

MISO Advisory Committee

February 20, 2013

Hot Topic: Coordinated Regional Resource Assessment

Organization of MISO States (OMS) Response for the State Regulatory Authorities Sector

Utility regulatory authorities are charged with ensuring that electric utilities provide service in a safe and reliable manner. Resource regulatory authorities in the MISO region have several models to conduct their responsibilities. Some are more structured under a legislative charge, others use an assessment style, and one has a competitive market structure. Most of the MISO states (including the regulatory jurisdictions within the Entergy region) have retained authority over generation and demand side resources, and therefore, MISO's role in transmission planning is impacted by state utility regulatory decisions on these matters. In such states, individual utility resource actions are made within the broader context of a utility's and/or the state's long term resource planning processes. Many of the states have statutes and regulations establishing objectives and required methodologies concerning resource planning and resource actions. The primary purpose of such laws and processes is to assure that individual utility resource actions are necessary and prudent within the broader context of long range needs and costs, reflecting consideration of a wide range of resource alternatives and the risks and uncertainties inherent in making decisions about long term resource investments. State energy policies and economic development goals may also play a role. The goal of this structure is to provide information and analysis necessary to enable utilities and regulators to make sound decisions regarding large investments funded by ratepayers. It is a core function of our public interest obligation.

1. What are the limitations of the current planning processes for integrated planning (IRP) for transmission, generation and/or demand side management (DSM) solutions?

As the electric industry structure has evolved over the last few decades, particularly with the implementation of RTOs, utility functions have been dispersed among more and different types of entities making it more difficult to develop representative planning assumptions and to integrate quality information needed to conduct future system planning. In addition, the scope and scale of planning has greatly expanded as the nation seeks to optimize the use of its energy resources. In some regards, these developments make the output of the comprehensive planning processes potentially much more valuable. However, they also make future planning more difficult and more complicated, with much more coordination required among new entities, changing jurisdictional and non-jurisdictional entities, and states with various regulatory structures, to make sure that the best resource planning mix can proceed to implementation.

The major limitation of current planning processes for future resources is that any individual entity, state or RTO planning processes done over varying periods of time using different methodologies are limited in scope to that entity's responsibilities and structures and are not yet, or rarely, coordinated among multiple states, other entities, utilities, or RTOs in a region. There is no current forum for regional forward planning that includes or integrates all entities and all planning functions: transmission, generation, demand side (DSM) and supply side management solutions, resource adequacy, and resource siting. Perhaps, there needn't be. While continuing to respect legitimate lines of jurisdictional authority, there are likely to be ways to better facilitate the respective entities' different responsibilities and authorities over different industry elements to produce better separate plans. In the final analysis, coordination of such plans may come closer to mirroring plans which would be produced through any single integrated regional approach.

Entity-level transmission planning is primarily done by transmission owners: some in MISO are functionally or independently separate, the majority is vertically integrated. MISO's top down/bottom up planning depends on an open and transparent stakeholder transmission planning process to incorporate, consolidate, and optimize their transmission plans. FERC has directed that states have an increased role in the transmission planning process.

The RTO, as FERC required, has "ultimate responsibility for both transmission planning and expansion within its region that will enable it to provide efficient, reliable and non-discriminatory service and coordinate such efforts with the appropriate state authorities." (Order 2000 at 485). However, RTO membership is voluntary. RTO members can come and go, and as they do, the markets and state and regional planning are affected. MISO often states its continuing goal of reliable delivery at the lowest cost. The OMS believes this is the right goal.

