

## INTRODUCTION TO SCE COMMENTS

SCE appreciates the opportunity to comment on California Demand Response: A Vision for the Future by the staff of the California Energy Commission, California Public Utilities Commission, and California Independent System Operator, Inc. SCE believes that the vision is a good start in achieving a fair retail energy market in California.

SCE's vision is that DR is an essential tool for linking supply resources with retail loads to create an efficient electricity market. SCE cannot have an efficient supply-side market standing all by itself without participation by our customers. A basic premise of economics is that markets reach an equilibrium price at a point where supply and demand are in balance. This is not occurring in SCE's electricity markets today, since SCE's retail markets are completely divorced from what happens in the wholesale markets--retail prices don't reflect hourly market prices, and electricity shortages are rationed among customers via rotating outages without any regard for customer value of service.

Below is a redlined version of the vision with suggested changes and annotations reflecting SCE's comments. A majority of the edits provided by SCE are to simplify or to clarify the vision. Substantial edits by SCE, *i.e.* a removal of a bullet point, is clarified by SCE in a brief comment right after. Please do not hesitate to schedule a conference call with SCE should you require a further explanation for any of the proposed edits. Again, thank you for this opportunity.

# California Demand Response: A Vision for the Future

Joint statement by the staff of the California Energy Commission, California Public Utilities Commission, and California Independent System Operator, Inc.

## Vision Statement

In order to achieve full efficiency, California's electricity market must effectively balance the cost of electricity supply with the value that consumers receive from the electricity they purchase. This result can be best achieved by providing all California electricity consumers with have the opportunity and capability to adjust their usage in response to time-varying signals reflecting wholesale electricity market economic, reliability or environmental conditions.

## Definition

DEMAND RESPONSE is the mechanism by which allows end-use electric customers change to reduce their electricity usage in a given time period, or shift that usage to another time period, in response to a price signal, a financial incentive, an environmental condition or a critical need reliability signal.

Demand Response Provider/Curtailment Service Providers may sponsor demand response programs and sell the demand response services to load serving entities to utilities and/or directly to the CAISO, but are not necessarily load-serving entities. A Demand Response Provider may also aggregate demand and bid demand reductions or act as an agent on behalf of retail customers to the CAISO or contracts with the utilities, LSEs, ESPs, SCs, etc., to aggregate retail customer load as part of a demand response program.

*SCE COMMENT: SCE disagrees with the idea that DR aggregators can sell "negawatts" directly to the CAISO without being a LSE. This perpetuates the idea of DR as a supply side resource instead of creating clarity that DR is a tool to bring a true customer "demand curve" into the market. Also, SCE believes there will be substantial problems created by allowing a customer's load to be represented in the*

CAISO markets by two independent entities, a schedule coordinator and a DR aggregator.

## Objectives

### *Enhance Infrastructure and Reliability*

- Numerous and diverse end use electric customers voluntarily reducing or shifting a portion of their demand in response to economic signals in advance of critical periods is preferable to controlled outages during power system emergency situations
- Timely demand response (within seconds, minutes or hours) from customers can defer the need for investment in generation, transmission, and/or distribution to mitigate critical peak energy needs
- Cost-effective demand response should be used in resource planning, procurement planning, and help satisfy operating reserve requirements
- Demand response can be used to maintain grid and market reliability, ease delivery constraints, used on a locational or regional basis to improve system reliability, ~~mitigate~~ meet emergency system needs and reduce peak period electricity costs.
- ~~Demand response can provide a market for renewables to meet load that has been shifted to off-peak when some intermittent renewable resources are more coincident.~~

*SCE COMMENT: SCE believes the statement regarding renewables is not related to the topic and that the details of the proposal detracts from the vision statement*

- Technologies to enable demand response capabilities may also provide other customer service benefits including outage detection and management, power quality management, increased energy efficiency and other information capabilities

### *Manage Electricity Costs*

- Demand response can give customers an opportunity to manage their electricity use by reduce their consumption at times when wholesale energy costs by adjusting their usage in response to time variant retail prices exceed what they are willing to pay. Demand response can also allow customer to voluntarily curtail usage during periods of scarce supply based on their value of reliability.

- Customers should have the opportunity to benefit from participating in providing demand response programs
- Demand response tariffs that dynamically incorporate the cost of providing electricity service will, thereby encouraging consumers to be more efficient in their consumption decisions. This will improve the ~~adjust their usage and lowering~~ overall efficiency of wholesale electricity markets, which benefit ~~costs for~~ all customers
- ~~Timely demand response can help mitigate wholesale market power and ensure reasonable prices~~

*SCE COMMENT: SCE finds that this bullet belongs here. Further, there are other ways to deal with market power mitigation.*

- To encourage demand response, LSEs should design and offer retail rates that dynamically incorporate the marginal cost of providing electricity service
- Demand response ~~programs~~ activities and ~~incentives~~ infrastructure should be designed to be cost-effective from a societal perspective

#### *Reduce the Environmental Impact Caused by Electricity Usage*

- Demand response can reduce the need for ~~consumer~~ electricity usage during peak periods when typically the least efficient fossil-fueled generation units ~~may~~ would be operating, thereby reducing greenhouse gas and other air emissions
- ~~Demand response via permanent load shifting can help integrate intermittent, non-peak time, renewable resources into the electric grid~~

*SCE COMMENT: SCE finds that this statement is down-in-the-weeds.*

- The agencies' definition of demand response does not include or encourage switching to use of fossil-fueled auxiliary or emergency generation during events, but does not preclude the use of customer-owned back-up or onsite generation that meets all environmental and other regulatory requirements for the operation of such ~~back-up~~ generation

