U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-456/86019(DRSS); 50-457/86017(DRSS)

Docket Nos. 50-456; 50-457

Licenses No. CPPR-132; CPPR-133

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

Facility Name: Braidwood Nuclear Power Station, Units 1 and 2

Inspection At: Braidwood Site, Braidwood, IL

Inspection Conducted: May 19-22, 1986

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Inspector: W. B. Grant

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Approved By:

L. R. Greger, Chief Facilities Radiation Protection Section

Inspection Summary

Inspection on May 19-22, 1986 (Reports No. 50-456/86019(DRSS); 50-457/86017(DRSS))

Areas Inspected: Routine unannounced preoperational radiation protection and radioactive waste programs for Units 1 and 2 including: organizational and management control; training and qualifications; external occupational exposure; internal occupational exposure control and assessment; control of radioactive materials, surveys, and monitoring; facilities and equipment; IE Information Notice No. 85-81 and No. 85-85; and IE Bulletin No. 79-19. Results: No violations or deviations were identified.

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6-10-86 Date

DETAILS

1. Persons Contacted

- *R. Aker, Rad/Chem Supervisor
- J. Anspaugh, Health Physicist
- *A. D'Antonio, Regulatory Assurance
- *L. Davis, Assistant Superintendent, Technical Services
- *E. Fitzpatrick, Station Manager
- P. Harvey, Rad/Chem Health Physics Foreman
- *J. Jasnosz, Regulatory Assurance
- *G. Marcus, Quality Assurance
- *C. Schroeder, Services Superintendent
- D. Shamlin, Rad/Chem Health Physics Foreman
- T. VanDeVort, Quality Assurance
- *T. Tongue, NRC, Senior Resident Inspector
 *W. Kropp, NRC, Senior Resident Inspector
 *T. Taylor, NRC, Resident Inspector

*Denotes those present at the exit meeting.

2. General

The inspection, which began at 9:30 a.m. on May 19, 1986, was conducted to examine aspects of the preoperational radiation protection program, licensee action on previous inspection findings, IE Information Notice review, and the licensee action on IE Bulletin No. 79-19.

3. Licensee Action On Previous Inspection Findings

(Closed) Open Item (456/84010-02; 457,'84010-02): Revise radioactive shipment procedures to include 1983 NRC and DOT regulation changes. The inspector verified that revised licensee procedures for shipment of radio-active materials contain the 1983 changes in DOT and NRC regulations.

4. Organization and Management Controls

The inspector reviewed the licensee's organization and management controls for the radiation protection and radwaste programs, including: responsibilities and authorities; staffing; proposed system for program audits; and proposed methods concerning self-identification and correction of program weaknesses.

Since the last radiation protection inspection in March 1986, several organizational changes have been made, including:

 A Health Physicist with approximately three years experience terminated employment on May 30, 1986.

- A Health Physicist, recently graduated with a bachelors degree in Health Physics, was hired.
- An Assistant ALARA Coordinator was assigned to the Rad/Chem staff.

The net loss of health physics experience adds to the overall lack of both HP and operational experience of the Rad/Chem staff. Licensee management apparently has authorized the hiring of three additional health physicists at Braidwood. Also, the licensee has committed to increase the experience level of the health physics staff. This matter was discussed at the exit meeting and will continue to be reviewed during future inspections (456/83003-01; 456/83003-01)

The inspector reviewed the results of station Quality Assurance Audits and Surveillances conducted to date during 1986.

