

Recent Developments in the Indiana Energy Sector

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Chairman

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Recent Changes at the Indiana Commission

Changes and Issues Confronting the Commission...

- Agency transition to new leadership – Chairman David Lott Hardy replaces Bill McCarty as Chairman and Commissioner Gregory Server replaces Commissioner Judy Ripley.
- Implementation of new federal Energy Policy Act of 2005 (EPA05) requires changes in rules by State Commissions, the Federal Energy Regulatory Commission (FERC), the Securities & Exchange Commission (SEC), the Department of Energy (DOE) and other agencies.
- Development of RTOs (the Midwest ISO and the PJM) and taking actions to ensure that the benefits and costs are fairly shared among customers and utilities.
- Extremely high natural gas prices were experienced this winter and we are anticipating continued high prices. Coal prices have also increased considerably.
- The need for building new generating units, transmission facilities, and demand management programs. New generating units or increased gas availability may entail development of clean coal technologies using Indiana coal.

A Summary of Indiana's Electricity Market

- Indiana has a long history of low electric rates.

Average Retail (all consumers) Rate

- National Average = 8.13 cents / kWh
- Midwest Average = 6.74 cents / kWh
- **Indiana's Average = 5.87 cents / kWh**

Average Industrial Rate

- National Average = 5.75 cents / kWh
- Midwest Average = 4.86 cents / kWh
- **Indiana Average = 4.36 cents / kWh**

- Energy Information Administration (12/05)

Basic Cost Components of Indiana Utilities' Electric Rates

- 35% Generating Unit Costs
- 27% Fuel & Purchased Power
- 25% Transmission & Distribution Expense
- 8% Administrative and General Expense
- 3% Pension and Health Care Expense
- 1% Emissions Allowances
- 1% Regional Transmission Organization Expenses

Natural Gas and Coal Prices are Increasing

Customers of Gas and Electric Utilities Have Experienced Large Cost Increases. Several Factors are Driving Prices Higher...

- Natural gas prices have gone up 56% from \$5.46 / MMBtu in 2003 to \$8.50 / MMBtu in 2005 (sometimes over \$10).
- Over the past 5-7 years natural gas has been viewed as the clean energy alternative to coal and may have been over-relied upon. As a result it was used more extensively for electricity production creating pressures on supply of natural gas.
- Production has struggled to keep pace with the demand for natural gas. Railroad problems caused significant interruptions of coal deliveries from Wyoming and Montana. The lack of competition among railroads (or other modes of transportation) also affected the cost of coal.
- Because gas and coal compete for electric generation, coal costs have also increased by about 56% from 2003 to 2005. While some price moderation is expected this year, the long-term forecast is for continued increases in coal costs.
- Hurricanes devastated the U.S. gulf coast region where many production facilities are located.

Energy Policy Act (EPACT) of 2005

Highlights of EPACT05 for the Federal Government and Primarily for the Federal Energy Regulatory Commission (FERC)

- EPAct05 specifically provides incentives to build future generation facilities that use clean-coal technology.
- New authority for FERC to oversee the reliability of the transmission grid by enactment and enforcement of reliability rules and establishment of reformed national and regional reliability organizations.
- FERC established rules for incentive-based (bonus) rate treatments for transmission.
- The establishment by FERC of FERC – State “Joint Boards” to address regional dispatch and other related regional issues that do not fit neatly in federal or state jurisdiction.
- FERC “Backstop” authority to site transmission lines if a state can not make a timely decision or a group of states can not agree on siting of new transmission facilities.
- FERC, in conjunction with the Department of Energy will designate “transmission corridors” to facilitate construction of new transmission within those corridors.
- FERC’s merger review authority has been changed. It is unclear if this will strengthen FERC’s authority since they have limited time to approve or reject a merger. Over the last several years, despite changing merger approval rules, the FERC has not disapproved a merger.
- Took over responsibilities from the Securities & Exchange Commission for Public Utility Holding Companies (PUHCA). The FERC referred to this as a access to “books and records” rulemaking but it is more than that. Among other things, EPAct05 gave increased authority for FERC to scrutinize inter-company transactions to safeguard against affiliate abuse and to exercise jurisdiction over the allocation of service company costs to the various states served by the holding company.
- FERC issued rules to increase price transparency in the natural gas markets as well as requirements to reduce the potential for market manipulation.

