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

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| 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) |

# SECOND RESPONSE OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION REGARDING REMAINING DIRECT PARTICIPATION ISSUES (PHASE IV, PART 2)

The California Independent System Operator Corporation (ISO) submits this second response to the direct participation issues as requested by the Administrative Law Judge in this proceeding.[1] The ISO provides specific responses, where appropriate, to the Commission's consumer protection and communication questions and outlines certain elements of a financial settlement straw proposal for consideration and discussion in the upcoming workshop. As previously stated in our initial response dated December 8, 2010, the ISO encourages the Commission to steadfastly resolve the remaining direct participation issues and to implement policies and procedures at the retail level that support the development of a healthy and sustainable competitive third-party demand response delivery paradigm.

## SPECIFIC RESPONSES

The following specific responses follow the numbering included in the Administrative Law Judge's ruling and consider the consumer protection, communication, and straw proposal issues calendared for December 13, 2010. The ISO looks forward to addressing these and other issues during the upcoming workshop, as appropriate.

[1] *Administrative Law Judge's Ruling Soliciting Responses on Remaining Direct Participation Issues (Phase IV, Part 2)*, Rulemaking 07-01-041, dated November 8, 2010.

**Consumer Protections**

**4) What methods could/should the CPUC use to implement consumer protection measures?**

**(c) Alternatively, can the CAISO's Scheduling Coordinator registration process be leveraged to provide benefits that would assist in the protection of retail customers?**

The ISO scheduling coordinator certification process ensures that interested parties can meet certain market and operational proficiency requirements and can schedule, bid, and settle loads and resources in the ISO wholesale market. To become a scheduling coordinator, a market participant must follow the certification procedures outlined in the ISO tariff and enter into the applicable *pro forma* agreements contained in the ISO tariff.[2] Completion of this process and entering into these agreements bind the market participant to the applicable terms and conditions of the ISO tariff.

Proxy demand resources are bid and settled in the ISO market through a certified scheduling coordinator. A demand response provider must therefore either itself be certified as a scheduling coordinator or it must hire the services of a certified scheduling coordinator to offer proxy demand resources in the wholesale electricity market. Before offering proxy demand resources in the ISO market, however, a demand response provider must also enter into a *pro forma* proxy demand resource agreement certifying to the ISO that its participation is authorized by the local regulatory authority and that it has satisfied all applicable rules and regulations established by the local regulatory authority.[3] This extends to the execution of any bilateral agreements between the demand response provider and the load serving entities that the local regulatory authority may require. As a result, the proxy demand resource agreement requires that appropriate relationships be

[2] *See* ISO Tariff, Section 4.5 (describing the responsibilities of a scheduling coordinator); and ISO Tariff, Appendix B.1 (setting forth the terms and conditions of the scheduling coordinator agreement).
[3] *See* ISO Tariff, Section 4.13 (describing the relationship between the ISO and demand response providers); and ISO Tariff, Appendix B.14 (setting forth the terms and conditions of the proxy demand resource agreement).

in place, as applicable, between the demand response provider and the load serving entity (whether this is established by bilateral agreement or rules and regulations of the local regulatory authority governing the relationship). The ISO, however, does not look further into the nature or adequacy of these arrangements since they are established and administered externally under applicable laws and regulations of the local regulatory authority, not by the ISO under its tariff. This approach is consistent with the understood and agreed upon principle that the local regulatory authority and the demand response provider are the appropriate entity to design and implement these requirements.

The ISO is not the appropriate entity to administer a process to protect direct participation customers. The wholesale market procedures and protections administered by the ISO by design expressly rely on the local regulatory authority to administer a process to protect these customers. This design and structure has been supported by the CPUC and preserves the CPUC's role in determining whether to adopt consumer protection policies for direct participation. While the ISO supports the Commission's consideration of these important issues, the ISO objects to any suggestion that its processes and procedures could be leveraged beyond what is already provided to assist in the protection of retail customers, at least directly. The ISO believes the requirements already included in the applicable ISO agreements are sufficient to bind the demand response provider to any consumer protection measures the Commission may adopt and that nothing more is required on behalf of the ISO.

