



Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381-2000

John A. Scalice  
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APR 11 1997

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

Gentlemen:

In the Matter of ) Docket No. 50-390  
Tennessee Valley Authority )

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 - ADDITIONAL INFORMATION  
REGARDING REQUEST FOR LICENSE AMENDMENT TO TECHNICAL  
SPECIFICATIONS - SPENT FUEL POOL STORAGE CAPACITY INCREASE  
(TAC NO. M96930)

The purpose of this letter is to provide additional information requested in a teleconference with the NRC Reviewer, J. Mims, and NRC WBN Project Manager, R. Martin, on April 7, 1997, concerning Section 9 of TVA's October 23, 1996 license amendment request. In the teleconference TVA agreed to provide the requested information by letter to NRC. The enclosure provides this information.

No new commitments are identified in this letter. If you should have any questions, please contact P. L. Pace at (423) 365-1824.

Sincerely,

J. A. Scalice

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Enclosure  
cc: See page 2

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cc (Enclosure):

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ENCLOSURE

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1  
SPENT FUEL POOL CAPACITY INCREASE

**QUESTION 1**

TVA's letter dated October 23, 1996 provided the following statement in Enclosure 2, Section 9.4 regarding pool water radionuclide concentrations:

"When the peripheral storage racks are added, the concentrations might be expected to increase due to crud deposits spalling from spent fuel assemblies which are shuffled."

Explain what would be done if this occurs.

**RESPONSE**

Prior to installation of the peripheral racks, an estimated maximum of 225 fuel assemblies would be moved such that the peripheral racks will have a clearance of 3 feet from stored fuel assemblies. Significant increases in pool water radionuclide concentration above the normal 1 to 5 mrem/hr. dose rates due to crud spalling would be detected by the refuel floor radiation monitors located at the northeast and southwest corners of the pool. These monitors readout and alarm in the main control room. Additionally, RADCON technicians would be present during this fuel shuffling operation. RADCON survey meters would also detect radionuclide concentration increases.

If, contrary to industry pressurized water reactor (PWR) experience, there was a major increase in radionuclide concentration, shuffling and installation operations above and around the pool could be curtailed until the spent fuel pool cooling and cleaning system (SFPCS) had reduced the dose rates to acceptable levels. Although not expected to be necessary, the resin in the SFPCS flushable, mixed bed demineralizer could be changed out to facilitate the removal of fission products and other contaminants. Two spent fuel pool skimmers are also part of the SFPCS and remove floating debris from the water surface.

The SFPCS description is summarized in Section 5.2.1 of Enclosure 2 of the October 23, 1996 letter and is also described in the Final Safety Analysis Report (FSAR) Section 9.1.3.

**QUESTION 2**

TVA's letter dated October 23, 1996, contained the following statement in its Enclosure 2, Section 9.5 concerning remote installation:

"Future installation of the new, uncontaminated peripheral 'baby' racks will be done remotely while spent fuel is stored in the pool."

ENCLOSURE

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1  
SPENT FUEL POOL CAPACITY INCREASE

Discuss the tools which would be used in such a remote installation.

**RESPONSE**

Remote installation means that work will be performed from a dry location outside the pool. Divers should not be required for these modifications. During remote installation of the peripheral racks, TVA would expect to use the Auxiliary Building overhead crane and the bridge crane together with the following tools:

- NUREG-0612 qualified lifting rig which can be disengaged remotely once a rack has been placed.
- tools with extension poles for leveling the racks by adjusting the pedestals, for levelness surveys, and for checking the gaps between racks and pool walls. The extension poles allow the tools to be used from a dry location.
- a dummy fuel assembly and a spent fuel handling tool for a drag test (envelope check) of the storage cells.
- underwater TV camera to monitor the installation operations.