

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-461/94002(DRP)

Docket No. 50-461

License No. NPF-62

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

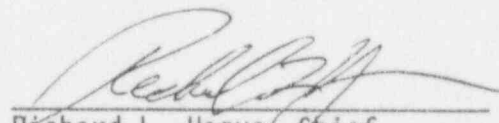
Facility Name: Clinton Power Station

Inspection At: Clinton Site, Clinton, Illinois

Inspection Conducted: January 11 - February 22, 1994

Inspectors: P. G. Brochman
F. L. Brush

Approved By:


Richard L. Hague, Chief
Reactor Projects Section 1C

3/3/94
Date

Inspection Summary

Inspection from January 11 to February 22, 1994 (Report No. 50-461/94002(DRP)).

Areas Inspected: Routine, unannounced safety inspection by the resident inspectors of licensee actions on plant operations, maintenance, engineering and plant support.

Results: Of the four areas inspected, no violations or deviations were identified in three areas: one non-cited violation was identified in the remaining area: (failure to perform a technical specification surveillance within the required time period - paragraph 3.2). One unresolved item was identified.

Executive Summary

Operations

- The plant was on line for the entire report period.

Maintenance

- Valves for a main steam line leakage control system pressure transmitter were found shut by the licensee. The system was declared inoperable. (UNR 461/92004-01(DRP)).
- A nuclear instrument surveillance was not performed within the required time interval due to personnel errors. (NCV)
- The impact matrix for a maintenance procedure, which deenergized the Division IV dc bus, did not recognize that it would initiate a plant transient, leading to a manual reactor scram. (IFI 461/94002-02(DRP))

Engineering

- The quality of licensee event reports and corrective actions to address the events remained very good.

DETAILS

1.0 Illinois Power Company (IP)

- J. Perry, Senior Vice President
- *J. Cook, Vice President and Manager of Clinton Power Station (CPS)
- J. Miller, Manager - Nuclear Station Engineering Department (NSED)
- *R. Wyatt, Manager - Quality Assurance
- *D. Thompson, Manager - Training
- *J. Palchak, Manager - Nuclear Planning and Support
- *F. Spangenberg, III, Nuclear Strategic Change leader
- *R. Phares, Director - Licensing
- *L. Everman, Director - Radiation Protection
- *P. Yocum, Director - Plant Operations
- *W. Clark, Director - Plant Maintenance
- *K. Moore, Director - Plant Technical
- *W. Bousquet, Director - Plant Support Services
- *C. Elsasser, Director - Planning & Scheduling
- *R. Kerestes, Director - Nuclear Safety and Analysis
- *D. Korneman, Director - Systems and Reliability, NSED
- *J. Langley, Director - Design and Analysis, NSED
- *J. Sipek, Supervisor - Regulatory Interface

* Denotes those present during the exit interview on February 22, 1994.

2.0 Plant Operations

The plant was online the entire report period and operated at power levels up to 100 percent.

2.1 Operational Safety (71707)

The inspectors observed control room operation, reviewed applicable logs, and conducted discussions with control room operators. During these discussions and observations, the operators were alert, cognizant of plant conditions, attentive to changes in those conditions, and took prompt action when appropriate. The inspectors verified the operability of selected emergency systems, reviewed tagout records, and verified the proper return to service of affected components.

Tours of the circulating water screen house and auxiliary, containment, control, diesel, fuel handling, rad-waste, and turbine buildings were conducted to observe equipment material conditions, including potential fire hazards, fluid leaks, excessive vibrations, and to verify that maintenance requests had been initiated for equipment in need of maintenance. The inspectors verified implementation of radiation protection controls and the physical security plan.

No violations or deviations were identified.

3.0 Maintenance

3.1 Main Steam Isolation Valve Leakage Control System Inoperability (LER 461/94002)

The licensee identified that the isolation valves for dp transmitter 1E32-N049 in the main steam isolation valve leakage control system (MSIV-LCS) were shut. With these valves shut, control room operators would receive incorrect information on the performance of the MSIV-LCS and might have secured the system, in the belief that it was operating incorrectly. The MSIV-LCS was an accident mitigation system, which would be used in a post-loca environment to minimize containment leakage through the main steam lines. Based on the incorrect positioning of these valves the licensee declared Division II of the MSIV-LCS inoperable and initiated an investigation.

The licensee also determined that the redundant division of the MSIV-LCS did not have an operable emergency power supply on February 1, 1994, due to planned maintenance on the Division I diesel generator. This may have resulted in both divisions of the MSIV-LCS being inoperable. The licensee's initial investigation indicated the valves might have been shut during the last refueling outage, which ended December 10, 1993. This condition was identified by the licensee on February 8, 1994, during a review of a maintenance work package. Maintenance supervision was performing a routine review of a work request package on transmitter 1E32-N049 and noted that the restoration valve lineup sheet was not included in the package. The valve lineup was performed again and the two unlabeled transmitter isolation valves were found mispositioned shut. The licensee also noted that neither valve had an identification tag.

