



Executive Summary

American Transmission Co.'s 2007 Update to our 2006 10-Year Transmission System Assessment provides current results of planning activities and analyses of the company's transmission facilities. These activities and analyses identify needs for transmission system enhancement and potential projects responsive to those needs. This 2007 report is based on updated information provided by local distribution companies, the latest transmission service requirements and generation interconnection requests, recent analyses conducted by ATC, input from various stakeholders at ATC-sponsored meetings and other developments.

Following the completion of the 2006 Assessment, ATC recognized that need drivers and solutions have become more stable over the last several Assessments and Updates. To maintain a reliable transmission system, we also saw a need to devote more time to developing more fully the needs and solutions previously identified. We chose to have ATC's Planning department focus on developing projects and needs that had been identified in the 2006 Assessment. The results of that work are being published in this 2007 Update to the 2006 Assessment.

Since 2001, we have engaged in open and collaborative efforts to share information and solicit input on our plans. We believe that in making our planning efforts transparent and available to the public, the proposals for needed facilities can be more readily understood and accepted by communities that stand to benefit from them. In recent years the federal government has taken additional steps to ensure that transmission-owning utilities have produced and shared planning information with the public and local stakeholders. The underlying principles of an open, transparent and collaborative planning approach are now required from all utilities that own and plan for new transmission lines. An overview of our planning process is available [here](#).

The updated information in this report provides further foundation for continued public discussions on the transmission planning process, identified transmission needs and limitations, possible resolutions to those needs and coordination with other public infrastructure planning processes.

The rest of this summary:

- provides links to the two planning initiatives (Access and 20-Year Analysis) continuing at ATC.
- summarizes the current project projections
- describes the status of ATC economic benefits analysis and
- summarizes the 10-year capital cost of the potential expansion plan.

In the years 2008 and beyond, ATC will be conducting additional public outreach, gathering input from our stakeholders early in the 10-Year Assessment process to include in our



assumptions and models. We will also meet with interested stakeholders in the middle of the process to review interim results. This process is intended to provide even more openness and transparency and result in better planning.

Our Access Initiative and Economic Benefits

ATC commenced its Access Initiative in 2004 to assess the value of expanding our transmission system to reduce congestion costs and to improve access to generation sources outside the ATC system. As part of the Access Initiative, ATC performed an analysis of five access projects, including Paddock-Rockdale. In 2005, the Public Service Commission of Wisconsin (PSCW) initiated a policy proceeding to study the issue of improved transmission access. After receiving extensive comments and analyses, the PSCW staff issued the "Commission Staff Final Report on Transmission Access" in March 2006. Following the issuance of PSCW Staff's Report, ATC selected Paddock-Rockdale for further analysis and chose an analytical approach designed to meet Staff's request for a detailed risk assessment.

The analytical approach chosen by ATC tested Paddock-Rockdale against seven plausible futures for Wisconsin's electric industry in 2011 and 2016, such as robust or slow economic growth, additional environmental regulation, and fuel supply volatility. The seven futures are based upon key drivers such as load growth, generation retirement and expansion, fossil-fuel costs, use of renewable energy, and increased environmental regulation. ATC assigned a range of plausible outcomes for each of the drivers. Specific futures were then developed to "bind" the range of plausible futures. During the 40-year life of the project, we would expect that actual events would fall somewhere between the defined futures most of the time and only occasionally be completely in a particular future. The premise of this approach, known as Strategic Flexibility, is that, if Paddock-Rockdale performs well in these futures, it is a robust project that will produce benefits for ratepayers. The specific futures analyzed included: Robust Economy, Robust Economy (With the North La Crosse to Columbia 345-kV line), High Plant Retirements, High Environmental, Slow Growth, Fuel Supply Disruption, and High Growth Wisconsin.

Paddock-Rockdale is the first transmission line in the Midwest Independent System Operator's area justified on economics. As a result, there was no template for the economic analysis. ATC developed new analysis techniques to capture the broad spectrum of benefits provided by transmission lines. After reviewing ATC's economic analysis, MISO's Vice President Claire Moeller stated in a letter to ATC, "...the Midwest ISO believes the ATC assumptions and results are robust and reasonable."

