new Warrens Substation tapped from the Council Creek-Tunnel City 69-kV line.

Our current plans in Zone 1 include 15 system reliability and economic projects between 2011 and 2025. These projects are in various stages of development. The most notable planned, proposed, provisional and asset renewal projects in Zone 1, along with their projected year of completion and the factors driving the need for the projects, are listed below.

	Project description	In-service year	Need driver
	Planned projects		
1	Clear Lake-Woodmin 115-kV line	2012	T-D interconnection
	Proposed projects		
2	Monroe County-Council Creek 161-kV line	2014	Low-voltage, economics, avoids reconfiguration during emergencies
	Provisional projects		
3	Fairwater-Mackford Prairie 69-kV line	2017	Overloads, low-voltages, and economic
	Asset Renewal projects		
4	Wautoma-Berlin 69-kV line rebuild	2011	Condition and performance
5	Whitcomb-Deer Trail 69-kV line partial rebuild	2011	Condition and performance
6	Montello-Wautoma 69-kV line rebuild	2017	Condition and performance
7	Plover-Whiting 115-kV line rebuild	2019	Condition and performance
8	Coyne-Saratoga 115-kV line partial rebuild	2020	Condition and performance

System Solutions Key

SUBSTATION KEY

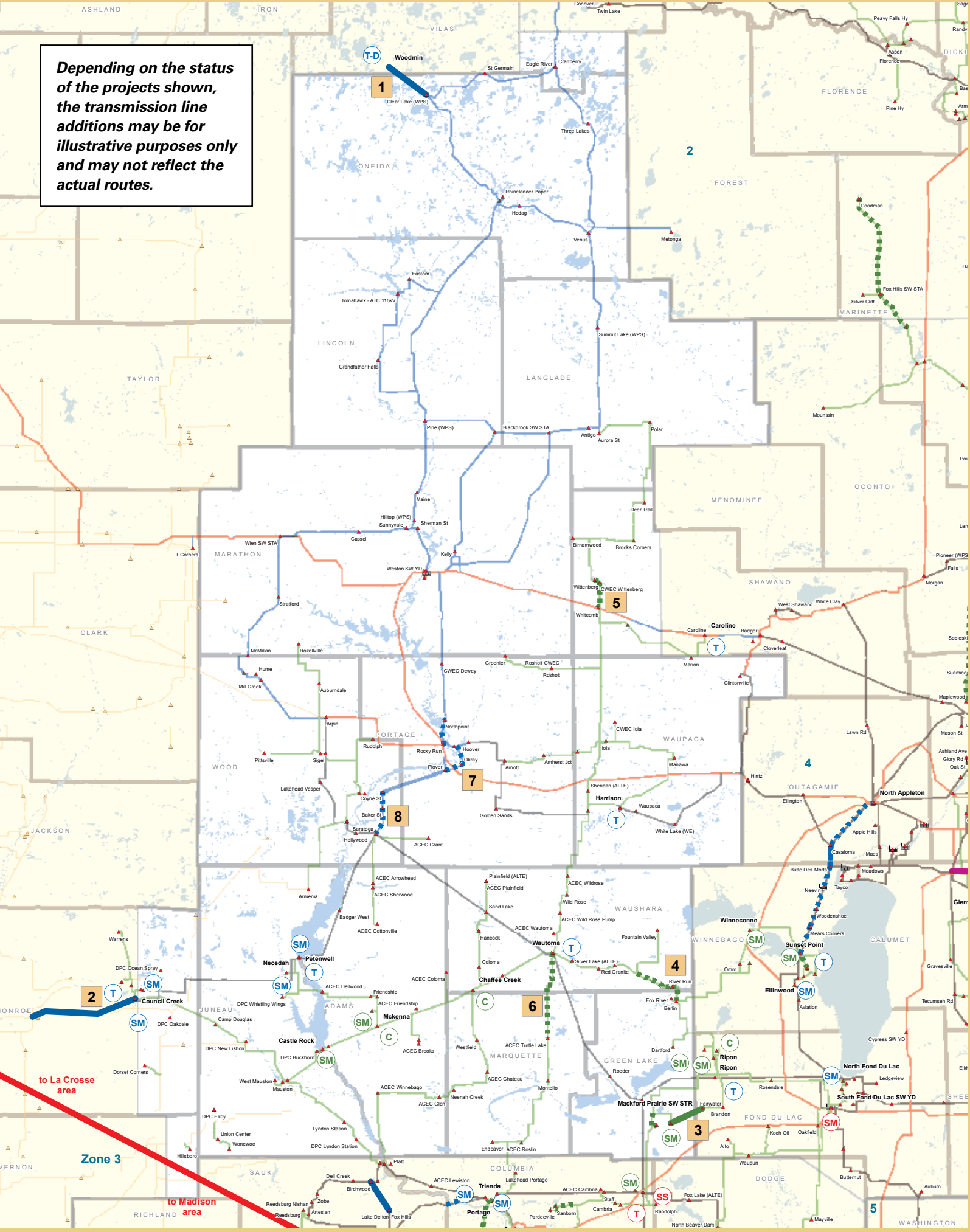
- **SS** — **New substation** — Supports transmission system expansion
- **SM** — **Substation modifications** — Upgrades equipment ratings to avert facility overloads
- **T** — **Transformer** — Supports local growth and improves voltage levels
- **C** — **Capacitor bank or reactor** — Relieves low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

