U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-461/86012(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: January 27 through March 3, 1986

Inspector: D. E. Keating

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

MAR 25 1986
Date

Inspection Summary

Inspection on January 27 through March 3, 1986 (Report No. 50-461/86012(DRP))
Areas Inspected: Routine safety inspection by the resident inspector of construction completion activities including applicant action on previous inspection findings; IE Bulletin followups; review of an allegation; functional or program areas (including site surveillance tours, containment liner repairs and containment penetrations). The inspection involved a total of 69 inspector-hours onsite by one resident inspector including no inspector-hours onsite during off shifts.
Results: Of the five areas inspected, no violations or deviations were identified. The applicant's activities and corrective actions were adequate.

DETAILS

1. Persons Contacted

Illinois Power Company (IP)

*K. Baker, Licensing and Safety (LS)
C. Calhoun, Quality Assurance
*R. Campbell, Director, Quality Systems and Audits, QA
*J. Cook, Assistant Manager, Clinton Power Station (CPS)
*H. Daniels, Project Manager
*J. Greene, Manager, Startup (SU)
*D. Hall, Vice President, Nuclear
*D. Holtzscher, Director, Safety Analysis, LS
*E. Kant, Assistant Manager, Nuclear Station Engineering (NSE)
T. Parrent, Quality Assurance Inspector
*J. Perry, Manager, Nuclear Program Coordination
*R. Schaller, Director, Nuclear Training
A. Sherwood, Quality Assurance Lead
*N. Williams, Director, Support Services
*H. Lane, Manager, Scheduling and Outage Management

Baldwin Associates (BA)

J. Doolin, Training Coordinator
*R. Greer, Manager, Quality and Technical Services
A. Lynch, Supervisor
*D. Schlatka, Project Manager
*J. Thompson, Manager, Quality Engineering

*Denotes those attending the monthly exit meeting.

2. Applicant Action on Previous Inspection Findings (92701/92702)

a. (Closed) Open Item (461/82002-03): Lack of flow direction indication on isometric drawings and sketches used for installation of piping systems in the field.

The inspector reviewed the following documents to verify the corrective action taken to resolve the condition identified and to prevent recurrence:

(1) Letter U-10030 (D. P. Hall to R. C. Knop) dated February 18, 1983.

(2) IPQA Surveillance Report Y-19483 dated January 19, 1984.

(3) BA procedure (BAP) 2.14, Fabrication/Installation of Items, Systems, Components, and Component Supports, Revision 12.

(4) Sargent & Lundy (S&L) Project Instruction, PI-CP-040, S&L Review Of Contractor's Isometric Piping Drawings, Revision 5.

The applicant reviewed the following isometric piping drawings for flow direction:

DO-755, Revision 1
DO-759, Revision 5
HG-754, Revision 3
HD-769, Revision 3
WE-823, Revision 2

The inspector substantiated, by review of these drawings and several others, that flow direction was properly indicated. The inspector also verified that BAP 2.14 had been revised to clearly state that the piping isometrics reviewed by S&L were the drawings to be used for installation.

Based upon this review and the applicant's corrective actions and audits, this item is closed.

No violations or deviations were identified.

b. (Closed) Open Item (461/83009-06): Deficiencies in the installation and design of high energy pipe whip restraints identified at two other construction sites in Region III. This information was forwarded to the applicant to determine if the same problems existed at Clinton Power Station (CPS).

The inspector reviewed the following documents to verify that any necessary corrective action required, had been taken:

(1) S&L letter SLMI-11066 (Schopfer to Spencer) dated December 30, 1983.

(2) BAP 3.2.5, Piping Component Support, Revision 9.

(3) Procedure Change Request (PCR) 301-83.

The review indicated that BAP 3.2.5 was revised by PCR 301-83. This revision to the installation process established the necessary interface with engineering and quality control. In addition, S&L prepared individual pipe whip restraint drawings which presented more clearly the design dimensions for both the structural attachment points and the restraint locations on the piping.

