

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE
STATE OF CALIFORNIA**

Order Instituting Rulemaking Regarding
Policies and Protocols for Demand Response,
Load Impact Estimates, Cost-Effectiveness
Methodologies, Megawatt Goals and
Alignment with California Independent System
Operator Market Design Protocols

Rulemaking 07-01-041
(January 25, 2007)

**COMMENTS OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR TO
ASSIGNED COMMISSIONER AND
ADMINISTRATIVE LAW JUDGE’S RULING
ESTABLISHING DIRECT PARTICIPATION PHASE AND
REQUESTING COMMENT RE: DIRECT PARTICIPATION OF RETAIL
DEMAND RESPONSE IN CAISO ELECTRICITY MARKETS**

The California Independent System Operator Corporation (ISO) submits the following comments on questions set forth in Appendix A to the Assigned Commissioner and Assigned Administrative Law Judge’s Ruling Amending Scoping Memo, Establishing a Direct Participation Phase of this Proceeding, and Requesting Comment on Direct Participation of Retail Demand Response in CAISO Electricity Markets dated November 9, 2009 (hereinafter “Direct Participation Scoping Ruling”)¹. The ISO’s comments follow the topic areas set forth in Appendix A.

A. State Laws, Decisions or Procedures that May Impede Retail Customers or Aggregators from Bidding Directly into CAISO Wholesale Markets

- **One Scheduling Coordinator per Customer Meter**

Appendix A states that “it has been suggested that to allow aggregators to represent retail load in the CAISO energy markets, the CAISO must remove tariff

¹The ISO is sometimes referred to as the CAISO. This document will carry over this naming style when referring to other documents that utilize CAISO, such as the Direct Participation Scoping Ruling or portions of the CAISO tariff.

language that prohibits more than one Scheduling Coordinator per customer meter.”²

The specific referenced language is found in the CAISO tariff in Section 4.5.1.1.3 [Duplicate Information]. This section of the CAISO tariff applies specifically to “CAISO Metered Entities.” A CAISO Metered Entity is generally an entity that is directly connected to the CAISO Controlled Grid, which is an uncommon form of interconnection for the majority of loads. The specific language in CAISO tariff Section 4.5.1.1.3 references *CAISO Metered Entities* and states as follows:

If two or more Scheduling Coordinators apply simultaneously to register with the CAISO for a single meter or Meter Point for a *CAISO Metered Entity* or if a Scheduling Coordinator applies to register with the CAISO for a meter or Meter Point for a *CAISO Metered Entity* for which a Scheduling Coordinator has already registered, the CAISO will return the application with an explanation that only one Scheduling Coordinator may register with the CAISO for the meter or Meter Point in question and that a Scheduling Coordinator has already registered or that more than one SC is attempting to register for that meter or Meter Point (emphasis added).

The CAISO is revising its tariff to accommodate Proxy Demand Resources and will specify, in support of the established policy for Proxy Demand Resources that Proxy Demand Resources are *Scheduling Coordinator Metered Entities (and not CAISO Metered Entities)*. The distinction is that the controllable load used to deliver demand response services under the Proxy Demand Resource product will be reported under a Scheduling Coordinator Metered Entity, even in the instance where the underlying load is directly connected to the CAISO Controlled Grid and is, therefore, a CAISO Metered Entity. As such, the ISO believes the prohibition against more than one Scheduling Coordinator per customer meter will be fully resolved with the revisions to the CAISO tariff the ISO intends to file with FERC to accommodate Proxy Demand Resources.

- **Dual Participation in CPUC Program and CAISO Market**

Dual participation wherein retail demand response program is configured so that it can be triggered both 1) through the CAISO market and 2) outside the CAISO market presents several challenges. The most obvious challenge is in the use of baselines.

² Appendix A, Pg.1

Baselines are typically used to measure demand response performance. If the utility and the ISO can trigger demand response events independently, this makes it more difficult to identify which days are “event days” for purposes of settlement. Coordinating event-day information and integrating this information into the separate settlement systems for the utility and for the ISO would be challenging, but these efforts would be absolutely necessary.

The CPUC asks whether a demand response resource should be permitted to participate in an IOU demand response program and also in the CAISO market when the resource is providing a different product (energy or capacity) to the IOU than it is providing to the ISO. This issue has arisen previously in this proceeding, and the ISO remains unclear as to what exactly this means when the CPUC draws a distinction between a resource providing “energy” and a resource providing “capacity.”

