

ENERNOC, INC. COMMENTS ON THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR'S (CAISO'S) PROPOSED ROADMAP FOR DEMAND RESPONSE (DR) AND ENERGY EFFICIENCY (EE) IN THE ISO

General:

EnerNOC, Inc. ("EnerNOC") is pleased to provide its comments on the CAISO's Proposed DR and EE Roadmap. EnerNOC agrees that it is important to have a forward-looking document to guide DR and EE activities in the State. Such a document would provide guidance to the CAISO and its stakeholders about the prioritization of DR activities. As stated at the stakeholder meeting on May 13, 2013, it is important that the CAISO and all state agencies are on the same page and prioritize DR activities in the same manner. Broad consensus among the state agencies is critical to ensure a consistent understanding and approach to DR activities within the state and efficient use of resources to address DR and EE issues.

Status of DR in the CAISO Wholesale Market:

Currently, DR resources have two options for direct participation in CAISO: 1) Load-serving entities (LSEs) can bid DR as Participating Load or 2) DR Providers (DRPs) can participate in the CAISO's Proxy Demand Resource (PDR). Since EnerNOC is not an LSE, it cannot participate as Participating Load. Currently, the California Public Utilities Commission prohibits DRPs from bidding bundled service customers of the utility into PDR. Direct Access customers are free to participate in PDR if they wish. To the best of EnerNOC's understanding, there is water-pumping load participating in the Participating Load program and little participation in PDR. Therefore, there has not been robust DR participation in CAISO's available DR products to date. EnerNOC is skeptical that, absent changes in the incentives to participate in the wholesale market, whether robust wholesale market participation will ever develop.

Currently, the IOUs have several retail demand response programs, including dispatchable, aggregator-managed portfolio (AMP) contracts. EnerNOC provides hundreds of megawatts of DR services under contract to the IOUs. Many of those MWs are capable of being locally dispatched, either on a local capacity area (LCA) basis or on a sub-LAP basis, with a 30 minute notification. The CPUC ordered the IOUs to include local deliverability requirements upon DR resources in order to qualify for local RA credit. Further, the Commission has ordered the IOUs to make at least 10% of their retail programs compatible with being dispatched by the CAISO. Certainly, progress has been made toward developing resources that are compatible with CAISO's market design, but, yet, not very much wholesale activity has transpired.

However, the CAISO, prior to D.13-02-015, did not consider DR resources in its transmission planning process or for meeting the local capacity requirements (LCRs). In that Decision, the CPUC ordered SCE to work with CAISO to determine the operational capabilities for DR resources to meet the LCR. In short, the rules for DR to meet a LCR are in flux. Until DR resources are recognized in the CAISO's planning processes, the joint agencies Energy Action Plan (EAP) energy policies will be disconnected from the manner in which CAISO plans for system resource needs. That disconnection devalues DR.

Identified below are the principles for a DR Roadmap, from EnerNOC's perspective, and a proposed inter-agency roadmap for DR. Not all of these action items are within the purview of the CAISO; but, DR participation in CAISO may depend upon successful resolution of these items.

Guiding Principles:

1. Start Simple

DR resources in CA have been developed, primarily, through retail utility programs. These programs have grown over time and have cultivated a fairly loyal customer base. The current AMP contracts have changed over time to reflect the changing definitions and requirements of DR resources, per the CPUC's direction. Most recently, as described above, EnerNOC's contracts with the utilities include the ability to be dispatched on a local basis with a 30-minute notification. In comparison to the successful wholesale DR programs implemented in other parts of the country, the CA retail programs are more complex and require the resources to do more. EnerNOC suggests that DR integration into the wholesale market should begin with a design that replicates the successful retail program development or the successful wholesale market design of PJM. Starting with what has already been demonstrated to work will allow the stakeholders and the CAISO to gain experience with wholesale DR.

Over time, more and more complex products can be offered, in addition to the "basic" DR service. While EnerNOC has experience providing ancillary services and other forms of fast-response resources in other markets, that participation in no way approximates the amount of DR that acts as a capacity resource for reliability purposes in other markets. There are higher costs, greater coordination and automation required for fast response resources. It also requires a great deal more customer confidence, and is not usually the first entrée into a customer's facility. With that said, EnerNOC is willing to participate in meaningful programs to develop and learn from new DR resource opportunities in the wholesale market, so long as a solid base is established from which to start.

2. Stable Market Environment

Since DR developed in CA on a retail basis, it is important not to diminish the value of those retail programs by focusing exclusively on wholesale market participation. In other words, we should not sacrifice the development that has occurred over time of retail DR resources by forcing them all to participate in the wholesale market. Not all retail DR programs belong in the wholesale market, either because they are not dispatchable or because the utility requires some control for local reliability reasons.

Changes in the product design should be developed with enough lead-time and notice to allow stakeholders and participants to anticipate and plan for those changes. It has been very difficult to plan over the last two DR program cycles because it was unclear whether all retail programs would cease to exist in favor of developing the wholesale market. At the same time that the state regulatory environment was encouraging wholesale market DR participation, the wholesale market was undergoing significant regulatory changes to accommodate DR into the wholesale market. Understanding the role and place for DR participation more than 1 year forward would be helpful. Having a timeline established for any transitions would also be helpful. Being mindful that companies need to plan for such changes is important.

3. Retail and Wholesale May Continue to Coexist

From an aggregator's perspective, the wholesale market does not today provide adequate market signals to attract participation. Energy prices are low for most hours. Capacity payments for DR resources that participate in the wholesale market are not "bankable" today. It is not clear what DR resource requirements will be imposed in order to qualify for RA. As such, the lack of clarity translates into a lack of desire to procure "capacity" from DR resources

by LSEs in an energy-only market. Until that issue is resolved, the only clear line of sight to a capacity payment for DRPs is through utility contracts.

