

34th MADRI Working Group



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CES Overview

- Customized Energy Solutions (Customized) started as an electric energy consulting company in 1998 to provide wholesale market services to load interests
- Company has over 100 staff members located in Philadelphia (headquarters); Carmel, IN; Texas; New York; California; and India
- Customized Energy Solutions location in Philadelphia houses its 24 hour Market Operations Center (MOC).
- Customized serves over 350 different clients in a range of categories
- Customized is ***objective and independent***--not affiliated with any trading, marketing, distribution or transmission companies

Demand Response Approach

- **Facilitate Participation in Demand Response Programs**
- **Typical end use customer is over 100 kW of demand.**

Demand Response Approach

- **Provide customers with the option to NOT pay for products they don't want or need.**
 - **Energy**
 - **Capacity**
 - **Transmission**

Two Questions

- **Are customers able to avoid paying for or able to receive rebates for products from the ISO they don't want?**
- **Are customers able to receive payments on par with generators for products they can provide to the ISO?**

Energy

- **FERC 745's quick implementation in PJM provided an opportunity for customers to receive the spot market price for participating in energy markets.**
- **The Relative Root Mean Square Error Test for Customer Baselines (CBLs) provides a challenging but reasonable obstacle to participation.**

Energy Payment

- **The Net Benefits Test (NBT) threshold calculates a value above which economic DR provides an economic value to the market such that it should be paid full LMP.**
- **The NBT threshold has had a low of \$22.99/MWh and a high of \$34.93/MWh.**

Energy - Regulatory Challenges

- **PJM rules about what is and what is not a valid reduction are murky.**
- **Legal status of FERC order 745 still indefinite as is the status of revenue currently being paid out.**

Emergency Demand Response

- **In theory PJM capacity auctions allow demand resources to perform on an equal footing with generation.**
- **In practice continuous regulatory changes have made participation quite difficult.**

Regulatory Changes - Emergency

- From ILR to DR.
- Elimination of Guaranteed Load Drop.
- DR Plan Enhancements.
- From Limited to Limited, Summer Extended and Annual.
- Notification time changed from 2 Hours to 30 minutes.
- Minimum event duration changed from 2 hours to 1 hour.
- Numerous changes implemented after obligation were incurred.
- Remedy has been to keep participants whole for their auction participation.

Peak Load Management

- The emergency program provides a rebate on capacity.
- PLM allows a customer to avoid paying for capacity and possibly transmission.
- Regulatory changes increase attractiveness.
- Non-dispatchable.

Ancillary Services

- **Generally PJM has been fairly accommodating in facilitating Demand Response participation in ancillary service markets.**
 - **Reduction of min registration to 100 KW.**
 - **Allowance for submetering**
 - **Regulation only registration**
 - **Special regulation signal for batteries and other short duration resources.**



Customized Energy Solutions

Analyze · Simplify · Implement