Changes in PURPA Standards

- Enacted in 1978, the Public Utility Regulatory Policies Act (PURPA) promoted change in public utility policies at the state and federal level. PURPA was intended to encourage (1) Conservation of energy, (2) Optimization of electric utility facilities and resource efficiencies, and (3) promote equitable and efficient rates for electric customers.
- The Energy Policy Act of 2005 amended the PURPA by adding 5 new standards to address current conservation and efficiency needs. The amendments require States to consider and determine standards for:
 - Net Metering
 - Smart Metering
 - Interconnection
 - Utility plans to minimize dependence on one fuel source
 - Utility 10 year plans to improve fuel efficiency of generation.

PURPA Standards - Continued

- States must consider and determine whether each of the 5 PURPA standards are appropriate.
- Though states must consider the standards, nothing prohibits a state commission from determining that it is not appropriate to implement a standard pursuant to its authority under state law.
- Prior state actions can substitute for the consideration and determination requirement if the state implemented a comparable standard. In Indiana, for instance, our net metering rules ought to take care of our obligation.

IURC Actions To Comply With PURPA

- The Commission has recently implemented, after thorough consideration, Generation Interconnection and Net Metering Rules which satisfy the IURC's obligation under EPCAct05.
- The Commission has also developed a data request to begin consideration of the standards for minimizing dependence on one fuel source, fossil fuel generating unit efficiency, and smart metering technologies. We anticipate the data request will begin a multi-faceted consideration of each of the applicable EPCAct05 Standards; with workshop(s) and docketed proceeding as future facets.

Development of Regionally Organized Markets

Regional Transmission Organizations and State Organizations

- The Midwest ISO experienced a peak demand of about 112,200 MW while the PJM had a peak demand of 133,763 MW. During 2005, the Midwest ISO had 11,200 MWh of transactions and 728 million MWh flowed through the PJM. The Midwest ISO has 140,000 MW of available capacity. PJM has 163,471 MW of available capacity.
- Some States Support RTOs – Other States Don't
Southern and western states have opposed formation of RTOs.

In regions where RTOs have formed, State Commissions have established regional organizations to address RTO issues. Indiana is a member of both the Organization of Midwest ISO States (OMS) and the Organization of PJM States (OPSI).

➤ OPSI and OMS

The PJM and the Midwest ISO are regional transmission system operators that are regulated by the FERC.

State Commissions have substantial interest in the wholesale market operations of the PJM and the Midwest ISO. So States are very active in PJM and Midwest ISO initiatives that affect the operations of the markets. OPSI and OMS were established as non-profit organizations to foster a cooperative regional approach among the states to address PJM and Midwest ISO Issues.

OPSI and OMS collect information, monitor the wholesale markets (and their state's retail markets), consider PJM and Midwest ISO related proposals that affect reliability, safety, facility siting, and electric prices. In both the OPSI and OMS, State Commissions have virtually unlimited access to "confidential information."

Midwest ISO Activities Improve Reliability

- State-of-the-art Tools for Monitoring and Controlling Reliability
 - The MISO has developed tools and works closely with the PJM to observe real-time performance of the transmission system in its region and adjacent regions. These tools monitor all transmission lines and transformers over 100 kV and other facilities – including the operations of generating units – identified as critical to maintaining reliable system operations.
 - The Midwest ISO’s “State Estimator” takes information from 96,000 points on the transmission system and sends system operators a detailed update of the entire system every 90 seconds.
 - A “Contingency Analysis Tool” runs more than 5,000 potential scenarios every 8 minutes to make sure that the transmission system is able to reliably operate to accommodate all of the transmission transactions.

Midwest ISO Activities to Improve Reliability

- Coordination with Adjacent Systems
 - The goal of coordination agreements is to reduce the reliability risks associated with boarder areas or seams between the MISO and any surrounding non-MISO utility system – including the PJM, the Southwest Power Pool, and the Tennessee Valley Authority. Historically and currently, the primary risk is caused by a lack of understanding of what is happening in adjacent transmission systems.
 - Coordination agreements improve the exchange of information – including real time information, that helps to clarify authority and responsibility as well as specify appropriate procedures to be implemented in specific circumstances to maintain the reliability and functionality of the transmission systems.

