TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
5N 157B Lookout Place

FEB 29 1988

WBRD-50-390/87-05
WBRD-50-391/87-05

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 ) Docket Nos. 50-390
Tennessee Valley Authority ) 50-391

WATTS BAR NUCLEAR PLANT (WBN) UNITS 1 AND 2 - USE-AS-IS AND REPAIR DISPOSITIONS FOR CONSTRUCTION NONCONFORMANCE REPORTS - WBRD-50-390/87-05 AND WBRD-50-391/87-05 - SECOND INTERIM REPORT

The subject deficiency was initially reported to NRC Region II Inspector Gordon Hunegs on January 12, 1987, in accordance with 10 CFR 50.55(e) as a potentially reportable item, SCR WBN WBP 8601. Enclosed is our second interim report. TVA now has resources dedicated to the correction of this deficiency. We expect to submit our final report on or about September 16, 1988.

If there are any questions, please telephone C. J. Riedl at (615) 365-8527.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

R. Gridley, Director
Nuclear Licensing and
Regulatory Affairs

Enclosure
cc: See page 2

IE27
1/1

U.S. Nuclear Regulatory Commission

FEB 29 1988

cc (Enclosure):
Mr. K. P. Barr, Acting Assistant Director
for Inspection Programs
TVA Projects Division
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Mr. G. G. Zech, Assistant Director
for Projects
TVA Projects Division
U.S. Nuclear Regulatory Commission
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852

Record Center
Institute of Nuclear Power Operations
1100 Circle 75 Parkway, Suite 1500
Atlanta, Georgia 30339

U.S. Nuclear Regulatory Commission
Watts Bar Resident Inspector
P.O. Box 700
Spring City, Tennessee 37381

ENCLOSURE

WATTS BAR NUCLEAR PLANT (WBN) UNITS 1 AND 2
"USE-AS-IS" AND "REPAIR" DISPOSITIONS FOR CONSTRUCTION
NONCONFORMANCE REPORTS (NCRs)
WBRD-50-390/87-05 AND WBRD-50-391/87-05
SCR WBN WBP 8601 R0
10 CFR 50.55(e)

SECOND INTERIM REPORT

Description of Deficiency

Division of Nuclear Engineering (DNE) Engineering Assurance (EA) conducted an audit of Watts Bar Engineering Project (WBEP) activities related to the handling of construction NCRs. The audit evaluated the WBEP activities related to the disposition, documentation, and control of construction NCRs, with special emphasis placed on NCRs with "use-as-is" or "repair" dispositions to ensure that these dispositions were adequately justified and design safety margins were not compromised.

The audit identified one deficiency (No. 86-27-01) that contained four concerns:

1. "Use-as-is"- and "repair"-dispositioned NCRs are not tracked against the affected document. Therefore, in most cases for NCRs designated as not requiring a drawing change, there is no retrievable, consolidated record of the accepted variations from the drawing or original design. The cumulative effect of the design on the margin of safety is indeterminate. Also, very little evidence could be found to indicate that these NCRs have received the same level of independent design verification and interdiscipline reviews as the original design.

2. "Use-as-is"-dispositioned NCRs that come under the ASME code that are designated as not requiring a drawing change also do not meet ASME code requirements, since the NCR cannot be readily linked to the drawing to indicate as-constructed configuration. NCRs dispositioned as requiring a drawing change did not exhibit these problems since the drawing, NCR, and Engineering Change Notice (ECN) are all cross-referenced.

3. Many "use-as-is"-dispositioned NCRs either do not have any justification or lack adequate justification detail, such as references to supporting documents or analysis, making it difficult or impossible to trace the justification without recourse to someone familiar with the condition described.

4. There does not appear to be any project procedural guidance for the handling of NCRs. It is recognized that division guidance is also lacking, and this has been referred to the Engineering Assurance Procedures Group for resolution. The project, however, must have some interim and detailed implementing guidance to ensure NCRs are adequately and consistently handled.

