

CAISO Proxy Demand

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FERC ORDERS ON CAISO DR

- *California Independent System Operator Corporation*, 128 FERC ¶ 61,184, August 25, 2009
 - FERC accepted Pilot Agreements enacting small-scale demand response pilot programs to explore the feasibility of aggregating certain smaller demand response resources and bidding them into the CAISO's day-ahead and real-time markets for ancillary services.
- *California Independent System Operator Corporation*, 129 FERC ¶ 61,157, November 19, 2009
 - FERC accepted the CAISO roadmap to compliance with the directives of Order No. 719, but the onus remains on the CAISO to timely file a fully compliant enhanced demand resource proposal. CAISO operates an existing "Participating Load Program" (PLP) and is developing a "Proxy Demand Resource" (PDR) product. The Participating Load Program treats a demand response resource analogously to a supply resource. The Proxy Demand Resource product will be a simplified mechanism for demand response resources to participate in CAISO markets.
- *California Independent System Operator Corporation*, 132 FERC ¶ 61,045, July 15, 2010
 - FERC accepted the CAISO proposal as compliant with Order No. 719, as related to ARC participation in the CAISO markets, subject to a compliance filing. The Proxy Demand Resource proposal reduces barriers to participation by allowing Demand Response Providers to submit bids on behalf of retail customers, subject to the CAISO's reasonable restrictions.

History

- FERC Order 719 provided necessary pressure on Stakeholders to take action
- Still Required a year of Stakeholder Negotiations
- California Public Utilities Commission (CPUC) also provided pressure
 - The CPUC and the CEC jointly developed the 2005 Energy Action Plan that set a goal of enrolling 5% of load in demand response programs. The utilities submit proposed DR programs every three years for approval by the CPUC.
 - In August 2009, the CPUC issued a decision adopting the IOU demand response programs for the current 2009 to 2011 program cycle.
 - The CPUC, through the IOUs, is investing significant financial resources into retail demand response programs. The total adopted budget for all three IOUs' demand response programs for 2009-2011 is \$336,324,491.
 - This decision included the requirement that the IOUs modify at least 10 MW of their demand response portfolios to participate as Proxy Demand Resources in the ISO market.

CALIFORNIA Nodal Market and DR

- CAISO implemented its new market, the Market Redesign and Technology Upgrade (MRTU), and new tariff on March 31, 2009.
- Under the initial release, Participating Loads were limited to non-spinning reserves and to real-time imbalance energy limited to the nonspin capacity reservation.
- Participating Loads must register and use a “load” resource and a “pseudo-generator” resource, both defined at Custom Load Aggregation Points (LAP).
- These limitations are proposed to be eliminated with the ISO’s Participating Load Refinements that are to be implemented in 2011.

CAISO's Proposal

- Originally Filed on February 16, 2010, in Docket ER10-765
 - A proxy demand resource is controlled by a demand response provider but participates in the ISO market through a scheduling coordinator.
 - A single demand response provider must represent each proxy demand resource, although a demand response provider may represent more than one proxy demand resource.
 - Each proxy demand resource is required to be associated with a single LSE. An LSE may be a demand response provider.
 - The scheduling coordinator that represents the LSE will schedule the demand for the end-use customers in the day-ahead market, while the scheduling coordinator representing the demand response provider will schedule and bid its proxy demand resources into the ISO market.
 - The scheduling coordinator submits schedules and bids for proxy demand resources at a pricing node ("PNode") using a "proxy generator".
 - ISO requires settlement quality meter data for proxy demand resources.
 - The cleared proxy demand resource schedule will be a supply contribution towards the load in the forward market, thereby reducing the RUC target.
- The ISO proposed to implement the proxy demand resource product on May 1, 2010.

