

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-461/87027(DRS)

Docket No. 50-461

License No. NPF-62

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

Facility Name: Clinton Nuclear Power Station, Unit 1

Inspection At: Clinton Site, Clinton, Illinois

Inspection Conducted: August 10, 1987, through April 29, 1988

Inspectors: *M. P. Huber*
M. P. Huber

5/26/88
Date

J. F. Smith
J. F. Smith

5/26/88
Date

D. H. Danielson
D. H. Danielson

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

5/27/88
Date

Inspection Summary

Inspection on August 10, 1987, through April 29, 1988 (Report No. 50-461/87027(DRS))

Areas Inspected: Special safety inspection to follow-up on allegation RIII-87-A-0027 (99014) and of the licensee's follow-up actions to the violations (92702) and unresolved item (92701) identified in Inspection Report No. 50-461/87014(DRS).

Results: Of the areas inspected, no violations or deviations were identified.

DETAILS

1. Persons Contacted

Illinois Power Company (IP)

- +D. P. Hall, Vice President
- x+R. E. Campbell, Manager, Quality Assurance
- xJ. W. Wilson, Plant Manager
- +F. A. Spangenberg, III, Manager, Licensing and Safety
- +J. F. Palchak, Supervisor, Plant Support Services
- +W. Connell, Manager, Nuclear Planning and Support
- x+J. Miller, Manager, Scheduling and Outage
- x+J. G. Cook, Assistant Plant Manager
- xJ. D. Weaver, Licensing Director
- xR. T. Kerester, Director Nuclear Station Engineering Department
- x+S. R. Bell, Technical Advisor, Inservice Inspection
- xR. E. Wyatt, Director, Nuclear Training
- xR. D. Freeman, Manager Nuclear Station Engineering Department
- #W. E. DeMark, Station Quality Assurance Specialist
- +J. Brownell, Licensing Specialist
- C. Mathews, Operations Engineer
- W. T. Donovan, Compliance Specialist
- W. Fliff, Lead Operations and Technical Support
- #K. A. Baker, Supervisor, I & E Interface
- #G. Baker, Supervisor, Quality Systems

Soyland/WIPCO

- xJ. Greenwood, Manager, Power Supply

The inspector also contacted and interviewed other licensee personnel during the inspection.

+Denotes those personnel attending the preliminary exit interview on August 14, 1987.

#Denotes those personnel attending the exit interview on October 5, 1987.

xDenotes those personnel attending the exit interview on April 29, 1988.

2. Action on Previous Inspection Findings

- a. (Closed) Violation (461/87014-01): During the initial investigation of allegation R311-87-A-0027, it was identified that the remote system isolation valves 1CM011, 1CM012, 1CM022, 1CM023, 1CM025, 1CM026, 1CM047, and 1CM048 had not been properly verified prior to April 15, 1987. During this inspection, the NRC inspector verified that Surveillance Procedure 9061.03 had been revised on April 10, 1987, to include a position indication verification test at the required two year frequency and a quarterly valve stroke timing test. The NRC inspector also verified that these tests had been satisfactorily performed on the subject valves on June 26, 1987.

- b. (Closed) Unresolved Item (461/87014-02): During the initial investigation of allegation RIII-87-A-0027, it was identified that an outdated drawing had been used to prepare Surveillance Procedure 9061.12, thus making the procedure unworkable. Condition Report 1-86-12-104, Revision 1, dated August 12, 1987, was prepared to document the fact that the required changes had not been incorporated into Procedure 9061.12. During this inspection, the NRC inspector reviewed the procedure changes and found them to be acceptable. The revised procedure was in effect on September 14, 1987.
- c. (Closed) Violation (461/87014-03): During the initial investigation of allegation RIII-87-A-0027, it was identified that procedures were inappropriate due to not specifying quarterly valve stroking for the Process Sampling and Containment Monitoring solenoid containment isolation valves. During this inspection, the NRC inspector reviewed procedure changes and verified that Surveillance Procedure 9061.03 had been revised on April 10, 1987, to include quarterly stroke time testing.

3. Follow-up on Allegations

(Open) Allegation RIII-87-A-0027

a. Background

In March 1987, an individual identified potential deficiencies with the inservice testing (IST) of safety-related valves and the lack of containment integrity due to non-testing of certain valves to 10 CFR Part 50, Appendix J requirements.

In response to these allegations, an inspection (NRC Inspection Report No. 50-461/87014) was conducted on March 25 thru June 1, 1987, to determine to what extent the allegations could be substantiated. Portions of the allegations were substantiated and some activities were found to be in violation of requirements. The resolution of these violations are addressed in paragraph 2 of this report.