Line siting, retail rate recovery of costs, reliability, just and reasonable retail rates, the stock of resources that make up the capacity of the MISO footprint, and generation and transmission siting are typically in the legal purview of the states. So an RTO's objectives will always be subject to the resource mix that exists due to state utility and regulatory decisions. States may use other tools for resource procurement, and may consider other factors, such as economic development, when approving new resources. State policy makers do not always make decisions from a purely economic or regional viewpoint within the confines of the electric industry. Due to state generation mandates or requirements, future resource planning needs to be developed with a degree of flexibility simply because the planning process has difficulty incorporating generation decisions in the outer years of the planning timeframe. Known generation plans should be incorporated in forward resource planning, to the extent they are not already, and the range of options could be specified using those boundaries. Notwithstanding, it may be fruitful for MISO and stakeholders to perform integration studies both with and without individual state determinations. Such comparative studies could inform future transmission and resource planning decisions and perhaps lead to an alignment of

planning goals. State policy decisions could be informed and enhanced by awareness of wider economic and regional implications raised in an RTO transmission planning process.

OMS believes that, because of the states' responsibility with respect to resource adequacy and because of their role in interpreting, implementing, and, in some cases, developing state public policy initiatives, state commissions may be in a unique position to assist MISO in performing its transmission planning function and help MISO develop quality transmission plans that can best satisfy future public convenience and necessity and the public interest. For example, to the extent applicable and binding, state integrated resource plans or energy plans might be interpreted as expressions of state public policy, similar to the way a state RPS requirement or energy efficiency standard might be treated in the planning process directed by FERC in Order 1000.

In crafting a solution to effective regional planning, any process must be careful to respect the legitimacy of each entity's jurisdiction and legal responsibilities over some areas. For example, MISO can, and has very helpfully, assisted the states in performing their resource adequacy responsibilities and reconciling varying load forecasts. OMS hopes that MISO will continue to accommodate the states in that regard.

The location of existing transmission infrastructure and the placement of future transmission infrastructure are key elements affecting the economics of existing supply-side and demand-side resources and affecting the economics of and market entry decisions of future supply-side and demand-side resources. MISO's transmission planning function directly affects the investment in future transmission infrastructure. So, MISO's decisions regarding future transmission infrastructure directly impact state commissions' options with respect to meeting future resource adequacy needs, and vice-versa.

Even though states continue to retain authority over resource procurement, the OMS recognizes that there are substantial benefits with MISO membership for their jurisdictional utilities. The regional transmission system coupled with energy markets easily enables utilities to purchase energy and capacity from outside their service territories and states. Broader regional markets enhance the ability of multiple utilities to join in larger projects. Energy and operating reserve market information serves as a very important input to the resource procurement decision. The resulting mix of resources from utilities in an RTO will be different than if each utility planned a resource mix to meet only its own needs.

Conclusion

To produce a transmission expansion plan, MISO must have information or make assumptions about numerous longer term inputs such as future generation retirements, new generation development and location, load forecasts, demand response programs, etc. The better information MISO can obtain about these inputs or the better

assumptions that MISO can make about them, the better will be the transmission expansion plan that MISO produces. Specifically, the better information MISO has about the inputs into the transmission planning process, the better MISO will be able to accomplish the goals FERC set forth in Order 2000 — “efficient, reliable and non-discriminatory service.” State commissions are in a position to provide unique insights into these transmission planning input assumptions and the reasonableness of the assumptions MISO makes in this regard. Asset owners are in a position to provide their unique inputs and expertise for the planning of their resources.

Electricity consumers have an interest in MISO producing better transmission plans. By better, OMS means better from a societal or public interest perspective — not from the perspective of any particular market participant. Because MISO must produce a transmission expansion plan, and because the type of inputs described above are necessary for MISO to perform that function, state regulators have considerable incentive to assist MISO’s discovery or development of the best information possible regarding transmission expansion planning inputs. Beyond that, Order 2000 requires MISO to conduct its transmission expansion planning function in coordination with “the appropriate state authorities.”

So, as is often the case, a cooperative relationship among MISO, the state commissions, and asset owners is most likely to enable all sides to perform their respective responsibilities and produce their respective plans in a way that is more likely to accomplish the interest of the public. That is the relationship OMS aspires to foster for regional forward resource planning.

