2009 10-Year Assessment Summary

ATC Customer Meeting

August 20, 2009

AMERICAN TRANSMISSION COMPANY®

Presentation Topics

- 2009 assessment messages
- Multiple need drivers
- Solutions
- Futures

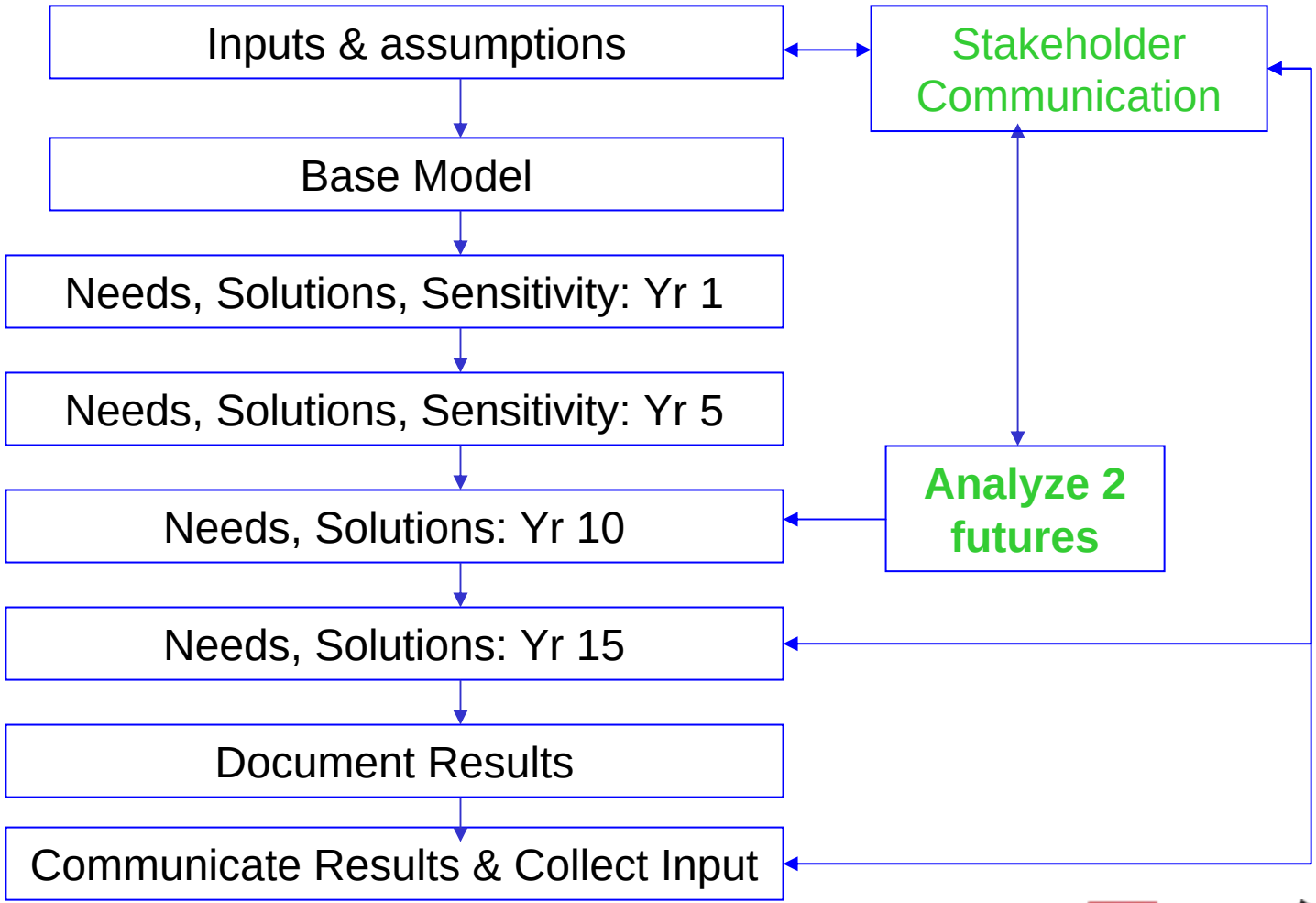
2009 TYA
Key Messages

- Continuing to plan for a reliable future
- Regional participation/planning for wind
- Economic benefits studies
- Interconnection process
- Asset management process

Multiple Need Drivers

- Safety
- Performance / condition
- Traditional reliability analysis
- Multiple contingency
- Economic benefits
- Access
- Regional initiatives
- Mandatory NERC standards

Enhanced Assessment



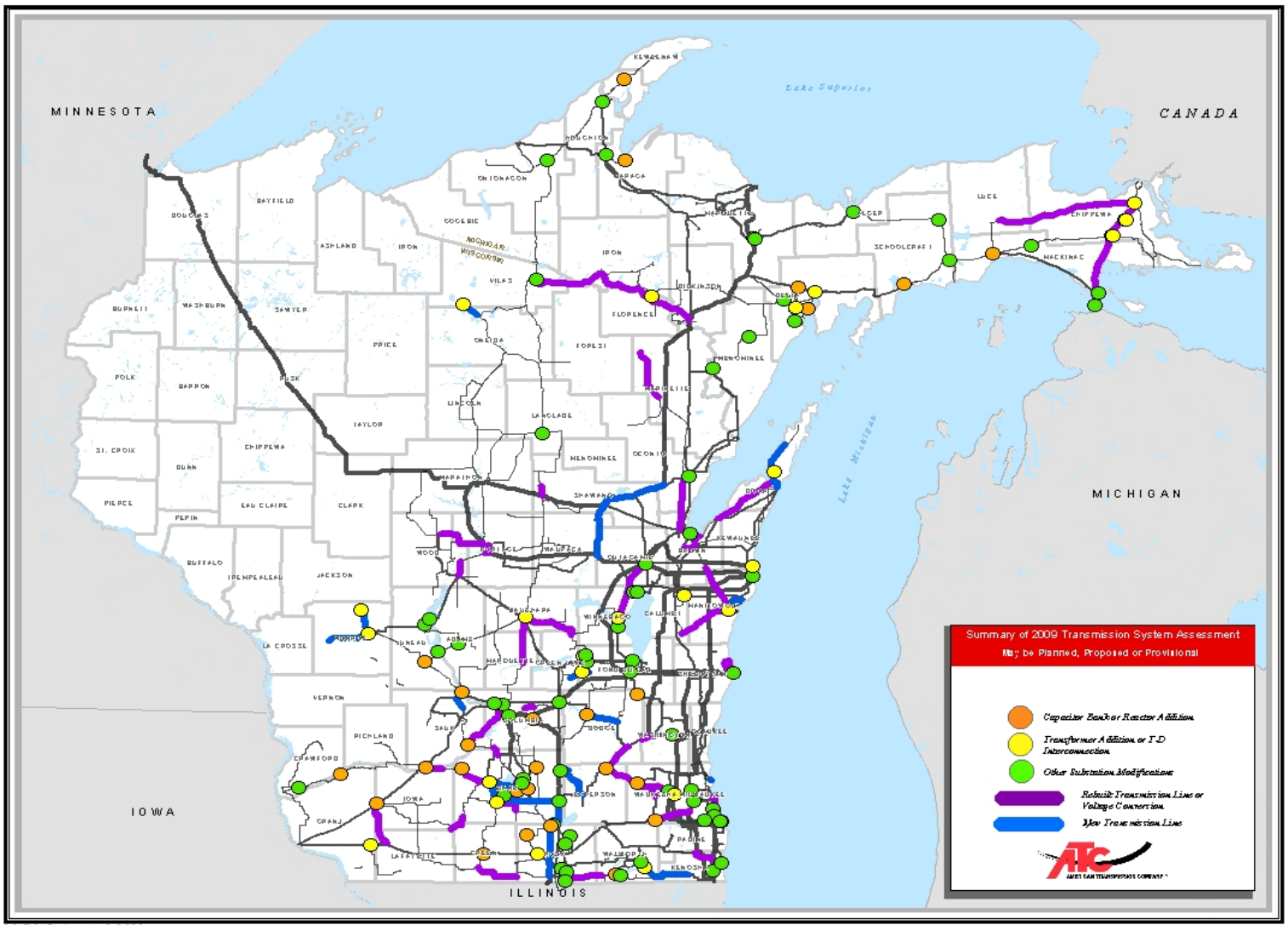
2009 Assessment Process

- Preliminary needs
  - 4 summer peaks (2010, 2014, 2019, 2024)
  - ID near term impacts
- Additional sensitivity needs
  - Load forecast +5% (2014)
  - West-to-East bias at 70% load (2010,14)
  - East-to West bias at 90% load (2010,14)
  - Futures – two (2019)
    - Consider results in project development

