Long Term Access Goal

2007-09 Final Report

2008-10 Update

SME Version of Presentation for ATC Board of Directors Meeting December 14, 2009



2007-09 and 2008-10 Long Term Goals Access (10%)

Reduce congestion in ATC footprint as measured by Expected Net Ratepayer Benefits*

- i. Annually calculate the net rate payer benefit for projects placed in service during the year.
- ii. Annually review the market and LMP levels with the Board of Directors to place ATC's performance in market context.
- iii. In connection with each annual 10-year plan, identify new projects that reduce congestion costs.
- iv. Prioritize projects and implement or seek regulatory approval, as appropriate.
- v. Aggregate performance over the three-year cycle for assessment by the Board of Directors.
 - *Measured on an ex-ante basis
 - We have used actual 2007, 2008 and 2009 loads to evaluate Expected Net Ratepayer Benefit

Long Term Access Goal 2009 Accomplishments

(i) Calculate Net Ratepayer Benefit for Completed Projects	Annual Savings	Present Value of Annual Savings	Present Value of Project Costs	% of Cost Offset by Savings			
14 Projects Completed in 2009	\$24.0 Million	\$404 Million	\$394 Million	103%			
(ii) LMP and Market Constraints Performance	2005	2006	2007	2008	2009 (YTD Oct)		
LMP Differential (ATC LMP Difference Above Neighboring Hubs)	\$10.56 (20.0%)	\$3.22 (7.2%)	\$3.89 (7.7%)	\$2.64 (5.2%)	\$0.69 (2.3%)		
Top Ten Congested ATC Elements (2008)	6 of the Top Ten 2008 Constraints addressed in 2009						
Top Ten Congested ATC Elements (2009)	7 of the Top Ten 2009 Constraints will be addressed by budgeted projects						
	Actual 2009 Southern Increased to 22% in 2009 fro Interface Export Hours in 2007						
ATC System 2009 Energy Flows	Actual 200 Interface Im)9 Western nport Levels	Increrased to 1400MWs in 2009 from 1100 MWs in 2007				

Long Term Access Goal Work In Process

(iii) Identify New Projects	15 Projects/Studies Underway 9 Under Analysis 6 Moving Forward				
(iv) Prioritize, Authorize and	Paddock to Rockdale 345kV Rockdale to West Middleton 345kV				
Construct	Point Beach to Sheboygan Falls 345kV Uprate				
	Monroe County to Council Creek 161kV				

(v) Summary

2007 – 2009 Aggregate Performance

- ATC has successfully completed its 2007-2009 Long Term Access Goal
 - Large projects have been completed and more are underway
 - Reliability projects have contributed significant economic benefit
 - Smaller high value projects are being identified
- LMP differentials have been significantly reduced
- ATC's project portfolio addresses most of the top ten constraints
 - Nine of the 2006/07 and eight of the 2008 Top Ten constraints will be ameliorated by 2010

(v) Summary 2007 – 2009 Aggregate Performance

- Expected Net Rate Payer Benefit for projects completed from 2007 - 2009 shows reduced energy costs and losses offset 66% of costs
- ATC is helping to drive
 - Congestion costs down
 - Operational flexibility up
 - Transfer capability up
- ATC customers have benefited from removal of constraints whether importing or exporting
- Emerging Issues
 - Percent of Southern Interface Export Hours has increased in the second half of 2008 and sustained in 2009

Project Process Pipeline

For Economics of Transmission Projects

Point Beach-Sheboygan 345kV Expected Net (Phase 1 Temporary Uprate) Ratepayer Benefit Werner West - Morgan 345kV Bain – Zion 345kV Elm Road Unit 1 Phase II TSR Loss Reductions Jefferson County Reliability Project Paddock-Rockdale South of Lake Michigan Study Southwest Delavan Phase 1 LMP Differentials La Crosse – Madison 345kV Pt Beach–Sheboygan 345kV North Madison – Huiskamp 138kV **UP Flow Control** - Phase 2 Rock & Walworth County **Constraint Value** Rockdale-West Middleton Eastern Wisconsin Study 69-138kV conversion Metric **Ten Year Assessment Projects** Castle Rock-McKenna Menominee Substation Upgrades Crivitz – High Falls SMART Transmission Study **Sunset Point Transformers** Top Ten Glenview-Shoto 138kV Uprate RGOS I & II Monroe County-Council Constrained Melissa Substation upgrades Creek **Elements** Gardner Pk.-Kelly Line Uprate Randolph – N Beaver Dam Uprate Interface Flows Pr. Isle-Perch Lk. Line Uprate In – Service (2009) Market Approval or Under Identify & Analyze (Evaluate Results Impacts Construction & Benefits) Key Red - Economic Transmission Projects Purple - Reliability and Economic Blue – Reliability Transmission Projects **Green – Renewable Access Projects**



