U.S. NUCLEAR REGULATORY COMMISSION
REGION III

Report No. 50-373/92028(DRP); 50-374/92028(DRP)

Docket Nos. 50-373; 50-374 License Nos. NPF-11; NPF-18

Licensee: Commonwealth Edison Company
Executive Towers West III
1400 Opus Place Suite 300
Downers Grove, IL 60515

Facility Name: LaSalle County Station, Units 1 and 2

Inspection At: LaSalle Site, Marseilles, Illinois

Inspection Conducted: November 26 through December 28, 1992

Inspectors: D. Hills
C. Phillips
J. Roman, Illinois Department of Nuclear Safety

Approved By: _____ 1/4/93
R. L. Hague, Chief Date
Reactor Projects Section 1C

Inspection Summary

Inspection from November 26 through December 28, 1992 (Reports No. 50-373/92028(DRP); 50-374/92028(DRP)).

Areas Inspected: A routine, unannounced safety inspection was conducted by the resident inspectors and an Illinois Department of Nuclear Safety inspector. The inspection included followup on previously identified items and licensee event reports; review of operational safety, monthly maintenance, surveillance activities; safety assessment and quality verification; and report review.

Results: Two violations were identified concerning the following:

- Four examples of failing to follow procedure caused by inattention to detail involving hourly fire watches (Paragraph 3), incorrectly securing power to an engineered safety features electrical bus (Paragraph 4.a.1.), failure to shut containment isolation valves during transfer of power between reactor protection system buses (Paragraph 4.a.2.) and pulling the incorrect fuse during an electrical surveillance (Paragraph 6).

- One example of inadequate work instructions involving the maintenance of a primary containment isolation valve (Paragraph 5).

Plant Operations

Performance was mixed. As in the previous inspection report there were examples of operational personnel failing to follow procedure due to inattention to detail. In addition, the decision to continue operation and enter a four hour limiting condition for operation five times to repair the Unit 2 low pressure core injection "A" full flow test valve was considered non-conservative. However, an alert operator prevented a loss of shutdown cooling when problems with a modification test procedure were identified. Communications between control room personnel have improved.

Maintenance/Surveillance

Performance declined slightly. An inadequate work package resulted in the failure of the low pressure core injection "A" full flow test valve. The failure to follow procedure due to inattention to detail during the performance of an electrical surveillance resulted in the loss of an emergency safety feature electrical bus.

Radiological Controls

Performance improved this period. There were no significant radiological events similar to those occurring during previous refueling outages. This implied that corrective actions taken were effective.

Safety Assessment/Quality Verification

Performance was steady. The licensee scheduled a stand down for all departments on December 11, 1992, in order to find solutions to the recent increase in the number of personnel errors that have occurred in the past few months. Although the licensee was still reviewing the results of the stand down, from discussions with licensee management it appeared there was some immediate benefit.

DETAILS

1. Persons Contacted

G. J. Diederich, Manager, LaSalle Station
*W. R. Huntington, Technical Superintendent
J. V. Schmeltz, Production Superintendent
D. S. Berkman, Assistant Superintendent, Work Planning
H. Hentschel, Assistant Superintendent, Operations
J. Walkington, Services Director
*J. Lockwood, Regulatory Assurance Supervisor
M. Santic, Assistant Superintendent, Maintenance
*K. Kociuba, Quality Verification Superintendent

*Denotes those attending the exit interview conducted on December 28, 1992.

The inspectors also talked with and interviewed several other licensee employees during the course of the inspection.

2. Licensee Action on Previously Identified Items (92701 and 92702)

(Closed) Open Item (50-373/92013-06(DRP)): Review licensee improvements to compensatory actions for entrance to the reactor buildings during a loss of offsite power. The licensee changed the appropriate annunciator procedures and abnormal operating procedures to include breaker locations where essential service system power to the reactor building airlock doors could be secured. In addition, operating crews were trained on what the appropriate doors were to enter on each unit during a loss of offsite power. These actions were considered satisfactory and this item is closed.

(Closed) Unresolved Item (373/92013-03): Review abnormal configuration of electrical penetration assembly outboard enclosures. The inspector performed a sample review of enclosed electrical components to ensure correlation between the environmental qualification testing configuration and the plant configuration. The licensee was able to show or extrapolate suitable correlation in the reviewed cases. The licensee also performed a seismic analysis concluding adequate structural integrity existed for the enclosures. The inspector has no further concerns in this area and this item is considered closed.