2009 Ten Year Assessment (TYA)

- 2009 TYA Process Overview
  - Obtain/cleanse utility forecasts
  - Create ATC models using MISO models
  - Analyze performance of ATC system 1, 5, 10 and 15 years out
  - Identify preliminary system needs and possible solutions
  - Issue Project Requests for proposed projects
  - Draft report and public communications
  - TYA website: www.atc10yearplan.com

ATC Projects



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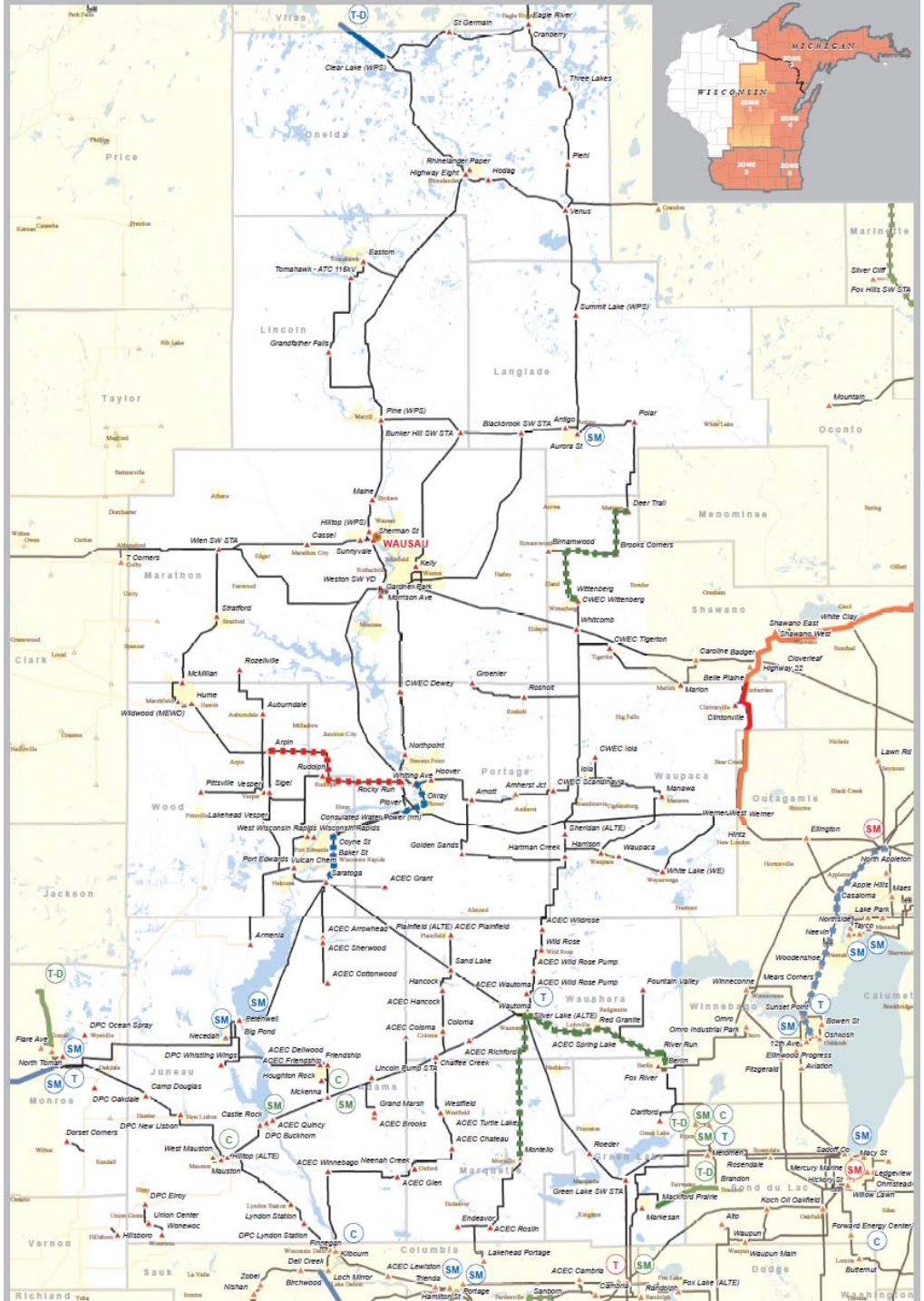
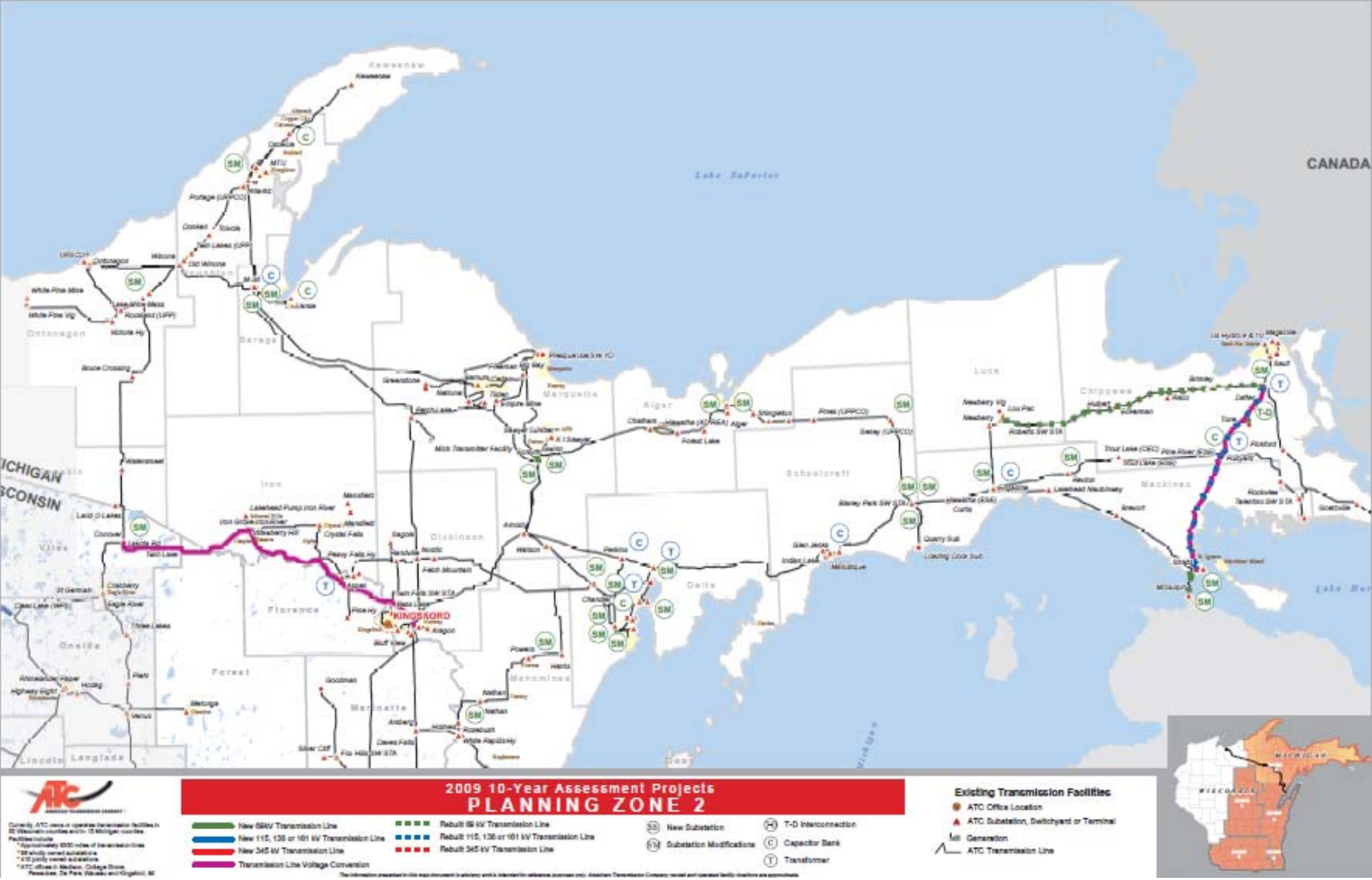

