

To: ALJ Amy Yip-Kikugawa

From: Arthur O'Donnell (x1184)

Date: April 30, 2012

Memo on R1012007 Scoping Memo expectations for Phase I

This was drafted to help inform internal thinking on how to move from Phase 1 to Phase 2 of the proceeding. I hope it is useful for you in drafting a PD to close out Phase 1.

A. Direct statements from the Scoping Memo are in **bold**.

“The first phase will develop the overall policies and guidelines for ESS, including where and how ESS could be deployed to provide maximum benefits to the electric system. The second phase will develop the costs and benefits for ESS and establish how they should be allocated.”

The Staff Report outlines major policy issues for the Storage Proceeding, including establishing a Framework for understanding existing policies and barriers facing storage in California. An important component is the matrix identifying all of the major current proceedings at CPUC (and at other agencies) that impact storage markets.

Based on the identification of priorities, there were four storage applications recommended for further analysis:

Storage to support renewable energy (RE) integration;

Storage to avoid/defer distribution system upgrades;

Storage to provide Demand-side management (behind-the-meter) services;

Storage to provide ancillary services.

Note: In advance of Phase 2, Staff is working informally with Parties to identify the most likely “Use Cases” for storage to answer various resource opportunities. Some use cases may have benefit streams that derive across categories (generation or distribution primarily, but possibly also transmission markets); these will be addressed for each instance.

“Phase I should conclude within 18 months of the date of this memo,” May 31, 2011.

(~November 30, 2012)

Staff envisions ending Phase I with the issuance of a short Proposed Decision in May 2012 for Commission consideration in late June or early July. Preliminary work on Phase II issues has already begun, and will be better informed by internal meetings being scheduled.

“We will not make any determination about how and the extent to which energy storage technologies (EST) should be included in utility resources until both phases are completed.”

Good reminder for parties, several of which seem to want there to be an early decision made in advance of the completion of the fundamental analysis envisioned for Phase 2.

“If a party believes evidentiary hearings are necessary, it may make its request in its initial comments on the Staff Proposal and specifically state the disputed material issues of fact which require hearings.”

No Party has specifically called for the necessity of hearings.

B. The following 8 issues were specified to be addressed in Phase I (Scoping Memo paraphrased):

1. How are EST being used? Are they indicative of the future. What lessons of success or failure should the Commission consider?

Storage markets are evolving and complex, Opening Comments, Reply Comments and responses from Parties have provided a basis for understanding the variety of storage types, how they provide value to California and challenges to be addressed.

For the purposes of this case, a key consideration has been how ES technologies are treated in other proceedings, both here at the CPUC and at other agencies (i.e., CEC Commission, CAISO and FERC).

In the Staff Report, the Milestones matrix on Page 21, identifies existing and pending uses for storage, and where they are being addressed.

Note: Staff has compiled an inventory of current utility pilots and demonstration projects involving energy storage, and commercially available technologies (attached “in action” document), with brief explanation of status and any lessons learned. This information is readily available from various sources, but it has not been formally introduced into the proceedings.

2. What policies are needed that will reduce greenhouse gas emissions; reduce peak demand; defer and/or substitute for an investment in generation, transmission or distributions; and improve reliable grid operations?

The same Milestone matrix referenced above provides the range of storage policy needs and the CPUC proceeding or other agency initiative in which they are being addressed. In addition, Staff has developed a list of potential policy options (Appendix A) to address these concerns. However, given the Scoping directive that holds off determination of

“how and to what extent” storage technologies should be added to resource portfolios, Parties generally believe that considering specific policies is a late-stage matter that will benefit from further analysis of the best opportunities for including storage, based on cost-effectiveness analysis.

3. How can EST be integrated into existing portfolios

See above.

4. How could storage be integrated in the Loading Order? What about Smart Grid?

Among Policy Options referenced above, there are two variations that address the Loading Order:

“When evaluating planning/procurement options to support growth in peak demand and resource adequacy requirements, storage resources (such as LDS) should be considered by the utilities ahead of new peak generation or T&D, when cost-effective and reliable.” Or,

“When evaluating options to support applicable grid reliability requirements, utilities should consider any of the storage types as an alternative to increasing capacity margins, generation reserves, or other infrastructure additions when cost-effective and reliable.”

