

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

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DR Central File

JUL 3 1 1975

Commonwealth Edison Company
ATTN: Mr. Byron Lee, Jr.
Vice President
P. O. Box 767
Chicago, Illinois 60690

Docket No. 50-237

Gentlemen:

This refers to the inspections conducted by Mr. J. W. Sutton of this office on December 18-20, 1974, January 6-7, May 13, and July 3, 1975; of activities at the Dresden Nuclear Power Station Unit 2 authorized by NRC License No. DPR-19 and to the discussion of our findings with Mr. Stephenson and others of your staff at the conclusion of the inspection.

A copy of our report of this inspection is enclosed and identifies the areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, interviews with plant personnel, and observations by the inspector.

No items of noncompliance with NRC requirements were identified within the scope of this inspection.

It is our understanding that you intend to review and tabulate within thirty days, the areas of previous In-service Inspections (ISI) that have been conducted on Dresden Nuclear Units 2 and 3. The purpose of this review would indicate the inspection status of components required to be examined during in-service inspection, during the first five (5) and ten (10) year periods of plant operations. The results of the review will be examined by IE:III inspectors.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC's Public Document Room. If this report contains any information that you or your contractors believe to be proprietary, it is necessary that you make a written application to this office, within twenty days of your receipt of this letter, to withhold such information from public disclosure. Any such application must include a full statement of the reasons for which it is claimed that the information is proprietary, and should be prepared so the proprietary information identified in the application is contained



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in a separate part of the document. Unless we receive an application to withhold information or are otherwise contacted within the specified time period, the written material identified in this paragraph will be placed in the Public Document Room.

Should you have any questions concerning this inspection, we will be glad to discuss them with you.

Sincerely yours,

Gaston Fiorelli, Chief
Reactor Operations Branch

Enclosure:
IE Inspection Report
No. 050-237/75-18

cc w/encl:
Mr. B. Stephenson
Superintendent

bcc w/encl:
PDR
Local PDR
NSIC
TIC
Anthony Roisman, Esq

UNITED STATES NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report of Construction Inspection

IE Inspection Report No. 050-237/75-18

Licensee: Commonwealth Edison Company
Post Office Box 767
Chicago, Illinois 60690

Dresden Nuclear Power Station
Unit 2
Morris, Illinois

License No. DPR-19
Category: C

Type of Licensee: BWR (GE) - 809 MWe

Type of Inspection: In-service Inspection

Dates of Inspection: December 18, 19, and 20, 1974, January 6,
and 7, May 13, and July 3, 1975

Principal Inspector:

J. W. Sutton
J. W. Sutton

7/28/75
(Date)

Accompanying Inspectors: None

Other Accompanying Personnel: None

Reviewed By:

D. W. Hayes
D. W. Hayes
Senior Reactor Inspector
Construction Projects

7/28/75
(Date)

SUMMARY OF FINDINGS

Inspection Summary

Inspections of December 18, 19, and 20, 1974, January 6 and 7, 1975, May 13, 1975 and July 3, (75-18): The In-Service Inspection (ISI) for Dresden Unit 2 began on December 14, 1974, and was completed on May 13, 1975. The length of the ISI was extended, due to the discovery during the inspection of cracks in the four-inch recirculation line bypass and ten-inch core spray line. Repairs were made in both lines and reported in RO Inspection Report No. 050-237/75-11 and IE Inspection Reports No. 050-237/75-01, No. 050-237/75-08, No. 050-237/75-10, and No. 050-237/75-15.

This report covers an overview of the entire ISI and valve body wall thickness measurement program for Dresden Unit 2. (Report Details, Paragraphs 1, 2, and 3)

Enforcement Action

None.

Licensee Action on Previously Identified Enforcement Items

Not applicable.

