

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No.: 50-461/85029(DRS)

Docket No.: 50-461

License No.: CPPR-137

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

Facility Name: Clinton Nuclear Power Station, Unit 1

Inspection At: Clinton Site, Clinton, Illinois

Inspection Conducted: May 9, 10, 13, and 14, 1985

Inspectors: *D. E. Keating*
D. E. Keating

6/20/85
Date

Approved By: *D. H. Danielson*
D. H. Danielson, Chief
Materials & Processes Section

6/20/85
Date

Inspection Summary

Inspection on May 9, 10, 13, and 14, 1985 (Report No. 50-461/85029(DE))

Areas Inspected: Unannounced, routine inspection to conduct an as-built walk down and review documentation for structural steel framing and attachments. The inspection involved a total of 28 inspector-hours onsite by one NRC inspector.

Results: No violations or deviations were identified.

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DETAILS

1. Persons Contacted

Illinois Power Company (IP)

- *J. E. Loomis, Construction Manager
- *J. F. Palchak, Supervisor, Construction Configuration Conformance Department
- *G. W. Bell, Director, Construction and Procurement, Quality Assurance
- *F. A. Spangenberg, Director, Nuclear Licensing
- *J. R. Sprague, Licensing Project Engineer
- *E. Kant, Assistant Manager, Nuclear Station, Engineering Department
- *R. F. Schaller, Supervisor, Technical Staff

Baldwin Associates (BA)

- *R. Green, Assistant Manager, Quality and Technical Services
- *J. L. Thompson, Quality Engineering Manager

The inspector also contacted other applicant and contractor personnel during this inspection.

*Denotes those present at the exit interview on May 14, 1985.

2. As-Built Structural Steel Walkdown

The inspector reviewed the applicant's document entitled "Clinton Power Station As-Built Program" plus appendices. These documents describe the design control and verification elements of the Clinton Power Station (CPS) Configuration Management Program (CMP) which ensures that the as-built configuration of the safety related structures, systems, and components of the plant conform to the final design and meet the requirements committed to in the FSAR.

There were two areas the inspector focused on:

- a. As-built design and construction drawings and specifications currently reflect the as-built condition of the plant.
- b. Changes from the design properly reviewed and approved.

Four safety related areas were randomly selected for a walkdown and documentation review. These were: (1) El. 737'-0", Area 4 of the Containment Building, (2) El. 755'-0", Area 1 of the Containment Building, (3) El. 781'-0", Area 2 of the Auxiliary Building, and (4) El. 800'-0", Area 1 of the Auxiliary Building.

The drawings used as a basis for this inspection were Hanger Load Plan drawings which indicated the electrical, mechanical, and HVAC hanger locations and types as well as the size and location of main structural steel, auxiliary structural steel, and longitudinal bracing members. The

specific drawings utilized were: HLS 27-1001-04B, Revision 10; HLS 27-1002-01A, Revision 11; HLS 26-1003-02A, Revision 9; and HLS 26-1004-01A, Revision 4.

The inspector physically located the structural members indicated, and where possible and accessible, checked for loose bolts and visually checked connection angle welds and hanger attachment welds for surface discontinuities such as undercut and porosity. The inspector also was able to locate and identify the hangers and assemblies indicated on the drawings.

The inspector reviewed the installation and inspection documentation to determine that the activities associated with the erection and installation of the items indicated above were witnessed and contained the proper signatures. Also reviewed were the change documents associated with initial inspection records. The contents of various documentation including travelers and inspection reports were compared to the regulatory requirements and code commitments specified in their FSAR.

No violations or deviations were identified.

3. Allegation Followup

- a. (Closed) Allegation (RIII-85-A-0035): During an inspection at the site, a concern was brought to the NRC inspector's attention. This concern centers around the fact that as-built piping data from field verifications do not correspond to data as indicated on CBI drawing 73-6735, "As-Built Dimensions of Vessel Nozzles and Top Lift Lugs". Two (2) FCR's, No. 25846 dated June 19, 1984, and No. 21101 dated January 10, 1984, list a series of Sargent and Lundy (S&L) M-AK drawings and S&L Specification K-2801, Amendment 11. The CBI drawing also has an S&L drawing number, VPF-3653-071, Revision 4. This drawing indicates the nozzle elevations and vessel 0° azimuth. FCR 21101 states the problem and makes the recommendation for S&L to resolve the discrepancies. FCR 25846 is similar to FCR 21101; however, it is more specific in nature. The individual indicated that when an attempt was made to verify the as-built conditions, there was difficulty in justifying the final installation tolerances.

