

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-456/85-005(DRS); 50-457/85-005(DRS)

Docket Nos. 50-456; 50-457

Licenses No. CPPR-132; CPPR-133

Licensee: Commonwealth Edison Company
P.O. Box 767
Chicago, Illinois 60690

Facility Name: Braidwood Station, Units 1 & 2

Inspection At: Braidwood Site, Braidwood, Illinois

Inspection Conducted: February 19 and 20, 1985

Inspector: *D. H. Danielson*
K. D. Ward

3/12/85
Date

Approved By: *D. H. Danielson*
D. H. Danielson, Chief
Materials and Processes Section

3/12/85
Date

Inspection Summary

Inspection on February 19 and 20, 1985 (Reports No. 50-456/85-005(DRS);
50-457/85-005(DRS))

Areas Inspected: Special, unannounced safety inspection to attend a meeting between The National Board of Boiler and Pressure Vessel Inspectors and the NRC concerning activities to be conducted at Braidwood, to review actions on previous inspection findings, and to inspect activities relating to an IE Bulletin. The inspection involved a total of 15 inspector hours by one NRC inspector.

Results: No items of noncompliance or deviations were identified.

DETAILS

1. Persons Contacted

Personnel Present at the Meeting February 19, 1985

M. Sullivan, The National Board of Boiler and Pressure Vessel Inspectors
R. Holt, The National Board of Boiler and Pressure Vessel Inspectors
S. Lindbeck, The National Board of Boiler and Pressure Vessel Inspectors
D. Danielson, Chief, Materials and Processes Section, RIII, NRC
L. McGregor, Senior Resident Inspector, NRC
R. Schulz, Senior Resident Inspector, NRC
W. Kropp, Resident Inspector, NRC
K. Ward, Reactor Inspector, RIII, NRC

Personnel Contacted for Other Than Above

Commonwealth Edison Company (CECo)

*L. Kline, Licensing and Compliance Supervisor
C. Schroeder, Licensing and Compliance Superintendent
T. D'Antonio, PTL Coordinator

The inspector also contacted and interviewed other licensee and contractor personnel.

*Denotes the individual present at exit interview.

2. Licensee Action on Previous Inspection Findings

- a. (Closed) Noncompliance (456/81-10-01; 457/81-10-01): Failure to install structural steel bolted connections according to specification requirements. The inspector reviewed the final response dated April 5, 1982, drawings, NCRs and related documentation.

The beams as originally installed by American Bridge were acceptable at the time of installation but were subsequently removed by another contractor during installation of piping and equipment. After reinstallation of the beams, no reinspection was performed.

A sample reinspection of A-307 bolted connections was performed by the independent testing contractor to insure that this problem did not exist elsewhere in the plant. The safety-related A-307 anchor bolt connections at Braidwood were all in the auxiliary building and the fuel handling building. All accessible connections were inspected and were found to be installed in accordance with the Architect Engineer's specification. The steel-to-steel A-307 bolted connections in the containment buildings were also rechecked for conformance to a new torque specification from the Architect Engineer.

The NRC inspector agreed with the licensee actions and considers this item closed.

- b. (Closed) Noncompliance (456/84-08-01; 457/84-08-01): Failure to document fit-up inspections for structural steel welded components. The inspector reviewed the final response dated June 21, 1984, procedures, NCR and related documentation.

Napolean Steel Contractors, Inc. (NSCI) performed structural steel welding activities from mid-1978 to mid-1982. Welding and welding inspection activities were controlled by Procedure #5 - Welding. Section 5-3.9 of Procedure #5 states the followup regarding fit-up: "Base metal surfaces and edges to be welded shall be smooth, uniform, and free from fins, tears, cracks, and other discontinuities which would adversely affect the quality or strength of the weld. Surfaces to be welded and surfaces adjacent to a weld shall also be free from loose or thick scale, slag, rust, moisture, grease and other foreign material that would prevent proper welding or produce objectionable fumes. Mill scale that can withstand vigorous wire brushing, a thin rust inhibitive coating, or antispatter compound may remain on the surface to be welded. All oxygen cutting shall be done in accordance with AWS D1.1-75, Section 3.2.2. Members to be welded shall be brought into correct alignment and held in position by bolts, clamps, wedges, guy lines, struts, other suitable devices, or by tack welds until welding has been completed. The use of jigs and fixtures is recommended where practicable. Suitable allowances shall be made for warpage and shrinkage."

