

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report Nos. 50-373/88011(DRP); 50-374/88010(DRP)

Docket Nos. 50-373; 50-374

Licenses No. NPF-11; NPF-18

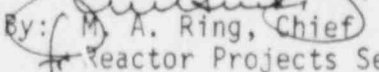
Licensee: Commonwealth Edison Company  
Post Office Box 767  
Chicago, IL 60690

Facility Name: LaSalle County Station, Units 1 and 2

Inspection At: LaSalle Site, Marseilles, IL

Inspection Conducted: March 25 through May 9, 1988

Inspectors: R. Kopriva

Approved By:  M. A. Ring, Chief  
Reactor Projects Section 1B

05.25.88  
Date

Inspection Summary

Inspection on March 25 through May 9, 1988 (Reports No. 50-373/88011(DRP); 50-374/88010(DRP))

Areas Inspected: Routine, unannounced inspection conducted by resident inspectors of licensee actions on previous inspection findings; operational safety; surveillance; maintenance; training; Licensee Event Reports; emergency planning-emergency detection and classification; and management meeting.

Results: Of the eight areas inspected, one violation was identified in Paragraph 4. The licensee is currently 40% complete with their Unit 1 refueling outage. Work on the drywell cooling modification, snubber reduction and reactor recirculation pump are going well and appear to be on or near schedule. During the previous inspection report period, there were several problems (i.e. missed surveillances, health physics violation, procedural violations) which appear to have been isolated occurrences, as these problems have not reoccurred during this report period. Due to the large amount of work taking place during the outage, the licensee should remain diligent in their efforts of controlling the work activities.

## DETAILS

### 1. Persons Contacted

- G. J. Diederich, Manager, LaSalle Station
- \*W. Huntington, Services Superintendent
- \*J. C. Renwick, Production Superintendent
- D. Berkman, Assistant Superintendent, Work Planning
- J. Schmeltz, Assistant Superintendent, Operations
- P. Manning, Assistant Superintendent, Technical Services
- T. Hammerich, Assistant Technical Staff Supervisor
- W. Sheldon, Assistant Superintendent, Maintenance
- J. Atchley, Operating Engineer
- \*D. A. Brown, Quality Assurance Supervisor
- \*A. Settles, Assistant Technical Staff Supervisor
- \*M. G. Santic, Master Instrument Mechanic

\*Denotes personnel attending the exit interview on May 13, 1988.

Additional licensee technical and administrative personnel were contacted by the inspectors during the course of the inspection.

### 2. Licensee Action on Previous Inspection Findings (92701)

(Closed) Unresolved Item (374/88004-01): Personnel error during instrument surveillance causing the reactor recirculation pump motors to trip and subsequent reactor scram. The unresolved item is closed and a Notice of Violation 374/88010-01 on this event is being issued.

(Closed) Unresolved Item (373/88004-01; 374/88004-02): Inadequate procedures covering reactor core power oscillations. The inspector reviewed the licensee's procedures and had several discussions with the licensee's staff pertaining to the contents of these procedures. The procedures had been written incorporating knowledge the licensee had gained from preoperational testing and vendor analysis. The licensee revised their procedures to mitigate future events of this nature.

No violations or deviations were identified in this area.

### 3. Operational Safety Verification (71707)

- a. The inspector observed control room operations, reviewed applicable logs, and conducted discussions with control room operators during the inspection period. The inspector verified the operability of selected emergency systems, reviewed tagout records, and verified proper return to service of affected components. Tours of Unit 1 and 2 reactor buildings and turbine buildings were conducted to observe plant equipment conditions, including potential fire hazards, fluid leaks, and excessive vibrations, and to verify that maintenance requests had been initiated for equipment in need of maintenance. The inspector, by observation and direct interview, verified that the physical security plan was being implemented in accordance with the station security plan including the following:

the appropriate number of security personnel were on site; access control barriers were operational; protected areas were well maintained, and vital area barriers were well maintained. The inspector verified the licensee's radiological protection program was implemented in accordance with the facility policies and programs and in compliance with regulatory requirements.

