

TENNESSEE VALLEY AUTHORITY

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April 1, 1986 10:50
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WBRD-50-390/85-62

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

Dear Dr. Grace:

WATTS BAR NUCLEAR PLANT UNIT 1 - SLOTTED HEAD MACHINE SCREWS USED IN SUPPORTS -
WBRD-50-390/85-62 - SECOND INTERIM REPORT

The subject deficiency was initially reported to NRC-OIE Inspector Al Ignatonis on November 18, 1985 in accordance with 10 CFR 50.55(e) as NCR WBN 6422. Our first interim report was submitted on December 30, 1985. Enclosed is our second interim report. We expect to submit our next report on or about May 8, 1986.

If there are 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 ^{by hsd}
Manager of Licensing

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
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Atlanta, Georgia 30339

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNIT 1
SLOTTED HEAD MACHINE SCREWS USED IN SUPPORTS
WBRD-50-390/85-62
NCR WBN 6422
10 CFR 50.55(e)
SECOND INTERIM REPORT

Description of Deficiency

A condition was identified at Watts Bar Nuclear Plant (WBN) in which slotted-head machine screws were installed in support subassemblies 1-062-L112B-01/4 and 1-062-L558-0001. These slotted-head machine screws were installed instead of hex-head cap screws which were furnished by Unistrut. TVA General Construction Specification G-53, revision 4, paragraph 1.1.1, states:

This applies to all bolting materials used at all TVA projects. It defines certification, identification, nondestructive examination (NDE), and storage requirements for all bolting material (bolts, studs, and nuts) to be used in permanent features by the Office of Construction (OC) except as identified in section 1.2.

Section 1.2 states that slotted-head machine screws are not covered and are outside the scope of G-53. No design requirements have been identified which establish requirements in regards to the use of slotted-head machine screws.

Safety Implications

The subject screws are of unknown material composition and could possibly be used in various support applications throughout WBN. Due to a lack of information available at this time, the impact of the performance of an affected support due to the use of slotted-head machine screws cannot be determined. As such, there is a possibility that an affected, safety-related support could fail to perform its intended design function. Therefore, it is considered that this deficiency could adversely affect the safety of operations of the plant had the deficiency remained uncorrected.

Interim Progress

TVA has performed a walkdown inspection to determine the extent of the use of slotted-head machine screws. A random sample size of 80 machine screws installed in Unistrut support subassemblies was sent to TVA's Singleton Lab to characterize the chemical and mechanical properties. Testing is approximately 75% complete. Upon receipt of the test data from Singleton, an evaluation will be made in terms of strength level to determine if slotted-head machine screws are acceptable for use in lieu of the hex-head cap screws furnished by Unistrut. TVA will provide the results of this evaluation in our next report to the NRC on or about May 8, 1986.