MICHIGAN
WISCONSIN
ZONE 1
ZONE 2
ZONE 3
ZONE 4
ZONE 5
ZONE 6
WAUSAU
Clear Lake (WPS)
Three Lakes
Rhinelander Paper
Highway Eight
Hodag
Pelhi
Venus
Eastom
Tomahawk - ATC 115kV
Summit Lake (WPS)
Grandfather Falls
Pine (WPS)
Bunker Hill SW STA
Blackbrook SW STA
Antigo
Polar
Aurora St
Deer Trail
Maine
Hilltop (WPS)
Sherman St
Cassel
Sunnyvale
Wien SW STA
T Corners
Weston SW YD
Kelly
Gardner Park
Morrison Ave
Bimamwood
Brooks Corners
Wittenberg
CWEC Wittenberg
Whitcomb
CWEC Tigerton
Stratford
Rozellville
McMillan
Hume
Wildwood (MEWD)
Auburndale
CWEC Dewey
Groenier
Roshoit
Marion
Belle Plaine
Clintonville
Caroline Badger
Cloverleaf
Highway 22
Shawano East
Shawano West
White Clay
Northpoint
Arpin
Rudolph
Whiting Ave
Hoover
Rocky Run
Okray
Plover
Pittsville
Vesper
Sigel
Amherst Jct
Arnott
CWEC Iola
Iola
CWEC Scandinavia
Manawa
Lakehead Vesper
Consolidated Water Power (rm)
West Wisconsin Rapids
Wisconsin Rapids
Coyne St
Baker St
Port Edwards
Vulcan Chem
Saratoga
Golden Sands
Hartman Creek
Sheridan (ALTE)
Harrison
Waupaca
Hintz
New London
Ellington
Werner West Werner
White Lake (WE)
ACEC Grant
ACEC Wildrose
ACEC Arrowhead
Plainfield (ALTE)
ACEC Plainfield
ACEC Sherwood
ACEC Cottonwood
Armenia
Sand Lake
Wild Rose
ACEC Wild Rose Pump
Hancock
ACEC Hancock
ACEC Wautoma
Wautoma
Silver Lake (ALTE)
Red Granite
ACEC Spring Lake
Coloma
ACEC Coloma
ACEC Richford
Chaffee Creek
Lincoln Rumd STA
Fountain Valley
Winneconne
Mears Corners
Sunset Point
Omro
Omro Industrial Park
River Run
Berlin
Fox River
Bowen St
Oshkosh
12th Ave
Ellinwood
Progress
Aviation
Fitzgerald
Neenah
Woodenshoe
Tayco
Lake Park
Northside
Casaloma
Apple Hills
Maes
North Appleton
Lawn Rd
Outagamie
Waupaca
Waushara
Winnebago
Calumet
Wood
Portage
Marathon
Shawano
Menominee
Oconto
Marinette
Langlade
Lincoln
Oneida
Price
Taylor
Clark
Jackson
Juneau
Monroe
Vernon
Sauk
Richland
Columbia
Dodge
Fond du Lac
Green Lake
Marquette
Adams
Waushara
Flare Ave
DPC Ocean Spray
North Tomah
DPC Whistling Wings
Necedah
Big Pond
Camp Douglas
DPC Oakdale
DPC New Lisbon
Dorset Corners
West Mauston
Mauston
Hilltop (ALTE)
Castle Rock
ACEC Quincy
DPC Buckhorn
Houghton Rock
Mckenna
ACEC Dellwood
ACEC Friendship
Friendship
ACEC Winnebago
Neenah Creek
ACEC Glen
Grand Marsh
ACEC Brooks
Westfield
ACEC Turtle Lake
ACEC Chateau
Montello
Roeder
Green Lake SW STA
Endeavor
ACEC Roslin
Markesan
Dartford
Mackford Prairie
Brandon
Rosendale
Mercury Marine
Koch Oil Oakfield
Alto
Waupun
Waupun Main
Forward Energy Center
Butternut
Macy St
Ledgeview
Olmstead
Willow Lawn
Sadoff Co
DPC Elroy
Union Center
Wonewoc
Hillsboro
DPC Lyndon Station
Lyndon Station
Finnegan
Kilbourn
Dell Creek
Loch Mirror Lake Dalton
Zobel
Nishan
Birchwood
ACEC Lewiston
Trienda
Portage
Hamilton St
Lakehead Portage
ACEC Cambria
Cambria
Randolph
Fox Lake (ALTE)
Sanborn

	Zone 1 Larger Projects	In-Service Year	Need Driver
Planned projects			
1	Rebuild Arpin-Rocky Run 345-kV	2010	Improve condition of existing line
Proposed projects			
2	Monroe County-Council Creek 161-kV line and construct Timberwolf 69-kV switching station	2013	low-voltage in the area, improves import capability, avoids need to reconfigure system
3	Construct 115-kV line Woodmin to the Clear Lake Substations	2012	T-D interconnection
Preliminary Asset Management projects			
4	Plover-Whiting 115-kV rebuild	2019	Improve condition of existing line



