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## DOCKET

09-IEP-1G

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California Energy Commission  
Dockets Office, MS-4  
Re: Docket No. 09-IEP-1G  
516 Ninth Street  
Sacramento, California 95814-5512

Re: **2009 IEPR – Energy Storage Technologies: Policies Needed to Support California’s Renewable Portfolio Standard (RPS) Goals of 2020 and Reductions in Greenhouse Gas Emissions**

### Introduction and Project Overview

We appreciate this opportunity to provide input to the 2009 Integrated Energy Policy Report (IEPR) in response to your request at the April 2, 2009 IEPR Workshop on Energy Storage Technologies. Eagle Crest Energy Company is in the process of licensing and permitting the Eagle Mountain Pumped Storage Project, a 1,300 megawatt storage project located in eastern Riverside County. Our location in the southern California transmission grid is complementary to support existing wind power generation in the San Geronio Pass, Tehachapi, and the Salton Sea area, and thousands of megawatts of proposed wind and solar power generation in the Mohave Desert, Chuckwalla Basin and Palo Verde Valley.<sup>1</sup>

We have completed the Pre-Application Document (PAD) and filed a Draft License Application (DLA) with the Federal Energy Regulatory Commission (FERC), and completed the related consultation and comment periods. We have also filed an application with the State Water Resources Control Board (SWRCB) for water quality certification<sup>2</sup>, and completed environmental scoping with the SWRCB pursuant to requirements of the California Environmental Quality Act (CEQA), and with FERC pursuant to requirements of the National Environmental Policy Act (NEPA). We are on

<sup>1</sup> Several thousand megawatts of solar power are proposed for development in the nearby Chuckwalla Basin and Palo Verde Valley that may offer opportunities for complimentary transmission operations.

<sup>2</sup> Pursuant to §401 of the Clean Water Act, for which the SWRCB is the designated CEQA Lead Agency.

schedule to file our Final License Application with FERC next month, and expect to complete the State's CEQA process in early 2010, and the FERC license process by mid-2010.<sup>3</sup> Our scheduled on-line date for full operations is early 2016.

The CEC's recognition of the need for storage as an essential element in attaining the State's Renewable Portfolio Standard (RPS) goals of 2020 is very important, as is the recognition that storage is not generation, transmission, or distribution, but rather a special and distinct function required for reliable grid operations and power flow management. This recognition is consistent with the unanimous consensus among the prominent Workshop attendees (particularly CAISO, PG&E, SCE, SDG&E, SMUD, and EPRI) that adding significant storage capacity is the only means to successfully integrate wind and solar power to meet the State's 33% renewable power generation goals and maintain reliable grid operations.<sup>4</sup> As a related consequence, large scale energy storage will also be essential to meeting the State's goals for reductions in greenhouse gases (GHG).

### **Policy Recommendations**

You requested input regarding policies needed to encourage the deployment and fielding of large, utility scale electric energy storage systems. Pumped storage hydroelectric generation is recognized as one of only two feasible "bulk storage" technologies (Compressed Air Energy Storage – CAES – being the other), and the only one to have been proven on large scales. Other emerging technologies (mainly batteries and flywheels) are much smaller in scale and have significant R&D timelines, but are expected to play a role in small scale applications and distribution systems. Our policy suggestions are focused on addressing barriers to large scale storage projects.

Our recommendations for effective policy solutions are provided below, and are generally consistent with policy recommendations offered by the utilities and industry representatives at the Workshop, with remarkable consensus.

- Develop a means to monetize ancillary services, particularly spinning reserves, voltage regulation, load following, and black start, and possibly over-generation protection.

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<sup>3</sup> The Eagle Mountain Pumped-Storage Hydroelectric Project is very unique in that the storage reservoirs will be developed in historically mined pits. No stream or natural surface water source is involved, and therefore we have no issues pertaining to fisheries, aquatic habitat, riparian habitat, or water-based recreational users that are common to most other hydroelectric developments.

<sup>4</sup> Workshop participants and CEC staff indicated that California will need an estimated minimum of 4,000 MW of storage by 2020.

- Provide an investment tax credit equal to that given to solar and wind power developers.
- Develop State loan guarantees or funding to replace the missing private investment market.
- Establish a minimum five percent (5%) utility portfolio standard for storage as has been done for renewable generation, including a pre-certification process to verify that a project will qualify.
- CPUC rules need to be changed so that regulated utilities can capture contracted grid management services in the rate base – currently considered a major barrier to contracting and financing for storage projects.
- CPUC rules and State restructuring policies may need to be amended to recognize storage as a separate category from generation, transmission and distribution.
- State policy should explicitly recognize the value of fast-response storage for reducing GHG emissions, and to the extent practicable, should expedite permitting of transmission to support fast-response storage.
- Recognizing storage as essential to integrating a high level of wind and solar renewable energy sources and to reliable operation of the transmission grid, State policy should explicitly recognize storage pump-back power as essential to most efficiently utilizing off-peak wind and solar power generation.
- CAISO interconnection treatment needs new standards to recognize storage functions as distinct from generation and transmission, and to interconnect based upon operational studies that consider renewable integration and grid reliability functions (in contrast to the current interconnection cluster studies which focus exclusively on generation).
- Allow up to 50 % of large scale energy storage project development costs to be recovered in the utility rate base.

## **Conclusion**

Some combination of the incentives listed above is necessary to secure funding for large scale storage projects, and secure timely attainment of California's targets for RPS and

GHG emissions reductions. Thank you again for this opportunity to comment on policies designed to promote development of energy storage in California, and to participate in the 2009 IEPR process. Please contact me if you have any questions, or if we can provide any additional information. We look forward to discussing this further, and to follow-up actions with the CEC, CPUC, CAISO and others.

Sincerely,



*For:* Stephen Lowe  
President