

Docket Nos. 50-390
and 50-391

October 25, 1993

Tennessee Valley Authority
ATTN: Dr. Mark O. Medford, Vice President
Technical Support
3B Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

Dear Dr. Medford:

SUBJECT: WATTS BAR NUCLEAR PLANT - REQUEST FOR ADDITIONAL INFORMATION
CONCERNING STRUCTURAL ASPECTS OF DESIGN BASIS ACCIDENT SPECTRA AND
LEAK-BEFORE-BREAK ANALYSIS (TAC M79692 and M79693)

The May 22, 1993 TVA letter to the staff's request for additional information (RAI, dated March 25, 1993) regarding the development of the steel containment vessel (SCV) response spectra from local pressurization. The staff has reviewed TVA's response, and concludes that additional information is needed. The enclosed RAI provides details.

The staff will be available to address this RAI in a site visit, if needed. In the next licensing status meeting, a mutually acceptable target date for your response will be discussed. This requirement affects nine or fewer respondents and, therefore, is not subject to Office of Management and Budget review under P.L. 96-511.

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:
Request for Additional Information

cc w/enclosure:
See next page

AA3

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DATE	10/13/93	10/21/93	10/21/93	10/21/93	10/21/93	10/25/93

DOCUMENT NAME: WBRAI

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cc:

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WATTS BAR NUCLEAR PLANT

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The Honorable Garland Lanksford
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ENCLOSURE

REQUEST FOR ADDITIONAL INFORMATION
STRUCTURAL ASPECTS OF THE DESIGN BASIS ACCIDENT SPECTRA
AND LEAK-BEFORE-BREAK ANALYSIS
WATTS BAR NUCLEAR PLANT, UNITS 1 AND 2
DOCKET NOS. 50-390 AND 50-391

TVA stated in its May 22, 1993, letter that structural response spectra were developed using the computer code ANSYS with input of the developed local pressure loading time histories. However, no technical criteria, methodologies, and procedures used for the analyses were provided. Accordingly, TVA is requested to provide the following information:

1. Provide the ANSYS finite element model, including dimensions and material properties of the steel containment vessel (SCV) used in the analyses.
2. Provide detailed information related to the dynamic analysis, such as, basis for selecting parameters for the dynamic model, boundary conditions adopted, method used for solving the equations of motion, type and number of time histories used, time steps and damping values adopted, locations and directions of loading applications, foundation representation in the dynamic model, consideration of torsional and rocking effects, floor response spectra generation, and thermal loading consideration.
3. Provide the input (the local pressure time histories) used for analyses, and the output (SCV response spectra at the bottom of the SCV connected to the concrete foundation). Also, discuss how these outputs were used in confirming that the SCV stresses and strains induced by the local pressure meet the licensing basis acceptance criteria.
4. Discuss the adequacy and validity of using ANSYS code for pressure time history analyses for large structure such as Watts Bar SCV from the stand point of code verification.

Principal contributor: Yong S. Kim