California ISO
Shaping a Renewed Future

California Independent System Operator Corporation

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Mr. Michael Picker
Senior Advisor
Governor's Office
State Capitol
Sacramento, CA 95814

Re: Resource Adequacy Deliverability Issues for New Renewable Generation

Dear Mr. Picker:

Recently you asked the California Independent System Operator (ISO) and California Public Utilities Commission (CPUC) to look into the issue of resource adequacy for new generation projects that can help the state meet its renewable resources goals. As we understand, a number of projects are seeking power purchase agreements with load serving entities within California but are having difficulty coming to acceptable terms. The principal issue is whether the project can provide resource adequacy value and when this will be available.

In response to your request, we have prepared the following information for your use and feel it will provide valuable clarification for the project developers and interested parties.

Introduction

The following describes proposals to address two distinct issues that have been raised regarding the ability of new renewable generating resources to provide resource adequacy (RA) capacity to buyers (load-serving entities or LSEs) within the ISO balancing authority area (BAA). In both cases, the expressed concern is that the resources' limited ability to provide RA capacity will adversely affect their ability to obtain contracts with LSEs that provide a sufficient and predictable revenue stream to support project financing.

The ability of resources to provide RA capacity hinges on an ISO determination that they are "deliverable," which means that during peak system load conditions, the ISO grid is able to receive energy and reserves from all designated RA capacity simultaneously without exceeding any grid capacity limits or having other adverse reliability impacts. ISO engineers assess and quantify deliverability on an annual basis for all capacity resources located inside the ISO BAA and for each of the inter-ties connecting the ISO to adjacent BAAs.

Issue 1. For resources located outside the ISO BAA, the total amount of RA capacity they collectively can offer is limited to a quantity called the maximum import capability (MIC), which is determined by the ISO annually based on historical energy imports during peak system conditions. Parties have indicated that the historical approach yields excessively conservative MIC values on some inter-ties, which hinder development of new external renewable resources.

Issue 2. For certain renewable resources connecting directly to the ISO grid, there is a lag of up to five years between their start of commercial operation (production of energy) and the completion of the transmission network upgrades required to make them fully deliverable for RA purposes. During these interim years the resources would be ineligible, or only partially eligible, to provide RA capacity to their LSE buyers.

Proposed Solution For Issue 1

The ISO has developed and is working to implement a proposed solution for issue 1 that is comprised of two components:

1. **Revise the ISO procedure for determining the MIC values for each inter-tie to provide for additional RA import capability above the historically-based level.**
   a. The additional MIC on each inter-tie would be based on the in-progress or potential development of renewable generation that would utilize each inter-tie for delivering energy and providing RA capacity, subject to the operational requirement that all RA capacity can be utilized simultaneously and reliably to meet ISO peak load conditions when needed.
   b. The new MIC procedure will provide additional RA import capability in areas that are viewed as overly constrained under the existing procedure. However, it will not modify the rules for annually determining and allocating the additional MIC capacity to LSEs for their use in contracting with RA suppliers. Although this approach does not allocate RA import capacity directly to the resources themselves as some would like, it will enable contracting to go forward, and it has the important benefit of not requiring changes to the ISO tariff. The new procedure can be developed and codified in the ISO Business Practices Manual (BPM) within a matter of several months, after conducting a short stakeholder process.
2. **Use the ISO's annual comprehensive transmission planning process (TPP) to identify and approve any transmission additions or upgrades needed to maintain the expanded MIC values.**
   a. The ISO's new public policy-driven transmission category approved by FERC last December provides the basis for the ISO to identify and approve the needed transmission. In other words, if the ability to provide RA capacity is needed in order for renewable developers to obtain contracts with LSEs that will support project financing, then RA deliverability for these resources is needed to achieve the state's renewable policy objectives. Once approved by the ISO, these transmission elements would be open to a competitive solicitation process in which non-incumbent transmission developers would be able to submit proposals to build and own transmission under certain conditions.

ISO approval is sufficient to identify the necessary transmission facilities to support the import deliverability and to authorize cost recovery for these facilities through transmission rates. However, there are two additional requirements. First, the additional necessary transmission upgrades would still require permitting by the CPUC or other siting authority to proceed with construction. Second, the host BAAs for these external resources would need to ensure that their own transmission systems will support the resources' deliverability to the appropriate ISO inter-tie point.

In terms of timing, the ISO has already initiated a stakeholder process to develop component 1, the revised MIC procedure, and expects to complete a final proposal by mid May. The ISO will formally codify the new procedure in BPM language that would be finalized in August. The ISO will discuss component 2 in the context of the 2011/2012 TPP cycle, specifically through the publication of the draft planning assumptions published March 31, 2011. Initially, the renewable generation scenarios used in the 2010/2011 TPP cycle will provide preliminary target MIC values. In parallel, the ISO will be working with the CPUC to identify updates, if any, to the renewable generation scenarios and on that basis will confirm the target MIC values on each inter-tie during the TPP cycle. If additional transmission upgrades are needed to be permitted by the CPUC, those upgrades will require additional time to complete the permitting and construction process.

Proposed Solution For Issue 2

This solution is proposed to apply only to projects that meet the terms for the ARRA cash grants and which already have contracts with the LSEs that are under renegotiation after additional deliverability analysis from the ISO. In addition, the projects must not be located in a resource-constrained local capacity area.

The expected gap of up to five years with limited or no RA deliverability, for these specific projects, is fairly short relative to the full duration of the bilateral contracts currently being negotiated, e.g., 20 years. Therefore, we believe some LSEs would be willing to execute contracts with these resources conditional on RA capacity being provided by a date certain when the deliverability network upgrades would be in service, and would manage any interim impacts on their annual RA procurement through other means.

The proposed time period in which the LSEs would agree to provide replacement RA capacity would be limited to the time period up to three years after the date of full deliverability agreed to in the signed large generator interconnection agreement (LGIA).

In the interim, the LSE would be willing to procure additional RA capacity, or may directly own some generation that it could offer to complete its annual or monthly RA requirements. In determining the amount of replacement capacity required, the LSE will apply the CPUC rules for determining RA capacity. The LSE would provide this RA capacity, and would bill the developer the market price for the replacement capacity, at a cost not to exceed the per-MW price of the ISO's backstop procurement authority (e.g., $55 per kw/yr). This has the benefit of capping the potential cost to the renewable projects for RA value they are unable to initially provide.

As a further backstop, the LSE may in some months be short of its RA requirement, in which case the ISO could procure backstop RA capacity under its tariff provisions to make up the shortfall and bill the cost of this capacity to the deficient LSE, who would in turn bill the renewable generator at the tariff defined backstop level. In that event where an LSE is short of its RA requirement because it was unable to procure replacement capacity, the LSE may then ask the CPUC to waive any associated RA deficiency charges.

We hope that this is responsive to your request and can provide clarification for all parties. If you have any questions or require additional information, please do not hesitate to contact us.

Sincerely,

Karen Edson

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California ISO

Julie A. Fitch

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