



Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381

John H. Garrity  
Vice President, Watts Bar Nuclear Plant

SEP 18 1991

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

Gentlemen:

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

WATTS BAR NUCLEAR PLANT (WBN) - SUPPLEMENTAL INFORMATION ON CABLE TRAY  
QUALIFICATION (TAC NO. R00508)

As a follow up to the TVA/NRC teleconferences of August 22 and  
September 4, 1991, supplemental information has been developed for the  
WBN cable tray qualification issue (TAC No. R00508). The purpose of this  
submittal is to document this information for staff review.

The enclosure summarizes the major concerns expressed by the staff and  
the resultant TVA responses. Additionally, TVA is proceeding to  
implement the cable tray qualification methodology without the use of  
inelastic response spectra provisions. Should it be desirable to apply  
these inelastic response spectra provisions in the future, case-by-case  
application would be submitted to the staff for concurrence.

Because these items are still under discussion, no Final Safety Analysis  
Report (FSAR) text changes are proposed at this time. As previously  
discussed with the staff, issue resolutions will be incorporated into a  
subsequent FSAR amendment as necessary.

No new commitments are contained in this submittal.

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If you have any questions, please telephone P. L. Pace at (615) 365-1824.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

  
John H. Garrity

Enclosure

cc (Enclosure):

NRC Resident Inspector  
Watts Bar Nuclear Plant  
P.O. Box 700  
Spring City, Tennessee 37381

Mr. P. S. Tam, Senior Project Manager  
U.S. Nuclear Regulatory Commission  
One White Flint, North  
11555 Rockville Pike  
Rockville, Maryland 20852

Mr. B. A. Wilson, Chief, Project Chief  
U.S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, NW, Suite 2900  
Atlanta, Georgia 30323

ENCLOSURE

CABLE TRAY QUALIFICATION

Question 1:

In the application of inelastic response spectra, a multimode factor is used. Since the inelastic response spectra methodology is applicable to a single degree of freedom (SDOF) system, why is a multimode factor used?

Response 1:

Watts Bar cable tray evaluations utilize the equivalent static method (ESM) by defining the tray loads derived from peak response accelerations of the applicable spectra. Consistent with the guidelines of Section 3.7.2 of the Standard Review Plan on the use of the ESM, a multimode factor is applied to conservatively account for approximations involved in an ESM analysis.

Question 2:

Can tray systems be represented as SDOF systems for the use of inelastic response spectra in the transverse direction?

Response 2:

Transverse response of individual spans of Watts Bar cable tray systems can reasonably be modeled by a SDOF oscillator based on two considerations:

1. In WBN cable tray systems, stiff structural steel supports provide three way support at each end of a tray span.
2. As ladder type trays behave like Vierendeel trusses in the transverse direction, a significant portion of the global transverse tray deflection results from shear type deformation. Therefore, the transverse response of a span is largely independent from the transverse response of the adjacent spans.