**(d) What role, if any, do the IOUs have with a DRP registration process (either at the CPUC or with the CAISO's Scheduling Coordinator registration process, assuming that process could be leveraged)?**

The IOUs do not have a role in the ISO scheduling coordinator certification process. However, in signing the proxy demand resource agreement, the demand response provider certifies that is has met the requirement of the local regulatory authority, including that the demand response provider has sufficient contractual relationships with the end use customers, load serving entity, and utility distribution company, and meets any local regulatory authority's requirements, as applicable, prior to participating in the ISO markets.

In the ISO proxy demand resource registration process, the load serving entity and utility distribution company have the opportunity to review location information for a proxy demand resource registration requested by a demand response provider. Once the demand response provider has entered all information, it must submit the completed registration for approval by the ISO. As part of the submitted registration review process, the appropriate load serving entity and utility distribution company will have an opportunity to review and comment on the demand response provider's registration. The load serving entity and the utility distribution company have 10 business days to review the demand response provider's registration detail and provide comments. If during the registration review process, either the load serving entity or utility distribution company identifies registration details that are in error or omitted, they report those errors or omissions to the ISO with clarifying information within the review period.

The ISO performs a final registration review of the demand response provider's registration details, taking into account any comments received in the review process. If the ISO determines there is an error in the registration that must be corrected by the demand response provider, the registration will be denied by the ISO and returned to the demand response provider for correction and resubmission. However, beyond administration of its process as described above, the ISO firmly believes that it should have no further role in the registration process, particularly since this discussion is in the context what protections the CPUC should implement to protect retail consumers and the ISO process already contemplates these sorts of protections being applied outside of its process.

**Financial Settlement Straw Proposals**

**19) What would be the appropriate method of determining the amount one party would pay another party? Specify the formula that would calculate the amount.**

Demand response is generally considered a change in a consumer's electric usage from their normal consumption patterns in response to changes in the price of electricity over time, or to incentive payments designed to induce lower electricity use or when system reliability is jeopardized. Just as generator must procure fuel to produce and sell energy output, the equivalent "fuel source" for a demand resource that curtails load is the forward procurement of energy, which is then sold back as demand response, representing an explicit load reduction relative to the customer's normal consumption pattern. This is imputed demand response, where the amount of load curtailment is imputed from a baseline calculation using a customer's historical load data.

Under CPUC jurisdiction, an electricity customer that sells demand response directly or through a demand response provider would have procured energy to meet its "normal consumption" at 1) the retail rate as a bundled service customer, or 2) a contract rate for a direct access customer, but for the demand response. Thus, upholding the economic principle that one can sell only what one first owned, an electricity customer offering demand response services must pay for the energy it would have normally consumed, but for demand response. In other words, for imputed demand response, an electricity customer's total charges when it provides demand response services is the summation of what it consumed, charged at the full retail rate, plus what it would have consumed, but for demand response, charged at the generation portion of the retail rate, which can be illustrated as follows:

> A bundled service electricity customer's baseline results in the customer's normal consumption being 10 MWh. The meter data showed the customer consumed only 8 MWh. Thus 2 MWh of demand response is imputed to this customer. The customer participates directly in the ISO market as its own demand response

provider. The customer is paid the locational marginal price of $600 ($300/MWh x 2 MWh) by the ISO for its demand response. Under its bundled service, the customer pays the utility $1600 (8MWh x $200/MWh full retail rate) + $280 (2 MWh x $140/MWh energy component of the retail rate) for a total of $1880. The customer's net position is $1280 ($1880 payment to utility - $600 demand response payment). Without demand response, the customer would have paid $2000 (10 MWh x $20/MWh full retail rate). The customer's energy cost savings is $720 ($2000 - $1280).[4]

The ISO believes that it is the energy component of the retail rate that is the appropriate amount to subtract for bundled service customers. Electric service providers should similarly be compensated for the cost of energy procured but not consumed by the customer. This compensation construct is "LMP minus G" where the "G" represents the energy or generation portion of a utility's retail rate or the equivalent energy component in an electric service provider's contract with its customer.

Others parties to this proceeding may opine on the merits and appropriateness of incorporating other energy charge components into such a compensation construct, such as competition transition charges, nuclear decommissioning, etc., and whether or not a simplified average energy rate is most appropriate by rate class or must variances such as voltage class and time-of-use also factor into the "G" value. However, as a general principle, demand response represents energy not consumed, and unlike a generator, results in lower line losses, adds available transmission and distribution capacity, and can provide environmental benefits. As such, certain, more discretionary costs and simplifications should be weighed against potential benefits.