Other Significant Findings

A. Systems and Components

1. The ISI for Dresden Unit 2 has been completed. Discrepancies found during the inspection have been reported and documented by IE:III inspectors. (Report Details, Paragraph 2)
2. The valve body wall thickness measurement program for Dresden Unit 2 has been completed and documented. (Report Details, Paragraph 3)

B. Facility Items (Plans and Procedures)

Unresolved Item - The licensee has committed to conduct a review and to tabulate the inspection status of components required by the ASME Code, Section XI requirements to be examined during the ISI first five-and-ten year period of plant operation. (Report Details, Paragraph 2)

C. Managerial Items

Not applicable.

D. Noncompliance Identified and Corrected by Licensee

Not applicable.

E. Deviations

Not applicable.

F. Status of Previously Reported Unresolved Items

Not applicable.

Management Interview

A. The following persons attended one or more of the management interviews at the close of the inspections.

Commonwealth Edison Company (CE)

B. Stephenson, Station Superintendent
R. L. Williams, Technical Staff Engineer
R. C. Herbert, Technical Staff Engineer

B. Matters discussed and comments, on the part of management personnel, were as follows:

The inspector stated that his review of the ISI and valve body wall thickness measurement programs had been satisfactorily completed. He further stated that the length of time necessary to complete this inspection had been due to the fact that component discontinuities had been reported and repairs were made during the course of the inspection. The inspector further stated that the IE report to be submitted, as a result of the Unit 2 ISI, would pertain to the overall ISI and not the results of inspections and repairs made of the components. The results of those inspections have been reported in several IE:III inspection reports issued during the past six (6) months.

The inspector stated that it did not appear that a status report of components previously inspected during ISI's has been tabulated to determine the progress of the five-and-ten year Dresden Unit 2 ISI commitments. The licensee committed to preparing a status report within 30 days that would cover the progress of prior ISI's of Dresden Unit 2. He further stated that Dresden Unit 3 inspection status would also be reviewed and documented.

REPORT DETAILS

Persons Contacted

The following persons, in addition to the individuals listed under the Management Interview section of this report, were contacted:

Commonwealth Edison Company (CE)

A. Chernick, Quality Assurance Engineer - Operations
M. Wright, Quality Assurance Engineer
R. Stone, Quality Assurance Engineer - Quality Assurance Department
A. Roberts, Assistant Superintendent
R. Meadows, Quality Control Engineer
E. Potter, Senior Engineer - Quality Assurance Department
W. Stiede, Systems Operation Analysis Department
T. Watts, Technical Staff Supervisor
G. Reardanz, Quality Assurance Inspector
T. Borzym, Quality Assurance Inspector

Hartford Steam Boiler Insurance Company (HSB)

A. Jimenez, Code Inspector

Peabody Testing-Magnaflux (Peabody-Magnaflux)

R. Kennedy, Inspector - Nondestructive Testing
R. Willis, Inspector - Nondestructive Testing

Results of Inspection

1. General

A review of available documentation of ISI and valve body wall thickness measurements was made by the inspector. Observations of ISI examination was included as part of the inspector's inspection program. The ISI program was started on December 2, 1974, and was concluded on May 13, 1975. The inspector conducted the first inspection of the licensee's ISI activities on December 18 - 20, 1974. At this time, the inspector found that the original, approved ISI procedures were being frequently revised in the field. As a result of the inspectors questioning and the number of required field changes the licensee terminated the ISI activities and initiated efforts to fully review, revise and requalify the procedures being used. The revised procedures were given final approval by

CE, QA, and NDE, and HSB personnel on January 2 and 3, 1975. The licensee commenced reinspection on January 3, 1975. IE conducted an inspection on January 6 and 7, 1975, to review the revised procedures and work in progress. During the December inspection, the licensee reported the finding of cracks in the four-inch recirculation bypass line. In January, the licensee reported that cracks were discovered in the ten-inch core spray line. Special inspections were conducted by the licensee, as required by NRC. The findings and documentation of these inspections are contained in the following NRC Inspection Reports: four-inch recirculating line, No. 050-237/74-11 and No. 050-237/75-01; ten-inch core spray lines, No. 050-237/75-05, No. 050-237/75-08, No. 050-237/75-10, and No. 050-237/75-15. The special inspections and repairs associated with them accounted for the long inspection period of the ISI program for Dresden Unit 2. A review of the draft of the ISI and valve body wall thickness inspection results indicated that the inspections conducted appeared to be in order.

