

March 20, 2006

C. N. Swenson  
Site Vice President  
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P.O. Box 388  
Forked River, NJ 08731

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE  
OYSTER CREEK NUCLEAR GENERATING STATION, LICENSE RENEWAL  
APPLICATION (TAC NO. MC7624)

Dear Mr. Swenson:

By letter dated July 22, 2005, AmerGen Energy Company, LLC (AmerGen or the applicant) submitted to the U.S. Nuclear Regulatory Commission (NRC or the staff) an application pursuant to Title 10 of the *Code of Federal Regulations* Part 54 (10 CFR Part 54), to renew the operating license for Oyster Creek Nuclear Generating Station. The NRC staff is reviewing the information contained in the license renewal application and has identified, in the enclosure, areas where additional information is needed to complete the review.

These questions were discussed with members of your staff during a conference call on February 8, 2006. A mutually agreeable date for a response is within 30 days from the date of this letter. If you have any questions, please contact me at 301-415-3191 or via e-mail at [DJA1@nrc.gov](mailto:DJA1@nrc.gov).

Sincerely,

*/RA/*

Donnie J. Ashley, Project Manager  
License Renewal Branch A  
Division of License Renewal  
Office of Nuclear Reactor Regulation

Docket No. 50-219

Enclosure:  
As stated

cc w/encl: See next page

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Letter to C. N. Swenson from Donnie J. Ashley dated March 20, 2006

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE  
OYSTER CREEK NUCLEAR GENERATING STATION, LICENSE RENEWAL  
APPLICATION (TAC NO. MC7624)

**HARD COPY**

DLR R/F

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**OYSTER CREEK NUCLEAR GENERATING STATION  
LICENSE RENEWAL APPLICATION (LRA)  
REQUEST FOR ADDITIONAL INFORMATION (RAI)**

**RAI 2.4.1-1**

A review of LRA Table 2.4.1 indicates that drywell seismic supports and anchorages are not within the scope of license renewal, though they are relied upon for drywell stability. A component type "Biological Shield Wall - Lateral Support" is in the Table. The staff requests the applicant to provide justification for not including the drywell seismic lateral supports and anchorages within the scope of license renewal.

**RAI 2.4.1-2**

LRA Tables 2.4.1 and 2.4.2 do not incorporate refueling cavity seal components within the scope of license renewal, although the plant has experienced significant corrosion (as described in Item 4 of LRA Section 3.5.2.2) of the drywell as a result of leakage from the seal. The staff requests the applicant to include the seal in the scope of license renewal, or provide justification for not including it within the scope of license renewal.

**RAI 2.4.2-1**

LRA Page 2.4.8 states that structural seals are within the boundary of evaluation, but without explaining what they are. The staff requests the applicant to identify all the structural seals in the reactor building.

**RAI 2.4.8-1**

LRA Section 2.4.8, Fire Pond dam, states that the dam is classified as Safety Class III. The staff requests the applicant to identify the location in the LRA or updated final safety analysis report (UFSAR) where the definition of Safety Class III is provided. If the definition was not provided in the LRA or UFSAR, the staff requests the applicant to provide a definition for Safety Class III.

**RAI 2.4.9-1**

LRA Section 2.4.9, Fire Pumpouses, states that the pumphouse and the tank foundations are classified non-safety related, Seismic Class II. The staff request the applicant to identify the location in the LRA or UFSAR where the definition of "non-safety related, Seismic Class II" is provided. If the definition was not provided in the LRA or UFSAR, the staff requests the applicant to provide a definition for "non-safety related, Seismic Class II."

**RAI 3.5-1**

LRA Table 3.5.2.1.1 indicates that fretting and lockup of suppression pool downcomers will be managed by ASME Section XI, Subsection IWE (AMP B.1.27). Directly, the downcomers are

not part of the pressure boundary. Subsection IWE does not provide examination requirements and acceptance criteria for downcomers.

However, as a convenience, the examinations of downcomers can be included in Subsection IWE requirements, with special provisions for examining the downcomers for fretting or lockups in the plant-specific procedures. The staff requests the applicant to provide (1) a discussion of operating experience related to downcomers fretting or lockups, and (2) the ISI provisions incorporated in the plant-specific IWE program.

#### **RAI 3.5-2**

LRA Table 3.5.2.1.1 credits 10 CFR Part 50, Appendix J (AMP B.1.29) for management of downcomers "Loss of Material." It is not apparent, how the leak testing requirement of Appendix J will detect loss of material of downcomers. The staff requests the applicant to discuss the use of Appendix J in managing loss of material in downcomers.

