

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

REGION III

Report No. 50-461/80-17

Docket No. 50-461

License No. CPPR-137

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

Facility Name: Clinton Power Station, Unit 1

Inspection At: Clinton Site, Clinton, IL

Inspection Conducted: August 1-31, 1980

Inspector: *F. M. Weirath for*
H. H. Livermore

9-11-80

Approved By: *F. M. Weirath for*
R. G. Knop, Chief
Projects Section 1

9-11-80

Inspection Summary

Inspection on August 1-31, 1980 (Report No. 50-461/80-17)

Areas Inspected: Routine inspection by the IE Regional Resident Inspector (SRI) of safety related construction activities including concrete placements, material laydown and storage areas, fire prevention/protection, electrical equipment installations, weld rod control, structural steel and containment liner activities. This inspection involved 110 inspector hours by one NRC resident inspector.

Results: Of the areas inspected, one item of noncompliance and two unresolved items were identified.

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DETAILS

Persons Contacted

Principal Licensee Employees

- *G. M. Brasher, Site Manager, Clinton
- *R. J. Canfield, Director-Construction
- *A. J. Budnick, Director-QA
- *E. E. Connon, Assistant Director-Construction
- *L. W. Dozier, Assistant Director-Construction
- *D. E. Korneman, Construction
- *J. F. Hampton, Supervisor-QA
- *R. W. Folck, QA Specialist
- *J. S. Spencer, Director-Engineering
 - R. Backen, QA Specialist
 - R. Weber, QA Engineer
 - R. Becker, QA Consultant
- *J. M. King, Assistant Director-Construction
- *L. J. Koch, Vice President
- *J. McHood, Vice President
- *J. Geier, Manager-General Engineering
- *J. McCormick, Civil Engineer
- *F. Schwarz, Civil/Structural
- *J. R. Hudson, ANI
- *M. J. King, ANI

Baldwin Associates

- *J. R. Smart, QA Manager
- *R. Selva, Manager, Quality and Technical Services
- *J. Linehan, QC Manager
- *W. H. Harrington, Project Manager
- *J. E. Findley, Project Engineer
 - M. Merritt, Quality Control
- *T. F. Walker, Senior Quality Control
- *R. D. Bennett, Manager, Technical Services
- *G. Lane, Electrical, QC
- *T. G. Yearick, Assistant to Manager
- *C. E. Winfrey, QC
- *W. O'Brien, QC Piping
- *H. R. Swift, Assistant Project Engr.
- *D. H. Smither, Assistant Project Manager
- *B. A. Curby, Vice President

General Electric Company

- *S. G. Hall, Quality Control
- J. L. Dempster, Site Manager

Sargent and Lundy

*R. C. Heider, Project Manager

Other staff and personnel were contacted during the reporting period.

*Denotes those attending at least one of the exit meetings.

Licensee Action on Previously Identified Items

(Closed) Infraction (80-10-1) - A three inch hole cut in the containment dry well wall without approved procedures, work control, or design change. The hole has been repaired to approved disposition and procedure. By personal instruction and interoffice memo, applicable workers and supervision of Illinois Power and Baldwin Associates have been instructed that proper paper work is required when working on any safety related material, or equipment. Illinois Power has also written a clarification letter of the formal response to the NRC infraction (U-0165; U0159). Actions are acceptable and appear to be sufficient.

(Closed) Unresolved Item (80-16-02) - Rigging of loads from installed safety related piping. The Contractor has instituted controls on the subject practice. All superintendents were notified by internal memo, and BAP 2.11 procedure was revised to state that under no circumstances shall rigging or hoisting be attempted off of safety related equipment or piping. Exceptions must be approved in writing by the Architect Engineer and the Owner, prior to initiation of work. Actions by the Contractor are acceptable and appear to be sufficient.

(Closed) Unresolved Item (80-16-01) - Seismic Qualification of HVAC duct longitudinal joints. The Architect Engineer Sargent & Lundy project HVAC supervisor has provided a letter indicating that pressure test have demonstrated the strength of the HVAC duct longitudinal joint (Pittsburgh Lock Seam). The subject joint held pressure and configuration until after deformation and buckling of other areas of the ducting. The inspector has no further questions in this area.

