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U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555-0001

Subject: Westinghouse Owners Group
Plant Responses to Address Residual Heat Removal/Shutdown
Cooling in Mode 6 with the Reactor Vessel Internals Installed

The Westinghouse Owners Group (WOG) and Babcock and Wilcox Owners Group (BWOG) met with the NRC on June 24, 2004 to discuss the Staff's concern regarding Technical Specification 3.9.5, "RHR and Coolant Circulation- High Water Level," (NUREG-1431) and Technical Specification 3.9.4, "SDC and Coolant Circulation- High Water Level" (NUREG-1432) that require one train of residual heat removal (RHR) or shutdown cooling (SDC) to be Operable and in operation in Mode 6 with the water level ≥ 23 feet above the top of the reactor vessel flange. The Staff's concern is whether there is adequate flow communication between the core and the refueling cavity with the reactor vessel upper internals installed such that, following a loss of residual heat removal (shutdown cooling) flow, the potential for early core uncover does not exist, as opposed to the reactor vessel upper internals not being installed. The issue of potential early core uncover was identified in NUREG/CR-5820 in 1992.

As discussed in the meeting, the WOG indicated that the issue is being addressed by a WOG Improved Tech Spec Working Group action item that will result in a Bases change to manage shutdown risk. The NRC requested the WOG survey its members to identify how this issue is being addressed at the individual plants, and to provide the NRC with a letter summarizing the results of the survey. The WOG agreed to provide this information.

The following is a summary of the various methods that are being implemented by the WOG members to address the issue. It should be noted that some plants utilize multiple methods to address the issue, which is also reflected in the number of plants (units) identified in each of the methods discussed below.

Four plants (seven units) remove the reactor vessel upper internals prior to flooding the refueling cavity ≥ 23 feet above the reactor vessel flange; therefore, two RHR (SDC) trains are required to be Operable.

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September 9, 2004
WOG-04-451

Twelve plants (eighteen units) have administrative controls in place that require both trains of RHR (SDC) to be in-service until the reactor vessel upper internals are removed.

Twelve plants (nineteen units) have completed an analysis that demonstrates there is adequate communication between the core and the refueling cavity that supports removing one train of RHR from service prior to removing the reactor vessel upper internals.

Ten plants (sixteen units) maintain defense-in-depth which will be adequate to remove decay heat and preclude core boiling.

Five plants (ten units) have included or will include the issue in their Corrective Action Program.

One plant (two units) does not assume that the refueling cavity provides cooling when the upper internals are installed.

If you require further information, please contact Mr. Steve DiTommaso in the Westinghouse Owners Group Program Management Office at 412-374-5217.

Sincerely,



Frederick P. "Ted" Schiffley, II
Chairman, Westinghouse Owners Group

mjl

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