In ATC's economic analysis, the PROMOD LMP market computer simulation model was used to project direct energy cost savings; these estimates were then adjusted to reflect



the impacts on congestion costs and losses. Customer energy cost savings were estimated using various economic metrics including:

- Adjusted Production Costs (APC),
- Load-Weighted LMPs (LLMPs),
- a weighted combination of these two metrics based on 70% APC and 30% LLMP and,
- the “ATC Customer Benefit” (a calculation of savings based upon the current mix of cost-of-service and market-based generation in ATC’s territory).

Economic benefits that could not be measured using the PROMOD model such as increased competitiveness, reduced congestion costs and losses, system insurance value, and capacity benefits from reduced losses were quantified and added to the PROMOD-estimated energy cost savings to provide the quantifiable benefits that retail customers would expect to see. If approved by the PSCW, the project is anticipated to be in-service by June 2010.

Based on the results of the analysis, Paddock-Rockdale is expected to consistently produce benefits in excess of its costs and reduce the delivered price of energy to ATC’s customers without creating unreasonable risks. Except for the “Slow Growth” future, the Net Present Value (NPV) of the net benefits available as a result of constructing Paddock-Rockdale range from \$82 million to \$1.8 billion, depending on the future and the metric. With these levels of benefits, the Paddock-Rockdale project would exceed, on a net savings basis, the cumulative cost of constructing the facilities (i.e. “break even”) by 2013 under most futures and metrics. Throughout its Access Initiative and Paddock-Rockdale analyses ATC regularly sought and received valuable customer and stakeholder feedback.

In 2006 ATC began using the shadow price of transmission constraints (which indicates how much generating costs could be reduced if a transmission constraint were relieved by 1 MW) Locational Marginal Price (LMP) of loads in the market as the screening indicator to track locations on the transmission system where constraints to the delivery of economic energy exist. The cost of congestion caused by these constraints can be evaluated to determine if transmission upgrades are justified.

ATC continues the analysis of market data showing daily transmission system congestion and losses, and comparing load LMP at our customers compared with three neighboring market hubs (MISO MN, MISO IL, and PJM Northern IL). ATC is also working to develop additional market data measures that help create a framework for evaluating the performance of the transmission system in an LMP market environment.

ATC is evaluating which of the constrained transmission elements contributing to the LMP differentials may be cost effective to relieve through transmission system upgrades based on the expected reduction on energy prices they would facilitate.



In 2008, ATC will undertake two stakeholder-identified economic analyses on our system. We will provide stakeholders with results of transmission constraint tracking as a first step in this process. Based on input and ATC recommendations, two studies will be performed and shared with stakeholders over the course of the year. In addition, customers and stakeholders who would like to request specific economic studies can do so if they are willing to pay for them and have the results posted. ATC will undertake these studies as soon as is practicable, given resource constraints. More information on this will be available December 7th via our external web site www.atcllc.com.

20-Year Analysis

In 2005, recognizing that major project lead-times and robust transmission plans required looking beyond a ten year planning horizon, ATC embarked on an twenty year analysis of its transmission system. This initiative had multiple objectives including:

- evaluating the robustness of projects listed in the 2005 10-Year Assessment,
- evaluating long-term needs of our system and determining if the 10-Year Assessment projects are aligned with these future needs,
- determining the merits of Access Initiative alternatives,
- evaluating the impact specific generation retirements would have on system reliability and system expansion needs and
- identifying specific locations within our system where the future siting of new generation may provide significant system performance benefits.

Results from the 20-Year Analysis were described in the March 2006 Update to the 2005 10-Year Assessment. The completed results only addressed the first three objectives listed above due to study time constraints. While the study showed some longer term needs, these results have not been used to propose major long term projects. However, ATC did gain some sense that there will be needs beyond the 10-year horizon that we should consider in developing plans we will begin implementing in the next ten years. For more on this topic, go to [20-Year Analysis](#) to see the information presented in the 2006 10-Year Assessment.

Driven by increasing project lead times and therefore, the need to anticipate major projects sooner, we will continue our endeavor to see further into the future. In the 2008 Assessment, ATC will be conducting analysis over a 15-year period to add to our awareness of need drivers in the 10- to 15-year period. Then, to develop the study scope for the 2009 Assessment, we expect to engage specific stakeholders to gather input and to define how to study the longer term needs for major projects and the potential for non-transmission solutions.