During the month of April 1988, the inspector walked down the accessible portions of the following systems to verify operability:

2A Diesel Generator  
Standby Gas Treatment Systems  
Unit 2 High Pressure Core Spray System  
Unit 2 Reactor Core Isolation Cooling System

4. Monthly Surveillance Observation (61726)

The inspector observed Technical Specification required surveillance testing and verified for actual activities observed that testing was performed in accordance with adequate procedures, that test instrumentation was calibrated, that Limiting Conditions for Operation were met, that removal and restoration of the affected components were accomplished, that test results conformed with Technical Specification and procedure requirements and were reviewed by personnel other than the individual directing the test, and that any deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel.

The inspector witnessed portions of the following test activities:

LIS-RP-03 Main Steam Isolation Valve Closure Scram Response Time Test  
LIS-MS-407 Unit 2 Reactor Vessel Low-Low-Low Water (Level I) Main Steam Isolation Valve Isolation Functional Test  
LIS-LP-105 Unit 1 Low Pressure Core Spray Flow Indication Calibration  
LOS-DG-SR4 2B Diesel Generator Action Statement Operability Test  
LES-RH-100 Unit 1 Residual Heat Removal System Relay Logic Test  
Division I

- a. On March 9, 1988, at 5:32 p.m. while performing surveillance LIS-NB-404, "Unit 2 Reactor Vessel Low Low Water Level RCIC Initiation, Low-Low-Low Water Level LPCS/RHR Initiation, and ADS Permissive Functional Test," an instrument mechanic inadvertently valved in the variable and reference legs of differential pressure switch 2B21-NO37BB with the equalizing valve open (refer to unresolved item 374/88004-01). A second technician observing the test informed the first technician of the error. The variable and reference leg isolation valves were immediately closed, however, this had caused a perturbation in the instrument rack causing the reactor recirculation pumps to trip, reactor core power oscillations, and subsequent reactor scram.

Technical Specification 6.2.A requires that detailed written

procedures including applicable checkoff lists shall be prepared, approved, and adhered to; including those procedures recommended in Appendix "A" of Regulatory Guide 1.33, Revision 2, February 1987, and surveillance and testing requirements. Regulatory Guide 1.33 includes procedures for control of measuring and test equipment and for surveillance tests, procedures and calibrations.

Contrary to the above, on March 9, 1988, while performing surveillance LIS-NB-404, "Unit 2 Reactor Vessel Low Low Water Level RCIC Initiation, Low-Low-Low Water Level LPCS/RHR Initiation, and ADS Permissive Functional Test", the procedure was not adhered to when an instrument technician inadvertently valved in the variable and reference legs of the differential pressure switch being tested with the equalizing valve open. The technician failed to adhere to the procedure in that he manipulated the wrong valves. This is considered a violation (374/88010-01).

There were several items which could have prevented this error. There were no precautions or special notes in the procedure to alert the technician that improper valve manipulation(s) could cause problems. The second technician possibly could have recognized and prevented the first technician from manipulating the wrong valves prior to valving in the reference and variable legs of the switch. Valve identification may have aided the technician in selecting the proper valves, but at present there is no specific identification of these valves for the differential pressure switches. The licensee is reviewing this problem, but they have not found an acceptable resolution for labeling the valves.

- b. On April 12, 1988, at approximately 2:15 a.m. CDT, the licensee was performing surveillance LIS-HP-205, "Unit 2 High Pressure Core Spray (HPCS) Minimum Flow Bypass Calibration." At 2:55 a.m., during the testing, static-o-ring (SOR) switch 2E22-N006 was found to actuate outside of its calibration limits. The switch actuated at 18 inches of water column and the rejection limit for this switch is less than 20 inches of water column. The licensee then placed the HPCS minimum flow bypass valve in the closed position and declared the HPCS system inoperable. The SOR switch has been replaced. Upon initial investigation, it appears that there was no diaphragm failure in the switch. This appears to be the first failure of the SOR switch in this application.
- c. On April 22, 1988, at approximately 1:20 p.m. (CDT), the licensee was replacing a K1A relay in the Unit 1 Reactor Protection System (RPS) which had failed its response time testing. The technician installed the K1A relay improperly which tripped the 'A' bus of the Unit 1 RPS due to the shorting in the 'A' Average Power Range Monitor (APRM). This caused the 'A' RPS Motor/Generator (M/G) set output breaker and power monitoring assemblies to trip, and the fuse associated with the K1A relay blew causing actuation of the reactor building ventilation isolation dampers, which closed. This action automatically started the Unit 1 and 2 Standby Gas Treatment (SBGT)

