

MISO Advisory Committee
December 10, 2014
Hot Topic: Demand Response
Organization of MISO States (OMS) Response
For the State Regulatory Authorities Sector¹

I. Introduction

The Organization of MISO States (OMS) appreciates the opportunity to comment on demand response (DR) as a Hot Topic for the MISO Advisory Committee (AC) for a second time in 2014. DR was no doubt selected as a policy issue of high interest given the ruling of the United States Court of Appeals for the District of Columbia Circuit (the Court) to vacate Federal Energy Regulatory Commission (FERC) Order 745. This ruling has created uncertainty with regard to jurisdiction and future DR participation in MISO and other RTOs. The OMS expects that this AC Hot Topic debate may jumpstart more structured discussions on how this ruling will impact MISO markets and ultimately, lead to a more stable market environment for market participants (MP) using DR to meet their energy or capacity needs.

Other DR policy topics covered in this debate are also important, such as: 1) the appropriate capacity accreditation and validation of Load Modifying Resources (LMR), and 2) how DR can help support efficient market operations. MISO's Independent Market Monitor (IMM) has reiterated the recommendation to reexamine LMR accreditation, and the OMS would like to discuss this process with other MISO stakeholders in order to identify any valuable improvements that could be made. The OMS also believes there is room for improvement in the way that MISO processes the review of new DR programs that may not fit perfectly into current protocols, and discusses this below. Given the rapid development of new technologies and the complex regulatory environment that DR programs must face, the OMS believes a plan for enhanced MISO coordination and communications will help ensure efficient market operations.

State regulatory authorities in some states have extensive DR experience working with Load Serving Entities (LSE) and end-use customers within their respective states, although not every state within OMS is at the same level in terms of DR development, deployment, and sophistication². LSEs, under state oversight, have created DR programs like direct load control (DLC) of customers' air conditioning units, and interruptible load tariffs that give end-use customers credit on their bill if the LSE is allowed to interrupt service for purposes of emergencies. These programs are commonly referred to as "legacy programs" and have provided system benefits for many years. Working from this regulatory experience, the OMS developed DR principles in 2007³.

Whether it is a legacy program, or an innovative program that utilizes new technologies or pricing mechanisms, the OMS believes that DR should play an increasingly important role in the overall resource mix provided it is attractive to participating customers, reliable from a system operations perspective, and economic compared to other resource alternatives. State

¹ Louisiana, Manitoba, Mississippi, Texas, and the City of New Orleans abstained from these comments.

² It is prudent of MISO to keep in mind that not all of the 17 regulatory entities within OMS have completed their analysis of these issues or finalized policy positions. In fact, a lot of variability exists in this regard.

³ The OMS's DR Principles can be downloaded at:

<http://www.misostates.org/files/DRPrinciplesApproved8November2007.pdf>

regulatory authority engagement on these wholesale/retail market issues will help ensure that DR's value is realized by all retail customers, and that DR efforts by states and LSEs are effectively integrated with MISO's markets. Similarly, MISO's tariffs and business practices can play an important role in enabling (or stifling) DR participation, so it is essential that state regulatory authorities, MISO, and stakeholders work together on this important and complex topic.

II. OMS Responses to AC Hot Topic Questions

1. Demand resources help support efficient market operations:

a. Has MISO done enough to support fair and non-discriminatory treatment of demand resources across all MISO markets? What do you see as the potential for future DR in MISO markets?

In general, the OMS believes that MISO has done an adequate job of meeting FERC requirements for DR, while balancing stakeholder desires for sometimes conflicting market parameters. For example, before FERC Order 745, MISO worked with stakeholders to outline several options in order to determine fair pricing for cleared DR offers in the energy market. Despite differing views, MISO submitted a filing to FERC in October of 2009 that was most widely acceptable to stakeholders, including the OMS. This filing ensured that DR would not be subsidized without state regulatory approval, and that non-participating entities would not be allocated costs for which they did not benefit. Ultimately, FERC rejected the tariff filing that was derived through the MISO stakeholder process and issued Order 745 to set prices in MISO's energy market.

