

U.S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report No. 50-461/81-14

Docket No. 50-461

License No. CPPR-137

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

Facility Name: Clinton Power Station, Unit 1

Inspection At: Clinton Site, Clinton, IL

Inspection Conducted: June 5-6, 1981

Inspector: *D. H. Danielson*  
J. T. Yin

6/19/81

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

6/19/81

Inspection Summary

Inspection on June 5-6, 1981 (Report No. 50-461/81-14)

Areas Inspected: Followup on piping suspension system and penetration assembly corrective measures taken in response to Region III Immediate Action Letter dated March 5, 1981. The inspection involved a total of 16 inspector-hours onsite by one NRC inspector.

Results: No items of noncompliance or deviations were identified.

## DETAILS

### Persons Contacted

#### Illinois Power Company (IP)

- \*G. M. Brashear, Manager of Clinton Site
- \*J. D. Geier, Manager - NSED
- \*A. J. Budnick, Director of QA
- \*M. C. Hollon, Construction QA Supervisor
- J. S. Spencer, Director, Design Engineering

#### Baldwin Associates, Inc. (BA)

- \*H. R. Swift, Project Engineer
- \*F. Camasta, Assistant Piping Superintendent
- \*T. Selva, Manager, Q and TS
- J. W. Smart, Manager of QA
- \*L. A. Gelbert, Manager of QC
- \*R. Forbes, Senior QA Engineer
- \*R. C. Campbell, Senior QC Engineer

\*Denotes those attending the management exit interview on June 6, 1981.

### Licensee Action on Previously Identified Items

(Closed) Unresolved Item (461/81-07-01): Questionable areas identified during the inspector's review of hanger installation and inspection program procedures. Concerned items included: (1) bolt pattern deviations, (2) large gaps on restraints, (3) hydraulic snubber inspection checklists, and (4) Phase I welding inspection requirements. These concerns are addressed in the revised BA manuals. Resolution details are discussed in Paragraph 1.a through 1.d of this report.

### Functional or Program Areas Inspected

#### 1. Review of Hanger Program Provisions

In conjunction with Region III Inspection Report No. 50-461/81-07, Paragraph 1, "Procedure Review," and Paragraph 2, "Documentation Review," the inspector reviewed the following revised BA procedures:

- . BAP 3.2.5, "Piping Component Supports," Revision 1, dated May 7, 1981
- . TS Instruction, "Piping Hanger Visual Inspection," Revision 1, dated April 16, 1981
- . TS Procedure Specification for "Visual Inspection Weldments," Revision 11, dated April 17, 1981
- . QCI, "Piping/Mechanical QC Inspection Criteria - Hangers and Supports," Revision 1, dated April 11, 1981

The inspector considers that the five issues addressed in the referenced inspection report have been resolved.

- a. Relative to the bolt pattern change, the four bolt square plate installation tolerance was checked by S&L and found to be acceptable. Design bolt locations will be evaluated by S&L on a case by case basis.
- b. Installation requirements for box type pipe guides with large gap clearances were explained in detail by the field piping engineer. He stated that the QC inspectors were indoctrinated to make them aware of the acceptance criteria.
- c. At present, there are no hydraulic snubbers at the site or planned for installation in the near future. Checklist items were voided on Form TV-693 on June 5, 1981.
- d. Phase I welding inspections, including check of location, orientation, and fitup, were established in the recently approved TS instructions and QC procedures.
- e. The requirement for the site QC inspector to document any deficiencies found during each phase of the hanger inspections was further reviewed by the inspector. Such requirement was prescribed in all inspection checklists, and in BA project, TS, and QC instructions and procedures.

No items of noncompliance or deviations were identified as a result of the program review.

## 2. Review of Hanger Audit and Surveillance Reports

The inspector reviewed the subject reports including audit and surveillance checklists. In addition, a trend analysis program was implemented by BA QA in May 1981. The hanger trending program requirements are established in QA Instruction Manual, BQAI 160-2, "QA Review of Piping Component Support Inspection Checklists," Revision 0, dated April 11, 1981.

