UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 2, 2007

Dr. Jill Lipoti
Director Division of Environmental
Safety and Health
P.O. Box 424
Trenton, NJ 08625-0424

SUBJECT: OYSTER CREEK DRYWELL CORROSION ANALYSIS

Dear Dr. Lipoti:

We received your letter dated January 31, 2007, in which you expressed concerns about the accuracy of the General Electric (GE) analysis of the Oyster Creek Generating Station drywell shell performed in the early 1990s in light of the more sophisticated analysis recently conducted by Sandia National Laboratory (Sandia) under contract to the U.S. Nuclear Regulatory Commission (NRC). You asked the NRC to require AmerGen to perform a new drywell structural analysis that is equally or more accurate than the Sandia analysis and to withhold its final decision on the Oyster Creek license renewal application pending (a) the staff review and approval of the proposed analysis, and (b) any associated aging management program changes.

The NRC staff does not agree with your conclusion that the GE analysis is "inaccurate and results in non-conservative required drywell thicknesses." The staff reviewed and approved this analysis in 1992, with the assistance of Brookhaven National Laboratory (BNL), and found it acceptable. The analysis remains part of the Oyster Creek licensing basis and establishes the acceptance criteria for the drywell inspections, which are conducted in accordance with the ASME Code.

The NRC staff also does not agree that the Sandia analysis is "technically more accurate" than the GE analysis. The Advisory Committee on Reactor Safeguards (ACRS) subcommittee commented that the Sandia analysis was "more realistic" because it was based on a 3-D finite element analysis instead of a 36 degree slice used by GE. However, the GE staff performing the analysis had access to plant-specific data that was not available to the Sandia staff, so certain bounding assumptions had to be made to conduct the Sandia analysis. As such, the Sandia analysis could be more conservative than GE analysis.

In addition, as was discussed in the ACRS full committee meeting, the GE analysis included the modification of the capacity reduction factor, which was not included in the Sandia analysis. As discussed in the transcripts for the ACRS subcommittee and full committee meetings, the justification to the modification of this capacity reduction factor was based on testing results obtained by GE from Dr. Clarence Miller of Chicago Bridge and Iron, which were not available to the Sandia staff. As the NRC staff stated at the ACRS full committee meeting, modifying the capacity reduction factor in the Sandia analysis would have yielded margins of safety and minimum thicknesses similar to the GE analysis. Nonetheless, even without the modification of the capacity reduction factor, the Sandia analysis found that the margins of safety for the prescribed design loads satisfy the requirements of Subsection NE and Code Case N-284 of the ASME B&PV code.

After receipt of your letter, the ACRS report issued February 8, 2007, recommended adding a condition to the renewed license that the applicant perform a 3-D (dimensional) finite-element analysis of the drywell shell prior to entering the period of extended operations. In a letter dated February 15, 2007, AmerGen committed to complete the structural analysis. On the basis of AmerGen's commitment, the staff will require AmerGen to submit its new structural analysis to the staff prior to the period of extended operations to confirm that the current licensing basis will be maintained.

Should you have any question about license renewal, please contact me by telephone at 301-415-1183 or via e-mail at ptk@nrc.gov. If you have any questions about current operation of Oyster Creek, please contact Edward Miller by telephone at 301-415-2481.

Sincerely,

Pao-Tsin Kuo, Director
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket No. 50-219