The inoperability of this transmitter may have resulted in the licensee violating TS 3.8.1.1.e which states, in part, that with diesel generator 1A or 1B ... inoperable, ... verify within 2 hours that all required systems, subsystems, trains, components and devices that depend on the remaining OPERABLE diesel generator as a source of power are also operable; otherwise be in at least HOT SHUTDOWN within the next 12 hours.... Or TS 3.0.4, which states, in part, that entry into an OPERATIONAL CONDITION ... shall not be made unless the conditions for the Limiting Conditions for Operation are met without reliance on provisions contained in the ACTION requirements....

The inspectors will perform further reviews after the licensee's investigation is completed. This issue will be tracked as unresolved item (461/94002-01(DRP)).

3.2 Missed APRM Surveillance

On December 30, 1993, with the plant at approximately 40% power, licensee personnel discovered that the average power range monitor (APRM) channel calibration weekly surveillance had exceeded its 1.25

date. This issue was initially discussed in Inspection Report 461/93027(DRP), paragraph 3.3.

Technical Specification 4.3.1.1, Table 4.3.1.1-1, item 2.b, required while in operational condition 1, that an APRM channel calibration be performed on a weekly basis. The previous channel calibration was performed at 2:02 am on December 21, 1993. The next channel calibration was not performed within the 168 hour surveillance interval plus the 25 percent extension (210 hours total). The failure to perform the channel calibration within the required time frame was a violation of Technical Specification 4.3.1.1. However, since the licensee discovered the violation and took appropriate corrective actions it is not being cited because the criteria specified in Section VII.B.2 of the "General Statement of Policy and Procedures for NRC Enforcement Actions," (Enforcement Policy, 10 CFR Part 2, Appendix C.) were satisfied.

The licensee's corrective actions included: changing the format of the daily activities schedule used by maintenance personnel to track surveillance completion. The schedule now includes the delinquent date, which is the surveillance interval plus 25 percent, and the due date. The appropriate maintenance personnel were briefed concerning the use of the daily schedule to track the completion of required surveillances.

The inspectors have reviewed the licensee's corrective actions and have no further concerns on this issue.

3.3 Insufficient Review of a Maintenance Procedure Against Possible Impacts on Plant Operations

The day before it was to be hung, a control room senior reactor operator (SRO) was reviewing a request to tag out the Division IV (Div IV) dc bus to support maintenance on the Div IV battery charger and replacement of the Div IV battery. During this review the SRO identified that deenergization of this dc bus would remove control power to the CB-4 breaker. This would cause the high speed breaker (CB-5) of the B reactor recirculation (RR) pump to trip. Tripping of the B RR pump would cause the unit to enter single loop operation. At the present rod line, the unit would have entered the core power-to-flow instability region; which would have necessitated an immediate manual reactor scram. After identification of this problem, maintenance personnel revised their work plan and accomplished the maintenance without deenergizing the Div IV dc bus.

The inspectors, as well as some licensee management, questioned why the maintenance planning process had not identified this potential plant transient, while the work package was being prepared. Maintenance management initiated an investigation. Some of the initial results were that the procedure was initially designed to be performed while the plant was shutdown. However, it had been revised a few years ago to allow for performance at power. The impact matrix contained in the procedure accurately discussed the possible interactions with technical specifications, reactor protection system actuations, and ESF

actuations; however, it did not identify any possible plant transients that might be initiated through control circuits. Also, the reason the procedure directed that the bus be deenergized was that the battery and battery charger were both connected to the Div IV bus via fuses; rather than circuit breakers. Fuses are not designed to be removed or installed while a component is under load (current is flowing). That is the design function of a circuit breaker. Only Div IV was designed this way. The other divisions used circuit breakers as isolation devices.

In discussions with licensee management, they believed that the SRO's identification of this problem was part of the normal review process and this event was not a near miss. The SRO had identified this issue, in part, due to training on an event in 1993, when inadvertent deenergization of the Div III dc bus had led to tripping of the B RR pump and subsequent manual scram on entry into the instability region. They also stated that while the maintenance package preparation process was adequate, the maintenance procedure did not contain enough information on possible plant interactions. Also, in the 1993 event the licensee had concluded that the reenergization of the Div III bus had led to the tripping of the CB-5 breaker; while in this case it was the deenergization of the Div IV bus that would lead to the tripping of CB-5.

The licensee was continuing its investigation. The licensee was also reviewing the designs of the Div III and IV buses and their interactions with the reactor recirculation system for consistency. The inspectors will review this issue further, after the licensee's actions are completed. These issues will be tracked as inspection follow-up item (461/94002-02(DRP)).

