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California Energy Commission
Dockets Office, MS-4
Re: Docket No. 12-EPIC-01
1516 Ninth Street
Sacramento, CA 95814-5512

March 28, 2014

RE: CHBC Comments on EPIC Second Investment Plan (12-EPIC-01)

The statutory charter of the EPIC program is to advance technologies that improve the reliability, environmental footprint and cost effectiveness of the electric system in California. EPIC program plans and funding allocations should embrace and include all technologies and solutions that support that goal. The CHBC notes that the draft EPIC investment plan displays a gap, in that it does not recognize the important role that hydrogen and hydrogen/methane blends can potentially play in meeting the bulk energy storage, load balancing and other energy storage needs of the state.

The California Hydrogen Business Council (CHBC) believes that Hydrogen Energy Storage (HES) can play a key role in meeting these goals in a cost-effective manner. Our analysis shows that hydrogen, as a bulk storage medium, is cost competitive with battery alternatives while providing the same functionality as pumped hydro and compressed air systems but with the ability to be deployed almost anywhere. 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 the California Public Utility Commission’s Order Instituting Rulemaking 10-12-007 “Adoption of Procurement Targets for Viable and Cost-Effective Energy Storage Systems”. Unlike other technologies envisioned in developing the use cases for the proceeding, hydrogen 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 CHBC finds it important that the EPIC investment plan envisage the use of a full spectrum of potential storage approaches and technologies and not inadvertently omit promising technologies by assuming that batteries are the only promising storage solution.

The CHBC encourages the Energy Commission to ensure that Hydrogen Energy Storage is considered in the Commission’s funding allocations and is pursued as a critical area for energy storage research and development.

Best regards,

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