

Fostering Economic Demand Response in the Midwest ISO

Executive Summary

In a whitepaper written for the Midwest ISO, *The Brattle Group* examines alternatives for fostering economic demand response (DR) in energy markets. The whitepaper's near-term recommendation is for the Midwest ISO to enable the participation of curtailment service providers (CSPs) in its energy markets, as a bridge to a future in which the states enable the first-best approach to economic DR by widely implementing retail dynamic pricing rates. The whitepaper provides a two-year roadmap focused on: (1) establishing a customer baseline load (CBL) methodology, measurement and verification (M&V) protocols, and settlement changes to enable CSPs; and (2) engaging state commissions and utilities in discussing the benefits of demand response and dynamic pricing.

These recommendations are based on the following findings:

- Compared to other regional transmission organizations (RTOs), the Midwest ISO has a large amount of emergency DR but very little economic DR in its footprint. Having more economic DR could make energy markets more competitive and efficient.
- There are three basic approaches to economic DR: “no curves” in which customers respond to prices without actively participating in RTO markets; “demand curves” in which market participants submit price-responsive demand bids; and “supply curves” in which market participants offer load reductions as supply or “negawatts.” PJM, NYISO, and ISO-NE have relatively large amounts of economic DR, and much of it is provided by CSPs under the “supply curves” approach (that’s the only approach that works for CSPs because they do not own load).
- The Midwest ISO already enables the “no curves” and “demand curves” approaches, which are used very effectively by some market participants, most notably Wisconsin Public Service, but it does not fully enable the “supply curves” approach. This excludes CSPs and thus likely misses much of the economic DR potential in the Midwest ISO among states and utilities that have not yet implemented their own economic DR programs.

- For the Midwest ISO to fully enable the “supply curves” approach and welcome CSPs, it will have to establish a CBL methodology with M&V protocols and settlement systems so that participants can be paid like generators. These requirements introduce a number of difficulties and potential inefficiencies that are discussed in the whitepaper.
- In the long run, dynamic pricing at the retail level is the most efficient way of introducing economic demand response because it brings economic pricing signals all the way to the customer, and it can be integrated into energy markets under the “demand curves” approach, thus avoiding the CBL and M&V and settlement difficulties of the “supply curves” approach. However, retail rates can be changed only by the states. There is some indication that interest in dynamic pricing is increasing, although Midwestern states slightly lag behind the rest of the country in this regard. *Brattle* estimates that the maximum achievable potential for dynamic retail pricing-based DR in the Midwest ISO could reach seven percent of the system peak by 2027, which is slightly greater than the roughly six percent peak reduction that is currently being achieved through emergency DR that already exists in the Midwest ISO footprint.