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

June 7, 1983

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) 50-391

Enclosed is a revised response to NUREG-0737 item II.F.1 for Watts Bar Nuclear Plant. This revision provides a TVA commitment to install high range noble gas monitors by fuel load.

If you have any questions concerning this matter, please get in touch with D. P. Ormsby at FTS 858-2682.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Licensing

Sworn to and subscribed before me
this 7th day of June 1983

Paulette L. White
Notary Public
My Commission Expires 9-5-84

Enclosure
cc: U.S. Nuclear Regulatory Commission (Enclosure)
Region II
Attn: Mr. James P. O'Reilly, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

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TVA RESPONSE

(1) NOBLE GAS EFFLUENT MONITORS

The following high range noble gas effluent monitors will be provided by fuel load:

1. For each shield building vent, an Eberline Model AXM-1 will be provided.

2. For the condenser vacuum pump exhaust for each unit, an Eberline Model NGP-1 will be provided.

The above-listed monitors will comply with the requirements specified in Table II.F.1-1 in NUREG-0737. The instrument readouts with continuous display and recording will be located in the Main Control Room. The source of power will be preferred power (vital instrument bus). These noble gas monitors will have ranges which overlap the ranges of existing normal range monitors by approximately a decade.

(2) SAMPLING AND ANALYSIS OF PLANT EFFLUENTS

For each shield building vent, collection of high-specific activity particulates and iodine on collection media for subsequent laboratory analyses will be provided.

(3) CONTAINMENT HIGH-RANGE MONITORS

Redundant high-range monitors that meet the requirements for monitoring exposure rates in containment in accordance with the requirements of Table II.F.1-3 of NUREG-0737 are provided.

A. The high-range containment monitors are General Atomic Company model RD-23. The detector of the monitor is an ionization chamber with stainless steel sealed housing.

B. The monitors have a range of 10^0 to 10^7R/hr, a uniform energy response ($\pm$ 20 percent) from 80 keV to 3 MeV, and are qualified Class 1E. The monitors will operate within specifications at integrated doses up to 10^9 rads.

C. The monitors are now at the Watts Bar plant site and will be installed by fuel load.

(4) CONTAINMENT PRESSURE MONITOR

Four qualified, continuous indications of the containment pressure are provided in the Main Control Room. The existing pressure indicators have a range of -1 to 15 lb/in²g. Redundant, continuous containment pressure indication with a range up to four times the design pressure (-5 to 60 lb/in²g) of the steel containment will be provided by fuel load.

The monitors will meet the applicable design requirements for qualification, redundancy and testability in accordance with the Watts Bar design.

(5) CONTAINMENT WATER LEVEL MONITOR

The floor of the reactor building serves as the sump for the containment. It is instrumented with four separate, qualified, and continuous level instruments which indicate in the Main Control Room. The range of the instruments is from less than six inches above the floor up to 20 feet above the floor. If 600,000 gallons of water were introduced into containment in addition to the fluid volume of the Reactor Coolant System, safety injection accumulators, and total ice melt, the containment water level would not exceed the 20-foot range of the level instruments. A small sump suction pocket (about 120 cubic feet) in the reactor building floor serves as a collector for the recirculation piping existing in the containment and does not require qualified level instrumentation.

The narrow range sump level instrument monitors the normal containment sump level and the wide range sump level instrument monitors the emergency sump level.

The wide range sump level instrument meets the applicable requirements for qualification, redundancy, and testability in accordance with the Watts Bar design.

The narrow range sump level instrument meets the appropriate requirements of RG 1.45.

(6) CONTAINMENT HYDROGEN MONITORS

Redundant, safety grade hydrogen analyzers are located in the annulus between the containment and shield building. These monitors provide continuous indication in the Main Control Room within a few minutes of being remote manually actuated in the Main Control Room. The range of these monitors is from 0 to 10 percent hydrogen concentration from negative 2 lb/in²g to positive 50 lb/in²g pressure.

Descriptions of the hydrogen analyzer, sampling points readout and system capabilities are provided in FSAR Section 6.2.5, 'Combustible Gas Control.'

The hydrogen analyzers meet the applicable requirements for qualification, redundancy, and testability in accordance with the Watts Bar design.