



A Strategic Roadmap for the MISO



***Board of Directors Strategic Planning
Retreat***

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Current State...

- In the current state MISO's value proposition is accomplished through four distinct business activities
 - The overarching value proposition is regional (rather than local) optimization and information transparency. The four business units through which this is accomplished are:
 - Real time optimal dispatch, reliability coordination and scheduling
 - Regional Planning
 - "Transmission" tariff administration
 - Market Services
 - MISO has internal business units that support these activities as well as the overall goals of the market (primarily IT, PR, Legal, Finance and Government Relations)

MISO's Core Business Activities

- **MISO is a service provider with the following activities**
 - **Real Time Physical Grid Coordination**
 - Including reliability commitment
 - **Financial Market Operations**
 - Day Ahead Market
 - Pricing
 - Settlement
 - FTRs
 - **Tariff Administration**
 - **Regional Planning**
- **Reliability?**
 - We don't really provide "reliability"...we coordinate behavior in order that reliability standards are met but we do not nor cannot provide it directly. But the coordination service does create/increase value.

So, who (or what) is MISO?

● MISO:

- Is a Service Provider...not a Principal in the Market.
 - An important distinction!
 - For the structure of our organization.
 - For our staff.
 - For our participants.
- Has been a change agent
 - Important to recognize that change causes dislocation...not everybody “wins” - especially if they don’t change behavior.
- Is now an “operator”.
 - **BUT**, we operate a market...and that demands a different (i.e. higher) level of precision, transparency and accountability than is typical of the rest of the industry.

Fundamental Questions

- **Can we achieve excellence as both a change agent and an operator?**
 - **How do we institutionally manage the tension?**
 - Budgeting?
 - Staffing?
 - Organizational structure?
 - **Can we maintain and develop core competencies in both areas?**

MISO's value proposition - in the short run

- The value chain in electricity has been obfuscated by policy and regulation.
 - Electricity as a commodity is homogeneous.
 - Competitive forces should reduce profits.
 - Assets have been valued incorrectly.
 - Too much or too little!
- MISO's value proposition at the start was marginal.
 - Internalization of loop flow externalities.
 - Benefit of centralized dispatch - but not a lot of loop flows.
 - High amount of base load plant.
 - Limited benefit from re-dispatch due to fuel diversity
- Under the "old" paradigm our existence is marginal.
 - *...as a result we continually fight the "cost/benefit" game!*

MISO's short run value proposition - implications

- The initial benefits of centralized dispatch are largely dependent on the **existing infrastructure**...and the current infrastructure in the Midwest does not reflect a “tight” pool...no history of pooling arrangements that influenced investment.
 - *Estimates provided to FERC in the GFA docket suggest approximately \$250 million...initial estimates of ICF in the \$200 - \$300 million range.*
 - *Don't need to argue about this number!*
 - *Implication is that there is not a lot “fluff” floating around that can allow us to be inefficient.*
 - *From a value proposition we do not have a secure foothold in the industry...more like a toe hold!*
 - *Notwithstanding we have an approved tariff...etc.*

MISO's value proposition - in the long run

Thought experiment:

- In an efficient market why would two (or more) generators merge?***
 - Should be no operational efficiencies to be gained if the dispatch is performing optimally. All loop flows are internalized in a regional dispatch, the benefits of fuel diversity can be achieved through the market - without the costs of ownership....*
 - Aside - In a very real sense...mergers are a substitute to what we do!*
 - RTOs form an implicit alliance with the status quo - in order to survive.*

Isn't our goal to provide a service that effectively and transparently allows costs and risks to be managed by those best placed to do so?

- Unbundling of the industry!***
 - That is why we have and should support ITC's*
 - They are not a competitor.*

MISO's long run value proposition - implications

- *Our existence...more correctly, the efficient operation of the market...will cause changes in (1) physical investment and (2) the organizational activities of our Market Participants.*
 - *Providing we deliver an efficient market...both effects serve to enhance the position/role/necessity of the market operator.*
- *The market will either enhance, support, or force certain changes.*
 - *Increased opportunities for financial risk management activities.*
 - *States and individual utilities will become less self reliant.*
 - *Increased opportunities for DSM and DG – thereby reducing the influence/importance of the traditional model.*
 - *It will force existing players to evaluate what business they are in.*

MISO's value proposition - planning

- *If our goal is to provide a service that effectively and transparently allows costs and risks to be managed by those best placed to do so, then:*
 - *How do we do this in a restructured wholesale market with unbundled decision making for generation, demand response & transmission?*
 - *In what sense or to what degree are generation, demand response, & transmission can be substitutes or complements? Both views exist in the market and our models must account for this.*
 - *Our (transmission or infrastructure?) planning models must account for MPs' bidding strategies, location & expansion of generation, volatility & uncertainty factors, and accurate network models*
 - *Market behavior changes the regional power transfer patterns*
 - *LMP price differences should value the transmission network, not production cost model differences*

MISO's value proposition - planning

- *Provide transparency in methods & databases so market participants (stakeholders) understand the implications of particular infrastructure investment*
- *Transmission upgrades can have significant insurance value against extreme events*
 - *Methods should incorporate extreme scenarios (Monte Carlo)*
 - *Use real options analysis & game theory.*
- *Develop a benefits framework to measure the net benefits to various MPs*
 - *Net societal benefits*
 - *Net MP benefits*
 - *Net ISO ratepayer benefits*
- *The fundamental value proposition for the planning process is to efficiently allow substitution of (1) information, (2) system optimization and (3) matching services to customer preferences for putting more steel in the ground...(1), (2) and (3) are all potential results from an efficient market.*

Dominant RTO business model...

● RTO business models.

● PJM, ISO-NE, and NYISO...

- The “Mega Utility” model, i.e. the “utilities utility”. RTOs simply replace the existing utilities. Presumably these merge at some point or, through Joint and Common Market Initiatives, they functionally converge.

- ***HOW IS THIS OUTCOME BENEFICIAL FOR ANYBODY OTHER THAN AN RTO?***

- ***UNRESPONSIVE MONOLITHIC ELECTRIC MONOPOLIES.***

● High risk in the long run.

- RTOs are tied to a particular state of technology (i.e. centralized commitment and dispatch). Distributed generation and true demand side involvement directly undermine the basis for an RTO.

- The response to date has been to force DSM to behave like a generator!

● RTOs cease to be the change agent rather they become the incumbent...***a bad outcome for markets!***

Concluding remarks

- MISO's primary value proposition is regional optimization and information transparency. We accomplish this through four definable business units.
 - How are these activities compatible, i.e. similar software, same experience, same data, etc...and how are they not?
- As a company MISO has been a change agent and is now an operator.
 - Inherently different businesses with potentially different customers.
- Our success is directly tied to the efficiency of the market.
 - We need to be able to define and articulate the efficiency of the market...because not everybody will be a winner...and that is why we absolutely need State regulators!
- Current strategic plan?