Where the demand response provider is not the load-serving entity, the load-serving entity is subject to undercollection or "missing money."[5] The recovery for the

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[4] This illustration only demonstrates potential energy cost savings. This example does not incorporate a potential capacity payment the customer might earn or lost opportunity costs.
[5] The demand response provider may be the customer participating directly in the wholesale market or the customer acting through a third-party demand response provider. Also, under the ISO proxy demand resource settlement construct, through application of the default load adjustment mechanism, a load serving

cost of energy procured but not consumed by its customer, may best assessed by the load-serving entity to its participating demand response customer since the recovery of money is in the load serving entity's interest and the cause (cost-causation) is the customer choice to offer demand response services.

Additionally, where the load serving entity is also the demand response provider, the CPUC should insist that all customers participating in the offering of demand response services pay a to-be-determined demand response energy charge to the load serving entity. In this way, there is parity between utility and third-party delivered demand response services, including the same rules and possibly the same information technology solution for the utility since all customers that offer demand response services are treated equally. In addition, the load serving entity already has a customer information and billing system in place to charge and collect from its customers, versus establishing a new mechanism to recover monies from a myriad of third-party demand response providers. Finally, in this scenario, the load serving entity recovers certain energy costs at the retail or contract rate, which represents a more accurate price; not at a wholesale energy price, which at best can only serve as a proxy for satisfying revenue that would normally be recovered through retail rates.

**20) If the financial settlement formula involves an energy price, specify the source of the energy price, including its (a) market (CAISO Energy, CAISO Ancillary Services, other), (b) time frame (day-ahead, hour-ahead, real-time), (c) averaging period or granularity (one hour, five minute), (d) geographic specificity (Default Load Aggregation Point (DLAP), CLAP, other geographic unit).**

Again, the ISO would argue that the missing money is fundamentally a retail rate concern. A customer would have paid its load serving entity for energy at the retail rate, under the customer's normal consumption pattern, but for demand response. Thus, the

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entity cannot recover "missing money" (energy procured but not consumed) through uninstructed energy payments from the ISO.

energy price should be the energy or generation component of the retail rate, which best represents the cost of energy procured but not consumed. The specific energy cost component is found in the retail rate tariff sheets.

As for ancillary services, it is worth noting that the retail missing money concern does not exist; it only exists when energy is delivered in the form of a load curtailment. There is no missing money concern associated with a retail customer offering ancillary service capacity, and in so doing, earning ancillary service capacity payments.

Ancillary services essentially represent a "call option." The ISO has the right to dispatch the energy behind the ancillary service capacity when needed. Conversely, the customer has the obligation to deliver the energy dispatched according to ISO requirements. Thus, in most hours, ancillary services payments are made to market participants for the right to call the energy, but no dispatch of energy is required and thus no "fuel" is burned. In other words, a demand response resource does not require the forward energy schedule to support the capacity obligation; rather, the forward schedule is required to support an anticipated energy dispatch. When energy behind ancillary services capacity is called, then this energy is subject to the missing money concern like any other energy dispatch. As a result, the ISO believes no explicit charge back or special accounting is needed relative to the provision of ancillary services and associated ancillary service capacity payments, but only for the provision of energy service.

**21) If the financial settlement formula involves an energy quantity, specify the precise method of determining that energy quantity, including: (a) baseline used, (b) source of meter data (CAISO, IOU, DRP), (c) averaging period or granularity (one hour, five minute), and (d) geographic specificity (DLAP, CLAP, other geographic unit).**

The answer to this question will require further discussion at the workshop and, if supported by the Commission as the ISO previously proposed, in a working group forum. As a general principle, the ISO would propose that the same baseline methodology the

ISO employs at a proxy demand resource level should also be used to allocate costs at the retail level. The challenge is at what level the costs are apportioned relative to a particular proxy demand resource – at the resource level, registration level, or down at the individual customer level.

