

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

Order Instituting Investigation to Facilitate)	
Proactive Development of Transmission)	I.05-09-005
Infrastructure to Access Renewable Energy)	
Resources for California)	
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**COMMENTS OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION
IN RESPONSE TO ALL-PARTY HEARING AND PREHEARING CONFERENCE**

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**COMMENTS OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION
IN RESPONSE TO ALL-PARTY MEETING AND PREHEARING CONFERENCE**

Pursuant to instructions communicated by Commissioner Grueneich and Administrative Law Judge (ALJ) Halligan at the November 14, 2005, "All Party Meeting" and subsequent prehearing conference in the above-referenced proceeding, the California Independent System Operator Corporation ("CAISO") respectfully submits this list of priority issues.

I. Introduction

As an initial matter, the CAISO commends Commissioner Grueneich for her leadership, vision and creativity in outlining the process for this investigation. Several aspects of that vision were particularly salient. The CAISO agrees that renewable energy resources possess unique characteristics that pose challenges to the existing process by which those resources are interconnected to the transmission grid. "Business as usual" may not be effective. The emphasis of this investigation properly should be on solving problems and avoiding the formality of hearings where possible. Further, the CAISO welcomes a collaborative effort that leverages the expertise of the Commission, the California Energy Commission, and the CAISO and encourages the participation of a broad spectrum of interested entities, especially California's

municipal utilities.

The following constitutes the CAISO's list of priorities for 2006. In compiling this list, the CAISO has ignored jurisdictional boundaries and briefly explains why the issue is important.

II. 2006 Issues

- Identify and encourage renewable projects that can be implemented without new, long-term transmission infrastructure.

In large part, this issue is subsumed by the ongoing renewable portfolio standards (RPS) solicitation process. The Commission has properly recognized that the objective of the RPS is to incorporate sufficient least cost/best fit renewable resources into the portfolios of load serving entities. To the extent projects requiring additional transmission infrastructure are necessary to meet this objective, any potential barriers to development of such transmission facilities must be addressed. However, the first inquiry should be to properly identify the most appropriate resources to timely meet the state's RPS goals. This leads to the second issue.

- What refinements to the solicitation process and resulting cost ranking methodology are necessary to ensure least cost/best fit resources.

The CAISO concurs that the questions listed on page 12 of the Order Instituting Investigation, dated September 12, 2005, are important to the near term efficacy of the RPS.

- Help support the study of the operational issues associated with integrating renewable resources into the state's portfolio of generating resources.

The Commission must remain cognizant of the uncertainties and operational challenges associated with integrating large quantities of renewable resources with the electrical grid and, in particular, intermittent wind power. The CAISO is aware of, and is assisting, the CEC's current efforts to study these operational challenges. In the past, the CAISO has identified several operational issues that must be addressed.

- Regulation – Regulating resources are those quickly adjustable generating units used to meet the system’s need for a second by second matching of load and generation. As the potential variation in the output of wind generation increases with increased development of wind resources, the need for regulation is also likely to increase. Many thermal units are unable to adjust their output quickly enough to provide regulation. Accordingly, the effect of increased wind generation on the sufficiency of regulation resources and the CAISO’s ability to maintain NERC and WECC control standards must be considered and studied.
- Ramp Rates – Generally, load comes on very quickly in the morning and decreases very quickly in the evening, creating steep system ramps. Resources need to be dispatched in near real-time to match these ramps. To the extent that wind generation increases these ramps, or creates new ramps within an hour, this could lead to increases in the amount of generation needed to be dispatched in real-time to accommodate the ramps.
- Load Following in Real-Time – To correct for the inevitable mismatch between forecasted load and generation, dispatchable resources must be available. The present uncertainties with intermittent generation output may increase the need for load-following resources.
- Frequency Response Issues – When a generator trips on the system, the other generators on the system will see a drop in frequency and automatically initiate changes in their output to correct the mismatch between generation and load to maintain system frequency. Wind resources are generally not effective in providing system frequency control. An area with a large amount of generation that cannot provide frequency response creates operational risks and, for the case of additional wind generation in southern California, may reduce the transmission system’s ability to import power into California from areas such as the Pacific northwest.
- Accommodating the Daily Load Pattern – Wind generation in many areas will

generally operate at high levels only during off-peak times, while operating at low levels during peak periods. This will decrease the need for base load generation, which can lead to the need to cycle the base load thermal units more frequently than intended or designed. As such, it will be necessary to study the need to couple energy storage technologies, such as pumped hydro generation, with plans for additional wind generation. Using storage technologies to store the off-peak generation for later use during peak load periods will likely be necessary to integrate large quantities of wind generation in southern California.

The CAISO is committed to formulating effective solutions to the foregoing operational concerns in order to meet the State's stated goal of increasing renewable resources and particularly wind generation. However, this Commission and other state policy-makers must consider the impact of these operational challenges in identifying priorities in the development of renewable resources. It is possible that the outcome the CEC's pending efforts will influence cost ranking issues and the timing of the need for transmission infrastructure. Indeed, the foregoing prudently highlights that transmission availability does not represent the sole challenge to wind generation in the Tehachapi area and otherwise and that additional operational analyses must be completed as a precondition to the realization of the full utilization of wind resources.

➤ Assessment of solution to cost recovery issues.

The OII stated that the current rules governing the recovery of direct assignment transmission facilities necessary to interconnect a generating facility are "problematic for renewable generators for a number of reasons." To the extent the cost recovery rules governing certain interconnection facilities erect barriers to realization of the RPS goals, the CAISO agrees that solutions must be developed. The CAISO further recognizes its potential role in implementing such solutions given its responsibilities for interconnection and transmission planning assigned to the CAISO under its Federal Energy Regulatory Commission-approved

Tariff. The CAISO's efforts, however, must compliment state policy. The Commission through this investigation should aggressively develop the state's policy with respect to cost allocation and recovery issues so that the CAISO can expeditiously pursue any changes to its Tariff, if necessary.

- Assessment of the integration of the CAISO's transmission planning process into other state regulatory efforts to facilitate development of renewable resources.

The CAISO is in the process of reassessing and redesigning its transmission planning process. A goal of the new planning process is to move the CAISO from a largely reactive role to a more proactive planning role. As part of this effort, the CAISO intends to utilize assumptions from the CEC's Integrated Energy Policy Report proceeding and other data to develop resource scenarios. The CAISO intends to develop transmission expansion plans that would be required for realizing the resource development scenarios. In order for the CAISO's new planning process to achieve its objectives, it must be coordinated with other regulatory initiatives, including the long-term procurement plans developed by load serving entities under the Commission's jurisdiction. The CAISO believes a valuable contribution from this proceeding would be to assist and define the necessary points of integration among the various regulatory efforts.

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The CAISO believes that many of the issues outlined in the OII interact or are related to the issues outlined above. As such, the CAISO believes it is difficult to currently identify those issues which should be deferred to 2007. Instead, the CAISO believes the Commission should identify the areas of priority for 2006 and take a flexible approach to the scope of those issues as the parties work on viable solutions.

November 15, 2005

Respectfully Submitted:

By: _____
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