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

REGION III

Report No. 50-254/80-04; 50-265/80-06

Docket No. 50-254; 50-265 License No. DPR-29; DPR-30

Licensee: Commonwealth Edison Company
Post Office Box 767
Chicago, Illinois 60690

Facility Name: Quad-Cities Nuclear Power Station, Units 1 and 2

Inspection At: Quad-Cities Site, Cordova, Illinois

Inspection Conducted: February 4-March 3, 1980

Inspector: R. L. Spessard for N. J. Chrissotimos 3/19/80

Approved By: R. L. Spessard R. L. Spessard, Chief 3/19/80
Projects Section 1-1

Inspection Summary

Inspection on February 4 to March 3, 1980 (Report No. 50-254/80-04; 50-265/80-06)

Areas Inspected: Routine, unannounced resident inspection of maintenance, plant operations, physical protection-security organization; physical barriers; and access control (identification, authorization, badging, search, and escorting), review and followup on licensee event reports, refueling activities, surveillance of safety related systems, followup on Headquarters request, radiation training, IE Circular followup, independent inspection and media contacts. The inspection involved 147 inspector-hours onsite by one NRC inspector.

Results: Of the 13 areas inspected, no apparent items of noncompliance were identified in 11 areas; 3 items of noncompliance were identified in two areas (infraction-exceeding a limiting condition for operation - Paragraph 7; infraction - failure to follow procedures - Paragraph 9; deficiency - inadequate procedure - Paragraph 9).

DETAILS

1. Persons Contacted

*N. Kalivianakis, Superintendent
T. Tomlyn, Assistant Superintendent Operations
K. Graesser, Assistant Superintendent Administrative
D. Bax, Assistant Superintendent Maintenance
*L. Gerner, Technical Staff Supervisor
G. Conschack, Senior Operating Engineer
*J. Heilman, Quality Assurance Operations

The inspector also interviewed several other licensee employees, including shift engineers and foreman, reactor operators, technical staff personnel and quality control personnel.

*Denotes those present at the exit interview on March 3, 1980.

2. Maintenance

Station maintenance activities of safety related systems and components were reviewed to ascertain that they are conducted in accordance with approved procedures, regulatory guides and industry codes or standards and in conformance with Technical Specification requirements.

The following items were considered during this review: the limiting conditions for operations were met while components or systems were removed from service; approvals were obtained prior to initiating the work; maintenance activities were accomplished using approved procedures; maintenance activities were inspected as applicable; functional testing and/or calibrations were performed prior to returning components or systems to an operating status; quality control records were maintained for maintenance activities; and maintenance activities were accomplished by qualified personnel.

The inspector observed maintenance in progress concerning the following work requests: LPRM changeouts, removal of control rod drives, installation of acoustical monitors, installation of target rock relief valve and installation of the diesel generator fire doors and louvers.

No items of noncompliance were identified.

3. Plant Operations

The inspector reviewed the plant operations including examinations of control room log books, routine patrol sheets, shift engineer log book, equipment outage logs, special operating orders, and jumper and tagout logs for the month of February 1980. The inspector observed

plant operations during 4 offshifts during the month of February 1980. The inspector also made visual observations of the routine surveillance and functional tests in progress during the period. This review was conducted to verify that facility operations were in conformance with the requirements established under Technical Specifications, 10 CFR, and Administrative Procedures. A review of the licensee's deviation reports for the period was conducted to verify that no violations of the licensee's Technical Specifications were made. The inspector conducted a tour of Units 1 and 2 reactor buildings and turbine buildings throughout the period and noted that the monitoring instrumentation was recorded as required, radiation controls were properly established, fluid leaks and pipe vibrations were minimal, seismic restraint oil levels appeared adequate, equipment caution and hold cards agreed with control room records, plant housekeeping conditions/cleanliness were adequate, and fire hazards were minimal. The inspector observed shift turnovers to verify that plant and component status and problem areas were being turned over to relieving shift personnel. The inspector observed sampling and chemical analysis of water chemistry samples to verify that water chemistry was being maintained in accordance with Technical Specifications.

The inspector toured the interior of the torus prior to refilling it and noted that housekeeping conditions/cleanliness controls were adequate.

On February 29, 1980 during the CRD friction testing portion of Unit 2's refueling outage, a control rod was found not to be completely coupled. The licensee suspected the cause to be misalignment of the uncoupling pin. The licensee removed the Control Rod Drive and discovered that the uncoupling pin was not in place. The pin was suspected of being wedged in the lock plug portion of the control blade.

The licensee then planned to free the lodged uncoupling pin from above the core; this operation required the removal of four fuel bundles associated with the uncoupled rod and a fifth fuel bundle to accomodate a viewing camera to locate the uncoupling pin if it was still attached. The licensee exercised the blade handle prior to removal of the control rod blade in an attempt to free the uncoupling pin from above the core.

Visual inspection with the viewing camera revealed that the uncoupling pin was not attached to the lock plug of the coupling portion of the control rod when removed. The licensee then removed the blind flange of the CRD housing and located the uncoupling pin which apparently was freed during blade handle movement. The licensee's visual inspection of the uncoupling pin revealed that the pin had been installed into the Control Rod Drive backwards.