Regional Analysis

In addition to providing updated need and project information, the 2007 Update report presents information on ATC Planning involvement in regional transmission system studies. In addition to conducting transmission system planning studies internal to the ATC footprint, ATC is also involved in transmission planning studies to address regional needs that can impact the ATC system. Current studies in which ATC is involved include: *MISO Transmission Expansion Plan (MTEP 07, 08 and 09)*, *CapX 2020*, and specifically the Group 2 Project that will study a future interconnection to LaCrosse Wisconsin. We are also going to be jointly studying the ATC and Dairyland Power transmission systems in southwestern Wisconsin, the ATC and Commonwealth Edison transmission systems in southeastern Wisconsin and northern Illinois, and the ATC and Northern States Power transmission systems in northwestern Wisconsin. For more on this on these studies, go to [Regional Analysis](#).

Current Projections

Based on anticipated changes to the ATC 10-Year system expansion plan since the November 2006 10-Year Assessment, ATC now estimates that it will build 260 miles of new transmission lines on new rights-of-way and will make improvements to 651 miles of lines on existing rights-of-way over the next ten years (refer to [Table ES-1](#)). A graphical representation of the transmission system reinforcements included in this year's Assessment is shown in [Figure ES-1](#). Please refer to the tables in [Projects](#) for details on each of the particular projects reflected in this figure.

Details of the specific changes to ATC plans from those listed in the November 2006 report are provided in the [Summary of Changes](#) table. Several of the changes are due to proposed new generation projects meeting criteria for inclusion that will require the construction of new transmission facilities. Other changes are attributable to further analyses of project alternatives done by ATC. Still other changes are due to updated load forecast information provided by ATC customers.

Capital Cost of ATC Expansion Plan

Based on this 2007 Update, the total cost estimate for necessary transmission system improvements is about \$2.8 billion over the next 10 years (through 2016). Included in this total cost is \$1.4 billion for projects specifically detailed in this Update. The remaining \$1.4 billion include costs for interconnecting other proposed generators, asset renewal projects, infrastructure replacements and relocations, unspecified network projects, and other smaller network reliability improvements. The total \$2.8 billion in projects can be broken down into the following categories.



10-Year Assessment

An annual report summarizing proposed additions and expansions to the transmission system to ensure electric system reliability.

2007

November 2007 10-Year Assessment
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Category	2006 10-year capital estimate in billions	2007 Update 10-year capital estimate in billions
10-Year Assessment projects	\$1.75	\$1.44
Maintenance	\$0.30	\$0.44
Generator interconnections	\$0.10	\$0.23
Distribution interconnections	\$0.17	\$0.17
Protection & control	\$0.12	\$0.13
Network	\$0.12	\$0.11
Unspecified network projects	\$0.45	\$0.22
Other *	\$0.08	\$0.10
Total expenditures	\$3.09	\$2.84

* Other includes Administration & General, Asset Acquisition, Asset Contribution, and Infrastructure Relocation.

The total cost trends of the last five Assessments and Updates are as follows:

	March 2005	September 2005	March 2006	November 2006	November 2007
TYA Cost	\$2.1B	\$2.4B	\$2.1B	\$1.7B	\$1.4B
Remaining Capital Cost	\$0.7B	\$1.0B	\$1.3B	\$1.4B	\$1.4B
Total 10-Year Capital Cost	\$2.8B	\$3.4B	\$3.4B	\$3.1B	\$2.8B

In the 2007 10-Year Assessment Update, ATC continues to project a decreasing total cost estimate for all necessary transmission system improvements over a rolling ten year period. Additionally the proportionate share of cost of projects specifically detailed in the Assessments continues to decrease relative to the total ten year capital cost. The issues that can influence the total 10-year cost up or down as each future assessment is completed can include the following factors:

- Completion of prior projects that improve reliability and renew assets,
- Changing load forecast,
- Changes in generation projects,
- Improved resource planning to manage construction projects,
- Additional projects that are driven by economic benefits and



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- Increasing equipment and labor costs.