The ISO understands “capacity” to mean either 1) resource adequacy capacity (i.e. the underlying *obligation to offer* the resource into the wholesale market), or 2) capacity associated with the provision of ancillary services (i.e. an *actual bid* accepted in the day ahead or real-time market). From the discussion in Appendix A, the ISO interprets the CPUC to mean capacity in the context of *resource adequacy*. If this is the case, then the ISO does not understand how there could be dual participation of energy and resource adequacy capacity. Resource energy (unit output) and ancillary service capacity (the standby commitment, in the form of operating reserves) are counterparts of each other. Energy and resource adequacy capacity (an obligation to offer the resource into the ISO market) are not.

Resource adequacy capacity is a measure of ensuring that load serving entities acquire sufficient resources to reliably satisfy future forecasted demand. This is merely a requirement that the resource participate in the wholesale market, whether it sells the resource output to a buyer in a bilateral contract, or sells by tendering bids into the power pool which is the CAISO market. As such, “resource adequacy capacity” does not “participate” in a retail demand response program or in the CAISO markets. Rather, it is the *underlying energy* (the output of the resource) or *ancillary service capacity* (the standby commitment of a resource) that participates in a retail demand response program and in the CAISO market. All resource adequacy qualifying resources must be able to

deliver energy and, where possible, ancillary service capacity. Thus, the concept of “dual participation” in the context of providing energy and *resource adequacy* capacity is a non-sequitur, given that resource adequacy capacity must be able to translate into energy output and, where possible, ancillary service capacity.

Accordingly customer dual participation in programs that provide both energy and ancillary services is inappropriate. The core feature of ancillary service capacity is that it provides the grid operator the option *to dispatch the underlying energy behind the capacity*, when and where that energy is needed. This is not to say that a single retail demand response program should not provide both energy and ancillary service to the ISO. Rather, the concern is at the customer level—the portfolio of programs should not be configured so that a customer can enroll in an energy only program and simultaneously enroll in an ancillary service capacity program. By joining the ancillary services program, the customer commits the energy behind that capacity. If it now signs up for the energy only program, the customer now offers (a second time, to this second program) what it has previously committed to provide in the first program, when in fact, it has nothing more to contribute, and is getting paid to offer what it has already committed. Therefore, if a retail DR program were configured to participate in the ISO’s ancillary service market, but did not reserve the underlying energy associated with that capacity, then this program configuration would violate the spirit and intent of ancillary service capacity.

Furthermore, the concept of customer dual participation does not comport with the ISO’s Proxy Demand Resource product. The ISO anticipates that retail demand response programs will be configured so that they can translate into Proxy Demand Resources that are integrated into the ISO markets. An underpinning of ISO markets and operations is that *all resource types* are represented by a single Scheduling Coordinator; this includes Proxy Demand Resources. Furthermore, the underlying loads that make up a Proxy Demand Resource must be represented under a single Proxy Demand Resource ID, which is owned/operated through a particular Demand Response Provider that is represented by a Scheduling Coordinator that schedules, bids and settles that Proxy Demand Resource through the ISO. Thus, the concept of a particular end-use customer participating in different demand response programs, offering different demand response

products, while potentially relying on various actors, all behind a single revenue quality meter, is non-sequitur with ISO markets and operations.

Having said this, the ISO has not analyzed the concept of demand response resources that are comprised of end-use customers who are on retail dynamic rate schedules, like Critical Peak Pricing, that might participate as a demand resource in the wholesale market. In the ISO's opinion, that level of scrutiny is greater than has been undertaken in this Proceeding to date regarding alignment of IOU programs with ISO markets. Fundamentally, the ISO's desire is that IOU program alignment with ISO markets produce the outcome that the ISO reliably and dependably "gets what it pays for"; the ISO expects that, when dispatched, a demand response resource will deliver the requested quantity of energy, when and where it is needed. The ISO is concerned that, if the Direct Participation Phase of this proceeding scopes issues of "dual participation" this broadly, then this phase cannot be completed within the proposed schedule set forth in the Direct Participation Scoping Ruling, and intended completion of the phase by launch of the ISO Proxy Demand Resource Product.

B. Concerns with Communication and Settlement if Multiple Scheduling Coordinators per Meter are Permitted

- **Double Procurement in the Absence of Communication Protocols**

The CPUC raises the concern that:

[A] Load Serving Entity may purchase energy to meet expected customer demand, while the Demand Response provider sells that same customer's Demand Response load into the wholesale market. If the Load Serving Entity is not notified of the Demand Response provider's actions it will procure to meet the customer's full expected load rather than the reduced load reflecting the dispatch of Demand Response. This is double procurement.³

The ISO understands the CPUC's concern regarding this issue and this concern is directly related to the fundamental economic principle of demand response which is *a consumer cannot sell what it does not own*. In Dr. Larry Ruff's paper on the Economic Principles of Demand Response, he states:

³ Appendix A, Pg, 5.

