

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking Pursuant
To Assembly Bill 2514 to Consider the
Adoption of Procurement Targets for
Viable and Cost-Effective Energy Storage
Systems.

Rulemaking 10-12-007
(Filed December 16, 2010)

**REPLY OF THE VOTE SOLAR INITIATIVE
TO THE JANUARY 31, 2012 OPENIGION COMMENTS
ON THE DECEMBER 12, 2011 STAFF PROPOSAL**

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Pursuant to the December 14, 2011, *Administrative Law Judge's Ruling Entering Initial Staff Proposal Into Record and Seeking Comments*, The Vote Solar Initiative (Vote Solar) submits the following reply comments.

In Vote Solar's opening comments at page 5, Vote Solar states:

CAISO reports estimated need of about 3-4,000 MW of storage in bulk system for 2020 in a 33% RPS scenario¹. Vote Solar believes 15% of this estimated need, or 450-600 MW, is a good threshold for demonstration and experiential learning in the near term (1-3 years). Vote Solar recommends splitting the 450-600 MW need roughly equally between the bulk transmission system and the distribution grid. Vote Solar also supports pilot demonstrations over a broad set of options, and multiple

¹ KEMA, *Research Evaluation of Wind Generation, Solar Generation, and Storage Impact on the California Grid* at p.4; <http://www.energy.ca.gov/2010publications/CEC-500-2010-010/CEC-500-2010-010.PDF>

package combinations of storage paired with variable renewable resources.

In other words, Vote Solar recommends modest storage procurement targets over the next few years.

Not surprisingly, a number of parties filed comments ranging from opposed to vehemently opposed to procurement targets.² In their comments, these parties provide a number of legitimate and often compelling reasons to avoid procurement targets. Vote Solar does not seek to argue with these points. Instead, Vote Solar recommends modest (and incremental) storage procurement targets as the only likely approach for ensuring that storage products are readily available, at market pricing, when they are most needed.

In arriving at this conclusion, Vote Solar assumes the following conditions:

1. The 33% Renewable Portfolio Standard (RPS) will be met by 2020.
2. The Preferred Loading Order³ is observed.
3. AB 32 and general climate change related carbon reduction goals are reached.

Under this framework of assumptions, Vote Solar does not believe that “market forces”, such as CAISO standardized capacity products, will, at this juncture, adequately propel the storage industry to a place where it needs to be to meet California’s clean energy future. Storage is, or is close to, facing the commercialization “Valley of Death.”⁴ If California does not provide regulatory assistance to bridge storage from the demonstration and pilot stage and through the diffusion and commercialization stage, a high probability of market failure exists.

² e.g. PG&E, Calpine, CAISO, DRA, SCE, Jack Ellis, etc.

³ As adopted in the 2003 Energy Action Plan -- decreasing electricity demand by increasing energy efficiency and demand response, and meeting new generation needs first with renewable and distributed generation resources, and second with clean fossil-fueled generation.

⁴ “Moving a technology from the research to the commercial phase is an arduous task, usually requiring it to proceed through the so-called Commercialization “Valley of Death.” In this phase, entrepreneurs face the dangerous convergence of high cash demands and a significant scarcity of capital. Without directly addressing this important market disconnect, clean energy deployment cannot move forward at the pace the climate challenge demands.” *Crossing the Valley of Death: Solutions to the Next Generation Clean Energy Project Financing Gap*, at p.5, Bloomberg New Energy Finance, <http://bnef.com/free-publications/white-papers/1>

A clean energy future embodying a 33% RPS, the Preferred Loading Order and climate change related goals requires embracing a more responsive, more flexible grid, with different elements playing different roles. Indeed, the differences are so significant that they prevent a meaningful comparison to traditional grid operations. In other words, comparing storage to a gas fired combustion turbine is inappropriate because while both provide grid flexibility, only storage can do so in a clean, carbon reducing environment.

Instead, storage should be considered along with clean, carbon reducing (or carbon neutral) elements such as load responsiveness, wide area balancing, improved forecasting, and geographic diversity. All of these elements will likely play critical roles in the evolved grid. Among these players, storage faces the greatest commercialization difficulties, yet holds the potential to provide some of the deepest, widest benefits. If adequate regulatory support is not provided, storage may be partially or entirely lost to the “Valley of Death,” thereby compromising the success of California’s clean energy future.

Vote Solar thus believes that the question is not whether California can afford to move storage through the “Valley of Death,” but rather can California afford to not do so? Accordingly, Vote Solar maintains that a storage procurement target of 450 to 600 MW, issued in increasing increments over three years, is appropriate. Not only will this type of procurement target help ensure the viability of storage five to ten years from now, but it will also provide answers to most if not all of the questions posed by the December 12, 2011 Staff Report. Moderate, incremental and focused targeted storage procurement need not present as a financial burden. Instead, this approach should be viewed as an investment in the future of the clean grid.

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WHEREFORE, Vote Solar respectfully requests the Commission consider the above stated comments.

Respectfully Submitted,

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