Referring to the breakdown of the 2007 Total Cost, Unspecified Network Projects are defined as those projects which may shift into the 10-year timeframe because of factors listed earlier. As a proxy for these projects ATC is using the combined costs of a Fox Energy-North Appleton, a Pleasant Prairie-Granville, and a West Middleton-North Madison 345-kV line project. This \$220 million represents anticipated costs from projects not defined in the Assessment but potentially driven by some combination of the following issues that we continue to analyze:

- Reliability impacts to our customers, both short- and long-term
- Economic impacts to our customers
- Multiple outage impact solutions.

Future Assessments will continue to define these unspecified costs as issues are further defined in the continuing planning process.

Table 2007 Financial outlines the costs of both the Assessment projects and ATC construction projects overall.

Table ES-1
Summary of American Transmission Co.'s
2007 Transmission System Assessment Update

	2006 Assessment	2007 Assessment Update
	(November 2006)	(November 2007)
<i>New Transmission Lines Requiring New Right-of-Way</i>		
345 kV	6 lines / 216 miles	4 lines / 139 miles
138 kV	15 lines / 78 miles	12 lines / 73 miles
115 kV	2 lines / 26 miles	1 line / 14 miles
69 kV	7 lines / 40 miles	6 lines / 32 miles
<i>Transmission Lines to be Constructed, Rebuilt, Reconductored or Upgraded on Existing Right-of-Way</i>		
345 kV	3 lines / 98 miles	2 lines / 82 miles
161 kV	1 line / 20 miles	1 line / 20 miles
138 kV	31 lines / 511 miles	22 lines / 433 miles
115 kV	4 lines / 68 miles	0 lines / 0 miles
69 kV	12 lines / 145 miles	11 lines / 96 miles
<i>New Transformers to be Installed</i>		
<i>(# of transformers / total increase in capacity)</i>	37 transformers / 6,733 MVA	23 transformers / 4,459 MVA
<i>New Capacitor Banks to be Installed</i>		
<i>(# of installations / capacity)</i>	39 installations / 1,311 MVAR	38 installations / 1,307 MVAR

*ATC 2007 10-Year Assessment, November 2007
Summary of Capital Expenditures (2007-2016)
10-Year Assessment Project Detail*

<i>Funding Project Number</i>	<i>10-Year Assessment Project Description</i>	<i>Sum of Previous Expenditures as of 12/31/06</i>	<i>Sum of Total 2007-2016</i>	<i>Sum of Total (2001-2016)</i>
F0033	Construct a 345-kV bus at Bain Substation	-	\$2,093,932	\$2,093,932
F0181	Construct a second Dunn Road-Egg Harbor 69-kV line	-	\$6,097,939	\$6,097,939
F0283	2009 Oak Creek/Elm Road generation-related projects	\$20,332,641	\$469,795	\$20,802,436
F0301	Gardner Park-Central Wisconsin 345-kV line	\$5,302,773	\$115,642,007	\$120,944,780
F0339	Install a second 138/69-kV transformer at Hillman	-	\$1,958,000	\$1,958,000
F0365	Rebuild Blaney Park-Munising 69 kV to 138 kV	-	\$52,013,235	\$52,013,235
F0763	2010 Oak Creek/Elm Road generation-related projects	-	\$4,370	\$4,370
F0817	Replace 138/69-kV transformer at Wautoma	-	\$1,444,944	\$1,444,944
F0823	Construct Morgan-Werner West 345-kV line	\$5,029,568	\$130,273,615	\$135,303,183
F0924	Construct a Jefferson-Stony Brook 138-kV line	\$797,695	\$27,858,411	\$28,656,106
F0956	Construct a Rubicon-Hustisford 138-kV line	\$420,313	\$20,143,060	\$20,563,373
F1164	Zone 4 CTs (Various)	\$69,243	\$335,431	\$404,674
F1165	Zone 5 CTs (Various)	-	\$240,639	\$240,639
F1191	Arrowhead-Gardner Park 345-kV Line - Wisconsin Only	\$123,120,907	\$80,493,302	\$203,614,209
F1195	Stone Lake Substation Modifications	\$641,196	\$971,075	\$1,612,271
F1196	Arrowhead Substation Modifications	\$1,635,657	\$18,074,299	\$19,709,956
F1269	Rebuild/convert Holmes-Chandler 69 kV to 138 kV operation	-	\$56,281,142	\$56,281,142
F1282	Construct ring bus at Pine River 69-kV Substation and upgrade existing 5.4 MVAR capacitor bank to 2-4.08 MVAR banks	-	\$10,515,381	\$10,515,381
F1284	Construct new Mackinac 138/69-kV Substation	-	\$11,754,720	\$11,754,720
F1324	Reconductor St. Lawrence-Pleasant Valley-Sauville 138-kV line	\$39,021	\$10,225,907	\$10,264,928
F1353	String a new Ellinwood-Sunset Point 138-kV line on existing structures	\$407,890	\$5,470,980	\$5,878,870
F1355	Uprate Gardner Park-Black Brook 115-kV line - scope TBD	-	\$1,011,029	\$1,011,029
F1357	Rebuild Crivitz-High Falls 69-kV double circuit line	\$13,935	\$20,721,492	\$20,735,427
F1358	Construct 138-kV line from Canal to Dunn Road	-	\$9,056,048	\$9,056,048
F1361	Rebuild 2.37 miles of 69 kV from Sunset Point to Pearl Ave with 477 ACSR	\$9,714	\$1,748,283	\$1,757,998
F1363	Cranberry-Conover-Iron River-Plains Project	\$1,807,453	\$121,596,031	\$123,403,485
F1403	Install 28.8 MVAR capacitor bank at Butternut 138 kV	-	\$596,084	\$596,084
F1406	Construct a Northside-City Limits 138-kV line	-	\$5,022,691	\$5,022,691
F1407	Oak Ridge-Verona 138-kV line	\$298,507	\$15,475,648	\$15,774,155
F1417	Uprate Brick Church-Zenda 69-kV line to 115 MVA	-	\$1,396,688	\$1,396,688
F1435	Construct 345-kV line from Rockdale to West Middleton	-	\$221,000,000	\$221,000,000

