

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-461/86019(DRP)

Docket No. 50-461

License No. CPPR-137

Licensee: Illinois Power Company  
500 South 27th Street  
Decatur, IL 62525

Facility Name: Clinton Power Station

Inspection At: Clinton Site, Clinton, IL

Inspection Conducted: March 3 through April 14, 1986

Inspector: D. E. Keating *RC Knop*

4/28/86  
Date

Approved By: R. C. Knop, Chief *RC Knop*  
Projects Section 1B

4/28/86  
Date

Inspection Summary

Inspection on March 3 through April 14, 1986 (Report No. 50-461/86019(DRP))

Areas Inspected: Routine safety inspection by the resident inspector of construction completion activities including applicant action on previous inspection activities; review of an allegation; functional or program areas including site surveillance tours, containment liner repairs, electrical coupling installations, and preoperational test witnessing.

Results: Of the six areas inspected, no violations or deviations were identified. The applicant's activities and corrective actions were adequate.

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## DETAILS

### I. Persons Contacted

#### Illinois Power Company (IP)

- \*D. P. Hall, Vice President, Nuclear
- \*W. S. Rives, Supervisor Training Development, NTD
- \*S. B. Fisher, Manager, Nuclear Planning and Support
- \*H. E. Daniels, Project Manager
- \*F. A. Spangenberg, Manager, Licensing and Safety
- \*J. S. Perry, Manager, Nuclear Program Coordination
- \*J. W. Wilson, Plant Manager
- \*H. R. Lane, Manager, Scheduling and Outage Management
- \*J. H. Greene, Manager Startup
- \*D. C. Shelton, Manager, Nuclear Station Engineering Department
- \*J. A. Brownell, Licensing and Safety
  - T. Parrent, Construction Quality Assurance Inspector
  - A. I. Sherwood, Construction Quality Assurance Lead
  - B. Wahlheim, Startup Engineer
  - R. Brunk, Startup Technician
  - W. Hahn, Supervisor, Civil/Structural, Nuclear Station Engineering Department

#### Baldwin Associates (BA)

- \*D. J. Schlatka, Project Manager
- \*J. V. Hawkins, Assistant Manager Quality and Technical Services
- J. Wells, Civil/Structural Quality Control Inspector

#### Sargent and Lundy (S&L)

- J. Petrich, Project Engineer
- T. Franch, Structural Engineer

\*Denotes those attending the monthly exit meeting.

Other licensee personnel were routinely contacted during the course of the inspection.

### 2. Review of Allegations (99014)

(Closed) Allegation (Region III 86-A-0032, No. 183): On February, 27, 1986, a Baldwin Associates (BA) electrical craftsman contacted the NRC site office and stated that he believed the installation of certain filler plates used in the construction of electrical hanger supports did not appear to be welded adequately. The individual expressed a concern over the apparent lack of sufficient weld filler metal in the filler plate to gallery beam weld. The specific example provided by the alleger was electrical conduit support, E26-1002-02A-CC-4A located in the "B" Residual Heat Removal (RHR) cubical. The resident inspector noted that the method of welding was not clear from the configuration of the support as observed.

The Senior Resident for construction, regional specialist, IP, and S&L personnel reviewed the specific hanger location. The NRC inspectors reviewed traveler E26-1002-02A-AS-2A and FCN 15563 with the applicant. The inspectors discussed the sequence of activities involving this detail as spelled out in the FCN and the traveler. Review of the documentation showed the following detail. The main framing steel is a W14X26. Auxiliary or hanger support steel is a W8X48. Because of differences in depths and/or elevations of main framing steel sections, filler plates were required to be welded to the bottom flanges of the main framing members to level the auxiliary support steel used as hanger supports. Once the filler plates were attached, wing plates were welded to each side of the bottom flanges of the W14X26 with a full penetration weld utilizing the fillet weld as a backing bar. The root pass (the existing fillet weld), each additional  $\frac{3}{4}$ " of filler metal, and the final pass were magnetic particle tested (MT). The attachment of these wing plates permitted the attachment of the bottom flange stiffener plates to the top of the bottom flange and the web of the W14X26 beam. During these discussions with the applicant and his architect/engineer it was stated that this detail was used in many other locations in the plant.

The inspector determined that the documentation indicated that the installation was correctly installed and the NDE results indicated the welds were properly installed in accordance with the FCN. What initially appeared to be "tack welds" were, in fact, the ends of the full penetration welds. This allegation could not be substantiated. It is, therefore, considered closed.

No violations or deviations were identified.

### 3. Functional or Program Areas Inspected

#### A. Regional Request Containment Liner Repairs (92701/55053)

Prior to this inspection, the inspector had visually observed the final repair work on the hole in containment and reviewed the travelers associated with this work. (Refer to Inspection No. 50-461/86012)

During this inspection the inspector reviewed the test results of a local leak rate test (LLRT) (Soap Box Test), XTP-00-07, Revision 1, Appendix B11, Sheets 1 through 3 plus the exceptions taken, performed by the applicant to verify the adequacy of the repairs. The test results indicated that the repair was successful and that there were no leaks.