In terms of non-discriminatory treatment of DR, MISO should review new DR technologies and programs being developed by MPs, and work to address market barriers prohibiting participation. The OMS is aware of MPs implementing new technologies to directly control customer-owned electric water heaters in order to support grid reliability. MPs would like to develop programs to offer this DR in MISO's ancillary services market (ASM), however current MISO protocols, relating to metering and zonal boundaries, may be prohibiting participation. A thorough review of this program type has yet to occur at the MISO Demand Response Working Group (DRWG), and MISO staff has not reached out to state regulatory staff for purposes of update and status review. The OMS's recommendation on how to better follow state regulatory authority and address these market barrier issues is dealt with in response to the next question.

In order to meet FERC's vision for non-discriminatory treatment of demand resources, the OMS believes that MISO should focus on how these resources are modeled and considered as part of the transmission planning process. This is an area where states and MISO could work together. There is considerable energy waste – in terms of overall electricity consumption and opportunities to shift peak usage. Reducing this waste through cost-effective DR and energy efficiency programs could offset or delay the need for expensive capital upgrades, thereby saving customers. Yet under the current planning structure, it is often difficult for demand resources to be identified to address a specific system need *and* be placed under a satisfactory contractual commitment in order to be adequately considered by MISO as an alternative to a wires solution. This is particularly difficult if MPs do not stand to benefit directly from a demand-side

alternative and therefore, do not sponsor the alternative even though customers would be better off. If the reliability or other need were identified first and shared with stakeholders, it may provide a greater opportunity for alternatives to emerge and receive appropriate consideration. The OMS recognizes this may not be appropriate in every case but we suggest that more can and should be done in this area. In addition, as the OMS Regional Planning Work Group has stated previously, MISO could enhance the modeling of demand-side resources in the long-term MTEP futures. This will undoubtedly become more challenging in the coming years given the potential for increased customer engagement through emerging technologies such as energy management systems, energy storage, distributed generation, plug-in electric vehicles, etc. It is essential to start understanding potential opportunities and challenges as part of the long-range (20-year) planning analysis.

Regarding the potential for future DR in MISO markets, the OMS believes LSE legacy programs will continue to provide a backbone for DR participation within MISO, and that new technologies and program approaches may spur innovative programs if reviewed, approved, and implemented appropriately. Any new DR program will have aspects that may not easily fit within existing MISO DR protocols, in which case these protocols may need to be reexamined in order to determine adjustments that both maintain performance standards and flex to allow new participation. During this review process, it is essential that MISO recognizes applicable state jurisdiction, and engages relevant state regulatory authorities for purposes of awareness and oversight.

Given capacity constraints facing portions of the Midwest region over the next decade, some OMS states expect demand response to play an increasingly important role in meeting capacity needs. Expansion and design of DR programs would typically be examined and approved by state regulators through integrated resource planning, rate case, or other formal regulatory proceedings. Other states may engage stakeholders in a collaborative manner to review and identify improvements to existing state-approved DR tariffs, including communication and testing protocols as well as innovative program design and pricing that could expand current offerings in order to reduce peak demand.

b. How can MISO coordinate with the OMS and participants to better position retail demand response programs to align these programs for qualification in MISO's markets?

MISO should be fully aware of state regulatory authorities that exist for each state within its operational footprint. Differences among these states include the status of retail choice, the level of vertical integration of utility services, and nuances with regards to regulatory oversight of investor-owned, municipal and cooperatively-owned utilities. In relation to DR in particular, some states have actively prohibited participation of Aggregators of Retail Customers (ARC) within their respective borders, while others have not. In order for various DR programs to qualify for MISO market participation, MPs need to ensure compliance with MISO's tariff provisions as well as the state-specific retail tariffs and other requirements. Conflicts could arise that could be costly for LSEs if DR programs are not counted by MISO (and replacement capacity is needed) or MISO's requirements related to notification, testing, etc. effectively make state-approved programs unworkable or unattractive for customers. It is important to remember that participation in DR is voluntary by design. While participating (and all) customers can

benefit from rate discounts, rebates, or other incentives, the requirements such as the form and timing of notification, testing requirements, measurement and verification, reporting, and limits on number of occurrences need to be workable for customers. Given that different types of customers are able to respond differently depending on existence of Behind the Meter Generation (BTMG), characteristics of industrial processes, economic considerations, seasonality, and control and communication technologies, there may be the need to further segment the retail/wholesale products. MISO's awareness of state-approved provisions and its input on the design of state tariffs on the front end could be helpful to ensure its goals related to reliability and market efficiency are considered while at the same time increase MISO's awareness of the opportunities and limitations of MPs and end-use customers in delivering DR. For example, if MISO sought to improve the transparency and granularity of DR resources (e.g., locations, size, and terms such as seasonal capabilities and maximum number of curtailments) to better enable MISO to use DR for emergency operations, such issues could be discussed in the context of retail program design.

