BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Pursuant to Assembly Bill AB2514 to Consider the Adoption of Procurement Targets for Viable and Cost-Effective Energy Storage Systems	Rulemaking R.10-12-007 (Filed December 16, 2010)

REPLY COMMENTS OF MEGAWATT STORAGE FARMS, INC. ON THE JUNE 10, 2013 ASSIGNED COMMISSIONER'S RULING PROPOSING STORAGE PROCUREMENT TARGETS AND MECHANISMS AND NOTICING ALL-PARTY MEETING

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Thank you for the opportunity to provide reply comments on this Proposed Ruling.

Background

Megawatt Storage Farms, Inc. ("MegaWatt") is a company focused on developing large grid-scale storage facilities and providing advisory services regarding storage on the grid.

Reply Comments

1. Loading Order and Storage

CESA suggested the proceeding determine that "energy storage is implicit in the Loading Order." ESA, TAS Energy, FOE agreed. Nevada Hydro argued for storage to be a priority in the Loading Order.

In contrast, CEERT argues that storage is not a Loading Order asset, and offers a variety of arguments, including that it is not a generator (despite the fact CEERT acknowledges efficiency and DR are in the Loading Order in the next sentence of their Comments.)

Sierra Club and CEJA oppose putting storage into the Loading Order, contending that the procurement targets will remove the need for an explicit Loading Order decision. However, they also devote a complete section of their Comments to the request for full transparency in all storage procurements. We believe their desire for full transparency can only be achieved with a Loading Order decision on storage's ranking.

The reasons a Loading Order decision is essential (including for full transparency) include:

- Twelve times more storage (600 MW) is subject to Loading Order uncertainties in the 2012 LTPP procurement than are subject to explicit target (50 MW.) In the decision on the 600 MW, any decision between storage and other resource types carries with it an implied relative ranking on the Loading Order. That ranking should be explicit.
- Subsequent procurements are also likely to have discretionary ranges for storage procurement. Many Comments argued for cumulative targets, which means every procurement would have discretionary upside on storage. That means every procurement will need Loading Order guidance on storage.
- The Ratepayers have a right to know the metric used for procurement decisions.
- As a matter of fairness in procurements, bidders deserve clear guidance on this Loading Order issue prior to committing to the cost of preparing bids.
- MegaWatt had previously moved in the 2012 LTTP Proceeding that the 2012 LTPP Proceeding establish the ranking of storage in the Loading Order for the 2012 LTPP. The decision was made by that LTPP Proceeding to pass the issue back to this AB2514 Proceeding.[1]
- In passing AB2514, the Legislature granted this AB2514 Proceeding wide latitude in "refinement of existing procurement methods" so as to "encourage the cost-effective deployment of energy storage systems." Parties to the Proceeding have been highly vocal throughout the Proceeding (including in Initial Comments) about the Loading Order issue, highlighting its critical importance to everyone.

Now it is time for the Commission to make a decision on where storage sits in the Loading Order. The AB2514 Proceeding has the legal authority and the responsibility to do so.

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[1] Order Instituting Rulemaking to Integrate and Refine Procurement Policies and Consider Long-Term Procurement Plans, Decision 13-02-015, February 13, 2013, page 117.

2. Storage Is Proven; Storage Works; Storage Standards Exist

Various parties contend that storage technologies are untested (SCE, pg. 5), in their infancy (Pilot Power, pg. 2), not yet plug-and-play (SDG&E, page 5) or do not have adequate standards (1Energy). These broad brush derogatory generalizations are factually false.

For the record, batteries were invented in 1800 and Edison patented electricity distribution in 1880, so electricity storage predates the grid by 80 years. Electricity storage has been used on grids around the world at least for many decades, and pumped storage much longer, so integrating storage with the grid is well-known technology. Taking just one technology as an example, NaS installations providing the functional equivalent of about 160 MW of pumped hydro storage are currently deployed within Tokyo. NaS batteries are available in multiples of 1-MW/6-MWh units with installations typically in the range of 2 to 10 MW. The largest single installation is the 34-MW Rokkasho wind-stabilization project in Northern Japan that has been operational since August 1, 2008. At this time, about 316 MW of NaS installations have been deployed globally at 221 sites, representing 1896 MWh. Customers in the United States include American Electric Power (AEP) (11 MW deployed at five locations), PG&E (6 MW deployed at two locations), and Xcel Energy (1 MW). The 15-year life of NaS has been proven in NaS installations over the past 20 years. The NaS system is essentially a (very big) plug-and-play standard product that has connected to utilities in multiple continents using established and standard electrical and communications protocols.

Sure there are some new, unproven storage technologies - that is true in almost any industry. But there is also proven storage. What's now needed is the market and regulatory reform of AB2514 to put these proven storage technologies to productive work in CA.

3. Pumped Storage; Deployment Times

Various parties argued for targets for pumped storage. Some have argued pumped storage should get its own bucket. That is inappropriate because it is picking specific winners and counter to the stated goals of the AB2514 Proceeding. CESA argues for installation for the existing targets within 2 years. Others commented that pumped storage has extended deployment timeframes so deserves a special bucket that would allow longer timeframes.

We are not arguing for a new bucket for pumped storage or for the Commission to modify its ACR regarding pumped storage. However, if the Commission decides to create a new bucket that allows pumped storage, other storage should also be allowed to compete for that business. To create a bucket just for pumped storage is picking an explicit technology winner, which runs counter to Proceeding's stated goal. Given the size of pumped storage projects, there could be GW in any such bucket, and all storage should be permitted to compete for it.

In keeping with the cost-effectiveness mandate for AB2514, procurement evaluation comparisons between alternative project bids must include the associated transmission upgrade charges for those storage projects that are located remotely from the grid region receiving the storage benefits. In addition, the bid evaluations must include the benefits of both the actual and optionality value of right-sized deployment, right-location deployment (near the need, with minimal new transmission cost, delay risk and completion risk), right-timed deployment (not overbuilding for future decade's uncertain needs), predictability of costs and risk of project failure (including technical risk of failure).

4. Standardized Contracts

Primus Power advocates 20 year, standardized contracts. Different technologies have different optimal durations, so a fixed 20 years is not appropriate. As stated by many others in their arguments against RAM, there are large differences between various storage solutions. It is premature to standardize contracts in general - that would be equivalent to picking technical winners based on terms put into the standardized contract - but there may be some general terms that can be standardized, such as the general form of tolling or service contract, if the terms are technology-neutral.

5. T and D Nomenclature and Other Issues Needing Clarification

Various parties commented on Distribution and Transmission buckets, including IOUs asserting they had sole rights to deploy distribution assets and so should eb allocated 100% of the distribution bucket. Yet we often see IPP's connect generation assets to distribution grids. The confusing issue here is that the words "Transmission" and "Distribution" in the use cases (and presumably the ACR) have different meanings from the general industry usage. The T and D

terms in the Use Cases (and ACR) refer to where the asset is connected. In contrast, industry usage of "Distribution" generally refers to ownership and asset class for cost recovery. This will lead to endless rounds of confusion unless new names are found now for the ACR's Transmission and Distribution buckets.

On a related issue, the Proceeding / ACR should be explicit about what happens to CAISO market revenue created by the IOU using IOU-owned storage, or IOU procured services from third party owned storage, under the two cases that the storage was procured as a Generation asset (e.g. via RFO) or as a Distribution asset (e.g. qualifies for distribution rate-base.)

Respectfully submitted,

_____/s/_____

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