

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401  
400 Chestnut Street Tower II

July 20, 1982

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USNRC REGIONAL OFFICE  
ATLANTA, GEORGIA

- SQRD-50-328/81-26
- WBRD-50-390/81-31, -391/81-30
- BLRD-50-438/81-28, -439/81-31
- HTRD-50-518/81-12, -519, -520, -521/81-10
- PBRD-50-553/81-13, -554/81-08
- YCRD-50-566/81-11, -567/81-09

U.S. Nuclear Regulatory Commission  
Region II  
ATTN: James P. O'Reilly, Regional Administrator  
101 Marietta Street - Suite 3100  
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

SEQUOYAH NUCLEAR PLANT UNIT 2, WATTS BAR, BELLEFONTE, HARTSVILLE, PHIPPS BEND, AND YELLOW CREEK NUCLEAR PLANTS - REPORTABLE DEFICIENCY - INCONSISTENT ESTABLISHMENT OF INSPECTION PROGRAM - SQRD-50-328/81-26 - WBRD-50-390/81-31, -391/81-30 - BLRD-50-438/81-28, -439/81-31 - HTRD-50-518/81-12, -519, -520, -521/81-10 - PBRD-50-553/81-13, -554/81-08 - YCRD-50-566/81-11, -567/81-09

The subject deficiencies were initially reported to NRC-OIE, Region II, Inspector P. A. Taylor on March 24, 1981, as NCR's SNP NEB 8117, WBN NEB 8108, BLN NEB 8103, HTA NEB 8101, FBN NEB 8101 and YCN NEB 8101. Our revised final report for Sequoyah and our first supplemental report for Watts Bar were submitted on April 12, 1982. Our fourth interim report for Bellefonte, Hartsville, Phipps Bend, and Yellow Creek was submitted on February 26, 1982. In compliance with paragraph 50.55(j) of 10 CFR Part 50, we are enclosing our supplemental (final) report for Sequoyah and our second supplemental report for Watts Bar and our fifth interim report for Bellefonte, Hartsville, Phipps Bend, and Yellow Creek.

We anticipate submitting our next report for the Watts Bar and Bellefonte Nuclear Plants on or before January 3, 1983. As discussed with NRC-OIE Inspector F. Cantrell on June 29, July 1, and July 16, 1982, a 20-day extension was granted on the submittal of this report. If you have any questions, please get in touch with Jim Domer for BWR's at PTS 858-2725 or Ralph Shell for PWR's at PTS 858-2676.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

*L. M. Mills*  
L. M. Mills, Manager  
Nuclear Licensing

Enclosures

cc: Mr. R. C. DeYoung, Director (Enclosures)  
Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

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ENCLOSURE 1  
SEQUOYAH NUCLEAR PLANT UNIT 2  
INCONSISTENT ESTABLISHMENT OF INSPECTION PROGRAM  
10CFR50.55(e) SUPPLEMENTAL REPORT

Description of Deficiency

Before January 26, 1979, TVA's Office of Engineering Design and Construction (OEDC) Procedure OEDC-QAP 10.0, Revision 0, required that the Division of Construction (CONST) be responsible for providing construction inspection requirements. On January 16, 1979, OEDC-QAP 10.0 R1 was issued to require that the Division of Engineering Design (EN DES) supply inspection requirements to CONST. Subsequently, OEDC-QAP 10.0 R1 was superseded by the OEDC QA Program Requirements Manual (PRM) which also required that EN DES supply inspection requirements to CONST.

In actual practice, EN DES has specified certain inspection requirements (both general and specific) to CONST both before and since January 16, 1979, and CONST has implemented these requirements; however, EN DES has failed to develop a comprehensive, documented program to implement the OEDC QA PRM requirement. Therefore, EN DES's current program does not ensure that adequate inspection requirements are or have been supplied to CONST.