(Closed) Unresolved Item (80-16-03) Routing of Drain Lines Over and in Near Proximity to Class 1E Electrical Cable Trays. This item has been upgraded to a Noncompliance-infraction. See Paragraph 4. (80-17-01).

Functional or Program Areas Inspected

1. Plant Tours

One or more plant areas were toured several times each week during the reporting period to observe general construction practices, area cleanliness, and storage/maintenance of material and equipment.

Item of noncompliance is discussed in paragraph 4.

2. Welding Rod Control

During the reporting period, weld rod issue stations of Baldwin Associates and the Zack Company were toured. The subject stations are located in the main east/west aisle of the 737' level of the Control Building, and adjacent to the south wall of the Diesel Generator Building 737' level. The resident inspector determined that weld material was properly segregated, temperature in band, calibration within date, and insured there was no food or foreign substances in the ovens.

No items of noncompliance or deviation were identified.

3. Inspection of Material and Component Storage Areas

During the span of the reporting period, the resident inspector toured the yard and powerblock storage areas several times. Safety related material was segregated, off the ground, protected, and in general, adequately stored. Minor problem areas were corrected on the spot by local supervision.

No items of noncompliance or deviation were identified.

4. Routing of Drain Lines Over and in Near Proximity to Class 1E (Safety Related) Electrical Cable Trays

The resident inspector's report of Clinton activities of July, 1980, (50-461/80-16) noted this subject as an Unresolved Item (80-16-03).

This item has been upgraded to a noncompliance-infracation. Electrical systems and structures are required to be designed to withstand the effects of Safe Shutdown Earthquake (SSE) and remain functional. Other systems, such as drain lines and hangers, when in close proximity to Class 1E Electrical Systems (Cable Trays), shall be designed to insure their failue will not reduce the functioning of the Class 1E Electrical System. One particular example of where this design requirement was not met is in the Power Block Fuel Building (southwest corner) at the ceiling of the 712' level (location A1-104 approx.). Non Seismic Category I drain lines are routed across and in near proximity to Class 1E Electrical Cable Trays P2E181A&B and P2E185A&B. These trays will house some 60 Class 1E power and control cables that feed Seismic Category I (safety related) systems such as: Shutdown Service Water, Component Cooling Water, Fuel Pool, and Auxiliary Power with associated valves, switchgear, and motor controllers. The licensee was first informed of this situation on May 30, 1980, and again with the referenced Unresolved Item on July 3, 1980.

This item is considered in noncompliance with the requirements of 10 CFR 50, Appendix B, Criterion III, and USNRC Regulatory Guide 1.29, Section C.2, and Clinton PSAR, Volume 3, Sections 3.1.2.1.4, 3.2.1, and 3.7.5.1. (461/80-17-01).

5. Possible Damage to Control Building Structural Beam

The resident inspector notified the Licensee that four structural beams in the Control Building may have been damaged by welding during HVAC hanger installation. The area in question is the ceiling structural beams in the 800' level of the Control Building. During installation of the HVAC hanger gusset plates (9x9x1/2) to the structural I-beam flanges (-1/2" x 8"), high welding heat and deposition rate coupled with insulation, may have caused damage and warpage to the structural beams. The four hangers and four beams involved were pointed out to the licensee.

This is considered an Unresolved Item (461/80-17-02).

6. Screen House Fire Pump Installation

During a fire protection surveillance of the screenhouse, the resident inspector noted the following omissions in the FP001 traveler package: QC hold points had been bypassed during pump installation, QC signoffs were not current with work progression, mechanical inspection forms and equipment installation traveler form M22P-01 were not complete or current with on-going work. NRC 3226 had been issued and the licensee indicated that the bypassed steps had been witnessed by construction and that pump performance would be verified during preoperational testing. The inspector determined that there was no evidence that the disposition had been coordinated with Start-Up Engineering to insure that pre-operational testing would adequately cover the inspection steps missed by QC. The inspector also noted that there was no documented evidence of instruction to the foreman and worker level concerning the importance of not bypassing QC hold points. These concerns were related to the licensee. The resident inspector later verified that a construction civil engineer witnessed each installation step (subject QC hold points) and had so initialed the traveler steps. The Contractor QC took followup action to update the traveler package to a current status. The licensee took remedial action by memo to formally coordinate with the Start-Up Engineer and thereby insure a minimum two hour preoperational test. The Contractor held two days of training sessions for workers and foremen stressing the importance and procedure for QC and Tech Service Hold Points. Corrective action was satisfactory. This item was reported as an Unresolved Item on August 8, 1980 and is now considered closed.

