

TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

August 8, 1983 410:43

BLRD-50-438/81-76
BLRD-50-439/81-75

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:

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2 - VIKING FLOW CONTROL VALVES IN FIRE
PROTECTION SYSTEM - BLRD-50-438/81-76, BLRD-50-439/81-75 - SEVENTH INTERIM
REPORT

The subject deficiency was initially reported to NRC-OIE Inspector
R. V. Crienjak on November 24, 1981 in accordance with 10 CFR 50.55(e) as
NCR BLN MEB 8103. This was followed by our interim reports dated December 22,
1981, March 1, June 7, and October 4, 1982, and January 14 and June 7,
1983. Enclosed is our seventh interim report. We expect to submit our
next report by December 12, 1983. We consider 10 CFR Part 21 applicable to
this deficiency.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills
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

8308180307 830808
PDR ADOCK 05000438
S PDR

ENCLOSURE

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2
VIKING FLOW CONTROL VALVES IN FIRE PROTECTION SYSTEM
BLRD-50-438/81-76, BLRD-50-439/81-75
NCR BLN MEB 8103
10 CFR 50.55(e)
SEVENTH INTERIM REPORT

Description of Deficiency

The Viking model G-1 and G-2 flow control valves which are used in preaction sprinkler systems will not regulate outlet pressure to 25 lb/in² as required by the acceptance criteria in Preoperational Test PT-RF-01. Severe system vibrations occur when attempts are made to regulate the valves under the high inlet pressure and low flow conditions established by the Preoperational Test. These conditions are equivalent to those that would result if water was flowing from a single sprinkler head.

The model G-1 and G-2 flow control valves are manufactured by Viking Corporation of Hastings, Michigan. The manufacturer's catalog literature indicates that the valves will regulate outlet pressure as low as 25 lb/in². However, the literature did not indicate that the valves would not regulate properly under the conditions TVA is establishing during preoperational testing (i.e., high inlet pressure and low flow).

Interim Progress

As indicated in our previous reports on this deficiency, TVA has elected to remove the pressure control capability from all Viking flow control valves at Bellefonte Nuclear Plant. Engineering change notice (ECN) 1534 has been closed indicating that all the design drawings requiring revision to reflect this disposition have been revised. TVA is in the process of determining the root cause of this nonconformance and actions required to prevent recurrence. TVA will provide a final report when this determination is made.