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November 9, 1984

Dr. Thomas E. Murley, Administrator
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region I
631 Park Avenue
King of Prussia, Pennsylvania 19406

Dear Dr. Murley:

NRC IE BULLETIN 84-03 DATED AUGUST 24, 1984
REFUELING CAVITY WATER SEAL
HOPE CREEK GENERATING STATION

This Bulletin describes an incident in which the pneumatic refueling cavity water seal in a PWR plant failed and rapidly drained the refueling cavity.

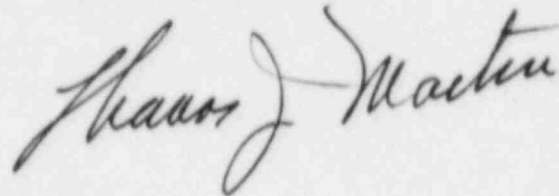
The refueling cavity water seal at Hope Creek Generating Station is quite different from that described in this Bulletin. At Hope Creek Generating Station the seal is a permanently installed assembly consisting of an annular steel bulkhead plate connected to the RPV flange with a flexible metal bellow. The outside diameter of the bulkhead plate is welded to the drywell wall. Because Hope Creek Generating Station has a free-standing steel containment, there is a similar flexible steel bellow connecting the bulkhead plate to the refueling cavity wall. Both bellow assemblies are protected by steel guard rings. Any leakage through either bellows assembly will be collected and drained through a line with a leak detection alarm.

The seal assembly has no active components. All heavy loads passing over the refueling cavity seal while the cavity is flooded are carried by a single failure proof handling system. We can postulate no mechanism for a gross seal failure. Make-up to the refueling cavity is automatically supplied from the condensate transfer system without operator action. We estimate that the available make-up flow will exceed 150 gpm. Therefore, we can see no credible seal failure which would significantly reduce the water level in the refueling cavity or the connected spent fuel pool. There is no credible mechanism to postulate a seal failure

having any effect on fuel in transfer or stored in the spent fuel pool. No operator action is required to prevent cladding damage. It should be noted that it is impossible for the removal of water from the refueling cavity to uncover the spent fuel racks. Nevertheless, an abnormal operating procedure "Decreasing Level in the Refueling Canal or Spent Fuel Pool" will be prepared by April 1, 1985, to cover the eventuality of a refueling cavity seal failure.

Should any further information be desired, we would be pleased to discuss it with you.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Thomas J. Martin".

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