The inspectors closely monitored all operations of the event, and no further concerns were identified.

No items of noncompliance were identified.

4. Physical Protection - Security Organization

The inspector verified by observation and personnel interview (once during each operating shift) that at least one full time member of the security organization who has the authority to direct the physical security activities of the security organization was onsite at all times; verified by observation that the security organization was properly manned for all shifts; and verified by observation that members of the security organization were capable of performing their assigned tasks. There were no weapons qualifications conducted during this monthly inspection.

No items of noncompliance were identified.

5. Physical Protection - Physical Barriers

The inspector verified that certain aspects of the physical barriers and isolation zones conformed to regulatory requirements and commitments in the physical security plan (PSP); that gates in the protected area were closed and locked if not attended; that doors in vital area barriers were closed and locked if not attended; and that isolation zones were free of visual obstructions and objects that could aid an intruder in penetrating the protected area.

No items of noncompliance were identified.

6. Physical Protection - Access Control (Identification, Authorization, Badging, Search, and Escorting)

The inspector verified that all persons and packages were identified and authorization checked prior to entry into the protected area (PA), all vehicles were properly authorized prior to entry into a PA, all persons authorized in the PA were issued and displayed identification badges, records of access authorized conformed to the PSP, and all personnel in vital areas were authorized access; verified that all persons, packages, and vehicles were searched in accordance to regulatory requirements, the PSP, and security procedures; verified that persons authorized escorted access were accompanied by an escort when within a PA or vital area; verified that vehicles authorized escorted access were accompanied by an escort when within the PA; and verified by review of the licensee's authorization document that the escort observed above was authorized to perform the escort function.

No items of noncompliance were identified.

7. Review and Followup on Licensee Event Reports

Through direct observations, discussions with licensee personnel, and review of records, the following event reports were reviewed to determine that reportability requirements were fulfilled, immediate corrective action was accomplished, and corrective action to prevent recurrence had been accomplished in accordance with Technical Specifications.

Unit 1

RO 79-39, dated December 20, 1979, Failure to Have Specific MAPLHGR-Limts.

RO 79-41, dated December 17, 1979, Nitrogen Purge Valve Exceeded-Maximum Closure Time.

RO 80-01, dated January 11, 1980, Differential Pressure Transmitter for Drywell to Torus Indication Inoperable.

RO 80-02, dated January 11, 1980, SBGT Charcoal Adsorber Leakage.

Regarding RO 80-01, dated January 11, 1980, the differential pressure transmitter had been valved out since June of 1978, the date the transmitter was installed as a redundant Post Accident instrument per commitment to the NRC. The other indicator (original equipment) was operable throughout this period of time. The cause of this occurrence was that valve 1-1601-85 was not properly returned to service after installation of the transmitter. Also valve 1-1601-85 was not identified on drawings or valve checklists. This event is contrary to Technical Specifications, in that operation is permissable for only 30 days with one channel operable, and it is considered an item of noncompliance.

Prior to the conclusion of this inspection the licensee had updated all drawings and tagged all the valves in this system. The licensee had also changed his Modification Package Procedures to include a physical walk down of the system to ensure compliance with applicable drawings, checklists and procedures prior to completion of the modification. Corrective and preventive actions have been taken and, therefore, no response to this noncompliance is required.

Unit 2

RO 79-30, dated December 28, 1979, RHR Bed Plate Drain Valve Failed to Close.

RO 80-01, dated January 8, 1980 SBLC Relief Valve Actuated in Excess of Limits. The inspector verified that the followup action has been completed.

RO 80-02, dated January 8, 1980, Air Leakage Observed in Electrical Penetration.

Except as described, no other items of noncompliance were identified.

8. Refueling Activities

The inspector verified that prior to the handling of fuel in the core, all surveillance testing required by the Technical Specifications and licensee's procedures had been completed; verified that during the outage the periodic testing of refueling related equipment was performed as required by Technical Specifications; observed 3 shifts of the fuel handling operations (removal, inspection and insertion) and verified the activities were performed in accordance with the Technical Specifications and approved procedures; verified that containment integrity was maintained as required by Technical Specifications; verified that good housekeeping was maintained on the refueling area; and, verified that staffing during refueling was in accordance with Technical Specifications and approved procedures.

No items of noncompliance were identified.

9. Surveillance of Safety Related Systems/Components Required by Technical Specifications

The inspector observed Technical Specifications required surveillance testing (other than calibrations and checks) on the diesel generator, standby gas treatment system, scram timing tests, and control rod friction testing and verified that testing was performed in accordance with technically adequate procedures, that test results were in conformance with Technical Specifications and procedure requirements and were reviewed by personnel other than the individual directing the test, and that any deficiencies identified during testing were properly reviewed and resolved by appropriate management personnel.

On February 22, 1980 instrument mechanics performed surveillance test QIS-17-2, "RCIC Reactor Low Pressure Functional Test". Performance of the test results in RCIC system isolation, automatic closure of steam inlet valves 1301-16 and 1301-17, and annunciation in the control room. During performance of the test, annunciation and isolation functions are reset as they appear. The instrument mechanics completed the test at approximately 11:50 a.m. at which time the operator had cleared the annunciation and isolation signals. At 12:50 p.m. the instrument mechanics informed the operator that the test was completed.

