

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401  
400 Chestnut Street Tower II

34 OCT 22 October 17 1984

WBRD-50-390/84-03  
WBRD-50-391/84-03

U.S. Nuclear Regulatory Commission  
Region II  
Attn: Mr. James P. O'Reilly, Regional Administrator  
101 Marietta Street, NW, Suite 2900  
Atlanta, Georgia 30323

Dear Mr. O'Reilly:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - PEAK CONTAINMENT TEMPERATURE -  
WBRD-50-390/84-03, WBRD-50-391/84-03, - FOURTH INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector Caudle Julian on December 29, 1983 in accordance with 10 CFR 50.55(c) as NCR WBN NEB 8335. Interim reports were submitted on January 27, April 3 and May 22, 1984. Enclosed is our fourth interim report. We expect to submit our next report on or about April 19, 1985. We consider 10 CFR Part 21 applicable to this deficiency.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

*L. M. Mills* by R.H.S.

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

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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  
PEAK CONTAINMENT TEMPERATURE  
NCR WBN NEB 8335  
WBRD-50-390/84-03, WBRD-50-391/84-03  
10 CFR 50.55(e)  
FOURTH INTERIM REPORT

Description of Deficiency

In response to an NRC question on Duke's Catawba FSAR, Westinghouse analyzed the effects of superheated steam, when the steam generator tubes uncover, subsequent to a main steam line break (MSLB). Previously, the highest calculated containment temperature for Catawba was 327°F; the new analysis, which Westinghouse has independently verified, results in a peak of 383°F in the lower compartment and 345°F in the dead-ended compartment. The present peak containment temperature for Watts Bar (WBN) is also 327°F. The results of the new analysis are believed to apply to WBN and must be evaluated with regard to qualification of IE electrical equipment, safety-related mechanical equipment, thermal growth of containment, protective coatings, and possibly others.

Interim Progress

TVA is continuing to monitor progress of Duke/Westinghouse's efforts at Catawba. The resolution of Watts Bar is contingent upon the work being done for Catawba. Westinghouse has completed full-scale testing to determine the hydraulic characteristics of the ice condenser drains into the lower compartment at Catawba. The preliminary test results indicate that the current analytical techniques used to yield the plant's containment temperature (which gave temperatures less than those used in the design basis of Catawba) are conservative. Further testing is planned to confirm the conservatism of the Westinghouse model.

Based on the analyses performed to date, TVA does not expect this condition to require any modifications to the existing Watts Bar design. As such, it is our position that fuel loading and power ascension of Watt Bar unit 1 can proceed without any unnecessary or undue risks to the public's health and safety.