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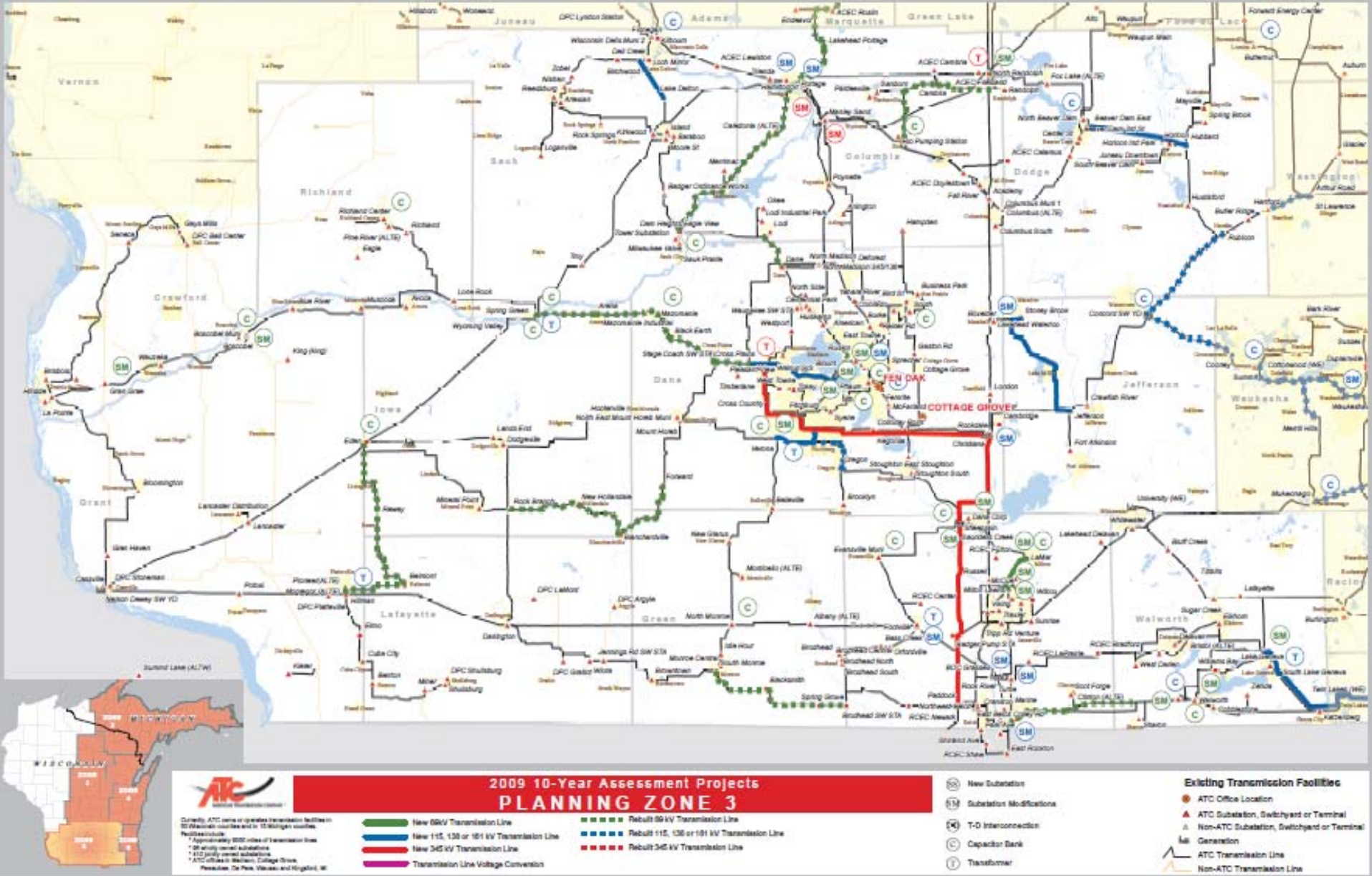
	Zone 2 Larger Projects	In-Service Year	Need Driver
Planned projects			
1	Cranberry-Conover 115-kV line (completed in 2008) and Conover-Iron River-Plains 138 kV	2008-2010	voltage profile in the area, aging facilities with condition issues
Provisional projects			
2	Straits-Pine River 138-kV line rebuild/conversion	2012	UP Collaborative
3	Large Load-Pine River/Nine Mile 69-kV line	2012	T-D interconnection, UP Collaborative
4	Pine River-Nine Mile 69-kV rebuild to double-circuit 138/69-kV line	2012	UP Collaborative
5	Increase ground clearance of M38-Atlantic 69-kV line from 120 to 167 degrees F	2013	UP Collaborative

	Zone 2 Larger Projects	In-Service Year	Need Driver
Zone 2 Preliminary Asset Management Projects			
6	Straits-McGulpin 138-kV submarine cable replacements	2020	Improve condition of existing line
7	Nine Mile-Roberts 69-kV rebuild	2013	Improve condition of existing line
8	Forsyth-Munising 138-kV line re-insulate	2015	Improve condition of existing line



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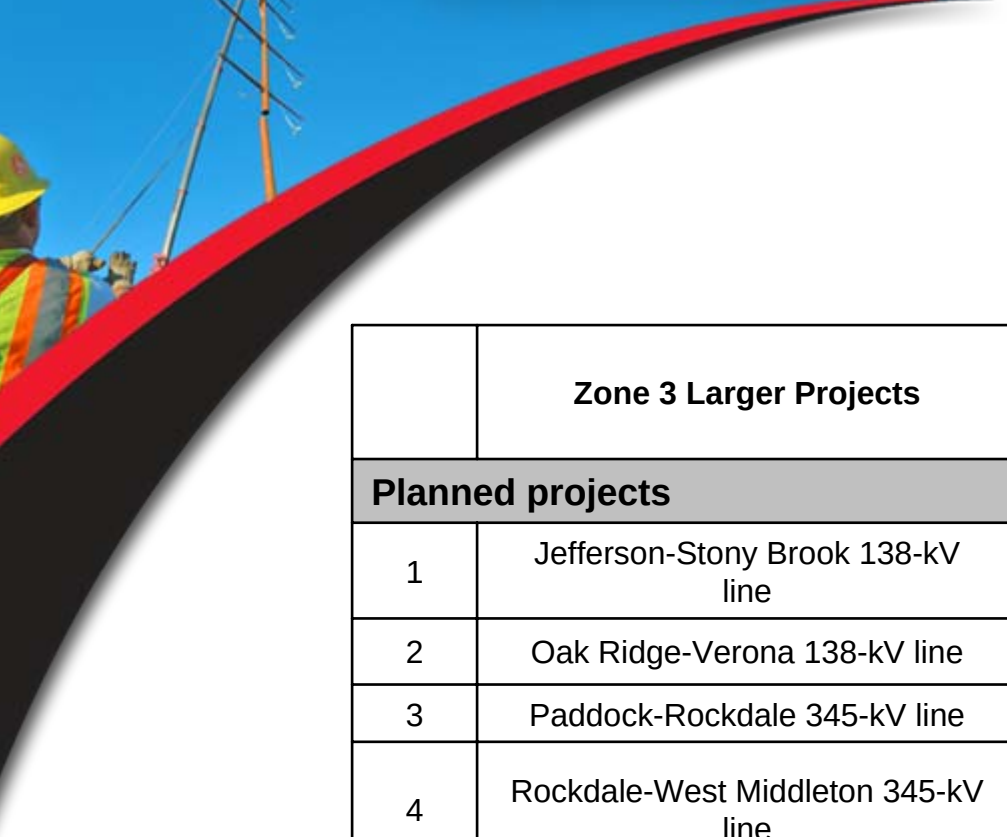
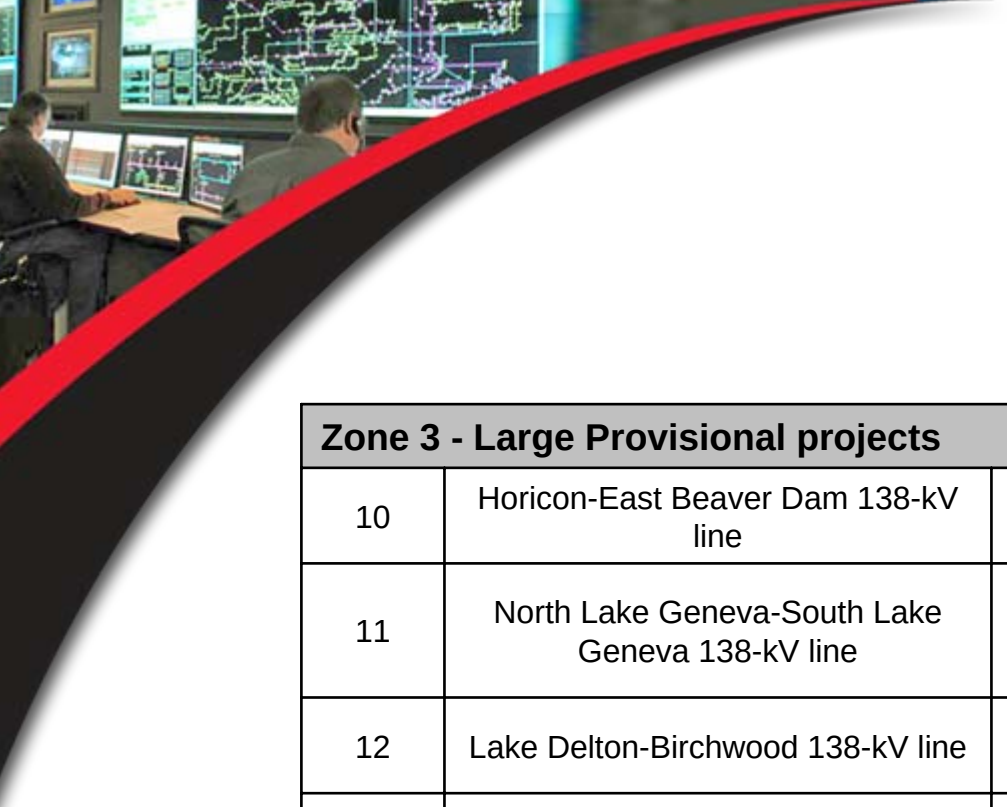