No items of noncompliance or deviation were identified.

7. Welding of Appurtenances to Containment Liners

Appurtenances such as scaffold brackets, gussets, etc. have been welded to the inside drywell wall liner and the containment wall liner without the normal controls afforded safety related equipment (traveler, QC Inspection, NDE, etc.). The licensee was requested to demonstrate that damage to the liners has not taken place or that the function of the liners has not been abrogated. Stairway gussets

are welded to the inside drywell wall liner without traveler, QC inspection, or other safety related controls. The stairway is located -130' inside the drywell wall from 737' level on upwards. Stairways are not classified Seismic Category I, therefore, the inspector requested the licensee to consider the following and demonstrate that the integrity of the installed safety related material has not or will not be compromised:

1. Is the liner designed to support the stair loads at the gusset plate attachment points?
2. If the stairway assembly were to break loose, possibly break apart and fall during a Seismic Event:
 - a. Would the attachments (gussets) damage the lines as they go out or create a zipper effect on the liner?
 - b. Would nearby safety related equipment be damaged?

Ref: USNRC Reg. Guide 1.29 and S&L K Spec. 2897 Pg. 306.5c.

This is considered an Unresolved Item (461/80-17-03).

8. Concrete Placement

The resident inspector performed surveillances of the following concrete placements:

8/15/80	CT-1W-14-2A	Traveler 1346	235 yards
	CT-1W-14-1	Traveler 1347	80 yards
	CT-S-11-1A	Traveler 1345	160 yards
8/21/80	CT-S-11-1	Traveler 1348	125 yards
	CT-S-10-1	Traveler 1301	4 yards
	CT-1W-14-2	Traveler 1349	290 yards
	CT.1W-14-4A	Traveler 1321	10 yards
8/27/80	FR4-1	Traveler 1366	750 yards

The concrete pours were for the Fuel Building Roof and the Containment walls and slabs around the perimeter of the upper fuel pool and heat exchangers at the 825' level. The following conditions were noted:

- a. Preplacement and preinspection checklists were completed by QC.
- b. Roving surveillance was performed by the Contractor QC personnel and performance was adequate.
- c. Concrete test personnel performed air, temperature, and slump test correctly. Results checked were in specification limits.

- d. The resident inspector noted that the placement area was clear and free of standing water prior to concrete placement. Rebar cross tie fastenings were tight, and form to rebar edge distance appeared satisfactory.
- e. Placement crews were adequate and consolidation technique was correct. Concrete delivery and placement were satisfactory. The inspector entered the heat exchanger wells and using the hammer-echo technique on the wall forms, checked for voids as the pour progressed upwards. As voids were detected, consolidation was repeated. Subsequent form removal indicated acceptable concrete wall finish/consistency.

No items of noncompliance or deviation were identified.

9. Installation of Electrical Equipment

The resident inspector performed a surveillance of the handling and installation of electrical motor control cabinets MCC1B and MCC1A (1AP60E and 1AP61E) in the 737' level of the Diesel Generator Building. Installation was controlled by Traveler AP028 Rev 0 and drawing E30-1001-04 B-E1 Rev B. Traveler documentation was checked for completeness (steps 10-35) and the drawing was checked for the latest revision release. Outstanding FCRs 3679, 4547, 5572 and ECN 1696 were reviewed for installation applicability. The inspector noted that rigging and handling of the cabinets was performed adequately with the furnished lifting angles. The inspector checked the MCC1A cabinet location (actual vs drawing). Column 128 to cabinet and AC wall to cabinet location dimensions appeared to be correct.

No items of noncompliance or deviation were identified.

