

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

In the matter of the 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)

**COMMENTS OF THE CALIFORNIA HYDROGEN BUSINESS COUNCIL ON THE ASSIGNED  
COMMISSIONERS RULING OF 06/10/2013 IN THE ENERGY STORAGE RULEMAKING**

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July 3, 2013

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Pursuant to the California Public Utilities Commission’s (“Commission”) Rules of Practice and Procedure and the rulings of the Assigned Commissioner, the California Hydrogen Business Council (CHBC) submits its comments in response to the Assigned Commissioner’s Ruling dated June 10, 2013.

The California Hydrogen Business Council applauds the Commission’s efforts to ensure that adequate energy storage resources are available to support the goals defined in the ACR.

“Storage procurement policy should be guided by three purposes

- 1) The optimization of the grid, including peak reduction, contribution to reliability needs, or deferment of transmission and distribution investments;
- 2) The integration of renewable energy; and
- 3) The reduction of greenhouse gas emissions to 80 percent below 1990 levels by 2050...”<sup>1</sup>

The CHBC believes that Hydrogen Energy Storage (HES) can play a key role in meeting these goals in a cost-effective manner. Hydrogen has great potential as a bulk storage medium capable of delivering long-duration, Gigawatt-scale energy storage as well as serving smaller and rapid cycling applications depending on technology and system configuration. HES systems can serve most, if not all, of the twenty-one end uses for storage developed for this proceeding. Unlike other technologies envisioned in developing the use cases for the proceeding, hydrogen

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<sup>1</sup> R.10-12-07 / 06-10-13 ACR page 6

production, storage and use can occur at different locations. Hydrogen Energy Storage provides unique opportunities for the conversion, transport and storage of energy that can provide great value to the state's goals for clean and reliable energy. Full-up demonstration of hydrogen energy storage systems for load leveling and load following for renewables integration and grid optimization are already operating or under development in a number of countries, including Germany, the United Kingdom, and Canada. Many of these projects make use of the existing natural gas grid for transportation and storage of hydrogen.

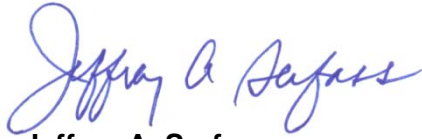
The ACR requests comments on ten items related to the proposed procurement targets and procurement methodologies proposed. At this time, CHBC will comment at a more general level on the proposed procurement program. Although the reliability and renewable procurement obligations of Load Serving Entities would naturally create a requirement for storage resources, CHBC agrees that it is helpful for the Commission to accelerate deployment by establishing storage targets, and equally important, establishing approved cost-effectiveness methodologies.

To that end, the CHBC finds it important that the current proceeding envisage the use of a full spectrum of potential storage approaches and technologies and not inadvertently omit promising technologies through definitions or too narrow a set of cases used for establishing and validating cost-benefit modeling. The CHBC encourages the Commission to ensure that Hydrogen Energy Storage cases and scenarios are included in cost-benefit model development and validation to address such factors as, for example, use of renewable hydrogen in existing generation resources which may not be co-located with hydrogen production. In addition, the CHBC encourages the Commission to direct the consultants supporting the Rulemaking to follow and incorporate the results of the various HES demonstrations into their analysis and model development.

The CHBC stands ready to lend its expertise to those activities and ensure that a full range of HES pathways is considered.

Dated this 3<sup>rd</sup> day of July, 2013, in Los Angeles, California.

Respectfully submitted,



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