3.4 Removal of Maintenance Request Tags

In Inspection Report 461/93027(DRP), paragraph 3.6.1, the inspectors identified a concern with Maintenance Request (MR) tags being promptly removed after the work was complete. The inspectors had noted several tags in the main control room which were still in place after the work was done. In response to this concern, the Nuclear Assessment department conducted a surveillance of the plant (Q-17007) and identified 515 MR tags in the plant. Comparing the tags found in the field against the work request data base indicated that 16 of the MR tags were not associated with active work requests - a 97 percent accuracy. Seven of the 16 were for work which had been completed. The rest were for canceled work requests or were not in the data base.

In evaluating this result, the licensee concluded that additional guidance needed to be provided on the MR process in two areas. First, when a MR is canceled or is consolidated with an existing work request how is the MR tag removed. Second, if the MR tag is not hung directly on the component, is information included to describe its location. Since the tags are removed by operations support personnel, maintenance management concluded that more communication and guidance was needed between maintenance, operations, and scheduling on control of MR tags.

Based on the actions taken by the licensee, the inspectors have no further concerns on this issue. It is considered closed.

3.5 Observations Of Work Activities (61726 & 62703)

The inspectors observed maintenance and surveillance activities of both safety-related and nonsafety-related systems and components listed below. These activities were reviewed to ascertain that they were conducted in accordance with approved procedures, regulatory guides, industry codes or standards, and in conformance with technical specifications.

<u>Document</u>	<u>Activity</u>
D51600	Repair of prerotation vane actuator on OVC13CB
PCIVCM573	Calibrate temperature sensor 07SVC618B
PEMVCA063	Hydramotor preventive maintenance

No deviations were identified. One non-cited violation was identified. One unresolved item was identified.

4.0 Engineering

4.1 Review of LERs (90712 & 92700)

The inspectors reviewed the following Licensee Event Reports (LER) to verify that reportability requirements were met, immediate corrective actions were completed, and long term corrective actions were defined and tracked. Verification of licensee corrective actions included: reviewing procedure changes, interviewing personnel, inspecting equipment, and observing field conditions. The following LERs are considered closed:

<u>LER</u>	<u>Title</u>
461/93003	Bumping of Transmitter Causes Reactor Scram and Loss of Shutdown Cooling.
461/93008	APRM Surveillance Exceeds TS Limit

- With regard to LER 461/93003, this LER was due to personnel error and insufficient guidance on operation of test equipment. All corrective actions except procedure changes have been completed. These transmitters are used only to perform logic system functional tests, which are done during refueling outages. The procedure changes will be completed before the next refueling outage. Separately, the licensee was evaluating the possibility of eliminating the need to perform logic system functional tests.
- With regard to LER 461/93008, the corrective actions and NRC enforcement for this issue are discussed further in paragraph 3.2.

No violations or deviations were identified.

5.0 Plant Support

5.1 Housekeeping (71707)

Tours of the circulating water screen house and auxiliary, containment, control, diesel, fuel handling, rad-waste, and turbine buildings were conducted to observe plant housekeeping conditions, including potential fire hazards, fluid leaks, and cleanliness. The licensee has made progress in improving housekeeping conditions since the end of RF-4.

No violations or deviations were identified.

6.0 Presentation of the SALP 12 Report to the Licensee in a Public Meeting

On January 21, 1994, Mr. H. J. Miller, Deputy Regional Administrator and members of the Region III staff presented the result of the SALP 12 assessment in a public meeting at Clinton Station to Mr. L. Haab, CEO of Illinois Power Company and members of his staff.

7.0 Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, violations, or deviations. An unresolved item disclosed during the inspection is discussed in paragraph 3.1.

8.0 Inspection Follow-up Items

Inspection follow-up items are matters which have been discussed with the licensee, which will be reviewed further by the inspector, and which involve some action on the part of the NRC or licensee or both. An inspection follow-up item disclosed during this inspection is discussed in paragraph 3.3.

9.0 Non-Cited Violation

The NRC uses the Notice of Violation to formally document failure to meet a legally binding requirement. However, because the NRC wants to encourage and support licensee's initiatives for self-identification and correction of problems, the NRC will not issue a Notice of Violation if the requirements set forth in 10 CFR Part 2, Appendix C, are met. A violation of regulatory requirements identified during the inspection, for which a Notice of Violation will not be issued, is discussed in paragraph 3.2.

10.0 Exit Interview

The inspectors met with the licensee representatives denoted below, at the conclusion of the inspection on February 21, 1994. The inspectors also contacted and interviewed other licensee and contractor personnel during the course of this inspection. The inspectors summarized the purpose and scope of the inspection and the findings. The inspectors

also discussed the likely informational content of the inspection report, with regard to documents or processes reviewed by the inspectors during the inspection. The licensee did not identify any such documents or processes as proprietary.