



**COMMENTS OF ADVANCED MICROGRID SOLUTIONS, SOLARCITY & STEM**

**Energy Storage and Aggregated Distributed Energy Resources Participation Stakeholder Initiative**

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Advanced Microgrid Solutions (AMS), SolarCity and Stem offer these joint comments on the Energy Storage and Aggregated Distributed Energy Resources Participation Stakeholder Initiative’s proposed scope and schedule. Stem and AMS together have 135 megawatts (MW) under contract with Southern California Edison (SCE) as part of SCE’s Local Capacity Requirements Procurement with strict deadlines for commercial operation. By the end of 2015, Stem will have hundreds of storage “towers” in commercial operation in California, all of which have the potential to be aggregated to participate in CAISO markets. AMS will have 10 MW of energy storage capacity installed at a variety of Irvine, California sites next year. To date, SolarCity has deployed over 300 energy storage systems for residential and commercial customers across California including strategic partnerships with WalMart, BJ’s Wholesale, and others, and is offering residential batteries to all new customers. Few companies feel the urgency around resolving barriers for aggregated behind-the-meter resources as we do.

Our companies support the scope of the initiative overall and our comments focus only a few key issues and the importance of resolving them in a timely manner. We appreciate the

CAISO's prioritization of these and other issues. This is a rapidly changing and exciting time for energy markets in California and we very much look forward to working together to find expedient solutions to the challenges we all face.

**1. Proxy Demand Resource Energy Storage Baseline: Ensure timely implementation of an alternative PDR baseline methodology that works for behind-the-meter storage resources.**

AMS, Stem and SolarCity appreciate that the CAISO plans to address the need for an alternative Proxy Demand Resource (PDR) baseline methodology in the first phase of this initiative. An alternative baseline methodology is required because existing CAISO baselines are not suitable for measuring battery performance.

Specifically, the current PDR baseline methodology was developed prior to the widespread deployment of rooftop solar. As a result, the methodology limits eligible capacity to a host customer's onsite electric consumption, in contrast to the technical ability of a customer to provide capacity to the grid (i.e. to reduce "net load"). Under this approach, the customer has no incentive to reduce its net load below zero, even if it has the capability to and that additional capacity would be beneficial to the grid. In addition, for customers that have behind-the-meter storage with plans to dispatch almost every business day during certain times of the year, finding a non-dispatch day may be impossible and thus an alternative baseline methodology is critical for market participation.

We would like to see a more specific schedule and path to resolution of this issue. All of our companies have projects coming online now or in the next year – timing is critical and we encourage the **CAISO to take a solution to the CAISO board this July** in order to allow time for resolution and implementation. As mentioned above, together Stem and AMS have a cumulative 135 MW under contract with Southern California Edison as part of their Local Capacity Resource Procurement. Our aggregated behind-the-meter products have firm deadlines and strong penalties for failing to deliver. Ensuring these projects have the ability to participate in CAISO markets is a critical component to the future growth of distributed resources and meeting the Governor's renewable energy goals.

AMS, Stem and SolarCity are eager to discuss this challenge further with the CAISO and also to propose specific solutions.

**2. Scope of Initiative: Key issues around the Non-Generator Resource (NGR) model as well as the interplay between the interconnection / New Resource Implementation (NRI) processes should be moved to the 2015 phase of this initiative.**

- a) **Alignment between distribution level interconnection and the ISO NRI process should occur in 2015:** The interconnection/NRI process is a major barrier to access

and developments of distributed NGRs. If this alignment issue and associated metering and settlement issues are not addressed promptly, DER projects provided by our companies may be prevented from participating. It is imperative that the costs and schedule are reduced so as allow DER projects to be viable from a business perspective.

**b) Key NGR enhancements should occur in 2015.**

Three proposed “Additional NGR Enhancements” need to be prioritized for 2015:

- Interconnection requirements for non-exporting NGR;
- Enhanced load management capability and participation under the NGR model; and
- The process for NGRs to aggregate and provide resources to the regulation energy market as a single resource.

**3. Changes to multiple use applications should include revisions to both RA and non-RA applications**

The ability for energy storage systems to be used in multiple applications is extremely important for the cost-effective deployment of these systems and the growth of an industry segment with potential for tremendous benefits to the California system. Thus, this initiative should prioritize the resolution of any barriers to the viable, near-term configurations.

The proposed scope defers multiple use applications that include a Resource Adequacy (RA) application to a later phase, ostensibly based on perceived complexity of managing the must-offer obligations associated with RA. However, it is the responsibility of the resource owner and Scheduling Coordinator to manage this complexity and perform according to market requirements. Thus, this RA / non-RA distinction is unnecessary and the initiative should instead prioritize configurations based on actual near term deployment potential.

If the scoping proposal makes a distinction between RA and non-RA DER, the proposal should clarify precisely what applications are categorized as RA or non-RA and how non-RA contracts will be valued. While the parties are supportive of additional paths for DER participation, such as non-RA DR, we believe further clarification as to the value and scope of non-RA DR requires explanation. For example, behind-the-meter storage systems that satisfy the SCE LCR storage contracts may be multiple use applications. Because those contracts create a “RA style” must-offer obligation on the resources, are these disqualified from consideration under 4(b) of the 2015 scope?

Likewise, pending further clarification on non-RA products, current systems are currently being sold to customers now and additionally by early 2016 (if not earlier). Some of the systems will be installed under customer contract obligations such as demand reduction and it is imperative that any multiple-use application questions be resolved within 2015. As we stated in our Expanding Metering and Telemetry Options – Phase 2 comments filed on May 27,

2015, the onus should be placed on the DERP to meet the specified requirement of their contracts for CAISO programs. And if the DERP is able to meet the product specifications of the CAISO product, then the CAISO should remain agnostic to the multiple use cases that might happen throughout any given time period when the system is not being used for a CAISO program.

The LCR storage contracts are likely to be the first examples of operational multiple use applications in California (outside of pilot programs). Thus this initiative should prioritize the clarification and enablement of this configuration ahead of other multiple use applications.