

March 2, 2001

Mr. Ronald DeGregorio
Vice President Oyster Creek
AmerGen Energy Company, LLC
P.O. Box 388
Forked River, NJ 08731

SUBJECT: OYSTER CREEK NUCLEAR GENERATING STATION - REVIEW OF
LICENSEE RESPONSES TO GENERIC LETTER (GL) 96-06, "ASSURANCE
OF EQUIPMENT OPERABILITY AND CONTAINMENT INTEGRITY DURING
DESIGN-BASIS ACCIDENT CONDITIONS" (TAC NO. M96843)

Dear Mr. DeGregorio:

By letter dated January 28, 1997, as supplemented by letters dated January 31, 1997, February 26, 1997, June 3, 1997, December 22, 1998, and November 8, 1999, the licensee responded to GL 96-06, "Assurance of Equipment Operability and Containment Integrity During Design-Basis Accident Conditions." The submittals addressed the issues of water hammer and two-phase flow and thermally-induced pressurization of piping penetrating containment for the Oyster Creek Nuclear Generating Station (Oyster Creek). The NRC staff review was done in two parts - (1) Water Hammer and Two-Phase Flow Issues and (2) Thermally-Induced Pressurization of Piping Penetrating Containment.

1. Water Hammer and Two-Phase Flow Issues

GL 96-06, dated September 30, 1996, requested licensees to evaluate cooling water systems that serve containment air coolers to ensure that they are not vulnerable to water hammer and two-phase flow conditions. The licensee provided its assessment of the water hammer and two-phase flow issues for Oyster Creek in letters dated January 28, and February 26, 1997, and additional information was submitted in a letter dated October 29, 1998. Based on our review of the information that was provided, it is our understanding that: (a) the drywell cooling units are not required for accident mitigation, and (b) the Emergency Operating Procedures will be revised to instruct the operators to isolate the Reactor Building Closed Cooling Water System from the drywell coolers during a loss-of-coolant accident or a main steam line break, thereby, eliminating the potential for subsequent water hammer or two-phase flow conditions. The staff is satisfied with the licensee's response and considers the water hammer and two-phase flow elements of GL 96-06 to be closed.

2. Thermally-Induced Pressurization of Piping Penetrating Containment

In its submittals of January 28, 1997, January 31, 1997, February 26, 1997, June 3, 1997, and December 22, 1998, the licensee identified seven pipe segments penetrating containment at Oyster Creek, susceptible to thermally-induced pressurization which were evaluated for operability. They are associated with penetrations for Shutdown Cooling System (SCS) supply

and return lines, Reactor Building Closed Cooling Water (RBCCW) return line, Reactor Water Cleanup (RWC) supply line, Isolation Condenser Condensate (ICC) return lines, and Recirculation Loop Sampling (RLS) line.

In its submittal dated June 3, 1997, the licensee states that the corrective actions for the SCS and RBCCW return lines will be to install a check valve inside containment, and that the corrective action for the ICC return lines will be to install relief valves outside of the containment. In its submittal dated December 22, 1998, the licensee committed that the penetration associated with the RLS line would be modified to install overpressure protection devices. These proposed plant modifications were scheduled to be completed later this year during the 18th refueling outage. Please send us a letter stating the status of these modifications.

By letters dated June 3, 1997, and December 22, 1998, the licensee stated that the penetrations associated with SCS supply line and RWC supply line were not susceptible to overpressure failures on the bases that the calculated stresses were within 120 percent of the Code allowable stresses at the postulated temperatures. Therefore, no corrective actions are required for these two penetrations.

Installation of a check valve, a relief valve or applicable pressure relief devices is an acceptable means for relieving pressure of a solid water volume. The staff also finds that verifying the calculated stresses to be within 120 percent of the Code-allowable stress at the postulated temperatures is an acceptable means to demonstrate the operability of affected piping segments. Therefore, the staff concludes that the licensee's corrective actions, plant modifications, and verifying the calculated stresses to be within 120 percent of Code-allowable provide an acceptable resolution for the issue of thermally-induced pressurization of piping runs penetrating the containment, and the closed piping segments inside the containment.

On the dates of the letters, GPU Nuclear, Inc. (GPUN) was the licensed operator for Oyster Creek. On August 8, 2000, GPUN's ownership interest in Oyster Creek was transferred to AmerGen Energy Company, LLC (AmerGen). By letter dated August 10, 2000, AmerGen requested that the U.S. Nuclear Regulatory Commission continue to review and act upon all requests before the Commission which had been submitted by GPUN.

This completes the staff's review of GL 96-06 issues, and thus this TAC is closed.

Sincerely,

/RA/

Helen N. Pastis, Senior Project Manager, Section 1
Project Directorate 1
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-219

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* Memo input was provided and no major revisions were made.

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Oyster Creek Nuclear Generating Station

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