2. ISI Primary Coolant System

Prior to the start of the ISI, the licensee held a preinspection meeting on October 24, 1974, to discuss the inspection and associated procedures to be used. The meeting was attended by the ISI contractor, CE Level III examiner, station representative and the HSB and IE inspectors.

The inspection program for the 1974 ISI was contained in a CE memo to the plant superintendent dated November 20, 1974. The memo was entitled "1974 Dresden No. 2 In-service Inspection and Minimum Valve Wall Thickness Measurement Program". The program indicated that the ISI for the coolant system would be performed by Peabody-Magnaflux. The minimum wall inspection program would be done by Nuclear Services Corporation (NSC). The memo further indicated that the examinations shall meet the requirements specified in Dresden 2 Technical Specifications, Section 3.6.F, Table 4.6.1, and the ASME Boiler and Pressure Vessel Code, Sections III and XI, 1971 Edition, including the Summer Addenda. The program further listed the components to be examined.

The inspection was under the direct control of a CE technical staff engineer. The CE site and corporate QA/QC personnel were found to be auditing and witnessing the inspection.

The inspector reviewed and examined the applicable QA/QC inspection provisions, nondestructive test procedures, qualification of NDE personnel material certifications and calibration records of test instruments. The records reviewed appeared to be in order. The final report of the ISI is being prepared and will be made available for review.

At the conclusion of the inspection, the inspector inquired if CE had available a status report or tabulation of areas and components that had been inspected during previous ISI's. The inspector was informed that a detailed list or tabulation of ISI areas, as it applied to the five-and-ten-year inspection requirements, had not been prepared. CE committed to a review of this matter within 30 days. Unit 3 would be included in this review.

a. Examination Techniques and Procedures

All nondestructive test procedures were provided by CE. The following CE procedures were reviewed:

- (1) NDT-C-1 - Revision 4, January 2, 1975, UT Inspection of Pressure Retaining Bolting from Two Inches to and Including Four Inches in Diameter.
- (2) NDT-C-2 - Revision 9, January 2, 1975, UT Inspection of Pipe Welds, Dresden Station Units 1, 2, and 3, and Quad-Cities Station Units 1 and 2.
- (3) NDT-C-4 - Revision 8, January 3, 1975, UT Inspection of External Support Attachment Weld Areas on Piping, Dresden Station Units 1, 2, and 3, and Quad-Cities Station Units 1 and 2.
- (4) NDT-C-5 - Revision 5, January 3, 1975, UT Inspection of Reactor Vessel Welds, Dresden and Quad-Cities Station.
- (5) NDT-C-10 - Revision 5, January 3, 1975, UT Inspection of Inner Radius of Nozzle-to-Vessel Junction.
- (6) NDT-C-11 - Revision 6, February 1, 1975, UT Inspection Flange Ligaments Between Threaded Bolt Holes.
- (7) NDT-C-12 - Revision 3, January 3, 1975, UT Inspection of Reactor Vessel Head Welds, Dresden and Quad-Cities Stations.
- (8) NDT-C-14 - Revision 3, February 1, 1975, UT Inspection of Pressure Retaining Bolting Over Four Inches in Diameter.
- (9) NDT-C-16 - Revision 0, May 10, 1975, UT Inspection of Dissimilar Metal Pipe Welds, Dresden and Quad-Cities Stations.

- (10) NDT-V-1 - Revision 0, January 3, 1975, Visual Examination of Nuclear Reactor Coolant System Components.
- (11) NDT-D-1 - Revision 1, January 3, 1975, NDT Procedure for Nonaqueous Red Dye LP Examination of Reactor Vessel Safe Ends, Unit 2 - Dresden.
- (12) NDT-D-2 - Revision 1, January 3, 1975, NDT Procedure for Nonaqueous Red Dye Liquid Penetrant Examination.