The purpose of this inspection was to evaluate the licensee's review and response to the allegor's concerns. During the course of this inspection a follow-up interview of the allegor was conducted and subsequently resulted in additional concerns being identified. Two of the four additional concerns are addressed in this inspection report. The two remaining concerns have been referred to NRR for evaluation.

b. NRC Review

During this inspection, findings of the licensee's investigation and the corrective actions planned or taken were reviewed for acceptability and completeness. A major portion of the licensee's investigation (April 2-23, 1987) was conducted by an investigator and a technical

consultant. During personnel interviews, the investigator recovered 29 memoranda that were prepared by the alleged. The 29 memoranda were prepared between May 5 and August 27, 1986, and made recommendations, provided/requested information, or identified perceived deficiencies with the IST program.

During this inspection, the NRC inspectors reviewed the investigation reports prepared by the professional investigator and the consultant. These reports contained summaries of personnel interviews, copies of the referenced memoranda, and actions taken to resolve the alleged's perceived deficiencies in the IST program. The NRC inspectors also reviewed the engineering response to the alleged's concerns contained in the referenced memoranda. The NRC inspectors found the engineer's response to the alleged's concerns to be adequate.

Following the release of NRC Inspection Report No. 50-461/87014 the alleged was interviewed by the NRC to clarify the allegations and obtain additional and more detailed information.

During this interview, the following additional allegations were identified:

- (1) When valve stroke times were changed, the review conducted to determine if the change was acceptable was not thorough enough in that system requirements, radiological, environmental etc. considerations were not included.
- (2) Testable check valves in the ECCS were not successfully tested in that full stroke was not properly verified and the verification of their remote position indications was not adequate.
- (3) Certain pressure isolation check valves inside the drywell are not being considered containment isolation valves and appropriately tested as required by 10 CFR Part 50, Appendix J.
- (4) Certain valves were not included in the IST program that should have been.

With respect to item (1) above these stroke times were changed prior to licensing of the plant and were not required to have a 50.59 review conducted to change the stroke times. However an analysis should have been conducted to determine the overall impact due to valve stroke time changes regarding system, radiological, and environmental considerations and determine the effect of the changes on system reliability and safety.

The NRC inspectors reviewed documentation provided to determine the thoroughness of the licensee's review of the stroke time changes with regard to system, radiological, and environmental considerations.

In one instance, General Electric (GE) responded to the licensee's concern about valve closure times by a letter (L. S. Burns to K. K. Berry, dated April 29, 1986) which listed the valves of concern and the technical specification closure times for the valves at that time. The letter recommended that the list be reviewed to see if any of these valves required more than the specified time to operate. The NRC inspector compared the stroke times for valves on this list with those on two other lists. The first was a listing of 150% or 200% (depending on valves size) of actual valve stroke time for each valve. The second list showed the limiting value of stroke time for each valve. The NRC inspector found 22 valves which required more time than that shown in the above G.E. Letter and which would necessitate changes to the Technical Specification in effect at that time. In each case, the Technical Specification was confirmed to be modified to accommodate the maximum required time for closure. All valves on the list now operate within the stroke times established for them in the current Technical Specification.

The specific valves identified by the allegor during the interview were those valves included in Document Transmittal Form (DTF) No. JK-1183 dated August 4, 1986 (See Attachment 1). IP requested GE to perform the necessary analysis to evaluate the changing of stroke times. GE performed their review and responded to IP with the revised times, noting that considerations regarding radiological, environmental, etc. should be evaluated by others. GE approved the stroke time changes based on verification that safety and reliability were not adversely affected. The justification for disposition was also provided by GE in Field Deviation Disposition Requests (FDDR) LW1-5746, 5747, 5748, 5749, 5750, 5751, and 5761.

Once IP received the revised stroke times from GE, it was necessary to review the revised times for radiological etc. considerations, as previously stated. IP initiated Action/Information Request (A/IR) No. 646 to Sargeant and Lundy (S&L) to request that the review be performed. The analysis was completed by S&L September 26, 1986, and it was concluded that "the increased stroking times will not have an impact on the environmental . . . and radiological concerns."

Therefore, all necessary reviews of the effect of stroke time changes on safety and reliability of the system, and radiological and environmental considerations had been performed.

With respect to item (2) above the NRC inspectors reviewed surveillance procedures to determine the adequacy of the tests performed on ECCS check valves in accordance with the requirements of ASME Code Section XI, Subsection IWV1, Paragraphs IWV-3300 and IWV-3520 and found them acceptable.