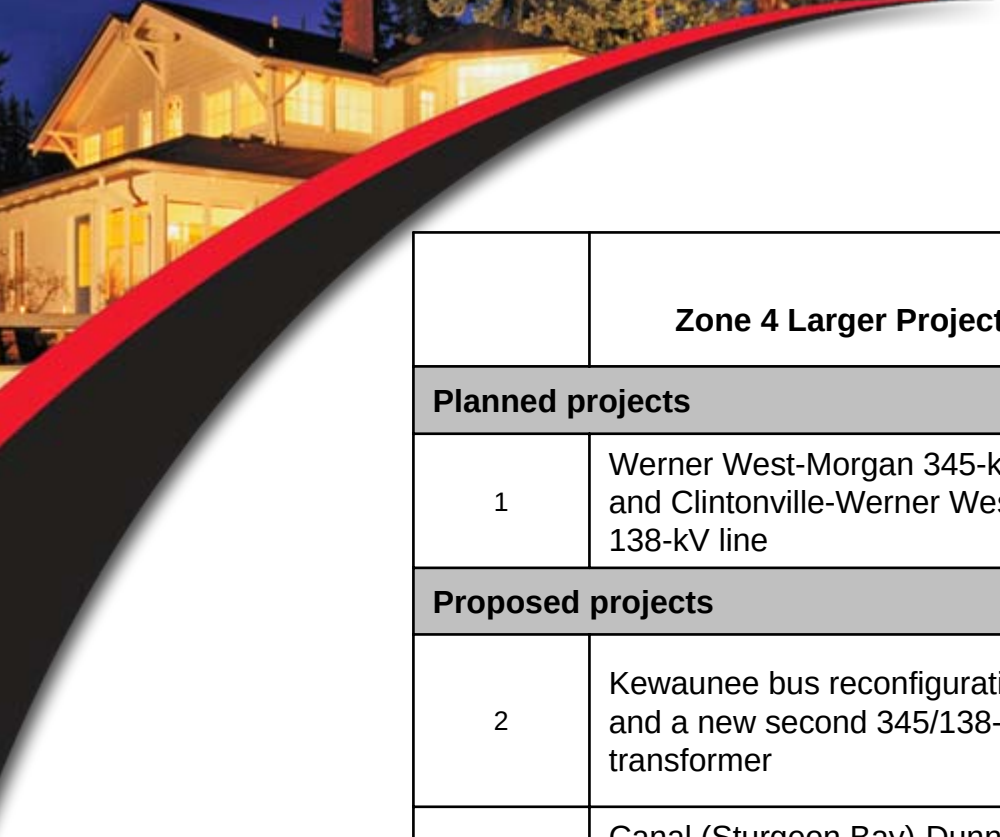
	Zone 3 Larger Projects	In-Service Year	Need Driver
Planned projects			
1	Jefferson-Stony Brook 138-kV line	2009	low voltages, overloaded facilities, future T-D interconnection
2	Oak Ridge-Verona 138-kV line	2010	area voltages and overloads
3	Paddock-Rockdale 345-kV line	2010	Access initiative
4	Rockdale-West Middleton 345-kV line	2013	overloads and low voltages, transfer capability to Madison area, voltage collapse, losses
Proposed projects			
5	Replace overhead Blount-Ruskin 69-kV lines with one underground	2011	ATC proposal with Madison
7	Verona-Oregon 69-kV line rebuild	2011	area voltages and overloads
8	Brodhead-South Monroe 69-kV line	2011	area voltages and overloads
9	Rebuild Colley Road-Brick Church 69-kV line	2013	overloads and low voltages



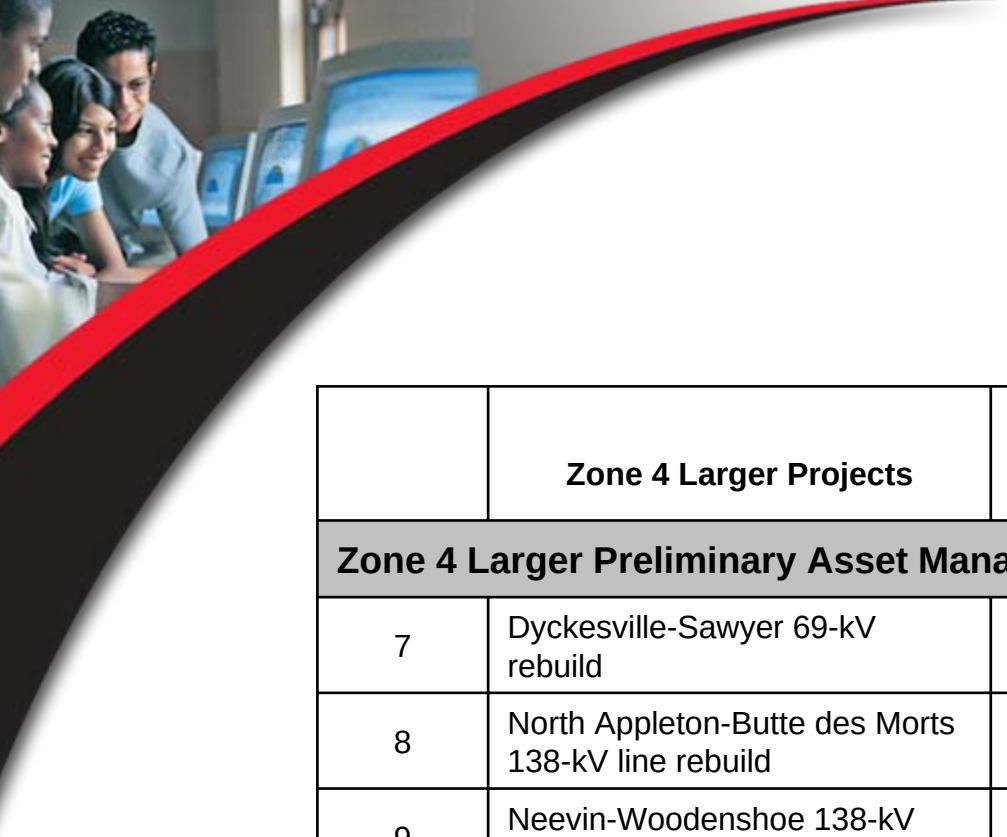
Zone 3 - Large Provisional projects			
10	Horicon-East Beaver Dam 138-kV line	2019	Addresses potential overloads and low voltages
11	North Lake Geneva-South Lake Geneva 138-kV line	2016	Addresses potential overloads and low voltages, transmission to distribution interconnection
12	Lake Delton-Birchwood 138-kV line	2017	Addresses overloads and low voltage issues in Reedsburg loop
13	West Middleton-Blount 138-kV line	2017	Addresses overloads and low voltages
14	Spring Valley-Twin Lakes-South Lake Geneva 138-kV line	2018	Addresses overloads and low voltages

