



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

SEP 30 2005

WBN-TS-04-17

10 CFR 50.90

U. S. Nuclear Regulatory Commission
Mail Stop: OFWN P1-35
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Gentlemen:

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

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 - REQUEST FOR ADDITIONAL
INFORMATION REGARDING THE TEMPORARY USE OF PENETRATIONS IN THE
SHIELD BUILDING DOME DURING MODES 1-4 (TAC NO. MC6269)

References: 1. Watts Bar Nuclear Plant (WBN) Unit 1 - Proposed Temporary License Amendment Request Change No. WBN-TS-04-17 - Revise Sections 3.6.4 and 3.6.15 to Allow Use of Penetrations in Shield Building Dome During MODES 1-4 for Preparation of Steam Generator Replacement Project (SGRP) dated April 4, 2005.

2. Watts Bar Nuclear Plant, Unit 1 - Request for Additional Information Regarding the Temporary Use of Penetrations in the Shield Building dome During MODES 1-4 (TAC No. MC6569) dated August 11, 2005.

The purpose of this letter is to provide TVA's response to NRC's request for additional information concerning TVA's application for a temporary license amendment, WBN-TS-04-17, submitted by Reference 1. The enclosure provides TVA's response to the NRC's request in Reference 2. In addition, TVA received one question by electronic mail from the WBN NRC Project Manager on August 30, 2005, which is also included in the enclosure.

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There are no regulatory commitments associated with this submittal. If you have any questions concerning this matter, please call me at (423) 365-1824.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 30th day of September 2005.

Sincerely,



P. L. Pace
Manager, Site Licensing
and Industry Affairs

Enclosure

cc (Enclosure):

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ENCLOSURE

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1
LICENSE AMENDMENT WBN-TS-04-17
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

The following provides TVA's responses to NRC's request for additional information dated August 11, 2005 and by electronic mail on August 30, 2005.

QUESTIONS BY LETTER DATED AUGUST 11, 2005

NRC REQUEST 1

The Loss-of-Coolant Accident (LOCA) dose analysis that was performed to support the license amendment request, credits filtration of the release by the Emergency Gas Treatment System (EGTS) after 15 minutes. The submittal states that the assumption is that the open Shield Building penetration can be closed by the pre-staged dedicated individual within 12 minutes, which leaves 3 minutes for the EGTS to depressurize the annulus and enable filtration of the release. How long does it take for the EGTS to adequately depressurize the annulus after the penetration is closed? By what means do you ensure that this goal is met?

RESPONSE

The EGTS depressurization time is conservatively assumed in the calculation to be approximately two minutes after the penetration is closed to reach a -0.25 inches water gauge (wg) based on 250 cubic feet per minute (cfm) total expected in-leakage and a minimum EGTS flow rate of 3600 cfm. The actual time calculated to reach -0.25 inches of water in the Annulus at the above conditions is approximately 46 seconds.

The EGTS is tested to ensure fan flow rates of 3600-4400 cfm (Design Flow rate of 4000 cfm \pm 10 percent) are developed within 20 seconds per Technical Specification Surveillance Requirement (SR) 3.6.9.4. In addition, the Annulus is periodically tested to ensure inputs to the depressurization calculation, such as Annulus pressure, flow, and inleakage requirements are met (Technical Specification SR 3.6.15.4). Note the temporary penetrations leakage will be tested as part of this SR. The time required to reach the -0.25 inches of water in the Annulus cannot be tested since the time frame is determined in the analysis based on LOCA temperature and pressure transient conditions inside the Annulus. However, the Main Control Room (MCR) operators have access to instruments to verify that the annulus-atmosphere delta pressure (dP) has been met. There are also alarms in the MCR for failure of the EGTS pressure controller to maintain the required pressure.

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WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 LICENSE AMENDMENT WBN-TS-04-17 RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

NRC REQUEST 2

Considering that manual operation is used to close the Shield Building, have any analyses been performed to determine the impact that delaying the closure would have on the offsite and control room doses during a LOCA? Have sensitivity analyses been performed to determine how long closure may be delayed before Title 10 of the Code of Federal Regulations, Part 100 or General Design Criterion (GDC)-19 dose criteria are exceeded?

RESPONSE

TVA has performed additional analyses with delayed closure of the penetration. Offsite (10 CFR 100) and control room operator (10 CFR 50, Appendix A, GDC 19) limits are not threatened until the annulus has been open for more than 50 minutes (penetration opened for 48 minutes plus 2 minutes annulus drawdown).

NRC REQUEST 3

With exception to the EGTS filtration and release timing assumptions, are all other inputs, assumptions and methods used in the LOCA dose analysis the same as those discussed in the Watts Bar Updated Final Safety Analysis Report (UFSAR), Revision 4, and summarized in UFSAR Table 15.5-6?

RESPONSE

With the exception of EGTS operation, all parameters are the same as the design basis case. The EGTS operation parameters that are different than the design basis case are:

- 1) direct leakage to the environment from the annulus,
- 2) EGTS recirculation rates versus time, and
- 3) EGTS exhaust rates versus time.

ENCLOSURE

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1
LICENSE AMENDMENT WBN-TS-04-17
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

QUESTION RECEIVED BY E-MAIL ON AUGUST 30, 2005

NRC QUESTION

*Technical Specification WBN-TS-04-17, page E1-21 states:
"Security personnel will monitor personnel and movement of
material through an open penetration when it is in use."*

*Does the above statement mean that a security guard will be
physically standing on the roof of the Shield Building beside
the penetration when the penetration is open? If so, our
question is whether the dose to the security guard would
exceed that of the dedicated individual? It was not clear
whether the dose assumptions would result in equivalent
results.*

RESPONSE

A Security Officer will be stationed on the Auxiliary Building roof near the entrance/exit ladder to the Shield Building roof, thereby monitoring personnel going to and from the open penetration. Materials being lifted to the roof by crane to be passed through the open penetration have already been searched prior to entering the Protected Area. The lifting of this material can be visually monitored by Security Personnel from existing watch towers and/or the posting of an additional security officer during larger lifts. When the penetration is not being used, it will be locked with a Security padlock. If a Security Officer is required to be located on the Shield Building roof to monitor personnel and material entering the opening, the Officer will be instructed to stand a safe distance from the opening. He will not be located near the open penetration, therefore, the dose assumptions would not exceed or be equivalent to that of the dedicated operator.