CECo discussions with the former NSCI general foreman and QA/QC inspectors disclosed they received training in Procedure #5. Additionally, these discussions disclosed welders received training in Procedure #5 and Procedure #5 was at the work stations for quick reference. Thus, welding foremen, welders and quality control inspectors were aware of the procedural fit-up requirements.

A review of NSCI welder qualifications show that all welders were qualified for full penetration welding. This qualified them to perform partial penetration and fillet welding. All full penetration welding was subject to ultrasonic examinations (UT); therefore, fit-up problems would have been discovered. Partial penetration welding was subject to magnetic particle examinations (MT) of root and final passes. Fillet welding was subject to a final visual weld inspections. NSCI quality control inspectors did monitor, at suitable intervals, the use of the proper procedure, etc. This monitoring did include fit-up checks.

During welding operations, Field Change Requests (FCRs) were generated by NSCI/Commonwealth Edison when structural steel fit-up could not be suitably obtained. The extent of documenting welding and welding inspection has changed significantly since 1982. These "fit-up" inspections are now properly documented. Commonwealth

Edison is reasonably confident that proper structural steel fit-up was completed as part of the NSCI welding program. AWS welding programs were reviewed in 1983 by CECo to ensure that fit-up inspections are completed by other sites contractors. Although there was a failure to document "fit-up" inspections, it appears that sufficient controls were in place to assure proper "fit-up" and, therefore, the welds in question are acceptable.

The NRC inspector agreed with the actions of the licensee and considers this item closed.

- c. (Closed) Noncompliance (456/84-13-09; 457/84-13-09): Failure to control the use of weld rod for cable pan welding. The inspector reviewed the final response dated September 21, 1984, and related NCRs, procedures, material test reports and documentation.

The problems identified were the result of documentation errors. The heat numbers of the weld rods identified are traceable to valid certification documentation. The filler metal tensile strength of either type of electrode meets or exceeds the requirements of AWS D1.1-75, either rod that was used on these field installations was acceptable. The welders making the welds were qualified to use either electrode. In addition, any unacceptable welds would have been identified because 100% visual inspection of welding has always been required.

L. K. Comstock Procedure 4.3.10, Revision D, dated August 12, 1984, titled, "Storage, Issue and Control of Welding Material," now controls this activity, and requires a filler metal issue tab to be issued for each type and size of electrode and for each days welding activity. Training to the procedure requirements was given to all affected personnel detailing the control of heat numbers and documentation practices for the filler metal issue tabs.

The NRC inspector agreed with the licensee actions and considers this item closed.

- d. (Closed) Unresolved item (457/84-05-03): Inadequate QA and engineering review documentation of site radiographic report.

Westinghouse NCR #615 was issued which reported a radiographic find of shrinkage near the mid-wall of ESCO fitting 04567-4 and that it was in accordance with ASTM E-186, Category C, Type 1, Severity Level 2 criteria.

The area in question was re-radiographed in January 1985 to locate and identify the indications. The base metal indication was re-evaluated by the CECo Chief Level III-A Examiner and the NRC inspector using ASTM E-186, Category C, Type 1, Severity Level 2 criteria. The indication was found to be within acceptance limits.

The NRC inspector reviewed a NCR, radiographic reports, related documentation, agreed with the action taken by the licensee and considers this item closed.

- e. (Closed) Unresolved item (457/84-05-04): Failure to perform archive storage test of film.

It was verified that Pittsburgh Testing Lab (PTL) has been performing the daily archive quality storage tests of film and documenting the results on a weekly basis since April 20, 1984. This was verified by review of the weekly Radiographic Productivity Report for the period of April 20, 1984, through December 31, 1984, and a sample of the archive quality test results. Based on this review, PTL is properly implementing letter BRD #10,950 to achieve quality testing and producing acceptable archive quality film.

The NRC inspector reviewed a surveillance report and related documentation, agreed with the actions of the licensee and considers the item closed.

- f. (Closed) Unresolved item (456/84-09-02; 457/84-09-02): Determination of piping foreign material identified on radiographic reports.

On May 12, 1984, Pittsburgh Testing Lab radiographed the subject piping spool, #CS-9-6, of Line #1CS12AB-3", between weld #13D and #13G. This was performed to determine if a foreign object identified during previous radiography had been removed. This object, which appeared to be a wire brush in the original radiograph, was not evident in the radiograph taken by PTL on May 12, 1984. Based on the radiographs, it was determined that the foreign object was physically removed from the spool.