Preliminary Asset Management projects			
15	Concord-Rubicon 138-kV rebuild	2013	Improve condition of existing line

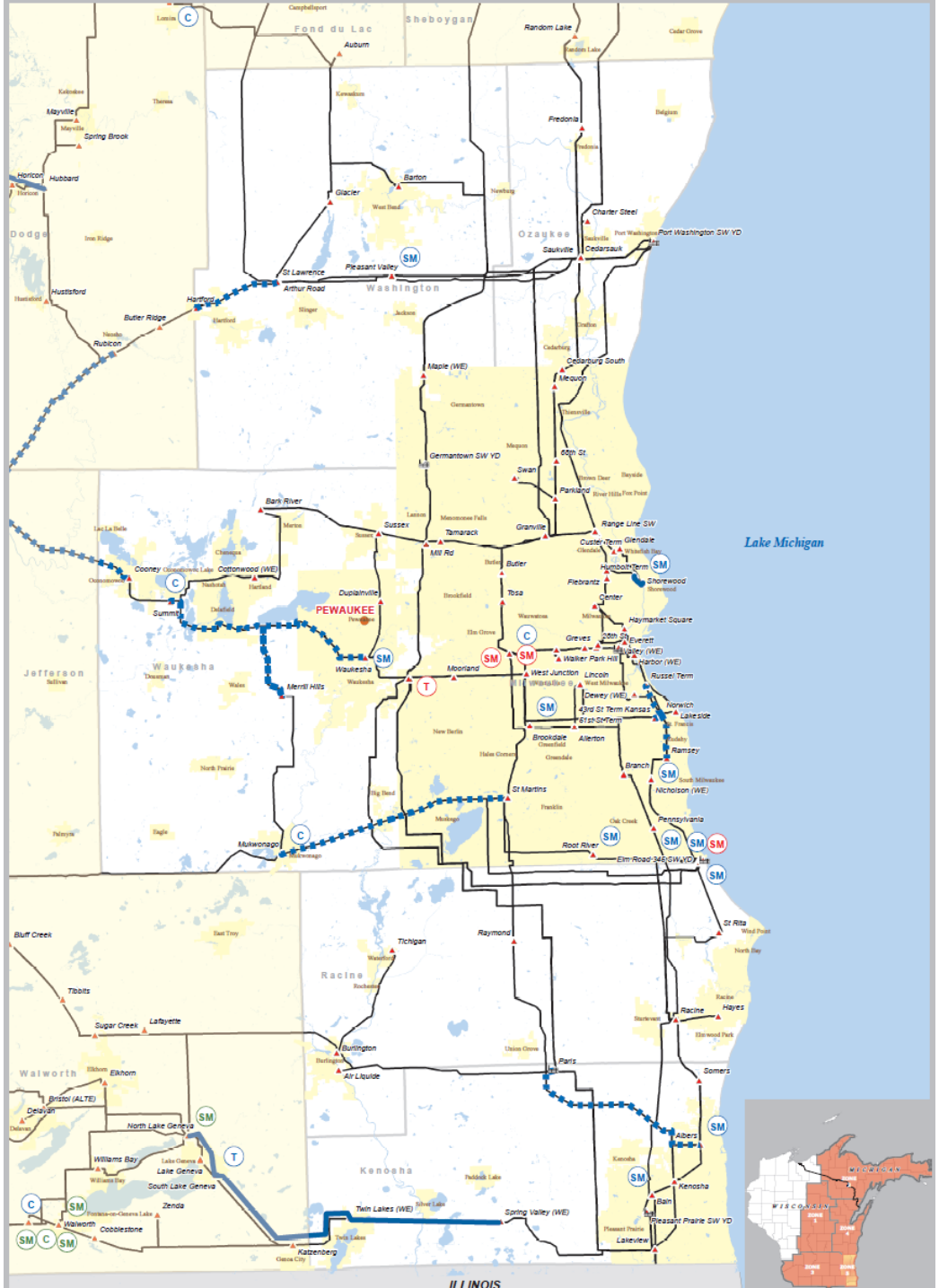

Forest
Langlade
Marinette
Oconto
Menominee
Shawano
Waupaca
Outagamie
Brown
Kewaunee
Door
Waushara
Winnebago
Calumet
Manitowoc
Fond du Lac
Sheboygan
Dodge
Washington
Ozaukee
Silver Cliff
Fox Hills SW STA
Caldron Falls Hy
High Falls Hy
Thunder
Sandstone Rapids Hy
Crivitz
Mountain
Polar
Deer Trail
Pound
Lena
Oconto
Falls
Pioneer (WPS)
Morgan
Sobieski
Suamico
Shawano West
Shawano East
White Clay
Caroline
Badger
Cloverleaf
Highway 22
Belle Plaine
Marion
Clintonville
Maplewood
Bayport SW STA
Howard
James St
Tower Dr
Presbie
University (WPS)
Liberty St
Mason St
Highway V/Ontario
Bluestone
Glory Rd
Depere
DE PERE
Oak St
Red Maple
Lost Dauphin
Lawn Rd
Werner West Werner
Hintz
Ellington
North Appleton
Apple Hills
Kaukauna North
Kaukauna Central
Combined Locks
Casaloma
Butte Des Morts Lake Park
Northside
Meadows
Royce
Neevin
Metzstar
Woodenshoe
Mears Corners
Fountain Valley
Winneconne
Sunset Point
Bowen St
Oshkosh
Omro
Omro Industrial Park
Progress
Ellinwood
Aviation
Fitzgerald
River Run
Fox River
Berlin
Darfford
Rapids
Metomen
Rosendale
Green Lake SW STA
Brandon
South Fond Du Lac SW YD
Mackford Prairie
Markesan
Koch Oil Oakfield
Alto
Waupun
Waupun Main
Forward Energy Center
Butternut
Fox Lake (ALTE)
Randolph
North Beaver Dam
Beaver Dam East
Center St
Horicon Ind Park
Horicon
Beaver Dam 3rd St
Hubbard
Spring Brook
Mayville
Auburn
Random Lake
Holland
Lyndon
Cascade
Oostburg
Fredonia
Barton
Newburg
Cedar Grove
Belgium
Ledgeview
Macy St
Morris St Chilstead
Rienzi Road
Willow Lawn
Mercury Marine
Kettle Moraine
Cedar Ridge Wind Generation
Mullet River
North Mullet River
South Sheboygan Falls Huebner
Huebner
Adams St Bemis
Oldestar Kohler
North Gate
32nd St
20th St
Elkhart Lake
Plymouth Sub 4
Plymouth Sub 3
Howards Grove
Erdman
Tecumseh Rd
New Holstein SW STA
Meyer Rd
Cypress SW YD
Gravesville
St Nazianz
Glenview Ryan St
Bolton Iron Works
Kellnersville
Tannery Rd SW YD
Columbus St
Northeast
Rapids
Manrap
Mou Plant
Dewey
Custer
Shoto
Mitro
Mishicot
Point Beach SW YD
Kewaunee SW YD
Westmark
Denmark
East Krok
Bearcsley St
Booster
Barnett
Luxemburg 24.9
Algoma
Algoma City
Roslere
Dyckesville
Brusbay
Sawyer SW STA
Industrial
Canal
Redwood
First Ave
Dunn Rd
Egg Harbor
Sister Bay
Bayshore
Wells St
Fourth Ave
Roosevelt Rd
Menominee
Bay De Noc
Sherwood
Peshtigo
Pound
Ingalls
Grand Rapids Hy
Holmes