EXISTING TRANSMISSION LINES KEY

- 69 kV
- 161 kV
- 115 kV
- 230 kV
- 138 kV
- 345 kV


Depending on the status of the projects shown, the transmission line additions may be for illustrative purposes only and may not reflect the actual routes.
ASHLAND
IRON
VILAS
ONEIDA
FLORENCE
FOREST
MARINETTE
LINCOLN
LANGLADE
TAYLOR
MENOMINEE
OCONTO
MARATHON
SHAWANO
CLARK
WOOD
PORTAGE
WAUPACA
OUTAGAMIE
JACKSON
WAUSHARA
WINNEBAGO
CALUMET
ADAMS
JUNEAU
MARQUETTE
GREEN LAKE
FOND DU LAC
COLUMBIA
SAUK
DODGE
WASHINGTON
RICHLAND
VERNON
T-D
Woodmin
Clear Lake (WPS)
1
2
3
4
5
6
7
8
Eagle River
St Germain
Cranberry
Three Lakes
Rhinelander Paper
Hodag
Venus
Metonga
Eastom
Tomahawk - ATC 115kV
Grandfather Falls
Summit Lake (WPS)
Pine (WPS)
Blackbrook SW STA
Antigo
Aurora St
Polar
Goodman
Fox Hills SW STA
Silver Cliff
Mountain
Maine
Hilltop (WPS)
Sunnyvale
Sherman St
Deer Trail
Cassel
Wien SW STA
T Corners
Kelly
Weston SW YD
Birnamwood
Brooks Corners
Wittenberg
CWEC Wittenberg
Whitcomb
Caroline
Badger
Cloverleaf
Marion
Clintonville
West Shawano
White Clay
Pioneer (WPS
Morgan
Stratford
McMillan
Rozellville
Hume
Mill Creek
Auburndale
CWEC Dewey
Groenier
Roshoit CWEC
Roshoit
Arpin
Northpoint
Rudolph
Rocky Run
Hoover
Okray
Plover
Pittsville
Sigel
Lakehead Vesper
Coyne St
Baker St
Saratoga
Hollywood
ACEC Grant
Golden Sands
Arnott
Amherst Jct
CWEC Iola
Iola
Manawa
Sheridan (ALTE)
Harrison
Waupaca
White Lake (WE)
Hintz
Ellington
North Appleton
Apple Hills
Casaloma
Maes
Butte Des Morts
Meadows
Neevin
Tayco
Lawn Rd
Mason St
Ashland Ave
Glory Rd
Oak St
Maplewood
Suamico
Sobieski
Armenia
ACEC Arrowhead
ACEC Sherwood
Badger West
ACEC Cottonville
Plainfield (ALTE)
ACEC Plainfield
Sand Lake
ACEC Wildrose
Wild Rose
ACEC Wild Rose Pump
ACEC Wautoma
Hancock
Wautoma
Fountain Valley
Silver Lake (ALTE)
Red Granite
Coloma
Chaffee Creek
River Run
Fox River
Berlin
Omro
Winneconne
Sunset Point
Ellinwood
Aviation
Woodenshoe
Mears Corners
Gravesville
Tecumseh Rd
Warrens
DPC Ocean Spray
Necedah
Petenwell
Council Creek
DPC Whistling Wings
DPC Oakdale
Camp Douglas
ACEC Dellwood
Friendship
ACEC Friendship
ACEC Coloma
Mckenna
Castle Rock
DPC New Lisbon
DPC Buckhorn
Dorset Corners
West Mauston
Mauston
ACEC Brooks
Westfield
ACEC Turtle Lake
ACEC Chateau
Montello
ACEC Winnebago
ACEC Glen
Neenah Creek
Endeavor
ACEC Roslin
Dartford
Ripon
Roeder
Rosendale
Mackford Prairie SW STR
Fairwater
Brandon
Koch Oil
Oakfield
Alto
Waupun
North Fond Du Lac
Ledgeview
South Fond Du Lac SW YD
Cypress SW YD
DPC Elroy
Union Center
Wonewoc
Lyndon Station
DPC Lyndon Station
Hillsboro
Platt
Dell Creek
Birchwood
ACEC Lewiston
Trienda
Portage
Lake Delton Fox Hills
Reedsburg Nishan
Zobel
Artesian
Reedsburg
Lakehead Portage
ACEC Cambria
Staff
Cambria
Pardeeville
Sanborn
Randolph
Fox Lake (ALTE)
North Beaver Dam
Mayville
Butternut
Auburn
to La Crosse area
to Madison area
Zone 3