Safety Implications

Most of the inspection requirements for the Sequoyah Nuclear Plant (SNP) were established before January 16, 1979, when the responsibility for establishing the construction inspection requirements was changed from CONST to EN DES. Even though EN DES did not have a program for establishing inspection requirements for CONST, EN DES has specified certain requirements and CONST has implemented them. In those instances where inspection requirements have not been established by EN DES, CONST has established and implemented the requirements.

Before Sequoyah Nuclear Plant unit 2 fuel load, EN DES reviewed selected inspection requirements established and implemented by CONST at Sequoyah Nuclear Plant. This review dealt primarily with ascertaining whether or not the inspection requirements were adequate to ensure that the affected equipment was ready for preoperational tests. Results of this sample review indicated that the inspection requirements established and implemented by CONST were adequate to ensure that the affected equipment was ready for preoperational tests.

The above results provide assurance that the inspection requirements specified by EN DES and CONST are sufficient to ensure that there are no safety-related concerns which could adversely affect the safe operation of SQN unit 2. In addition, TVA is continuing its investigation of the subject deficiency and review of Watts Bar Nuclear Plant (WBN) Construction Requirement Manual (CRM). Since SQN and WBN are similar, any deficient areas identified during TVA's investigation of the subject deficiency and the review of the CRM for WBN will also be investigated at SQN. Any deficiencies identified at SQN will be resolved under the existing QA program.

Corrective Action (Supplemental)

TVA has identified a deficiency which concerned inspection requirements for pipe insulation on Sequoyah and Watts Bar which was identified separately from the CRM review. This deficiency is being processed through TVA's normal nonconformance reporting system as NCR SQNQAB8104 on SQN and NCR WBNSWP8158 on WBN.

Additional programmatic action being developed by an EN DES Action Team for Quality Improvement will enhance the above action. The Action Team Committee is investigating the process by which installation and inspection requirements are conveyed to CONST and will recommend changes to ensure that design installation and inspection requirements are conveyed clearly and completely to CONST.

Additionally, EN DES is working on developing and upgrading Construction Specification N3G-881 and producing a comprehensive list of components, systems, and structures that are under the QA program. Procedures are being developed that will define the EN DES and CONST responsibilities and involve inspection, examination, and testing other than the testing covered by the preoperational program and construction test program. Any necessary actions identified by these ID-QAPs which are applicable to SQN will be implemented.

SQRD-50-328/81-26  
WBRD-50-390/81-31, -319/81-30  
BLRD-50-438/81-28, -439/81-31  
HTRD-50-518/81-12, -519/81-10,  
-520/81-10, -521/81-10  
PBRD-50-553/81-13, -554/81-08  
YCRD-50-566/81-11, -567/81-09

#### ENCLOSURE 2

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2,  
BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2,  
HARTSVILLE NUCLEAR PLANT A,  
PHIPPS BEND NUCLEAR PLANT UNITS 1 AND 2,  
AND YELLOW CREEK NUCLEAR PLANT UNITS 1 AND 2  
INCONSISTENT ESTABLISHMENT OF INSPECTION PROGRAM  
WATTS BAR (SECOND SUPPLEMENTAL REPORT)  
HARTSVILLE, PHIPPS BEND, BELLEFONTE, AND  
YELLOW CREEK - 5TH INTERIM REPORT  
NCRs WBNNEB8108, BLNNEB8103, HTANE8101, PENNEB8101, AND YCNNEB8101

#### Description of Deficiency

Before January 16, 1979, TVAs Office of Engineering Design and Construction (OEDC) Procedure OEDC-QAP 10.0, Revision 0, required that the Division of Construction (CONST) be responsible for providing construction inspection requirements. On January 16, 1979, OEDC-QAP 10.0 R1 was issued to require that the Division of Engineering Design (EN DES) supply inspection requirements to CONST. Subsequently, OEDC-QAP 10.0 R1 was superseded by the OEDC QA Program Requirements Manual (PRM) which also required that EN DES supply inspection requirements to CONST.

