

Comments of EnergyConnect/Johnson Controls on
the California ISO's Demand Response Roadmap

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Introduction

EnergyConnect, a subsidiary of Johnson Controls, appreciates this opportunity to comment on the California ISO's proposed DR Roadmap (hereinafter referred to as the Proposal). The ISO has clearly listened to some of the concerns voiced by stakeholders and some of these concerns are reflected in the Proposal. However in EnergyConnect's view, there are some overarching shortcomings that still need to be addressed.

The timeline laid out in the Proposal contemplates that the activities will be completed by 2020. This is too far down the road to have any meaningful impact. If DR is going to be at all useful for managing peak demand and influencing customer behavior as a low carbon alternative to new, gas-fired balancing resources, the necessary pieces need to be in place by 2015. There needs to be a great deal more urgency and more aggressive action around implementing the Proposal that has heretofore been absent with respect to DR

The Proposal also has too many moving parts and is too complex. It needs to be simplified. If WECC and NERC standards are getting in the way of cost-effective implementations, then the ISO needs to enlist the FERC's support to ensure that needed changes are made quickly and without unduly compromising reliability. California doesn't have to reinvent DR. Instead, it should look outside California for models that work and use those.

DR as a Resource

EnergyConnect and others have repeatedly emphasized that in order to incentivize DR to make the multi-year forward commitments required of resources, there has to be a predictable revenue stream - preferably market-based - that is sufficiently large to fund any needed infrastructure improvements and compensate customers for the business interruption costs and inconvenience associated with the desired frequency and duration of curtailments. On the other hand, the ISO must recognize that most customers will not be willing to make significant curtailments on a daily basis. The grid is built and operated for the use and convenience of customers, so demand response programs should be designed for customer convenience rather than forcing DR into a generator based model. DR participation levels in PJM suggests their approach would be a good model for the ISO to study and perhaps adopt.

The ISO and regulators also need to set appropriate expectations about how much DR the grid can reasonably accommodate. The way in which the ISO unilaterally dictated limitations in the amount of emergency DR to not more than 2 percent of peak demand is unsupported and lacks an analytical justification. If the ISO is concerned about relying too heavily on DR for Resource Adequacy, it should conduct a stochastic analysis that justifies any limitations and then make it known in advance. Customers are more likely to "rush for the entrance" knowing they could be frozen out later, whereas

changing the rules after customers have invested money, time and effort to participate will anger customers and make future recruitment efforts more difficult.

Price-Responsive DR

The single most important barrier to the development of price-responsive DR is a lack of price variability in the ISO's wholesale markets. The ISO's Board has made clear their interest in developing price-responsive demand, but they have failed to deal with some of the significant impediments, including an overly aggressive supplier market power mitigation regime, an apparent bias toward managing price volatility, and price caps that are too low to attract DR participation. The ISO and policymakers cannot have it both ways - either they accept more price volatility as a necessary precursor to attracting more price-responsive demand, or they accept the fact that price-responsive demand simply will not materialize. Other organized markets have recognized that high energy prices during periods of system stress are an important element of market design that is necessary to attract demand side participation and to provide proper price signals for generation.

Even if customers could receive and act upon price information, stable prices suggest there is no reason for customers to pay attention or invest in systems and devices that can respond. Customers that can't make commitments day-ahead but could act on the basis of shorter-term price information still need some advance notice, which is one reason why an hours-ahead market would be quite useful (another reason for doing this is to better manage the interties).

The DR Catalog

There is no reason for the ISO to waste time and effort on assembling "a catalog of DR resource types with descriptions of their operational attributes". For one thing, it is of no use to the ISO or ISO operators. For another, the number of types is likely to be substantial because even within a single classification like commercial office buildings, individual operators have all sorts of unique operating constraints so that there could be only a very few customers in each category. The ISO should develop a technology-neutral abstraction of the (very few) attributes it thinks it needs and then allow customers to determine how they can provide those attributes.

Other RTOs have focused their efforts on eliminating of barriers to Demand Response by defining market participation in terms of delivering various products in ways that fit DR's particular characteristics. For example, PJM has recognized that the diversity and scale (small size) of DR resources means that telemetry for individual sites is not needed for DR to participate in 10 minute reserves markets. Instead, DR participants can report their performance after the fact. This allows a lot of small sites to participate, diversifying performance risk for grid operators and reducing both participant costs and overall consumer costs by enabling increased competition. A telemetry requirement would substantially increase site costs and limit overall participation.

The Round-Peg/Square Hole Problem

There's still too much emphasis on fitting DR into the existing ISO framework that is geared toward conventional generation. Participating load, for example, is too complicated. The ISO wants to know more than is really necessary about individual loads and resources, when what it should be doing is to treat all loads and resources as injections or withdrawals at a point in the ISO grid. To the extent that third party demand response providers are required to provide such data, administrative costs will increase, which will in turn limit the number and size of potential participants.

Resource Adequacy Credit

The ISO and the CPUC will soon have to determine how to compute the credit that applies to DR and other use-limited resources, and how must-offer obligations should apply to these resources. DR subject to any must-offer obligation should be accommodated using the same framework PG&E has proposed for its hydroelectric resources. Of course, all of this would be simplified somewhat with a forward (hours-ahead) market.

Conclusion

EnergyConnect is encouraged by the ISO's willingness to listen to stakeholders, and hopes these brief comments will help the ISO simplify its Roadmap and accelerate the timetable. These comments are also being submitted to the California Energy Commission in connection with their Integrated Energy Policy Report docket #13-IEP-1.

Please direct questions to:

Bruce Campbell, Director of Regulatory Affairs (Bruce.Campbell@jci.com)

David Weidberg (David.Weidberg@jci.com)

Jack Ellis (jack@casaraquel.com)