

# Study Summary

## Midwest ISO Cost-Benefit Study

*The Midwest ISO contracted with ICF Consulting in November 2005 to conduct an independent cost/benefit analysis of the energy markets within the Midwest ISO grid, the nation's largest geographic ISO. A comparison of potential to actual outcomes of this magnitude, scale and scope has not previously been conducted and is unprecedented.*

### WHAT THE STUDY IS

- The study focuses on only a subset of operational benefits:
  - Regional unit commitment and security-constrained economic dispatch
  - Improved utilization of transmission assets
  - A tool to evaluate trends in market outcomes; “high-level” indication of market benefits
- The study highlights differences between realized and potential benefits:
  - Potential benefits, including the proposed Ancillary Services Market, reflect optimization of regulation and reserves
  - Inefficiencies in actual operations reflect, in part, conservative operating decisions on behalf of Midwest ISO and participants during market start-up
    - unit commitment (level and type of capacity)
    - generation offer flexibility (EcoMin, EcoMax, ramp)

### WHAT THE STUDY IS NOT

- This study is not a tool that can be utilized to answer questions for individual generation units or the corresponding Balancing Authority.
- This study is not a “rate case-quality” tool for states in the Midwest ISO footprint.
- Areas not covered by the ICF study:
  - Transmission access, expanded markets and reduced barriers to trade
  - Improved reliability through regional power flow visibility and dispatch
  - Improved generator availability and efficiency in peak load periods
  - Opportunities for greater participation of price responsive demand

### MOVING FORWARD

Midwest ISO has asked ICF International to analyze an additional five months (April 2006 through August 2006) to provide more insight on the cost/benefit of Midwest ISO's impact as well as to provide an opportunity to analyze and compare a second summer season.

(more)

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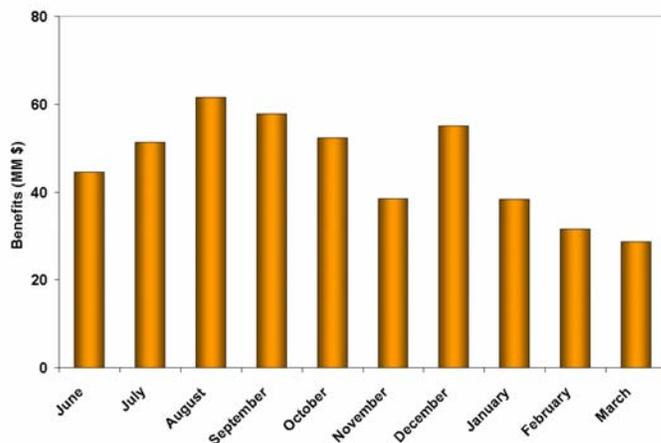
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### MOVING FORWARD (cont'd)

As we continue to add services and mature, the financial benefits from our markets will only grow. For example, today (February 15) the Midwest ISO is filing with the Federal Energy Regulatory Commission to launch an Ancillary Services Market (ASM). The components of the ASM will include:

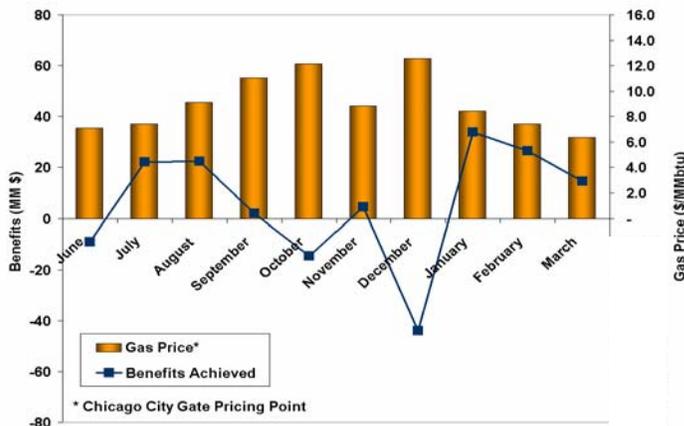
- Regulation: Allows the Midwest ISO to more responsibly follow and manage change in demand.
- Contingency Reserves: Allows the Midwest ISO to better respond and manage to unexpected loss of large generation and transmission through spinning (instantaneous) and 10-minute reserves.

In addition, the Midwest ISO Board of Directors approved the Midwest ISO Transmission Expansion Plan 2006 (MTEP 06), a far-reaching, long-term transmission expansion plan that recommends \$3.6 billion in additional transmission infrastructure and improvements in the Midwest. This initiative is expected to reduce congestion costs by \$2 billion annually.



**Summary (MM\$):**  
Theoretical Maximum - \$460

Note: Reflects theoretical maximum benefit including benefits associated with an Ancillary Services Market (ASM)



**Summary (MM\$):**  
Theoretical Max \$460  
ASM<sup>1</sup> (\$189)  
Achievable  
Theoretical \$271  
**Actual \$ 58**

<sup>1</sup> Ancillary Services Market (ASM) Theoretical Value calculated by ICF. Given that the Midwest ISO has not launched the ASM initiative, these should not be included in actual achievable results. Note that the ASM theoretical value generated by ICF is within the range of the Midwest ISO value estimates generated and shown in the April 3, 2006 Filing to FERC (EL06-\_\_\_-00). The ASM Market Potential Benefits are shown in the filing as \$113 to 208m.

