



Economic Planning

FERC Order 890-A

In March 2008, Federal Energy Regulatory Commission (FERC) Order 890-A took effect. As part of this order, FERC requires a coordinated, open, and transparent transmission planning process on both a local and regional level. To comply with these requirements, ATC submitted a compliance filing on Order 890-A that provides a timeline of actions to ensure that the economic planning process is both coordinated and open.

Annually, ATC will use a process with consistent timelines that combines stakeholder input, historical data, future line flow forecasts, and updated information on the electric system to identify transmission upgrades for economic evaluation.

Each year:

- During February, we'll hold an initial stakeholder meeting to review the market congestion summary and potential fixes and to discuss economic study scenarios, drivers, ranges, and assumptions.
- By March 1, we'll work with stakeholders to request and prioritize new/other economic studies and recommend study assumptions.
- By April 15 – we'll identify preliminary areas of economic study, study assumptions and models and solicit further comments from stakeholders.
- By May 15 – we'll finalize areas of economic study, study assumptions and models to be used in analysis.

ATC uses the market shadow price of transmission constraints (i.e. amount that marginal congestion costs could be reduced if the transmission constraint were relieved by 1 MW) as the screening indicator to track locations on the transmission system where constraints to the delivery of economic energy exist. A list of the most severe market constraints in the Day Ahead and Real Time markets for 2007 is given in Tables ZS-5 and ZS-6, respectively. These tables are used as a starting point in determining areas of the system where potential upgrades may be cost-effective. This data is combined with the stakeholder input and ATC planning recommendations to identify a group of projects to study.

ATC conducts analyses of the projects identified for study over several months' time and posts the key results, including the extent to which these savings offset project costs. When the expected benefits of a studied project are high enough to justify its costs, the process of developing it as a formal proposal is begun.

As a result of the 2008 ATC/stakeholder collaborative process, we are performing economic analyses on the following three projects:



10-Year Assessment

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

2008

September 2008 10-Year Assessment
www.atc10yearplan.com

- Kenosha-Lakeview-Zion 138 kV,
- North La Crosse-Hilltop-Spring Green-Cardinal 345 kV, and
- Salem-Spring Green-Cardinal 345 kV.

Studies will be performed and results 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 the studies and are willing to have the results posted publicly.

2008 Meetings and materials

Generation portfolio workshop materials (posted 8/25/08)

Meeting agenda

Generation needed for various futures

MISO siting spreadsheet for MTEP 2009

June planning meeting materials (posted 6/18/08)

Meeting agenda

Agenda item 1: Futures diagrams

Agenda item 1: Futures narratives

Agenda item 2: Peak load forecasts

Agenda item 3: Generation portfolio

Agenda item 4: Modeling modifications

Agenda item 5: MISO MTEP 09 modeling

Recent meeting agenda and materials (posted 2/18/08)

Comment summary, draft futures matrix and request for comments (posted 3/19/08)

Comment summary Round II, updated futures matrix and next steps (posted 4/15/08)

Final futures matrix (posted 5/15/08)

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*Table ZS-5
ATC Day Ahead Market Constraints (January 1, 2007 through December 31, 2007)*