Midwest ISO Activities to Improve Reliability

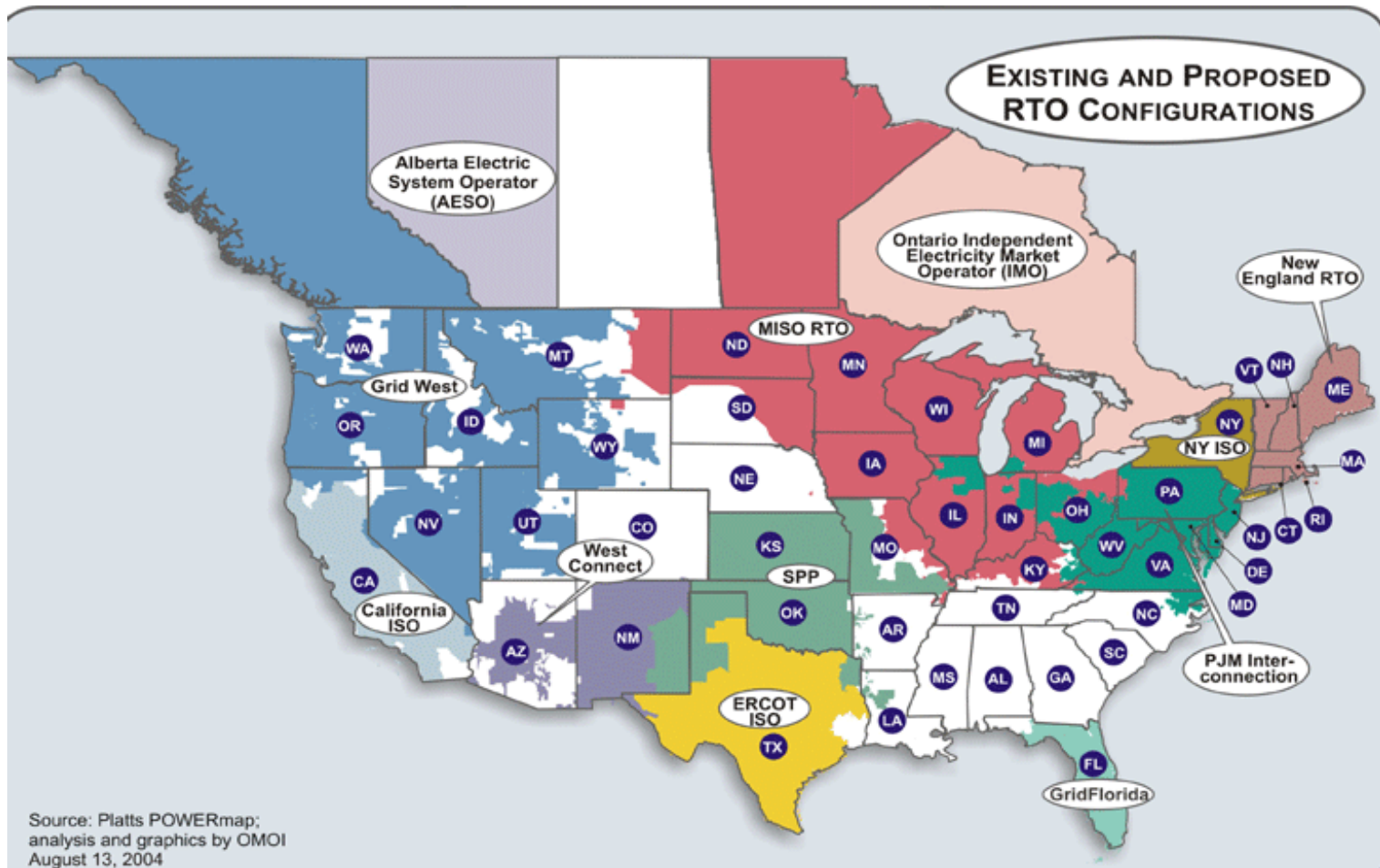
- Regionally coordinated planning of transmission expansion (including generation and demand management programs) are expected to produce substantial longer-term savings.
- Both the PJM and the MISO perform regionally coordinated planning. They also work together. The region will benefit by having resource planning decisions that are both more cost-effective and reliability enhancing than would be the case with planning being done by individual utilities as if they were islands rather than part of a larger system.
- The 2005 MISO Transmission Expansion Plan, for example, identifies 615 “planned” or “proposed” transmission facility additions or enhancements, representing an investment of \$2.91 billion through 2009.

