

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report Nos. 50-373/88003(DRP); 50-374/88003(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: January 7 through February 9, 1988

Inspectors: M. J. Jordan
R. Kopriva

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

2/25/88
Date

Inspection Summary

Inspection on January 7 through February 9, 1988 (Reports No. 50-373/88003(DRP); 50-374/88003(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; regional requests/followup on generic letters; security; and allegations.

Results: Of the nine areas inspected, no violations or deviations were identified. The licensee has been successful in reducing personnel errors and increasing the awareness of plant personnel. Both units have been operating at or near 100% power. The licensee still needs to maintain efforts to minimize errors. There was one personnel error during this reporting period which caused a feedwater transient which could have tripped the unit (i.e. a near-miss). The overall performance of the licensee continues to improve.

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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
- *M. Harper, Quality Assurance Engineer
- *A. Settles, Assistant Technical Staff Supervisor

*Denotes personnel attending the exit interview on February 9, 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) Allegation (373/87022-02; 374/87022-02): The remaining portion of this allegation concerned an individual who stated that after returning to the drywell from lunch, he noticed some gasket material he had installed was removed and thrown on the floor. He pointed this out to a licensee's engineer because he felt he was being set up. The inspector received this allegation after the containment was closed up and inerted. The inspector considers the gasket material to not be of safety concern due to a followup inspection (373/87034; 374/87033) conducted which verified that the containment was intact with minimal leakage. The containment leakage was low enough to meet regulatory requirements. This allegation (RIII-87-A-0023) is considered closed.

(Closed) Violation (374/87029-02): On October 17, 1987, electrical maintenance personnel failed to adhere to LAP 100-30, "Independent Verification", and LAP 240-6, "Temporary System Changes", and used electrical schematics instead of electrical wiring diagrams to remove a failed relay in the residual heat removal system. When lifting the leads, a Reactor Water Cleanup (RWCU) relay, in series, lost power causing an isolation of the RWCU system. The leads were relanded and the isolation reset. Electrical maintenance personnel were trained on the event. The other maintenance departments were informed of the event and of the need to adhere to procedures. The inspector finds the licensee's actions adequate.

(Closed) Violation (373/87033-01; 374/87032-01): On October 6, 1987, procedures LAP 900-4, "Equipment Out of Service", and LAP 900-12, "Caution Card Procedure", were not adhered to causing approximately 100

cubic feet of resins to be pumped onto the floor of the spent resin pump room. LAP 900-4 has been revised, the incorrect caution card has been replaced and the LaSalle Projects and Construction Services, Department Field Engineers and contractor supervisory personnel have been trained on this event. The inspector finds the licensee's action adequate.

(Closed) Open Item (373/84010-04): Item dealt with the addition of a warming valve in the Unit 1 Residual Heat Removal (RHR) steam condensing mode piping to allow a more controlled system warm up in order to eliminate potential water hammer. The steam condensing mode of the RHR system has not been used by the station since 1983 and its use in the future is unlikely due to problems experienced with venting the RHR heat exchangers during this mode of operation. The three snubbers involved will be deleted under modification M-1-1-87-046. Snubbers RI41-1060S and RI41-1064 will be converted to struts and snubber RI41-1068S will be deleted entirely during Unit 1's second refueling outage. The licensee has re-evaluated the modification for installing the warming valve and sees no advantage to proceeding with its installation. The resident inspector has reviewed the licensee's evaluation of this item and finds the results acceptable.

(Closed) Open Item (373/84033-03): Item concerns implementation of Induction Heating Stress Improvement (IHSI) during first refuel outage. Routine safety inspection report 373/85035; 374/85036 specifically addresses the Inservice Inspection (ISI) and IHSI performed during the Unit 1 refuel outage. No deviations or violations were identified. The inspector has reviewed the report and findings and finds the results satisfactory.

