U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report No. 50-456/79-10; 50-457/79-10

Docket No. 50-456; 50-457 License No. CPPR-132; CPPR-133

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

Facility Name: Braidwood Units 1 and 2

Inspection At: Braidwood, Illinois

Inspection Conducted: August 30-31, 1979

Inspector: John F. Suermann John F. Suermann September 10, 1979

Approved By: D. W. Hayes, Chief D. W. Hayes 9/10/79
Engineering Support Section 1

Inspection Summary

Inspection on August 30-31, 1979 (Report No. 50-456/79-10; 50-457/79-10)
Areas Inspected: Routine unannounced inspection: review of procedures and observation of containment post tensioning tendon installation and buttonheading; review of tendon QA records. The inspection involved a total of 11 inspector-hours onsite by one NRC inspector.
Results: Of the three areas inspected, no items of noncompliance or deviations were identified.

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DETAILS

Persons Contacted

Principal Licensee Employees

*R. Choinard, CECO, QA Engineer
*R. Cosaro, CECO, SCD Site Superintendent
R. Farr, CECO, QC Engineer
*C. Gray, CECO, SCD Engineer
*J. A. Homoly, CECO, QA Supervisor
*J. W. Schlunz, CECO, Lead Structural Engineer

Napoleon Steel Contractors Incorporated

J. F. Burke, QC Inspector
V. Sawyer, Production Superintendent
*C. Zavada, QA Manager

Inland-Ryerson Steel Company

F. Rubio, Field QC Inspector

*Denotes those at exit meeting.

1. Review of Post Tensioning Tendon QA Procedures

The IE inspector reviewed three quality control procedures from Napoleon Steel Contractors, Inc., the post tensioning tendon installing contractor, for conformance to project specification F/L-2722 Revision 14, dated May 18, 1979, and for conformance to the Napoleon Quality Assurance Program manual Revision 6, dated December 11, 1978. Specifically, the following procedures were reviewed:

a. Procedure No. 7A - "Post-Tensioning Tendon Receiving and Storage", Revision 0, dated April 25, 1979.

b. Procedure No. 7B - "Post-Tensioning Tendon Installation", Revision 3, dated August 24, 1979.

c. Procedure No. 7C - "Field Button Heading of Post-Tensioning Tendons", Revision 1, dated July 28, 1979.

Napoleon's procedures relative to greasing and stressing of the tendons are still being written, but the contractor has not yet progressed to the field stage of either operation. As of the date of this inspection, the contractor had installed only the first 65 vertical tendons and buttonheaded only 16 of these. No dome or horizontal tendons had been installed as yet. The review of the

three above procedures and discussion with QC personnel who implement them resulted in the following comments. It was not clear whether Procedure 7B had been reviewed and accepted by Sargent & Lundy as had Procedures 7A and 7C. All three procedures made reference to a paragraph 4.8 of the Napoleon QA Manual, but the QA manual did not have a paragraph 4.8. It was subsequently learned that paragraph 4.8 of the manual is in draft form (the inspector was given a copy) and is to be included in the next revision of the QA manual. Without paragraph 4.8, the QA manual does not govern the tendon program. Next field QC personnel appear knowledgeable in the required checks for receiving, installing and buttonheading the tendons but some of the requirements are passed along verbally and the procedure does not reflect the actual practice in use. For example, QC personnel stated a 100% visual check of the shop anchor head and buttonheads is done at the plant. Neither the QC procedures nor the QA manual addressed this point. Furthermore, it was not clear whether field personnel would perform a follow-up check of the shop end of the tendon prior to installation to preclude shipping or handling damage from going unnoticed. Next, several sections of the procedures are vague in their wording. For example, Paragraph 7B-5.3 of Procedure 7B says to "record all pertinent data on the Tendon Pulling Card" without indicating to the inspector what constitutes pertinent data. In view of the above, the adequacy of the procedures is considered an unresolved item and will be evaluated during future inspections. (456/79-10-01; 457/79-10-01)

2. Observation of Tendon Storage, Installation, and Buttonheading

a. During the period of this inspection the inspector inspected the outside storage of the tendons and grease cans and the inside storage of the shims and field anchor heads. The outside storage complied with the specification requirements with the exception of several tendons which exceeded the maximum 60 day outside storage limit due to the recently concluded carpenter strike at the site. The tendons which exceeded the time limit were documented and the nonconforming situation was reported per procedure for further disposition. The inside storage of shims and anchor heads was accomplished in the site receiving warehouse. Paragraph 13-405.3 of Specification F/L-2722 required that materials be protected by a controlled temperature environment which the warehouse did not have. This situation would have violated the specification had discussion with Sargent & Lundy not revealed the intent of the paragraph was only to protect the hardware from the elements. A telex letter from Sargent & Lundy dated August 31, 1979 clarified the paragraph's intent and the Commonwealth Edison (CECO) Field Change Request (FCR) No. 536, dated August 31, 1979, amended the specification for field use. The storage conditions as they presently exist appear to meet the amended requirements.

b. On August 30, 1979, the inspector witnessed the installation of vertical tendon V-65. The tendon was 219+' in length and installed in its proper location. The QC inspector oversaw the installation process and made the required QC checks. No abnormalities or difficulties were noted.

c. On August 30, 1979, the inspector witnessed the field buttonheading of vertical tendon V-16. Prior to the buttonheading commencing, the QC inspector performed the required tensile test on a sample wire specimen per the procedures. The test results were acceptable and the buttonheading proceeded. The required QC checks were made on the sample buttonheads and both ends of the sample wire had acceptable buttonheads. Both gauges (eccentricity gauge No. 11 and Go/No-Go gauge No. 5) in use by the QC inspector were properly calibrated and tagged to reflect this. No problems were noted during the buttonheading of tendon V-16.

3. Review of Tendon QA Records

The inspector reviewed the following documents pertaining to vertical tendons V-15 and V-16: Button Head Sample Test Inspection Form, Button Heading Card, and Button Head Inspection Form. The forms reviewed indicated that the inspections performed were done according to the new criteria which replaced the former 1610 inspection criteria. The new criteria are: eccentricity must be 0.010" or less; visual slips may be a maximum of 0.005"; and visual splits may be a maximum of 0.120". The sample buttonheads for both tendons met the criteria. The buttonheading cards and inspection forms indicated all field fabricated buttonheads were acceptable and temporary covering was applied to both tendons. The forms were signed by the QC inspector per the procedure.

No items of noncompliance were identified in the three areas inspected.

Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. Unresolved items disclosed during the inspection are discussed in Paragraph 1 of the Details Section.

Exit Meeting

The inspector met with licensee representatives at the conclusion of the inspection on August 31, 1979. The inspector summarized the scope and findings of the inspection. It was noted during the plant tour on August 30, 1979, that the work area housekeeping was less than desirable, specifically at elevations 383' (excluding the effects of sandblasting), 426' (Unit 1 and 2), and the fuel transfer pool area of the fuel handling building. The fact that this was the second inspection in a row (i.e. report 79-09) that identified poor housekeeping was discussed with the site superintendent.

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