Unresolved Matters

Unresolved matters are items about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. Two unresolved items disclosed during this inspection are discussed in paragraphs 5 and 7.

Exit Meetings

The resident inspector attended an exit meeting conducted by the RIII Inspectors H. M. Wescott and Z. Cordero on August 8, 1980. The inspector met with the licensee representatives (denoted under Persons Contacted) on August 8, 15, 22, and 29, 1980. The inspector summarized the scope and findings of the inspections performed. The licensee representatives acknowledged the findings reported in previous paragraphs.

POOR ORIGINAL

OFFICE OF THE REGIONAL COMMISSIONER

PRELIMINARY INSPECTION FINDINGS

1. LICENSEE <i>Illinois</i>	2. REGIONAL OFFICE <i>Region III</i>	
3. DOCKET NUMBERS <i>50-461</i>	4. LICENSE NUMBERS <i>CFR-127</i>	5. DATE OF INSPECTION <i>5-1-68</i>

6. Within the scope of the inspection, no items of noncompliance or deviation were found.

7. The following matters are preliminary inspection findings:

8. These preliminary inspection findings will be reviewed by the Regional Management at the Region III Office and they will coordinate with you concerning any enforcement action.

[Signature]
Nuclear Regulatory Commission Inspector
[Signature]

POOR ORIGINAL

PRELIMINARY INSPECTION FINDINGS

1. LICENSEE

J. Henry Purr

2. REGIONAL OFFICE

III
Keokuk

3. DOCKET NUMBERS

4. LICENSE NUMBERS

5. DATE OF INSPECTION

8/18 - 22/52

6. Within the scope of the inspection, no items of noncompliance or deviation were found.

7. The following matters are preliminary inspection findings:

One unrecorded item in regards to Containment Building Well Insurs. - [unclear]

8. These preliminary inspection findings will be reviewed by NRC Supervision/Management at the Region III Office and they will correspond with you concerning any enforcement action.

H. Lawrence 8/22
Nuclear Regulatory Commission Inspector

Unresolved Items

I Appurtenances such as scaffold brackets, etc. have been welded to the safety related drywell wall lining and the containment wall liner, without some of the normal controls afforded safety related equipment (tagout, GC lockout, WPE, etc). Please demonstrate that damage to the liners has not taken place or that the function of the liners has not been impaired.

II Stairway guarding prohibited to safety related equipment (tagout, GC lockout, WPE, etc) or other safety related equipment. The stairway is approximately 100' wide and drywell wall is 123' high on upstream. Stairways are now classified Seismic Category I, therefore, provide:

(cont)

POOR ORIGINAL

the following and demonstrate that the integrity of the installed safety related ^{material} has not or will not be compromised:

1. Do the liner design need to support the station loads at the gusset plate attachment points.
2. If the station assembly were to break loose, please break apart, and fall during a seismic event:
 - a.) Would the attachments (gussets) damage the liner as they fall? Create a danger effect on the liner?
 - b.) Would nearby safety related equipment be damaged?

Reference

Reg Guide 1.29

K Spc 2897 Pg 306.5c

H Lurman E.I.

POOR ORIGINAL

OFFICE OF INSPECTION

PRELIMINARY INSPECTION FINDINGS

1. LICENSEE

Illinois Power

2. REGIONAL OFFICE

III
Resident

3. DOCKET NUMBERS

50-761

4. LICENSE NUMBERS

CFR-137

5. DATE OF INSPECTION

8/4 - 8/80

6. Within the scope of the inspection, no items of noncompliance or deviation were found.

7. The following matters are preliminary inspection findings:

- ① Closed unrecorded steel Rigging from the Ratchet Pipe
- ② Closed unrecorded steel Seismic Analysis of HVAC horizontal joints (Partially fold-over)
- ③ Antitank Open Station Seismic Fire Pump. Transfer to the NCR 5-26.
- Additional drawings existing with foreman involved (eg. by using GC Hold Points)
- Pre-op coordination documentation.

8. These preliminary inspection findings will be reviewed by NRC Supervision/Management at the Region III Office and they will correspond with you concerning any enforcement action.

[Signature]
Nuclear Regulatory Commission Inspector

8-11-80