The ISO has suggested allocating undercollection costs through a customer line item charge. This suggestion does not infer that the performance allocation, i.e. the billable quantity assessed to a customer, must be calculated at the individual customer level. Consideration of this question requires further discussion and potential simplification. The challenge associated with deriving performance at the individual customer level concerns certain actions (or inactions) by customers and the application of certain baseline rules, such as a morning-of adjustment factor, that can result in somewhat different results when applied individually versus in aggregate. In other words, the whole may not equate to the sum of the parts due to coincident and non-coincident effects of aggregate performance versus individual customer performance.

Again, the general principle should be that a customer's retail settlement should be performed relative to its associated proxy demand resource. This answers many of the questions the Commission poses; however, the level to which performance should be allocated to derive the customer's billable quantity and how to account for that as part of the retail rate requires further discussion.

**22) If the financial settlement formula involves a capacity or demand quantity, specify the precise method of determining that capacity quantity, including: (a) baseline used, (b) source of meter data (CAISO, IOU, DRP), (c) averaging period or granularity (one hour, five minute), and (d) geographic specificity (DLAP, CLAP, other geographic unit).**

A retail financial settlement mechanism does not need to account for capacity payments. The ISO believes the economic principles associated with load serving entity undercollection only apply when a demand response resource provides energy service, not during the provision of capacity service, as described above. Thus, no retail settlement is required between the customer or demand response provider and the load serving entity for the provision of capacity services.

**23) Should the financial settlement process take the form of CPUC-approved standard contract(s), tariffs, or some other vehicle? Be specific.**

The CPUC should consider a customer line item charge assessed by the load serving entity to customers that offer demand response services to the ISO either directly or through a utility or third-party demand response provider. Certain information exchanges between the load serving entity and a demand response provider may be required, and, as such, may require a pro forma agreement or non disclosure to ensure the timely production and exchange of data necessary for the load serving entity to settle with its customers that are offering demand response services. However, for reasons explained previously, the ISO proposes that the core financial settlement be between the load serving entity and its customers that are offering demand response services.

**24) What is the appropriate PDR settlement price, if one exists, that ensures:**

**(a) That the resulting total cost of energy is less than or equal to the total cost of energy in the absence of PDR or similar CAISO products?**

Assuming a fixed supply, lower demand should result in lower prices. However, even though demand response may cause the market to clear at a lower price, societal benefits may not be fully attained due to an inefficient market outcome. As discussed by the ISO in response to question #6 in its filing dated December 8, 2010, the objective of market efficiency is most important. Ideally, an efficient market outcome is achieved when customers purchase all the electricity they value above the locational marginal price and suppliers sell all electricity produced where their cost is below the locational marginal price. In other words, market efficiency is achieved when supply and demand are treated comparably and symmetrically. Market efficiency is not achieved if market incentives simply transfer wealth from the supply-side to the demand side, with no reduction in overall costs. Policies that would inefficiently increase demand response without, in effect, lowering the total supply-side and demand-side cost structure can result in increased costs to society. Thus, the ISO believes the question the Commission should pose is: "What is the appropriate PDR settlement price or settlement mechanism that ensures an efficient market outcome"?

The ISO believes the answer to this question is addressed in response to question #19 above. Fundamentally, the economic principle that applies to supply and demand resources equally is that one can sell only what one first owned. Thus, an electricity customer offering demand response services whose performance is determined by a baseline must pay for the energy that it would have normally consumed, but for demand response. In other words, for imputed demand response, an electricity customer's total charges when it provides demand response services is the summation of what it consumed, charged at the full retail rate, plus what it would have consumed, but for demand response, charged at the generation portion of the retail rate. The ISO believes this construct meets the economic principle of first owning what one sells and, importantly, provides for the equitable and comparable treatment between supply-side and demand-side resources, leading to the societal benefits the Commission seeks.

**(b) That DRPs, beyond the IOUs, will have sufficient financial incentives to provide DR in California?**

This issue extends beyond this proceeding, but the answer is fundamental to a competitive third-party demand response delivery paradigm developing and thriving in California. The ISO believes the financial concern, beyond energy rents, is the ability for a third-party demand response provider to have equal and direct access to resource adequacy capacity payments, like any other resource adequacy resource type. Without resource adequacy capacity payments, the ISO believes it will be very difficult for a competitive demand response delivery paradigm to develop in California, especially given a demand resource generally provides energy service for a minimal number of hours per year, limiting total energy rents. Additional value for direct participating demand resources must come from resource adequacy capacity payments and through long-term procurement mechanisms. To illustrate this point, consider the following example.