PJM Transmission Upgrades

- The PJM, like the MISO, conducts a Regional Transmission Expansion Plan in which it reviews power supply and demand over a 5 year planning horizon for all or parts of 13 States and the Washington D.C.
- The Upgrades approved for the 2005 plan total \$1.7 billion. To date, transmission upgrades approved through the PJM's Regional Expansion Plan total \$2.8 billion.
- PJM recognizes that a 5 year planning horizon is too short and is moving to a 15 year planning process.
- The planning conducted by both the Midwest ISO and the PJM should be supplemented by the work of state commissions. Indiana, for example, continues to require Integrated Resource Planning and our State Utility Forecasting Group has developed state-of-the-art models and quality data bases that ought to be used in assisting the Midwest ISO's planning effort. Other State Commissions also have expertise and information that could improve the MISO's regional planning.

Major Transmission Investments

- American Electric Power Company has proposed building a 765 kV transmission line from West Virginia to New Jersey. The preliminary estimate is that this 550 mile transmission line will cost approximately \$3 billion and will take up to 8 years to complete.
- Allegheny Power Company has proposed construction of 330 miles of new 500 kV transmission line in the PJM. The project will take up to 7 years to complete.
- Both Projects have requested that the FERC approve incentive (bonus) rates. AEP intends to apply to the DOE to have their proposed route be designated as a “transmission corridor” to better ensure expedited siting approval.



RTO ISSUES- Benefits and Costs

➤ Quantifiable RTO Benefits and Costs

- Still struggling with quantification of costs and benefits and how to fairly pass through benefits and costs to consumers and utilities. Many of the Midwest ISO related costs are not “new” costs. In many cases, the costs are already embedded in a utility’s rates. Examples include, the cost of congestion, the cost of purchasing power during critical periods, losses, voltage support, balancing load and generation, substantial regulatory costs (e.g., FERC fees).

MISO and PJM Costs

Administrative Costs in 2005 were \$159 million. In 2006, the budget estimates are for \$158 million. Once the Midwest ISO is fully operational, the need for consultants, new software and new hardware will diminish. The costs of RTOs are quite small compared to the end-use customers’ electric bills. In the Midwest ISO, a typical customer would pay about 35 cents per month. In the PJM region, a customer would pay about 33 cents per month.

Regional economic dispatch resulted in an estimated a net savings of over \$1 billion for the first 6 months of MISO’s Operations. This allows utilities to benefit from load, weather and resource diversity.

Elimination of pancaked transmission rates to allow longer-distance transactions. Historically, each utility along a transaction’s path would charge a transmission rate even if the power didn’t flow along that path.

More efficient use of existing transmission facilities due to reliance on market prices to clear transmission congestion rather than on physical curtailments (using Transmission Line Loading Relief).

Consolidation of utility control areas is estimated to provide annual net benefits ranging from \$82 million to \$177 million. Historically, utility control areas provided voltage support, operating reserves, and balancing.

Reduced long-term capital expenses for new generation and transmission due to regional planning. Among other things, individual utilities could reduce their individual reserve requirements because they can rely on a broad region with inherent diversity. Historically, utilities used to plan to meet their forecasted load requirements with little regard to the plans for new generation and transmission that neighboring utilities were making. This led to situations where broad regions had substantial excess generating capacity.

RTO Issues – Benefits and Costs that are not easily quantified

➤ RTO Benefits and Costs that are not easily quantified

Reliability - While every Indiana utility has said that reliability has never been better due to the Midwest ISO and the PJM, it is difficult to quantify the value of reliability.

Observable Prices - Because of the Midwest ISO's and PJM's real-time markets, for the first time, there is a "transparent" price. Historically, for assessing whether utilities were doing a good job of buying power or dispatching their power plants, the Indiana Commission would have to rely on Production Cost Models and other analytical tools.

Policing the Markets - The Midwest ISO and the PJM monitor the wholesale markets in an effort to prevent the types of market abuses that ENRON and others engaged in that shattered the confidence in some of the energy markets and had significant ramifications for the financial markets.

Demand Response - Demand management is more feasible in RTO facilitated markets. RTOs recognize the need for customers to reduce their use during expensive periods that may also be the periods when reliability is of greatest concern. The challenge will be to utilize the transparent real-time price signals to develop cost-effective demand response programs.

Innovation – By having an entity, such as an RTO, concentrate almost exclusively on transmission, it is reasonable to expect that the RTOs will be at the vanguard of implementing new cost-effective technologies.

Better Maintenance of Generating Facilities – The evidence is that generators that are in RTOs have higher capacity factors and operate more reliably than generating units that are not dispatched by RTOs. Owners of generation recognize that their revenues and profits hinge on being dispatched.

