THE NEW MISO DAY 2 SPOT MARKET-IMPACT ON POWER PRODUCERS

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Presentation Overview

Changing Structure of Electric Utility Organizations
Changing Wholesale Electric Markets
RTO's and ISO's
MISO Specifics
Price Impacts
Conclusions
About LLS Resources, LLC

A group of professionals (PEs and economists) specializing in various aspects of energy - anywhere in the U.S. and Canada, both supply and utilization
Traditional Utility Organizations Prior To EPACT – Vertical Integration

*Bilateral Transactions & Price Secrecy*

UTILITY A
- GEN.
- TRANS.
- DIST.
- CUST.

UTILITY B
- GEN.
- TRANS.
- DIST.
- CUST.

UTILITY c
- GEN.
- TRANS.
- DIST.
- CUST.

**NERC**
Voluntary Reliability Standards

**FERC**
Wholesale Wheeling Rates

Wheeling%

Bundled Rate (state Jurisdiction)

External Gen.

Pancaked Wheeling $
Utility Reorganization in Response to EPACT and FERC ORDER 888 – States Without Retail Choice

Bilateral Transactions

UTILITY A
- Gen.
- Tran.
- Dist.
- CUST.

UTILITY B
- Gen.
- Tran.
- Dist.
- CUST.

IPP/EWG

The New RTO/ISO And Day 2 Markets

Market Monitor

FERC

MRO – Mandatory Standards
The Regional Transmission Organization (RTO) and Independent System Operator (ISO)

Prescribed under FERC Order 2000
Non-discriminatory transmission access
Transmission capacity allocations
Congestion management
Financial Transmission Rights (FTR) auctions
Security-constrained economic dispatch of generation
Day Two LMP markets – Price transparency
The Regional Transmission Organization (RTO) and Independent System Operator (ISO)

System Monitoring and operating reliability
Price transparency – Calculated every 5 minutes and averaged every hour
Transmission tariffs – No pancaking

Examples:
MISO – Carmel, Indiana
PJM – Norristown, PA
NYISO – Schenectady, NY
CAISO – Folsom, CA
Selected MISO Data

150,000 MW of Operating Capacity
36000 Nodes
1500 Commercial Nodes for which LMP is available
5 Financial trading Hubs – IL, MI, MN, Cinergy, First Energy

Financial Transmission Rights (FTRs) are traded at flow gates to hedge congestion costs – 1352 flowgates
What are Locational Marginal Prices (LMPs)?

Calculated every 5 minutes at every CP node in system

www.midwestiso.org
MISO – LMP Contour Map

Source: MISO
MISO – LMP Contour Map

Source: MISO
LMP Components – Hour 10, January 12, 2006

ALTW.OTTUMW1
NSP.SHERCO
LGEE.OHIO

Marginal Congestion Cost
Marginal Losses Cost
Marginal Energy Cost

$10.00
$0.00
$10.00
$20.00
$30.00
$40.00
$50.00
$60.00
$70.00
$80.00

$0.00
$10.00
$20.00
$30.00
$40.00
$50.00
$60.00
$70.00
$80.00

$0.00
$10.00
$20.00
$30.00
$40.00
$50.00
$60.00
$70.00
$80.00

Marginal Congestion Cost
Marginal Losses Cost
Marginal Energy Cost
MISO Operates Three Competitive Markets

- Day Ahead Energy Market
- Financial Transmission Rights (FTR) Market
- Real Time Energy Market (Settlement)
- Ancillary Services under discussion
Conclusions

MISO market highly volatile
Bankers want revenue stability
Leads to utility contracts with price stability
Speculators must have their own capital resources
Displacing on-site use a good fit with small behind meter producer
Excess can be sold to local utility, DG’s & QF’s