

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-461/84-29(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: October 1-5, 1984

Inspectors: R. S. Love *[Signature]*

11/1/84
Date

K. S. Tan *[Signature]*

11/1/84
Date

Approved By: *[Signature]*
C. C. Williams, Chief
Plant Systems Section

11/1/84
Date

Inspection Summary

Inspection on October 1-5, 1984 (Report No. 50-451/84-29(DSRS))

Areas Inspected: Routine, unannounced inspection of licensee actions on previous inspection findings; construction deficiency reports; allegations; records; and reinspection program in the electrical areas. This inspection involved a total of 72 inspection-hours on site by 2 NRC inspectors.

Results: Of the areas inspected, no items of noncompliance or deviations were identified.

DETAILS

1. Persons Contacted

Illinois Power Company (IPCo)

*W. C. Gerstner, Executive Vice President
*D. P. Hall, Vice President
*W. Connell, Manager of Quality Assurance
*J. Karr, Quality Recovery Program Manager
*E. Kant, Director of Nuclear Safety
*J. G. Cook, Assistant Plant Manager
*J. H. Greene, Manager of Startup
*H. E. Daniels, Jr., Project Manager
*F. A. Spangenberg, Jr., Director of Nuclear Licensing
*J. E. Loomis, Construction Manager
*E. K. Graybill, Technical Advisor
*J. R. Sprague, Station QA Specialist
D. W. Wilson, Supervisor of Licensing - Operations (Acting)
J. S. Spencer, Director - Design Engineering (NSED)
R. E. Campbell, Director - Quality Systems and Audits
M. C. Hollon, Quality Projects Coordinator
S. A. Brothers, Staff Engineer (NSED)
L. Minnish, Supervisor of Procurement
C. E. Calhoun, Quality Project Coordinator

Baldwin Associates (BA)

*A. King, Project Manager
*L. W. Osborne, Manager of Quality and Technical Services
E. P. Rosol, Deputy Project Manager
S. Lyons, Superintendent of Engineering
J. Wiley, Electrical Superintendent
J. Sprague, Procurement Surveillance Engineer

Nuclear Power Services, Inc. (NPS)

T. R. Bietsch, Consultant

Sargent and Lundy (S&L)

B. Ventura, Mechanical Site Liaison Engineer

Burns and Roe (B&R)

H. Khalaf, Project Engineer

The inspectors also contacted and interviewed other licensee and contractor personnel during this reporting period.

*Denotes those present at the exit interview on October 5, 1984.

2. Allegations

a. Concern (RIII-84-A-0003) (#66)

On January 11, 1984, the NRC resident inspector at Clinton received the following anonymous allegation. The allegor stated that, "The Quality and Technical Services (Q&TS) personnel are tired of our own lead men (by name) making deals with the new S&W (Stone and Webster Engineering Corporation) group leaders, sacrificing quality and making it even more difficult to inspect quality and tech services attributes at the Clinton power station. The latest trick that they have pulled on us is that they have eliminated the tolerance sheets for instrument hangers in the newly issued travelers."

The allegor stated that there is a policy for the BA ISO draftsmen to put out more drawings with less emphasis on accuracy. The drafting supervisors have no concern for accuracy and openly encourage and expect a certain amount of error.

NRC Followup

During a review of instrumentation hanger traveler packages and personnel interviews, the inspector was able to verify that at one point in time, various tolerances were in fact noted on a traveler supplement (Form HP 488-2). The inspector was informed that the primary reasons for removal of tolerances from the traveler packages were: (1) when the M09-1001N, M09-1003N, or M09-1004N series of S&L drawings were revised, the travelers had to be revised to incorporate the new requirements and if a traveler was missed, the hanger was not installed per the latest drawings; and (2) when the traveler supplement was prepared, the tolerance numbers were often times transposed. An example as provided by a instrumentation QC inspector was, in a straight run of instrument piping with an installed valve, the hanger adjacent to the valve may be located up to 6" closer to the valve but only 2" away from the valve. The QC inspector stated that he remembered several instances where the 6" and 2" tolerances were reversed on the traveler supplement. When the craft used this tolerance, the hanger was rejected by the QC inspector who was utilizing the hanger, installation and M09 Series drawings to inspect the hanger. The inspector interviewed 3 of 5 instrument QC inspectors and 6 of 11 instrument field engineers. None of the personnel interviewed were in favor of putting the various hanger tolerances back into the traveler package. All thought that the number of rejected hangers for location violations would be reduced because everyone now works to the applicable drawings. No evidence of "deals" being made was detected.

