

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-461/84-23(DRS)

Docket No. 50-461

License No. CPPR-137

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

Facility Name: Clinton Nuclear Power Station, Unit 1

Inspection At: Clinton Site, Clinton, Illinois

Inspection Conducted: July 26-27, August 2-3, September 11-14 and 18-19, 1984.

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

10/19/84
Date

J. Jacobson
J. Jacobson

10/19/84
Date

D. Jones
for D. Jones

10/19/84
Date

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

10/19/84
Date

Inspection Summary

Inspection on July 26-27, August 2-3, September 11-14 and 18-19, 1984
(Report No. 50-461/84-23(DRS))

Areas Inspected: Review of 10 CFR 50.55(e) items, follow up on allegations,
and review of items identified in previous NRC inspections. The inspection
consisted of 112 onsite inspector-hours by three NRC inspectors.

Results: No items of noncompliance or deviations were identified.

DETAILS

1. Persons Contacted

Illinois Power Company

- *D. P. Hall, Vice President
- *W. Connell, Manager of QA
- *R. E. Campbell, Director QA&A
- *H. R. Victor, Manager, NSED
- *D. I. Herborn, Director, NSED-Licensing
- *J. E. Loomis, Construction Manager
- M. D. Hassebrock, Director, QE&V
- J. A. Miller, Assistant Startup Supervisor
- *J. A. Cook, Assistant Plant Manager
- *M. Pacy, Program Coordinator - Piping/Mechanical
- *H. E. Daniels, Jr., Project Manger
- W. C. Gerstner, Executive Vice President
- *J. A. Brownell, QA Specialist

Baldwin Associates

- *A. E. Kline, Jr., Project Manager
- *L. W. Osborne, Manager Q&TS
- *E. P. Rosol, Deputy Project Manager
- *E. L. Young, Assistant Manager Q&TS

The inspectors also contacted other licensee and contractor personnel.

*Denotes those present at the exit interview.

2. Licensee Action on 10 CFR 50.55(e) Items

- a. (Open) 10 CFR 50.55(e) Item (50-461/83-10-EE) Indications in Dome Liner Plate. The inspector reviewed the inspection reports covering the dome liner plate reinspection of the seam closure weld R2/R3. The inspectors also conducted a walkdown of this area to verify the conditions as presented in the reports. During this walkdown one of the NRC inspectors identified an area of excessive grinding on weld R2/R3 between Az 130° and Az 150°. NCR's 14348 and 14349 prescribed the areas to be ground and Sargent and Lundy (S&L) Specification K-2815 prescribed the maximum depth of the grinding. The NCR's referred to above, required some grinding onto vertical welds intersecting R2/R3. This was necessary because they were considered unsuitable for MT examination. The grinding on R2/R3 was considered outside the disposition of the NCR's as written. NCR 20294 has been written to document the unauthorized work.

The NRC inspectors also identified a condition of weld overlap remaining on the liner seam weld at approximately Az 180° at El. 921'. This condition had apparently not been rejected by Chicago Bridge and Iron Company when the original MT inspections were conducted.

These conditions prompted the NRC inspectors to express their concern that this activity appeared on the verge of being out of control. It was suggested all work be stopped until the activities outlined in the inspection plan be more formally organized and all personnel be made aware of their duties. The licensee agreed to this and immediately ceased all work in this area. The licensee will form a team of engineers with welding/inspection experience. Also an engineer from Sargent & Lundy (S&L) who is familiar with the design of the liner will be present. This team will review all accessible welds. They will note any suspect areas for later review by Certified Weld Inspectors. This review will begin with the overlap condition indicated by one of the NRC inspectors at Az 180° and approximate El. 921'.

The inspectors also conducted inspections at approximate El. 900' on the dome liner. Additional conditions of weld overlay were identified and will be addressed in the evaluation/review referred to above. In addition to these activities the inspectors conducted a walkdown of the suppression pool area and inspected the welds on the leak test channels along the liner plate and at the areas of penetrations. No code violations were identified.