To address the example of market barriers mentioned above, MISO management should develop a consistent review process for new DR programs, and implement a stakeholder communications plan, coordinating with relevant state regulatory authorities in particular, as well as the OMS. Since additional state regulatory standards and oversight may be required in the states where these new DR programs or resources are located, MISO should prioritize communications with the MPs developing these programs, as well as with relevant state regulators who must be aware of their development. Establishing a DR point person at each state regulatory authority, and regularly engaging these state staff within its communications plan will help ensure programs are in alignment with MISO market protocols as well as state regulations.

Occasional DR forums may also be needed to follow and understand new technologies, laws, and initiatives. Forums would provide the opportunity for MPs and other sectors to discuss new program details in person, and create an opportunity for MISO staff to convene meetings with state staff on particular regulatory issues that arise.

c. What are the top three demand resource issues that should be addressed?

The OMS submits five DR issues below that should be addressed.

Jurisdiction

When the Court vacated FERC Order 745, many questions arose across the electric sector; chief among them were pertaining to jurisdiction. Prior to issuance of Order 745, the OMS supported an energy market price of Locational Marginal Pricing (LMP) minus the marginal foregone retail rate (MFRR). The MFRR is a retail rate component that the OMS argues relevant state regulators have the authority to set. FERC ignored state regulatory authority to set this retail component, and this was one of the primary reasons Order 745 was vacated. If the Court ruling is upheld, stakeholders will likely want to revisit energy market pricing assigned to DR participation on the supply side, and discuss jurisdictional issues relating to individual state authority, such as the process to set the MFRR where states do not set retail rates. Jurisdictional issues relating to capacity and the ASM may also need to be discussed.

Pricing for DR participation

Along with jurisdictional issues that arise from the vacating of Order 745, questions pertaining to appropriate DR compensation within MISO markets have also arisen. While this AC Hot Topic discussion will offer sectors the opportunity to respond to DR compensation in a post-745 world, this dialog will also need to continue in the appropriate venues of the DRWG and the Markets Subcommittee (MSC). Beyond revisiting DR compensation in the energy market, perhaps compensation within MISO's ASM should be revisited as well.

Discount for LMRs

Given the ongoing IMM recommendation to review and perhaps discount LMR capacity credit, this discussion should be prioritized and continued in the appropriate MISO venues, such as the DRWG, the Supply Adequacy Working Group (SAWG), and the MSC. This will help ensure that the IMM recommendation is fully addressed, and any proposals for changes are fully vetted by the stakeholders. Absent new information, the OMS is very concerned with the IMM recommendation to discount DR resources based on a limited event many years ago. The OMS recognizes that some legacy programs may need enhancement in terms of testing or notification protocols – but that enhancement discussion should be the focus, not indiscriminately discounting the capacity value of this resource type.

Supply side versus demand side

Currently, within the MISO energy market, LSE DR programs have the option to participate on either the demand side (reducing load forecast and avoiding costs) or the supply side (offering the reduction in the market and receiving payment), however most of that participation is likely occurring on the demand side. Where direct ARC participation is not prohibited within MISO, the ARC has to offer on the supply side because it doesn't serve load. For capacity market participation, MISO has been transitioning LSE DR programs to move all qualifying LMR capacity to the supply side.

Meanwhile, PJM is putting together a proposal to move DR to the demand side in their energy and capacity markets in light of Order 745 being struck down (they note that ancillary services may be different as a transmission balancing product, and therefore may need to remain on the supply side). MISO should work with its stakeholders to address this "supply side versus demand side" DR issue as it pertains to each MISO market, and realize that states may hold differing views on this subject. Discussion of how LSE legacy programs would be affected by any moves should also be addressed if this issue is taken up.

New DR program review process

As stated previously, MISO should develop a process to review aspects of new DR programs given market barriers and the complexity of MISO protocols and individual state standards and regulatory oversight. Communications will be essential during this review, and therefore a plan to coordinate across sectors will also need to be set to ensure consistency and appropriate review. MISO will need to regularly engage MPs that are developing the new programs, state regulatory authorities where the DR will be located, and MISO working groups that can provide a multi-sector review for new MISO proposals.

