



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

October 11, 1991

Docket Nos. 50-390  
and 50-391

Mr. Dan A. Nauman  
Senior Vice President, Nuclear Power  
Tennessee Valley Authority  
6N 38A Lookout Place  
1101 Market Street  
Chattanooga, Tennessee 37402-2801

Dear Mr. Nauman:

SUBJECT: WATTS BAR NUCLEAR PLANT, UNITS 1 AND 2 - SITE REVIEW OF OUTSTANDING  
ISSUE 20(a), FEEDWATER CHECK VALVE SLAM (TAC NOS. 179718 AND 180345)

On September 24-25, 1991, NRR reviewer John Fair met with TVA representatives at the Watts Bar site (meeting attendee list enclosed). The purpose of this visit was to observe the physical arrangement of the feedwater system piping and supports as part of the review of Outstanding Issue 20(a) identified in the Watts Bar Safety Evaluation Report Supplement No. 6 (NUREG-0847, Supplement 6). Outstanding Issue 20(a) concerns TVA's analysis of the feedwater piping for the water hammer that would occur if the check valve slammed shut following a postulated rupture at the main header in the turbine building. TVA's letters dated December 13, 1990 and August 22, 1991 stated that, because of the large magnitude of the currently calculated loads for this event, several supports on the feedwater line would be loaded beyond their capacities during the event. TVA has further stated that modifications to some of the supports could not be made because of space limitations. As a result, TVA proposed to perform a non-linear elastic-plastic analysis of the feedwater system that includes the modeling of support failures in the analysis.

The physical arrangement of feedwater piping loops 2 and 4 inside the containment and in the valve room outside the containment was looked at. Mr. Fair's observation of the physical arrangement inside the containment confirmed TVA's contention that the space for support modifications was limited; however, there was some room for potential support modifications. In addition, there was sufficient room in the valve room for potential support modifications.

Your staff presented an overview of their evaluation of the feedwater line for the check valve slam event (the handout used by your staff has been placed in the NRC and Local Public Document Rooms). They stated that a preliminary analysis had been performed for the combined feedwater check valve slam and seismic load combination and that the evaluation would be complete in

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Mr. Dan A. Nauman

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November. The use of ASME Code Appendix F limits is considered appropriate for the evaluation of the check valve slam event; however, we recommend that TVA evaluate potential support modifications to reduce the number of supports that would be predicted to fail during the postulated event.

The review of this issue is continuing, pending completion of your evaluation mentioned above.

Sincerely,

Original signed by

Peter S. Tam, Senior Project Manager  
Project Directorate II-4  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Enclosure:  
Attendance List

cc w/enclosure:  
See next page

OFC	: PDII-4/LA	: PDII-4/PM	: PDII-4/D	:
NAME	: MSanders	: PTam:as/dw	: FHebdon	:
DATE	: 10/11/91	: 10/11/91	: 10/11/91	:

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cc:

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ENCLOSURE

MEETING ATTENDEES  
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SEPTEMBER 24-25, 1991

<u>NAME</u>	<u>ORGANIZATION</u>
J. Fair	NRC
R. Hernandez	TVA - Watts Bar
M. Cleveland	TVA - Watts Bar
W. Massie	TVA - Watts Bar
W. Engel	Zygna
D. Leong	Zygna
W. Bibb	TVA
J. Bitner	Cloud Associates
M. Shulman	Zygna

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L. Reyes

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J. Fair

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