

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-456/84-30(DRP); 50-457/84-28(DRP)

Docket Nos. 50-456; 50-457

Licenses No. CPPR-132; CPPR-133

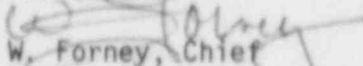
Licensee: Commonwealth Edison Company
Post Office Box 767
Chicago, IL 60690

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

Inspection At: Braidwood Site, Braidwood, Illinois

Inspection Conducted: September 21 through October 22, 1984

Inspector: R. N. Gardner

Approved By: 
W. Forney, Chief
Projects Section 1A

10/29/84
Date

Inspection Summary

Inspection on September 21 through October 22, 1984 (Report No. 50-456/84-30(DRP); 50-457/84-28(DRP))

Areas Inspected: Special, announced safety inspection of the Braidwood Construction Assessment Program (BCAP) in regards to licensee action on previously identified items, Construction Sample Reinspection (CSR) random sample populations, Review of Significant Corrective Action Programs (RSCAP) BCAP element, CSR reinspection activities, and BCAP QA overinspections. The inspection consisted of 140 inspector-hours onsite by one NRC inspector.

Results: No items of noncompliance or deviations were identified.

DETAILS

I. Persons Contacted

Commonwealth Edison Company

- ¹T. Maiman, Manager of Projects
- ¹W. Shewski, Manager of Quality Assurance
- ¹²M. Wallace, Project Manager
- ¹²E. Fitzpatrick, Assistant Quality Assurance Manager
- ¹²N. Kaushal, BCAP Director
- ¹²N. Smith, Quality Assurance Supervisor
- ¹J. Deress, Projects Engineering Manager
- ¹²R. Byers, BCAP Assistant Director
- ¹D. Cecchetti, Licensing Engineer
- ¹I. Johnson, Communications Coordinator
- ¹G. Orlov, BCAP Assistant Director
- ¹A. Scaccia, Offsite Planner
- ¹²C. Schroeder, Project Licensing and Compliance Superintendent
- ¹D. Shamblin, Project Construction Superintendent
- ¹D. Smith, Nuclear Licensing Administrator
- R. Spence, BCAP Quality Assurance
- ¹D. Swartz, Nuclear Licensing Administrator
- J. Zych, BCAP Quality Assurance

Daniel Construction Company

- E. Shevlin, BCAP Lead Inspector
- J. Sexton, BCAP Lead Inspector
- N. Norris, BCAP Inspector
- ²M. Clinton, BCAP Inspection Supervisor

Stone and Webster Company (S&W)

- P. Amoruso, RPSR Supervisor

Sargent and Lundy Engineers (S&L)

- ¹K. Kostal, Project Director - Braidwood

Evaluation Research Corporation (ERC)

- J. Hansel, Project Manager
- ¹R. Ham, Assistant Project Manager
- ¹W. Chase, Mechanical and Piping

Illinois Department of Nuclear Safety

- ¹B. Mirone, Division of Engineering
- ¹D. Powell, Division of Engineering

Illinois Commerce Commission

¹J. Hoppe

The inspector also contacted and interviewed other licensee and contractor personnel during the course of this inspection.

¹Denotes those present at the October 4, 1984 public meeting on BCAP.

²Denotes those present at exit interview.

2. Licensee Action on Previously Identified Items

(Closed) Open Item (50-456/84-25-01; 50-457/84-24-01): There were no specific training requirements identified for the various BCAP functions being performed. This matter had previously been identified by BCAP QA and a Corrective Action Request (CAR) had been written to document this deficiency. The CAR was closed on October 2, 1984, based on satisfactory resolution of the training deficiencies and the results of a QA audit of BCAP training. Actions taken to resolve this item included the revision of the BCAP training procedure BCAP-01, and the development of a training matrix. The inspector reviewed the revised training procedure and the training records of four BCAP engineers. The revised procedure and the training records were satisfactory. This item is closed.

3. CSR Random Sample Population

The CSR random sample selection process has been delayed due to difficulties encountered by CECO contractors in the establishment of populations. BCAP defines a population as construction completed, inspected and QC accepted, safety-related groups of similar components or activities, having common attributes that are verifiable by similar reinspection and document review activities. Some CECO contractors do not have a bookkeeping system in place which readily identifies completed, inspected and accepted safety related work. To establish a population these contractors would have to review all individual inspection records for each safety-related group of similar components. To avoid such a lengthy document review the BCAP engineers have begun revising pertinent BCAP CSR procedures to allow an alternative method. The alternative method would allow CSR engineers to extract from design documents a list of all of the components which, when installed and accepted, would constitute a total population. Pending the review of the revised BCAP procedures and the affect of the revised procedures on the CSR random sample selection process, this is an open item (456/84-30-01; 457/84-28-01).

During the review of the contractors efforts to establish CSR random sample populations, the inspector determined that controls were not in place to prevent the rework of components selected for reinspection under the CSR BCAP element. In response to this concern, the licensee developed a BCAP hold tag which is placed on each component selected for reinspection. These hold tags prohibit any work on these components. The inspector observed that BCAP hold tags were in place on components being inspected by BCAP inspectors.

No items of noncompliance or deviations were identified.

