TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

April 26, 1985

Director of Nuclear Reactor Regulation
Attention: Ms. E. Adensam, Chief
Licensing Branch No. 4
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Ms. Adensam:

In the Matter of the Application of) Docket Nos. 50-390
Tennessee Valley Authority)

During a telephone conversation held between representatives of TVA and NRC on April 23, 1985, NRC indicated that it had some outstanding concerns on TVA's instrumentation installed to comply with NUREG-0737, item II.F.1, attachments 1 and 2. The enclosure contains responses to the concerns identified in the conversation.

During the conference call, the staff expressed a concern over our iodine and particulate sampling procedures for the Shield Building stack not meeting the requirements of NUREG-0737. Item II.F.1 requires continuous collection whenever exhaust flow occurs. As a result of this conversation, TVA has agreed to revise the sampling procedure (TI-66) to clearly implement the requirement for continuous collection. The staff has requested TVA to document that commitment and to have the capability for continuous collection inplace (i.e., procedures and any minor system modifications necessary) before exceeding 5-percent power. This letter documents that commitment.

In addition, TVA had previously indicated that the unit 2 Shield Building vent monitors are not presently installed although they are required for unit 1 operation. NRC indicated that this was acceptable for an interim period based on TVA's intent to provide an alternate means of radiation monitoring until the unit 2 monitors could be installed (by 100-percent power). TVA is presently installing the permanent high-range radiation monitoring equipment in the unit 2 Shield Building stack. These monitors are described in our past submittals addressing NUREG-0737, item II.F.1 and are identical to those presently installed in the unit 1 Shield Building stack. Due to procurement problems on replacement equipment, the unit 2 Shield Building stack monitors will not be installed until August 21, 1985.

Based on the present startup schedule for Watts Bar, the installation date is beyond entry into mode 3. The unit 2 Shield Building stack has been identified as a potential accident radioactive release path due to train B Auxiliary Building emergency gas treatment system (ABGTS) exhausting into it. Technical specification (TS) 3.3.3.6 requires that one channel of the Shield Building vent high-range noble gas monitor be operable in modes 1, 2, and 3 or an alternate method of monitoring be established. Although the specifications are not specific, TVA is conservatively interpreting this to mean 1 channel per stack. Thus, in order to meet this requirement until the permanent monitors are installed in the unit 2 stack, we will be utilizing alternate monitoring means.

A001

Director Nuclear Reactor Regulation April 26, 1985

Since train B ABGTS is the only potential accident input to the unit 2 stack, we will utilize grab sample lines installed downstream of the train B ABGTS filter train. These sample lines terminate in an adjacent room where postaccident radiation levels are acceptable. Sampling procedures utilizing this alternate method will be contained in plant Technical Instructions (TI-66). The grab sample will be taken to the chemistry lab for analysis. The transport path between the sample point and the chemistry lab is easily traveled during post accident conditions.

It should be noted that this sampling method is essentially the same as that used when the unit 1 Shield Building stack noble gas monitor is inoperable. The unit 1 grab sample point, however, draws from the shield building stack (as will the unit 2 alternate method once the permanent system is installed).

If you have any questions concerning this matter, please get in touch with D. B. Ellis at FTS 858-2681.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

J. A. Domer

J. A. Domer
Nuclear Engineer

Sworn to and subscribed before me
this 26th day of April 1985.

Paulette V. White
Notary Public

My Commission Expires 8-24-88

Enclosure
cc: U.S. Nuclear Regulatory Commission (Enclosure)
Region II
Attn: Dr. J. Nelson Grace, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

ENCLOSURE

WATTS BAR NUCLEAR PLANT UNIT 1
NUREG-0737, ITEM II.F.1
ACCIDENT MONITORING INSTRUMENTATION
RESPONSE TO NRC CONCERNS

NRC Concern

Describe TVA's commitment to Regulatory Guide 1.97, revision 2, and how TVA complies or intends to comply with this guide for the monitors installed to meet attachments 1 and 2 of NUREG-0737, item II.F.1.

TVA Response

TVA has identified the design of its postaccident monitoring instrumentation in section 7.5 of the Watts Bar Nuclear Plant (WBN) FSAR. In its evaluation of the FSAR, NRC stated in section 7.5.2 of its safety evaluation report (SER) for WBN (NUREG-0847) that, at WBN ". . . there is substantial conformance to Regulatory Guide 1.97," and that ". . . the safety-related display instrumentation is acceptable for initial plant operation."

Following issuance of the WBN SER, NRC stated via Generic Letter 82-33 that it would require compliance with Regulatory Guide 1.97, revision 2. Before that time, there had been no commitment by TVA to meet Regulatory Guide 1.97 (any revision). In response to NRC's request for information in Generic Letter 82-33, TVA provided a letter stating its degree of compliance with Regulatory Guide 1.97, revision 2. This letter was sent by L. M. Mills to E. Adensam on January 30, 1984, and addressed the accident monitoring instrumentation installed under the scope of NUREG-0737, item II.F.1.

Based on the above-referenced information, it is TVA's position that we comply with the intent of Regulatory Guide 1.97, revision 2, for the subject monitors with one exception. Calibration information indicating accuracy within a factor of 2 for the monitors is not currently maintained in-house by TVA. TVA will request this information from the vendor and have it available for review by July 5, 1985.

Additionally, it should be noted that instrument number RE-90-404 was inadvertently left off the table provided by the January 30, 1984, letter. This instrument number should appear as part of the condenser vacuum pump exhaust monitor immediately below instrument numbers RE-90-99 and RE-90-119.

NRC Concern

Please provide a verbal description of the design considerations used in the installation of the sample lines for the II.F.1 instrumentation of attachments 1 and 2 of NUREG-0737.

TVA Response

Shield Building Vent Postaccident Radiation Monitoring Sample Lines

The Shield Building vent radiation monitor sample lines are 1.5-inch outside diameter, 0.065-inch-wall smooth-bore stainless steel tubing from the sample locations to the representative sample system panel. Radiation sample lines for the short distance between the representative sample system panel and the radiation monitor are 0.375-inch-diameter, 0.065-inch-wall smooth-bore stainless steel tubing. In order to minimize plate-out of iodine or entrapment of particulates in the sample lines, large-radius bends (18-inch radius) are utilized. The horizontal distance from monitor to process is limited to 80 feet. To further limit iodine plate-out or particulate entrapment, the representative sample volume flow is maintained at a high level (27.5 cfm maximum, 21.7 cfm normal, and 10.9 cfm minimum). Given the above parameters and the fact that the radiation monitor elements' lifespan is shortened by temperatures in excess of 115°F, there is no need for heat tracing of the sample lines. A bulk filter is utilized in the noble gas radiation monitor sample line to prevent particulate or iodine contamination of the noble gas radiation monitoring element.

Condensation in the sample lines is not expected to occur since the sample lines are routed within the Shield Building annulus to the monitor enclosure where warmer temperatures are experienced. Therefore, heat tracing is not provided.