2. Post FERC Order 745:

a. Should MISO and the stakeholder community do anything before the Court's final mandate is issued and FERC provides guidance to the RTOs/ISOs? What actions or guidance should the states consider?

Regardless of FERC Order 745 (745), DR will continue to have an important role within MISO markets. Hopefully legal clarity will soon be achieved with regards to 745, and therefore the OMS believes that MISO should begin to formally discuss with stakeholders what a post-745 world will look like within MISO markets. Even if 745 were to be upheld, an initial stakeholder review of a post-745 environment would bear value in its review and comparison of status quo operations.

These formal discussions with stakeholders should include: 1) a review of other ISO/RTO policy development in reaction to 745 being struck down, as well as if those developments are applicable within MISO's markets and state jurisdictions; 2) a review of individual state DR policies and standards; and 3) a discussion of appropriate DR compensation that begins with the 719 filing, which MISO submitted to FERC before 745, that outlines the MISO stakeholder approved methodology for ARC compensation.

These multi-stakeholder discussions will then give states the opportunity to become more familiar with MISO status quo operations, DR policies that exist in other states, and stakeholder input so that states may review their own DR policies when appropriate.

b. Given the Court decision on 745, and in light of Order 719, what's the appropriate role of demand resources in MISO's markets? Address energy, operating reserves and capacity markets separately.

As stated in the introduction, the OMS has developed a "Statement of Principles for Demand Resources" that contains a list of values for DR, and includes: lower costs for safe and adequate electric service; reduced volatility in power prices; efficient maintenance in system reliability; diminished potential for generators to exert market power; and delayed or avoided new electric generation. In short, based on these values the OMS believes the appropriate role of DR continues to be helping keep system costs down (including energy, capacity, and other charges), while assuring the lights stay on.

The decision on FERC Order 745, while awaiting possible further legal action, has essentially put the OMS states back in the position they were in prior to the issuance of Order 745. This brings into question the role of states versus MISO and FERC in areas such as participation by ARCs, the overall role of DR in the energy, ancillary services, and capacity markets, and DR capacity accreditation requirements.

c. If demand resources can participate in MISO markets, what's the appropriate level of compensation for the various markets that DR participates and how should these costs be allocated?

The OMS's position on compensation and cost allocation of DR remains the same as it was before 745⁴. In relation to the energy market, compensation for DR should be LMP minus the MFRR. The MFRR is to be set by the relevant state regulatory authority, and should reflect the marginal cost of energy that would have been bought by the end-use customer if DR did not occur. A state could also view this differently if they would like to subsidize DR, in which case the state could choose to set the MFRR at zero, or even at a negative value. This method allows state regulators to establish a DR policy and enforce components of retail rates, sends an efficient price signal (participation makes sense when LMPs are higher than the retail rate), and is equitable (the end-use customer must purchase something before it can resell it in the market). Costs associated with payments made to demand resources for energy offers must be reconstituted by being allocated to the LSE that serves the end-use customer where the DR occurred. This makes the LSE indifferent (they still face LMP, but receive the retail rate), provides a beneficial option to the end-use customer when prices are high, and keeps individual MFRR state policy impacts within state borders.

Compensation for DR in the capacity market should follow this same principle. For example, many LSEs have legacy DR programs that implement state regulatory approved tariffs with their end-use customers who are willing to be interrupted under certain terms. These tariffs will establish a demand charge, as well as a demand or capacity credit for allowing interruption of service. These LSEs can then use the capacity represented by the load-reduction capability in MISO's resource adequacy construct.

If DR participation on the supply side of the capacity market is allowed going forward, and where ARCs are not prohibited by the state regulator, then end-use customers and ARCs should be allowed to buy and sell capacity associated with their load-reduction capability. In this case the LSE should have the ability to collect appropriate demand charges (as approved by the state regulatory authority), and the end-use customer should then have the ability to qualify as an LMR and sell their own qualified load-reduction capability as capacity to entities besides its own LSE.

Compensation for DR in the ASM should be further discussed and reviewed with MISO stakeholders, as this market may be unique when compared to energy and capacity markets.

