

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

August 27, 1982

YCRD-50-566/81-02

YCRD-50-567/81-02

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

Dear Mr. O'Reilly:

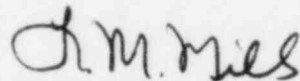
YELLOW CREEK NUCLEAR PLANT UNITS 1 AND 2 - SOURCE INSPECTION -
YCRD-50-566/81-02, YCRD-50-567/81-02 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector M. Thomas on January 20, 1981 in accordance with 10 CFR Part 50.55(e) as NCR YCN QAB 8101. This was followed by our interim reports dated February 19, June 23, September 4, and December 7, 1981 and February 18 and April 27, 1982. Enclosed is our final report.

If you have any questions concerning this matter, please get in touch with R. H. Shell at FTS 858-2688.

Very truly yours,

TENNESSEE VALLEY AUTHORITY



L. M. Mills, Manager
Nuclear Licensing

Enclosure

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

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ENCLOSURE
YELLOW CREEK NUCLEAR PLANT UNITS 1 AND 2
SOURCE INSPECTION
NCR YCN QAB 8101
YCRD-50-566/81-02, YCRD-50-567/81-02
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

On four separate occasions between June and December 1980, employees of TVA's Division of Construction discovered defects in welds by visual examination after the subject material had been released from the vendor shop by TVA's source inspectors.

Safety Implication

All of the four occasions referenced above were handled as individual nonconformances. The specific safety implication of each NCR was investigated and addressed as appropriate. However, the generic implication associated with a breakdown in the quality system at the source inspection level could obviously create a situation involving material components and equipment purchased for installation in one or more safety-related systems possibly supplied to several nuclear plants. Subsequent investigations by TVA discussed below have concluded that this deficiency is the result of a number of isolated occurrences which do not represent a programmatic breakdown. Therefore, the safety of plant operations is not jeopardized.

Corrective Action

TVA committed to perform certain corrective actions. This commitment was stated in NRC report 50-566/81-01 and 50-567/81-01, noted as unresolved Item 50-566, 567/81-01-01, and described as follows:

TVA outlined three immediate steps that would be taken to upgrade the vendor procurement program and to evaluate the generic implications that may be involved.

- a. Send all vendor weld inspectors to visual inspection school and certify them in visual inspection.
- b. Provide additional surveillance of vendor plants.
- c. Conduct audits at other TVA sites to evaluate the generic implications.

The first commitment was already in progress at the time the NCR was written since weld inspection training is a normal part of TVA's Quality Engineering Branch (QEB), which is responsible for performing source inspection of vendor supplied items. However, as a result of the commitment, TVA set a goal of having one inspector in each U.S. Regional Office qualified as an American Welding Society (AWS) certified welding inspector and this goal was achieved on June 30, 1981. As of January 1981, there had been 28 inspectors qualified as AWS certified welding inspectors and six others qualified as AWS associate certified welding inspectors.

The second commitment was to provide additional surveillance of vendor plants. One new employee was added. Also, the following action was taken which resulted in additional and more effective surveillance of vendor activities.

- a. Contracts were transferred to balance office loads and included transfers from Pittsburgh to Charlotte and from Birmingham to Charlotte.
- b. Arrangements were made for outside inspection agencies to be secured on a personal service contract basis to provide inspection services for contracts located in Portland, Oregon, Seattle, Washington, England, Scotland, Japan, and Korea.
- c. Personnel were transferred as needed to balance the manpower load ratio.

TVA believes that the second commitment was met on July 1, 1981.

The third commitment was to conduct audits at the other TVA sites to evaluate the generic implications.

TVA conducted an investigation of approximately 200 contracts and major purchase orders for the purpose of inspecting materials and equipment involving welding. The 200 contracts were spread over five nuclear plants and provided an opportunity to compare workmanship and surface appearance of similar items fabricated at various locations throughout the country.

Of the 200 contracts involved, only three had any questionable welding. Of these three, one contract (Atlas Machine and Iron Works) had already been cancelled and the other two were scheduled to be corrected at the suppliers' expense.

Considering the small number of problems found, TVA believes that this NCR is not representative of a generic problem, but instead is a case of isolated instances.

To prevent recurrence TVA has already emphasized the importance of training and has qualified 28 inspectors as AWS certified welding inspectors as well as six others as associate welding inspectors. TVA has increased shop surveillance inspection in vendor shops and has relocated personnel to provide a more intense program of source inspection.

TVA believes that these actions have limited the possibility of further equipment problems in the area of source inspection, and that full compliance was achieved May 14, 1982.