Shadow Price*	Hours Rank**	Constraint (Common Name)	Potential Solution
\$67,996	1	Paddock 345/138 kV Transformer T21	Paddock – Rockdale 345 kV (Planned, 2010)
\$55,278	2	Eau Claire – Arpin 345 kV	Arrowhead – Gardner Park 345 kV (Completed, 2008)
\$46,541	5	Hintz – Werner 138 kV	Substation upgrades (Completed, August 2007) Morgan – Highway 22 – Gardner Park (Planned, 2009)
\$43,654	8	Ellington – Hintz 138 kV	Increased line clearance (Completed, August 2007) Morgan – Highway 22 – Gardner Park (Planned, 2009)
\$43,250	13	Pleasant Valley – Arthur Road 138 kV	Reconductor of circuit (Planned, 2008)
\$22,782	4	Highway V – Preble 138 kV	Morgan – Highway 22 – Werner West 345 kV (Planned, 2009)
\$21,255	6	North Appleton – Werner West – Rocky Run 345 kV	No solution identified
\$19,625	3	Stiles – Pulliam 138 kV (Line 64451)	Morgan – Highway 22 – Werner West 345 kV (Planned, 2009)
\$14,466	7	Stiles – Pulliam 138 kV (Line 64441)	Morgan – Highway 22 – Werner West 345 kV (Planned, 2009)
\$9,118	19	Badger - Belle Plaine - Caroline - Whitcomb 115 kV	Morgan – Highway 22 – Gardner Park (Planned, 2009)
\$7,900	21	Lakeview – Zion 138 kV	No solution identified
\$6,575	20	McGulpin – Straits 138 kV	ATC Michigan Energy Collaborative will investigate potential solutions (2008).
\$5,365	22	Pleasant Prairie – Racine 345 kV	No solution identified
\$4,858	34	Morrison Avenue – Sherman Street 115 kV	New Gardner Park – Hilltop 115 kV line (Completed, May 2007) Weston - Sherman St. - Hilltop 115 kV rebuild (Completed, May 2007)
\$4,512	14	Flow South Stability Flowgate	Morgan – Highway 22 – Werner West 345 kV line (Planned, 2009) Construct Cranberry – Conover 115 kV line (Completed, 2008) Convert Conover – Plains to 138 kV (Planned, 2010)
\$460,072			Total for all ATC Day Ahead constraints, 1/1/07 - 12/31/07

NOTE: Four constraints have been omitted from this list because they are caused by virtual market transactions in the Day Ahead Market.

** Sum of shadow prices throughout year – i.e. the amount of money to be saved if this constraint is relieved by one MW.*

*** Hours rank is based on the constraints that occur most often on the system, regardless of severity (shadow price).*

*Table ZS-6
ATC Real Time Market Constraints (January 1, 2007 through December 31, 2007)*

Shadow Price*	Hours Rank**	Constraint (Common Name)	Potential Solution
\$104,383	2	Ellington – Hintz 138 kV	Increased line clearance (Completed, August 2007) Morgan – Highway 22 – Gardner Park (Planned, 2009)
\$62,007	3	Paddock 345/138 kV Transformer T21	Paddock – Rockdale 345 kV (Planned, 2010)
\$59,568	1	Eau Claire – Arpin 345 kV	Arrowhead – Gardner Park 345 kV (Completed, 2008)
\$21,491	7	Blount – Ruskin 69 kV (Line 6904)	Special Protection System (SPS) on circuit (Expected, 2008) North Madison – Huiskamp 138 kV (Planned, 2009)
\$20,589	5	Stiles – Pulliam 138 kV (Line 64451)	Morgan – Highway 22 – Werner West 345 kV (Planned, 2009)
\$19,463	13	Badger – Belle Plaine – Caroline – Whitcomb 115 kV	Gardner Park – Highway 22 – Morgan 345 kV (Planned, 2009)
\$17,659	6	Highway V – Preble 138 kV	Morgan – Highway 22 – Werner West 345 kV (Planned, 2009)
\$15,043	8	Pleasant Prairie – Racine 345 kV	No solution identified
\$14,209	9	Pleasant Valley – Arthur Road 138 kV	Reconductor of circuit (Completed, 2008)
\$13,122	12	Stone Lake – Gardner Park 345 kV	Arrowhead – Gardner Park 345 kV (Completed, 2008)
\$11,969	4	Stiles – Pulliam 138 kV (Line 64441)	Morgan – Highway 22 – Werner West 345 kV (Planned, 2009)
\$9,228	17	Cornell Tap – Felch Tap 69 kV	ATC Michigan Energy Collaborative will investigate potential solutions (2008).
\$9,132	15	McGulpin – Straits 138 kV (Line 9901)	ATC Michigan Energy Collaborative will investigate potential solutions (2008).
\$8,640	34	Sand Lake – Port Edwards 138 kV	No solution identified
\$7,638	39	Kenosha – Lakeview 138 kV	No solution identified
\$499,244			Total for all ATC Real Time constraints, 1/1/07 - 12/31/07

* Sum of shadow prices throughout year – i.e. the amount of money to be saved if this constraint is relieved by one MW.

** Hours rank is based on the constraints that occur most often on the system, regardless of severity (shadow price).