

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

5N 157B Lookout Place

MAY 10 1990

WBRD-50-390/89-11
WBRD-50-391/89-09

10 CFR 50.55(e)

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

In the Matter of the Application of)
Tennessee Valley Authority) Docket Nos. 50-390
50-391

WATTS BAR NUCLEAR PLANT (WBN) UNITS 1 AND 2 - SIGNIFICANT TREND ASSOCIATED WITH DAMAGED, LOOSE, OR MISSING HARDWARE - WBRD-50-390/89-11, WBRD-50-391/89-09 - FINAL REPORT

The subject deficiency was initially reported to NRC Inspector Ken Barr on November 15, 1989, in accordance with 10 CFR 50.55(e) as Condition Adverse to Quality Report (CAQR) WBP 890502. The interim report for this deficiency was submitted December 15, 1989. Enclosed is the final report. Ken Barr was notified on May 4, 1990, of the delay in this submittal.

Enclosure 2 identifies the commitments made in this submittal.

If there are any questions, please telephone G. R. Ashley at (615) 365-8527.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

E. G. Wallace
E. G. Wallace, Manager
Nuclear Licensing and
Regulatory Affairs

Enclosures
cc: See page 2

9005160367 900510
PDR ADOCK 05000370
S PDC

IF27
41

U.S. Nuclear Regulatory Commission

MAY 10 1990

cc (Enclosures):

Ms. S. C. Black, Assistant Director
for Projects
TVA Projects Division
U.S. Nuclear Regulatory Commission
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852

INPO Record Center
1100 Circle 75 Parkway, Suite 1500
Atlanta, Georgia 30339

NRC Resident Inspector
Watts Bar Nuclear Plant
P.O. Box 700
Spring City, Tennessee 37381

Mr. B. A. Wilson, Assistant Director
for Inspection Programs
TVA Projects Division
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

ENCLOSURE 1

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2
SIGNIFICANT TREND ASSOCIATED WITH DAMAGED,
LOOSE, OR MISSING HARDWARE
CAQR WBP 890502
WBRD-50-390/89-11 AND WBRD-50-391/89-09

FINAL REPORT

Description of Deficiency

A significant trend of deficiencies associated with damaged, loose, or missing hardware has been identified at Watts Bar Nuclear Plant (WBN). Condition Adverse to Quality Report (CAQR) WBP 890502 identified this trend as a result of numerous similar deficiencies documented on nonconformance reports, maintenance requests, and other CAQRs. It also states that the presently planned walkdowns do not totally envelop the population of these CAQRs. Most of the conditions adverse to quality (CAQs) that comprise the trend represent deficiencies in the construction of or damage to individual components.

The affected CAQs involve various hardware and components, such as pipe supports, doors, valves, panels, junction boxes, and conduits. Most of the CAQs identified in this trend are minor in nature when considered individually and appear to be the result of ongoing construction work and modification during which existing plant features were loosened or removed and inadvertently not returned to their original status. This condition is, however, considered significant because of the large number of deficiencies identified.

Root cause investigation performed subsequent to the interim report has revealed that this trend of deficiencies is a result of the following factors:

- ° Inattention to detail resulting in poor workmanship.
- ° Walkdown procedures did not include adequate precautionary measures to protect plant equipment.
- ° Work control procedures did not adequately address and/or clarify housekeeping requirements and protection of plant equipment.
- ° Scaffolding erection requirements were not sufficiently addressed.
- ° Near term operating license (NTOL) controls were not fully maintained. In 1985, WBN construction was complete, and systems had been transferred to operations for startup as the operating license was considered imminent. In the years following, priorities were changed to problem identification and NTOL controls were not fully maintained.

It is considered that this condition could apply throughout the plant. As such, it is potentially applicable to all structure, systems, and components.

Safety Implications

The cumulative effects of the CAQs comprising the trend could affect the ability of a safety-related component or system to perform its intended function, adversely affecting safe operation of the plant.

Corrective Action

A program has been developed to address the damaged, loose, or missing hardware (DLMH) problem for safety-related components, systems, and structures required for Unit 1 operation. These components, systems, and structures are being assessed on both a system and area basis, and identified deficiencies are being dispositioned. Program implementation includes consideration of the corrective action programs (CAPs) and special programs which already address a significant portion of the DLMH problem (e.g., equipment seismic qualification, cable tray and support). System walkdowns are being performed in support of the prestart test program, in accordance with Administrative Instruction (AI)-6.15, "System Completion Verification."

A dedicated group has been established to identify DLMH and to disposition the discrepancies. Correction may be accomplished through other CAPs or may be accomplished by the DLMH staff. The DLMH program provides documentation that identified deficiencies have been dispositioned.

To prevent recurrence, a list of acceptable and unacceptable practices for control of DLMH has been developed as required reading for site employees. Other actions which should alleviate problems associated with DLMH include:

- ° Attention to detail training has been provided for plant and construction personnel. Elements of that training are now included in general employee training (GET).
- ° AI-1.16, "Administration of Walkdown Documents for WBN," has been revised to require that walkdown procedures include adequate precautions against plant damage.
- ° Workplans and maintenance requests are now required to more clearly and completely control housekeeping and protection of adjacent plant equipment.
- ° The scaffold procedure, AI-12.8.2, now requires that scaffold is erected in a manner that does not affect plant equipment, system operability, and finished plant floors where applicable.
- ° NTOL controls are being reestablished through system turnovers on completion of prestart testing in accordance with AI-6.15.

TVA considers that this issue does not affect the portions of Unit 2 which are not required for Unit 1 operation because the normal activities associated with system completion and transfer will assure correction of DLMH before Unit 2 system transfer. The recurrence controls described above will prevent degradation following system transfer. No further action is required for Unit 2.

TVA will correct identified deficiencies for Unit 1 by September 30, 1991.

ENCLOSURE 2

LIST OF COMMITMENTS

TVA will correct identified damaged, loose, or missing hardware deficiencies for Unit 1 by September 30, 1991.