(Closed) Open Item (373/85007-01; 374/85007-01): Item concerns long term corrective action for control rod scram accumulator pressure switch drift. A Technical Specification change has been granted for T.S. 4.1.3.5.b.1.b.. It has been changed from 940+30,-0 psig to greater than 940 psig. The indicated pressure is verified greater than or equal to 940 psig at least once per seven days when plant conditions require the accumulators to be operable. Also, during plant operation the pressure indicators for the hydraulic control units (HCU) are being checked once per shift. The inspector finds the licensee's action adequate.

(Closed) Open Item (373/85009-01): The licensee determined the spacing between the front support on the battery rack and the battery was too large to meet seismic analysis for the batteries. Modifications to the battery racks are complete. The inspector has, through inspection, visually verified the completion of the modifications. The inspector finds the licensee's actions adequate.

(Closed) Noncompliance (374/84037-01A; 374/84037-01B): On November 7, 1984, an instrument mechanic (IM) failed to adhere to procedure LIS-RT-05, "Reactor Water Cleanup High Differential Flow Isolation Response Test," which requires the IM to verify the alarm window to be clear and the isolation logic to be reset before removing the relay blocks.

On November 15, 1984, an instrument mechanic (IM) failed to adhere to procedure LCP 820-22, "Source Response Testing and Calibration of Area Radiation Monitors (Control Room HVAC Air Intake)," which specifies that steps be taken to avoid inadvertent initiation of the Control Room Emergency Ventilation System.

The IM was advised of his error and the importance of rigorous adherence to procedures. Procedure LIS-RT-05 was revised to clarify the steps required to reset the isolation logic. Procedure LCP 820-22 has been revised to include additional detail regarding the steps required to avoid inadvertent initiation of the Control Room Emergency Ventilation System. The IMs involved have been made aware of the importance of complete and accurate communication and rigorous procedure adherence. The inspector finds the licensee's actions adequate.

(Closed) Open Item (373/85009-03; 374/85009-02): On March 28, 1985, a Group 6, Division 2 isolation signal was received causing the inboard shutdown cooling isolation valve to isolate. A lifted lead caused the loss of power to the affected Group 6. Procedure LES-PC-05, "Group V Isolation System Functional Test," has been revised to have a jumper installed from fuse 1(2)E31-F2B to terminal B1 of relay 1(2)E31-K11B. This will allow power to be maintained to all other points fed from fuse F2B except the K5B relay, thereby, preventing further Group 6 isolations. The inspector has reviewed the licensee's actions and finds them adequate.

(Closed) Noncompliance (373/85009-04A; 374/85009-03A): On March 31, 1985, while performing a surveillance on a Residual Heat Removal (RHR) System integrity monitor switch, an instrument mechanic incorrectly isolated the Unit 2 shutdown cooling system high flow isolation switch which caused an unnecessary isolation of the shutdown coolant system. Shutdown cooling was restored promptly and the technician counseled on failure to adhere to procedures and increased awareness when working in the field. The inspector finds the licensee's actions acceptable.

(Closed) Noncompliance (373/85009-04B; 374/85009-03B): On March 27, 1985, while performing a system pressure test on a Unit 1 Emergency Core Cooling System (ECCS) Division I low reactor level actuation switch, three Automatic Depressurization System (ADS) valves (B, J, and S) lifted.

The procedure required the pressure test to be performed at 1046 psig. The piping, however, was pressurized to approximately 1120 psig which caused the ADS valves to open. The station construction department onsite developed a new construction test procedure to further delineate the steps necessary to successfully complete post modification/maintenance pressure tests. Full implementation and use of the new construction pressure test procedure was completed by June 15, 1985.

(Closed) Open Item (373/85012-01; 374/85012-01): This item was to determine how much sediment contained in the station batteries should be considered excessive. The licensee met with the battery vendor and a

specified sediment level was determined to be cause for concern. The licensee continues to monitor battery sediment on a periodic routine basis. The licensee is also considering changing out the batteries to a different type of battery, a lead calcium battery in which the concern for sediment build up is negligible.

