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**Sheila Ray** (12/21/2005 3:03:45 pm)**SONGS Relay Settings for Degraded Grid Voltage Protection**

In 1995, degraded voltage protection systems were installed at San Onofre Nuclear Generating Station (SONGS) to ensure separation from offsite power if the grid voltage is below the voltage (below 218 kV) needed to support plant safety equipment operability. The 218 kV is the minimum voltage under the most limiting condition where one SONGS unit is shutdown and the remaining unit trips. During a March 2005 assessment, the validity of 218 kV as the minimum voltage required was questioned by the licensee. Evaluations indicated that 222.2 kV was required for the operability of the offsite power circuit. Below this voltage, the Class 1E AC bus voltage may not have recovered above the upper reset limit of the degraded voltage protection systems. If the post-trip voltage would have been between 218 kV and 222.2 kV, the plant would have separated from offsite power unnecessarily. The EDGs could have still supplied the safety buses. This condition does not meet the requirements of GDC 17 such that one of the two required offsite sources would not have been available within a few seconds.

In the short term, procedures have been revised to change the 218 kV to 222.2 kV. The licensee is still evaluating other options to reduce the voltage required at the SONGS switchyard.

For more details, please see [San Onofre LER 2005-003](#).

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