BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Pursuant To Assembly Bill 2514 to Consider the Adoption of Procurement Targets for Viable and Cost-Effective Energy Storage Systems.	Rulemaking R-10-12-007

COMMENTS OF THE GREEN POWER INSTITUTE ON THE PROPOSED DECISION OF COMMISSIONER PEEVEY

July 23, 2012

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Introduction

Pursuant to Rules 14.3 and 14.6 of the Commission's Rules of Practice and Procedure, in Proceeding R.10-12-007, the **Order Instituting Rulemaking Pursuant to Assembly Bill 2514 to Consider the Adoption of Procurement targets for Viable and Cost-Effective Energy Storage Systems**, the Green Power Institute (GPI), a program of the Pacific Institute for Studies in Development, Environment, and Security, provides these *Comments of the Green Power Institute on the Proposed Decision of Commissioner Peevey*.

The GPI supports passage of the PD and looks forward to working on the next phase of the Proceeding, which will include the analysis of up to twenty energy-storage system (ESS) applications, beginning with four suggested scenarios. Our interest in this Proceeding is in using storage in a variety of ways to enhance the production and use of renewable electricity. One of the important services that ESSs can provide is the integration of intermittent renewables without the useof fossil-fired generators. We believe that the applications and scenarios in the PD can be adjusted to better elucidate the options for optimal integration of renewables and overall operations of the grid, but those adjustments can be made in phase 2 of the Proceeding.

The PD could do a better job of explaining that there are two distinct approaches to using storage in the integration of intermittent renewables. The first approach involves the pairing or coupling of an ESS with an intermittent generator, which as we understand it is the basis of Scenario 1 in the *Staff Proposal*. Pairing or coupling an ESS with an intermittent generator allows the generator to upgrade in several ways the quality of the product they deliver to the grid, albeit at the loss of some energy in the charge/discharge cycle of the ESS. Storage can upgrade the electricity product associated with a generator by shifting electric output from low-valued periods to higher-valued periods, and by

supplying output-leveling services that mute the effects of intermittency that are seen by the grid.

The second approach to using storage in the integration of renewables is to treat the fluctuations associated with intermittent generators in the same way that all unplanned fluctuations in supply and demand on the grid are handled, which is to say by using ESSs on the transmission and/or distribution parts of the grid to provide grid operational services without the use of fossil generators. These kinds of services are the objectives of Scenarios 2 and 4 in the *Staff Proposal*, but they are not explicitly identified in the PD as pertaining to renewables integration.

It is not at all clear which of these two approaches to integration will prove superior, or whether there is a role for both. We support studying and supporting both approaches at this early phase of the commercialization of ESSs. With respect to Phase 2 of this Proceeding, we recommend structuring the studies of Scenarios 1, 2, and 4 in such a way as to allow the maximum amount of comparability among them with respect to the integration of intermittent renewables.

Dated July 23, 2012, at Berkeley, California.

Respectfully Submitted,

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