

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

84 AUG 14 P 1 Aug 33 8, 1984

BLRD-50-438/84-03

BLRD-50-439/84-03

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:

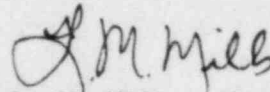
BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2 - TIME SPAN FOR TEMPERATURE SWITCH  
RESPONSE - BLRD-50-438/84-03, BLRD-50-439/84-03 - SECOND INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector  
C. A. Julian on December 27, 1983 in accordance with 10 CFR 50.55(e) as NCR  
BLN BLP 8334. This was followed by our interim report dated January 25,  
1984. Enclosed is our second interim report. We expect to submit our next  
report by June 4, 1985.

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, 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

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2  
TIME SPAN FOR TEMPERATURE SWITCH RESPONSE  
BLRD-50-438/84-03, BLRD-50-439/84-03  
NCR BLN BLP 8334  
10 CFR 50.55(e)  
SECOND INTERIM REPORT

Description of Deficiency

Automatic Switch Company (ASCO) ambient monitoring temperature switches OSA-ITS-609A-A through 609D-A, 265A-A, 265B-A, 266A-B, 266B-B, and 601A-B through 601D-B were procured to detect and initiate isolation of pipe breaks in the auxiliary steam system which is located throughout the Auxiliary Building common zone. Due to the slow response to these switches, they are incapable of detecting rapid temperature changes, and therefore, do not initiate steam line isolation rapidly enough to limit the ambient temperature to an acceptable level for use in qualifying safety-grade electrical equipment. Additionally, it has been found that the switches themselves are not environmentally qualified to operate in the anticipated accident environment. The existing analysis to determine the environmental response of the common zone due to postulated pipe breaks in the system was performed before procurement of the switches and was based upon incorrect switch response characteristics. An analysis using the correct switch response characteristics predicts environmental temperatures which are in excess of the qualification temperature of the affected safety-related equipment.

Interim Progress

Procurement and detection system redesign efforts are underway to replace the ASCO switches with fast-acting, environmentally qualified Fenwal model 18023-7 temperature switches. The steam line break accident environmental profile will be re-evaluated based on the operating characteristics of the new switch. The environmental drawings and equipment qualification efforts will be revised to reflect those new environmental conditions.