(Closed) Open Item (373/87035-10; 374/87034-03): IE Bulletin 87-02, "Fastener Testing to Determine Conformance With Applicable Material Specifications", dated November 6, 1987.

- a. The NRC inspector participated in the licensee's selection of the fasteners that were tested.
- b. Review of the licensee's receipt inspection program/procedures is complete. The inspector reviewed procedure LAP 1700-10, "Receiving Inspection By Quality Control", and compared it to the receipt inspection program.
- c. The inspector reviewed the licensee's maintenance/warehousing procedures for issue and control of fasteners, LAP 1400-02, "Withdrawal and Return of Materials From the Storeroom."
- d. Licensee's description of further action being taken: Based on the results of the test program and review of the procedures for inspection and control, the licensee feels no further actions should be taken.

No violations or deviations were identified in this area.

3. Operational Safety Verification (71707, 71881, 71709)

- 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 January 1988, the inspector walked down the accessible portions of the following systems to verify operability:

Unit 2 Diesel Generators

Unit 1 Standby Gas Treatment System
Unit 1 Standby Liquid Control
Diesel Fire Pump
Unit 2 Low Pressure Core Injection

- a. On January 7, 1988 at 8:55 a.m. (CST), the licensee was performing a 1/2 scram surveillance when a drift alarm was received on control rod #58-39, which is a peripheral control rod. The control rod, which had been at position 48 (full out of the core), had drifted to position 00 (full in). The initial investigation in the drifting rod problem did not reveal any abnormal problems. The control rod was withdrawn and the licensee tried to recreate the scenario which caused the control rod to drift in. The testing could not duplicate the problem. The licensee assumed it was an isolated occurrence. At 9:06 p.m. on January 7, 1988, control rod 58-39 again drifted into the core. The licensee proceeded to investigate further and at 2:00 a.m. on January 8, 1988, these efforts revealed a sticking insertion solenoid on the Hydraulic Control Unit (HCU) associated with control rod 58-39. The solenoid was sticking in the deenergized position even when reenergized. The problem was mechanical not electrical. The solenoid was replaced and was tested. Testing was completed with satisfactory results. The control rod was then withdrawn. The problem with the insertion solenoid would not have prevented the control rod from scrambling if it would have been required.
- b. On January 31, 1988, at approximately 5:00 a.m. (CST), the licensee was reducing power on Unit 2 to perform a control rod pattern change. When the operator attempted to withdraw control rod 34-07, the control rod would not move. Several attempts were made to withdraw the control rod, all of which were unsuccessful. The operator then fully inserted the control rod. Upon further testing, the problem appears to be the directional control valve for control rod 34-07. At 6:10 a.m., the maintenance department was called in to help in resolving the problem. At 7:00 a.m., the operator was able to withdraw the control rod from the fully inserted position 00 to position 04 with no apparent problems. At 12:05 p.m., the Hydraulic Control Unit (HCU) for control rod 34-07 was taken out of service in preparation for replacement of the directional control valve (the 121 valve) for control rod 34-07. At 2:30 p.m., the directional control valve had been replaced, the HCU for 34-07 was placed back in service and the control rod tested. The results of cycling the control rod were satisfactory. The resident inspector is to be informed of the results of the inspection of the defective directional control valve.
- c. On February 7, 1988, at 8:32 p.m. (CST), Unit 2, while operating at approximately 90% power, experienced a feedwater transient. An equipment attendant (EA), while investigating a loss of

certain lighting, accidentally disrupted power to Unit 2 transformer feed to the 120/208 VAC power supply to motor control center (MCC) 232B-1. The momentary loss of power to MCC 232B-1 caused a loss of power to the feedwater heater drain controls.

