U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-456/85026(DRS)

Docket No. 50-456 License No. CPPR-132

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

Facility Name: Braidwood Station, Unit 1

Inspection At: Braidwood Site, Braidwood, Illinois

Inspection Conducted: May 20 through July 11, 1985

Inspectors: A. Dunlop Jr. 8/9/85
Date

D. L. Williams 8/9/85
Date

Approved By: M. A. Ring, Chief 8/9/85
Test Programs Section Date

Inspection Summary

Inspection on May 20 through July 11, 1985 (Report No. 50-456/85026(DRS)
Areas Inspected: Routine, announced inspection to review licensee actions on previous inspection findings, preoperational test program implementation, preoperational test procedure review, preoperational test results evaluation, and preoperational test results verification. This inspection involved 51 inspector-hours onsite including 4 inspector-hours off-shift and 86 inspector-hours in office by 2 NRC inspectors.
Results: Of the five areas inspected, one had no violations or deviations. Four areas, licensee actions on previous inspection findings, preoperational test program implementation, preoperational test results evaluation and preoperational test results verification, had examples of two violations (failure to perform adequate test procedure review - Paragraph 2.a and failure of the deficiency program - Paragraphs 2.b, 3.a, 5.c.(2), and 6).

DETAILS

1. Persons Contacted

Commonwealth Edison Company (CECo)

*H. A. Zimmerman, Project Startup Testing Supervisor
P. L. Barnes, Licensing and Compliance Engineer
*C. J. Tomashek, Project Startup Superintendent
R. E. Letko, Group Leader
*W. R. Betourni, Site Quality Assurance
R. W. Jacobs, Technical Staff Engineer
C. H. Lenth, Administrative Assistant
N. P. Tomis, Operational Analysis Department, Supervising Engineer
*D. Cecchett, Licensing and Compliance Engineer
*T. Quaka, Site Quality Assurance Superintendent
*R. Kyrouac, Station Quality Assurance Supervisor
*L. M. Johnson, Station Quality Assurance Engineer
*E. R. Netzel, Site Quality Assurance Supervisor
*S. C. Hunsader, Site Quality Assurance Supervisor
*E. T. Mazur, Site Quality Assurance Engineer
*T. W. Simpkin, Technical Staff Engineer

Additional station technical and administrative personnel were contacted by the inspectors during the course of the inspection.

*Denotes those personnel present at the exit meeting on July 11, 1985.

2. Licensee Actions on Previous Inspection Findings

a. (Closed) Unresolved Item (456/85016-01(DRS)): This item is being upgraded to a violation. The original concern stated that the "Authorized for Test" copy of BWPT AF-10, Revision 1, "Auxiliary Feedwater System," did not require that specific data be taken and that certain data be recorded and/or have acceptance criteria. The data that should be recorded during the Auxiliary Feedwater (AFW) pump endurance run are those that demonstrate the pumps remain within the design limits with respect to bearing/bearing oil temperature and vibration, and that the pump room cubicles do not exceed the temperature and humidity environmental qualification limits for the safety-related equipment within these cubicles. The requirement is delineated in the Braidwood FSAR, NRC Question 10.53, Part III, Recommendation 2.2 and the specific data and acceptance criteria not included in the test procedure are listed in the above unresolved item.

An "Authorized for Test" test procedure has been accepted by all of the licensee's levels of review and approval. Discussions with licensee personnel have not given the inspector confidence that this omission would have been detected and corrected.

This is a violation of 10 CFR 50, Appendix B, Criterion XI, "Test Control," and Criterion V, "Instructions, Procedures and Drawings," (456/85026-01(DRS)).

b. (Closed) Unresolved Item (456/85016-05(DRS)): This item is being upgraded to an example of a violation. This item originally concerned apparent inadequate documentation of corrective actions for test deficiency DO-12-80. Further review by the inspector has indicated that this is an example of a violation and is discussed in paragraph 3.a.(3) below.

No additional violations or deviations were identified.

3. Preoperational Test Program Implementation

This review consisted of determining if administrative controls had been developed and implemented to support Final Safety Analysis Report (FSAR) commitments and regulatory requirements. The inspectors had the following comments:

a. The Braidwood Startup Manual (BWSUM) details the following requirements and responsibilities:

- Deficient conditions shall be identified at the end of the testing day by the System Test Engineer (STE).
- Test deficiencies shall be reviewed for validity and completeness by the Project Startup Group (PSG).
- Test deficiencies shall be reviewed and acceptability of corrective actions verified by the PSG and Site Quality Assurance (QA).

