

# **California ISO Interconnection Standards Review for Renewable Integration**

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## **Summary:**

Calpine encourages the CAISO to continue its review of the required reliability-based interconnection requirements of all generation technologies. Claims that such a review should be deferred to other entities (such as NERC or WECC) or discontinued due to ongoing research (such as 33 percent penetration studies) should be dismissed.

**The CAISO review of interconnection standards is entirely consistent with its role as reliability guardian.**

Both the Mission and Vision of the CAISO indicate that a primary responsibility of the organization is to maintain a reliable system in a non-discriminatory manner. Based on the representations of the CAISO technical staff, it appears that increasing penetrations of renewable power with unmodified interconnection standards could place system reliability at risk. This possibility, in and by itself requires the CAISO to continue this stakeholder proceeding.

**Conventional (and renewable geothermal) generation is currently burdened with necessary, but discriminatory and uncompensated reliability obligations.**

The CAISO presentation highlights several reliability-related operating characteristics that variable generation typically lacks, including primary frequency response (governor response), voltage control and voltage/frequency ride-through capability. Each of these characteristics protects the reliability of the system. Non-variable generation typically provides these characteristics without clear compensation. This asymmetry puts an undue burden on non-variable generation to maintain reliability.

**Requests to suspend this interconnection review should be rejected.**

On the February 19<sup>th</sup> stakeholder call, several stakeholders suggested that this review was premature, redundant, or otherwise misplaced. They suggested that reviews by the WECC or NERC should be allowed to proceed to their conclusion and that in essence, the CAISO should delegate its obligation to maintain the reliability of the system to those agencies. Calpine disagrees and supports both the timeliness and scope of the proposed review.

A quick review of the CAISO's interconnection queue is sufficient to conclude that the time for review or reform is now. Tens of thousands of renewable resources reside in the queue, many of which have posted significant non-refundable deposits. Transmission into the Tehachapi region will allow hundreds of megawatts of new wind generation on the system. If even a small fraction of those projects in the queue become operational, the concerns of the CAISO may become manifest.

In addition, Calpine agrees with the CAISO, that the NERC and WECC processes are "incompatible with CAISO needs." Indeed, NERC has been reviewing a variety of possible standards related to intermittent integration<sup>1</sup> for nearly 3 years, with little clarity or resolution and paralyzing controversy. The WECC is currently considering suspension<sup>2</sup> of its investigation into Low-Voltage Ride-Through, in part because of a similar, but slowly moving standards request at NERC (NERC PRC-024-1).

Finally, Calpine believes that a glance to Texas may be instructive. Many in ERCOT believe that the "horse is out of the barn" as 9,000 MW of wind has been added to the system without precisely the kinds of reliability requirements under consideration in this proceeding. In an attempt to shut the barn doors, ERCOT appears to be left with no alternative but to impose new standards on existing assets, unfortunately but unavoidably causing commercial or contractual disruptions. The CAISO is appropriately using foresight in order to avoid a similar disruption.

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<sup>1</sup> See, for example, AWEA's review of standards" with unique wind related concerns" at [http://www.awea.org/policy/regulatory\\_policy/pdf/Kirby\\_Summary\\_NERC\\_Standards\\_Process\\_and\\_Wind\\_Power.pdf](http://www.awea.org/policy/regulatory_policy/pdf/Kirby_Summary_NERC_Standards_Process_and_Wind_Power.pdf)

<sup>2</sup> See Withdrawal letter and pending action at the WECC Planning Committee <http://www.wecc.biz/standards/development/wecc-60/default.aspx>

**Parallel efforts to assess the feasibility and requirements of integrating high penetrations renewables should not be confused with the reliability obligations of the CAISO.**

The current effort to investigate the consequences of meeting the 33 percent renewables penetration standard will provide valuable and necessary insight into operational challenges, product requirements and possibly, the need for new market products. However, those findings are not required precursors to a review of reliability-based interconnection standards. Indeed, intermittent penetrations much lower than 33 percent (by energy) could reveal the reliability problems the CAISO foresees.

**Thank you for allowing us to comment.**