

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

Order Instituting Rulemaking to Integrate and Refine Procurement Policies and Consider Long-Term Procurement Plans.

Rulemaking 12-03-014
Filed March 12, 2012

**NOTICE OF EX PARTE COMMUNICATION OF
THE CALIFORNIA ENERGY STORAGE ALLIANCE**

Donald C. Liddell
DOUGLASS & LIDDELL
2928 2nd Avenue
San Diego, California 92103
Telephone: (619) 993-9096
Facsimile: (619) 296-4662
Email: liddell@energyattorney.com

Attorneys for the
CALIFORNIA ENERGY STORAGE ALLIANCE

August 9, 2013

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

Order Instituting Rulemaking to Integrate and Refine Procurement Policies and Consider Long-Term Procurement Plans.

Rulemaking 12-03-014
Filed March 22, 2012

**NOTICE OF EX PARTE COMMUNICATION OF
THE CALIFORNIA ENERGY STORAGE ALLIANCE**

Pursuant to Rule 8.3 of the California Public Utilities Commission (“Commission”) Rules of Practice and Procedure, the California Energy Storage Alliance (“CESA”)¹ hereby gives notice of the following oral and written *ex parte* communications initiated by CESA in the above-referenced proceeding. On August 8, 2013, from 9:00 am to approximately 9:30 am, Janice Lin, Executive Director of CESA, and Don Liddell, of Douglass & Liddell, met with Rachel Peterson, Advisor to Commissioner Michel Peter Florio, and Marcelo Poirier, Legal Advisor to Commissioner Florio. In the meeting Ms. Lin and Mr. Liddell discussed the topics addressed in the attached agenda. The meeting took place at the Commission’s San Francisco offices, at 505 Van Ness Avenue.

¹ The California Energy Storage Alliance consists of A123 Systems, Alton Energy, AU Optronics, Beacon Power, CALMAC, Chevron Energy Solutions, Christenson Electric Inc., Clean Energy Systems Inc., CODA Energy, Deeya Energy, DN Tanks, East Penn Manufacturing Co., Energy Cache, EnerVault, FAFCO Thermal Storage Systems, Flextronics, Foresight Renewable Systems, Greensmith Energy Management Systems, Growing Energy Labs, Gridtential Energy, Halotechnics, Hecate Energy LLC, Hydrogenics, Ice Energy, Innovation Core SEI, Invenergy, KYOCERA Solar, LG Chem, LightSail Energy, NextEra Energy Resources, Panasonic, Powertree, Primus Power, RedFlow Technologies, RES Americas, Saft America, Samsung SDI, Sharp Labs of America, Silent Power, SolarCity, Stem, Sovereign Energy Storage LLC, Sumitomo Corporation of America, TAS Energy, UniEnergy Technologies, and Xtreme Power. The views expressed in these Comments are those of CESA, and do not necessarily reflect the views of all of the individual CESA member companies. <http://storagealliance.org>

To receive a copy of this *ex parte* notice please contact Michelle Dangott, at 818.961.3003 or via e-mail at mdangott@energyattorney.com.

Respectfully submitted,



Donald C. Liddell
DOUGLASS & LIDDELL

Attorneys for the
CALIFORNIA ENERGY STORAGE ALLIANCE

August 9, 2013

Overview - CESA Meetings with CPUC Energy Advisors (Round 2)

Date: August 8, 2013

CESA Attendees:

Janice Lin
Don Liddell

Agenda:

1. Discussion of CESA concerns re SCE's LCR RFO and strategic linkage to Storage OIR PD
2. Next steps – How can CESA support a successful outcome?

CESA Concerns:

1. Near term procurement is strategically important, especially SCE LTPP LCR procurement. SCE's near term procurement will be seen as 'true test' of cost effectiveness! Storage IS cost-effective for certain applications if it is fairly evaluated and bid. CESA is concerned that the SCE LCR may do the following:
 - a. Propose delay in storage procurement – because gas generation takes at least 7 years to develop, storage procurement should proceed with all haste for two reasons
 - i. If in unlikely event insufficient storage capacity is procured, then there will be time to procure gas-fired or preferred resources as alternatives.
 - ii. If in the more likely event that storage is found to be more cost-effective and easier to site than gas-fired or preferred resources, it may reduce current need for other procurement.
 - b. Disqualify certain types of energy storage – the SCE LCR should encourage as many different types of energy storage to bid as possible, thereby increasing competition and reducing cost for ratepayers.
 - c. Propose pilots for storage
 - i. Pilots make sense only as a means toward some ultimate goal and where a new application has not been demonstrated. For example, a pilot might make sense for utilities to contract with, control and dispatch customer or third party owned behind the meter storage resources
 - ii. Other applications that have already been demonstrated do not require pilots– at a minimum, storage should be allowed to participate in all-source RFOs for gas and other preferred resources, and not be relegated to merely a small pilot
 - d. Arbitrarily impose NQC and other requirements that would make storage appear more costly than alternatives
 - i. Existing NQC for pumped hydro is in 5-six hour range – this duration is arbitrary and not necessary for other forms of storage.
 - ii. Existing NQC for DR is four hours per call for dispatch and three days in a row. A shorter duration should be sufficient.
 - iii. CESA recommends NQC duration requirements at most be limited to 2 hours, and even smaller durations be allowed to participate (in LTPP, CESA has

advocated for NQC durations as short as 15 minutes). This will maximize competition and allow the greatest number of storage solutions to bid, and reduce cost for ratepayers. Smaller, more accurate blocks will reduce the overall amount that needs to be purchased.