(1) During the review of BWPT FC-10, "Fuel Pool Cooling and Cleanup," preoperational test it was determined by the inspector that the STE had been directed by the Test Review Board (TRB) to write a test deficiency (FC-10-K) identifying that Appendix C had not been completed. It is apparent that the STE did not recognize this deficient condition until directed by the TRB to take appropriate actions (i.e., write test deficiency FC-10-K). This is considered an example of a violation (456/85026-02a(DRS)).

(2) The description on test deficiency FC-10-K, as written by the STE, only mentions that operating procedures had not been written when the test was performed. Appendix C to BWPT FC-10 requires two actions for completion: 1. Write operating and surveillance procedures; and 2. Verify operating and surveillance procedures.

The test deficiency description failed to identify that the procedures were not verified. This is considered an example of a violation (456/85026-02b(DRS)).

(3) While reviewing the corrective actions for the following test deficiencies, it became apparent that the defined responsibilities of the cognizant groups had not been properly implemented.

The corrective action for test deficiency FC-10-K merely states, "Operating Department is required to verify operating procedures when they are approved." The deficiency is signed as completed by the STE. The licensee was unable to present any other documentation or tracking mechanism which would serve to ensure these procedures would be verified. Further, there was no formal documentation of the change of responsibility for operating procedure verification as described by the deficiency action. As such, the licensee has closed a deficiency without the deficient condition being corrected.

The corrective action for DO-12-80 stated that operating procedures had been written and approved but made no mention of verification. The licensee was unable to provide any documentation or tracking mechanism which would identify which procedures had been written and approved or whether any of these procedures had been verified.

Test deficiency RH-10-123 was closed while temporary equipment was installed and no retest activities were identified to properly test the permanent equipment when installed (see paragraph 5.c.(2)).

The inspectors discussed the above concerns with the licensee and they have acknowledged the concerns. The licensee has initiated efforts to formally document the transfer of responsibilities for verification of operating and surveillance procedures from PSG to the Operations Department. The licensee also acknowledged that the closure of test deficiency RH-10-123 was premature and they will review the actions to be taken by PSG. This is considered an example of a violation (456/85026-02c(DRS)).

The above are considered examples of a violation of 10 CFR, Appendix B, Criterion XVI, "Corrective Actions". This is due to failure to identify deficient conditions in a timely manner, failure of test deficiency description to adequately identify the deficient conditions and failure to provide adequate resolution of test deficiencies.

b. During discussions with the licensee concerning problems encountered during the conduct of BWPT WO-10, the inspectors had the following comment:

While executing one section of the preoperational test, the results of the test were unsatisfactory. The licensee was unable to determine a definitive cause for this unsuccessful performance. The STE then reran that section of the test successfully.

Since no definitive cause of the initial unsuccessful attempt was found, it is incumbant upon the licensee to justify why a single successful performance of this test constitutes a demonstration that the system operates as designed. With a history of one successful and one unsuccessful attempt, the inspector must conclude the system only operates correctly 50% of the time.

The licensee acknowledged this concern and informed the inspectors that a test deficiency had been written to document the original failure of the system.

Since the test has not been completed and accepted, the inspector will review the licensee's actions with regard to this subject during the normal course of completed test results review.

No additional examples of violations or deviations were identified.

4. Preoperational Test Procedure Review

The inspectors reviewed the following preoperational test procedures against the FSAR, Safety Evaluation report (SER), proposed Technical Specifications, and Regulatory Guide 1.68:

BWPT AP-16, Revision 0, "Bus Loading and Independency"

BWPT CV-10, Revision 0, "Chemical Volume Control, VCT and Charging Pumps"

BWPT CV-10 procedure review has been commenced but was not completed and will be documented in a subsequent inspection report. The inspectors have no comments at this time.

No violations or deviations were identified.

5. Preoperational Test Results Evaluation

The inspectors reviewed the results of the below listed preoperational test procedures to verify all test changes were identified and approved in accordance with administrative procedures; all test deficiencies were appropriately resolved, reviewed by management and retested as required; test results were evaluated by appropriate engineering personnel and specifically compared with acceptance criteria; data were properly recorded, signed, dated and documented as test deficiencies as necessary; test packages were reviewed by QA for adequacy of contents; and test results were approved by appropriate personnel.