The second part of this item dealt with the use and configuration of energy absorbing material (EAM) on pipe whip restraints. The applicant has four pipe whip restraints of the type in question at one of the construction sites. The restraints were placed on hold while tests were being conducted on the EAM to resolve the NRC concerns. The results of these tests were submitted to the NRC on January 20, 1984. The results indicated that the design configurations of the restraints at CPS, with certain modifications,

were adequate. The modifications necessary dealt with the alignment of the pipe within the restraint. The revised restraint drawings were issued in February 1984.

This item is closed based upon this review.

No violations or deviations were identified.

c. (Closed) Violation (461/85030-04): This concerns material traceability and control of mounting bolts for large pump motors, pump turbine assemblies mounted on skids and HVAC control panel cabinets. The bolting of portions of these assemblies was not as required by applicable drawings and specifications.

The applicant has reviewed the contentions of the violation. The identified discrepancies have been documented and corrected according to site procedures including replacing the bolts when required. The inspector has reviewed these activities and found them acceptable. The inspector reviewed S&L's engineering analysis of these deficiencies. This analysis determined that the deficiencies would not have adversely affected equipment operability or the safe operation of CPS.

The inspector also reviewed CPS procedure 1TP2600.02S, "Vibration Monitoring" which requires periodic monitoring of this equipment for vibration. Periodic monitoring plus a trend analysis of the vibration monitoring data should assure that bolting deficiencies will be identified and corrected.

Based upon this review, this violation is closed.

No violations or deviations were identified.

3. IE Bulletin Followup (92703)

(Closed) IE Bulletin 80-11 (461/80011-BB): Potential deficiency with structural integrity of concrete masonry walls with Seismic Category I pipe support attachments.

The inspector reviewed correspondence between the applicant and Structural Engineering Branch (NRC/SEB). IP's letter, U-0436 (Wuller to Miller), dated March 11, 1982, confirmed their commitment to undertake a static test program to determine the modulus of rupture (maximum flexural capacity) of concrete block masonry walls similar to those constructed at CPS. Also confirmed was the agreement that this program would be submitted to the NRC/SEB for review and comments within a 4 week time frame. NRC/SEB letter (Miller to Wuller) dated March 26, 1982, provided IP with a summary of action items which were as follows:

a. IP would document the presentation made at a meeting on March 8, 1982, between NRC/SEB, S&L, and IP in Bethesda, MD. and address:

(1) Assessment of impact of using 1 1/2% damping value for Operating Basis Earthquake (OBE) and 2% damping value for Safe Shutdown Earthquake (SSE).

(2) Reassessment of the walls in which trussbar reinforcing was considered in evaluation by neglecting the reinforcement and also identify these walls.

b. IP would perform the CPS specific static tests to determine the modulus of rupture values of the masonry walls and to determine the failure loads.

c. IP would provide the scope, schedule, and testing procedure for the staff's review and approval within 4 weeks of the meeting.

IP letter U-0458 (Wuller to Miller) dated April 8, 1982, provided a copy of the proposed test program on masonry walls and a copy of the American Society of Testing Material (ASTM) Standard E72-80, "Conducting Strength Tests of Panels for Building Construction." This information was used in performing these tests for the Clinton masonry walls. These items were reviewed by the inspector.

IP letter U-0469 (Wuller to Miller) dated April 23, 1982, provided an assessment of the impact on Clinton masonry walls using lower damping values and ignoring joint reinforcement. The data lists the walls where design moment capacity was exceeded when only damping values were revised from 2% and 4% to 1 1/2% and 2% for OBE and SSE respectively. The data also identified the walls with OBE and SSE load combination stresses where the design moment capacity was exceeded only when both the lower damping values were used and joint reinforcement was ignored. Also included was a correlation between wall numbers and drawing numbers which identified the Masonry walls. This data was reviewed by the inspector to assure that the intent of IE Bulletin 80-11 was met, that the requirements of TI 2515/37, Section III were met, and that this data satisfied the agreements reached between the NRC/SEB and IP.

The inspector reviewed the test results of the Masonry Block Wall Tests as submitted by Construction Technology Laboratories and NRC staff conclusion in SSER 2 which stated, in part, ". . . that no additional actions are required from the applicant regarding the masonry wall issue, and the NRC staff considers this issue resolved." Based on these reviews this bulletin is closed.

No violations or deviations were identified.

