

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

January 20, 1982

USNRC REGION II
ATLANTA, GEORGIA
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WBRD-50-390/81-84
WBRD-50-391/81-77

Mr. James P. O'Reilly, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region II - Suite 3100
101 Marietta Street
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - ALARM SETPOINT ON LEVEL TRANSMITTER
- WBRD-50-390/81-84, WBRD-50-391/81-77 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector R. V. Crlenjak on September 24, 1981 in accordance with 10 CFR 50.55(e) as NCR W-60-P. Our first interim report was submitted on October 26, 1981. Enclosed is our final report. 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 856-2688.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Regulation and Safety

Enclosure

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



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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
ALARM SETPOINT ON LEVEL TRANSMITTER
WBRD-50-390/81-84, WBRL-50-391/81-77
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

The sensor bellows connected to the upper level taps of the safety injection accumulators are situated such that, if they become flooded, water may remain on top of the bellows resulting in an incorrect level measurement. The nonconformance results from failure to incorporate provisions for draining the sensor into the design of the level measurement system. This system was designed by Westinghouse.

The accumulator high level alarm setpoints provided by Westinghouse allow the level transmitter to operate within five percent of the high end of its calibrated span. This was an apparent violation of FSAR section 7.1.2.1.9.

These deficiencies were discovered during preoperational testing of the safety injection system.

Safety Implications

Had this condition remained uncorrected, a postulated flooding of the upper bellows could nonconservatively bias the differential pressure -- level signal. Therefore, it is assumed the safe operations of the plant could be adversely affected.

Corrective Action

TVA will invert the sensor bellows to prevent water from remaining on top of the bellows. The Westinghouse drawing reflecting this change and all hardware modifications will be completed by fuel loading. There is no violation of FSAR section 7.1.2.1.9 since that section is only applicable to Reactor Protection and Engineered Safety Features system channels. This was confirmed by Westinghouse in their letter dated December 2, 1981.

All TVA design projects will be informed of this design deficiency by memorandum in order to review future NSSS designs for this deficiency and prevent recurrences. This memorandum will be issued by February 1, 1982.