The evaluation/review has been completed. There were fifteen additional items of apparent code violations identified. Three NCR's were written; NCR 21836, NCR 21837, and NCR 21838. On two areas, approximate Az 289° and Az 291° at approximate El. 902', the rework of welds rectified the noted conditions.

The noted condition identified on NCR 21837 is being evaluated by S&L for possible repair. Two additional items remain concerning the dome liner plate rework. These are:

- (1) Welding of the closure plate at approximate Az. 140°-150° and 9'2" above circumferential weld R2/R3.
- (2) Leak test the reworked welds.

The documents covering these activities and an inspection of the closure plate welding will be reviewed during a future inspection.

- b. (Open) 10 CFR 50.55(e) Item (50-461/84-03-EE) Improper Installation of Anchor Bolts in Auxiliary Building. This concerns the welding of attachment plates to Hilti anchor bolts and the wrapping of wire around the shanks of Hilti anchor bolts in order to obtain the proper installation torque.

The inspection activities and the licensee's efforts to date have been documented in Report No. 50-461/84-07; 50-461/84-12 and 50-461/84-18.

The inspector interviewed the chairman of this activity, and determined that a final report of these activities will be issued by the middle to end of October, 1984. At that time a final review of all documentation will be performed pursuant to closeout.

- c. (Open) 10 CFR 50.55(e) Item (50-461/84-12-EE) Concrete Expansion Anchors Do Not Penetrate Structural Slab.

The licensee has identified several expansion anchor bolts that do not penetrate through the finish/topping slab into the structural slab. These were identified initially in the slab over the Control Room at approximate elevation 825'.

The licensee is in the process of scoping the activity by identifying all finish/topping slabs and mapping the location of all anchor bolts. The anchor bolts thus identified will be compared to the computer listing for each slab. Nonconformance Reports (NCR) will be written on all bolts either not properly installed or not meeting S&L design and installation specifications. By mid-October the mapping and listing of anchor bolts from the first drawing should be completed. By mid-December or first of January, 1985, it is anticipated that all NCR's have been or will be ready for review and necessary repairs/rework recommended. It is anticipated that this activity will be completed by February, 1984.

In addition to the progress reports and projections developed for this activity, the following drawings were reviewed:

- . S&L drawing S-30-03A Plan Finish Slab at Elevation
- . S&L drawing S-30-04 Plan Finish Slab at Elevation

These activities will continue to be reviewed during future inspection.

- d. (Open) 10 CFR 50.55(e) Item (50-461/83-06-EE) Structural Steel Welds by Rockwell Engineering.

Vendor shop welding deficiencies were identified on certain structural steel members supplied by Rockwell Engineering. These members are columns used to provide lateral support for concrete block walls. During onsite modifications to a block wall column, a deficient vendor shop weld was identified. This is one (1) of three (3) used to attach a connection angle to the column. The modification work was being performed per Field Change Request (FCR) 17033. This FCR required, as part of the modification, removal of the connection angle. Inspection revealed there was no fusion with the base metal. An investigation was initiated to determine the scope of this problem.

The inspector reviewed the above mentioned FCR, a selected number of applicable purchase orders which the licensee reviewed in order to identify those columns with unmodified welded connections, and two Deviation Reports (DR) 5815 and 10303.

The licensee's efforts together with B. A. Technical Services identified fifty-eight (58) columns. An inspection by B. A. Technical Services identified fifty-seven (57) columns with varying deficiencies from cosmetic to potentially structurally significant. These conditions are documented on the above mentioned DR's.

To evaluate the root causes of the potential welding deficiencies, and to eliminate the cosmetic deficiencies identified, the welds on twenty-two erected columns were field ground to sound metal and reinspected. This inspection provided detailed information and sketches of the remaining welds for onsite evaluation. Thirty-five (35) columns that had not been installed were returned for evaluation and were repaired in the vendor's shop. Inspection reports associated with this effort were reviewed by the inspector.

The evaluations indicated a trend in inadequate connection angle welds parallel to the flanges of 6" and 8" columns. This trend was caused by lack of accessibility to properly position the electrode during welding of these connection angles. As a result of this, the scope of the investigation was increased to include all safety-related block wall columns to assure adequacy in meeting design requirements.