⁴ OMS supported MISO's original 719 filing with regards to ARC compensation and cost allocation: <http://www.misostates.org/files/FERC/2009/OMSARCCComments091105.pdf>. Additionally, OMS followed up with another filing once FERC issued a Notice of Proposed Rulemaking to pay ARCs full LMP. In this filing, OMS fully articulated its argument that the appropriate compensation is LMP minus the MFRR, and that costs for these payments should be allocated to the LSE that serves the load where the DR occurred: <http://www.misostates.org/files/FERC/2010/OMSARCCCompensationCommentsRM10-17.pdf>.

3. Demand Response capacity credits

a. How concerned are you about the reliability of LMR-DR assets if and when they are called on to drop load during MISO emergency events?

The OMS has minimal concerns with regards to LMRs performing required load reductions when called upon during MISO emergency events. The OMS states take their responsibilities with regards to resource adequacy very seriously, desire high standards for all resources that qualify within MISO's resource adequacy construct, and believe a high standard for LMRs has been set through the MISO stakeholder process in establishing protocols.

In order to qualify for MISO's resource adequacy construct, traditional generators must submit required information to MISO in relation to Generation Verification Test Capacity (GVTC), and are subject to a forced outage rates that may decrease capacity credits. LMRs backed by generation, or with BTMG must meet similar standards as traditional generators. LMRs without generation, such as DLC and interruptible load, must meet standards that MISO stakeholders have developed to achieve comparability with resources associated with generation. Such LMRs must meet one of these four standard options: submit information that the LMR capacity qualifies under a state standard (if applicable); submit verification information developed by a qualified third-party auditor; submit sufficient historical performance data; or submit mock test data⁵.

The success of DR falls on more than just adherence to standards. Standards ensure that LMRs *can* curtail load when called upon, however they do not ensure that LMRs *will* curtail load. Additional confidence in DR may be gained by examining the effectiveness of incentives (or disincentives) facing those participating in DR at every level. For example, penalties have been established for LMRs that do not respond to MISO emergency events when called upon⁶. These penalties include exposure to LMPs during an emergency event (likely very high prices), as well as other charges and possible disqualification.

A review of some existing state-approved LSE interruptible tariffs suggests, however, that additional testing or verification requirements may be warranted to provide greater assurance of the availability of these resources. Some of these tariffs were developed before MISO existed and have been used infrequently. Thus, unanticipated challenges could emerge if these resources are curtailed more regularly. The OMS also believes that it is incumbent on LSEs to communicate with customers that are on these tariffs about the likelihood of future events and related preparation as we move into a more capacity constrained environment in the Midwest.

b. Can you identify more appropriate accreditation & validation protocols for crediting LMR-DR assets?

At present the OMS believes the protocols described above for LMRs are appropriate, however if stakeholders, MISO, or the IMM wish to present proposals for improvements, the OMS would be interested in reviewing these proposals and engaging in further discussion. The OMS is aware of monthly LMR drills that MISO staff has instigated, and hopes this process can be improved in order to create another element that adds value to LMR qualification protocols.

⁵ See section 4.2.8 in MISO's Resource Adequacy BPM

⁶ See section 6.4.2 in MISO's Resource Adequacy BPM

- c. Is the capacity credit granted by MISO for LMR-DR assets in Module E too generous? Should a discount factor be applied on LMR-DRs as suggested by the IMM to ensure sufficient resources are procured in the PRA to support resource adequacy objectives?**

The OMS believes that the capacity credit granted to LMRs is appropriate given the standards listed in the response to 3a above. The IMM recommendation to reexamine the capacity accreditation process for LMRs is based primarily on a single emergency event in the summer of 2006, well before requirements in the Business Practices Manuals (BPM) were developed to the extent they exist today. The IMM states that about half of the LMR capacity responded when called upon in 2006, and therefore the credit assigned to LMRs is too much. However, the OMS has yet to see a complete analysis of the event, and wonders to what extent LMRs were already deployed before the event was called due to economic actions of LSEs and/or local reliability challenges faced by Local Balancing Authorities. Further analyses of system-wide emergency response by LMRs are not available, as no events have occurred in MISO since 2006.

Rather than concentrate efforts discussing whether or not to apply a discount factor to LMRs, the OMS prefers to improve confidence that LMRs will in deed respond when called upon for future MISO emergency events. As stated previously, the OMS is open to discussing proposals that aim to improve protocols for notification, testing, and verification while maintaining the attractiveness of DR programs.