- e. Fail to factor in all benefits of energy storage, include GHG impacts. CESA recommends that the CPUC direct SCE to use third party cost estimates for GHG benefits such as those being used by the EPA/federal government.
- f. Cannot be so narrowly defined or arbitrarily specified to so as to render storage offers non-cost-competitive. For example, requiring 4 hours duration of storage per call for dispatch when a 1-2 hour duration is sufficient would dramatically increase installed cost and adversely impact cost effectiveness, as seen in EPRI’s modeling for the Storage OIR in its final report, “Cost-Effectiveness of Energy Storage in California”:
 - i. First, EPRI ran the bulk energy storage BASE CASE (Case 1) at 2h, 50MW, so the results are for a 2h system in EPRI's report, unless otherwise stated as a sensitivity on page 4-7:

Table 4-4
Use Case 1 Technology Inputs

Technology	Battery	
Configuration	Capacity (MW)	50
	Nameplate Duration (hr)	2
	Plant Life (yrs)	20
Performance	Lifetime Battery Replacements*	1
	Roundtrip Efficiency (%)	83%
Cost	Capital Cost (\$/kWh) in 2020	528
	Variable O&M Cost (\$/kWh)	0.0003
	Fixed O&M Cost (\$/kW-yr)	15
	Battery Replacement Cost	250

- ii. Second, below is a quote from EPRI’s final report that gives an explanation of the 2, 3, 4h sensitivities results EPRI’s modeling for the bulk energy storage cases on page 4-9:

Battery Duration Configuration

Changing the duration of a battery system impacts both its capital cost and its ability to provide energy to the grid. A battery system with longer duration is more costly to build, but the increased duration may also allow it to provide more value. To test the difference, two modeling runs with battery duration of 3-hour and 4-hour were performed alongside the base case, which used a 2-hour battery. As illustrated in Figure 4-6, the cost-effectiveness of the 2-hour battery was better than the 3-hour and 4-hour battery. Under the assumptions of this use case, the cost increased by a greater multiplier than the

benefit when duration was increased. One potential explanation of this is that the majority of the market services modeled does not require a 4-hour duration. Services like frequency regulation and spinning reserve require less than an hour of duration to qualify.

- iii. Finally, on page 4-10 of EPRI’s final report, the cost effectiveness results for the duration sensitivities are graphed, indicating a significant drop in the CE ratio as more duration is added:

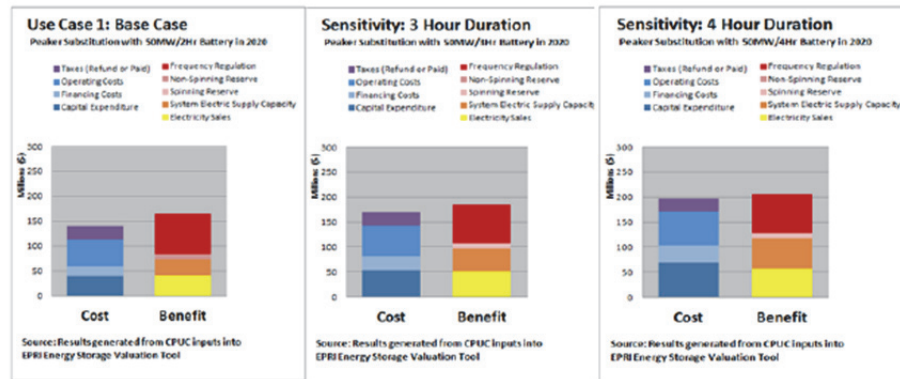


Figure 4-4
Sensitivity Analysis: Battery Duration

Table 4-5
Breakeven Capital Cost for Duration Sensitivity

	Base Case	Duration 3hr	Duration 4hr
Breakeven Capital Cost in 2013 dollars	\$842 /kWh (\$1684/kW)	\$594 /kWh (\$1781/kW)	\$465 /kWh (\$1860/kW)
Benefit to Cost Ratio	1.17	1.10	1.05

2. The EPRI and KEMA reports should be finalized and admitted into the record (currently in the record as “drafts”).
3. California needs bulk storage solutions to meet its AB 32 requirements and help provide a solution to OTC retirement and SONGs outage. These solutions will not happen if they are excluded from the targets. Optics of larger target can be handled by similar construct to LCR – minimum of 1,325 as proposed as a FLOOR ... LSEs should be instructed to keep going and include pumped hydro solutions so long as it is cost effective and meets specified needs
4. Similarly, potential storage capacity from EV's should not be excluded, provided EVs provide similar services for similar duration of other stationary storage solutions.
5. We need to act boldly now, otherwise, ongoing procurement will lock in natural gas capacity that will be hard to undo in the coming years, rendering CARB’s 2050 goals unattainable.