With respect to possible BA drafting errors, all drawings are reviewed and approved by personnel outside the BA drafting organization. If drafting errors are made, they should be identified during the review and approval cycle and sent back to drafting for correction. If a BA drafting error should go unidentified, it would be identified during final or inprocess inspection by QC in that they utilize S&L drawings

for inspection purposes. As-built drafting errors would be identified during the final walkdown for system turn-over. In addition, as part of the routine inspection effort, the NRC inspector utilizes both the BA and S&L drawings to walkdown a sample of the installations. The deficiencies identified to date have been installation and documentation discrepancies. Drafting errors by BA have not been identified as a problem area by the Region III inspectors.

Conclusions

The allegations were partially substantiated; however, the removal of the hanger tolerance sheets from the traveler package now assures that the applicable drawings are utilized by craft, engineering and the QC inspector to install and accept the hanger. Collusion between Q&TS and S&W personnel could not be substantiated.

With respect to possible BA drafting errors, this allegation could not be substantiated. The review system would identify drafting error before it becomes a problem.

b. Concern (RIII-84-A-0118) (#98)

On August 2, 1984, the NRC resident inspector received the following anonymous allegation: The allogger stated that "A Field Engineer (by name) was terminated for refusing to sign a FCR (Field Change Request) generated by the craft. He was directed by the Assistant Superintendent not to look at the installed condition of instrumentation in the field but to write the FCR and sign it based on craft information only. All field engineers in instrumentation are being intimidated in this same manner." This allegation was also provided to the Clinton SAFETEAM.

NOTE: The SAFETEAM is an independent organization at the Clinton Station responsible for receiving and investigating allegation and concerns. For details of this organization see IE Inspection Report 461/84-25.

NRC Followup

The Region III inspector reviewed the SAFETEAM Report (Concern No. 10305) and found it to be adequate. As a result of licensee's review of this allegation, the following actions were taken by the licensee:

- . field engineer reinstated with back pay,
- . Letter of reprimand issued to the supervisor,
- . The BA Deputy Project Manager conducted interviews with personnel within the Piping Department to receive input and to apprise them of BA management's philosophy in the day to day operation of the Piping Department,
- . An organization change effective September 3, 1984, transferred all field engineers under the Senior Piping Superintendent, with the exception of the Senior Lead Field Engineer, to resident engineering.

The Region III inspector interviewed the Field Engineer that had been terminated. The engineer stated that he was satisfied with the actions which had been taken by SAFETEAM and BA management. In that the Engineer stated that he knew the anonymous alleger, the Region III inspector requested that he have the alleger call the Clinton NRC office. The anonymous alleger telephonically contacted the Region III inspector on October 3, 1984. The alleger also stated that he was satisfied with the action taken on his concern.

To ascertain the effectiveness of the reorganization and freedom of the field engineers to exercise their abilities, 6 of 11 instrument field engineers (excluding the "terminated" field engineer) were interviewed. During this interview, the inspector was shown various FCRs that were being prepared by the engineers. The engineers interviewed stated that they had a good working relationship with the craft and QC inspectors. Their problem with FCRs is that in many cases, S&L onsite engineers will disapprove their disposition without verifying field conditions, thereby causing an additional FCR to be prepared. This concern was discussed with upper IPCo management during the exit interview on October 5, 1984. With the exception of the above mentioned concern, all of the engineers interviewed stated that they had the responsibility and freedom to disposition FCRs as they perceived the situation. The inspector was also informed that in many cases, craft and engineering would identify potential interferences before-the-fact by using string in place of the instrument piping.

Conclusions

This allegation was substantiated. The corrective action taken by the licensee satisfied the concerns of the alleger and the Region III inspectors.

c. Concern

On October 3, 1984, the Region III inspector received an anonymous telephone call representing the field engineers interviewed on October 2, 1984 (Ref. Paragraphs a and b above). The engineer (not identified by name) stated that after they (6 engineers) were interviewed by the NRC inspector, they were interrogated by their supervisor (by name). He stated that the supervisor wanted to know: (1) what questions were asked; (2) what answers were provided; and (3) who provided the answers. He said that he did not think that his supervisor should be asking these type of questions. The inspector acknowledged this information and informed the caller that he would followup on his concern.