Based on these reviews and observations no further tracking of this activity is required.

No violations or deviations were identified.

#### B. Fire Protection (42051)

This inspection was to determine if the surveillance for installed penetrations demonstrated that Baldwin Associates K-2840 Specification and related checksheets were being properly implemented.

The inspector reviewed the following IPQA surveillance reports covering Brand Industrial Services Co. (BISCO) Phase I activities:

- (1) Q-01460 dated January 13, 1986 - Phase I documentation - Commodity Turnover of Penetration Seals in Screenhouse.
- (2) Q-01495 dated March 31, 1986 - Phase I documentation - Commodity Turnover of Thermo-Lag Fire Barriers in Auxiliary Building .
- (3) Q-01496 dated March 31, 1986 - Phase I documentation - Commodity Turnover of Thermo-Lag Fire Barriers - 800' Control Building .
- (4) Q-01466 dated May 3, 1985 - Phase I documentation - Commodity Turnover of Penetration Seals at 800' Turbine Building ,
- (5) CQ-01700 dated February 8, 1985 - Commodity Turnover Walkdown of Penetration Seals on 800' Turbine Building .
- (6) CQ-01684 dated February 8, 1985 - Commodity Turnover Walkdown of Penetration Seals in the Screenhouse.
- (7) CQ-01773 dated February 1, 1986 - Commodity Turnover Walkdown of Thermo-Lag Fire Barriers on 762' Diesel Generator, 781' Control, and 800' Control Building .
- (8) CQ-01778 dated February 1, 1986 - Commodity Turnover Walkdown of Thermo-Lag Fire Barriers on 728' Auxiliary Building .

Also reviewed was the documentation identifying penetrations listed as exceptions to the walkdowns and the BISCO quality control inspection reports issued at the time the actual work was completed.

The results of the NRC review indicated that the surveillances were performed in accordance with site procedures and that all findings were properly resolved. No significant findings were noted.

This was an in process activity which will be reviewed further in a future inspection.

No violations or deviations were identified.

C. Preoperational Test Witnessing (92701/70315)

The inspector witnessed the performance of Section 7.2 of preoperational test PTP-VP-01, Control Circuitry Checks of Drywall Chillers.

The purpose of this test was to verify the alarm circuits at both the local panels and the alarm circuits in the control room.

The test was completed through step 7.2.1.27. A discrepancy was documented against step 28 of the above sequence because of a recurring ground alarm indication in the control room chiller circuit. This was determined when local testing was done to determine the location of the ground indication.

The applicant was attempting to isolate the exact ground problem before continuing the sequence. The NRC inspector determined that the test was conducted in accordance with site procedures. This was an inprocess activity which will be reviewed further in a future inspection.

No violations or deviations were identified.

D. Electrical Conduit Coupling Installation (51051)

The inspector reviewed the documentation dealing with problems identified by the applicant during commodity walkdowns of electrical conduit. During these walkdowns it was noted that cracks had begun to develop at the base of bolting lugs for large split couplings for conduits. The couplings in question were manufactured by O. Z. Geddney Company and were 2½"-4" in diameter. Nonconformance Reports (NCR) have been written for all cracked split couplings identified through these walkdowns.

The manufacturer was contacted regarding the bolting requirements for these couplings. The applicant was informed that the only requirement was as indicated on the drawings which was "snug tight." The couplings were installed snug tight without any specific criteria. The as found torque values varied from ten to fifty-five foot pounds. All of the originally identified cracked couplings have been replaced by the applicant with EFCORE couplings. UL's snug tight torquing value is approximately 18 foot pounds to 22 foot pounds. The applicant has since established a reduced torquing value of 14 foot pounds to 16 foot pounds which is more conservative, but adequate for holding the coupling in place. This value of torque was found adequate during testing described below.

These couplings are purchased as commercial grade items. The inspector verified that the applicant inspects these items visually to establish safety-related acceptance criteria when used on safety-related conduit. In addition, testing was performed on 3 couplings of each size by the applicant in which the couplings were sawed through at the base of the lugs parallel to the surface of the lug simulating a cracked section propagating from the front surface to the rear surface of the lug. A section of conduit was placed in the coupling and subjected to bending and shear loads. The results of these tests indicated under these loading conditions there was adequate rigidity to support the conduits.

Review of these test results and discussions with the applicant regarding engineering analysis conducted in addition to these tests indicate that the disposition of the NCR's written and the applicant's activities were adequate.

No violations or deviations were identified.

E. Site Surveillance Tours (42051C)

The inspector toured selected areas of the site at periodic intervals during the report period. Those tours assessed the general cleanliness of the site; storage and maintenance conditions of equipment and material being used in site construction; potential for fire or other hazards; and to witness construction activities in progress.

Improvement was noticed in plant cleanliness, particularly in containment and the drywell.

No violations or deviations were identified.

4. Exit Meetings (30703)

The inspector met with applicant representatives (denoted in Paragraph 1) throughout the inspection period and at the conclusion of the inspection on April 14, 1986. The inspector summarized the scope and findings of the inspection activities. 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 applicant did not identify any such documents/processes as proprietary. The applicant acknowledged the inspection findings.