The licensee's corrective action and that of his contractor have been documented in inspection report 50-461/84-07. The licensee has identified all installed safety-related block wall support columns which have had weld deficiencies and tabulated these in a Historical Matrix. Of the total identified, 362 columns are inaccessible. S&L has evaluated these and reported the following:

- a. 100 of these are acceptable as-is, even if no weld exists between the connection angle and column.
- b. The remaining 262 columns are being evaluated by Nuclear Station Engineering Department (NSED). They have requested S&L to reevaluate their calculations. This information will be available by mid-October.

In addition to the support columns identified above, 369 "other" steel members were supplied by Rockwell Engineering. "Other" is defined as structural members other than block wall columns. These include steel support and main framing members, Tee sections for the Gas Boundary, etc. Initially a 20% sample size was selected for this inspection. Sixty-four structural steel members were inspected. The number of deficiencies found and evaluated by S&L made it unlikely that acceptance criteria could be met. Based upon S&L's recommendation, 100% of all Rockwell "other" steel has been inspected and deficiencies analyzed for acceptance "as-is" or rework. This is expected to be completed by mid-November. At this time a revised final report or a revised-interim report will be issued. Based upon this status this will continue to be monitored.

3. Followup on Allegations

a. Allegation Region III (RIII-84-A-0102)

On July 19, 1984, the Concerned Citizens of DeWitt County wrote a letter to the Region III Office describing the following:

1. The General Pipe Fitting Superintendent is timing the inspectors from Technical Service and Quality Control, pushing for speedy inspections, rather than safe and thorough ones.
2. This man has instructed supervisors under him to instruct their welders to violate interpass temperatures on stainless steel.
3. This man has threatened welders with dismissals if they didn't violate Technical Services Procedures.

NRC Findings

Illinois Power is performing a work sampling program in order to identify construction delays. Baldwin Associates have been asked to identify any nonproductive time due to waiting. It appears that some production foremen blamed delays on waiting for QC inspections. A time study of sorts was performed by Baldwin under the direction of the General Pipefitting Superintendent to prove or disprove construction delays due to untimely inspections. There is no indication that suggests a push for unsafe or incomplete inspections.

Fifteen workers, consisting of The General Pipefitting Superintendent, General Foremen, Foremen, and welders were interviewed. In no case was there any indication that supervisors or craft were asked to violate interpass temperatures called for on the welding procedures. On the contrary in most cases the workers interviewed felt that there is more than adequate quality control on the site. The issue of interpass temperature came about when the General Pipefitting Superintendent found out that an inspector had improperly instructed welders on the meaning of interpass temperature. The inspector as well as his supervisor was confronted with the problem and it was agreed that the inspector was imposing a much more strict requirement than was intended by the welding procedure or code. Everyone was then reinstructed as to the meaning and measurement of interpass temperature. From a technical standpoint, the inspector was asking for control of interpass temperatures above and beyond procedural and code requirements. Some welders, may have felt that this reinstruction was in violation of what they had previously been told, thus the misunderstanding.

Out of the fifteen men interviewed, there was no knowledge of any dismissal threats to any welders. The welders are aware that deliberate violation of procedures is grounds for dismissal. In conclusion there was no evidence to support the allegation. It is therefore considered unsubstantiated.

b. (Closed Allegation (RIII-83-A-0178-05)(28-05))

This is part of a larger allegation which was documented in Inspection Report No. 50-461/84-18.

The inspectors reviewed the personnel certifications and qualifications of thirty auditors, receipt inspectors, and document reviewers from both the Quality and Construction Engineering Groups. The original allegation referred to "undegreed, unqualified, and unregistered" engineers performing reviews of a technical nature in a broad range of areas.

The inspector determined from the review that the personnel were qualified for their positions per the requirements of ANSI N45.2.6 and ANSI N45.2.23.

These records revealed that the personnel met the educational, experience and specific on-the-job training requirements for the job descriptions and functions they were performing.

Based upon this review and interviews conducted this allegation could not be substantiated.

4. Exit Interview

The inspectors met with licensee personnel (see persons contacted) at the conclusion of this inspection and discussed the inspection scope and findings.