U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-456/86025(DRS)

Docket No. 50-456 Construction Permit No. CPPR-132

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

Facility Name: Braidwood Nuclear Power Station, Unit 1

Inspection At: Braidwood Site, Braidwood, IL

Inspection Conducted: May 19-22, 27-30, June 2-13, and July 10-11, 1986

Inspectors: T. E. Vandel — 7-31-86
Date

T. E. Taylor — 7-31-86
Date

Approved By: F. C. Hawkins, Chief
Quality Assurance Programs
Section — 7-31-86
Section

Inspection Summary

Inspection on May 19-22, 27-30, June 2-13, and July 10-11, 1986 (Report No. 50-456/86025(DRS))
Areas Inspected: Routine safety inspection to followup previously identified inspection findings; review the preoperational QA program and activities in progress; review the QA administration, auditing, maintenance, and surveillance program procedures for plant operations.
Results: Of the seven areas inspected, one violation was identified regarding failure to control nonconformances (Paragraph 3) and additional unresolved issues were identified (Paragraphs 3 and 4) that require additional NRC review.

DETAILS

1. Persons Contacted

Commonwealth Edison Company (CECo)

*P. L. Barnes, Regulatory Assurance Supervisor
T. Bobic, Master Electrician
*D. L. Cecchetl, Radiation Health Physics
*L. Davis, Assistant Superintendent
T. Dehnert, Project Engineering Department
*G. E. Groth, Assistant Construction Superintendent
S. Hedden, Master Instrument Mechanic
J. Huffman, Master Mechanic
*S. C. Hunsader, Site QA Supervisor
M. Inserra, Chairman, Test Review Board
*J. K. Jasnosz, Radiation Health Physics
S. Johnson, Project Construction Mechanical Coordinator
*R. D. Kryonac, Station QA Supervisor
*G. F. Marcus, Assistant to QA Manager
*E. R. Netzel, Site QA Supervisor
*D. E. Paquette, Assistant Superintendent
M. Peterson, Surveillance Coordinator
T. Penddergast, Site QA Lead Auditor
J. Purrazzo, Project Construction Electrical Coordinator
T. E. Quaka, Site QA Superintendent
N. Schmitt, Startup Test Engineer
*C. W. Schroeder, Services Superintendent
*D. L. Shamblin, Project Construction Superintendent
*D. J. Skoza, Project Field Engineering
S. Stapp, Station QA Lead Auditor
C. Tomashek, Project Startup Superintendent
J. Thunderstedt, Project Startup Staff Assistant
R. Ungeran, Operations Engineering Supervisor
P. Zolan, Site QA Audit Coordinator
J. A. Zych, Site QA Surveillance Coordinator

U. S. Nuclear Regulatory Commission (NRC)

*W. Kropp, Senior Resident Inspector (Construction)
*T. Taylor, Resident Inspector (Operations)
*T. Tongue, Senior Resident Inspector (Operations)

*Denotes those in attendance at the exit meeting held on June 13, 1986.

Other licensee project construction, startup and operations personnel were contacted during the course of the inspection.

2. Licensee Action on Previous Inspection Findings

(Closed) Open Item (456/85045-02(DRP); 457/85044-02(DRP)) - Instructions for control of Startup Deficiency Reports (SDRs). The inspector has determined that instructions for control of SDRs is not adequate. This item is addressed as part of Violation 456/86025-01 (Paragraph 3).

(Closed) Open Item (456/85045-03(DRP); 457/85044-03(DRP)) - Review of the procedures controlling the deficiency reporting process revealed there is no requirement to identify on the SDR document items such as work requests, NRCs, and evaluations used in the resolution of the deficiency. The inspectors review of this area determined that the licensee should evaluate the traceability of the above mentioned documents. This item is addressed as part of Violation 456/86025-01 (Paragraph 3).

(Closed) Open Item (456/85045-04(DRP); 457/85044-04(DRP)) - The inspector was unable to determine whether or not provisions in existing Project Construction Department procedures would ensure that SDRs receive a review to identify nonconforming items identified on SDRs. This issue is addressed as part of Violation 456/86025-01 (Paragraph 3).

(Closed) Unresolved Item (456/85055-01(DRS) - The inspector is concerned that the system does not contain the positive controls necessary to ensure that all deficiencies are noted and properly addressed. The inspector has determined that deficiencies are not always reviewed for nonconformances and test deficiencies (alpha deficiencies) are not always tracked nor addressed by administrative documents. This item is addressed as part of Violation 456/86025-01 (Paragraph 3).

