



MISO versus PJM- Different Markets for DR

Market structure and regulations in each regional transmission organization or independent system operator (RTO/ISO) territory can have a significant impact on the availability of demand response resources within that region. PJM, an RTO in the eastern US that manages members in deregulated states, administers a three-year forward capacity market to ensure that its territory has sufficient resources to meet demand. In contrast, MISO's members are largely vertically integrated utilities in regulated states, and responsibility for resource adequacy falls on the states. Payments from PJM's capacity market have historically encouraged significant levels of demand response investment. PJM's latest auction for 2017-2018 cleared 10,975 MW of DR, and PJM typically calls on these resources multiple times per year.¹ In contrast, MISO's auction for 2014-2015 cleared 5,750 MW of DR, but the large majority of this is designated for use only in emergencies.² As a result, MISO has rarely called on its DR resources.

Changes in regulations and market rules can accelerate development of demand response

The following are areas in which reforms would spur more innovation and development of demand response in the Midwest:

1. *Most DR in the Midwest is emergency-only:* MISO hasn't called on any demand response since 2006, largely because most DR in the region can only be deployed in a system emergency. As of 2014, these resources don't submit any cost parameters when registering with MISO. Having this cost parameter information would allow grid operators to make more economic decisions when dispatching DR next to emergency generation. This would help reduce overall system costs during emergencies.
2. *Lower MISO's minimum megawatt limit for resource participation in its markets:* As of 2014 MISO requires a resource to be at least 5 MW to participate in energy and ancillary services markets. This is a barrier for developers trying to aggregate small demand response resources to offer into MISO's markets. PJM's minimum limit of 100 kW has spurred much broader DR participation.
3. *Include other seasonal resources, such as potential sources for DR during the winter, in resource planning:* DR's ability to provide demand reductions varies seasonally depending on the type of program. For example, there is a significant amount of electric heating demand response in the Upper-Midwest that operates in the winter. MISO bases resource adequacy on a summer peak, not accounting for seasonal variation in resource availability, resulting in an undervaluing of the contributions that can be made by DR in the winter. This value was demonstrated when grid operators relied on DR during the 2014 winter polar vortex.
4. *Increase real-time visibility for DR with grid operators:* Many demand response resources in the Midwest are dispatched by utilities, but MISO has the ability to take control in an emergency. Increasing transparency and communication between MISO and utility operators regarding DR will give operators confidence that the DR they call upon will show up in an emergency.

Electricity Markets in the US: RTOs and ISOs

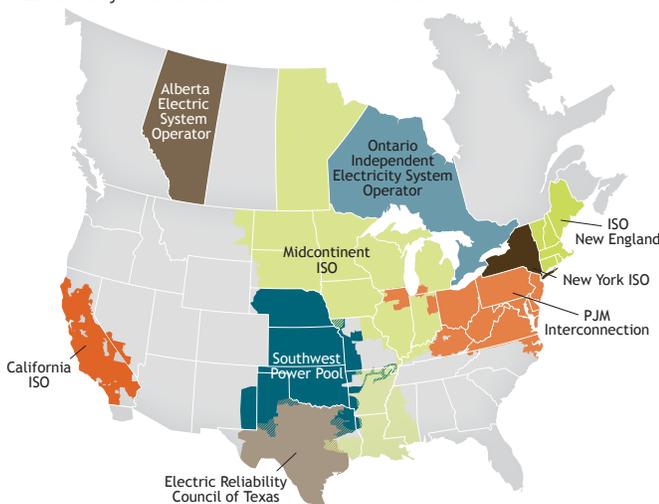


Image source: ISO/RTO Council

Sources

1. MISO, *2017/2018 PJM RPM Base Residual Auction Results*. <http://www.pjm.com/~media/markets-ops/rpm/rpm-auction-info/2017-2018-base-residual-auction-report.ashx>
2. MISO, *2014/2015 MISO Planning Resource Auction*. <https://www.misoenergy.org/Library/Repository/Report/Resource%20Adequacy/AuctionResults/2014-2015%20PRA%20Summary.pdf>

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