U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-461/87035

Docket No. 50-461 License No. NPF-62

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

Facility Name: Clinton Power Station, Unit 1

Inspection At: Clinton Site, Clinton, Illinois

Inspection Conducted: October 5-16, November 4-10, and November 16-20, 1987

Inspector: H. A. Walker H. A. Walker 12/29/87
Date

F. J. Jablonski

Approved By: F. J. Jablonski, Chief
Maintenance and Outage Section 12/29/87
Date

Inspection Summary

Inspection on October 5-16, November 4-10, and November 16-20, 1987 (Report No. 461/87035(DRS))
Areas Inspected: Routine, unannounced inspection by one region based inspector of QA program verification, maintenance, and followup of inspector identified problems. The inspection was conducted utilizing portions of Inspection Procedures 25578, 62700, 62702, and 92701.
Results: Two violations were identified: two examples of failure to follow procedures, Paragraphs 3.b.(2)(a) and 3.b.(2)(d); and failure to take prompt and effective corrective action, Paragraph 3.b.(2)(b).

DETAILS

1. Personnel Contacted

Illinois Power Company (IP)

**W. C. Gerstner Executive Vice President
* **K. A. Baker, Supervisor, Inspection and Enforcement Interface
* **T. J. Camilleri, Assistant Plant Manager, Maintenance
* **R. E. Campbell, Manager, Quality Assurance
* **J. G. Cook, Assistant Plant Manager
*D. P. Hall, Vice President, Nuclear
* **E. W. Kant, Director, Nuclear Station Engineering Department
* **J. A. Miller, Manager, Schedule and Outage
*F. A. Spangenberg, Manager, Licensing and Safety
* **J. W. Wilson, Manager, Clinton Power Station

*Indicates those attending the exit meeting at the Clinton site on October 16, 1987.

**Indicates those attending the exit meeting at the Clinton site on November 20, 1987.

* **Indicates those attending both exit meetings.

Other persons were contacted as a matter of routine during the inspection.

2. Licensee Action on Previous Inspection Findings

a. (Closed) Open Item (461/86076-01): Corporate nuclear procedure LNP-3.02, "Corrective Action" contained sections that applied only to construction. LNP-3.02 was revised and Revision 3 was issued for use July 6, 1987. In addition, several changes were made in other procedures that implemented the corrective action program. The inspector reviewed the revised documents and determined that construction related practices and documents were no longer included. This item is closed.

b. (Closed) Unresolved Item (461/86076-02): This item questioned the lack of determination of adverse trends. The specific question involved an increase in instrumentation problems that were included in the data base but not identified as an adverse trend. The inspector reviewed current trending information including the two most recent reports of trends, and noted that instrumentation problems had considerably decreased. Procedure QAP-216.06, "QA Program Evaluation and Corrective Action Trending," Revision 1, was also reviewed. The procedure appeared to be an adequate method to detect adverse trends. This item is closed.

c. (Closed) Unresolved Item (461/86076-03): This item involved the response and closure statement to condition report (CR) No. 1-86-09-234 that did not address the documented problem. The CR was reopened and a review by the inspector indicated that appropriate action was taken. Discussions with licensee personnel indicated that CRs were reviewed more carefully prior to closure to ensure that appropriate action had been taken. This item is closed.

d. (Closed) Unresolved Item (461/86076-04): This item concerned the failure of two departments to respond to a request for management action and to provide the status of overdue actions for a CR. The inspector reviewed the actions taken on this and several other overdue CRs for which a follow-up letter had been issued. Response had been received from the two departments for the problem CR and for all other CRs reviewed. No problems were noted. This item is closed.

No violations were identified.

3. Areas Inspected

This inspection was conducted to verify compliance with regulatory requirements and operational QA program commitments; to assess and evaluate licensee performance in maintenance and verification of quality; to assess management involvement in and support for quality and resolution of quality related problems. Enforcement history, SALP ratings and LERs were reviewed in preparation for the inspection.