In actual practice, EN DES has specified certain inspection requirements (both general and specific) to CONST both before and since January 16, 1979, and CONST has implemented these requirements; however, EN DES has failed to develop a comprehensive, documented program to implement the OEDC QA PRM requirement. Therefore, EN DESs current program does not ensure that adequate inspection requirements are or have been supplied to CONST. As a result, it is possible that there are safety-related components/systems which have not been adequately inspected by CONST.

#### Safety Implications

Since EN DES has failed to develop a documented program which would consistently establish inspection requirements of activities affecting quality for CONST, there could be components in essential safety-related systems that have not been adequately inspected. These components may be

defective and could fail, which could result in multiple failures of safety-related systems. Such a condition could, if left uncorrected, jeopardize the safe operation of the plant.

Corrective Action (Watts Bar)

In order to address these deficiencies as they apply to Watts Bar Nuclear Plant, the following actions were taken:

Watts Bar CONST has prepared a Construction Requirements Manual (CRM) which consists mainly of an inspection and test library and a list of upper-tier requirements documents. The manual was reviewed by EN DES, and comments were provided to CONST.

The initial EN DES review of the WBN CRM was performed according to EN DES Special Engineering Procedure 81-01 (EN DES-SEP) "Verification of Watts Bar Nuclear Plant Construction Requirements Manual." The review involved the Sequoyah and Watts Bar Design Projects, Civil Engineering Branch, Mechanical Engineering Branch, Nuclear Engineering Branch, Electrical Engineering Branch, and Quality Assurance Branch. The review was to verify that entries in the WBN CRM were adequate and accurate. This verification also required EN DES to review various WBN CONST site procedures (Quality Control Procedures, Quality Control Instructions) to determine if they adequately address the requirements. The CRM for Watts Bar was initially issued on December 17, 1981, and was revised and issued as R1 on April 15, 1982. The CRM for Watts Bar will be revised and maintained as a comprehensive reference document for inspection and testing requirements, associated acceptance criteria, and documents which contain requirements and acceptance criteria for construction activities.

The review of the WBN CRM was completed and comments provided before initial issuance of the WBN CRM. The initial issuance of the WBN CRM did not resolve all of the comments.

EN DES and CONST met subsequently several times, as recently as May 1982, to resolve the comments on the WBN CRM. As a result of these meetings revisions, deletions, and additions were required to the initial issuance of the WBN CRM. These items are being processed through normal TVA procedures.

To ensure that all inspection requirements are adequately reflected in the WBN CONST program, EN DES will begin to review all new or revised CONST Quality Control Procedures (QCPs) and Quality Control Instructions (QCIs). This will be in addition to the review of the Quality Control Tests (QCTs) that EN DES is presently committed to perform. A procedure is being developed to describe and control the EN DES review of the WBN QCIs and QCPs.

Additional programmatic action being developed by an EN DES Action Team for Quality Improvement will enhance the above corrective actions. The action team committee is investigating the process by which installation and inspection requirements are conveyed to CONST and will recommend changes to ensure that EN DES installation and inspection requirements are conveyed clearly and completely to CONST.

Additionally, EN DES is working on upgrading Construction Specification, N3G-881 and providing a comprehensive list of components, systems, and structures that are under the QA program. Procedures are being developed that will define the EN DES and CONST responsibilities and involvement for inspection, examination, and testing other than the testing covered by the preoperational program and construction test program.

Interim Progress (Bellefonte)

Bellefonte CONST has prepared a draft Construction Requirements Manual (CRM) as defined in the 1982 Action Plan for Quality Improvement. Inspection and test activities and the associated acceptance criteria and source (i.e., codes, standards, etc.) are included in the CRM.

The Bellefonte CRM is currently under review.

Interim Progress (Hartsville, Phipps Bend, and Yellow Creek)

TVA has elected to defer construction activities for these projects. Deferral does not mean that the projects will be cancelled but that TVA is minimizing its expenditures and construction efforts until such time that TVA has sufficient information to indicate whether these projects should be completed or cancelled. Therefore, we will not be submitting a final report for this nonconformance until a final decision is made regarding these projects.