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January 19, 2006

Ms. Magalie Roman Salas Secretary Federal Energy Regulatory Commission 888 First Street, NE Washington, DC 20426

> RE: ERRATA to Joint Filing of the Large Generator Interconnection Agreement of the California Independent System Operator Corporation, Pacific Gas and Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company -- Docket Nos. ER04-445-00\_, ER04-435-00\_, ER04-441-00\_, ER04-443-00\_.

Dear Secretary Salas:

On January 18, 2006, the California Independent System Operator Corporation ("ISO") submitted a compliance filing in the captioned docket. It has come to the ISO's attention that the clean tariff sheets included in Attachment B to the compliance filing contained a couple of inadvertent errors: on Sheet No. 1268 and Sheet No. 1268A, the words "and ISO" were incorrectly added to sentences (appearing in the sixth line of numbered paragraph 1 on each page) which should properly have ended with the phrase "documented by the Participating TO." The ISO now provides, in Attachment A to the present filing, the corrected tariff sheets. Please replace the referenced sheets provided in the January 18, 2006 compliance filing with the sheets included in Attachment A to the present filing. The ISO regrets any inconvenience this may have caused.

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This filing has been served on all parties on the official service list for the captioned docket and has been posted on the ISO website. Two additional copies of this filing are enclosed to be date-stamped and returned to our messenger. If there are questions concerning this filing, please contact the undersigned.

Respectfully submitted,

un Sean A. Atkins

Charles F. Robinson General Counsel Grant Rosenblum Regulatory Counsel The California Independent System Operator Corporation 151 Blue Ravine Road Folsom, CA 95630

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# ATTACHMENT A

## Appendix H To LGIA

# INTERCONNECTION REQUIREMENTS FOR A WIND GENERATING PLANT

Appendix H sets forth requirements and provisions specific to a wind generating plant. All other requirements of this LGIA continue to apply to wind generating plant interconnections.

#### A. Technical Standards Applicable to a Wind Generating Plant

# i. Low Voltage Ride-Through (LVRT) Capability

A wind generating plant shall be able to remain online during voltage disturbances up to the time periods and associated voltage levels set forth in the standard below. The LVRT standard provides for a transition period standard and a post-transition period standard.

#### **Transition Period LVRT Standard**

The transition period standard applies to wind generating plants subject to FERC Order 661 that have either: (i) interconnection agreements signed and filed with FERC, filed with FERC in unexecuted form, or filed with FERC as non-conforming agreements between January 1, 2006 and December 31, 2006, with a scheduled in-service date no later than December 31, 2007, or (ii) wind generating turbines subject to a wind turbine procurement contract executed prior to December 31, 2005, for delivery through 2007.

- 1. Wind generating plants are required to remain in-service during three-phase faults with normal clearing (which is a time period of approximately 4 9 cycles) and single line to ground faults with delayed clearing, and subsequent post-fault voltage recovery to prefault voltage unless clearing the fault effectively disconnects the generator from the system. The clearing time requirement for a three-phase fault will be specific to the wind generating plant substation location, as determined by and documented by the Participating TO. The maximum clearing time the wind generating plant shall be required to withstand for a three-phase fault shall be 9 cycles at a voltage as low as 0.15 p.u., as measured at the high side of the wind generating plant step-up transformer (i.e. the transformer that steps the voltage up to the transmission interconnection voltage or "GSU"), after which, if the fault remains following the location-specific normal clearing time for three-phase faults, the wind generating plant may disconnect from the transmission system.
- 2. This requirement does not apply to faults that would occur between the wind generator terminals and the high side of the GSU or to faults that would result in a voltage lower than 0.15 per unit on the high side of the GSU serving the facility.
- 3. Wind generating plants may be tripped after the fault period if this action is intended as part of a special protection system.
- 4. Wind generating plants may meet the LVRT requirements of this standard by the performance of the generators or by installing additional equipment (e.g., Static VAr Compensator, etc.) within the wind generating plant or by a combination of generator performance and additional equipment.
- 5. Existing individual generator units that are, or have been, interconnected to the network at the same location at the effective date of the Appendix H LVRT Standard are exempt from meeting the Appendix H LVRT Standard for the remaining life of the existing generation equipment. Existing individual generator units that are replaced are required to meet the Appendix H LVRT Standard.