trains. The unit operators installed jumpers on the Main Steam Line (MSL) tunnel temperature and differential temperature switches for Unit 2 to preclude their actuation. The licensee investigated the isolation actuation and then reopened the reactor building ventilation isolation dampers, restarted the Unit 1 and 2 ventilation fans and returned the SBTG trains back to normal standby status. At 1:50 p.m. the jumpers were removed from the Unit 2 MSL tunnel temperature and differential temperature switches.

5. Monthly Maintenance Observation (62703)

During the inspection period, the inspector observed portions of the following maintenance activities:

- Unit 1 - Jet pump disassembly, inspection and reassembly.
- Unit 1 - Control rod drive removal, rebuild and reinstallation.
- Unit 1 - 'A' turbine driven reactor feed pump maintenance.
- Unit 2 - Motor driven reactor feed pump maintenance.
- Unit 1 - High pressure core spray motor disassembly.

- a. In September 1987, after the startup of Unit 1, it was noted that the No. 3 jet pump located in the reactor, was not achieving its expected flow. Upon further review of the problem, the licensee concluded that the jet pump appeared to be partially blocked reducing its total flow capacity. During the present Unit 1 refueling outage, jet pump No. 3 was disassembled and inspected.

During the inspection, the inside of the jet pump exhibited several areas that appeared to be scratched or worn by a foreign object which had passed through the jet pump. Upon further inspection, the male disc insert to the 'A' Reactor Recirculation (RR) pump discharge valve was found lodged in the nozzle area of the jet pump. The disc insert had been identified as a missing piece during the disassembly of the 'A' RR pump discharge valve which took place in the summer outage of 1987. A search to find the missing disc insert, at that time, proved unsuccessful. A loose parts analysis had been performed by the reactor vendor which analyzed operating the unit with the disc insert in the reactor or associated recirculation system.

The disc insert was in one piece and had been lodged firmly in the jet pump. There were no indications in the jet pump that the disc insert had been moving around, potentially causing excessive wear or deterioration of the jet pump. Upon removal of the disc insert from the jet pump and completion of the inspection, the jet pump was reassembled.

- b. On May 3, 1988, at approximately 5:40 p.m. CDT with Unit 1 in a refueling outage and Unit 2 at 97% power, the secondary containment ventilation system automatically isolated and the Standby Gas

Treatment (SBGT) System auto started on both units in response to a dual unit Group 4 isolation signal. The licensee was making preparations to move the 1A reactor recirculation pump impeller to the refueling floor while the 1A reactor recirculation pump was being rebuilt. As part of the preparations, the licensee was jumpering out the refueling floor process radiation monitors to prevent a Group 4 isolation signal from being generated while the recirc impeller was being moved. The jumper slipped off one of the screw terminals to which it was attached and grounded out to the metal enclosure causing a fuse to blow. When this occurred, the Group 4 isolation signal that the licensee was attempting to prevent was generated. By 6:38 p.m. CDT, the licensee had restored both secondary containment ventilation systems and one train of SBGT. The second train of SBGT was allowed to run for approximately 10 hours for surveillance purposes.

No violations or deviations were identified in this area.

6. Training (41400)

The inspector, through discussions with personnel and a review of training records, evaluated the licensee's training program for operations and maintenance personnel to determine whether the general knowledge of the individuals was sufficient for their assigned tasks. In the areas examined by the inspector, no items of concern were identified.

No violations or deviations were identified in this area.

7. Licensee Event Reports (92700)

Through direct observations, discussions with licensee personnel, and review of records, the following Licensee Event Reports (LERs) 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.