2. How should traditional resource planning (DSM, generation, transmission planning) processes be enhanced given the regionalization of the transmission grid? What regional data and tools are needed?

Much of the data and information that MISO needs as inputs into its transmission expansion planning process comes from the conduct and outcome of MISO’s resource adequacy program. MISO can look to that program for such information as load forecasts, generation capacity, demand response programs, etc. However, by its nature, MISO’s resource adequacy program is relatively short term compared to the planning horizon of transmission and other asset owners, and the states. For transmission planning purposes, which have a much longer future modeling timeframe, MISO would need to make extrapolations from the short-term data and information acquired through conducting its resource adequacy program or get consolidated information on longer-term inputs for resource planning through the states. One might ask whether modifying MISO’s resource adequacy program in order to produce more or better data and information which could be used as inputs into MISO’s transmission planning process would be the best course of action or are there better and less

disruptive ways of obtaining the level and quality of data and information that MISO would use as inputs into its transmission expansion planning process?

OMS is not averse to useful modifications to MISO's resource adequacy program, provided that those modifications respect state authority and are taken with the purpose of serving the public interest. For example, voluntary capacity auctions can continue to provide price information for meeting relatively shorter term resource adequacy requirements. However, there are limits to the efficacy of modifications to MISO's resource adequacy program in this regard. For example, there is no reasonable way of requiring the forward commitment term to extend as far out into the future as MISO must take into account in its transmission planning function. The potential effects of EPA rules require looking out at least five to ten years, well beyond that required by any resource adequacy construct. Accordingly, the OMS would suggest that a more efficient and effective way to improve the quality of the data and assumptions that MISO needs as inputs into its transmission planning process would be for MISO to work more closely with the state commissions which already have unique insights into these matters and work with other entities involved in resource planning. OMS can act as the vehicle through which the state commissions aggregate and may provide advice, data, and insights with respect to future demand-side and supply side resources, as well as other transmission planning inputs like anticipated generation, load, and price information.

Some ideas for discussion on where to change the planning process include:

- Modify the planning meeting forums early for a more comprehensive analysis of the energy "future scenarios" The content could include: information from such exercises used in the EIPC work with the North American Electricity and Environment Model (NEEM), more rigorous cross variable analysis, and other economic and demographic information.
- Expand LOLE analysis on inter-regional assumptions and capability.
- Continue to assess the various risks associated with the EPA compliance plans of generation owners.
- OMS aggregation of existing resource planning and energy assessments done by the states to be used by MISO. The aggregation would not be considered a binding commitment.

3. What planning-related roles does your sector envision for each of the various parties (i.e., states, MISO, regulated utilities, non-regulated utilities, resource owners/developers, consumers and other market participants)?

Who should be responsible for determining:

- a. Forecasting/modeling assumptions (including load forecasting, behind-the-meter generation forecasting and demand response forecasting)?
- b. The need for new resources and the MW quantity needed?
- c. The type of new resource (Combustion Turbine, Combined Cycle, Demand Response, etc.)?
- d. The location of a new resource?
- e. The timing for any new resource to be put in service?
- f. Whether a supply or Demand Side resource can be used as a substitute for transmission?

Answers in a table on the next page.

3. The major planning roles illustrated here are envisioned to remain essentially the same in the near term years. The OMS response to Topic #2 shows how the existing processes might be improved. The OMS responses in Topic #4 indicate where major planning techniques could change in the future.