A meeting was held September 6, 1984, between CECo and Pittsburgh Testing Laboratory (PTL) regarding foreign objects in pipe and the following was agreed to:

- ° Foreign objects resulting from the welding process but not interfering with proper interpretation of the weld will be recorded in the remarks portion of the radiographic reader sheet. Disposition of the weld being inspected will not be affected. Phillips, Getschow Co. will pursue removal of such objects, as deemed necessary by the owner.
- ° Foreign objects resulting from the welding process which interfere with proper interpretation of the weld will be dispositioned as rejectable. Phillips, Getschow Co. will be responsible for removal of such objects and requesting Pittsburgh Testing Laboratory to re-radiograph the weld.

- ° Foreign objects not resulting from the welding process, which do not interfere with proper interpretation of the weld, will be recorded in the remarks portion of the radiographic reader sheet. Disposition of the weld being inspected will not be affected. Phillips, Getschow Co. will be responsible for removal of the object and documenting this activity.
- ° Foreign objects not resulting from the welding process, and interfering with proper interpretation of the weld will be dispositioned as rejectable. Phillips, Getschow Co. will be responsible for removal of the object, documenting this activity and requesting Pittsburgh Testing Laboratory to radiograph the weld.

The NRC inspector reviewed the radiographs, surveillance report and related documents, agreed with actions by the licensee and considers this item closed.

- g. (Closed) Open item (456/84-21-06; 457/84-20-06): Spool in contact with structural beam.

A section of pipe was cut out and replaced with a new longer section of pipe. Weld RC-7 FW-1A was removed and new welds RC-7 FW-1B, RC-7 FW1C and RC-7 FW1D were made.

The NRC inspector reviewed a field change order, drawings and related documentation, agreed with the action taken by the licensee and considers this item closed.

3. Licensee Action on IE Bulletin (IEB)

(Closed) IEB 79-13, Revision 1 (456/79-13-BB; 457/79-13-BB): Cracking in feedwater system piping.

IEB 79-13, Revision 2, was closed in NRC Report 50-456/80-07; 50-457/80-07 and Revision 1 was inadvertently omitted. The NRC review was, however, completed during that inspection.

4. The National Board of Boiler and Pressure Inspectors Activities

Commonwealth Edison, in a letter dated November 19, 1984, to the Executive Director, The National Board of Boiler and Pressure Vessel Inspectors (National Board), confirmed Commonwealth Edison's request for an audit of the ASME work at Braidwood Station by an audit team of the National Board. The purpose of the audit is to address specific NRC concerns about the ASME work at the Station. Any items discovered in the audit that are of a technical nature are to be simultaneously communicated to the NRC and Commonwealth Edison. As a result of the request, a meeting was held February 5, 1985, between the National Board and representatives of Commonwealth Edison where arrangements were made to begin the audit.

On February 19, 1985, the National Board audit team and the NRC held a meeting to discuss the various activities that the National Board was going to audit. (See attendance list in paragraph 1.) The audit is to be a comprehensive and complete independent audit of ASME Code construction and related activities of Commonwealth Edison and their subcontractors to demonstrate the quality of the construction and compliance with ASME Code requirements.

The NRC will be made aware of the various activities and findings of the National Board and will attend their exits with the licensee.

5. Radiography on Essential Water System Unit 1

The inspector reviewed radiographs which were identified by the Construction Assessment Team (CAT) on January 12, 1985, as being duplicate radiographs (one weld being radiographed twice using different weld numbers). Weld #W-4 was radiographed twice as weld #W-3 and #W-4. The radiography was performed by Southwest Fabricating and Welding Co., Inc. A piping spool consisting of four welds, #W-2, #W-3, #W-4 and #W-5, was welded together and all radiographed December 14, 1978. The welds in question #W-3 and #W-4 are 10" diameter and were welded approximately 7½" apart.

CECo has initiated a NCR to investigate the subject. This item will be followed by the NRC in review of the CECO response to the Construction Assessment Team's final report.

6. Exit Interview

The inspector met with site representatives (denoted in Persons Contacted paragraph) at the conclusion of the inspection. The inspector summarized the scope and findings of the inspection noted in this report. The inspector also discussed the likely informational content of the inspection report with regard to documents or processes reviewed by the inspector during the inspection. The licensee did not identify any such document/processes as proprietary.