

Demand Response

US Regulatory Framework

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J. Arnold Quinn

Director

Division of Economic and Technical Analysis

Office of Energy Policy and Innovation

Federal Energy Regulatory Commission



*The presenter's views do not necessarily represent the views
of the Federal Energy Regulatory Commission.*

Demand Response Participation in Wholesale Markets

- Demand response resources participate in wholesale markets as
 - Capacity resources
 - Non-capacity “emergency” demand response
 - Energy resources
 - Ancillary service resources, particularly synchronized reserves and frequency regulation
- Sources of demand response
 - Traditional utility demand response programs
 - Aggregators and curtailment service providers
 - Direct end-use customer participation

Capacity Market Resources

- The three system operators (PJM, New York ISO and ISO-New England) with capacity markets allow participation by demand response resources
 - By far the most significant source of revenue for demand response resources in these regions
 - Represent a meaningful proportion of all capacity (roughly 7% in PJM and ISO-New England 3% in New York ISO)
- Performance requirements differ by market and continue to evolve
 - ISO-New England: must offer into the energy markets
 - PJM: must submit offer prices, called during pre-emergency events; number of calls may be limited in number and duration
 - New York ISO: called during emergency events

“Emergency” Demand Response

- Non-capacity resources in New York ISO and Midcontinent ISO
- Called upon during emergency events, but have no obligation to respond
- To the extent they do respond paid
 - New York ISO: maximum of \$500/MWh or locational marginal price
 - Midcontinent ISO: greater of offer price or locational marginal price

Energy Market Resources

- Resources offer into energy market
- Every system operator with an economic demand response program must pay any demand response resource that is selected the locational marginal price
 - Premise for pricing decision: comparability with price paid to generators
 - Pricing only applies in “net benefit hours” when energy price exceeds some threshold
 - This regime was recently vacated by federal court (discussed below)
- Fairly low participation relative to capacity markets

Ancillary Service Resources

- System operator must allow demand response resources to participate in all ancillary services markets
- Notable participation as
 - Synchronized reserves in PJM
 - Frequency regulation resources in Midcontinent ISO
- Potential for growth in frequency regulation participation as a result of recent compensation reform to align performance and compensation

Recent Challenge to Demand Response in Wholesale Markets

- Commission's decision to pay energy market demand response full locational marginal price was vacated on appeal to federal court
 - Court found federal regulator did not have jurisdiction because demand response "entails direct regulation of the retail market – a matter exclusively within state control"
 - Also found that "the Commission has not adequately explained how their system results in just compensation"
- Commission is seeking rehearing of the decision