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F1474	X17 Eden-Spring Green	\$165,753	\$983,862	\$1,149,616
F1476	Capacitor Banks -West Portfolio (Various)	\$396,148	\$10,596,561	\$10,992,709
F1513	Construct a 345-kV substation at new Cypress; loop existing Forest Junction-Arcadian line into new Cypress	\$1,259,865	\$5,641,458	\$6,901,323
F1556	Stone Lake - Permanent Substation	\$34,239	\$4,746,145	\$4,780,384
F1568	Install second 345/138-kV transformer at Plains	-	\$6,798,953	\$6,798,953
F1601	Uprate North Appleton-Lawn Road-White Clay 138-kV line	\$15,132	\$1,167,553	\$1,182,685
F1605	Relocate Cedar substation (North Lake)	\$8,197	\$13,298,181	\$13,306,379
F1609	Construct new 138-kV line from South Lake Geneva to White River	-	\$2,500,000	\$2,500,000
F1619	Bayport-Pioneer Phase I	-	\$20,439,553	\$20,439,553
F1621	Expand the Menominee 69-kV Substation and install 138 kV terminals. Loop the West Marinette-Bay De Noc 138-kV line into the substation	-	\$5,993,332	\$5,993,332
F1622	Reconductor Pulliam-Danz 69-kV line	-	\$2,340,843	\$2,340,843
F1626	Construct a new 138-kV line from North Madison to Huiskamp (was Waunakee)	\$372,115	\$13,696,474	\$14,068,589
F1635	Rebuild Brodhead to South Monroe 69-kV line	-	\$10,141,429	\$10,141,429
F1637	Install a second 138/69-kV transformer at McCue Substation	-	\$2,810,967	\$2,810,967
F1638	Construct a Lake Delton-Birchwood 138-kV line	-	\$5,806,313	\$5,806,313
F1640	Construct a Horicon-East Beaver Dam 138-kV line	-	\$10,194,552	\$10,194,552
F1641	Install a 138/69-kV transformer and 69-kV bus at Yahara River Substation	-	\$5,571,446	\$5,571,446
F1667	Construct new line from Southwest Delavan to Bristol at 138 kV, operate at 69 kV	\$165,459	\$6,573,780	\$6,739,239
F1681	Replace the existing 46.7 MVA 138/69-kV transformer at South Sheboygan Falls with 100 MVA transformer	-	\$1,555,054	\$1,555,054
F1684	Rebuild Atlantic-Osceola 69-kV line (Laurium #1)	\$53,102	\$7,875,524	\$7,928,625
F1690	Convert Rock River to Bristol to Elkhorn 138-kV operation; rebuild Bristol with a new 138 kV bus	\$46,330	\$9,939,331	\$9,985,661
F1712	Kilbourn and Artesian capacitor banks	-	\$1,262,432	\$1,262,432
F1714	Replace the 1200 A breaker at Edgewater T22 345/138 kV	-	\$248,663	\$248,663
F1727	Construct Monroe County-Council Creek 161-kV line	-	\$21,877,310	\$21,877,310
F1729	Elm Road TSR Phase II circuit breakers	\$200,254	\$1,453,982	\$1,654,236
F1731	Rebuild the Verona to Oregon 69-kV line Y119	\$24,947	\$8,311,724	\$8,336,671
F1735	White Pine Generating Projects	\$3,202	\$889,984	\$893,186
F1819	Install 1-5.4 MVAR capacitor bank at L'Anse 69 kV	-	\$611,088	\$611,088