Licensee Action

As a result of a meeting between the IPCo Quality Assurance Manager and the NRC inspector on October 3, 1984, IPCo took the following actions on the above listed concern:

- . The IPCo Quality Assurance Manager met with the subject supervisor and BA management to discuss the instrument field engineer's and NRC inspector's concerns as to the supervisor's actions. The supervisor provided the names of the 6 engineers he questioned.
- . IPCo QA interviewed the 6 field engineers during the afternoon of October 3, 1984. Results of this interview indicated that 2 of 6 field engineers felt intimidated when questioned by their supervisor. At least one of the engineers informed the subject supervisor that he should not ask questions about what was discussed with the NRC.
- . All supervision (craft, engineering, quality) have been or will be reminded of an individual's privilege of confidentiality when meeting with an NRC inspector, SAFETEAM investigator, or any other investigator that IPCo or BA may employ. All new supervisors will receive training on this subject from the IPCo Quality Assurance Manager or his designee.
- . A letter of reprimand has been issued to the subject supervisor.

NRC Followup

The Region III inspector received three briefings from the IPCo Quality Assurance Manager. These briefings were provided at various stages of IPCo's investigation into the possible intimidation issue. The inspector interviewed the IPCo investigator and reviewed his investigation report. It appears that the subject supervisor was under the impression that the NRC inspector had identified problems in the instrumentation area and was attempting to find out what they were when he was questioning the engineers. The IPCo training program on an individual's privilege of confidentiality and the avoidance of intimidation should alleviate most of the problems in this area. The licensee's corrective action and corrective action to prevent recurrence appears to be adequate.

Conclusions

Based on the fact that two engineers stated that they felt intimidated by the questioning of their supervisors, this concern was substantiated. However, it appears that a contributing factor to this allegation was an over zealous supervisor, and the actions taken by the licensee were responsive to the allegers concern.

3. Licensee Action on Previously Identified Items

- a. (Closed) Unresolved item (461/81-05-19): It was previously identified that the licensee's control of procurement documentation appeared inadequate. The licensee was also requested to provide more information to enable the evaluation of the adequacy of procurement documentation control.

The inspector reviewed the licensee's response to the requested information and determined that the response appeared adequate. The inspector also reviewed the following procedures associated with procurement documentation control, written by Baldwin Associates:

- (1) BAP 2.0 Rev. 13 (Document Control)
- (2) BAP 2.1 Rev. 8 (Records Control)
- (3) BAP 2.1.1 Rev. 3 (Verification of BA Records)
- (4) BAP 2.3 Rev. 12 (Receiving & Issuance)
- (5) BAP 2.17 Rev. 9 (System/Sub-System Turnover)
- (6) BAP 2.20 Rev. 4 (Documentation Review)
- (7) BAQ-122 Rev. 5 (Requisitions and Purchase Orders)
- (8) BAQ-120-1 Rev. 3 (Documentation Checklist)

These procedures appeared adequate in achieving the control of procurement documentation. The inspector also reviewed Receipt and Inspection Report #R1R-S-22171 dated September 14, 1984 (Replacement Heaters) and it appeared adequate. An interview of BA personnel responsible for the review of documentation for technical adequacy and completeness was also conducted by the inspector. The individuals appeared to be familiar with the requirements of the above listed procedures. Based on the above observations, this item is closed.

- b. (Closed) Open item (461/81-25-04) It was previously identified that electrical cable pan rails and hangers were being used to support scaffolding. The inspector reviewed the licensee's program for inspection of the cable pan rails and hangers after the removal of the scaffolds, procedure #QCI-103 Rev. 1 dated March 23, 1984 (Scaffold Removal), scaffold removal logs and some scaffold removal inspection reports. These items that were reviewed by the inspector appeared adequate. During a field walkdown of the plant, the inspector did not observe cable pan rails and hangers being used to support scaffolds. The licensee had also stopped using the cable pan rails and hangers for supporting scaffolds as indicated by the scaffold removal log entry as of October 19, 1983. Based on the above observations, this item is closed.
- c. (Closed) Noncompliance (461/81-25-01) It was previously identified that there were no control provisions for monitoring cable temperature in storage 24 hours prior to cable pulling activities. The inspector reviewed procedure #BAP 2.4 Revision 10 dated August 14, 1984 (Storage & Maintenance) and BAP 3.3.2. Revision 13 (Cable Installation). Paragraph 4.9 of Procedure # 3.3.2 states that cables shall be stored in a heated place at a minimum of 60°F for at least 24 hours prior to pulling the cable. The inspector subsequently reviewed the temperature logging records at the cable cutting area and at storage area "B" where cables are pulled, and determined that the records appeared to be adequate as specified in procedure #BAP 3.3.2. The inspector also interviewed some of the storage/maintenance and cable pulling personnel with regards to their familiarity with procedural requirements in Procedure #BAP 2.4 and 3.3.2, and they appeared to be familiar with the requirements of both procedures in carrying out their duties. Based on the above observations, this item is closed.