Step F.2.I of the procedure instructs the instrument mechanics to inform the operator to reset the isolation and return valves

1301-16 and 1301-17 to their normal operating configuration (open) upon completion of testing. Upon notification of completion the instrument mechanics did not specifically inform the operator to return the valves to their open position. The operator observed that the isolation was reset, but failed to return valves 1301-16 and 1301-17 to their normal position. Failure to return these valves back to their normal operating configuration following a surveillance test is contrary to procedures and is considered an item of noncompliance.

These valves upon system initiation would have automatically returned to their open position and thus the RCIC system was operable at all times.

The mispositioning of these valves was discovered at 11:07 p.m. During the 10 hours that these valves were in the off normal position, a minimum of three control room panel checks were completed prior to discovery. The inspector determined that the RCIC steam valves (1301-16, 1301-17) and the HPCI steam valves (2301-3, 2301-4, 2301-5) were not included on the QOS-005-S1,"Weekly Summary of Daily Surveillance", Checklist. These inadequacies hampered the discovery of the mispositioning of these valves. This procedure inadequacy is considered an item of noncompliance.

Prior to the conclusion of this inspection the licensee revised the instrument mechanics checklist to include a step to verify that the valves are returned to normal. The licensee also initiated a PRO Report concerning this matter and discussed the matter with the individuals involved. The licensee has also added to their surveillance panel checklist the appropriate RCIC and HPCI valves. Corrective and preventive actions have been taken and, therefore, no response to these noncompliances is required.

Except as described, no other items of noncompliance were identified.

10. Followup on Headquarters Requests - Action Item 80-193

Ruskin Manufacturing Company, in accordance with the requirements of 10 CFR Part 21, reported a deficiency with equipment furnished for nuclear power plant application. The vertical type fire dampers during testing indicated that closure springs had slipped out of the spring holding slot in the bracket. Ruskin has come up with a method for eliminating this problem.

The inspector verified that the 7 affected fire dampers at Quad-Cities have been modified to eliminate the problem.

No items of noncompliance were identified.

11. Radiation Training

On February 21, 1980 the inspector attended a Special Radiation Training class presented in Spanish. The purpose of the training was to ensure that the spanish speaking contractors fully understood the radiation rules governing the job. The licensee had also provided bi-lingual foreman for the job to provide guidance for the workers.

No items of noncompliance were identified.

12. IE Circular Followup

For the IE Circulars listed below, the inspector verified that the circular was received by the licensee management, that a review for applicability was performed, and that if the circular were applicable to the facility, appropriate corrective actions were taken or were scheduled to be taken.

IE Circulars

IEC 79-18, dated September 6, 1979, Proper Installation of Target-Rock Safety Relief Valves. The inspector verified that the Manufacturer has been assisting the licensee in the installation of the valves.

IEC 79-19, dated September 13, 1979, Loose Locking Devices on Ingersoll-Rand Pump Impellers. The inspector verified that no major ECCS Pumps are manufactured by Ingersoll-Rand and the licensee is aware of the problems associated with these devices.

IEC 79-20, dated September 21, 1980, Failure of G.T.E. Sylvania Relay. The licensee does not have any of these type relays.

IEC 79-21, dated October 19, 1979, Prevention of Unplanned Releases of Radioactivity. The licensee has reviewed and evaluated this circular.

IEC 79-23, dated November 19, 1979, Motor Starters and Contractors Failed to Operate. The inspector verified that the licensee does not have any of these type starters or contractors.

IEC 79-24, dated November 21, 1979, Proper Calibration of Core Spray Pipe Detection. The inspector verified that the licensee had taken the proper corrective action.

IEC 79-25, dated December 14, 1979, Shock Arrestor Strut Assembly Interference. The licensee's evaluation concluded that this problem is not applicable. The inspector has no concerns in this area.

No items of noncompliance were identified.

13. Independent Inspection

On February 8, 1980 the inspector was notified by the licensee of a problem with a contractor's film badge readings.

The film badge indicated an exposure of 5.16 REM, the TLD reading indicated an exposure of 4.12 REM, and the time keeping records indicated 0.745 REM. The licensee began a review of other contractors who had been working in the same area of the plant and no unusual indications were found.

The inspector reviewed all records and conducted an interview with the person involved. The inspector determined that these readings were erroneous and no overexposure had occurred.

No items of noncompliance were identified.

14. News Conference

On February 5, 1980, the Director of Region III along with other representatives held a news conference, with the public in attendance, to discuss the recent events at the Quad-Cities Nuclear Station.

In regards to the unplanned radioactive effluent release the Director stated that the event did not warrant a civil penalty and that there were no environmental consequences associated with this release. In regards to the investigation of the closure of two emergency valves, the investigator's findings were inconclusive.

15. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1) throughout the month and at the conclusion of the inspection on March 3, 1980 and summarized the scope and findings of the inspection activities. The licensee acknowledged the inspectors comments.