

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

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March 5, 1985

BLRD-50-438/84-52
BLRD-50-439/84-48

U.S. Nuclear Regulatory Commission
Region II
Attn: Dr. J. Nelson Grace, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Dear Dr. Grace:

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2 - DEFECTIVE WIRING CONNECTIONS IN AUMA
MOTOR OPERATORS - BLRD-50-438/84-52 AND BLRD-50-439/84-48 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector
P. E. Fredrickson on October 12, 1984 in accordance with 10 CFR 50.55(e) as
NCR 3527. The first interim report was submitted November 7, 1984. 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 858-2688.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

J. A. Homer
for J. W. Hufham, Manager
Licensing and Regulations

Enclosure

cc: Mr. James Taylor, 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
DEFECTIVE WIRING CONNECTIONS IN AUMA MOTOR OPERATORS
BLRD-50-438/84-52, BLRD-50-439/84-48
10 CFR 50.55(e)
NCR 3527
FINAL REPORT

Description of Deficiency

A condition was identified at Bellefonte Nuclear Plant (BLN) in which vendor-installed wires had fallen out of their respective terminal lugs on the motor operators for valves 1-KE-IFCV-056-B and 1-KE-IFCV-537-B. Further investigation has revealed that a variety of deficiencies exist with the vendor wiring connections in the motor operators of all 16 of the essential raw cooling water (ERCW) system strainer backwash valves. These deficiencies include bad or incomplete crimps, wrong terminal lug sizes, misapplication of crimping tools, and improper insertion of wire into terminal barrels.

The affected valves are located in the intake pumping station (IPS) at BLN. There are eight valves per unit. The valves and motor operators were supplied to TVA by the Jamesbury Corporation, Worcester, Massachusetts. The motor operators were manufactured by Auma Actuators, Incorporated, Germany.

Safety Implications

These deficiencies could result in a failure of the affected motor operators to function as required, and subsequently, could result in a failure of the ERCW strainer backwash valves to operate. The backwash valves are required to maintain the ERCW strainers in an unclogged condition in order to pass an adequate amount of ERCW flow. Failure of the valves to operate could result in a loss of ERCW flow due to clogged strainers. Since the ERCW system is the ultimate heat sink for the plant, this condition could adversely affect the safe operation of the plant.

Corrective Action

All the terminations of the 16 affected valves on the subject nonconformance report (NCR) have been replaced and recrimped by representatives of Auma. This rework was completed at BLN under the observance of BLN quality control personnel.

Auma has informed TVA that the inadequate terminations were an isolated occurrence and the personnel that performed the terminations are no longer employed by Auma.