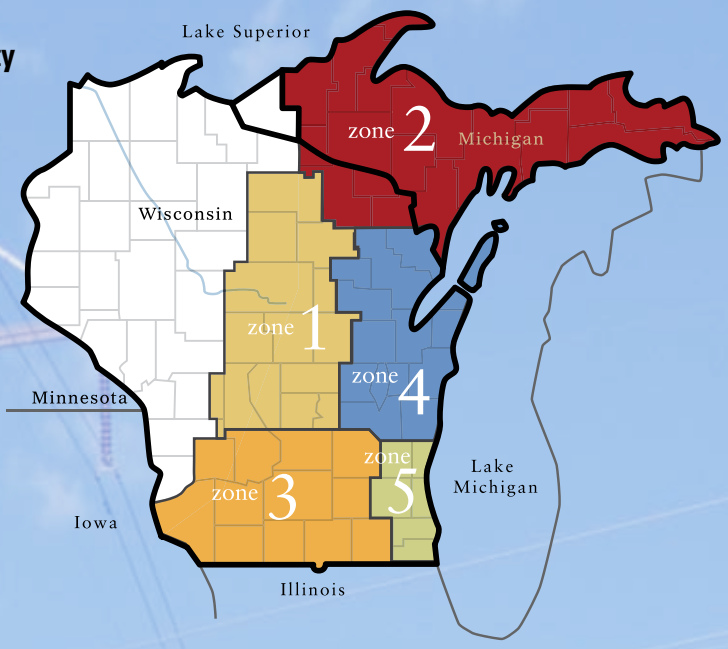
AMERICAN TRANSMISSION COMPANY®

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 **9,440 miles of transmission line and 515 substations**
- Meeting electric needs of more than **five million people** in 72 counties in four states: Wisconsin, Michigan, Minnesota and Illinois
- **$2.9 billion** in total assets



CONTACT

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