CAISO Design for Proxy Demand Resources (PDR)

Comments of EnergyConnect, Inc.

Questions regarding the following comments submitted on behalf of EnergyConnect should be directed to:

Jack Ellis, Resero Consulting	Rich Quattrini, EnergyConnect, Inc.
Phone: (650) 948-0938	Phone: (408) 370-3311 x-125
e-mail: jellis@resero.com	e-mail: rquattrini@energyconnectinc.com

EnergyConnect, Inc. is pleased to provide these comments on the CAISO's proposed design for a Proxy Demand Resource (PDR), and for direct participation by Curtailment Services Providers (CSPs) acting on behalf of retail electric customers. PDR functionality will allow Demand Response to participate in the CAISO's energy markets on a basis that is comparable to generation as required by FERC's Order 790, and it will set a proper foundation for Demand Response to participate in the CAISO's ancillary services markets as well. Done right, this should help the state of California meet its aggressive goals for transforming electricity into a more interactive market in which participation by electricity consumers helps the CAISO manage around the variable output of renewable energy supplies and imposes market discipline on electricity suppliers without requiring costly, complex administrative procedures that mask market signals and discourage robust competition. PDR can help ensure that Demand Response marketing and implementation efforts are directed at grid locations where it can provide the most benefit. Finally, by tying the operation of Demand Response to market incentives rather than "events" with artificial triggers, PDR can accelerate adoption of and Demand Response technologies that shift load away from the peak (e.g. storage) as well as technologies that simply reduce load.

Although EnergyConnect believes the CAISO's PDR design is on the right track, it is not complete enough to proceed to the implementation phase. One critical design element (settlement among LSEs, customers and CSPs) is missing, and proposals for two other elements (aggregated baselines and the combination of minimum offer prices and anti-gaming provisions) make the PDR functionality commercially impractical for customers and CSPs. We understand the CAISO's concerns about being drawn into the retail segment of the electricity business and being asked to do "just one more thing". Like many issues in this industry, Demand Response crosses market segment and jurisdictional boundaries, and it is not always easy to strictly observe those boundaries. In the following paragraphs, we will outline our concerns and propose alternatives that deal with the underlying issues while limiting the CAISO's direct involvement in matters related to retail electricity.

<u>LSE/Customer/CSP Settlement</u>

The CAISO's PDR design discusses cash flows between the CAISO and other parties (CSPs, customers, LSEs) in general terms but it does not discuss a likely exchange of cash flows among CSPs, LSEs and customers that must also take place. Under PDR, compensation at the applicable LMP for verified load reductions is paid directly to a CSP, which shares that compensation with its customers. LSEs have their day-ahead schedules adjusted to reflect these verified load curtailments so that they are not required to settle with the CAISO for uninstructed energy (UIE). From the CAISO's perspective, LSEs have paid CSPs for verified load reductions and the matter is closed. If LSEs agree with this treatment, then no further action by the CAISO is necessary.

However, EnergyConnect's experience in PJM, where it is the largest CSP in the economic demand response program, suggests that LSEs will want to receive at least some compensation for the retail revenues and UIE compensation they lose when customers curtail load and receive the day-ahead LMP as payment. Strictly speaking, this is a retail settlement problem that can and perhaps should be handled outside the CAISO's markets[1]. There are third parties that could manage the bookkeeping and funds flows, thereby allowing the CAISO to preserve its focus wholesale market activities and distance itself from retail market activities, and EnergyConnect would support engaging a third party to handle this task.

This means the rules by which payments from the CAISO for verified Demand Response are divided amongst CSPs and LSEs still need to be established. One way to accomplish this is via bilateral negotiations between CSPs and LSEs, but bilateral negotiations are time-consuming and will lead to a patchwork of arrangements that are unlikely to be equitable, consistent or satisfactory to CSPs, LSEs, consumer advocates or the CPUC. A better way, in our opinion, is to engage a neutral party that would facilitate discussions among CSPs and LSEs to arrive at a set of payment rules that all LSEs and all CSPs must abide by. Both the CPUC and the CAISO have demonstrated competence with multi-stakeholder efforts that attempt to achieve consensus and EnergyConnect would be happy to work with a representative from either agency to help steer the negotiations and encourage a quick resolution.

EnergyConnect's position is that the success of any PDR implementation and the CAISO's related initiative on Direct Participation depend on structuring equitable, commercially reasonable compensation for LSEs and putting in place a robust, fair mechanism for exchanging cash flows. The CAISO or the CPUC could play an important role by facilitating development of a standard contract and it would be perfectly acceptable for a third party, operating under rules established by the CAISO and/or the CPUC, to handle the cash exchanges.

