Demand Response
US Regulatory Framework

International Energy Agency
Electricity Security Advisory Panel
July 3, 2014

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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