(Closed) Open Item (456/85055-02(DRS) - The Startup Manual which provides the procedure for completing and processing the deficiency report does not appear to be adequate. The inspectors review of this item is contained in the details of Violation 456/86025-01 (Paragraph 3).

(Closed) Unresolved Item (456/85055-03(DRS); 457/85055-03(DRS)) - Procedural control for determination of nonconformances from startup deficiencies. There is no procedure for this item nor do startup personnel review SDRs for nonconformances on a routine basis. This issue is addressed as part of Violation 456/86025-01 (Paragraph 3).

3. Quality Assurance Programs for Preoperations Testing

This inspection was performed to ascertain that the licensee has a program that will provide adequate controls over the conduct of preoperational testing and related activities to assure that safety-related equipment and systems will function as designed. Program adequacy was assessed by review of the QA program manual, the Braidwood startup manual, site quality instructions, licensee procedures, selected audits and surveillances, pre-op test related documents; by discussions with licensee personnel and by observations of related activities.

A history of concerns has been developed over the past year by the NRC regarding SDRs described in Section 4.1.4 of the Braidwood Project Startup Manual. This history, including the inspection items detailed in Paragraph 2 of this report, relates to the failure to review SDRs for nonconformance and to the apparent inadequacy of instructions relating to the handling, review and determination of nonconforming conditions.

To assess this concern, the inspectors interviewed licensee personnel involved in startup activities regarding their understanding of what procedures are followed for SDR handling and if they are required to review SDRs for possible nonconformances. It was apparent from the responses that SDRs are not reviewed for nonconformances by startup personnel and that many of the activities involved with the handling of SDRs by startup support groups are not administratively controlled. Interviews with project construction department (PCD) personnel along with review of documents relating to construction activities in support of the pre-op testing program established that SDRs may occasionally be reviewed for nonconformances, but are not routinely done.

A list of 42 SDRs developed by NRC personnel from review of nine different preoperational test deficiency logs, was reviewed by PCD personnel for possible nonconforming conditions. The same list was independently reviewed by the NRC inspectors. While PCD determined that only one SDR required identification as a nonconformance and the NRC inspectors believed that six should be so identified, it was confirmed that a lack of adequate review for nonconforming conditions exists.

The six SDRs considered to be nonconformances are:

Deficiency No.	Description	Date Issued
DG-10-091	Diesel Generator 1-A required 20.5 seconds to reach speed and voltage after being at rest for seven days.	03-16-85
DG-11-092	1DG01KB experiences problems making 10 second start time after two week shutdown.	05-17-85
DG-10-102	1DG01KA experiences problems making 10 second start time after two week shutdown.	05-17-85
DG-10-136	Frequency response plus blackout safeguards loadings out of spec. ECCS full flow pre-op, acceptance Criteria 4.10 requires minimum of 57 HZ during safeguards loading. For the "A" DG, the frequency dropped to approximately 57 HZ when the 1A A.F. pump was started.	12-17-85
AF-10-338	Crankabout switch S2, 1-4030AF12, is not operating correctly. The switch hangs up and does not show the engine to start when all indicators say it should. Switch should be wired to ready to start circuit or removed.	03-01-86

CC-10-416	Valve 1CC 9493D is installed backwards, RCP-1D upper bearing return isolation valve.	01-24-86

The inspectors felt that the lack of administrative guidelines relating to handling and review of SDR's by licensee personnel was the major contributing cause for the failure to identify nonconforming conditions in SDR's.

Additionally, the NRC inspectors selected one closed deficiency for an in-depth review. Deficiency No. SX-10-231, dated January 29, 1985, "Motor Current Exceeds Full Load Running Allowable for 1SX01PA," closed on February 20, 1985, was selected. The Essential Service Water system (SX), is a safety-related system with a Class 1E motor. The results of the review included the following:

- The NRC inspectors reviewed the initial pump run (IPR) performed in April 1982, and observed the following documented results of testing.

Characteristic	Max./Min.	Actual
Pump Flow	33,000/4,800	26,200 gpm
Current	157/70	171 amps.
Stator Temp.		70°C

  The inspectors established that the design maximum flow is 24,000 gpm and thus the current value of 171 amps. was, in fact, a nonconforming overload condition. It was further learned from the author that Deficiency No. SX-10-231 was written for this condition on January 29, 1985. However, the deficiency was closed on February 20, 1985, by attaching a note to the SDR regarding a service factor of 1.15 for the motor, without evaluation of the nonconforming conditions. During discussions with the author of the attached note he stated that he had prepared the note in response to an unrelated verbal inquiry regarding the service water pump motor being slightly in excess of full load motor condition. He, in addition, stated that he was unaware of its use to close this SDR.