4. Review of RSCAP Activities

The inspector reviewed the RSCAP BCAP element in regards to the ongoing RSCAP review of the electrical installation document review corrective action program. The documentation package associated with this review included a commitment list and a procedure review checklist. Documents referenced by these lists included 10 CFR 50.55(e) report 84-01, NRC Inspection Report 83-18, CECo Audit Reports 20-82-31, 20-82-35, 20-82-21, 20-83-20 and several miscellaneous transmittals. The inspector determined that this activity was being accomplished in accordance with BCAP procedures. However, the inspector observed that the scope of the RSCAP review does not include an inspection of the installed components associated with the electrical installation documentation. Therefore, the completion of the review of this corrective action program will result in an evaluation of the quality of the documentation, not the quality of the associated hardware. This matter is further discussed in Section 7 of this report.

No items of noncompliance or deviations were identified.

5. CSR Reinspection Activities

- a. On October 9, 1984, the inspector witnessed an inspection of a heating, ventilating, and air conditioning (HVAC) hanger being conducted by BCAP inspectors. The associated inspection package included an inspection checklist, a CSR reinspection instruction, and pertinent hanger drawings. The hanger package was identified as item CSR-I-H-03-018. The actual HVAC hanger number was 1217. The inspection checklist identified the inspection attributes to be inspected. Specific instructions and tolerances for each inspection attribute were documented in the reinspection instructions.

The inspector verified that the drawings being used by the BCAP inspectors were the latest revision. In addition, the inspector observed that BCAP hold tags were installed on the components selected for CSR reinspection to prevent rework of those components until the BCAP effort is completed. On October 10, 1984, the inspector reviewed the observations which the BCAP inspectors had written to document findings identified during the reinspection of hanger 1217. Observation number CSR-I-H-03-018-1 identified an attachment plate which was incorrectly installed. Observation number CSR-I-H-03-018-2 identified welds on hanger 1217 having numerous weld defects.

- b. On October 11, 1984, the inspector witnessed the partial reinspection of a concrete placement. The associated inspection package was identified as item CSR-I-S-001-4. The concrete placement was identified as Auxiliary Building Slab number 2.6A54. The inspection checklist included the following inspection attributes:

- (1) location
- (2) size

- (3) formed openings
- (4) surface inspection
- (5) construction joints
- (6) embedded plates

Included in the inspection package was an inspection instruction which provided amplified instructions for each inspection attribute along with acceptance criteria for those attributes. During the reinspection, the BCAP inspector identified one embedded plate which did not conform to the design drawing. The embedded plate in question was composed of two pieces while the drawing called for a one piece plate. Initially, this finding was identified by the BCAP inspectors as a remark on the inspection checklist pending their discussion of this matter with CSR engineering. Subsequently, the inspector determined that Evaluation Research Corporation (ERC) inspectors had identified additional instances of embedded plate anomalies being documented as remarks rather than as observations. ERC was documenting this practice as an observation. As a result, the licensee took prompt action to document each embedded plate finding as an observation.

No items of noncompliance or deviations were identified.

6. BCAP QA Overinspection Activities

On October 16, 1984, the BCAP QA overinspection program was initiated for HVAC hanger 1217. The purpose of this QA program is to provide an independent evaluation of the adequacy of the BCAP reinspections. To accomplish this task, the licensee retained a number of level II inspectors hired into the Pittsburgh Testing Laboratory (PTL) organization, but dedicated solely to BCAP QA overinspections. The PTL inspectors are to perform independent overinspections of installed components after BCAP reinspections of those components are completed and documented. For hanger 1217, the PTL inspectors utilized an inspection checklist and instruction which were identical to the ones used by the BCAP inspectors. The overinspection was observed by CECO QA, ERC, and the NRC.

Upon completion of the overinspection of HVAC hanger 1217, a comparison was made of the findings identified by PTL inspectors and those identified by BCAP inspectors. The results of the comparison pointed out a number of variations between the findings identified by PTL and those identified by the BCAP inspectors. These variations primarily dealt with visual weld inspections. This matter is presently under review by the licensee. Pending the resolution of this matter, this is an open item (456/84-30-02; 457/84-28-02).

No items of noncompliance or deviations were identified.

7. Public Meeting to Discuss BCAP

The October public BCAP status meeting was held on October 4, 1984, at the Mazon Emergency Offsite Facility (EOF). Participants in the meeting included Messrs. R. Warnick and R. Gardner of the NRC staff, T. Maiman, M. Wallace, N. Kaushal, and N. Smith of CECO, and R. Ham of ERC.

Subjects addressed during the meeting included a presentation on the status of BCAP activities, problems encountered during the initial stages of BCAP, the status of the ERC independent review of BCAP, and the status of ERC observations and findings identified to date.

During the meeting the NRC expressed a concern with the scope of the RSCAP BCAP element. The RSCAP program, while focusing on the programmatic reviews of the associated significant corrective action programs, will not, upon completion, assure that the affected areas of construction are of acceptable quality. The NRC recommended that the RSCAP program include sufficient hardware inspections to provide such assurance.

8. 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 3 and 6.

9. Exit Interview

The inspector met with the licensee representatives (denoted under Persons Contacted) during and at the conclusion of the inspection on October 22, 1984. The inspector summarized the scope and findings of the inspection. The licensee acknowledged the information.

Attachments:

1. Memos frm C. E. Norelius
to J. G. Keppler dtd
10/10/84 and 10/30/84
2. Ltr from CECO to
J. G. Keppler dtd
10/10/84