Identify & analyze New Projects

Bain to Zion

- Preliminary data using the MISO 70/30 Metric showed negative savings for ATC customers
- Adding in estimated generator profitability showed significant savings to ATC customers overall
 - Performing detailed 2010 analysis including generator profitability
- Study of South Lake Michigan Constraints
 - Being conducted by MISO with study participation by PJM, We Energies, ATC, Exelon Generation, Exelon Transmission and NIPSCO



Identify & analyze New Projects

- La Crosse Madison 345kV
 - Detailed results expected first quarter 2010
- UP Flow Control
- Eastern Wisconsin Study
 - Corridor from south of Green Bay to Illinois
 - Point Beach Uprate G-T projects
 - Southeastern WI operational issues
 - Impacts of increased wind generation in the corridor
 - Collaborative effort just underway
- 2009 Ten Year Assessment Projects economic analysis
 - Results expected first quarter 2010
- Strategic Midwest Area Renewable Transmission (SMART) study
 - Examining transmission needed to move significant amounts of renewables in ten-state region
 - Initial results expected first quarter 2010
- Regional Generation Outlet Studies (RGOS I & II)
 - 28,000 to 34,000 MWs of wind



Approvals and Under Construction

- New Paddock-Rockdale 345 kV
 - Under Construction
 - Expected In Service Date Spring 2010
- Uprate Point Beach-Sheboygan 345 kV
 - Line Construction Outage Coordinated with Spring 2010 Unit Outage
- New Rockdale-West Middleton 345kV
 - PSCW Approved
 - Engineering and ROW In Progress
 - Expected In Service Date 2013
- New Monroe County-Council Creek 161kV
 - Pre Certification work underway
 - 2010 PSCW CPCN Filing
- 2008 TYA Accelerated Projects
 - Sunset Point Transformers and Castle Rock-McKenna 69kV Line Uprate in the Internal Approval Process



In-Service Projects Net Ratepayer Benefit

- Projects were required for Reliability or justified by Economic Benefits
- Projects provided \$24.0 Million in 2009 due to reduced energy costs and losses
- Forecasting ongoing savings at the 2009 level, approximately 103% of project costs are offset
- Project costs = ~\$492 million

In-Service Projects Net Ratepayer Benefit

	Annual Savings at Actual Loads (Millions)	% Offset of Project Costs (Actual Loads)	Annual Savings at Forecasted Loads (Millions)
2007 Projects	\$4.2	80%	\$12.3
2008 Projects	\$14.4	40%	\$16.2
2009 Projects	\$24.0	103%	\$28.1
Total	\$42.6		\$56.6

2001-2009 In-Service Projects Loss Reduction Estimates

- Estimated the 2009 loss reduction from the projects we have placed in service since ATC's formation
- We have reduced energy losses over the 40-year lives of our completed projects at a level that equates to:
 - 15.3 million megawatt hours of electricity saved (enough to power 35,500 homes each year),
 - 14.2 million tons of CO2 emissions (associated with producing lost energy) eliminated and
 - Averted the need for a 122-megawatt generating plant to serve peak demand.
- Estimated with actual loads
 - With forecast loads, values would be higher

2009 Market Review

- Portfolio of metrics
 - **-LMP** Prices
 - Compare ATC with Neighboring Hubs
 - -Constraints
 - Top Ten congested elements
 - -ATC imports and exports





LMP History ATC compared to Neighboring Hubs

LMP History 2005		2006	2007	2008	October 2009 Year to Date
LMP at Neighboring Hubs	\$52.71	\$44.45	\$50.32	\$50.93	\$29.59
LMP in ATC	\$63.27	\$47.66	\$54.21	\$53.58	\$30.23
LMP Differences (ATC Compared to Neighboring Hubs)	\$10.56 (20.0%)	\$3.22 (7.2%)	\$3.89 (7.7%)	\$2.64 (5.2%)	\$0.69 (2.3%)

Monthly Weighted Average LMP Comparison

Comparison of Load Weighted Average Day-Ahead LMPs between ATC, Northern Illinois (PJM), MISO Illinois, and Minnesota



Congestion Into ATC



Sources : Day-ahead prices from Global Energy Decisions's Velocity Suite ; Prices weighted by ATC hourly load.