- The inspectors reviewed the vendor motor manual provided by the motor supplier Westinghouse Electric Company. Item No. 6, under Operations on Page 23, stated that the motor power supply voltage must be maintained at ±5% of the motor nameplate voltage (4,000 volts). This item was discussed with the licensee and the inspectors expressed concern that this constraint would impact the system voltage test required by NUREG 0876 Item 8.2.4. Later the inspector was informed that Westinghouse Electric Company personnel had authored a letter to CECo's Station Nuclear Engineering Department dated June 17, 1986, informing them that the Instruction Leaflet IL-5500A (Vendor Motor Manual) dated September 1, 1978, will be formally amended with regard to Step 6 of the instructions given on Page 23, to a voltage variation ±10% of motor nameplate voltage.

The lack of review of SDRs for identification, disposition, and control of nonconformances is considered to be a violation of 10 CFR Part 50, Appendix B, Criterion XV (456/86025-01(DRS)).

Concerning the new submittal to be supplied by Westinghouse Electric Company, this matter is considered to be unresolved pending further review (456/86025-02(DRS)).

4. Operational Readiness

This inspection was performed to verify that management controls and procedures, including Quality Assurance programs necessary for operation of the facility, have been documented and implemented. Operational readiness was assessed by review of the applicable governing procedures and instructions, by discussions with licensee personnel and by observation of activities and documents relating to these procedures and instructions for the following activities.

a. QA/QC Administration and Audits

The inspectors verified by document review, discussions with auditors, and by observation of a sampling of schedules, audits, and certification files that the station QA department has established appropriate controls and mechanisms for performing the operational functions, has completed qualification and certification of auditors, and is implementing scheduling and auditing activities.

b. Maintenance

Through discussions with licensee personnel and review of maintenance department procedures, the following concerns related to the administration of the maintenance program were identified.

(1) Administrative procedures describing the scope and program responsibilities for the licensee's preventative maintenance program are needed. The licensee is in the process of addressing this concern.

(2) Procedures for inservice inspection program administration, surveillances, and corrective and preventative maintenance for the electrical and instrument departments are incomplete. The licensee stated that the procedures required for fuel load will be completed by fuel load.

(3) The maintenance history trending program is not structured to trend on an equipment type basis. The present system will identify recurring maintenance by EID number only. The licensee should reevaluate the system to ensure all types of recurring maintenance activity is trended.

(4) Work request program Procedure 1600-1 instructions are lacking in detail for some of the steps noted. The licensee is reviewing 1600-1 and is considering adding information to areas identified such as for the Master Mechanics and Technical Staff Supervisor's review, and disposition of the work package when an item fails post-maintenance testing.

Items (1) through (4) above are considered to be an unresolved item pending further review (456/86025-03(DRS)).

c. Surveillance

The surveillance program administrative guidelines were assessed by review of procedures and discussions with licensee personnel. The surveillance program is a computerized system controlled by Procedure No. BWAP 1400-1, "General Surveillance Program." This system schedules all periodic surveillance functions, including those required by the Technical Specifications. The licensee's program meets regulatory requirements except for the following items.

The licensee has a "GSIN" program which is used to control calibration/surveillances on safety-related components, some of which are used as data points for technical specification required surveillances. The licensee has no administrative controls for this program. This item is considered to be unresolved pending further review (456/86025-04(DRS)).

Licensee Procedure No. 1400-1, Section 10, requires that each department using the general surveillance program write a general surveillance procedure specific to their department. The Mechanical Maintenance Group was the only department that had such a procedure. This item is considered to be unresolved pending further review (456/86025-05(DRS)).

5. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, violations or deviations. Unresolved items disclosed during this inspection are identified in Paragraphs 3 and 4 of this inspection report.

6. Exit Meeting

The inspectors met with licensee representatives (denoted in Paragraph 1) at the Braidwood Station at the conclusion of the inspection. The purpose, scope and findings of the inspection were summarized. The inspector also discussed the likely informational content of this inspection report with regard to documents or processes reviewed by the inspector. The licensee did not identify any such documents or processes as proprietary.