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10 CFR 50
10 CFR 51
10 CFR 54

2130-03-20331
May 3, 2006

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Oyster Creek Generating Station
Facility Operating License No. DPR-16
NRC Docket No. 50-219

Subject: Supplemental Response to NRC Request for Additional Information, dated March 20, 2006, Related to Oyster Creek Generating Station License Renewal Application (TAC No. MC7624)

References: 1. NRC Letter to AmerGen dated March 20, 2006, "Request for Additional Information for the Review of the Oyster Creek Nuclear Generating Station, License Renewal Application (TAC No. MC7624)"

2. AmerGen Letter 2130-06-20291, dated April 18, 2006, "Response to NRC Request for Additional Information, dated March 20, 2006, Related to Oyster Creek Generating Station License Renewal Application (TAC No. MC7624)"

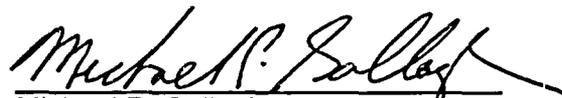
In question RAI 3.1.1-1 of Reference 1, the NRC requested additional information related to AmerGen's plans for future inspections associated with the Isolation Condensers. Reference 2 provided some information regarding those plans. In a follow-up discussion, it was determined that the NRC Staff requires some clarification of AmerGen's planned activities. The Enclosure to this letter provides this clarification.

There are no regulatory commitments made in this letter. If you have any questions, please contact Fred Polaski, Manager License Renewal, at 610-765-5935.

I declare under penalty of perjury that the foregoing is true and correct.

Respectfully,

Executed on 05-03-2006


Michael P. Gallagher
Vice President, License Renewal
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Enclosure: Clarification of Response to RAI 3.1.1-1

cc: Regional Administrator, USNRC Region I, w/o Enclosure
USNRC Project Manager, NRR - License Renewal, Safety, w/Enclosure
USNRC Project Manager, NRR - License Renewal, Environmental, w/o Enclosure
USNRC Project Manager, NRR - OCGS, w/o Enclosure
USNRC Senior Resident Inspector, OCGS, w/o Enclosure
Bureau of Nuclear Engineering, NJDEP, w/Enclosure
File No. 05040

Enclosure

**Clarification of Response to RAI 3.1.1-1
May 3, 2006**

Enclosure - Oyster Creek Isolation Condenser Monitoring

Isolation Condenser System

The Oyster Creek Isolation Condenser System has two isolation condensers, each of which contains two tube bundles. When placed into operation, steam from the reactor vessel enters the tube bundles and is condensed, with the resultant condensate returned to the reactor vessel via the Recirculation System in a closed-loop process.

Background

In 1998, both tube bundle assemblies in the "B" isolation condenser were replaced. In 2000, both assemblies in the "A" isolation condenser were replaced. The original tube material was Type 304 stainless steel; the replacement tube material is type 316L stainless steel. Due in part to leaking condensate return valves, and a resultant condition where the steam/water interface level internal to the tube bundles occurred at the level of the uppermost tubes, the original tube bundles were subjected to numerous temperature oscillations which accelerated a thermally-induced stress corrosion cracking condition in the tubes. Correction of the condensate return valve leaking condition, and use of a replacement tube bundle using a low-carbon content material more resistant to sensitization during welding (and consequently more resistant to stress corrosion cracking during operation), has substantially reduced the probability of occurrence of a tube leak. The normal steam/water interface, by design, is in the steam inlet piping to the isolation condensers, at an elevation above that of the tube bundles. The isolation condenser tubes are normally filled with condensed steam.

Isolation Condenser Monitoring

An isolation condenser tube bundle leak would constitute a breach of the reactor coolant pressure boundary. At Oyster Creek, the isolation condenser shell side water is monitored for temperature and is sampled for radioactivity in order to ascertain the continued integrity of the tube bundles. An increase in shell water temperature or presence of radioactivity in the shell water can indicate a potential tube leak. Shell water level is also monitored; an increase in level can indicate a potential tube leak. Correction of the condensate return valve leakage condition assures that water/steam interface elevation in the steam supply piping remains well above the level of the tube bundles, thus eliminating a cause of the temperature oscillations that accelerated the stress corrosion cracking in the original tube bundles. Data from temperature elements mounted on the steam inlet piping to the condensers is recorded and is used to ascertain the interface level.

The Oyster Creek Isolation Condenser System contains piping and components of ISI Classes 1, 2, and 3. The isolation condensers are ISI Class 2 on the tube side and ISI Class 3 on the shell side. Testing of the system and components is conducted per the ASME Section XI ISI program in accordance with requirements of the ASME Code as described in the Oyster Creek License Renewal Application, Appendix B, B.1.1, ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD. For the ISI Class 2 portions of the system, this testing includes an inservice pressure test, with a visual examination of accessible external exposed surfaces of piping and components, at a frequency of three times every ten years. While the isolation condenser tube bundles are part of the pressurized boundary during these tests, the bundle assemblies, located inside the condenser shells, are not accessible and are not directly observed. Shell

water temperature, level, and radiation monitoring are the indicators of any presence of isolation condenser tube bundle leakage.

Oyster Creek Isolation Condensers and GALL

In accordance with NUREG-1801, Revision 1, Oyster Creek has committed to continued isolation condenser shell water temperature monitoring and sampling for radiation in order to monitor for potential tube leaks. These periodic examinations will continue throughout the period of extended operation. In addition, Oyster Creek has committed to perform eddy current testing of the tubes, with VT or UT examination of the tube sheet and channel head, during the first ten-year period of extended operation. The eddy current testing and examination of the tubesheet and channel head require cutting of ASME Class 2 piping components, and have been proposed to be performed during the first ten year period of extended operation due to the relatively short service period of the replaced tube bundle assemblies (replaced in 1998 and 2000).

Potential Corrective Action Activities Should Indications of Tube Leakage be Observed

Should any of the monitoring activities conducted on the isolation condensers reveal conditions potentially indicative of a tube leak, initiation of the corrective action process would result in an engineering evaluation of the observed condition. Confirmatory testing could be performed, which may include controlled-inventory testing of the shell water volume with the bundle side pressurized, and enhanced radioactivity analysis of shell side water. Upon confirmation of tube leakage, repair or plugging of leaking tubes would be performed, and if warranted, eddy current testing of the bundles to determine extent of condition would be considered. Conceivably, depending on the extent, repair could consist of tube bundle replacement. Appropriate corrective action to correct a tube leakage condition in the isolation condensers would be taken, regardless of when it occurred during the period of extended operation.