830 Power Building
TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401

JUN 30 1976

Mr. Norman C. Moseley, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region II - Suite 818
230 Peachtree Street, NW.
Atlanta, Georgia 30303

Dear Mr. Moseley:

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2 - REPORTABLE DEFICIENCY - BRISTOL STEEL AND IRON WORKS, INC. (BSIW) - DOCUMENTATION OF FABRICATION FOR STRUCTURAL STEEL REACTOR COOLANT SYSTEM SUPPORTS - H01284F2 - FINAL REPORT

The initial report of this deficiency was made to V. L. Brownlee, Principal Reactor Inspector for Watts Bar, NRC-OIE, Region II, on March 24, 1976. The subject deficiency was reported as a 10 CFR 50.55(e) item.

The first interim report concerning this deficiency was transmitted to your office on April 23, 1976. Enclosed is the final report concerning this deficiency.

Very truly yours,

J. E. Gilleland
Assistant Manager of Power

Enclosure
CC: Dr. Ernst Volgenau, Director (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2

REPORTABLE DEFICIENCY

DOCUMENTATION OF FABRICATION

BRISTOL STEEL AND IRON WORKS, INC.

FINAL REPORT

Description of the Deficiency

In mid-January 1976, the responsibility for enforcing the quality assurance (QA) requirements of this contract was transferred from Bristol Steel and Iron Works (BSIW) corporate QA department to the nuclear QA department. At that time, a review of QA status on this contract by BSIW indicated that problems existed in regard to the recording of material, welder, and welding material identifications (ID's). Specific problems identified by the contractor were as follows:

1. The welders' ID's stenciled on a fabricated piece did not in all cases correspond with the ID's on the fabrication traveler for that particular piece.

2. The welders' ID's shown on welding material requisition forms (D41's) and the welding material issuance records (D21's) did not in all cases agree with the ID's stenciled on the fabricated piece and/or the ID's shown on the fabrication traveler.

3. The welding material ID's noted on the fabrication traveler for a particular piece did not in all cases correspond with the welding material ID's shown on the D41's or D21's for that particular piece.

4. Material ID's were not recorded on route sheets or fabrication travelers in some cases. Also several other discrepancies were noted with regard to material identification.

Safety Implications

Had this incident gone undetected, fabricated material could have been released for shipment for which objective evidence of quality could not have been ensured.

Corrective Action

By mid-February 1976, BSIW's nuclear QA department had taken two basic actions toward correcting these problems:

1. BSIW scheduled a hardware audit to begin on February 24, 1976, to determine what action was required for pieces already fabricated or in process.

2. BSIW instituted a series of corrective actions to prevent recurrence of these problems. Specifically, personnel performing documentation functions were instructed in the requirements for signature (or initial) and date on records. A new filing system was established for QA documentation and document control procedures were established and implemented for the control of fabrication and inspection procedures. Also training was conducted for production and inspection personnel in the QA program requirements of this contract.

On March 16, 1976, BSIW submitted a nonconformance report (NCR) describing in detail problems with inprocess documentation in regard to the recording of material, welder, and welding ID's. BSIW's proposed disposition and/or corrective action to this NCR was subsequently rejected by TVA on March 26, 1976.

In meetings with BSIW on March 30, April 1, and April 5, 1976, TVA further investigated these problems, listened to reasons for and explanations of these problems, reviewed the documentation and records, and thoroughly studied their material traceability system. Subsequent to these meetings, TVA worked with BSIW to develop a plan for the correction of these problems that would be acceptable to TVA.

On April 15, 1976, TVA forwarded a letter to BSIW giving guidelines for the resolution of the problems identified in their NCR and for those problem areas called to our attention by our inspectors. Specifically, TVA addressed items that BSIW should include in a new NCR that would respond to these problem areas. Moreover, in that letter, TVA offered to meet at BSIW to review and verify the disposition of their NCR.

On April 26, 1976, TVA met with BSIW to review their draft of the new NCR and TVA's comments on this draft were given to BSIW. The new NCR was formally submitted to TVA on April 27, 1976.

On May 5, 1976, a trip was made to BSIW for the purpose of verifying certain information contained in the NCR. Specifically, it was verified that all the weld material used on the contract was acceptable and that all welders were qualified in the process for which the weld material was issued and on the date the weld material was issued.

For verifying that the weld material was acceptable, all the purchase orders for this material were checked against the specification requirement. Also, the certified material test reports (CMTR's) for each weld material ID was checked. It was noted that in all cases BSIW QA personnel checked the CMTR against the purchase order and determined that the correct material had been received; this check was dated and initialed or signed by BSIW QA personnel.

For verifying that all welders were qualified in the process for which the weld material was issued and on the date the weld material was issued, a spot check by TVA of welder qualifications was made. Specifically, if the record showed that a certain welder was issued a particular weld material, e.g., for the stick electrode process, on a specific date, the welder qualification log was checked to determine if that welder was qualified for that particular process on the date he was issued the weld material.

It was therefore verified that BSIW's conclusions in the NCR regarding the use of acceptable weld material and qualified welders were justified. To reiterate, BSIW had concluded that with the exception of one tacker all welders and tackers whose ID's appeared on fabricated pieces or fabrication travelers were qualified welders; the problem with the one tacker not being qualified was subsequently satisfactorily dispositioned on a separate NCR. Also, BSIW had concluded that the welding material ID's recorded on available documents represented acceptable material for this contract.

The NCR was subsequently approved and returned to BSIW with comments on May 12, 1976.

Summary

The action taken by BSIW to ensure that there is adequate documentation of the fabrication for this work and that the specific problems identified have been resolved is acceptable to TVA. It should also be noted that these problems no longer exist since the QA responsibilities were assured by the BSIW nuclear QA department. Finally, the material affected by this NCR has been released for shipment and some of the material has, in fact, been shipped to the contruction site.