

TENNESSEE VALLEY AUTHORITY

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81-006-032 ✓

CHATTANOOGA, TENNESSEE 37401  
400 Chestnut Street Tower II

81-006-032 ✓

March 16, 1981

HTRD-50-518, -519, -520, -521/81-05

Mr. James P. O'Reilly, Director  
Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission  
Region II - Suite 3100  
101 Marietta Street  
Atlanta, Georgia 30303



Dear Mr. O'Reilly:

HARTSVILLE NUCLEAR PLANT - REPORTABLE DEFICIENCY - DEFICIENT  
DRAWING AND DOCUMENT CONTROL - HTRD-50-518, -519, -520, -521/81-05

The subject deficiency was initially reported to NRC-OIE, Region II, Inspector R. W. Wright on January 27 and February 3, 1981, as HT-G-81-06 deficiencies 1 and 2, respectively. In compliance with paragraph 50.55(e) of 10 CFR Part 50, we are enclosing the final report on the subject deficiency. This nonconformance was resolved along with TVA's response to your letter dated January 30, 1981, Confirmation of Action. If you have any questions, please call Jim Domer at FTS 857-2014.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager  
Nuclear Regulation and Safety

Enclosure

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

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ENCLOSURE  
HARTSVILLE NUCLEAR PLANT  
DRAWING CONTROL PROGRAM  
AUDIT HT-G-81-06 DEFICIENCIES 1 AND 2  
10CFR50.55(e)  
REPORT NO. 2 (FINAL)

On January 27, 1981, TVA informed NRC-OIE Region II Inspector, R. W. Wright, of a potentially reportable condition under 10CFR50.55(e) regarding the recurrence of drawing control deficiencies. This is the final report on this deficiency.

Description of Deficiency

The TVA CONST QA Unit at Hartsville performed an audit of the drawings being used on the site. The auditor surveyed 469 drawings being maintained by engineering and crafts personnel and found 26 drawings which were out of date and/or superseded by later revisions. A similar finding was reported to NRC-OIE Region II on August 15, 1980, in which 30 out of 155 drawings were found to be superseded.

The auditor also surveyed controlled documents other than construction drawings which are maintained in manuals onsite. This survey revealed that 12 C. F. Braun specifications and associated Engineering Change Notices (ECN's) were not sufficiently controlled in that document recipients did not have up-to-date revisions and the DCU master file contained superseded material.

Safety Implications

If any construction or inspection activities were conducted to the requirements of out-of-date or superseded drawings or documents, those activities may not conform to current requirements. Therefore, this could have led to the construction of some plant feature in an incorrect configuration which could have adversely affected plant safety.

Corrective Action

1. The Hartsville 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. An extended survey of other selected controlled documents was also conducted. 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. Each case is described below.

4KE5603-2K-02 R3 - This drawing was used for acceptance inspections on shop-fabricated items. The change effected by revision 4 involves a feature on the Mk. No. 4 frames. None of these frames were inspected during the time that this superseded drawing was in use.  
(1 copy - assigned to QA Civil Unit)

S-515221FP1-1 R0 - These were used to fabricate a single support.  
S-515221FP1-2 R0 The support was installed on August 18, 1980.  
S-525221FP1-3 R0 These drawings were revised on October 26, 1980. Sequence Control Charts are being changed to modify this support as required.  
(4 copies each - assigned to STRIDE Project Engineering Hanger Unit)

S-514A44FP1-1 R0 - Member size was changed by revision 1 to a smaller size. Since we are still fabricating and installing this support, the design change will be implemented.  
S-514A44FP1-2 R0  
(1 copy each - assigned to STRIDE Project Engineering Hanger Unit)

S321200AP2 R1 - No changes in the fabrication or installation of this support are necessitated by this change  
(1 copy - assigned to STRIDE Project Engineering Hanger Unit)

3. A team consisting of QA engineers from the staff of TVA's Office of Engineering Design and Construction (OEDC) and the Quality Assurance Branch of the Division of Construction (CONST) 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 summation 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 Document Control Unit which also contributed to the increase in the number of drawings.
  - (d) Vendor drawings were not adequately identified and controlled.
  - (f) Construction working drawings were not identified as controlled drawings.
  - (g) Field Change Requests (FCR's) were not being incorporated on C. F. Braun drawings.
  - (h) The Drawing Index was not maintained in an accurate status.
4. All TVA construction site QA units were directed to conduct audits to determine if the Hartsville drawing control problems existed at other TVA nuclear facilities. All audit scopes were expanded beyond drawing control in order to evaluate other areas of document control, i.e., Field Change Requests (FCR's), Construction Engineering Procedures (CEP's), Quality Control Instructions (QCI's), etc. 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 procedure changes were necessary for Sequoyah, Watts Bar, or Bellefonte. The drawing control procedure did require adjustments for Hartsville, Phipps Bend, and Yellow Creek Nuclear Plants. A revision to Construction Engineering Procedure, CEP-6.01, "Drawing Control," was drafted on February 26, 1981, and is intended to prevent recurrence of the causes of this deficiency listed in part 3 above. For all plants, line management emphasis is being implemented to achieve and maintain full compliance with procedural requirements of drawing and document control, and accelerated auditing will be used to assure compliance. We believe that the program adjustments, line management emphasis, direct supervision, employee training and accelerated auditing will preclude recurrence of significant deficiencies in our drawing and document control program.