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	R.10-12-007

COMMENTS OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION ON INITIAL STAFF PROPOSAL

On December 12, 2011, the California Public Utilities Commission ("CPUC" or "Commission") Staff released an initial Energy Storage Framework Staff Proposal ("Initial Staff Proposal" or "Proposal") for this proceeding. Pursuant to the Administrative Law Judge's Ruling Entering Initial Staff Proposal Into Record And Seeking Comments ("December 14, 2011 ALJ Ruling"), the California Independent System Operator ("ISO") respectfully submits the following comments on the Proposal.

I. INTRODUCTION

The Initial Staff Proposal does not recommend any potential policy outcomes for this proceeding. Instead, it proposes a high-level, preliminary analytical framework for considering energy storage issues. The ISO supports the Staff's framework as an appropriate starting point for addressing energy storage issues. In particular, the ISO agrees with two fundamental principles embodied in the Initial Staff Proposal: (1) the Commission's policy-making focus should be on removing regulatory or other barriers that may undermine level competition between technologies; and (2) in doing so, the

Commission should not evaluate energy storage in the abstract but rather should focus on evaluating particular applications for energy storage that meet actual operational needs. The ISO has applied these principles in several recent and ongoing initiatives regarding the ISO's wholesale capacity markets, resulting in greater opportunities for energy storage to compete in ISO markets, and encourages the Commission to do the same.

Although the Initial Staff Proposal's analytical framework appears to be sound, the ISO is concerned that the current procedural schedule may not allow the Commission to receive sufficient input from parties on substantive issues before a Phase I Proposed Decision is issued. The ISO recommends, as discussed below, that the Commission revise the procedural schedule set forth in the December 14, 2011 ALJ Ruling to provide for an additional round of party comments after the Commission Staff issues its Final Staff Proposal.

II. THE BASIC ANALYTIC APPROACH IDENTIFIED IN THE INITIAL STAFF PROPOSAL APPEARS SOUND

A. The ISO Agrees With The Key Principles That Underlie The Initial Staff Proposal

The Initial Staff Proposal appears to be premised on two basic principles that the ISO agrees are the proper starting point for considering energy storage issues.

First, the Proposal focuses heavily on identifying and categorizing potential regulatory and other barriers to the development and deployment of energy storage in California's electric markets, explaining that this is necessary so that an organized process may be undertaken to consider how such barriers may be removed.[1] The ISO

[1] *See* Initial Staff Proposal at 4-10.

supports this focus on removing market barriers because it is both market-oriented and technology-neutral. The market potential for energy storage technologies can best be realized by ensuring that these technologies face a level marketplace that does not unduly favor one type of technology over another and instead allows different types of resources to compete with one another based on their relative ability to efficiently meet actual operational needs. As discussed below, the ISO has recently undertaken various initiatives within its own markets to advance this principle and supports the CPUC's efforts to advance the same objective.

Second, the ISO supports the Staff's proposal to "decompose" energy storage into its various potential "end uses" and evaluate it from the perspective of those particular applications.[2] This basic principle, which the Initial Staff Proposal places at the center of its analytical framework, is important because it ensures that the policy focus will be on meeting specific and well-defined operational needs. As the Initial Staff Proposal acknowledges, its "end use" framework is based in part on a similar proposal made by Southern California Edison Company ("SCE") in its comments and workshop presentation, which set forth an application-specific approach for evaluating energy storage.[3] The differences between those two approaches appear to be minimal, and either one would be an appropriate starting point for analyzing energy storage issues.

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[2] *See id.* at 11-13.

[3] *Id.* at 11. *See also* SCE's Comments On Order Instituting Rulemaking (Jan. 21, 2011), at 7-9; SCE Workshop Presentation for June 28, 2011 CPUC Workshop (entitled "*An Application-Specific Approach to Energy Storage*"), attached as Attachment C to the July 21, 2011 Administrative Law Judge's Ruling Entering Documents Into Record And Seeking Comments ("July 21, 2011 ALJ Ruling").

B. The ISO Has Undertaken Various Initiatives To Remove Barriers To The Participation Of Energy Storage In Its Markets

The Initial Staff Proposal correctly recognizes that meeting the goal of removing market barriers to energy storage requires a collaborative effort at the state and federal level and across regulatory jurisdictions.[4] The ISO has recently undertaken the following initiatives that have already facilitated, or will soon facilitate, the ability of energy storage to participate in ISO markets.

In July 2010, the ISO sought approval to revise several aspects of its tariff requirements for ancillary services in order to expand the pool of resources able to participate in the ISO's ancillary services markets. The revisions, which FERC approved in September 2010, relaxed certain requirements that the ISO concluded were no longer required for reliable operation. Specifically, the amendments: (1) reduced the minimum rated capacity requirement for ancillary services from one megawatt (MW) to 500 kilowatts (kW); (2) reduced the continuous energy requirement from two hours to 30 minutes for spinning and non-spinning reserves, 60 minutes for day-ahead regulation, and 30 minutes for real-time regulation; and (3) clarified that the measurement for the continuous energy requirement starts from the time the resource reaches its award capacity rather than after a ten-minute ramping period.[5] These changes were designed specifically to enhance the ability of energy storage and other non-traditional resources to participate in the ISO's ancillary services markets, consistent with the ISO's operational and reliability needs.

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[4] *Initial Staff Proposal* at 3, 5.

[5] *See Order Conditionally Accepting Tariff Revisions*, 132 FERC 61,211, at PP 3, 26-31 (2010).