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F1820	Install 1-5.4 MVAR capacitor bank at Munising 69 kV	-	\$1,283,665	\$1,283,665
F1844	Construct Brandon-Fairwater 69-kV line	-	\$1,734,125	\$1,734,125
F1847	Construct a 69-kV line from SW Ripon to the Ripon-Metomen 69-kV line	-	\$2,460,909	\$2,460,909
F1848	Construct Evansville-Brooklyn 69-kV line	-	\$8,124,370	\$8,124,370
F1849	Install 1-5.4 MVAR capacitor bank at Roberts 69 kV	-	\$875,365	\$875,365
F1867	Replace 138/69-kV transformer at Metomen	-	\$1,798,662	\$1,798,662
F1868	Uprate projects West portfolio (Various)	-	\$726,960	\$726,960
F1869	Install transformer and bus at Bass Creek	-	\$6,046,983	\$6,046,983
F1871	Uprate Royster-Sycamore 69-kV line	-	\$790,584	\$790,584
F1920	Install 2-4.1 MVAR capacitor bank at Sister Bay 69 kV	-	\$61,801	\$61,801
F1923	Install 2-16.3 MVAR capacitor bank at Aviation	-	\$1,166,114	\$1,166,114
F1924	Install 2-16.3 MVAR capacitor bank at Mears Corners 138 kV	-	\$1,082,072	\$1,082,072
F1925	Install 2-16.3 MVAR capacitor bank at Rosiere 138 kV	-	\$1,197,331	\$1,197,331
F1981	Paddock-Rockdale 345-kV line	-	\$123,952,936	\$123,952,936
F2016	Uprate Chandler-Cornell 69-kV line clearance from 120 to 167 deg F	-	\$873,086	\$873,086
F2019	Construct a 138-kV substation at new Cedar Ridge; loop existing Ohmstead-Kettle Moraine 138-kV line into new Cedar Ridge Substation	-	\$3,383,053	\$3,383,053
F2035	Relocate Mishicot 138-kV Substation	-	\$3,263,502	\$3,263,502
F2075	Rebuild Hiawatha-Pine River 6908	-	\$70,859,437	\$70,859,437
F2079	Replace Glenview transformer	-	\$3,442,062	\$3,442,062
F2080	Sunset Point transformer replacements	-	\$3,545,064	\$3,545,064
F2081	Shoto-Custer 138-kV line	-	\$14,111,714	\$14,111,714
F2082	Beardsley 69-kV breakers	-	\$953,090	\$953,090
F2084	Lake Geneva area uprates and capacitor banks (various)	-	\$1,251,336	\$1,251,336
F2085	Bluemound capacitor banks	-	\$883,210	\$883,210
F2086	Pleasant Valley T-D (second transformer)	-	\$2,158,853	\$2,158,853
F2088	Nine Springs-Pflaum loop into Femrite Substation	-	\$5,368,656	\$5,368,656
F2092	Uprate Portage-Trienda 138-kV line	-	\$1,404,379	\$1,404,379

