

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

5N 157B Lookout Place

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May 7, 1986

BLRD-50-438/82-20
BLRD-50-439/82-18

U.S. Nuclear Regulatory Commission
Region II
Attn: Mr. J. Nelson Grace, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2 - OMISSIONS TO AUXILIARY FEEDWATER
PUMP DRAWINGS - BLRD-50-438/82-20, BLRD-50-439/82-18 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector
R. V. Crlenjak on February 25, 1982 in accordance with 10 CFR 50.55(e) as NCR
BLN BLP 8207. Enclosed is our final report.

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

Very truly yours,

TENNESSEE VALLEY AUTHORITY

R. L. Gridley
R. L. Gridley, Director
Nuclear Safety and Licensing

Enclosure

cc (Enclosure):

Mr. James Taylor, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Records Center
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
OMISSIONS TO AUXILIARY FEEDWATER PUMP DRAWINGS
BLRD-50-438/82-20, BLRD-50-439/82-18
NCR BLN BLP 8207
10 CFR 50.559(e)
FINAL REPORT

Description of Deficiency

The auxiliary feedwater (AFW) pumps were supplied without vent, drain, and auxiliary feedwater turbine bearing cooling water interconnecting piping. The interface connections to the AFW pumps and turbines were supplied by the respective manufacturers with the assumption that TVA would provide the necessary design drawings and materials to meet the design requirements of TVA and the pump and turbine manufacturers.

The cause of this deficiency is failure to review system design for interface requirements and equipment specifications by the responsible engineers. The engineer's failure to review system design requirements was documented on nonconformance BLN MEB 8203 and reported to the NRC as construction deficiency report 50-438/82-31 and 50-439/82-28. The vents, drains, and turbine bearing cooling water interconnecting piping were not designed as a result of this deficiency. A review of the trend analysis data base revealed no similar documented deficiencies and a review of other work and/or systems being designed by the same responsible engineers showed no similar discrepancies. Consequently the deficiency is considered an isolated case and there are no generic implications for other TVA plants.

Safety Implications

The omission of these design considerations would prevent the AFW pumps and turbine from performing at the level specified in the FSAR and AFW design criteria and could result in loss of AFW pumps.

An auxiliary feedwater flow reduction below design specifications could result in insufficient transfer of decay heat from the reactor core. As a result, pressure in the reactor coolant system could exceed the design conditions compromising the integrity of the reactor coolant pressure boundary and increasing the probability of fuel damage. Therefore, if this condition had remained uncorrected, the safe operation of the plant could have been adversely affected.

Corrective Action

Corrective action for the deficient condition will consist of designing and installing the required piping and placing it on the appropriate drawings. The design work required is being performed under ECN 3289.

All action required to correct the deficient condition for each unit will be completed no later than six months before unit 1 and unit 2 fuel load dates, respectively.

Due to the fact that the root cause of this deficiency was addressed in the final report on BLN MEB 8203, no further actions are required to prevent recurrence.