In addition, in August 2011, the ISO filed a proposal with FERC for approval of a market enhancement known as regulation energy management. The ISO discussed its regulation energy management proposal in detail during the summer workshops in this proceeding, at which point the proposal had not yet been filed with FERC.[6] As explained in the presentation, this enhancement will facilitate the ability of limited energy storage resources to participate in the ISO's regulation market by enabling them to bid their capacity more effectively while still meeting the ISO's continuous energy requirements for regulation. In November 2011, FERC approved the ISO's regulation energy management proposal, based on findings that it reduces barriers to the ISO's ancillary services markets for "non-generator resources" and "allows non-generator resources to participate more fully in CAISO's regulation market, consistent with continuous energy requirements."[7] The ISO is currently working with stakeholders to initiate a market simulation of regulation energy management and expects to bring this functionality into production later this year.

In addition to these two FERC-approved tariff revisions, the ISO has recently commenced two initiatives to refine its markets that should facilitate the participation of energy storage. In December 2011, the ISO initiated a Pay for Performance Regulation stakeholder initiative in response to FERC Order No. 755, which directs independent system operators and regional transmission organizations to revise their frequency regulation services to ensure that faster ramping resources are compensated for the greater amount of frequency regulation they provide in comparison to resources with

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[6] *See* ISO Presentation for June 28, 2011 CPUC Workshop at 6-7, attached as Attachment B to July 21, 2011 ALJ Ruling.

[7] *See Order Accepting Proposed Tariff Revisions*, 137 FERC 61,165, at P 28 (2011).

longer ramp rates.[8] Although the stakeholder process is still ongoing, the ISO's most recent straw proposal includes design elements that would compensate resources depending on both the total movement of a resource in response to automatic generation control signals over a given period and the accuracy with which the resource responds to the regulation signal.[9] Such refinements in compensation should facilitate the participation of non-traditional generation resources – such as energy storage – in the regulation market, provided that those resources are able to ramp more quickly and respond more accurately than traditional generation resources.

The ISO also has recently initiated a stakeholder process to develop a market-based flexible ramping capacity product to address reliability concerns and operational needs in the ISO's real-time market. This product, once developed, will provide an additional means for fast-ramping resources to participate in the ISO's markets in a manner that meets an important operational need.[10]

The Initial Staff Proposal states that the CPUC intends to monitor the ISO's ongoing stakeholder initiatives and "continue to participate in CAISO's stakeholder processes to encourage policies and market design that is technology neutral."[11] The

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[8] *See Frequency Regulation Compensation in the Organized Wholesale Power Markets*, *Order No. 755*, 137 FERC 61,014, at PP 17, 64-67 (2011).

[9] As with all ongoing stakeholder proceeds, the ISO maintains a link devoted to this proceeding on its public website. Detailed and updated information about the status of this stakeholder proceeding and the substance of the ISO's proposals can be found at the following link: http://www.caiso.com/informed/Pages/StakeholderProcesses/PayforPerformanceRegulation.aspx.

[10] Detailed and updated information about the status of this stakeholder proceeding and the substance of the ISO's proposals can be found at the following link: http://www.caiso.com/informed/Pages/StakeholderProcesses/FlexibleRampingProduct.aspx.

[11] *Initial Staff Proposal* at 6.

ISO welcomes and encourages such participation both by CPUC Staff and all other interested stakeholders.

C. The ISO's Flexible Capacity Procurement Proposal In The CPUC's Resource Adequacy Proceeding Would Remove A Barrier To Energy Storage

The Initial Staff Proposal identifies the Commission's current Resource Adequacy rules as a potential barrier to the full participation of energy storage in California's electricity markets and identifies its "new RA rulemaking (R.11-10-023)" as the proper forum in which such barriers should be addressed.[12] In that proceeding, the ISO has recently submitted a "Flexible Capacity Procurement Proposal" that would establish, in addition to traditional generic capacity requirements, a new set of flexible capacity procurement targets for 2013 and beyond.[13] As explained in the ISO's proposal, targets would be established for three capacity categories that have distinct ramping and dispatch capabilities, including a "regulation" category for resources that are able to quickly respond to the ISO's automatic generation control signals.[14] This proposal will help retain flexible resources that support integration of new intermittent renewable resources and will facilitate the participation of fast-ramping resources, such as certain energy storage resources, in the ISO market and in the Commission's Resource Adequacy program.

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[12] *Id.* at 6-7.

[13] *See* California Independent System Operator Corporation Proposal on Phase 1 Issues in CPUC Rulemaking 11-10-023 (submitted on Jan. 13, 2012).

[14] *Id.* at 7-12, 15-16.

III. PARTIES SHOULD HAVE AN OPPORTUNITY TO SUBMIT COMMENTS ON THE FINAL STAFF PROPOSAL

The December 14, 2011 ALJ Ruling establishes the remainder of the procedural schedule for Phase I of this proceeding. The schedule contemplates that after the current round of comments on the Initial Staff Proposal, Staff will produce a "Final Staff Proposal" in March of this year, which would then be followed by a Proposed Phase I Decision in the second quarter of 2012. The ISO is concerned that this schedule does not appear to contemplate a round of comments on the Final Staff Proposal before the Commission proceeds to a Proposed Phase I Decision. To ensure that the Commission has a sufficient record upon which to base a Proposed Decision, the ISO recommends that parties be given an opportunity to submit a round of comments on the presumably more substantive proposals that will be developed and presented in the Final Staff Proposal.

Respectfully submitted,

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