- d. (Closed) Unresolved item (461/82-15-01): During a previous inspection it was identified that IPCo QA was not verifying that BA was in fact documenting discrepancies identified during audits and surveillances on nonconformance reports (NCR). The inspector reviewed IPCo QA Audit Q31-83-1, conducted March 7-11, 1983. This audit verified that discrepancies identified during BA audits and surveillance were in fact being documented on NCRs, DRs, or Corrective Action Requests (CAR), as applicable. During this inspection it was learned that the IPCo and BA audit and surveillance groups have been combined and is under the IPCo organization. Based on the above observations, this item is closed.
- e. (Closed) Noncompliance (461/82-02-10): During a previous inspection it was identified that certain installation steps and data requirements were omitted from the electrical penetration installation travelers. Following are the actions taken:
- (1) A vendor manual revision, deleted from Paragraph 6.10, the requirement to record the inert gas pressure.
 - (2) In that the lifting and insertion of the penetration assembly into the nozzle and construction damage to the penetration assemblies had been identified on NCRs, IPCo has submitted a 10 CFR 50.55(e) report to Region III (461/84-06-EE).
 - (3) For five penetrations, the torque wrench number and calibration due date were not documented. The torque on those five penetrations were verified and necessary data recorded.
 - (4) Applicable data was not available to determine the acceptability of the penetration leak rate tests. NCRs 16665 thru 16672 were prepared to document the indeterminate leak rate tests. Leak rate tests were performed and found acceptable and the applicable NCR was closed.

With the exception of item (2) above, all items were found acceptable. In that item (2) is being tracked by 50.55(e) report 461/84-06-EE, this item is closed.

- f. (Closed) Open item (461/83-09-01): The licensee of Perry Nuclear Power Plant identified approximately 300 ring type lugs that were improperly crimped in the HPCS electrical panels. These panels were supplied by GE. This information was provided to IPCo for followup. An investigation by IPCo has identified that the general workmanship discrepancies in the HPCS panels leaves the quality of the panels indeterminate. IPCo has submitted a 50.55(e) report on this item to Region III. In that this item is now being tracked by 50.55(e) report 461/84-16-EE, this open item is closed.
- g. (Closed) Noncompliance (461/83-23-01A): During a previous inspection it was identified that the licensee was not implementing their Interaction Analysis Program (IAP) in accordance with commitments to the NRC. During this reporting period, the Region III inspector

reviewed the IAP walkdown schedule and observed that the schedule was being implemented. This program was being implemented by S&L for the licensee, and is now being implemented by Burns and Roe. Based on the above observations, this item is closed.

4. Licensee Action on 10 CFR 21 Reports

- a. (Closed) Part 21 Report (461/82-16-PP) (License No. 21-81-06): It was identified that the wiring from the terminal board to the connector was incorrectly wired on all PGCC termination modules with Part Number 137D7743G053. Maintenance Work Request A0434 was issued to inspect the PGCC termination modules to verify the wiring. The following safety-related termination modules required rework:

<u>Termination Cabinet</u>	<u>Term Module</u>
H13-P701A	TCM 25/28 and TCM 49/38
H13-P706A	TCM 6/8
H13-P707E	TCM 47/43
H13-P711A	TCM 42/43 and TCM 28/31
H13-P714A	TCM 59/72
H13-P714B	TCM 90/92
H13-P715E	TCM 75/59
H13-P731F	TCM 4/5
H13-P741F	TCM 118/119
H13-P742A	TCM 117/120
H13-P742E	TCM 123/124
H13-P743E	TCM 39/40

In addition to the above, 14 non-safety-related termination modules in 10 PGCC termination cabinets required rework. Construction Work Request 5140 was issued to fabricate all the required jumpers. All the termination modules were reworked and QC inspected per Maintenance Work Request A0434. Work was completed and signed-off on June 23, 1983. Based on the above observations, this item is closed.