- QAA 20-86-02 audit, conducted January 14-17, 1986, reviewed calibration of laboratory equipment, RCTs test results, capability of cleanup of radioactive contamination, and radiation source inventory. Two observations and one open item resulted. No problems were noted.
- QAA 20-86-09 audit, conducted March 10-14, 1986, reviewed license for Special Nuclear Material (SNM), license for Byproduct material, procedures for control of radioactive material, records of receipt, inventory, and transfer of SNM, and procedures for inventory of SNM. No findings or observations resulted.
- QAS 20-86-031 and 032 surveillance, conducted January 29, 1986, reviewed radiation area access controls and radiation protection activities. One minor deficiency involving review of surveys resulted. The deficiency has been corrected. No problems were noted.
- QAS 20-86-050 surveillance, conducted February 27, 1986, reviewed radiation area access controls and radiation protection activities. One minor deficiency, involving RWP-I review resulted. The deficiency has been corrected. No problems were noted.
- QAS-20-86-068 surveillance, conducted March 27, 1986, reviewed radiation area access control. No deficiencies resulted.
- QAS-20-86-069 surveillance, conducted March 27, 1986, reviewed radiation protection activities. No deficiencies resulted.
- QAS-20-86-086 surveillance, conducted April 29, 1986, reviewed radiation protection activities. No deficiencies resulted.
- QAS-20-86-087 surveillance, conducted April 29, 1986, reviewed radiation area access control. One deficiency involving RWP review resulted. Corrective action has been completed; no problems were noted.

No violations or deviations were identified.

5. Training and Qualifications

The inspector reviewed the training and qualifications aspects of the licensee's radiation protection, radwaste, and transportation programs, including: training responsibilities, policies, goals, programs, and methods; qualifications of radiation protection personnel; and the adequacy of the training for employees, contractors, and visitors. Also reviewed was management techniques used to implement these programs and the licensee's completion of FSAR and other commitments.

Nuclear General Employee Training (NGET) for CECo employees has been completed. Contractor NGET training sessions are currently given Monday through Friday each week. Over half of the 3,000 contractors onsite have received this training. NGET contractor training is expected to be completed in July 1986. The inspector attended a portion of the contractor NGET class. The classroom was of adequate size and well equipped. In general, the presentation was of good quality and students participated. NGET course outlines and copies of the radiation protection portion the NGET exam were reviewed by the inspector. No problems were noted.

In addition to the nine RCTs who are ANSI N18.1-1971 qualified, the licensee plans to have 29 RCTs trained and through Braidwood qualification card training by July 1986. RCT qualification training results will be reviewed during a future inspection.

6. External Exposure Control and Personal Dosimetry

The inspector reviewed the licensee's external exposure control and personal dosimetry programs, including: adequacy of facilities, equipment, personnel and procedures; adequacy of the dosimetry program to meet routine and emergency needs; and completion of requirements and FSAR commitments.

The licensee has selected an area for the TLD calibration facility. The facility will be built as other construction priorities permit.

The inspector selectively reviewed active RWPs for accuracy, survey data and approvals. No problems were noted. There are currently four active RWPs requiring dosimetry. Dosimetry is issued to and other RWP requirements are discussed with workers by rad/chem personnel at access control. The inspector selectively observed a health physics foreman and RCT issue dosimetry and discuss RWP requirements with workers. Procedures for using RWPs and for issuing dosimetry were followed. Rad/chem personnel acted in a professional manner and displayed understanding, tact, and patience. No problems were noted.

No violations or deviations were identified.

7. Internal Exposure Control and Assessment

The inspector reviewed the licensee's internal exposure control and assessment programs, including: facilities equipment, personnel and procedures affecting internal exposure control and personal assessment; and determination whether administrative control, engineering controls, respiratory equipment, and assessment of individual intakes meet regulatory requirements and FSAR commitments.

The licensee continues to whole body count (WBC) personnel to provide WBC baseline data, and to fit test personnel who will require respiratory protection. The inspector reviewed the vendor calibration of the whole body counter; no problems were noted. The licensee performs daily source checks to demonstrate that the counter is calibrated.

The licensee has implemented a preoperational air sampling program to determine baseline levels for alpha, beta, and gamma radioactive airborne activity. The preoperational air sampling program is reviewed monthly by the Lead Health Physicist to determine that all points are being properly sampled, and that all results are correctly calculated and tabulated. No problems were noted.

8. Radiation Protection Procedures

The inspector reviewed the following new or recently revised radiation protection procedures to determine if they are consistent with 10 CFR requirements, FSAR commitments, and good health physics practices. No problems were noted.