(Closed) Violation (374/91015-02): Failure to notify the NRC within four hours of an unplanned breach of primary containment. As a result of the failure to notify the NRC within the required time, the operating department and regulatory assurance department were briefed on the event to emphasize the need to closely review the reporting requirements even when technical specification limiting condition for operations were met. LaSalle Emergency Procedure (LZP)-1310-1, "Notifications", has been revised to clarify the reporting requirements. This item is closed.

No violations or deviations were identified in this area.

3. Licensee Event Reports Followup (92700)

The following licensee event reports were reviewed to ensure that reportability requirements were met, and that corrective actions, both immediate and to prevent recurrence, were accomplished in accordance with the technical specifications:

(Closed) LER 373/92015 Loss of Unit 1 Bus 141V Due to Personnel Error

(Closed) LER 374/92014 Improper Performance of Local Leak Rate Test on Reactor Water Cleanup Return Isolation Valve Due to Procedural Inadequacy

(Closed) LER 373/92012 Missed Fire Watch Due to Personnel Error

On November 2, 1992, the fire detection instrumentation for zone 1-15 (690 elevation of the off-gas building) was removed from service to allow maintenance to be performed in the area. A one hour fire watch was established as required by technical specification 3.3.7.9. The required fire watch checks were not performed at 6 a.m. and 7 a.m.. The 6 a.m. fire watch was not performed due to a failure of the oncoming fire watch to review the previous fire impairment log and the impairments prior to assuming the post as specified in LaSalle County Station Post Order (LPO) 112, "Roving Fire Watch Patrol". The 7 a.m. fire watch was not performed correctly as specified in LPO-112. The fire watch checked zone 1-15 by looking down through a grating in the floor of the 710 elevation instead of physically entering the zone. The required fire watches were not completed due to inattention to detail and were examples of a violation 373/92028-01a(DRP)) of technical specification 6.2.A.1. The safety significance of the missed fire watches was minimal because of the absence of safety related equipment in the off gas building.

In addition, recent deviation reports (DVRs) were reviewed in order to monitor conditions related to plant or personnel performance and to detect potential development of trends. Appropriate generation and disposition of DVRs, in accordance with the Quality Assurance Manual, were also reviewed.

One example of one violation was identified in this area.

4. Operational Safety Verification (71707, 60710 and 71710)

The inspectors reviewed the facility for conformance with the license and regulatory requirements.

a. On a sampling basis the inspectors observed control room activities for proper control room staffing, coordination of plant activities; adherence to procedures or technical specifications; operator cognizance of plant parameters and alarms; electrical

power configuration; and the frequency of plant and control room visits by station managers. Various logs and surveillance records were reviewed for accuracy and completeness.

Significant observations were:

1.) On December 1, 1992, engineered safety features (ESFs) electrical bus 141Y was lost when a nuclear station operator (NSO) turned the wrong handswitch on a control room panel. Diesel generator (DG) 0 automatically started on undervoltage to power the bus. The crosstie to the other unit was also available had the DG failed. Unit 1 was defueled at the time such that the only item of consequence lost during the event was a fuel pool cooling pump. The other fuel pool cooling pump was available per licensee shutdown risk guidelines and the fuel pools were crosstied. Fuel pool cooling was restored in about 25 minutes with no increase in fuel pool temperature. The inspectors regarded maintaining of redundancy for fuel pool cooling and bus power supplies as good implementation of the shutdown risk guideline. Operators responded to the event as expected. However, LaSalle Operating Procedure (LOP)-AP-16, "Returning 4160 Volt Bus 141Y (241Y) From Diesel Generator 0 Power To Its Normal Source of Power", Revision 3, did not address transferring the bus from the DG back to the previous abnormal electrical lineup, causing some delay in this action. The inspectors regarded this as a procedural weakness which the licensee indicated would be corrected.

   The NSO was to cycle the system auxiliary transformer feed breaker 141Z to bus 141Y (normal bus power source) in accordance with LaSalle Electrical Surveillance (LES)-GM-103, "Inspection of 4.16KV and 6.9KV I.T.E. Circuit Breakers", Revision 14, Attachment A, Step 32.e. Although the NSO was aware of the correct switch, through inattention to detail, the NSO mistakenly opened breaker 1415, crosstie from bus 141X, which was feeding bus 141Y. Failure to open the correct breaker in accordance with LES-GM-103 was a violation of technical specification 6.2.A.1 (50-373/92028-01b(DRP)).

