

ENCLOSURE

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2
VIOLATION OF INRYCO FIELD INSTALLATION PROCEDURES
NCR'S 1142, 1167, AND 1174
10CFR50.55(e)

FINAL REPORT

Description of Deficiency

Inryco quality control documentation was signed by individuals other than those performing the work (NCR 1142). Inryco quality control documentation was not clear regarding quality control inspectors' signatures on documentation, i.e., the inspector's signature may indicate an actual witness of work or a check of documentation for completeness.

NCR 1167 documents inspection records (tendon pulling cards for installation of vertical tendon numbers V41, V42, V43, and V44) were completed to indicate temporary end protection had been installed prior to performance of and inspection of this work item.

NCR 1174 documents buttonhead qualification records were completed prior to performance of and inspection of this work.

Safety Implications

The nonconformances represented a significant breakdown of the quality control program for the prestressing system installation in the primary containment.

If this problem with the quality assurance records had continued, the adequacy of the prestressing system would not have been established. Hence, the adequacy of the containment to perform its intended safety function of preventing release of radioactive material would not have been established.

Corrective Action

On April 23, 1980, TVA issued to Inryco a stop work order for all quality-related work. A TVA investigation team was formed to assess the adequacy of the contractor's quality assurance/quality control program and the work performed to April 23, 1980, by Inryco. The team's final report, dated May 2, 1980, was discussed with the NRC-OIE in a May 6, 1980, meeting in Atlanta, Georgia.

As a result of the investigation, the contractor's quality control procedures have been revised to clearly define the required inspections, proper documentation, and the training necessary for inspector qualification. Inryco, Incorporated, provided a corporate letter of assurance to TVA stating their commitment to provide a quality program meeting the requirements of 10 CFR 50, Appendix B.

8007160656

To address the work performed up to April 23, the investigation team reviewed the existing Inryco records and TVA's surveillance records. It was determined the tendons installed and buttonheaded are of adequate quality, and no further inspection is needed. Sixty-three horizontal tendons had been installed and approximately 44 horizontal tendons were inspected for wire condition by an Inryco QC inspector. For the 76 vertical tendons installed, 29 were witnessed and inspected by Inryco QC employees. All tendon buttonhead work was inspected by Inryco QC employees. Buttonhead work had only been performed on the 63 installed horizontal tendons.

The quality control procedures in the Inryco Field Installation Manual have been revised to clearly state the required inspections. The training procedures for inspector qualification have been revised and approved by TVA. Inryco inspectors have been retrained and recertified according to the approved procedures under the observation of onsite TVA QA employees. The quality control procedures have been revised to clearly define what a signature on a document represents and when a signature is to be placed on the document.

Training procedures for the Inryco inspectors for all work activities have now been approved by TVA. TVA quality assurance employees at the site have observed training of Inryco inspectors for the following activities:

1. Receipt and storage of materials
2. Tendon cutoff
3. Tendon buttonheading and buttonhead repair
4. Tendon placing or pulling

The training and revised quality control procedures for the above activities were considered acceptable by TVA. On May 28, 1980, Inryco was in compliance with the necessary corrective action and Inryco was allowed to resume work on installation activities associated with receiving and storage and tendon cutoff. On June 18, 1980, Inryco was in compliance with the necessary corrective action and Inryco was allowed to resume work on installation activities associated with buttonheading, buttonhead repair, and tendon placement.

Upon approval by TVA of the completion of inspector training and quality control procedure revisions associated with stressing, grease can placement, and greasing, Inryco will be in compliance with the corrective action and will be released to resume work on these remaining activities.