> A 1 MW (1,000 kW) demand resource successfully bids 50 hours per year, earning $500/MW ($0.50/kWh) for each of the 50 hours that it bid. Under this scenario, the demand response provider would earn $25/kW-Yr in energy rents, without consideration of the demand response provider's costs. Compare this to the potential capacity payments that can be made to a 1 MW peak load reduction base interruptible program participant that can earn $8.50/kW-month, or up to $102/kW-Yr, which is based on an avoided generation capacity cost.[6] A third-party demand response provider, through the competitive market, could not match this level of incentive payment while earning only $25/kW-yr in energy rents through the wholesale market.

Thus, the ISO would conclude that there are more significant structural and regulatory challenges to overcome before third-party demand response providers can likely compete and earn sufficient compensation to provide demand response services in California in a significant way. For instance, even if a third-party demand response provider had access to short-term resource adequacy capacity payments, the existing regulatory paradigm of valuing utility demand response programs on a long-term avoided generation cost means utility demand response programs can justify a higher capacity payment than what is likely justifiable based on resource adequacy value. The Commission should continue its efforts to assess longer term how to reduce or eliminate these sorts of barriers, including the competitive procurement of all demand response, to support the development of a healthy and sustainable competitive third-party demand response delivery paradigm.

[6] Per PG&E Electric Rate Schedule E-BIP found here: http://www.pge.com/tariffs/tm2/pdf/ELEC_SCHEDS_E-BIP.pdf

**25) What form of billing and payment procedure should be used for a financial settlement (i.e., electronic funds transfer outside of CAISO, standard inter-scheduling-coordinator (SC) trade, other)?**

Again, if a demand response energy charge is assessed as a customer line item charge by the load serving entity to its customers that offer demand response services, then a utility's customer information and billing system can be used for this purpose, recognizing some investment and configuration would be required.

**26) Over how many days should PDR transactions be netted and summed for rendering settlement bills? Within how many days after the end of a billing period should payment for the period's net PDR transactions be received?**

The ISO invoices wholesale market transactions semi-monthly, with initial daily settlement transactions posted for review seven business days after a particular trade date. Other settlement recalculations or true-ups occur at 38 and 76 business days after a trade date. Given the ISO position that proxy demand resource transactions should be settled between the load serving entity and its participating customers, the ISO suggests that netting and settlement be performed according to the load serving entities normal billing and payment cycle. Any true-ups due to recalculation could be handled like other wholesale market true-ups, to which others are more qualified to speak regarding wholesale-retail financial settlements.

## Communication Issues

The ISO has fairly extensive documentation, including training materials, available on its website describing the many aspects of proxy demand resources, from the process for registering new resources to how financial settlements are determined. The ISO will not recreate that same information here, but provides these links, which include:

- The ISO Proxy Demand Resource Full Market Training Module (http://www.caiso.com/275d/275d778249a30.pdf); and
- The Proxy Demand Resource Registration Module. (http://www.caiso.com/2746/2746d6fc2a180.pdf).

Both of these documents cover information important to all parties involved in the establishment and operation of proxy demand resources and include references to key technical documentation regarding proxy demand resources. The ISO will respond to specific questions regarding the interaction between its proxy demand resource program and any communication issues during the workshop and in further collaboration with CPUC staff to ensure any final rule is compatible with the existing structure and processes associated with the ISO's proxy demand resource.

**CONCLUSION**

The ISO appreciates the opportunity to provide these comments on this important phase of this proceeding and looks forward to discussing the questions and its positions further at the upcoming workshop.

Respectfully submitted,

**By: *<u>/s/ John C. Anders</u>***

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Dated: December 13, 2010

**CERTIFICATE OF SERVICE**

I hereby certify that on December 13, 2010 I served, on the Service List for Proceeding R.07-01-041, by electronic mail, a copy of the foregoing Second Comments of the California Independent System Operator Regarding Remaining Direct Participation Issues (Phase IV, Part 2).

Executed on December 13, 2010 at
Folsom, California

Anna Pascuzzo

Anna Pascuzzo,
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