The EA thought that MCC 232B-1 had tripped. In order to reset the trip, the breaker must first be switched to OFF. MCC 232B-1 had not tripped and when the EA took the breaker to OFF, the power was disrupted. The loss of power to the heater drain controls closed the pump forward valves. This caused a high differential pressure across the condensate polishers, low condensate booster pump suction pressure, the auto start of the fourth condensate pump and low feedwater pump suction pressure. The unit operator started reducing reactor power by reducing Reactor Recirculation (RR) flow when the B-RR flow control valve locked. Both RP pumps were then downshifted to slow speed so as to reduce power enough to control the transient. The transient stabilized with reactor power at approximately 48%. The reactor water level had ranged from a low of 27 inches to a high of 52 inches. Normal operating water level is 36-38 inches. At 8:36 p.m., the operator received a main steam line high radiation alarm. It appears that the transient caused some condensate polisher resin beads to be pumped into the reactor vessel. Radiation chemistry personnel were cognizant of the problem and were monitoring the situation. At 12:20 a.m. on February 8, 1988, the RR pumps were upshifted and power increased.

No violations or deviations were identified in this area.

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-HP-205	Unit 2 High Pressure Core Spray Minimum Flow Bypass Calibration
LOS-DG-M1	"0" Diesel Generator Operability Test
LIS-MS-404	Unit 2 Main Steam Tunnel High Temperature MSIV Isolation Functional Test
LOS-MS-M1	Main Steam Isolation Valve-Leakage Control System Blower and Heater Operability Tests

No violations or deviations were identified in this area.

5. Monthly Maintenance Observation (62703)

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

Replacement of the piping spool piece at the down stream stop valve for service water to the Unit 1A fuel pool cooling heat exchanger. (Work Request #L-73107)

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:

373/87038-00 - Reactor scram on low reactor water level caused by feedwater heater string isolations due to design deficiency.

373/87033-01 - Failure of Diesel Generator 1A to close onto Bus 142Y during surveillance testing. The cause of the event was reanalyzed because of a similar event on December 18, 1987 (LER 373/87040-00).

373/87037-00 - Reactor water cleanup suction isolation valve closure on hi filter/demineralizer inlet temperature due to failed temperature switch.

373/87040-00 - 1A Diesel Generator output breaker failure to close due to bad contact in closing circuit.

- 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.

373/87039-00 - Reactor core isolation cooling water leg pump failure (see Inspection Report 373/87035-08(DRP)).

No other violations or deviations were identified in this area.

8. Regional Requests/Followup on Generic Letters (92701)

(Closed) Generic Letter (GL) 85-14: In accordance with a regional request dated March 20, 1986, from E. Schweibinz., Chief, Technical Support Staff, the inspector reviewed the licensee's action on the GL and considers this item closed. This GL addressed a concern with commercial storage at power reactor sites of low-level radioactive waste not generated by the utility. The GL did not request a response to this issue from the licensee. The licensee reviewed this GL and found it not applicable and took no further action. This item is considered closed (373/88003-01; 374/88003-01).

(Closed) Generic Letter (GL) 85-07: In accordance with a regional request dated March 20, 1986 from E. Schweibinz, Chief, Technical Support Staff, the inspector reviewed the licensee's response dated August 29, 1985, and considers this GL closed. The GL dealt with the implementation of an integrated schedule for plant modifications. The licensee stated they will work with the NRC staff to establish a schedule for the Zion site and will use it as a trial basis to determine how to deal with the other sites. The licensee responded to the GL as requested. This item is considered closed (373/88003-02; 374/88003-02).

(Closed) Information Notice (IN) 87-42): In accordance with correspondence dated October 1, 1987, from C. E. Norelius to Region III senior resident inspectors, the inspectors reviewed the licensee's action concerning the IN. This IN dealt with an event at Browns Ferry where an explosion occurred due to degraded spring finger or fuse contacts for the spring fingers were such that by opening a transformer compartment, the spring finger came with the door and opened to prevent pulling the fuses while the potential transformer is carrying current. The emergency diesel generator potential transformer at LaSalle are hard wired to fuse holder, which are also hard wired to the various relays. The LaSalle arrangement has no moving parts and is all hard wired. Thus, this problem does not exist at LaSalle. No further action was needed by the licensee. This item is considered closed (373/88003-03; 374/88003-03).