A capacity market may be helpful in providing transparency of capacity prices. But, the design of the market is critical, as described below.

In the near-term, until the issue of capacity payments and capacity value is resolved, aggregators will want to continue their retail contracts. Utility contracts provide a capacity payment for aggregator resources. However, those contracts, to the extent they are compatible with the wholesale market design, can be bid by the utility into the wholesale market. As such, retail contracts may actually enable more participation in the wholesale market than if those retail relationships went away.

4. DR Resources are not Generators

DR Resources can provide capacity support to the system by reducing demand when, and where, it is needed. DR Resources are not energy resources. They are not base-load resources. They are intended to reduce demand for limited periods of time. Therefore, energy-based compensation does not work for DR Resources, especially in markets that are mitigated. DR resources are capacity resources that require a capacity payment.

DR Resources are not point resources, like a generator, they are distributed. However, DR can provide “local” relief if the geographic area is not so small as to reduce the value of aggregation and the portfolio. Customers have different capabilities of reducing demand at different times. To mitigate against performance risk, EnerNOC assembles a portfolio of customers to balance the risk of underperformance by any single customer resource. Reducing the value of aggregation, by reducing the size of the local delivery area, results in increasing performance risk and the cost of participation.

Product definitions that are designed around generator operating characteristics, and not load, will create barriers for DR. The flexible capacity product proposal is an example of that.

5. Make the Rules Workable

Overly complicated or expensive metering and data requirements can also stunt DR growth in the wholesale market. Telemetry, akin to that required by generators, is not practical for most retail customers as it is too expensive. There are advances being made in the ability of meters to collect and transmit data much less expensively. EnerNOC uses one such device for a majority of its 13,500 customer locations, KYZ pulse device.

Since EnerNOC collects large amounts of data from its customers. However, those large streams of data may only serve to overwhelm the CAISO without really providing a better ability to manage or operate the system more reliably or aid in the settlement process. Onerous request for data can also create huge operating costs for both the system operator and the market participant. EnerNOC is participating in the metering and telemetry initiative underway at the CAISO. EnerNOC has submitted comments as to the most efficient way to manage the data flow.

Next Steps:

CPUC: Establish Realistic Timeframes for Resolution of the Following Items, Which May Extend Beyond 2017

- 1. Complete the CPUC's Direct Participation Process (Rule 24) (This does not require CAISO action; but, is important to allow participation in CAISO.)**
Until the Commission adopts utility tariffs (Rule 24) and associated customer authorization forms and utility/DRP service agreements, bundled service customers will continue to be prohibited from participating in the wholesale market.
- 2. Determine the scope of the next DR 3-Year Program Plan (This is important to determine DR Participation when the current DR Program funding cycle expires, December 31, 2014.)**
The IOUs will file their 3-Year DR Program Plan Applications for 2015-2017. There are many outstanding issues that need to be addressed by mid-Summer in order for the IOUs to incorporate those items into the next program cycle and to ensure continuity of DR resources:
 - a. Cost effectiveness
 - b. Resource Adequacy/Flexible Capacity
 - c. Procurement authorization
- 3. Determine the Scope of New DR OIR, Including the Relationship with DR 3-Year Program Plan. (This is important to establish a going-forward role for DR and to reduce conflicts between the two above-referenced proceedings.)**
- 4. Determine how DR Resources Count for RA**
 - a. Direct Participation
 - b. LCR
 - c. Flexible Capacity

CAISO:

- 1. Incorporate DR into Wholesale Market in a manner consistent with existing retail DR resources and/or consistent with PJM wholesale market design, including a capacity payment.**
In order for this to happen on a timely basis, CAISO must waive certain requirements (telemetry) and establish reasonable data submittals for operational purposes and for settlement purposes.
- 2. Begin stakeholder process for 3-year forward planning horizon and capacity market design.**
This process is likely to be a lengthy, protracted and not necessarily successful effort, depending upon the political will to move in this direction. EnerNOC participates in markets without capacity markets; but, believes a well-designed capacity market is integral to sustainable DR participation. This is a significant issue that is impacting resource development in CA, the primary source of which is long-term contracts with utilities. A capacity market alone may not be sufficient if the market price recognizes the current over-supply of capacity, which is also

reflected in current resource adequacy prices. Market designs that employ a vertical demand curve run the risk of boom and bust cycles where demand response will participate when the reserve margin is low and prices are high, but will not when the reserve margin is high and prices are low. That is not a sustainable mechanism. DR participation in a forward market should not be limited to contracts in hand at the time an auction is performed as it presents a future market cap and limits growth.

3. CAISO Must Identify the Characteristics DR Must Possess for Transmission and Local Capacity Planning and Incorporate DR into those Planning Processes on a Basis Consistent with State Policy

As identified in the LTPP Decision (D.13-02-015), CAISO had not identified the characteristics that DR Resources must possess in order to count toward the LCR. Those characteristics have also not been identified for flexible capacity, at this point in time. Developing products that exclude consideration of DR resources should not be tolerated on a going-forward basis as this is inconsistent and incompatible with state policy.

4. CAISO and the IOUs can begin testing more advanced services on a pilot basis.

Along with the development of more advanced services, the CAISO and stakeholders will need to explore the removal of impediments to full participation of DR in the CAISO's market, including current WECC definitions that limit the ability for DR to provide spinning reserves.

EnerNOC looks forward to continuing to work with CAISO, and other state agencies, in creating prospective DR opportunities.