

TENNESSEE VALLEY AUTHORITY REGION II  
CHATTANOOGA, TENNESSEE 37404 ATLANTA, GEORGIA  
400 Chestnut Street Tower II

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June 23, 1983

WBRD-50-390/82-111  
WBRD-50-391/82-104

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 - POSTULATED ACCIDENT BLOWDOWN OF  
MORE THAN ONE STEAM GENERATOR - WBRD-50-390/82-111, WBRD-50-391/82-104 -  
SECOND INTERIM REPORT**

The subject deficiency was initially reported to NRC-OIE Inspector D. Quick on October 15, 1982 in accordance with 10 CFR 50.55(e) as NCR GEN NEB 8211. Our first interim report was submitted on November 22, 1982. Enclosed is our second interim report. We expect to submit our next report on or about September 28, 1983.

If you have any questions, please get in touch with F. H. Shell at FTS 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  
POSTULATED ACCIDENT BLOWDOWN OF MORE THAN ONE STEAM GENERATOR  
NCR GEN NEB 8211  
WBRD-50-390/82-111, WBRD-50-391/82-104  
10 CFR 50.55(e)  
SECOND INTERIM REPORT

### Description of Condition

TVA's design intent is such that nonsafety grade equipment will not fail in such a manner as to adversely affect the safe operations of the plant. It has been determined that the nonsafety grade automatic control loop for the steam generator PORVs (atmospheric relief valves) could fail in such a manner as to cause the PORVs to stick open. During a postulated main steam or main feedwater line break, a stuck open PORV could cause uncontrolled blowdown of more than one steam generator (the WBN FSAR assumes accident blowdown of only one steam generator). It should be noted that TVA has provided safety grade position indication and manual override in the main control room for the PORVs. However, TVA's analysis assumes no operator action for 10 minutes.

### Interim Progress

The safety problems associated the reactivity transient caused by the rapid cooling of the reactor coolant system has been analyzed by Westinghouse. The results of their analysis indicates that for the postulated event, no core damage will occur throughout the reactivity transient and that the safety injection system capacity is adequate with only one safety train operating.

Another safety problem concerns the heat removal capability of the auxiliary feedwater system. TVA will resolve this problem by rearranging the power supplies to the steam generator PORV remote manual control circuits. The rearranging of the power supplies will ensure that:

- a. the turbine-driven pump and one motor-driven pump will always be available for heat removal,  $\bar{C}\bar{N}$
- b. two motor-driven pumps will always be available for heat removal

By ensuring the availability of at least two pumps, the design basis for the auxiliary feedwater system including the effects due to single failure will not be violated by any design basis event.