Specific areas reviewed were audits of maintenance activities, outage planning, and maintenance. The inspection was accomplished by observation of work activities, interviews with plant personnel, and review of applicable records and procedures. Results of the inspection are documented in the following sections.

a. Verification of Maintenance Activities

The inspector reviewed the methods used for quality verification of maintenance activities at the Clinton Power Station (CPS). The QA organization had performed audits, surveillances, and QC inspections of safety-related activities including maintenance. QC performed inspection of maintenance work primarily at designated hold points. (Additional aspects of QC inspection are discussed in Paragraph 3.b.(2)(f) of this report). Audits of plant activities were scheduled periodically and were performed by auditors qualified to ANSI N45.2.23. Scheduled or nonscheduled surveillances were performed as needed.

The inspector reviewed results of five audits that were conducted in maintenance or related areas. The audits appeared to be adequate in technical and non-technical areas and the lead auditors were properly certified. The inspector noted that the licensee had identified several findings in this area and had taken prompt corrective action. One finding, Q38-87-09, issued April 3, 1987, documented a problem with the installation of incorrect resistors in process radiation monitors. Subsequent investigation by the licensee indicated that possibly as many as ten different problems contributed to the cause. Although action appeared to be adequate for the problems related to the resistors, the inspector was concerned about the generic aspects of the problems. Licensee personnel indicated that the generic aspects of the problems had been addressed. During the review, the inspector noted that the initial event, which resulted in the purchase and use of the wrong resistor, occurred in July 1984. Current QA program controls appeared suitable to preclude occurrence of these problems. The inspector had no further concerns in this area.

No violations were identified.

b. Maintenance

During this inspection the inspector reviewed outage planning and corrective and preventive maintenance. A number of work packages for completed work and work in progress were also reviewed. On November 16, 1987, the total number of open maintenance work requests (MWRs) was 1412; 492 were outage related. The number of open MWRs declined in the past several months due to effective management effort.

(1) Outage Planning

he inspector reviewed planning and scheduling for the 1987 surveillance outage. There were 40 maintenance work requests (MWRs) that were considered essential to be completed during the outage (scope). In addition, there were 288 supplemental MWRs that were scheduled for the outage. Much of the work was concentrated at the beginning of the outage with high priority and critical path items identified and scheduled. The 288 supplemental MWRs were scheduled and sent to the planning section about two weeks before the outage, which allowed limited time for planning the work. A list of MWRs on hold for parts was prepared by maintenance planning and supplied to outage planning and procurement for planning and expediting. The inspector determined from the review of methods used for maintaining status of parts needed for MWR work that there did not appear to be a good method to notify planning when parts were received. In fact, two MWRs were on hold for parts even though the parts had been onsite for several weeks. Licensee personnel took immediate action to notify maintenance planning daily when parts were received.

Near the end of the outage, the inspector reviewed the status of work planned for the outage. The following is a summary of that status.

- Of 40 scope MWRs scheduled for the outage, 39 were completed.
- Of 288 supplemental MWRs scheduled for the outage, 147 were completed, 35 were field complete, 8 were being held for post maintenance testing, and 8 were still in progress leaving 90 supplemental MWRs which were not performed during the outage.
- There were 175 MWRs that resulted from emergent work. Of these 78 were closed, 23 were field complete, 53 were held for post maintenance testing, and 21 were still in progress.

Based on this information it appeared that the maintenance effort during the outage was very successful. Most preventive maintenance items scheduled for the outage were also completed.

No violations were identified.

(2) Review of Work in Progress

The inspector observed work associated with five MWRs. Four MWRs involved mechanical work on the main steam isolation valves (MSIVs) and the other involved electrical work on high voltage switchgear. Maintenance personnel appeared to be well trained and knowledgeable. Work packages appeared to be adequate with appropriate instructions. No problems were noted in the electrical work. The following observations were made during the mechanical work.

(a) On November 4, 1987, the inspector observed work performed on MSIV EIN 1B21F028A in reference to MWR C38144. The valve had failed local leak rate tests. As the 22 valve bonnet studnuts were tightened, the NRC inspector questioned maintenance personnel about the torque values used. Procedure CPS No. 8216.11 "Main Steam Isolation Valve Maintenance," Revisions 5, referenced in the MWR work instructions, was at the work location and referred to by personnel who performed the work. Step 8.9.7 of this procedure required the bonnet studnuts to be tightened to 1975 ft/lbs of torque in increments of up to 300 ft/lbs; however, a first pass tightening of 500 ft/lbs torque was used. In discussing this with licensee maintenance personnel, the inspector was informed that there was a misunderstanding between supervision and craft personnel. Failure to follow approved procedures in performing maintenance work is an example of a violation of 10 CFR 50, Appendix B, Criterion V (461/87035-01A).