2.) On December 3, 1992, while transferring the Unit 1 reactor protection system bus B power supply, drywell floor drain containment isolation valve 1RF012 and drywell equipment drain containment isolation valve 1RE024 inadvertently closed. Steps F.7.f.4 and 5 of LaSalle Operating Procedure (LOP)-RP-04, "Reactor Protection System Bus B Transfer", Revision 6, required these valves to be closed prior to the transfer to prevent automatic isolation. The NSO, through inattention to detail, failed to perform these steps. The failure to perform these steps was an example of a violation (373/92028-01c(DRP)) of technical specification 6.2.A.1.

The safety consequence of the event was minimal as the valves performed their design isolation function upon the momentary loss of power.

b. On a routine basis the inspectors toured accessible areas of the facility to assess worker adherence to radiation controls and the site security plan, housekeeping or cleanliness, and control of field activities in progress.

c. Walkdowns of select ESFs features were performed. The ESFs were reviewed for proper valve and electrical alignments. Components were inspected for leakage, lubrication, abnormal corrosion, ventilation and cooling water supply availability. Tagouts and jumper records were reviewed for accuracy where appropriate.

d. Refueling Activities (60710)

The inspectors verified that refueling activities were being conducted and controlled as required by procedures. This was done on a sampling basis through direct observations, discussions with licensee personnel, and review of work requests and procedures.

e. ESF System Walkdown (71710)

Through direct observation, interview, and review of records an inspection of the control room ventilation system was performed. Operating procedures, surveillance procedures and records, deviation report and licensee event report history, and the outstanding work request backlog were reviewed. A physical walkdown of the system showed it was properly aligned, operated and maintained. The material condition of the system was good.

Two examples of one violation were identified in this area.

5. Monthly Maintenance Observation (62703)

Station maintenance activities affecting the safety-related and important to safety systems and components listed below were observed or reviewed to ascertain that they were conducted in accordance with approved procedures, regulatory guides and industry codes or standards, and did not conflict with technical specifications.

The following maintenance activities were observed and reviewed:

WR L11945 Perform LMS-DG-01, "Main Emergency Diesel Generator Unit Surveillance" On The "0" Diesel Generator

WR L08467 Perform LES-DG-100, "Emergency Diesel Generator Unit Surveillance" on the "0" Diesel Generator

WR L71269 MOI-1-87-095, RCIC Piping Modification

WR L19243 Sample Actuator Grease On 2E12-F017B, 2E12-F016A, 2E12-F047A, And 2E12-F052A

WR L13363 Inspect 2E12-F024A

Significant observations included:

On December 2, 1992, during the performance of LaSalle Operating Surveillance (LOS)-RH-Q2, "RHR (LPCI) and RHR Service Water Valve Inservice Test For Operating, Startup and Hot Shutdown Conditions", the "A" low pressure core injection (LPCI) full flow test valve, 2E12-F024A, would not fully close. The inoperable primary containment isolation valve was manually closed to exit a four hour limiting condition for operation (LCO).

An inadequate amount of grease in the drive sleeve housing caused the worm and the worm gear to bind. The valve actuator was disassembled in the last Unit 2 refueling outage (February 1992). During reassembly the grease was hand packed into the drive sleeve housing. Step F.32.1 of LaSalle Maintenance Procedure (LMP)-GM-37 stated, in part, to fill the gear box with grease. Since the actuator was mounted horizontally the grease was packed in via holes in the limit switch housing. When the grease could no longer be packed by hand into the drive sleeve housing the supervisor assumed that some grease had been put in during the previous shift and thought it was full. The drive sleeve housing had approximately ten pounds of grease in it when approximately 48 pounds were required. The work package did not have instructions (available in LaSalle Maintenance Procedure (LMS)-GM-01, "Limitorque Grease Inspection And Lubrication Application") to test the actuator to verify that the gear box was full. The failure to provide adequate instructions to ensure the actuator gear box was filled with grease was a violation of (50-374/92008-02(DRP)) 10 CFR 50 Appendix B Section V. A contributing factor was that the workers were rushed to meet a four hour LCO with the valve operator disassembled and to limit time in a high radiation area. In addition, the correct amount of grease required to fill the actuator was not listed in the reassembly procedure or given in maintenance training for motor operated valves.

Long term corrective actions will be to strengthen the existing procedure by including a chart which will show the correct amount of grease to use for each actuator size and a specific method for grease installation. In addition, the requirement to test the gear box for grease after the reassembly of valve actuators will be added.

The safety significance of this event was that a primary containment isolation valve did not receive proper maintenance and could have failed upon demand. However, the valve is normally closed which is its required safe position. The valve is only cycled during suppression pool cooling and monthly residual heat removal system operational checks.