Losses Into ATC



Zonal LMP Differentials to ATC Reference

LMP Differentials Among Zones Within ATC Day-Ahead

(Load MWh shares in parentheses)





2006 - 2008 Top Ten Constraints

Addressed by projects In Service from 2007 – June 2010

	Year	Annual Top Ten Constraints Mitigated by 12/31/09	Additional Top Ten Constraints Mitigated 6/1/10*	Total Constraints Mitigated		
	2006	7	2	9		
	2007 8		1	9		
2008		6	2	8		

*

•Paddock- Rockdale 345kV New Line and

 Point Beach – Sheboygan Energy Center 345kV Line Uprate Scheduled to be Complete by 6/1/2010







ATC Imports and Exports January – October 2009

- Energy flows stay in ATC
 - ATC customers continue to be a net importer of energy 97% of the hours
- Flows increase to the South
 - Exports during 22% of the hours
 - Compared to 7% of the hours in 2007
- Western Flowgates
 - Max Import Increased to 1400MW in 2008
 & 09
 - Was 1100MW in 2006 &07

ATC 2009 Import Export Summary

ATC Interface Information													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
ATC Net Import/Export													
Average Hourly Import	503	901	1,252	1,266	899	1,194	1,076	1,129	1,014	951	680		1,266
Average Hourly Export	184	193	95	162	188	29	96	131	131	179	119		193
% Import Hours	85.1%	96.1%	99.7%	98.5%	99.3%	99.9%	99.7%	98.8%	98.9%	92.3%	93.3%		96.5%
% Export Hours	14.9%	3.9%	0.3%	1.5%	0.7%	0.1%	0.3%	1.2%	1.1%	7.7%	6.7%		3.5%
Max Hourly Import (MW)	1,451	2,105	2,295	2,705	1,982	2,633	2,394	2,420	2,152	1,859	1,639		2,705
Max Hourly Export (MW)	773	646	171	280	353	29	109	251	287	649	398		773
Northeast (MI) Interface													
% Import Hours	92.1%	69.4%	51.1%	77.1%	79.6%	93.9%	99.5%	100.0%	87.9%	64.9%	84.2%		81.8%
% Export Hours	7.9%	30.6%	48.9%	22.9%	20.4%	6.1%	0.5%	0.0%	12.1%	35.1%	15.8%		18.2%
Max Hourly Import (MW)	92	67	75	44	61	77	53	54	55	66	69		92
Max Hourly Export (MW)	34	41	41	45	60	47	20	0	41	40	75		75
Southern (IL) Interface													
% Import Hours	65.0%	78.3%	95.8%	82.8%	78.5%	79.9%	81.5%	74.6%	78.1%	63.4%	47.0%		75.0%
% Export Hours	35.0%	21.7%	4.2%	17.2%	21.5%	20.1%	18.5%	25.4%	21.9%	36.6%	53.0%		25.0%
Max Hourly Import (MW)	1,486	1,668	1,351	1,568	1,657	1,758	1,123	1,195	1,293	1,309	949		1,758
Max Hourly Export (MW)	742	787	509	713	625	796	792	1,000	825	898	830		1,000
Western (MN) Interface													
% Import Hours	71.7%	92.6%	96.0%	100.0%	100.0%	100.0%	99.2%	97.4%	98.2%	97.7%	98.2%		95.5%
% Export Hours	28.3%	7.4%	4.0%	0.0%	0.0%	0.0%	0.8%	2.6%	1.8%	2.3%	1.8%		4.5%
Max Hourly Import (MW)	786	1,151	1,323	1,349	1,190	1,277	1,335	1,413	1,336	1,387	1,169		1,413
Max Hourly Export (MW)	513	389	452	0	0	0	92	283	215	309	137		513