#### **RAI 3.5-3**

Under component types "Reactor Pedestal" and "R.C. Floor Slab," a reference is made to LRA Table 1 Item 3.5.1-29. The discussion in Item 3.5.1-29 indicates that the concrete temperatures in the upper part of the drywell could be as high as 259EF. As a result, the reactor building drywell shield concrete had significant cracking. However, the cause of the high temperature is not indicated. In light of the above discussion, the staff requests the applicant to provide the following information:

- a. Type and adequacy of the cooling system used to control the temperatures in the drywell.
- b. Operating experience related to the reliability of the cooling system.
- c. Actions taken to reduce the high temperatures in the upper part of the drywell.
- d. A summary of the results of the last inspection of reactor pedestal, R.C. floor slabs, drywell lateral supports, and sacrificial shield wall, including the date of the inspection, and frequencies of inspection during the period of extended operation.

#### **RAI 3.5-4**

Component type "Shielding Blocks and Plates," uses patented material "Permalin," for which no aging effects are indicated in LRA Table 3.5.2.1.1. The staff requests the applicant to provide a brief description of the material, and the AMR results that justified that it does not need aging management during the period of extended operation.

#### **RAI 3.5-5**

For all component types described in LRA Table 3.5.2.1.1 (Primary Containment), the "water chemistry program" is vital for the components fully or partially submerged in water, in addition to the programs noted in the individual component types. The staff requests the applicant to provide reasons for not including the water chemistry program to manage the aging degradation of these components.

### **RAI 3.5-6**

The through-wall cracking of the Fitzpatrick torus indicates a need for closer examination of the highly restrained and structurally discontinuous areas subject to operational cyclic loads. The prime aging management program used for managing degradation of the primary containment structure is Subsection IWE (AMP B.1.27). The program is focused towards detecting loss of material. The staff requests the applicant to discuss how the program would detect initiation of such cracking in the Oyster Creek primary containment.

### **RAI 3.5-7**

LRA Table 3.5.3.1.18 indicates that the aging of Class MC component supports is managed by ASME Section XI, Subsection IWF during the CLB. However, a review of the "Enhancement" in AMP B.1.28 (ASME Section XI, Subsection IWF) indicates that the program will be enhanced during the period of extended operation to include additional MC supports and underwater structures in the torus. The staff requests the applicant to provide clarifications regarding the inspection of Class MC supports during the CLB and during the period of extended operation.

### **RAI 3.5-8**

LRA Tables 3.5.2.1.6, 3.5.2.1.15, 3.5.2.1.16, and 3.5.2.1.17 identify loss of preload as the aging effect requiring management for structural bolts, and the structural monitoring program (B.1.31) as its aging management program. The Structural Monitoring Program states that exposed surfaces of bolting are monitored for indications of loss of preload, and that the program relies on procurement controls and installation practices, defined in plant procedures, to ensure that only approved lubricants and proper torque are applied consistent with the GALL Report bolting integrity program. LRA B.1.12 Bolting Integrity Program states that the program takes exception to the GALL Report and that the aging management of structural bolting is addressed by the Structural Monitoring Program. The staff requests the applicant to address the following:

- a. The applicant needs to resolve the apparent inconsistency that the Structural Monitoring Program states that the proper torque for bolts is applied consistent with the GALL Report bolting integrity program while the Bolting Integrity Program takes exception to the GALL Report and refers the aging management of structural bolting back to the structural monitoring program.
- b. Does the applicant identify loss of preload of structural bolts by visual inspection or by applying a torque wrench? If it is by visual inspection, explain how the loss of preload can be estimated by visual inspection.
- c. LRA Section B.1.31 states that the Structural Monitoring Program relies on procurement controls and installation practices, defined in plant procedures, to ensure that only approved lubricants and proper torque are applied. The staff believes that bolt procurement controls and installation practices were supposedly used before, during, or immediately after the bolts were installed. Since the Structural Monitoring Program is being used to inspect structural bolts after the bolts were installed for sometime, the staff requests the applicant to explain how



could the Structural Monitoring Program rely on bolt procurement controls and installation practices.

- d. Are there any structural bolts or fasteners, which have a yield strength equal to or greater than 150 ksi, managed by the structural monitoring program? If yes, provide justification for not using the bolting integrity program as the aging management program for structural bolts.

**RAI 3.5-9**

LRA Table 3.5.2.1.7 lists the Structural Monitoring Program as the AMP for penetration seals of elastomer and grout in the soil environment. The AMP in LRA, Appendix B states that the program will require inspection of penetration seals, but does not state how the inspection should be conducted for penetration seals of elastomer and grout in the soil environment and the frequency of the inspection. The staff requests the applicant to describe the inspection method and frequency for penetration seals of elastomer and grout in the soil environment.

**RAI 3.5-10**

LRA Table 3.5.2.1.7 lists aluminum material embedded in concrete, and states no aging effect and requiring no AMP. The ACI Building Code prohibits the use of aluminum in structural concrete unless it is coated or covered to prevent aluminum-concrete reaction or electrolytic action between aluminum and steel. The staff requests the applicant to justify the use of aluminum material in concrete and to explain why there is no aging effect and that an AMP is not required.