(Closed) Generic Letter (GL) 84-23 and Open Item 373/87006-01; 374/87006-02: In accordance with a regional request from E. Schweibinz, Chief, Technical Support Staff, dated March 20, 1986, the inspectors reviewed the above GL for action and considered it closed. The GL dealt with reference legs on water level instrumentation not being reliable due

to flashing to steam during periods of high drywell temperatures. The licensee responded to the GL in correspondence dated December 4, 1984, January 9, 1985, May 3, 1985, and June 10, 1986. The licensee is rerouting the reference leg piping outside primary containment to prevent flashing of the reference legs. These modifications will be accomplished before startup after the second refueling outage for each unit. The NRC accepted the licensee's proposal and data for completion in correspondence dated March 2, 1987, to Mr. Dennis Farrar, Director of Nuclear Licensing, Commonwealth Edison Company from A. Bournia, Project Manager, BWR Project Directorate No. 3. The licensee has prepared modification packages for each unit, Unit 1 modification package 1-1-84-089, Unit 2 modification package 1-2-84-131. This item is considered closed (373/88003-04; 374/88003-04).

(Closed) Information Notice (IN) 87-024: In accordance with the regional request dated October 1, 1987, from C. E. Norelius to Region III senior resident inspectors, the inspectors reviewed the licensee's action concerning NRC IN 87-024 having to do with losses of electrical inverters. The licensee reviewed the history of failures of inverters at LaSalle. Only the inverters used in the annunciator circuit had failed. These failures were attributed to high air flow in the panels causing dust to buildup in the inverters circuits. The licensee is in the process of issuing surveillance procedures to check, inspect, and clean all the inverters at LaSalle on a frequency to prevent this type of failure. This IN is considered closed (373/87003-05; 374/87003-05).

9. Security (71881)

On February 5, 1988, at approximately 3:00 p.m. (CST), the station security administrator informed the resident inspector that the main access road for the plant was covered by a severe, dense fog created by the plants discharge canal. There had been several accidents during the day. With the upcoming shift change, and with concurrence of the plant manager and station supervision, security closed the main access road. They then proceeded to open gates to the protected area, routing traffic through the protected area of the site. There were security guards stationed at the gates and all along the route traveled within the protected area. Vehicles passing through the protected area were always in visual contact of the security guards. Once shift change was complete at approximately 5:00 p.m., the protected area was secured and the main access road once again opened to traffic. Security guards were placed at either end of the area of road covered by the fog and were controlling traffic for the remainder of the evening.

No violations or deviations were identified in this area.

10. Allegations (99024)

(Closed) Allegation RIII-87-A-0102: The NRC received an allegation that a vendor was fabricating spent fuel racks which may have defective welds, and that Wisconsin Public Service Corporation (Kewaunee Nuclear Plant)

may have been the recipient of some of the racks. The results of the investigation into this allegation also determined that a similar problem may exist for the high density fuel racks LaSalle was purchasing.

The inspectors discussed this issue with a corporate QA inspector who did vendor inspections at the vendor who is manufacturing the new fuel storage racks for LaSalle. As a result of the concern from Kewaunee and the results of an NRC vendor inspection, which determined that a 100% visual inspection of the manufacturer's welds was not being done, the licensee had the manufacturer change their Visual Weld Examination Procedure 10.5 in May of 1987 to require a 100% visual examination prior to doing a liquid penetrant examination. Followup QA inspections were done by Sargent & Lundy in August 1987 and by Commonwealth Edison in June 1987, both of which verified that the vendor was performing 100% inspection of the welds. The fuel racks are currently being stored at the vendor site until the authorization is received to install them into the storage pool on site. The site QA Manager has requested a hold be placed on installing the fuel racks upon arrival on site and will require a visual inspection of the welds during receipt inspection.

Based on the actions the licensee has taken or will be taking *his allegation is considered closed. (373/88003-06; 374/88003-06).

11. 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 contents 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.