Issued by: Charles F. Robinson, Vice President and General Counsel Issued on: January 19, 2006

#### Post-transition Period LVRT Standard

All wind generating plants subject to FERC Order No. 661 and not covered by the transition period described above must meet the following requirements:

- 1. Wind generating plants are required to remain in-service during three-phase faults with normal clearing (which is a time period of approximately 4 9 cycles) and single line to ground faults with delayed clearing, and subsequent post-fault voltage recovery to prefault voltage unless clearing the fault effectively disconnects the generator from the system. The clearing time requirement for a three-phase fault will be specific to the wind generating plant substation location, as determined by and documented by the Participating TO. The maximum clearing time the wind generating plant shall be required to withstand for a three-phase fault shall be 9 cycles after which, if the fault remains following the location-specific normal clearing time for three-phase faults, the wind generating plant may disconnect from the ISO Controlled Grid. A wind generating plant shall remain interconnected during such a fault on the ISO Controlled Grid for a voltage level as low as zero volts, as measured at the high voltage side of the wind GSU.
- 2. This requirement does not apply to faults that would occur between the wind generator terminals and the high side of the GSU.
- 3. Wind generating plants may be tripped after the fault period if this action is intended as part of a special protection system.
- 4. Wind generating plants may meet the LVRT requirements of this standard by the performance of the generators or by installing additional equipment (e.g., Static VAr Compensator) within the wind generating plant or by a combination of generator performance and additional equipment.
- 5. Existing individual generator units that are, or have been, interconnected to the ISO Controlled Grid at the same location at the effective date of the Appendix H LVRT Standard are exempt from meeting the Appendix H LVRT Standard for the remaining life of the existing generation equipment. Existing individual generator units that are replaced are required to meet the Appendix H LVRT Standard.

# ii. Power Factor Design Criteria (Reactive Power)

A wind generating plant shall operate within a power factor within the range of 0.95 leading to 0.95 lagging, measured at the Point of Interconnection as defined in this LGIA in order to maintain a specified voltage schedule, if the Interconnection System Impact Study shows that such a requirement is necessary to ensure safety or reliability. The power factor range standard can be met by using, for example, power electronics designed to supply this level of reactive capability (taking into account any limitations due to voltage level, real power output, etc.) or fixed and switched capacitors, or a combination of the two, if agreed to by the Participating TO and ISO. The Interconnection Customer shall not disable power factor equipment while the wind plant is in operation. Wind plants shall also be able to provide sufficient dynamic voltage support in lieu of the power system stabilizer and automatic voltage regulation at the generator excitation system if the Interconnection System Impact Study shows this to be required for system safety or reliability.

#### iii. Supervisory Control and Data Acquisition (SCADA) Capability

The wind plant shall provide SCADA capability to transmit data and receive instructions from the Participating TO and ISO to protect system reliability. The Participating TO and ISO and the wind plant // Interconnection Customer shall determine what SCADA information is essential for the proposed wind plant, taking into account the size of the plant and its characteristics, location, and importance in maintaining generation resource adequacy and transmission system reliability in its area.

Issued by: Charles F. Robinson, Vice President and General Counsel Issued on: January 19, 2006

Effective: January 18, 2006

# **Certificate of Service**

I hereby certify that I have this day served a copy of this document upon all parties listed on the official service list compiled by the Secretary in the abovecaptioned proceedings, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated this 19<sup>th</sup> day of January, 2006 at Folsom in the State of California.

unlin Grant Rosenblum

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