(b) When the above problem was brought to the attention of maintenance personnel, several nuts had been tightened to 500 ft/lbs of torque. Tightening to 500 ft/lbs continued in violation of the procedure until all 22 nuts had been tightened. No technical evaluation was obtained by the work crew prior to continuing work. Failure to take prompt action to evaluate and correct an apparent quality problem is a violation of 10 CFR 50, Appendix B, Criterion XVI (461/87035-02).

(c) Condition report 1-87-11-013 was written about this problem after it had been identified by the inspector. The engineering evaluation for the condition report indicated that there was no physical damage due to the procedural violation; subsequently, the valve passed the required leak rate test.

(d) On November 4, 1987, the inspector observed work performed on MSIV EIN 1B21F022B in reference to MWR C48984. This valve had failed the local leak rate test. Step 8.8.20 of procedure 8216.11 states "Lower poppet slowly and carefully into valve body until it rests on body seat." The inspector observed that the poppet was carefully lowered until it neared the body seat, then the rope sling, which supported the poppet, was cut and the poppet allowed to "free fall" for about four inches onto the body seat. Discussions with licensee personnel indicated that dropping the poppet had been discussed with the work crew the previous day and that it was considered to be an acceptable practice; however, the procedure had not been changed to allow it. The procedure was subsequently revised to allow this practice; however, failure to follow the approved maintenance procedures is a second example of a violation 10 CFR 50, Appendix B, Criterion V (461/87035-01B).

(e) The above incident occurred and was identified by the inspector on November 4, 1987. The procedure was changed to allow dropping the poppet on November 5, 1987. Condition report No. 1-87-11-063, about dropping of the poppet was issued on November 17, 1987; however, violation of the procedure was not noted in the CR. By this time, the MSIVs had been reassembled and passed leak rate testing. The inspector reviewed Condition Report (CR) 1-87-11-063 that described the dropped poppet incident. The inspector noted that the engineering evaluation stated: "There is no evidence that a nonconformance, violation of procedure or condition adverse to quality existed." The reason for issuance of the CR was because of the procedural violation that occurred on November 4, 1987, see Paragraph (d) above. The CR was closed on November 18, 1987, without any action taken to address the cause. Violation of the procedure was not included in the description and apparently overlooked. It appeared to the inspector that licensee

personnel should be more attentive to the preparation, investigation, and closure of condition reports to ensure that conditions are accurately described and actions appropriately taken.

(f) Two licensee QC inspectors were present during the incidents described in Paragraphs (a), (b) and (d). Those two QC inspectors failed to note the problems described. During discussions with licensee personnel, the inspector was informed that the QC inspectors were not performing surveillances, but were at the work location to verify "hold points" and for general observation of work. Hold point verification appeared to be adequate; however, the inspector was concerned that the QC inspectors were not aware of of maintenance requirements for the activities being performed.

The inspector reviewed the qualification/certification packages for the two QC inspectors and noted that both were recently certified as mechanical inspectors. One was previously certified as a receiving inspector and the other in nondestructive examinations. The inspector noted that there were three recent waivers of experience requirements in order to qualify the QC inspectors in additional areas. Discussion of waiver practices with licensee management indicated that 11 of 27 inspectors had been certified in some discipline by allowing requirements for experience to be waivered. Most of the waivers were recent and issued during the recent effort to certify inspectors in other disciplines. Allowing experience requirements to be waivered for certification of QC inspectors is an unresolved item that will be reviewed during a subsequent inspection (461/87035-03).

Two violations were identified.

(3) Maintenance Work Request (MWR) Reviews

The inspector reviewed five MWR packages that were field complete. All five packages lacked final QA review and had not been closed. All steps in the job instructions and procedures had been signed-off as complete, including QC "hold points." The inspector noted inconsistencies in the descriptions of work performed; a number of minor problems were also noted in several other areas. The problems were noted in all packages reviewed. These problem were discussed with licensee personnel who took immediate action to correct the packages and inform cognizant review personnel. The inspector had no further concerns in this area.

