

**Comments of the California Wind Energy Association (CalWEA)
on the CAISO's April 26, 2010, Draft Final Straw Proposal on
Interim Interconnection Standards for Large Generator Facilities**

April 30, 2010

Once again CalWEA wants to express its strong supports for all initiatives that are intended to maintain the reliability of the CAISO controlled grid. In that regard, the wind industry wishes to contribute to maintaining system reliability so far as the burden that it is asked to carry for that purpose is equitable and reasonable and will not endanger the independent wind generation industry. As we have stated in the past, we remain concerned of unintended consequences of the newly proposed interconnection requirements that if not carefully designed and implemented may jeopardize the sheer existence of an independent wind industry in California.

CalWEA wants to thank the CAISO for taking our previous set of comments (dated April 9, 2010) seriously and explicitly incorporating some of our proposed changes, particularly as related to exemption criteria and voltage control location, in its Draft Final Straw Proposal on Interim Interconnection Standards for Large Generator Facilities. We remain hopeful that we can work closely with the CAISO in devising effective, meaningful and equitable reliability requirements in this and future rounds of discussions on interconnection standards.

As we have noted before wind generators interconnecting to the CAISO grid already comply with the reliability requirements spelled out in the FERC Order 661A. The wind industry is willing to work with the CAISO on implementation of additional capabilities at our plants provided that their application is determined on the basis of reasonable and meaningful reliability needs rather than a vague sense that they may help meet some reliability standards that in themselves may already be completely outdated. In this regard, we would like the CAISO to use the Phase II of its LGIP interconnection study process to determine whether the reactive power requirements and generation droop requirements for renewable resources are actually needed and, if needed, to what extent they should be added for the generators being studied in that Phase II study, and how applied in actual operations.

Furthermore and more importantly, we want to ensure that all generation in the CAISO fleet are required to also comply with the reliability requirements specified for renewable generators including the capability for voltage and frequency ride through and active power ramp control. It is imperative that not only all generators in the CAISO footprint (and potentially the entire WECC footprint) are required to offer and apply the same capabilities required from renewable generators and also the functioning of such capabilities is proper and reliable, particularly that of the generation droop functionality, and is verified on regular basis for these generators (e.g., PMU verification). We are not only asking for such sweeping requirements as a matter of equity but also and more importantly as a matter of improving the reliability and the flexibility of the CAISO and the WECC power systems.

More specifically, we would like to offer the following additional comments:

1. The CAISO should explicitly spell out that its reliability requirements are only applicable to generators larger than 20 MW.
2. Alongside its pronouncement that the added reliability requirements not be retroactively applied to generators that are currently in operation or those that have already committed to the installation of certain equipment, regardless of their PPA or LGIA status, the CAISO should clearly indicate that future changes in contractual arrangements alone will not trigger the application of added reliability requirements to such generators.
3. CAISO should clearly spell out that the 5% droop requirement for a wind generator is downward (in response to frequency rise) only and is based on the generation level of the wind generator at the time when the droop action is required – i.e., the generation droop slope would dynamically change based on the availability of the wind. CAISO should also spell out that time period for the wind generation droop action is limited to the time that it takes for the system AGC (within seconds) and later on system dispatch (within minutes) to take over frequency control and appropriately quickly relieve the “unit governors.” In that regard, we recommend that a time duration limit of 30 seconds should be specified for the duration of the droop action for renewable generators. Finally, the CAISO should realize that the needed technologies to trigger the droop action for wind generators in a very small time period and at the same time adjust the slope of the droop function to correspond to the level of the wind generation does not currently exist and hence a suitable transition period commensurate with the competitive commercial availability of such a technology should be allowed for – please see item 5 below for a suggestion for determining such a transition period.
4. CAISO should clearly spell out the process that it intends to put in place to reconcile its interconnection requirements with those that the NERC is developing on a national level. A single National Standard for such reliability requirements is critical to reliable equipment a rational process, and an ongoing viable industry. Most specifically CAISO should indicate how it will adapt its interconnection requirements to match those developed and adopted by the NERC.
5. CAISO should consider all conditions that we proposed for determining whether the transition period for the implementation of interconnection requirements are met. As we have stated in our previous set of comments, the transition period for a specific interconnection requirement should be the later of: a) two years after the signing of an LGIA by the wind generator; b) up to two years after the date when the interconnection requirement is reconciled with the same one developed by NERC on a national level; or c) one year after the necessary technologies to implement that interconnection requirement are made available on a competitive basis from at least three not cross licensed equipment manufacturers offering such technology in North America with the commercial ability to retrofit to then existing equipment.
6. CAISO should take our request for specifying the location of voltage and power factor control seriously. As we have indicated on a number of occasions, for numerous reasons beyond just the reactive power hunting phenomenon at the

POI, it may be more suitable for a wind generator to control the voltage and reactive power at its terminals (high side of its step up transformer) than at the POI. The presence of a long gen-tie is one good example of why having to meet the voltage and power factor requirements at the POI may not be reasonably practicable. Hence, wind generators that are connected to the POI via a long gen-tie (one mile or longer) should be allowed to control the voltage and power factor at their source device terminals – it may be possible to switch the control point to generators' terminals with appropriate correction to support conditions at the POI.

7. We are encouraged by the CAISO's commitment to postpone the implementation of any active power control for renewable generators until after the completion of a stakeholder process intended to develop the necessary protocols for such active power controls. We are further encouraged that CAISO intends to follow the lead of the NYISO in managing overgeneration conditions in the CAISO system. However, it is imperative that we carefully review all aspects of the NYISO's protocols in this area and only adopt those elements of their protocols that are most suitable for the CAISO footprint.
8. CAISO should work with the LSEs and the CPUC to exclude all CAISO initiated curtailments from provisions in PPAs pertaining to minimum energy deliveries, as well as from its own charges.