	Zone 4 Larger Projects	In-Service Year	Need Driver
Planned projects			
1	Werner West-Morgan 345-kV line and Clintonville-Werner West 138-kV line	2009	transmission service limitations in Green Bay area, Wisconsin-UP transfer capability, losses
Proposed projects			
2	Kewaunee bus reconfiguration and a new second 345/138-kV transformer	2011	offsite power reliability, switchyard maintenance and operation flexibility, generation availability, present day substation standards
3	Canal (Sturgeon Bay)-Dunn Road 138-kV line	2012	low voltages and overloads
Provisional projects			
4	Dunn Road-Egg Harbor 69-kV	2016	low voltages and network service
5	Shoto-Custer 138-kV line	2020	Addresses facility overloads
6	Bayport-Suamico-Sobieski-Pioneer rebuild & 138 kV conversion	2020	overloads, aging facilities with reliability performance issues



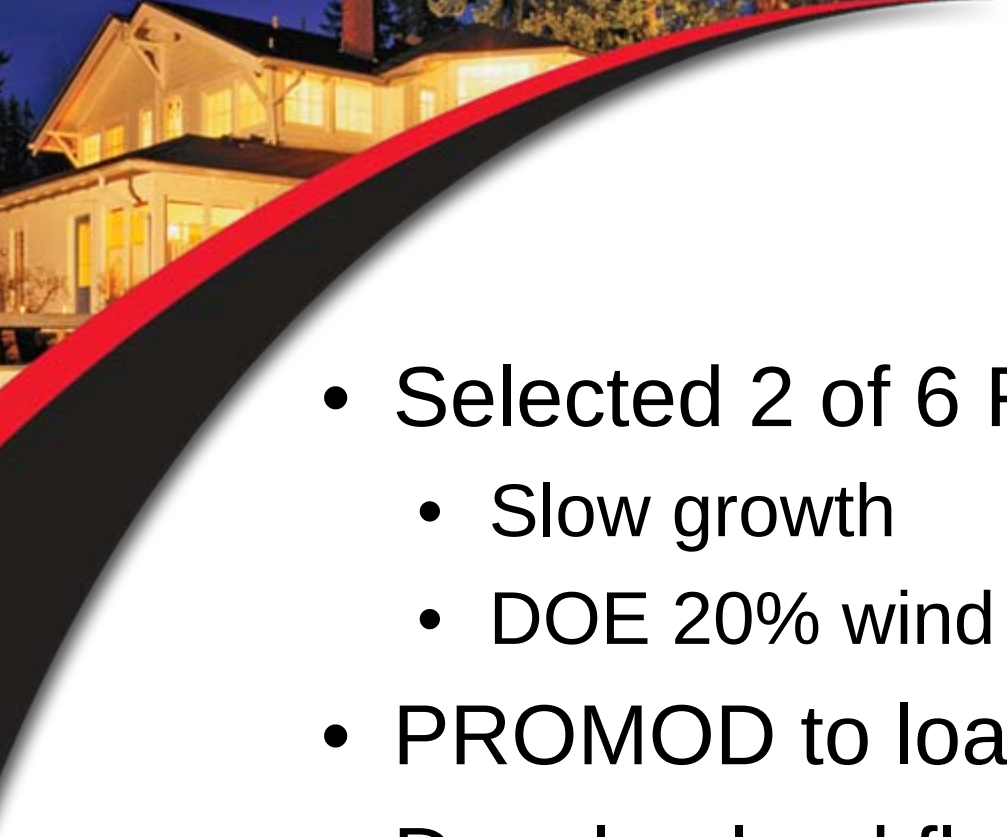
	Zone 4 Larger Projects	In-Service Year	Need Driver
Zone 4 Larger Preliminary Asset Management projects			
7	Dyckesville-Sawyer 69-kV rebuild	2013	Improve condition of existing line
8	North Appleton-Butte des Morts 138-kV line rebuild	2017	Improve condition of existing line
9	Neevin-Woodenshoe 138-kV line rebuild	2016	Improve condition of existing line
10	Mears Corners-Sunset Point 138-kV line rebuild	2012	Improve condition of existing line
11	Butte des Morts-Neevin 138-kV line rebuild	2015	Improve condition of existing line


Fond du Lac
Sheboygan
Dodge
Ozaukee
Washington
Waukesha
Jefferson
Racine
Walworth
Kenosha
Lake Michigan
PEWAUKEE
Auburn
Random Lake
Fredonia
Barton
Glacier
Charter Steel
Port Washington SW YD
Saukville
Cedarsauk
Pleasant Valley
St Lawrence
Arthur Road
Hartford
Butler Ridge
Rubicon
Huiskford
Horicon
Hubbard
Spring Brook
Mayville
Maple (WE)
Cedarburg South
Mequon
Germantown SW YD
65th St
Swan
Parkland
Range Line SW
Granville
Tamarack
Sussex
Bark River
Cooney
Cottonwood (WE)
Summit
Duplainville
Mill Rd
Butler
Tosa
Flebrantz
Humboldt Term
Shorewood
Center
Haymarket Square
Greves
Everett
Harbor (WE)
Russel Term
Walker Park Hill
West Junction
Lincoln
Moorland
Waukesha
Merrill Hills
Dewey (WE)
43rd St Term Kansas
51st St Term
Norwich
Lakeside
Brookdale
Allerton
Ramsey
Branch
Nicholson (WE)
St Martins
Pennsylvania
Root River
Elm Road 348 SW YD
Mukwonago
Bluff Creek
Tichigan
Raymond
St Rita
Tibbits
Sugar Creek
Lafayette
Burlington
Air Liquide
Racine
Hayes
Paris
Somers
Elkhorn
Bristol (ALTE)
Delavan
North Lake Geneva
Williams Bay
Lake Geneva
South Lake Geneva
Zenda
Walworth
Cobblestone
Twin Lakes (WE)
Spring Valley (WE)
Albers
Kenosha
Bain
Pleasant Prairie SW YD
Lakeview
Katzenberg
ILLINOIS

	Zone 5 Larger Projects	In-service year	Need driver
Planned projects			
1	Expand 345/230/138-kV substation at Oak Creek	2009	new Oak Creek generation
Provisional projects			
2	Arcadian 345-138 transformer replacement	2013	overloads
3	Spring Valley-Lake Geneva 138-kV line	2018	overloads and low voltages
Preliminary Asset Management projects			
4	Edgewood-St. Martins 138-kV line rebuild	2014	Improve condition of existing line
5	Mukwonago-Edgewood 138-kV line rebuild	2014	Improve condition of existing line
6	Concord-Cooney 138-kV line rebuild	2014	Improve condition of existing line
7	Paris-Albers 138-kV line rebuild	2014	Improve condition of existing line
8	Merrill Hills-Summit 138-kV line rebuild	2017	Improve condition of existing line
9	Waukesha-Summit 138-kV line rebuild	2015	Improve condition of existing line
10	St. Lawrence-Hartford 138-kV line rebuild	2014	Improve condition of existing line
11	Replace Bluemound 230/138-kV transformers #1 and #3	2012-13	Improve reliability performance of existing equipment

