

June 21, 2000

Mr. Ted C. Feigenbaum
Executive Vice President and
Chief Nuclear Officer
North Atlantic Energy Service Corporation
c/o Mr. James M. Peschel
P.O. Box 300
Seabrook, NH 03874

SUBJECT: SEABROOK STATION, UNIT 1, GENERIC LETTER 96-06 RE: WATERHAMMER,
TWO-PHASE FLOW, AND THERMALLY INDUCED PRESSURIZATION
(TAC NO. M96864)

Dear Mr. Feigenbaum:

Generic Letter (GL) 96-06, "Assurance of Equipment Operability and Containment Integrity During Design-Basis Accident Conditions," dated September 30, 1996, included a request for licensees to evaluate cooling water systems that serve containment air coolers to assure that they are not vulnerable to waterhammer, two-phase flow, and thermally induced pressurization conditions. The North Atlantic Energy Service Corporation, the licensee for Seabrook Station, Unit 1, provided its assessment for Seabrook Station in a letter dated January 28, 1997. Additional information was submitted in a letter dated November 6, 1998, in response to the Nuclear Regulatory Commission (NRC) staff's letter of August 12, 1998.

Based on the NRC staff's review of the information that was provided, it is our understanding that: (a) the containment structure cooling units are not required for accident mitigation, and (b) for those situations where restoration of the non-safety-related section of primary component cooling water (PCCW) serving containment is desired for accident recovery (e.g., for operation of the instrument air system within the containment building, and for operation of the reactor coolant pumps), the applicable emergency operating procedures have been revised to open the PCCW containment supply isolation valves prior to opening the PCCW containment return isolation valves to assure that system depressurization and waterhammer do not occur. While some of the licensee's assumptions may not be entirely conservative, we find the licensee's overall evaluation to be conservative and thorough. We are satisfied with the licensee's response and consider the waterhammer and two-phase flow elements of GL 96-06 to be closed.

In the January 28, 1997 submittal, the licensee stated that each containment penetration is adequately protected and is not vulnerable to a water solid volume that may be subjected to an increase in pressure due to heating of trapped fluid. However, the licensee identified three penetration isolation valves that had the potential for overpressurization due to the heating of trapped fluid in piping adjacent to the isolation valves. These are: Safety Injection System (SIS) test line/accumulator fill line; refueling cavity drain line; and waste liquid drain line. As an interim corrective action, the licensee opened existing valves to provide relief paths for the affected piping. For its long-term corrective actions, the licensee proposed to add pressure

relief valves to the SIS test line and the waste liquid drain line. The licensee also proposed to implement a valve alignment change to the refueling cavity drain line to provide a pressure relief path for the line.

The staff finds that the licensee's corrective actions provide an acceptable resolution for the issue of thermally induced pressurization of piping runs penetrating the containment. This completes the staff's review of GL 96-06 and TAC No. M96864 is closed.

Sincerely,

/RA/

Robert M. Pulsifer, Project Manager, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-443

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