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October 27, 2009

TO: U.S. Nuclear Regulatory Commission

**RE: Proposed Rule and Revision to the Generic Environmental Impact Statement (GEIS) for License Renewal of Nuclear Plants (NUREG-1437)**

Dear Sirs,

The Santa Lucia Chapter of the Sierra Club represents Sierra Club members residing in San Luis Obispo County, California, the reactor community of the Diablo Canyon Nuclear Power Plant.

We wish to bring to your attention several statements from the alternatives analysis in the Generic EIS:

“Presently, energy extracted from wind cannot be stored.” And: “To serve as a source of commercial power, photovoltaic systems and concentrating solar power systems would need to work in conjunction with energy storage systems such as batteries.”

Both of these assertions need to be revised and corrected in light of current technology. The Generic EIS should note:

- In April of this year, as part of the American Recovery and Reinvestment Act, the Vice President outlined plans for the Dept of Energy to distribute more than \$3.3 billion in smart grid technology development grants and an additional \$615 million for smart grid storage.
- Xcel Energy has begun testing battery-storage technology that captures wind energy and moves it to the grid when needed. S&C Electric Company has developed a Smart Grid Storage Management System, an automatic controller that provides the ability to store energy in a battery storage system, and to control the discharge of power when required.
- Grid Storage Technologies has developed a utility scale zinc/air battery technology with a rated power capacity of 1 MW and 6 hours of energy storage with low maintenance cost.
- Grid support energy storage is currently a \$2.4 billion market, growing at a rate of more than 3% per year.

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Add: J. Davis (JXD10)

We also note the following statement from your analysis of alternative energy sources:

“Historically, photovoltaic systems have not been used for commercial power generation, but have been used to power appliances and homes in remote locations that cannot be easily connected to the transmission grid.”

And here we note the use of the past-tense. “Historically,” all fuel was derived from the burning of wood. In the present, we direct the NRC’s attention to the nation of Germany, the world’s premier market for PV solar power generation, because it has a feed-in tariff for renewable electricity, requiring utilities to pay customers a guaranteed rate for solar power they **feed into the grid**, a policy which resulted in Germans installing about 1,300 megawatts of new PV capacity in 2007, up from 850 megawatts in 2006. In 2008, Spain added 2,500 megawatts of PV to its installed base of solar power. As capacity has risen, installed PV system costs have been cut in half. Market analysts expect solar power to supply 25 percent of Germany’s electricity demand by 2050.

On October 11<sup>th</sup>, 2009, California Governor Arnold Schwarzenegger signed two bills into law – one that increases market access for small-scale solar power producers, and one that requires utilities to pay for the excess power that owners of rooftop solar panels and backyard wind turbines feed back into the grid. California homeowners with solar panels currently receive a credit for extra energy sent to the grid. This legislation is likely to result in a significant increase in solar PV in California in the next few years.

We are surprised to find that the NRC is evidently unaware of all of the above. We assure you that neither California nor Germany consists primarily of “homes in remote locations that cannot be easily connected to the transmission grid.” The GEIS’s version of wind and solar power and renewable energy storage technology is cursory, severely out of date or wholly lacking, and of no use in an alternatives analysis that should evaluate the viability of nuclear power plants over a 20-year period that will be marked by increasing costs and scarcity of nuclear fuel and increasing costs of plant maintenance and repair, simultaneously with smart grid and renewable energy storage technologies coming on line as the price of solar and wind power continues to drop, all pointing toward the potential commercial obsolescence of nuclear power within the relicensed period.

For the above reasons, we strongly suggest that the Department of Energy, not the NRC, be tasked with the analysis of renewable energy sources as alternatives to the relicensing of nuclear power plants.

For the Santa Lucia Chapter,

Andrew Christie  
Chapter Director