BWPT SI-10, Revision 0, "Safety Injection - Valve Timing"

BWPT SI-11, Revision 1, "Safety Injection - Accumulators"

BWPT SI-12, Revision 0, "Safety Injection - Flow Balance"

BWPT AP-13, Revision 0, "Aux. Power, 480V Unit Substations, Buses and Above"

BWPT AP-14, Revision 0, "Aux. Power, 480V MCCs, Feedbreakers and Below"

BWPT IP-10, Revision 1, "Instrument and Control Power"

BWPT SI-12 and BWPT IP-10 results review have been commenced but were not completed and will be documented in a subsequent inspection report.

The inspectors have the following comments with respect to the these procedures:

a. The licensee has not approved the BWPT SI-10 completed test results package. The inspector cannot complete the review until licensee resolution and approval of all identified concerns. This is considered an open item (456/85026-03(DRS)) pending review of an approved test results package by the inspector.

b. The licensee has not approved the BWPT SI-11 completed test results package. The inspector cannot complete the review until licensee resolution and approval of all identified concerns. This is considered an open item (456/85026-04(DRS)) pending review of an approved test results package by the inspector.

c. With respect to BWPT SI-12:

   (1) Discussions with the licensee revealed that two test deficiencies, SI-12-C and SI-12-F, had been rewritten after TRB review. The deficiency forms originally contained two deficient conditions listed on each form. TRB requested that each deficient condition be listed on a separate deficiency form. Subsequently, the STE rewrote deficiencies SI-12-C and SI-12-F using the original deficiency's dates and then wrote deficiencies SI-12-O and SI-12-P using post TRB dates. Since all deficient conditions were listed on separate deficiencies as requested by TRB, the original two deficiencies were discarded. This does not appear to conform to the BWSUM, Section 4.1.4.2.9, which states "The original Master will be sent to the Master File for permanent retention," and is considered an unresolved item (456/85026-05 (DRS)) pending further discussions with the licensee.

   (2) Test deficiency RH-10-123 was written during BWPT SI-12 due to valve 1MOV-RH611 tripping out when operated from 1PM06J. The corrective action taken was to use a temporary motor on the valve in order for the valve to operate properly. The deficiency was closed out with the temporary motor installed and no documentation as to how the permanent motor would be reinstalled and tested to verify proper operation. This inadequate resolution to a deficiency is a further example of a violation as discussed in Paragraph 3.a.(3).

d. This licensee has not approved the BWPT AP-13 completed test results package. The inspector cannot complete the review until licensee resolution and approval of all identified concerns. This is

considered an open item (456/85026-06(DRS)) pending review of an approved test results package by the inspector.

e. The licensee has not approved the BWPT AP-14 completed test results package. The inspector cannot complete the review until licensee resolution and approval of all identified concerns. This is considered an open item (456/85026-07(DRS)) pending review of an approved test results package by the inspector.

This program area requires further review and evaluation and is considered to be an open or unresolved item as described in the above paragraphs.

6. Preoperational Test Results Verification

The inspectors reviewed the following preoperational test procedure and verified that results were reviewed against approved acceptance criteria and an evaluation of the test results had been performed in accordance with Regulatory Guide 1.68 and the licensee's Startup Manual:

BWPT FC-10, Revision 0, "Fuel Pool Cooling and Cleanup"

The inspector has commenced the review of BWPT FC-10 but has not yet completed this review. The inspector had a concern with the manner that test deficiency number FC-10-K was written and resolved. This is an example of a violation as discussed in Paragraphs 3.a.(1), 3.a.(2). and 3.a.(3). The completed review of BWPT FC-10 will be documented in a subsequent inspection report.

No additional violations or deviations were identified.

7. Open Items

Open items are matters which have been discussed with the licensee, which will be reviewed further by the inspector, and which involve some action on the part of the NRC or licensee or both. Open items disclosed during the inspection are discussed in Paragraphs 5.a, 5.b, 5.d, and 5.e.

8. Unresolved Items

Unresolved items are matters about which information is required in order to ascertain whether they are acceptable items, violations or deviations. An unresolved item disclosed during the inspection is discussed in Paragraph 5.c.(1).

9. Exit Interview

The inspector met with the licensee and contractor representatives (denoted in Paragraph 1) on July 11, 1985. The inspector summarized the scope and findings of the inspection. 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 documents/processes as proprietary. The licensee acknowledged the statements by the inspectors with respect to open and unresolved items.