Some of the audit and surveillance reports reviewed by the inspector included:

- . IP QA Surveillance Plan and Report, File No. Q24-81(05-20)-L, dated May 4-15, 1981.
- . IP QA Surveillance Plan and Report, File No. Q24-81(05-29)-I, dated May 18-29, 1981.
- . BA External Audit Report No. E-280, audit of BE, Johnstown, PA dated April 14, 1981.
- . BA External Audit Report No. E-281, audit of BE, Pittsburgh and Etna, PA dated April 15, 1981.

- . BA Supplier QC Activity Report No. C-6110.15, dated May 21, 1981.
- . BA Supplier QC Activity Report No. C-6110.16, dated May 22, 1981
- . BA Site Surveillance Report No. S-468, "Component Traveler Review - Second Limited Work Release," dated June 4, 1981
- . BA QA Component Support Trend Analysis dated May 1981

No items of noncompliance or deviations were identified as a result of the procedure, audit, surveillance, and trend analysis review.

### 3. Observation of Hanger Installations

On June 6, 1981, the inspector selected seven hangers and restraints for observation. These components are installed in the Diesel Generator Building, Auxiliary Building, and Fuel Building. The first four on the list were installed subsequent to the revised hanger program.

- . 1SX0900R
- . 1SX63028X
- . 1SC12006R
- . 1VG03019R
- . 1RH20001R
- . 1SX26013X
- . 1FC03050V

As result of the observation, the inspector concluded that QC inspection for the above components was adequate.

In regard to the installation of 1RH20001R, a sway strut unit connected to a floor mount structural frame, the inspector questioned the existing conditions in three areas: (1) there was no clearance between the pipe clamp and the vertical structural frame members, yet the design did not call for a horizontal restraint; (2) one of the frame vertical members was welded approximately  $\frac{1}{2}$  inch from the floor embedment plate edge. One and one-half inch minimum edge distance is required for a ceiling plate, as specified BAP 3.2.5. The inspector questioned whether the ceiling plate requirement should apply to the floor plate since the loading conditions are the same; (3) the standard 15" x 15" anchor bolt attachment plate thickness is one inch; however, the 15" x 15" embedment plate observed was only one-half inch thick. The inspector questioned whether or not rigidity of the floor plate was considered. The inspector stated that he will followup on these items during a future site inspection. This is considered an unresolved item.  
(461/81-14-01)

No items of noncompliance or deviations were identified.

#### 4. Observation of Pipe Penetration Test

On June 5, 1981, the inspector observed tests being performed on the six inch Reactor Water Cleanup System pipe penetration assembly. The purpose of the tests was to determine if preload exists between the process pipe and the guard pipe seismic guide shoes. Dial indications of 0.002 to 0.003 inch of movement were observed when a series of manually applied forces were applied to the process pipe. This could possibly indicate that a minimum or no preload existed within the assembly. The inspector's observation of these tests was in conjunction with a design evaluation meeting held in the S&L office with the S&L design engineer and IP engineering management personnel on April 27, 1981. During the meeting, questions were raised that the S&L considered stresses at zero gap clearance between the process pipe and the seismic shoes did not include possible preloading of the system due to weld distortion and shrinkage.

For the remaining set of seismic shoes to be installed on the eight inch RCIC System guard pipe assembly in the main steam tunnel, improved installation procedures were established on June 5, 1981. In discussion with IP management, the inspector agreed that the stop work imposed by the March 5, 1981, Region III Immediate Action Letter, could be lifted. However, the inspector requested that the licensee submit a formal report to Region III by August 15, 1981, documenting the tests and evaluations that concluded the existing conditions were not a safety problem. It was noted that this report should include functional verification of the pipe penetration assemblies that will be conducted during the startup and testing program. The licensee agreed to submit the report.

#### Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. An unresolved item disclosed during the inspection is discussed in Paragraph 3.

#### Exit Interview

The inspector met with the licensee representatives (denoted under Persons Contacted) at the conclusion of the inspection on June 6, 1981. The inspector summarized the purpose and findings of the inspection. The licensee acknowledged the findings reported herein.