The above procedures had been approved by CE Level III examiner QA, and HSB Code inspector prior to the start of the inspection. The procedures contained all the necessary information and instructions relating to the applicable codes to be used and inspection methods and techniques to be followed during the examination of the nuclear components.

b. Qualification of Nondestructive Examination Personnel

Review of the test vendor's personnel qualification documentation indicated conformance to the requirements of SNT-TC-1A and its supplements and appendices, as applicable for the examination technique and methods used. Peabody-Magnaflux personnel records reviewed indicated that the written tests, and employment and experience history records for the inspecting personnel, were being properly maintained. The site records were considered to be in order.

c. Basic Calibration Status of Instruments

The electronic equipment and search transducers calibration records were examined and found to be in order. The documentation attested to the conformance of the equipment to the qualitative and quantitative requirements of the ASME Code, engineering specifications, and/or test procedures.

d. Test Records

The inspector reviewed rough draft records on in-service examinations that have been performed. The records were found to have been properly reviewed and signed. Data acquisition was taken and recorded manually. Indications that were reported to be over acceptable limits had been reviewed by Quality Assurance Department personnel, and their findings were documented. The Code inspector had reviewed and signed the original records. The records appeared to be in order.

e. Material Certifications

Material certifications for UT couplant, liquid penetrant, and UT calibration reference blocks were examined and found to be in order. All UT reference block materials had been given a spectrographic analysis to determine if they conformed to the correct "P" number, as required by the ASME Code. No discrepancies were found.

f. Quality Assurance Activities - CE

CE QA/QC personnel had reviewed the QA program of the test vendor prior to the inspection. Audits of ISI activities were conducted by QA personnel using Procedure No. QP 18-52. Surveillance by QC personnel was found to be documented. The QA audits that were performed during the ISI were reviewed and found to be in order. Deficiencies found during the audits were reported, and followup was accomplished and documented.

3. Valve Body Wall Thickness Measurement Program

General

In conjunction with the Dresden Unit 2 ISI, the Dresden valve body wall thickness verification program was being performed as indicated in the November 20, 1974, CE memorandum. Thirty valves were identified in the CE memorandum to be examined. NSC was contracted to perform the inspections. Three valves, 1501-25A, 202-4B, and 202-6B, were found to have valve body thickness measurements below the specified minimum wall thickness. The results were submitted for engineering approval and station acceptance. The inspector reviewed OAD documentation justifying acceptance of three (3) valves as is and in accordance with the RO:III letter to CE relative to valve wall measurement dated June 29, 1972. The valves were accepted using the SP-66 acceptance criteria. Station review and acceptance of the valves was dated March 27, 1975.

a. NDE Program Procedures

The procedure (No. NUT-NC-2, Revision 5) utilized for verifying valve wall thickness, was developed by NSC and provides for comprehensive calibration of the UT instrumentation utilizing calibration blocks of the appropriate material. CE Procedure NDT-D-1, Revision 1, Visual Inspection, was also utilized. The procedure had been approved by CE personnel prior to use.

b. Qualification of NDE Personnel

Review of the test vendor's personnel qualification documentation indicated conformance to the requirements of SNT-TC-1A and its supplements and appendices, as applicable for the examination technique and methods used. The records reviewed indicated that the written tests, and employment and experience history records for the inspecting personnel, were being properly maintained. The site records were considered to be in order.

c. Basic Calibration Status of Instruments

The electronic equipment and search transducers calibration records were reviewed and found to be in order. The documentation attested to the conformance of the equipment to the qualitative and quantitative requirements of the test procedures and code requirements.

d. Material Certifications

The material certification for the UT couplant and UT calibration reference materials was examined and found to be in order.

e. Quality Assurance Activities - CE

The inspector reviewed audits that had been performed by CE QA/QC personnel during the course of the valve examinations. The QA program of the vendor was evaluated by CE QA and accepted. The initial CE QA audit was performed on December 11, 1974, and documented. Audit findings were submitted to the vendor for corrective action. The audit was performed using an audit check and record sheet. The records reviewed were found to be in order.