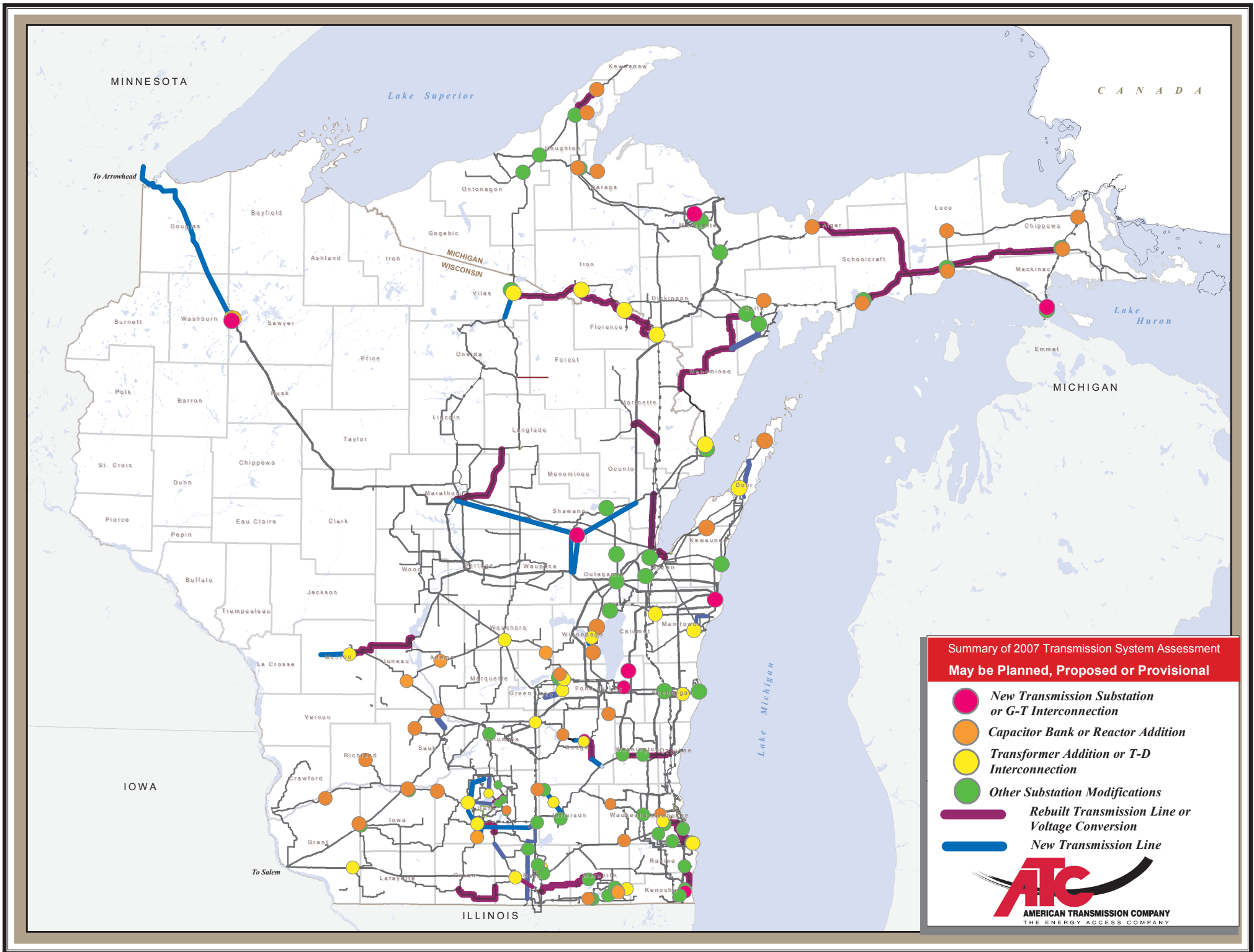
ATC 2007 10-Year Assessment, November 2007
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Funding Project Number	10-Year Assessment Project Description	Sum of Previous Expenditures as of 12/31/06	Sum of Total 2007-2016	Sum of Total (2001-2016)
F2093	North Randolph 500 MVA transformer	-	\$9,718,088	\$9,718,088
F2095	Somers T-D Interconnection (rebuild Racine-Somers-Albers 138-kV line)	-	\$4,181,904	\$4,181,904
F2097	Brookdale T-D Interconnection	-	\$3,981,463	\$3,981,463
F2098	Portage area upgrades	-	\$1,642,955	\$1,642,955
F2102	Brewer/Richland area upgrades	-	\$1,777,817	\$1,777,817
F2105	Construct Fairwater-Mackford Prairie 69-kV line	-	\$4,162,730	\$4,162,730
F2131	Upgrade St. Martins 138-kV bus to 2000A	-	\$206,162	\$206,162
F2135	Uprate Columbia 345/138-kV transformer T-22 to 527 MVA	-	\$103,418	\$103,418
F2140	Elm Road Phase II Upgrades	-	12,761,524	\$12,761,524
F2142	Uprate Arcadian-Waukesha 138-kV lines KK9942/KK9962	-	\$411,661	\$411,661
F2153	Uprate Brick Church-Walworth 69-kV line to 115 MVA	-	\$716,139	\$716,139
F2154	Uprate Walworth- North Lake Geneva 69-kV to 69 MVA	-	\$370,002	\$370,002
F2155	Uprate North Lake Geneva-Lake Geneva 69-kV line to 115 MVA	-	\$1,298,334	\$1,298,334
F2159	Upgrade the existing 2-8.16 MVAR to 2-16.33 MVAR capacitor banks at South Lake Geneva Substation	-	\$687,195	\$687,195
F2160	Upgrade St. Lawrence 138-kV bus	-	\$62,749	\$62,749
F2163	Upgrade 4.1 MVAR capacitor bank to 8.2 MVAR and upgrade the 5.4 MVAR capacitor bank to 10.8 MVAR at Berlin 69-kV Substation	-	\$242,716	\$242,716
F2209	Install a temporary 24.5 MVAR 138-kV capacitor bank at Boxelder Substation	-	\$613,411	\$613,411
F2220	Install 2-16.33 MVAR capacitor bank at Perkins 138-kV Substation	-	\$1,395,186	\$1,395,186