This condition applies to WBN conditions adverse to quality (CAQs) initiated by the Division of Nuclear Construction (DNC), the Site Director's Office (SDO), and vendors that were sent to DNE and dispositioned by DNE as "use-as-is" or "repair." Also, any DNC- or SDO-initiated CAQs that were given a final disposition of "use-as-is" or "repair" and not sent to DNE for review and approval are potentially deficient. The DNE-initiated CAQs that were dispositioned "use-as-is" are potentially deficient as well, because there were inadequate procedural guidelines for documentation of "use-as-is" dispositions for DNE-initiated CAQs.

The cause of this deficiency is attributable to the fact that requirements for documenting DNE final disposition of "use-as-is" or "repair" for CAQs were not specified in a project procedure or in a division level procedure. The level of documentation for the technical evaluation, review, approval, and the configuration resulting from CAQs approved by DNE as "use-as-is" or "repair" did not meet all requirements of ANSI N45.2-1971, as committed in TVA's quality assurance topical report, because personnel performing the activities were not aware of the ANSI requirements concerning the disposition of "use-as-is" or "repair" NCRs.

Safety Implications

The margin of safety at WBN potentially may have been compromised because there is inadequate documentation of the as-built condition resulting from "use-as-is" and "repair" dispositions. This condition could have caused the design margin of safety to be adversely affected because the cumulative effect of past dispositions was not documented and available for consideration in reviewing later design changes. Until such time as the cumulative effect of past dispositions can be evaluated, the effect of this condition on plant safety is indeterminate. This condition therefore could have jeopardized the safe operation of the plant had it remained uncorrected.

Interim Progress

TVA's corrective action plan includes the following actions:

A. Identify the WBN CAQs that had a final disposition of either "use-as-is" or "repair."

B. For the CAQs identified in step A, identify those that had no design drawings or documents issued as a result of the final disposition being "use-as-is" or "repair."

C. For the CAQs identified in step B, identify the design documents that contain the design requirements that were not met as described by the CAQ.

D. For each design document identified in step C, perform a technical review of the latest revision of the document and consider what effect the condition described by the CAQ has on the document. Either prepare or revise a calculation to technically justify the current revision of the document and indicate what cumulative effect, if any, that the CAQ or CAQs have on the document as to technical adequacy, design margin, conformance

to criteria, and Final Safety Analysis Report (FSAR) commitments. Revise the document to either reflect the as-constructed configuration represented by the CAQ or to post the CAQ number on the drawing as a reference.

E. Issue a matrix drawing that cross-references the CAQs identified in step B and the affected documents that were revised to incorporate the CAQs.

F. Issue a memorandum from the WBEP Project Engineer to the DNC-WBN Project Manager and WBN Site Director with the matrix drawing attached, with instructions to file the memorandum and matrix drawing with each CAQ listed on the matrix drawing.

To date, a total of 9655 CAQs have been screened for disposition determination. Of that number, 3766 CAQs were dispositioned either "use-as-is" or "repair." This included 3066 for unit 1 and common and 700 for unit 2. Unit 1 and common CAQs were divided into two groups: 654 CAQs identified which could impact the Hanger and Analysis Update Program (HAAUP) and the remaining 2412 CAQs which have no HAAUP impact. Of the 654 hanger-related CAQs, 206 (31.5 percent) required some form of output document revision. None of these document revisions were considered to be of a significant nature.

Similar detailed evaluations are currently in progress for the CAQs with no HAAUP impact.

In order to prevent recurrence, a WBEP procedure (WBEP-EP 43.23) was issued to establish the requirements for handling CAQs that are either initiated within DNE or sent to WBEP for disposition by organizations outside DNE. The procedure has been superseded by WBEP 3.05. A specific requirement is included to ensure that appropriate design documents are revised to reflect the approved configuration for any "repair" or "accept-as-is" dispositions. WBEP 3.05 also requires the basis for approval of "repair" or "accept-as-is" dispositions to be documented along with the disposition on the CAQ report. Training in these requirements has been given to WBEP managers responsible for handling CAQs.

All corrective actions to resolve this SCR will be completed before fuel load for each unit. We expect to submit our final report concerning this deficiency on or about September 16, 1988.