5. Are current state/federal policies impeding ability to include EST? What, if anything can be done to remove barriers?

The Staff report has identified a number of significant Barriers, including the lack of a cohesive regulatory framework, and the fact that it would be difficult to adopt a comprehensive policy within any one of the agencies. Some policy barriers that have been identified include the current flux state of policies at FERC and the CAISO that could provide opportunities for storage in Frequency Regulation markets, as well as the continuing processes for dealing with renewable energy integration and other matters.

The Staff Report recognizes these are ongoing initiatives, and the recent addition of Staff resources will allow a closer monitoring and possible coordination with the CAISO as it impacts energy storage and current/prospective FERC proceedings that would impact storage markets.

6. Is it possible to develop a unifying policy?

As referenced above, it would be difficult to adopt a comprehensive policy within any one of the agencies.

At the present time, Staff can do a better job understanding the implications of these disparate policies and work toward coordinating the outcomes of initiatives with the goals of this proceeding.

7. Are there applications/attributes that should be encouraged? To what extent do costs/benefits of these attributes differ?

Refining the priority scenario analysis established in the Staff Report, Parties to the proceeding are already working on identifying the most likely applications of storage to meet priority needs, to develop “use cases” that illustrate all of the major factors that will influence costs and determine benefit streams for any given case. Although this can not be expected to cover every possible permutation of applications for storage, Parties expressed belief that 6 to 10 use cases will be able to cover the vast majority of likely applications, and provide sufficiently robust analytical basis for measuring the cost-effectiveness of storage technologies appropriate to these applications.

This is currently in development, and completion of the Use Cases could provide a basis for workshops and comments on how to address cost-effectiveness on a case-specific basis.

How should ownership model of energy storage be considered? Do the current value streams favor one type of ownership model over another?

Ownership models have not yet been specifically addressed in the Staff report, although it has been recognized that ownership may be by the utility, by end-use customer, by third-party entity or some combination via joint ownership/leasing models.

Because ownership may impact allowable revenue streams (i.e. ratebase vs. contracting as one example, or costs via applied discount rates), this is an important component of both cost/benefit analysis and the policy option analysis. Use cases will include discussion of the likely ownership model for each case, but as Phase II proceeds, Parties should be asked to comment on this aspect to see if there are alternative models that would be appropriate for further consideration.

###

Appendix A

RANGE of POLICY OPTIONS (not exhaustive)

Basket of Market Neutrality (Pull) Policy Options [No Endorsement by Staff]

1. CAISO / Implement resource-neutral, level-field market design
2. CAISO / Establish full and accurate compensation of value supplied to markets
3. LTPP / Identify multi-year applicable system needs for flexible resources
4. RA / Assign RA value
5. *Develop CE for multi-use storage asset (on distribution) to facilitate LC (Least Cost) analysis
6. *Consider co-existence of market & ratebase end-uses (if issues exist in practice)
7. LTPP? Update BF (Best Fit) procurement evaluation matrix for novel storage attributes
8. LTPP? Refine process to fairly considering long term contracts for flexible capacity
9. TBD Address interconnection issues
10. TBD Identify renewable integration costs (bulk, wholesale DG, retail DG)
11. TBD Identify value of reliability end-uses
12. Future Enable long-term storage-based service contracts to supply grid reliability services
13. Future Capitalize the cost of storage-based service contracts

*To be addressed in Storage OIR

Basket of Proactive (Push) Policy Options [NO Endorsement]

1. *Global procurement target:*
Establish global procurement standard, gradually increasing over time, expressed as percent of system peak.
2. *Application-specific procurement target:*
Establish procurement standards, gradually increasing over time, for meeting a percentage of A/S requirements via resources that add zero emissions or reduce emissions relative to thermal resources (such as SDS/IMS, DR).
3. *Loading order:*
 - a. When evaluating planning/procurement options to support growth in peak demand and resource adequacy requirements, long-duration storage resources should be considered by the utilities ahead of new peak generation or T&D, *when cost-effective and reliable*.
 - b. When evaluating options to support applicable grid reliability requirements, utilities should consider energy storage as an alternative to building capacity margins, generation reserves, or other infrastructure additions *when cost-effective and reliable*.
4. *Incentives*
5. *Rebates*
6. *Pilot funding*