BWRP 1120-1, Revision 2, Controlled Area Access

BWRP 1200-TS7, Revision 3, Multiple Dosimetry Log Sheet

BWRP 1210-7, Revision 1, Personnel Monitoring for External Exposures

BWRP 1220-1, Revision 2, Film/TLD Badge Issuance and Completion of Occupational External Radiation Exposure History Form

BWRP 1230-1, Revision 3, Radiation Exposure Investigation Report

BWRP 1340-3, Revision 1, Fastscan Whole Body Counter Routine Operation

BWRP 1360-1, Revision 1, Air Sampling of Suspected and Known Airborne Radioactive Areas

BWRP 1520-4, Revision 2, Surveying Radioactive Material Shipments

BWRP 1610-2, Revision 3, Leak Testing of Radioactive Sources

BWRP 1900-A1, Revision 1, Radiation Protection Training Items for Escorted Visitors

BWRP 1900-T1, Revision 1, Radiation Protection Training Checklist

BWRP 1910-1, Revision 1, Radiation Protection Training for Escorted Visitors

No violations or deviations were identified.

9. Control of Radioactive Materials and Contamination

The inspector reviewed the licensee's program for control of radioactive materials and contamination, including: adequacy of instrumentation, equipment, and procedures; and determination whether provision for control of radioactive materials and contamination meet requirements and commitments.

The licensee has implemented a preoperational smear sampling program to establish baseline data on natural background. Smears are taken in general access areas and work area surfaces and equipment. No problems were noted.

The inspector witnessed the calibration of the fuel building area radiation monitor (ARM). The ARM was calibrated by instrument mechanics using a 10 mCi Cs-137 source and assisted by RCTs. RWP 86005 authorized calibration of the ARMs using radioactive sources. The inspector verified that calibration procedures, the RWP, and good health physic practices were followed. ARM/PRM are calibrated after they are turned over to the plant by construction. According to the licensee, approximately 81 monitors are required to be operable by fuel load and about 20 of these have been turned over to the plant and are calibrated.

The inspector selectively reviewed survey instrument calibration records. Survey instruments are calibrated quarterly. Calibration ranges reflected applicable ranges encountered in the field. Responses were within tolerance levels. A computer tracking system is used to identify upcoming calibration dates. No problems were noted.

No violations or deviations were identified.

Facilities and Equipment

The inspector reviewed the facilities and equipment used by the licensee for radiation protection activities to determine whether they are as described in the FSAR and are adequate to support the radiation protection program.

The licensee has designated additional areas on the third floor of the service building to rad/chem for use in RWP and dosimetry issue and additional office space. This is a response to inspector concerns regarding the amount of area designated for access control. This newly designated area and the space deficiencies discussed in Inspection Reports No. 456/86002; No. 457/86002 will continue to be reviewed during future inspections. (456/86002-05; 457/86002-05)

No violations or deviations were identified.

10. IE Bulletin No. 79-19

The inspector reviewed licensee action taken in response to IE Bulletin No. 79-19 "Packaging of Low Level Radioactive Waste for Transport and Burial." The inspector verified that the licensee has current copies of NRC and DOT regulations; a copy of the Barnwell license; written designation of personnel responsible for safe transfer, packaging, and transport of low level radioactive material; approved procedures and instructions for handling radioactive waste; a personnel training, and retraining program; and an audit program for radwaste activities in accordance with this bulletin. No problems were noted; action on this bulletin is considered closed.

11. IE Information Notice

IE Information Notice 85-81 - Problems Resulting in Erroneously High Reading with Panasonic 800 Series Thermoluminescent Dosimeters (TLD): Braidwood does not use TLDs for personnel monitoring at this time. When a TLD program is used at Braidwood it will be part of a corporate function. A corporate response to this notice dated November 7, 1985, contains proper corrective actions.

12. Exit Meeting

The inspector met with licensee representatives (denoted in Paragraph 1) on May 22, 1986. The inspector summarized the scope and results of the inspection and discussed the likely content of this inspection report. The licensee acknowledged the information and did not indicate that any of the information disclosed during the inspection could be considered proprietary. The licensee acknowledged the inspector's comments about the radiation protection staffing and space deficiencies.