



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
101 MARIETTA ST., N.W., SUITE 3100  
ATLANTA, GEORGIA 30303

Report No. 50-553/80-04

Licensee: Tennessee Valley Authority  
500A Chestnut Street  
Chattanooga, TN 37401

Facility Name: Phipps Bend Unit 1

Docket No. 50-553

License No. CPPR-162

Inspection at Chicago Bridge and Iron Nuclear Memphis, Tennessee

Inspector: W. F. Kleinsorge

MARCH 24, 1980  
Date Signed

Accompanying Personnel: J. L. Coley (Training)

Approved by: A. R. Herdt, S Chief, RC&ES Branch

MARCH 25, 1980  
Date Signed

SUMMARY

Inspection on March 3-5, 1980

Areas Inspected

This routine announced inspection involved 42 inspector-hours at Chicago Bridge and Iron Nuclear in the areas of preservice inspection - Review of Procedures, Observation of Work and Work Activities, and Data Review and Evaluation.

Results

No new items of noncompliance or deviations were identified. A further example of the item of noncompliance reported in 50-553/79-12 (Failure to obtain inspection plan approval - paragraph 3) was identified.

8005220 671

## DETAILS

### 1. Persons Contacted

#### Licensee Employees

\*M. E. Gothard, Mechanical Engineer

#### Other Organizations

Rockwell International

\*C. Q. Torrijos, Project Engineer

\*J. Ortega, QA Site Representative

Authorized Nuclear Inspector

\*J. L. Walker

\*C. E. Housdan

Chicago Bridge and Iron Nuclear

W. Rogers, Project Manager (Vessel Internals)

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on March 5, 1980, with those persons indicated in Paragraph 1 above. The licensee was informed of the apparent continued noncompliance concerning failure to obtain document approval. The licensee acknowledge those findings.

### 3. Licensee Action on Previous Inspection Findings

(Open) Infraction 553/79-12-01 - Failure to obtain Inspection Plan approval

TVA letter of response dated 24, 1979, has been reviewed. The inspector noted that all actions committed to in the above response were accomplished; however, on March 5, 1980 automated ultrasonic inspection activities were being accomplished in accordance with Rockwell International Procedure N318DWP000001 Revision C "Equivalency Determination Between Inspection Cables and Calibration Cables" without required TVA approval. In view of the above it is apparent that additional action is required to avoid continued noncompliance. The licensee was informed that a supplemental response would be required.

### 4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Preservice Inspection - Review of Procedures

The applicable Code for preservice and inservice inspection is the ASME B and PV Code Section XI 1974 Edition through summer 1975 Addenda as implemented by TVA QA Program. The inspector reviewed the preservice inspection procedures indicated in the following paragraphs to determine whether the procedures were consistent with regulatory requirements and licensee commitments.

- a. The following procedures were reviewed in the areas of procedure approval, requirements for qualification of NDE personnel, and procedure scope:

<u>Procedure Number</u>	<u>Title</u>
N318TP000001, Rev. C	"Ultrasonic Examination of Reactor Vessel Welds (Phipps Bend)"
N318DWP000001 Rev. C	"Equivalency Determination Between Inspection Cables and Calibration Cables" (Note: Revision C had not been approved by TVA - See paragraph 3 for discussions)

- b. Procedure Nos. N318TP000001 and N318DWP000001 were reviewed for technical content in the areas of type of apparatus, extent of coverage, calibration requirements, size, angle and frequencies of search units, methods of compensation for metal distance traveled by ultrasonic beam, reference level for monitoring discontinuities, method of demonstrating penetration, limits for evaluation and recording of indications, method of recording significant indications, and acceptance limits.
- c. Procedure Nos. N318TP000001 and N318DWP000001 were reviewed in conjunction with the QA Manual to determine if compilation of required records were specified.

In the areas inspected, no new items of noncompliance or deviations were identified.

6. Preservice Inspection - Observation of Work and Work Activities

The inspector observed the preservice activities described below to determine whether these activities were being performed in accordance with regulatory requirements and licensee approved program and procedures. See paragraph 5 above for the applicable code.

- a. Personnel qualification records for two level 1, two Level IIA and one Level III examiner were reviewed.
- b. In-Process ultrasonic examination, including portions of the calibration sequence were observed for circumferential butt weld AD, increments 6 to 7 and 9 to 10. The examination included straight and angle beam with automatic equipment.

The above inspections were compared with the applicable procedures in the following areas:

- Use of specified type of apparatus.
  - Extent of coverage and scanning technique.
  - Calibration method including frequency and use of required calibration block
  - Size and frequencies of search units.
  - Beam angles and DAC curves.
  - Definition of reference level for monitoring discontinuities.
  - Demonstration of penetration.
  - Limits for evaluating and recording indications.
  - Acceptance limits.
  - Use of instruction manual or program procedure.
  - Personnel thoroughly familiar with inspection systems.
  - Examination provides for 100% volumetric coverage.
  - Continuous recording of reproducible data with accurate orientation to the reference points.
- c. (Closed) Unresolved Item 553/79-12-02 Conformance of Calibration Cable to ASME Code

This item concerns the use of an "extra" calibration cable meeting the intent of the ASME Code. Rockwell has requested ASME Code clarification, and reviewed a response indicating that the "extra" cable is within the intent of the ASME Code. Further Rockwell has revised procedure N318TP000001 "Ultrasonic Examination of Reactor Vessel Welds (Phipps Bend)" and written procedure N318DWP000001 "Equivalency Determination Between Inspection Cables and Calibration Cables" to describe the employment of the "extra" cable. The above is considered acceptable and this item is closed.

In the areas inspected no items of noncompliance or deviations were identified.

7. Preservice Inspection - Data Review and Evaluation

The inspector reviewed reactor vessel preservice inspection records indicated in the following paragraphs to determine whether the records were consistent with regulatory requirements and licensee commitments. See paragraph 6 for the applicable code.

- a. The records for the following joints were reviewed in the areas of, results and data sheets, equipment data, calibration data sheets, evaluation data, extent of examination, deviation from program, disposition of findings, re-examination data, and identification of NDE materials.

<u>Weld No.</u>	<u>Description</u>
BA	Longitudinal butt weld
BB	Longitudinal butt weld
BC	Longitudinal butt weld
N2C	Nozzle to vessel weld
N2E	Nozzle to vessel weld

- b. The records of the welds in paragraph 7a above, were reviewed for technical content including method, extent and technique of examination; data within the acceptance criteria; recording of evaluations and disposition of findings; evaluation sufficient to determine full extent of indications.

In the areas inspected no items of noncompliance or deviations were identified.