

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401  
400 Chestnut Street Tower II

83 SEP 19 P 1:13  
September 13, 1983

WBRD-50-390/83-03  
WBRD-50-391/83-03

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

Dear Mr. O'Reilly:

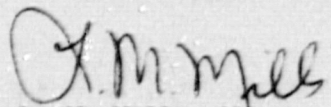
WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - IMPROPER OVERLAPPING ANALYSIS  
TECHNIQUES - WBRD-50-390/83-03, WBRD-50-391/83-03 - THIRD INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector  
P. Fredrickson on January 11, 1983 in accordance with 10 CFR 50.55(e) as  
NCR WBN CEB 8221 R1. Interim reports were submitted on February 4 and  
June 17, 1983. Enclosed is our third interim report. We expect to submit  
our next report on or about October 21, 1983.

If you have any questions, please get in touch with R. H. Shell at  
PTS 858-2688.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

  
L. M. Mills, Manager  
Nuclear Licensing

Enclosure

cc: Mr. Richard C. DeYoung, Director (Enclosure)  
Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Records Center (Enclosure)  
Institute of Nuclear Power Operations  
1100 Circle 75 Parkway, Suite 1500  
Atlanta, Georgia 30339

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2  
IMPROPER OVERLAPPING ANALYSIS TECHNIQUES  
NCR WBN CEB 8221 R1  
WBRD-50-390/83-03, WBRD-50-391/83-03  
10 CFR 50.55(e)  
THIRD INTERIM REPORT

Description of Deficiency

Analysis overlapping techniques were not incorporated correctly in the analytical mathematical models for certain piping analysis problems. Terminal points were unconservatively overlapped using snubbers; therefore, terminal stiffness was not included in the thermal analysis. Piping systems affected are the Essential Raw Cooling Water, Component Cooling Water, Chemical and Volume Control, Safety Injection, Auxiliary Feedwater, and Reactor Coolant Systems.

Interim Progress

TVA's Civil Engineering Support Branch (CEB) reviewed approximately 41 analysis problems where the structural overlap technique was used and identified 29 unacceptable problems which required reanalysis. Engineering change notices (ECNs) 3013 and 3608 were initiated to perform the reanalysis and to ensure compliance with TVA guidelines. ECN 3013 work is now complete and ECN 3608 is 60-percent complete with 11 problems remaining.

Many of the structural overlap problems were judged acceptable according to structural overlap guidelines set for WBN. These problems are being evaluated by Impell Corporation, a personal service contractor. Impell Corporation will submit an evaluation report on the WBN overlapping method to TVA.

More information will be forwarded in our next report.