

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

84 MAY 18 A 8:47
May 17, 1984

WBRD-50-390/84-23

WBRD-50-391/84-22

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:

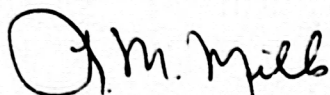
WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - SHEAR BOLTS TOO STRONG FOR DESIGN USE
- WBRD-50-390/84-23, WBRD-50-391/84-22 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector
P. E. Fredrickson on April 17, 1984 in accordance with 10 CFR 50.55(e) as
NCR W-170-P. 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



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
SHEAR BOLTS TOO STRONG FOR DESIGN USE
ICR W-170-P
WBRD-50-390/84-23 AND WBRD-50-391/84-22
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

TVA has purchased and installed approximately 400 explosion bolts from Elwin G. Smith and Company, Incorporated, of Pittsburgh, PA. These bolts were supposed to relieve at 70 psf/bolt according to the vendor specifications (the vendor designated bolts of this size and relief capacity as group II bolts). This requirement was specified by TVA and ordered from the vendor based on these specifications. However, the bolts that were supplied by the vendor actually relieve at about 150 psf/bolt.

These bolts are installed on blow-out panels in the Auxiliary Building that are to give-way in the event of a large pipe rupture. The water will then drain through the panels into a sump so as to relieve water buildup.

The root cause of this deficiency is that the vendor's specifications from which TVA ordered these bolts were incorrect.

Safety Implications

If the blow-out panels had remained in place during a large pipe rupture event, Auxiliary Building flooding could have resulted in unacceptable water levels. This water buildup could have damaged safety-related equipment that was not qualified for submergence, thus having adverse effects on the safe operation of the plant.

Corrective Action

TVA will change the bolting specifications on drawing 48N1248-1 to show a strength range for the bolts. This change will be made by field change request FS-301. Furthermore, TVA has reissued drawing 48N1248-1 to show an ultimate strength of 70 psf/bolt for the bolts used on the blow-out panels. This revision to the drawing replaced the previous requirement to specifically use the vendor's group II bolts with a requirement to use an ultimate strength range instead.

TVA has ordered new bolts, plus spares, and will install them by June 15, 1984, under work package 4175.

Since the manufacturer no longer makes the group II bolts, there is no action required to prevent recurrence.