4. Review of Allegation (99014)

(Closed) Allegation (RIII-85-A-0113-02, #153): On June 28, 1985, the individual contacted the Clinton Resident Office. Three concerns were identified. This deals with item #2 of the referenced allegation which states that a Quality Control (QC) Piping/Mechanical (P/M) inspector to

be known as inspector A had not received required quality control training for a period of three months because of an administrative error.

The resident inspector interviewed inspector A, the present training coordinator, and the present QC Supervisor. Inspector A stated that his name had been dropped from the training attendance sheets when another QC P/M inspector returned to the group after being loaned to another organization.

Inspector A mentioned to his supervisor and the training instructor that his name no longer appeared on the training roster and had been replaced by the returning inspector. He was told by his supervisor to go ahead and sign the roster anyway. He informed his supervisor that he would not do this, stating that to do so would be in violation of site training procedures. He stated that he did, however, continue to attend the training sessions when they were scheduled. A review of the training records indicated that a period of approximately six weeks elapsed before his name reappeared on the roster. Inspector A has since left the site.

The resident inspector reviewed a series of inspection records, FCR's, and NCR's written by inspector A and determined that they were adequate and that any safety significant conditions that were identified were properly documented and corrected.

This allegation has been partially substantiated. There was a period of time when the inspector had not signed the training roster; however, his work subsequent to that period was found adequate by the NRC. Also a violation of site training procedures did occur. However, administrative controls, contained in the site procedures, were in place at that time to preclude recurrence.

Based upon this review, Item 2 of this allegation is closed.

No violations or deviations were identified.

5. Functional or Program Areas Inspected

a. 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.

Two conditions were of concern to the inspector and were called to the attention of the appropriate site organizations. One condition involved the mixing of paint in the immediate vicinity of flame cutting and grinding on grating. These activities were in a heavily traveled access passage leading to the containment equipment hatch. The paint fumes drifting toward the cutting and grinding work presented a potential fire hazard. Plant Security responded promptly

and had the paint mixing moved. The other condition involved safety related cables in vertical tray risers immediately adjacent to welding, cutting, and grinding activities. This condition was also promptly corrected by plant staff placing protective covering over the cables.

b. Regional Request - Containment Liner Repairs (92701/55053)

The inspector reviewed NCR 40031 which was written by BA QC to document a discontinuity that was identified as a hole in the containment liner plate. The inspector viewed the hole, reviewed the repair procedure, and witnessed the start of the repair process. This consisted of the enlarging of the hole in the liner and the excavation of the concrete behind the liner plate. This included the review of approved travelers for the cutting, grinding of the plate, and chipping of the concrete.

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

No violations or deviations were identified.

c. Containment Penetrations (53053)

The inspector reviewed documentation for the identified activity. This information included the following:

(1) Brand Industrial Services (Bisco), Inc. Procedure DC-2C, Revision 9, Turnover

(2) Certificates of Inspection

(3) Certificates of Inspection for Exceptions

(4) System Verification Log, QCT-2

(5) Component Traceability Log, QCT-1

(6) Traceability Matrix

(7) Certificate of Compliance, CC Log

The inspector selected one penetration for a spot check of traceability of material, documentation adequacy, and procedural conformity.

The penetration was CC-737-01-3025, line IRR28CA. The material used was for radiation sealing and was SF-150-NH. The record indicated that this was silicone foam RVT DC3-6548, parts A and B. Component Traceability Logs indicated that Part A consisted of three batches;

ET105063, 064, and 065. Part B, also, consisted of three batches; ET105206, 207, and 208. The batches were mixed in a one-to-one ratio using machine No. 205 and applied as system No. 168.

Dam inspection was completed on January 17, 1986 and the penetration sealed on January 20, 1986. No welding was performed on the penetration in relation to this application. A wipedown with demineralized water was required and performed on the interior surface of this penetration.

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

No violations or deviations were identified.

6. Exit Meetings (30703)

The inspector met with applicant representatives (denoted in Paragraph 1) throughout the inspection and at the conclusion of the inspection on March 3, 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.

The inspector attended an exit meeting held between a Region III based inspector and the applicant as follows:

Inspector	Date
S. Hare	2/28/86