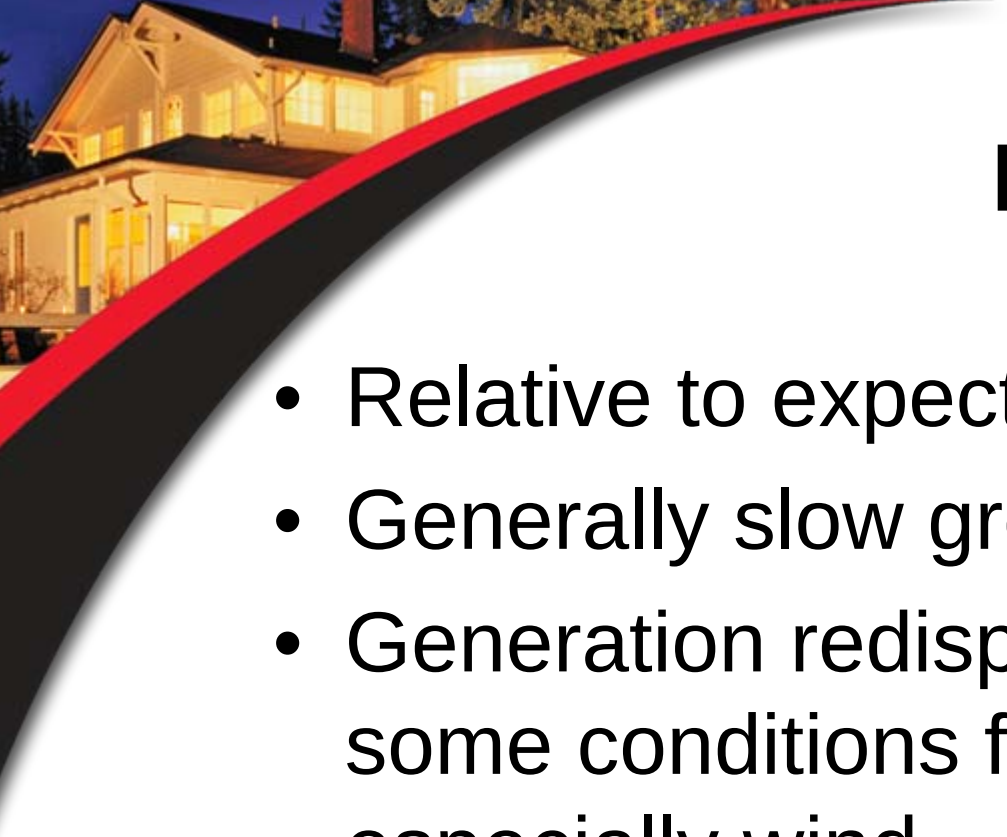
Schedule

- Study Plan – Done
- Expected Load Forecast – Done
- Stakeholder Mtg – October 16, 2008
- Model Development – Done
- Stakeholder Needs Mtg – March 6, 2009
- Preliminary Results & futures – Done
- Stakeholder Solutions Mtg – July 10, 2009
- Document and Publish – Near End of 3rd Qtr 2009



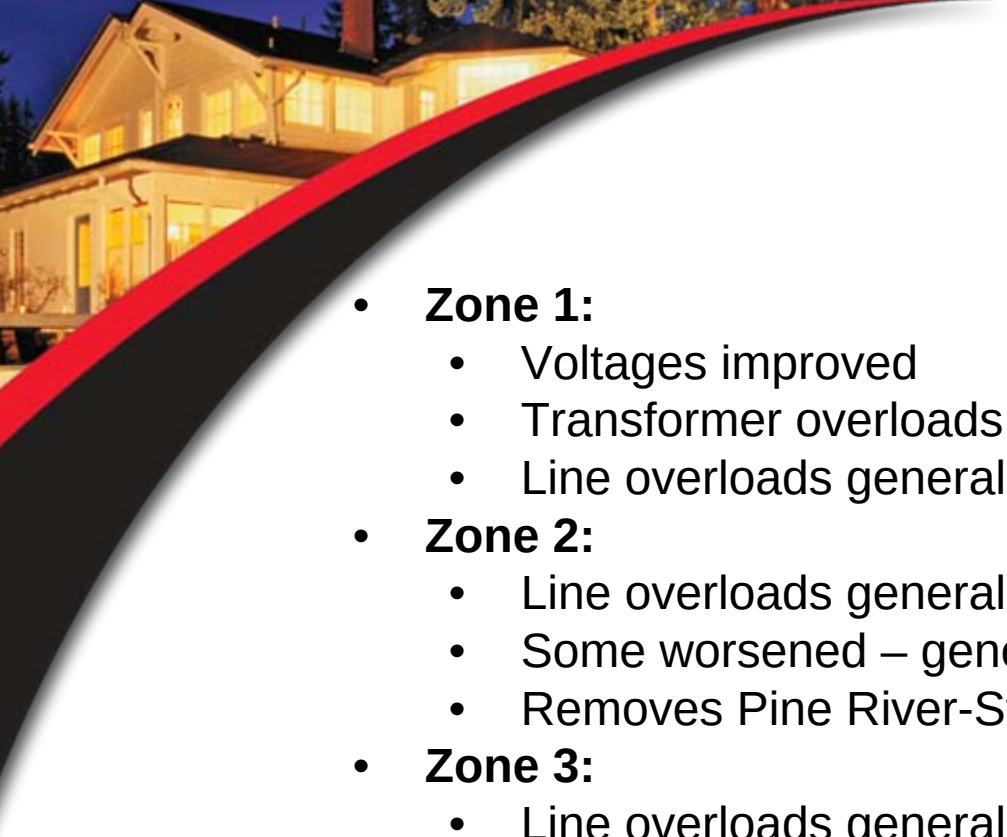
Futures Process

- Selected 2 of 6 Futures
  - Slow growth
  - DOE 20% wind
- PROMOD to load flow data
- Develop load flow models
- Compare needs to expected
- Project development input



Results Summary

- Relative to expected future
- Generally slow growth improved
- Generation redispatch aggravates some conditions for both futures, especially wind
- Wind impact may be unreasonably limited by assumptions



Slow Results

- **Zone 1:**
  - Voltages improved
  - Transformer overloads generally improved
  - Line overloads generally improved
- **Zone 2:**
  - Line overloads generally improve
  - Some worsened – generation mitigates
  - Removes Pine River-Straits overload
- **Zone 3:**
  - Line overloads generally improve
  - Line overloads/bus voltages sometimes worsen significantly - area projects/control adjustments mitigate
  - Lake Geneva area Voltages improve
- **Zone 4:**
  - Loadings and voltages improve
  - In general, no constraints
- **Zone 5:**
  - Loading improves
  - In general, no constraints found

Wind Results

- **Zone 1:**
  - Voltages generally improved 2-3%
  - Transformer overloads generally worsened
  - Line overloads generally improved
- **Zone 2:**
  - Escanaba area voltages worsen - generation mitigates
  - Line overloads generally worsen - generation mitigates
  - Removes Pine River-Straits overload
  - Plains transformer overloads
- **Zone 3:**
  - Line overloads generally improve
  - Line overloads/bus voltages sometimes worsen significantly - area projects/control adjustments mitigate
  - Lake Geneva area Voltages
  - Lamar/Fulton/Harmony Voltages worsen - area project proposed mitigates
- **Zone 4:**
  - Line and transformer overloads worsen in Door County Peninsula
  - Bus voltages worsen in Door County Peninsula
  - Line overloads worsen in Manitowoc area
- **Zone 5:**
  - Line and transformer overloads improve Arcadian transformer overload worsens
  - Germantown, Bark River, Maple voltages worsen

Questions?

Thank you!

For more information, contact:
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AMERICAN TRANSMISSION COMPANY