

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

NRC REGION  
ATLANTA, GEORGIA

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January 29, 1982

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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:

HARTSVILLE NUCLEAR PLANT - REPORTABLE DEFICIENCY - INADEQUATE  
DRAWING CONTROL - (NCR HT-G-80-12)

Initial notification of the subject deficiency was made to NRC-OIE, Region II, Inspector R. W. Wright on July 31, 1980. The final report was submitted on November 10, 1980. In compliance with paragraph 50.55(e) of 10 CFR Part 50, we are enclosing our revised final report on the subject deficiency. This revised final report was requested by NRC Inspector W. B. Swan to clarify additional corrective actions taken to resolve the deficiency. If you have any questions, please get in touch with Jim Domer at FTS 858-2725.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager  
Nuclear Regulation and Safety

Enclosure

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

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ENCLOSURE  
HARTSVILLE NUCLEAR PLANT UNITS A1 AND A2  
DRAWING CONTROL  
10CFR50.55(e) REPORT NO. 3 (REVISED FINAL)  
AUDIT HT-G-80-12, DEFICIENCY NO. 1

On July 31, 1980, TVA notified NRC-OIE Region II Inspector R. W. Wright of a potentially reportable condition under 10CFR50.55(e) regarding inadequate drawing control at the Hartsville Nuclear Plant.

This is the revised final report on the subject reportable deficiency.

Description of Deficiency

The TVA CONST QA Unit at HTN performed an audit of drawings being used on the site. The auditor surveyed 155 drawings maintained by engineering and crafts and found 30 drawings which were out of date and/or superseded by later revisions. A similar nonsignificant audit between March 12-21, 1980, had uncovered only 5 of 70 drawings to be similarly deficient. All of the 5 deficient drawings at that time were maintained by crafts. The 30 deficient drawings identified in the subject audit were found in both engineering and craft disciplines. This condition implies that a significant fraction of other drawings onsite not included in the audit would be similarly deficient.

Safety Implications

This condition represents a significant breakdown in the QA program regarding drawing control and, if it remained uncorrected, design changes important to safety may not have been implemented (pipe hanger location changes, etc.), thereby adversely affecting safe plant operation.

Corrective Action

On January 27, 1981, TVA informed NRC-OIE Region II Inspector R. W. Wright of a repeat of this deficiency identified in audit HT-G-81-06. The TVA CONST QA Unit at HTN performed an audit surveying 409 drawings being maintained by engineering and crafts personnel and found 26 drawings which were out of date and/or superseded by later revisions. This indicated that previous measures taken to prevent recurrence, as discussed in our final report to you dated November 10, 1980, were inadequate and required revision. Below are our revised corrective actions for the subject deficiency.

1. The HTN site QA Unit conducted a 100-percent audit of safety-related site-issued drawings. This audit revealed that out of approximately 40,000 drawings, 1155 superseded drawings were being held by engineering and quality control inspection personnel. All superseded drawings and documents have been replaced with current revisions.

2. Of the 1155 superseded drawings identified under action item 1, 16 were identified as being in use. Twelve of these affected work in progress, but all of these drawings were being utilized for the fabrication of one support. Modifications were necessitated and scheduled by Sequence Control Charts.
3. A team consisting of QA engineers from TVA's Office of Engineering Design and Construction QA Staff and CONST QA Branch conducted an investigation to determine why the breakdown in drawing control occurred after full compliance was reported to have been achieved as of October 8, 1980. The investigation was conducted on February 12-14, 1981. The following is a summary of the results of this investigation:
  - a. No individual or organization was responsible for the entire drawing control process from receipt of a drawing until it was retrieved.
  - b. There were too many individuals and stations where groups of controlled drawings were located which contributed to the increase in the number of drawings.
  - c. No restraints were placed on personnel requesting drawings or complete sets of drawings from the DCU which also contributed to the increase in the number of drawings.
  - d. Vendor drawings were not adequately identified and controlled.
  - e. Construction working drawings were not identified as controlled drawings.
  - f. Field Change Requests (FCRs) were not being incorporated on C. F. Braun drawings.
  - g. The Drawing Index was not maintained in an accurate status.

These findings have been addressed either procedurally or administratively.

4. All TVA construction site QA units were directed to conduct audits to determine if the Hartsville drawing control problem existed at other TVA nuclear facilities. With the exception of Hartsville, there were no audit findings evaluated and deemed "significant." Line and QA management reviewed the audit and investigation findings on February 18, 1981. No document control procedures were necessary for Sequoyah, Watts Bar, or Bellefonte Nuclear Plants. The drawing control procedure did require adjustments for Hartsville, Phipps Bend, and Yellow Creek Nuclear Plants. Construction Engineering Procedure (CEP) - 6.01, "Drawing Control," was revised and approved on April 23, 1981.

Due to operating differences between Hartsville and other TVA nuclear facilities, a site-unique procedure was issued in interim form on September 25, 1981. Minor changes were made to the interim procedure, and it was subsequently issued as a permanent document, CEP 6.05, Revision 1, on December 3, 1981. The changes did not affect the handling of superseded material, but were "fine-tuning" efforts. In addition, CEP 6.01 was revised and issued on December 4, 1981, and now only applies to Phipps Bend and Yellow Creek.

Additional audits of the drawing control system at Hartsville were conducted between June 1 and July 1, 1981, and in November 1981. Additional deficiencies were noted, but none involving the use or possession of superseded drawings were deemed "significant." As a result, we believe that full compliance has been achieved.