F2221	Install 2-8.16 MVAR capacitor banks at the 9 Mile 69-kV Substation	-	\$1,443,703	\$1,443,703
F2222	Install 1-16.33 MVAR capacitor bank at Hiawatha 138-kV Substation	-	\$615,284	\$615,284
F2223	Install 1-16.33 MVAR capacitor bank at Indian Lake 138-kV Substation	-	\$584,007	\$584,007
F2229	Uprate North Appleton-Mason Street and North Appleton-Lost Dauphin 138-kV lines	-	\$913,149	\$913,149
2007 TYA Totals Reported		\$163.0M	\$1.4B	\$1.563B
Plus Projects Completed Prior to 2007 TYA		\$1.213B		\$1.213B
Plus Projects Not in TYA (other capital expenditures)			\$1.4B	\$1.4B
Total ATC Capital Expenditures		\$1.376B	\$2.8B	\$4.176B

ATC 2007 10-Year Assessment, November 2007
 Summary of Capital Expenditures (2007-2016)
 10-Year Assessment Project Detail


*Projects not yet reflected in the 10-year financial forecast
 (in-service dates or costs yet to be determined as of 2007 10-Year Assessment publication)*

Project	Planning zone
Uprate Empire-Forsythe 138-kV line to 302 MVA	2
Uprate overhead portions of Straits-McGulpin 138-kV circuits #1 & #3 to 230 F degree summer emergency ratings	2
Install 12.45 MVAR 69-kV mobile capacitor bank at Brick Church Substation	3
Replace two overhead Blount-Ruskin 69-kV lines with one underground 69-kV line	3
Install 2-32 Mvar capacitor banks at Mukwonago 138-kV Substation	5



Summary of 2007 Transmission System Assessment
May be Planned, Proposed or Provisional

- New Transmission Substation or G-T Interconnection
- Capacitor Bank or Reactor Addition
- Transformer Addition or T-D Interconnection
- Other Substation Modifications
- Rebuilt Transmission Line or Voltage Conversion
- New Transmission Line



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