	States	MISO	Regulated utilities (LSE with gen. TO, & indep. TOs)	Non-Regulated Utilities (LSE, coops, munis)	Resource owners /developers (IPPs, aggregators)	Consumers & other participants (citizen boards, environ.)
Forecasting/modeling assumptions (including load forecasting, behind-the-meter generation forecasting and demand response forecasting)?	Review forecasts in Rate Cases, integrated planning or assessments, and construction permitting	Coordinates combined forecasts for models and future scenario studies	Primary forecast entity	Primary forecast entity	None – no load responsibility	Advise MISO and other sectors at planning meetings
The need for new resources and the MW quantity needed?	Usually sets or monitors the compliance level w/ various rules	Determines the overall, zonal, and LSE level of compliance	Determines specific detail of level of MW and site(s)	Determines specific detail of level of MW and site(s)	May offer alternatives to LSE, or system with MW and locations	Advise at planning meetings
The type of new resource (Combustion Turbine, Combined Cycle, Demand Response, etc.)?	Usually authorizes the cost and style by individual utility	May inform which resources could be of value at the regional level	Primary proposer of fuel/technology combination, or type of retail program for customer tariffs. Also determines demand side program retail tariffs	Primary proposer of fuel/technology combination Also determines demand side program retail tariffs	Primary proposer of fuel/technology combination. May offer consolidated demand side services	Advise at planning meetings. May offer alternative concepts for evaluation by responsible entity
The location of a new resource?	Usually final authority for construction permit – site specific	Indicates the transmission need based on proposed location(s). Also at the local zone or regional interface limits	Propose alternative locations for review	Propose locations for interconnection study	May offer different capacity at different sites	Advise at MISO level and at State review level which can be local
The timing for any new resource to be put in service?	Usually authorizes construction permit to match timing need	Provides regional needed level and year forward	Proposes plan for forward compliance of MW and MWh	Seeks local permits for a plan of compliance	Offers resources to LSE, or auction, or neighboring LSE or market	Advise at MISO on timing or at State hearings, or rate case recover

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Whether a supply or Demand Side resource can be used as a substitute for transmission?	May be able to have a preference on the magnitude tradeoff between the two functions	Ultimate reliability operator responsible for NERC compliance plan and daily operations	Propose the mix of supply side technology, demand side programs, and BTM generation	Propose the mix of supply side technology, demand side programs, and behind the meter generation	May offer unique site specific, local alternative solutions	Can advise at MISO meetings or at State docketed hearings

4. Focusing on the role you envision for MISO:

- a. What are the advantages / benefits that you see in MISO taking on this role?
- b. What are the disadvantages / risks that you see in MISO taking on this role?
- c. How do MISO's transmission planning obligations impact this role?

In the near term (next five years), focusing on improving the transmission expansion planning process would bring the greatest benefits per unit of effort expended. In the narratives above, the OMS provided several ways that MISO could improve its transmission expansion planning process to produce better transmission plans going forward. As described above, OMS and the state commissions are in a unique position to contribute to MISO's efforts to achieve improvements in the transmission planning process.

Because change in the energy industry never ends, MISO's functions and MISO's role cannot remain static. How MISO positions itself to address the future and MISO's strategic relationship with each industry sector must be constantly re-examined and re-evaluated by the MISO Board and MISO management and conducted in consultation with stakeholders and state regulators. Looking long term, and given the ongoing changes and evolution in the energy industry, the MISO Board, perhaps, could benefit from periodically teeing up issues on which the stakeholders and state regulators, collectively, consider and offer feedback on. For example, it would be perfectly legitimate to engage in a debate/discussion regarding such "big picture" and forward-looking issues as: methods for better identification of non-transmission solutions within the transmission planning process; inter-regional capacity access and transmission expansion; natural gas industry structural aspects for which the RTO model could inform solutions; load forecasting techniques; the pros and cons of modifying MISO's resource adequacy programs with the goal of obtaining more reliable data and information about supply-side and demand-side options for input into MISO's transmission expansion planning process; and organizational change driven by technological change.

The purpose of such stakeholder debate/discussion need not always be narrowly aimed at design of programs and other short-term fixes. There's a place for the "vision thing" in the RTO realm and the MISO Board would do well to try to jog the stakeholders into that mode of thinking more frequently. Scenario analysis is a useful tool for sketching out alternative possible visions of the future. OMS supports use of scenario analysis approaches. Scenario analyses need not always be directly used in positioning MISO into a particular future, but can be used to inform choices.