- b. (Closed) Part 21 Report (461/82-02-PP)(Licensee No. 21-82-08): It was identified that non-safety-related termination module TCM 40/41, Part Number 137D7743G052, located in PGCC termination cabinet H12-P740E had been mis-marked. The licensee conducted a reinspection of all 190 termination modules with the subject part number and with the exception noted, all were found to be properly marked. The non-safety-related termination module was re-marked and this item was closed.
- c. (Closed) Part 21 Report (461/82-17-PP)(Licensee No. 21-82-13): General Electric Company (GE) notified the NRC and applicable licensees of potential defects in the "wipe settings" of normally closed (NC) contacts on some HFA relays. This incorrect wipe setting occurred during their conversion from normally open (NO) to NC by GE shop/field personnel. Less than a minimum wipe setting invalidates the component qualifications, which is based on a 0.047 wipe setting at a 8g seismic level. The safety hazard created is the failure of NC contacts (in HFA relays) to actuate safety systems

during an abnormal event. GE issued Field Disposition Instructions (FDI) No. SKKQ, dated March 10, 1982, to inspect and adjust, if necessary, the contact wipe and affix a new ID number on the 58 HFA relays at Clinton.

<u>Equipment</u>	<u>Voltage</u>	<u>No. HFA Relays</u>	<u>New ID No.</u>
H13-P851	125 VDC	2 each	184C5506G001
H13-P852	125 VDC	2 each	184C5506G001
H13-P028	125 VDC	4 each	184C5506G001
H13-P821	115 VAC	2 each	184C5506G003
H13-P822	115 VAC	2 each	184C5506G003
H13-P851	115 VAC	13 each	184C5506G003
H13-P852	115 VAC	13 each	184C5506G003
H13-P861	115 VAC	10 each	184C5506G003
H13-P862	115 VAC	10 each	184C5506G003

Work was completed and verified by IPCo QA on April 10, 1984. Based on the above observations, this item is closed.

5. Cable Tray Hanger Reinspection Program

During this reporting period, the Region III inspector reviewed the cable tray hanger reinspection program. This 100% hanger reinspection program was initiated as a result of NRC concerns expressed in Inspection Report 461/82-02 and IPCo Stop Work Order 007. Following is the status of the reinspection program as of the October 3, 1984 report:

. Travelers requiring initial reinspection	3208
. Travelers requiring initial engineering review	210
. Total travelers requiring review/reinspection	<u>3418</u>
. Travelers signed-off and in DRC/DRG	502
. Travelers in field for verification	~100
. Travelers in TPRF (final review)	~100
. Travelers in TPF (engineering)	~400
. Total travelers complete	<u>1103</u>

A review of past reinspection reports indicate that IPCo is averaging approximately 3.7 hangers per week as indicated by the total number of travelers being completed in the last 30 weeks. There are approximately 43 weeks remaining to complete the reinspection program per IPCo's schedule. Per the October 3, 1984 report, there are 3,418 travelers (hangers) requiring review and reinspection. This indicates that IPCo must average approximately 81 hangers completed per week. The above listed figures and inspector's concerns were discussed with IPCo management during the exit meeting. Management was confident that their present schedule could be met. No items of noncompliance were identified.

6. Review of Records

Review of Electrical Penetration Records

The inspector reviewed finalized procurement record packages for the following safety-related Class 1E electrical penetrations:

1EE09E	1EE10E	1EE11E	1EE18E	1EE19E	1EE20E
1EE21E	1EE22E	1EE23E	1EE24E	1EE25E	1EE28E
1EE32E	1EE33E	1EE34E	1EE35E	1EE37E	1EE38E
1EE39E	1EE40E	1EE44E			

The records related to the subject procurement activity were not available for review during this inspection. The licensee is in the process of resolving a 10 CFR Part 50.55(e) report involving these same or similar issues. It is expected that the licensee's activities will also address the following issues:

- a. The seismic qualification test records as specified in Sargent and Lundy specification No. K-2978 were not available at the site.
- b. The weld material records for the penetrations as called out in the documentation checklist were not available for review.
- c. Baldwin Associates letter No. BAQC-0656 dated September 12, 1978, Paragraph 3 states that "Production Test Procedure...IEEE 317-1976 allows simultaneous testing in place of sequential testing. Exception to the rest of the sequences of IEEE 317-1976 should be justified by analysis". However, the analysis that was provided by Conax was not available for review.
- d. The inspector reviewed a number of nonconformance reports associated with the subject penetrations. Typical of these are NCR No. 19872, No. 18069, No. 19870, and No. 19480. The disposition of these NCRs appeared questionable.

Each of the issues outlined above a.-d. will be followed up by the NRC pending the licensee's final resolution of the 10 CFR Part 50.55(e) report tracked by Region III as item No. (461/84-06-EE).

8. Exit Interview

The Region III inspectors met with the licensee representatives (denoted under Paragraph 1) at the conclusion of the inspection on October 5, 1984. The inspectors summarized the purpose and findings of the inspection. The licensee acknowledged this information.