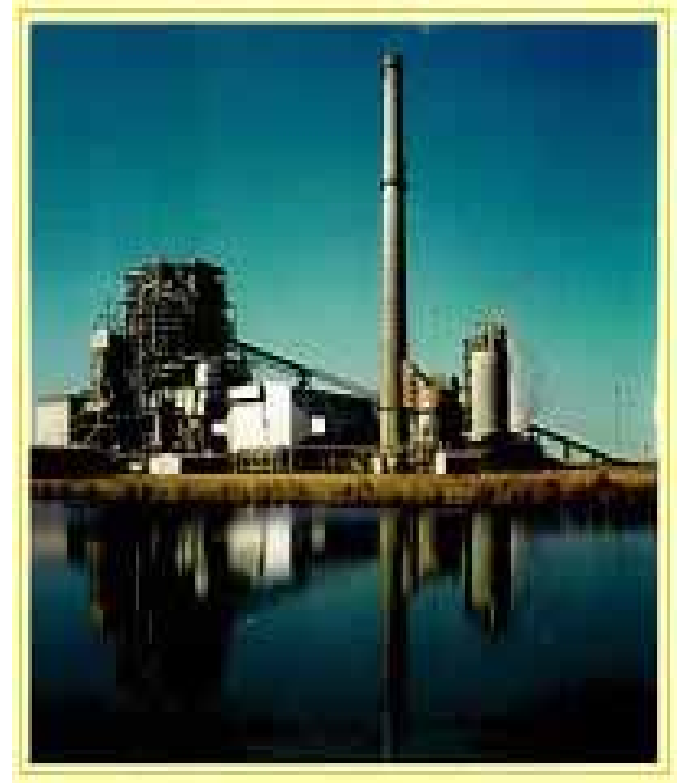
Developments in Electricity Generation

A Critical Component of National Energy Policy is the Type and Timing of Future Generation that Should be Built...

From 1998 – 99, the Midwest experienced significant price spikes as high as \$10 per kWh. In response to the price spikes, two Indiana utilities and several independent power producers (not affiliated with Indiana utilities) built several gas-fired peaking and combined cycle power plants between 1999 – 2003.

For independent power producers (IPPs), the fact that the region has not experienced a repetition of the price spikes, combined with the increases in natural gas prices, have resulted in lower than expected profitability. This combination of events caused some IPPs to go into bankruptcy. Some of these units have been sold to Indiana utilities.

Because of the financial problems of the IPPs, investors may not be willing to commit capital at reasonable rates unless there is a high degree of certainty that the costs will be recovered. Even for regulated utilities that can have confidence that there prudent costs will be recovered, increasing fuel costs, environmental costs, and increased inflation are certain to increase the cost of capital.



Developments in Electricity Generation

Additional Generation Issues:

- The need to built additional generation in Indiana, this region, and the U.S. is growing.
- Many base load units are approaching the end of their useful life and were not designed to achieve today's more rigorous federal Clean-Air standards without substantial investment.
- A significant debate is now occurring regarding the fuel of choice to generate electricity in the future.
 - Is coal too dirty? What are the realities of clean coal technology?
 - Is gas too expensive?
 - Can the issues of safety and storage be overcome to make nuclear power a viable alternative?
 - What are the prospects for alternative fuels and conservation?

Comments on Transmission Investment

Some areas in the U.S. – such as Wisconsin - have underinvested in transmission infrastructure for many years. Other areas like Indiana – according to the Midwest ISO - have generally adequate transmission capability – for now.

While RTOs will hopefully help us get more out of existing transmission wires, some new facilities are needed. The amount of new transmission may not, however, be as great as some of the initial estimates of trillions of dollars following the 2003 Blackout.

Historically, much of the major transmission was built in conjunction with the construction of large base-load generating units. A large proportion of these generating units and the transmission facilities to get the power from these units to the load centers were built between 1970 – 1985. The construction during this period resulted in excess generating and transmission capacity throughout much of the United States. Indiana and others States are now considering construction of new base-load generating capacity that will necessitate new transmission.

If there is not a “crisis” in the amount of transmission in most regions, is it necessary to provide extra incentives for firms to build transmission? If there are incentives to build transmission, will this cause firms to bias their construction decisions? Normally, in ratemaking, a firm is compensated for the risk of the investment. In an entity builds transmission and is assured of recovering the costs and a extraordinary profit, is there any “risk?” If not, is the extra compensation necessary?