

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

September 24, 1984
1:36

WBRD-50-390/83-53

WBRD-50-391/83-50

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:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - DAMPERS NOT ADEQUATELY SHOWN ON DESIGN
TYPICAL DRAWINGS - WBRD-50-390/83-53, WBRD-50-391/83-50 - REVISED FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector
Linda Watson on August 24, 1983 in accordance with 10 CFR 50.55(e) as
NCR WBN 5036. Our first interim report and final report were submitted on
September 21 and December 5, 1983 respectively. Enclosed is our revised 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

D S Kammer

for 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

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
DAMPERS NOT ADEQUATELY SHOWN ON DESIGN TYPICAL DRAWINGS
NCR 5036
10 CFR 50.55(e)
REVISED FINAL REPORT

Description of Deficiency

1. There are no installation drawings for backdraft dampers, and the installation drawings for flow control dampers are not adequate. Detailed installation drawings for backdraft and flow control dampers were not provided by TVA because the vendor drawings for installation were thought to be adequate. A review of the vendor drawings indicates that some clarifications and consolidations of design requirements were needed, inasmuch as there were four different contracts covering a period of more than seven years which resulted in some variation of design requirements. TVA purchased all insert-type dampers as "undersized to manufacturer's standard size" while specifying the actual opening size and the nominal dampers size to provide for clearance between the damper frame and the concrete opening. TVA designers incorrectly assumed that the vendor would supply undersized dampers to meet the clearance requirements since the actual wall opening sizes were given.
2. TVA's typical installation drawings for fire dampers do not reflect the minimum space requirements needed for expansion between the fire dampers and the embedded sleeve. The construction tolerances of the concrete openings were not considered when sizing the fire dampers. Some fire dampers were, therefore, installed without sufficient clearance and, in some cases the sleeve was removed by TVA's Division of Construction (CONST) personnel to facilitate the fitting of the dampers in the openings.

TVA indicated in the final report of December 5, 1983, that none of the deficiencies described above exist at Browns Ferry, Sequoyah, or Bellefonte Nuclear Plants. As a result of recent actions, we have taken additional steps to address potential deficiencies at these plants. An inspection trip to Bellefonte to check fire damper installation methods determined that similar problems do exist. TVA has written nonconformance report (NCR) BLN MEB 8403 (BLRD-50-438/84-33 and BLRD-50-439/84-31) to identify and track the corrective action. In addition, design change request (DCR) 2949 was written to investigate fire damper installations at Browns Ferry. Problems identified as a result of this DCR will be documented separately. TVA has reviewed the Sequoyah design and documented by memorandum that we do not have any fire damper deficiencies of this type.

Safety Implications

Some curtain-type dampers were installed in accordance with the typical drawings which did not reflect the minimum space requirements. In the event of a fire, the fire might not be contained and isolated in the area inasmuch as the dampers may partially reopen due to frame distortion caused by inadequate clearance. This could subsequently lead to the fire spreading throughout the heating, ventilating, and air-conditioning (HVAC) system.