A consumer who normally buys in a market can become a supplier in that market if it brings to or buys in the market more than it consumes. But a consumer must own everything it consumes itself plus everything it sells, and the only way it can get ownership of something is to produce it itself or buy it, ultimately from somebody who does produce it. Such simple but fundamental economic and commercial realities are often forgotten where DR is concerned.

...

Even if a consumer can prove conclusively that it would have consumed some specific quantity at some price, paying the consumer to reduce its consumption below that level without requiring that it either produce or buy what it sells is essentially paying twice for the same thing.⁴

Given this economic principle, it is imperative that this CPUC proceeding address this principle and resolve what the appropriate remuneration is between the load serving entity and the demand response provider for energy sold to the ISO in the form of load curtailments.

Confident that these remuneration concerns will be addressed in a commercial arrangement between the load serving entity and the demand response provider, the ISO believes that the CPUC need not be as concerned about the real-time communication protocols between the load serving entity and the demand response provider.

To this point, the ISO's Proxy Demand Resource product anticipates that this commercial arrangement is in place, and therefore, is structured so that load serving entities do not have to be particularly concerned about the actions of a demand response provider. The intent of the Proxy Demand Resource design was to enable the load serving entities to go about their business of forecasting and scheduling load and remain effectively unharmed by the actions of the demand response provider. To this end, the ISO subtracts the performance of the PDRs from the load-serving entities uninstructed load deviations in the ISO settlement process. Thus, any actions the load serving entity takes to alter its forward procurement in anticipation of load curtailments by demand response providers is another a form of arbitrage between the utilities forward procurement cost for energy and the ISO's real-time market clearing price.

⁴ Larry E. Ruff, PhD, "Economic Principles of Demand Response in Electricity," Prepared for the Edison Electric Institute, Oct. 2002, p. 19-20. The article can be found at http://www.hks.harvard.edu/hepg/Papers/Ruff_economic_principles_demand_response_eei_10-02.pdf.

C. Opportunities for Aggregators to Engage in Gaming Strategies and/or Receive Excessive Payments

- **Tariff Changes, Rules or Actions Being Considered to Address Possible Gaming in the Eastern Markets**

A group of PJM stakeholders proposed rules to mitigate gaming around the customer baseline and the dispatch of demand resources.⁵ The intent of the new rules was largely to prevent an escalating number of phantom curtailments tied to gaming the customer baseline. Details of the proposed rule changes and additions in PJMs are included in the presentation that was made at the PJM stakeholder event.⁶

The ISO dedicated a section in its Proxy Demand Resource proposal to design concerns. This section of the proposal outlines areas of concern around potential gaming and techniques to mitigate gaming, both proactively and reactively, including ISO recommendations to deal with these issues. These issues are outlined and can be reviewed in Section 4 of the ISO Draft Final Proposal for the Design of Proxy Demand Resource.⁷

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Respectfully submitted,

By: /s/ **Baldassaro “Bill” Di Capo**

Baldassaro “Bill” Di Capo, Esq., Counsel
CALIFORNIA INDEPENDENT SYSTEM
OPERATOR CORPORATION

151 Blue Ravine Road

Folsom, CA 95630

Tel. (916) 608-7157

Fax (916) 608-7222

E-mail bdicapo@caiso.com

⁵ Presentation given to PJM’s Market Implementation Committee titled *Preventing Gaming in the Demand Response Program* found on the PJM website at: <http://www.pjm.com/~media/committees-groups/committees/mic/20080130/20080130-item-02b9-preventing-gaming-in-the-dr-program.ashx>.

⁶ See link contained in the previous footnote.

⁷ The ISO’s Draft Final Proposal for the Design of Proxy Demand Resource can be found at <http://www.caiso.com/241d/241da56c5950.pdf>.

CERTIFICATE OF SERVICE

I hereby certify that on December 4, 2009 I served, on the Service List for Proceeding R.07-01-041, by electronic mail, a copy of the foregoing

COMMENTS OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR TO ASSIGNED COMMISSIONER AND ADMINISTRATIVE LAW JUDGE'S RULING ESTABLISHING DIRECT PARTICIPATION PHASE AND REQUESTING COMMENT RE: DIRECT PARTICIPATION OF RETAIL DEMAND RESPONSE IN CAISO ELECTRICITY MARKETS

Executed on December 4, 2009 at
Folsom, California

Anna Pascuzzo

Anna Pascuzzo,
An employee of the California
Independent System Operator