IWV-3300 requires that "valves with remote position indicators shall be observed once every 2 years to verify that valve operation is accurately indicated." The NRC inspectors reviewed Surveillance Test Procedure CPS No. 9053.05 "RHR Valve Operability Check (Shutdown)," Revision 20 and associated surveillance reports for the valves on the dates shown below:

<u>VALVE</u>	<u>SYSTEM</u>	<u>DATE OF TEST</u>
1E12F041A	RHR	May 9, 1986
1E12F041B	RHR	August 10, 1986
1E12F041C	RHR	August 24, 1986

Also reviewed were Maintenance Work Requests (MWR) No. C-2184 dated May 9, 1986, and No. C-22654 dated September 8, 1986. The MWR's were written to explore and correct problems encountered during the tests. Difficulty was experienced in achieving full lift of the disk with the actuator and consequently in achieving a confirming position signal for valve 1E12F041A. The position indication test was subsequently successfully performed with the actuator spring removed. The licensee is currently planning to remove the actuators from the check valves and perform future stroke testing of these valves manually. The NRC inspectors also reviewed STP CPS No. 9051.02 "High Pressure Coolant System (HPCS) Valve Operability Test," Revision 20 dated August 18, 1986, for valve 1E22F005, SAP-5 "HPCS Preoperational test" dated June 25, 1986, for valve 1E22F005 and STP CPS No. 9052.02 "Low Pressure Core Spray valve Operability Test" for valve 1E21F006 and determined that adequate testing was done to meet the requirements of paragraph IWV-3300 of the ASME Code Section XI for the above mentioned valves.

Concern was also expressed that the testable check valve, 1E51F066, in the RCIC system was not tested as required. The licensee indicated that the light indication for the valve was not derived from the valve itself but the actuator, and therefore, the true position would not always be indicated by the lights. Subsequently, it was determined that position indication testing was not required for this valve.

Paragraph IWV-3520 of ASME Code Section XI requires, in part, that "check valves shall be exercised to the position required to fulfill their function . . . by proving that the disk moves promptly away from the seat when . . . flow through the valve is initiated." The confirmation of the disk moving from the seat shall be accomplished by some positive means, such as control room valve position lights or indications of flow through the system.

The NRC inspectors reviewed preoperational test results for the RHR, HPCS, RCIC and LPCS systems and determined that the check valve disk movement was verified for the above mentioned valves and met the requirements of the ASME Code.

Allegation items 3 and 4 are under review by NRC Headquarters to determine the necessary course of action required to address and correct the possible deficiencies.

c. Conclusion

The allegations identified in NRC Inspection Report No. 50-461/87014 were substantiated. Items (1) and (2) identified during the interview with the alleged could not be substantiated in that proper evaluations had been performed with regard to stroke time changes and the ECCS check valves had been verified for proper stroke and remote position indication.

The licensee has been responsive and has addressed the previously identified items promptly, and no new concerns were found during this inspection; however, this allegation will remain open pending the completion of the NRC Headquarters review and of the licensee's action in response to the activities in this area.

3. Exit Interview

The Region III inspectors met with the licensee representatives (denoted in Paragraph 1) on August 14, 1987, October 5, 1987, and at the conclusion of the inspection on April 29, 1988. The inspectors summarized the scope and findings of the inspection and that closure of this allegation would be pending NRC Headquarters review and action and a phone exit would be conducted. The inspector also discussed the likely informational content of the inspection report. The licensee acknowledged this information and identified the investigator's report as proprietary. The inspector stated that he would reference but not quote from this report while preparing the inspection report. This was found satisfactory by the licensee.

ATTACHMENT 1

<u>VALVE NO.</u>	<u>PRESENT DESIGN SPEC. TIME (SEC.)</u>	<u>ACTUAL TIME (SEC)</u>	<u>ISI TIME (SEC)</u>
1B21-F065A	100	74.94	112
1B21-F065B	100	72.72	109
1B21-F098A	120	93.00	140
1B21-F098B	120	92.00	138
1B21-F098C	120	93.00	240
1B21-F098D	120	95.36	143
1C11-F083	30	21.09	32
1E12-F004A	100	94.55	142
1E12-F004B	100	95.70	144
1E12-F006A	80	75.70	114
1E12-F006B	80	76.64	115
1E12-F008	39	34.51	51
1E12-F009	30	35.79	53
1E12-F014A	90	78.00	117
1E12-F014B	90	77.00	116
1E12-F024A	90	75.73	113
1E12-F024B	90	77.80	117
1E12-F028A	90	77.60	116
1E12-F028B	90	75.20	113
1E12-F042A	25	23.34	30
1E12-F042B	25	19.83	30
1E12-F042C	25	19.82	30
1E12-F047A	90	76.44	115
1E12-F047B	90	77.75	117
1E12-F068A	90	78.00	117
1E12-F068B	90	78.00	117
1E12-F105	100	91.30	137
1E21-F001	100	91.00	137
1E21-F005	25	19.26	29
1E22-F001	80	73.02	110
1E51-F013	15	11.27	17
1E51-F059	20	16.64	25
1E51-F063	33	27.07	41
1E51-F064	33	27.09	41
1E51-F068	60	49.00	74
1G33-F001	18	13.41	20
1G33-F004	18	13.06	20
1G33-F028	18	15.82	24
1G33-F034	18	14.89	22
1G33-F039	18	13.64	21
1G33-F040	18	13.43	20
1G33-F053	18	13.76	21
1G33-F054	18	13.30	20
1E51-C002E	10	7.44	13

