TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
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US NUCLEAR REGULATORY COMMISSION
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January 19, 1982

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

Dear Ms. Adensam:

In the Matter of the Application of) Docket Nos. 50-390
Tennessee Valley Authority) 50-391

Enclosed for NRC review is information concerning open items in the draft Watts Bar Nuclear Plant Safety Evaluation Report provided by letter dated December 30, 1981 from R. L. Tedesco to H. G. Parris.

1. Item 55 - No load, low load, and testing operation for diesel generator
2. Item 60 - Turbine main steam valve and turbine bypass system (Inservice Inspection Program)
3. Item 18 - Loose parts monitoring system (personnel training)
4. Item 22 - Preservice and Inservice Inspection Program
5. Item 10 - Protection of shutdown transformers from missiles (rebar only)
6. Item 91 - Tornado missile protection for 125-V batteries

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 Regulation and Safety

Sworn to and subscribed before me
this 19th day of January 1982.

Paulette H. White
Notary Public

My Commission Expires 9-5-84

Enclosure

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
SER OPEN ITEMS

1. Item 55

Additional information is required on no load and low-load diesel generator testing operations (section 9.5.4.1).

A. Define the meaning of "extended period of time."

Response: Extended period of time would be any time greater than 24 hours.

B. Clarify "four hours of operation" as being accumulative or continuous.

Response: The four hours would be accumulative hours. Whenever the diesel generator is loaded, the accumulative time will go to zero.

2. Item 60

The inservice inspection program for turbine main steam valves and turbine bypass system is not in conformance with requirements (sections 10.2 and 10.4.4).

NRC requires the inservice inspection program dismantling and inspection of all turbine steam valves at approximately 3-1/2 year intervals using refueling or maintenance shutdowns in addition to exercising and observing at least once a week the main steam stop, control, reheat stop, and intercept valves.

Response: TVA does not believe the turbine steam valve dismantling and inspection program is a safety factor. The analyses described in FSAR section 3.5.1.3 indicate that the hazard from turbine missiles at the Watts Bar Nuclear Plant is not significant. A three-dimensional analysis of the hazard showed that the probability of unacceptable damage due to turbine missiles on the upward portion of the hazard from turbine missiles on their downward flight path showed that the probability of unacceptable damage was about 2.76×10^{-7} events/year at the nuclear plant site.

Since each step in the development of the analytical model described in section 3.5.1.3.5 contains one or more conservative assumptions, all aspects associated with these two analyses support the contention that the turbine missile hazard at this plant is not significant.

In addition, the plant uses turbines designed, manufactured, installed, and operated in accordance with standards that minimize the possibility of an accident that may produce dangerous missiles. Each reactor unit has its essential, safety-related equipment installations and structures positioned to minimize the strike probability on these items.

Such findings indicate that the turbine missile hazard at Watts Bar is sufficiently small to be considered an acceptable risk. It is our position, based on these analyses, that inspection of all turbine steam valves at approximately 5-year intervals during refueling or maintenance will not affect the turbine missile hazard already established as being acceptably small.

3. Item 18

Loose parts monitoring system - Personnel Training (4.4.5)

Response: The operators are trained by TVA to respond to the LPMS alarm as shown below.

Immediate Action: Upon arriving at the alarm module (O-R-139):

A. Listen to the audio output of the first alert channel (as indicated by flashing digit (1-6) on first alert display).

B. Auxiliary instrument room to determine element causing alarm.

C. Record time in log (hr., min., sec.).

Supplementary Acton: Upon arriving at the alarm module (O-R-139):

A. Listen to audio output of the first alert channel (as indicated by flashing digit (1-6) on first alert display).

B. Listen to the audio output of any other alert channels (as indicated by a constant red light on their impact detectors).

C. Log the identity of the first alert and any other involved channels.

D. If impact noises are audible, allow tape to run.

E. If no impact noises are discernible on any channels, reset the system, disable the alarm and autostart, and notify the Instrument Department to increase the gain by one step on all channels.

F. Check RCP vibration indicators for high vibration.

G. Notify SRO if indicator shows high vibration on RCP.

H. Enter investigation results in record book in lower part of panel.

4. Item 22

Preservice and Inservice Inspection Program (5.2.4 and 6.6)

Response: The preservice inspection program has been submitted. The inservice inspection program will be submitted after the operating license is granted and before the first refueling outage so that NRC has enough time to review the program.

5. Item 10 and 91

The NRC concern is that the 480-V shutdown transformers, the 125-V vital batteries, and the diesel generator auxiliary control boards are not adequately protected from tornado generated missiles (1-inch diameter rod) entering through the intake and/or exhaust vents. Floor grating will be provided on the underside of the opening as positive protection from these missiles. This floor grating is equivalent to floor grating accepted by the NRC for use in the west main steam valve room at Sequoyah. This grating is sufficient to stop a 1-inch diameter rod at vertical velocities up to 252 feet per second, which exceeds the design velocities of the 1-inch diameter rod for WBN.