The inspector noted that some steps in the MWRs and referenced procedures appeared to have been completed out of sequence. The inspector was informed by licensee personnel that procedure CPS No. 1005.01 allowed work to be completed in any order unless the step was identified by an asterisk (*). None of the steps in the work instructions or procedures reviewed by the inspector had an asterisk. The inspector reviewed procedure CPS No. 1005.01, "Preparation, Review, Approval, and Implementation of and Adherence to Station Procedures and Documents," Revision 23, and noted that Paragraph 8.1.2.3 required an asterisk when steps were required to be performed in sequence. The inspector also noted that in the procedures reviewed (3103.01, 3309.01, 3310.01, 3314.01, and 8612.11) asterisks were not used for prerequisites or post maintenance testing. Although not noted by the inspector, based on these instructions post maintenance testing could be completed prior to the work, and the prerequisites could be completed after all or any part of the work. This matter is Unresolved (461/87035-04).

One unresolved item was identified.

(4) Preventive Maintenance

The inspector reviewed the current status of the preventive maintenance (PM) program and noted that on November 18, 1987, there were 162 PMs past due. Based on comparison to other plant sites, this number appeared to be at an acceptable level.

(a) The inspector reviewed a list of PMs that had been scheduled for the outage but not performed. In discussing this matter with licensee personnel, the inspector determined that a number of the deferred PMs, although past the scheduled date, had been given new due dates and were no longer counted as past due. Licensee personnel indicated that only 22 PMs were in this category. The inspector was concerned with this practice, which was discussed with licensee management. The inspector was informed that the practice of not counting PMs as past due because of a new due date would be discontinued. The change was made for the 22 deferred PMs immediately. The inspector had no further concerns about this matter.

(b) The inspector reviewed the deferred PM lists and determined that 156 PMs, which required valve stem lubrication every six months, had been deferred to the first refueling outage scheduled for March 1989; however, there was no indication that the valve stems had ever been lubricated. The inspector

was provided with MWRs C09235, C11068 and C10294 that were completed August 14, 1986, September 12, 1986, and October 1, 1986, respectively, and indicated that lubrication had been completed. Based on an engineering evaluation by the licensee, the interval for the PMs was extended to 18 months with the next scheduled date to remain March, 1989. The inspector had no further concerns about this matter.

(c) The inspector was informed by the licensee personnel that a review which addressed NRC concerns about PMs from a previous inspection had been completed. This review was conducted to determine if PMs had the recommended or required actions, and if appropriate frequencies had been designated. The inspector reviewed a sample of the documentation of those licensee reviews and had some minor concerns that licensee personnel stated had been addressed by making changes to the computerized PM system. The inspector had no further concerns about this matter.

(d) The inspector was informed by licensee personnel that the planned review of equipment and components by system, to determine needed additions to the PM program, might not be performed. This action was planned to address inspector concerns from a previous inspection that the total number of PMs appeared to be low. During later discussion with licensee management, the inspector was assured that this review would be completed as previously planned. Review of components and equipment to ensure adequate PM coverage is an open item that will be reviewed during a subsequent inspection (461/87035-05).

No violations was identified.

4. Conclusions

Based on the noted reviews, the inspector concluded that:

- Planning and scheduling for the 1987 surveillance and maintenance outage appeared to be good for the first planned outage.

- Management involvement in adjusting and expediting outage work (including emergent work) appeared to be very good and adequately compensated for minor planning deficiencies. Emergent work on MSIVs performed during the outage was completed promptly and appeared to be adequate.

- Management and engineering attention contributed to the continued improvement in the area of preventive maintenance.

- Management involvement and emphasis is needed to correct what appeared to be a causal approach to procedure adherence while performing maintenance work during the outage.

- Except for two instances, maintenance and verification of maintenance activities were properly controlled and adequate.

5. Unresolved Items

Unresolved items are matters that require more information to determine whether they are acceptable items, violations, or deviations. Unresolved items identified during the inspection are included in Paragraph 3.b.(2)(f) and 3.b.(3).

6. Open Items

Open items are matters that have been discussed with the licensee, which will be reviewed further by the inspector, and involve some action on the part of the NRC or the licensee or both. An open item disclosed during this inspection is presented in Paragraph 3.b.(4)(d).

7. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1) on October 16 and November 20, 1987, and summarized the purpose, scope, and findings of the inspection. This inspector discussed the likely informational content of the inspection report with regard to documents or processes reviewed by the inspector during the inspection. The licensee did not identify any such documents or processes as proprietary.