NRC Review

The difficulty experienced in justifying the final installation tolerance is due to the piping and instrument runs are field installed using the building columns, etc., to locate them. The vessel is initially set, then the vessel spring line and nozzle elevations are checked and established by survey. This establishes 0' elevation. This is done by CBI. The final bolting is done by RCI which established 0° azimuth and additional angular reference points. S&L use the survey and final bolting data to establish and reference 0' elevation and 0° azimuth on this pedestal plan and section drawings.

To compensate for dimensional differences between the building dimensions and nozzle locations, the spool pieces on piping runs normally have an additional 2'-0 to 3'-0 extension for adjustment for fit-up and end preparation for tie-ins to the nozzles. Angular tolerances are also established to compensate for azimuth variations that occur because of similar minor erection variations. The spool piece extensions are recognized industry practice for this work.

This accumulated data is recorded in the survey books which are on file with the Document Control Center, at the Clinton Power Station. The individual expressing the concern was either unaware that this data existed in this form or did not understand sufficiently the process in order to satisfy his concern.

The drawings listed in FCR 21101 and FCR 25846 and a selected number of travelers were reviewed for the as-built configuration. A walkdown was performed to verify the configuration and to assure that all related changes were incorporated.

Based on this inspection and the reviews performed, the concern of the individual could not be substantiated. This item is, therefore, considered closed.

An attempt was made to contact the individual to apprise him of the results, however, this was unsuccessful.

- b. (Closed) Allegation (RIII-85-A-0093) (#140): Control elevation markers (survey marks used to locate building elevations during construction installation) were alleged to be off from their true location by as much as 1 1/2 inches in two specific locations; no controlled document had been issued to identify these conditions. The locations in question were as follows:
1. Inside the containment building at elevation 808'-3" between azimuth 210 to 240.
 2. In the auxiliary/control building at elevation 786'; AD and 124 line. The elevation markers on either side of the wall were alleged to be off by as much as 1/2 inch from each other; the elevation was alleged to be off by 1 to 1 1/2 inches.

NRC Review

This matter was discussed with the licensee. Cognizant personnel were interviewed by the inspector. The applicant's contractor, Baldwin Associates, stated that the control elevations in question were not significantly off location and that the condition did not require a nonconformance report. A detailed evaluation was requested from the applicant in order to determine the actual condition of these control elevation markers.

IP documented in Surveillance Report CY-26738 that IPQA observed the performance of a survey of the elevation markers in question conducted by BA surveyors. The results of that survey indicated that the control elevation markers at 808'-3" inside containment were in their proper location. The survey of control elevation markers at elevation 786' in the auxiliary/control building revealed that there was a 7/16" difference in elevation between one side of the wall and the other. This matter was considered acceptable to IP. Review of the surveillance report revealed that the actual elevation of the control elevation markers at 786' in the auxiliary//control building had not been established.

BA surveyors conducted an additional elevation survey to establish the actual elevation of the 786' control elevation markers in question. That survey was surveilled by an IP Nuclear Station Engineering Department (NSED) structural engineer and the NRC Senior Resident Inspector. The elevation was established using a benchmark (known elevation marker) located inside the containment building at the ground elevation. This survey was documented by IP in an NSED Memorandum (Y-75795). The results of this survey indicated that the control elevation markers at 786' elevation in the auxiliary/control building at line AD and 124 were off location by a maximum of 1/4 inch. The NRC inspector requested that the BA surveyors conduct a quality check by repeating the measurement in reverse. The quality check indicated that the measurement was accurate.

The control elevation markers in question were found to be in an acceptable location; that is, within practical surveying tolerances. This allegation is therefore considered closed.

No violations or deviations were identified.

4. Exit Interview

The inspector met with applicant representatives denoted in Paragraph 1 and others throughout this inspection. The inspector summarized the scope and results of the inspection and discussed the likely content of this inspection report. The applicant did not indicate that any of the information disclosed during the inspection could be considered proprietary in nature.