Aggregated Baselines

The CAISO "proposes to determine performance versus baseline on an aggregate basis rather than by calculating each end-use customer's baseline versus actual and summing the results.[2]" We believe the CAISO has proposed this approach because it simplifies their task of measuring DR performance and allows them to avoid dealing with individual retail customers. PG&E and SCE specified these so-called aggregated baselines in the DR contracts they signed with aggregators, though for different reasons.

EnergyConnect's experience is that measuring the performance of the portfolio rather than measuring individual performance imposes a significant barrier to customer participation because it inappropriately ties each customer's compensation to the performance of the portfolio rather than allowing each customer to be compensated based on its own performance. A very large customer that cannot or will

[1] PJM does handle this retail settlement task itself.

[2] Final PDFR Proposal, page 14.

not perform on a given day could overwhelm perfect performance by many small customers in the same portfolio. We know from our marketing efforts and from our operating experience last summer under the existing IOU contracts that once customers understand their compensation for Demand Response could be negatively impacted by the performance of other customers over which they have no control, they either quickly lose interest in signing up, or they drop out.

Individual customer performance has to be measured using individual customer baselines or customers will refuse to participate. Moreover, measuring performance based on individual customer baselines is a more effective way of dealing with LECG's gaming concerns (see next section) than the CAISO's proposed remedies. Using customer baselines means customers have to have the ability to make individual curtailment offers, though these could be aggregated into larger groups by CSPs or third parties that handle certain information processing chores. Although the CAISO is in the best position to calculate customer baselines because it has all of the data in its meter data system (OMAR), this task could also be outsourced to a third party operating under contract to either the CAISO or the CSPs.

<u>Anti-Gaming Provisions</u>

The CAISO's proposal includes two provisions that address concerns raised by LECG[3]. Specifically, the CAISO has proposed setting both a limit on the number of hours that a PDR resource can clear the market and a floor on the PDR offer price. We believe LECG's concerns are unfounded and he CAISO's proposed mitigation measures are unnecessary for several reasons:

First, under the PDR proposal with our proposed modifications, DR performance would be assessed based on the historical consumption of individual retail loads rather than the maximum dispatch capability of a LSE. Whether by making inflated forward purchases, which few customers in California can, or by artificially increase their consumption to inflate baselines, the payoff in this purported game is highly uncertain and very risky. In order to influence the baseline, customers would have to substantially increase their electricity use over a period of many days, trading off the certainty of higher energy bills based on retail rates against the uncertainty around precisely when prices at their node would rise above the retail rate and for how long.

Second, the CAISO has consistently pointed out its need for Demand Response to help manage the supply variability associated with increasing amounts of renewable resources, particularly in the time scales associated with morning and afternoon ramps. It is unlikely that Demand Response used for this purpose will be limited to 200 hours per year, or an average of 4 hours per week. In fact, it is more likely that the CAISO could employ up to four hours of Demand Response for this purpose *each day*. The CAISO should be doing all it can to encourage as much Demand Response as it can reasonably obtain and use, particularly as customers increasingly purchase and use devices that can be made price responsive.

Third, resolving the CSP/customer/LSE settlement issue noted earlier will place an implicit floor on Demand Response offer prices. Customers are unlikely to offer less than their retail rate and, in fact, will likely demand quite a bit more. Without the ability to cost-effectively influence their baselines,

---

[3] Final Proposal, page 25.

customers won't be able to create a "money machine" by inflating their usage, submitting low offer prices to ensure that they are dispatched, and then collecting LMPs for essentially doing nothing.

Finally, customers will refuse to participate if the rules are too complicated or arcane. The proposed anti-gaming provisions create unnecessary complexity that will discourage customer participation and likely do more harm than good. While it's not impossible for customers to create a money machine, it is difficult, uncertain and unlikely. This is an instance where we cannot and should not allow perfection to be the enemy of the good.

Demand Response During Off-Peak Periods

Although PDR addresses the need for Demand Response during periods with high wholesale prices, it does not address instances where wholesale prices are extremely low, and in particular, when wholesale prices are at or below zero. Low or negative prices generally reflect conditions where there is as much or more must-take supply than there is demand. With the right market structure, certain customers could absorb these surpluses, which will become more commonplace as increasing amounts of off-peak wind energy are produced to comply with the State's 20% Renewable Procurement Standard (RPS). Although it may be premature to consider amendments that would extend PDR to provide more symmetric price response (customers acting on both low and high prices), we believe the CAISO will need flexibility from load in both the upward and downward directions in order to meet the operational challenges posed by increasing amounts of renewable resources.