FERC ORDER

- Under the CAISO's proposal, the cost of the Proxy Demand Resource program is borne largely by the LSE, which pays for metered load plus the demand reduction quantity.
 - we direct the CAISO to undertake a study to determine if the effects of demand response apply more broadly than to the individual load-serving entity in which the Proxy Demand Resource is located.
- FERC accepted the provision requiring a Demand Response Provider to certify that bilateral agreements between the Demand Response Provider and the LSE and any other agreements required by the CPUC have been fully executed

DURATION OF DR CALLS

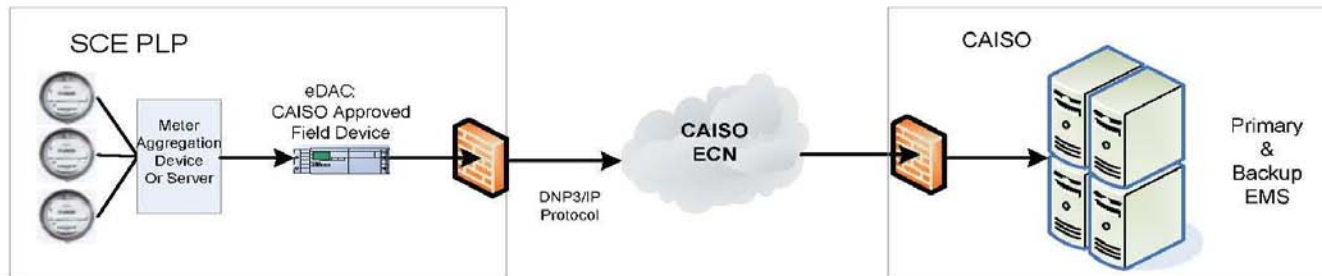
- Under the ISO's current tariff, a resource may receive an ancillary service award for one hour in the day-ahead market or hour-ahead scheduling process.
- In the real-time market, a resource may also receive an ancillary service award for fifteen-minute intervals for up to one hour to procure ancillary services.
- Proxy demand resources are energy limited resources, and stakeholders have agreed that these resources will primarily serve as contingency only reserves.
- In the event that a proxy demand resource bids and receives a non-contingency ancillary services award, the five-minute real-time dispatch process should not result in dispatches lasting longer than one hour.

CAISO Change to AS Requirements

- CAISO has undertaken a stakeholder initiative to modify its operating and technical requirements for ancillary services in order to facilitate further participation by non-generator resources.
- On July 12, 2010, the ISO submitted a proposed tariff modification resulting from this stakeholder process, including a proposal to reduce the continuous energy requirements for non-spinning reserves from two hours to 30 minutes. The current two-hour requirement is a legacy requirement given the operational characteristics of traditional generators.
- The ISO's proposed 30-minute time period meets the ISO requirement to recover from a contingency within 15 minutes and allows another 15 minutes for the real-time market to return to a normal state.
- Analysis of real-time contingency dispatch from April 2009 through September 2009 showed that all real-time contingency dispatch events during this period were resolved within 15 minutes.

SCE's Air Conditioner Load Pilot

- SCE's PLP project aggregated over 3,200 air-conditioning cycling devices at the Fort Irwin National Training Center, northeast of Barstow, California. When dispatched by the ISO, SCE was able to successfully turn-off, as an aggregated resource, for 10 to 20 minutes, resulting in a load reduction of 5 MW for that duration.



- SCE conveyed a proxy telemetered value to the ISO that was a statistically derived value of the population of air conditioning units based on a representative sample of A/C cycling units that had two-way communicating devices installed.
- Telemetry from the eDAC device to the ISO uses the Energy Communications Network (ECN), a private communications network established by the ISO.

SCE's Air Conditioner Load Pilot

- SCE modified its existing Demand Response Spinning Reserve Pilot (DRSRP) project to evaluate its capability to operate as a Participating Load, offering non-spinning reserves.
- The DRSRP was originally developed in 2006 to evaluate the potential for re-positioning air conditioning cycling to become a system reliability asset
- SCE's PLP project affirmed that small, aggregated loads, acting as a demand response resource, can provide fast and measureable demand response and are able to provide real time visibility to the ISO.
- The PLP Projects bid non-spinning reserves in the ISO market as contingency flagged resources. A contingency flagged resource is dispatched only in the event of a contingency on the grid.