## Goals and Principles

### *Consumer Education and Customer-Oriented Design*

- Electricity consumers in California should be made aware of the time-variable nature of electricity costs and of general steps they can take to help lower those costs
- All electricity customers ~~that desire it~~ should be provided with easyable ~~to easily~~ access their information about their own electricity use with the option for hourly or more frequent information and with the option to share their information with a demand response provider, of their choosing
- Demand response programs should be designed to be customer-friendly, simple, and easy to understand

### *Ability to Participate in Dynamic Pricing and Dispatchable Programs*

- Dynamic pricing tariffs should be made available for all customers that desire them, thereby allowing customers to manage their usage in response to appropriate price signals
- All customers should also have the option to participate voluntarily in demand response where they can provide demand reductions as a dispatchable resource based on the their value of reliability, including:
  1. In ISO markets: real-time, day ahead, day-of, emergency, and ancillary services
  2. In retail markets: ESP or third party utility programs including direct load control, programmable communicating ~~controllable~~ thermostats, and other demand response enabling technologies ~~automatically communicating systems~~ that are based on an open communications architecture and support residential, commercial and/or industrial consumers' ability to provide automatic response to events ~~load reductions~~

### *Technologies and Infrastructure*

- Agencies should encourage the development and widespread deployment of ~~All customers should be provided cost-effective~~ advanced metering systems capable of supporting time varying tariffs with metering done on an hourly basis or better, and with minimal hardware upgrades necessary to participate in various dynamic pricing tariffs

- Any advanced metering systems should support the ability to automatically retrieve energy usage data, ~~information~~ and provide the customer with timely access to this retrieved data
- All residential customers should have access to be enabled through communications media interfaces to remotely control devices in their home area network<sup>1</sup> and manage their energy usage. Furthermore, customers who choose to should be able to conveniently access their usage information using communications media (e.g., over the internet, via on-site devices, or other means chosen by the customer)
- The ~~development~~broadest possible range of metering and communications technologies, that are compatible with current and future open codes and standards~~Title 24 devices~~, which can enable demand response should be encouraged, as well as the ability to be provided that all technologies should be compatible with utility and third party billing and other back-office systems
- Programs and incentives promoting advanced~~Advanced~~ metering infrastructure, automated demand response and direct load control should be encouraged to provide customers with the opportunity to reduce usage with minimal intrusion and effort. Proliferation of user friendly technologies to enable demand response will have beneficial effects on grid reliability and operation
- The ~~enhancement~~use of the power distribution infrastructure, also known as the “a smart grid”, allows for greater implementation of demand response. Smart grid technologies provide real-time information on the transmission and the distribution level that can enable efficient use of demand response resources, offset grid enhancements, increase the visibility of customer usage to ISO, LSE and ESPs and enhance overall grid stability
- State building code (Title 24) updates may provide a cost-efficient~~effective~~ opportunity to introduce design standards for the implementation of demand response technologies during the construction of new buildings or renovation of existing buildings

### *Demand Response in the Wholesale Market*

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<sup>1</sup> A home area network is a network contained within a user's home that connects a person's digital devices, from multiple computers and their peripheral devices to telephones, home entertainment units, home security systems, smart appliances and other digital devices that are wired into the network.

- Market rules, including technical and operational standards, should not limit the ability for demand response providers to be bid directly into the wholesale market, including into capacity, ancillary services and energy markets
- ~~• Market rules should allow for small load to be aggregated and bid into the wholesale market~~
- ~~• Load serving entities and demand response providers should be able to freely participate and compete directly in the wholesale market~~
- Demand response providers should have access to customer data, with appropriate confidentiality protection and customer consent, to enable the development and implementation of demand response products that meet customer needs
- ~~• Demand response should be treated as a resource for planning and procurement purposes~~
- ~~• Demand response participants should be given appropriately aligned wholesale market pricing signals, which incorporate locational marginal prices~~

*SCE COMMENT: SCE finds this statement premature until MRTU is fully deployed.*

- ~~• The demand response market shall be appropriately structured to ensure competitive participation while protecting California's ratepayers~~

*SCE COMMENT: SCE is unsure what is meant by this statement and finds that it is not necessary for this vision.*

### *Investor-Owned Utility (IOU) Issues*

- ~~• IOUs should incorporate demand response resources into their overall procurement portfolio and as a portion of their reserve requirements~~
- ~~• IOUs should treat demand response resources similar to other resources in their procurement portfolio when considering a mix of resources necessary to satisfy their load-serving obligation~~
- ~~• All IOU demand response efforts should be periodically evaluated to determine past performance and improve future effectiveness~~
- ~~• IOUs should competitively procure demand response resources in an open and competitive demand response market~~

*SCE COMMENT: SCE finds that this statement does not belong in the vision. The Commission's vision is competitive retail markets. SCE is just an LSE in this context and shouldn't be singled out.*

**Coordination between CPUC, CEC and CAISO**

- Effective demand response efforts will require coordination among the agencies promulgating this vision statement
- The CAISO will follow FERC Order 890 in coordinating transmission planning as it relates to considering demand response resources
- Coordination will also be necessary related to:
  - ~~Procurement~~ IOU procurement planning
  - IOU rate design modifications, either in general rate cases, or separate venues
  - Energy efficiency (and other public purpose) programs
  - Other peak demand reduction programs
  - ISO efforts to develop transparent wholesale market pricing mechanisms
- ~~Changes to ISO market rules to allow additional participation by non-IOU demand response providers~~
  - Necessary legislative changes to rationalize rate design structures