- a. The following reports of nonroutine events were reviewed by the inspectors. Based on this review it was determined that the events were of minor safety significance, did not represent program deficiencies, were properly reported, and were properly compensated for. These reports are closed:

373/88001-00 - Failure of reactor core isolation cooling high reactor water level switch due to setpoint drift caused by stripped setpoint locking mechanism screw.

373/88002-00 - Type 'B' and Type 'C' total leakage exceeded 0.6 La during leak rate testing.

374/88001-00 - 2B Diesel Generator cooling water pump failure to auto start.

374/88002-00 - Group 10 isolation due to test switch failure found during surveillance testing.

374/88004-00 - Missed Technical Specification surveillance due to personnel error.

- b. The following reports of nonroutine events involved violations of regulatory requirements. These reports are considered closed. Event closure is being tracked by the associated violation. Appropriate cross references are provided.

374/88003-00 - Reactor scram on high average power range monitor flux level due to the personnel valving error.

No violations or deviations were identified in this area.

8. Emergency Planning - Emergency Detection and Classification (82201)

- a. On April 13, 1988, at approximately 9:25 a.m. CDT, the licensee informed the resident inspector that a subcontractor technician had been taken off site by ambulance for what appeared to have been a heart attack. Charles U. Miller, a General Electric Co. technician, was in the licensee's protected area in the service building on his way to the mask (respirator) fit area. Mr. Miller had just finished walking up a set of stairs when he became dizzy and then unconscious. He was revived and appeared coherent for a moment and then stopped breathing. Other workers in the area started administering cardio pulmonary resuscitation (CPR) with no response. They continued to administer CPR. Mr. Miller was then transported off site by ambulance to Saint Mary's Hospital in Streator, Illinois where Mr. Miller was pronounced dead. Mr. Miller was 57 years old and a diabetic. He was still in the process of completing the licensee's training for radiation protection and had not been in any radioactive or contaminated areas of the plant when the event occurred. Preliminary diagnosis by the coroner was that Mr. Miller had suffered a massive heart attack.
- b. On April 23, 1988, at 9:50 p.m. (CDT), a contractor fell while working on the main steam turbine. At 10:12 p.m. the licensee declared an unusual event (GSEP) due to the fact that they would be transporting a potentially contaminated person to the hospital. The licensee elected to leave the contractor's anti contamination clothing on due to potential back injuries. The contractor was working in the turbine building on the platform for the main steam turbine rotor. He fell approximately 10 feet. During the fall, the contractor struck his left shoulder and small of his back on an 'I' beam. The Emergency Notification System (ENS) notification was made at 10:15 p.m.. The ambulance left the site at 10:20 p.m.. The contractor received attention at St. Mary's in Streator,

Illinois and at 11:15 p.m. was found not to be contaminated. The licensee then terminated the unusual event.

- c. On May 8, 1988, at approximately 6:25 p.m. CDT, an off duty security guard called the LaSalle County Nuclear Station stating that he had seen a tornado and that it appeared to be heading in the general direction of the site. The station contacted the load dispatcher to relay the message and the station was informed that there had been several electrical problems in the area due to high blowing winds. The licensee also experienced some problems with communications over local phone lines. The station declared an Unusual Event per their GSEP procedures at 6:30 p.m.. By 7:10 p.m., the high winds had decreased and the station terminated the Unusual Event. No site damage was sustained. The ENS notification was made at 7:15 p.m..

No violations or deviations were identified in this area.

9. Management Meeting (30703)

On April 15, 1988, select NRC Region III staff and the resident inspectors met with the licensee's staff for a routine plant tour, plant outage update, and an overview of the sites operational performance for the past month. The plant tour included the Emergency Core Cooling System (ECCS) pumps, valves and heat exchangers. The NRC personnel then observed shift turnover in the control room and attended the licensee's morning briefing meeting. The licensee included with their presentation of plant performance and their update on the outage, a brief discussion of their preventive maintenance program and how they implement it.

10. Exit Interview (30703)

The inspectors met with licensee representatives (denoted in Paragraph 1) throughout the month and at the conclusion of the inspection period and summarized the scope and findings of the inspection activities. The licensee acknowledged these findings. The inspectors also 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.