Because of the design of the system, which had only one containment isolation valve, the licensee had to enter a four hour LCO whenever the valve actuator was disassembled or when post maintenance testing was performed. The decision to reenter four hour LCO's five times versus shutting down the plant to fix the valve was considered nonconservative.

One violation was identified in this area.

6. Monthly Surveillance Observation (61726)

Surveillance testing required by technical specifications, the safety analysis report, maintenance activities or modification activities were observed and/or reviewed. Areas of consideration while performing observations were procedure adherence, calibration of test equipment, identification of test deficiencies, and personnel qualification. Areas of consideration while reviewing surveillance records were completeness, proper authorization/review signatures, test results properly dispositioned, and independent verification documented. The following activities were observed/reviewed:

LaSalle Operating Surveillance (LOS)-VC-M1 Control Room Emergency Make Up Unit Operability Test

LaSalle Instrument Surveillance (LIS)-NR-209 Unit 2 APRM Gain Adjustment

LaSalle Instrument Procedure (LIP)-LD-505 Unit 1 Riley Leak Detection System Operational Test

LaSalle Technical Surveillance (LTS)-400-12 Control Room Emergency Make Up Train HEPA Filter Leak Test

LTS-400-13 Control Room Emergency Make Up Train Charcoal Filter Leak Test

LTS-800-7 "0" Diesel Generator Trips And Trips Bypasses Logic Test

LTS-700-6 Unit 1 Division I Battery Service Test Discharge

LIS-MS-202 Unit 2 Main Steam Line High Flow Main Steam Isolation Valve Isolation Calibration

LaSalle Refueling Surveillance (LFS)-100-4 Core Alterations Shiftly Surveillance

LOS-AA-D1 Unit 2 Daily Surveillance

Significant observations included:

On December 2, 1992, during the performance of LES-PC-101, step F.8, the procedure specified for fuse 1B21H-F6A to be removed. The person performing the procedure located the fuse to be removed and had the fuse

second party verified by a nuclear station operator (licensed reactor operator). After the fuse was removed, it was found that the incorrect fuse had been removed. The fuse removed resulted in no operational impact due to the fuse being on circuitry which was out-of-service for planned maintenance. The fuse was re-installed and the surveillance was completed. The improper fuse was removed due to inattention to detail and was an example of a violation (373/92028-01d(DRP)) of technical specification 6.2.A.1 which requires adherence to procedures.

One example of one violation was identified in this area.

7. Safety Assessment and Quality Verification (40500)

a. On December 21, 1992, the Director, Division of Reactor Projects, Region III, met with licensee management to discuss the recent increase in personnel errors discussed in inspection report 92027. The licensee presented the short term corrective actions taken in specific cases and discussed what long term corrective actions were planned. One action taken was a stand down for all departments on December 11, 1992. The object of the stand down was to impress upon the employees that reduction of personnel errors was more important than scheduling concerns. In addition, employee input on how to reduce the number of personnel errors was sought. Although the licensee was still reviewing the inputs received, discussions with licensee management had indicated some immediate benefits were received. For example, mechanical maintenance workers complained that pre-job briefs were of poor quality. The master mechanic immediately instructed the lead mechanical foreman to attend all pre-job briefs to ensure their adequacy.

b. On December 22, 1992, post modification testing on the reactor core isolation cooling (RCIC) steam line isolation valve (1E51-F063) required that the valve be cycled from the remote shutdown panel. The test procedure M01-1-91-002B required the control room operator to take the "NORMAL-EMERGENCY" transfer switch for 1E51-F063 to the emergency position thus transferring control from the control room to the remote shutdown panel. However, the "NORMAL-EMERGENCY" transfer switch also transfers control of the residual heat removal shutdown cooling suction valve "B" (1E12-F006B) to the remote shutdown panel. The normal switch position at the remote shutdown panel for this valve is closed. Shutdown cooling loop "B" was in operation at the time of the test. Had the switch been taken to the emergency position as required by the test the 1E12-F006B valve would have closed and the unit would have lost shut down cooling. Despite the procedural weakness, an alert operator recognized this situation and stopped the test.

No violations or deviations were identified in this area.

8. Report Review (90713)

During the inspection, the inspector reviewed selected licensee reports and determined that the information was technically adequate, and that it satisfied the reporting requirements of the license, technical specifications and/or 10 CFR as appropriate.

No violations or deviations were identified in this area.

9. Exit Interview

The inspectors met with licensee representatives (denoted in Paragraph 1) during the inspection period and at the conclusion of the inspection period on December 28, 1992. The inspectors summarized the scope and results of the inspection and discussed the likely content of this inspection report. The licensee acknowledged the information and did not indicate that any of the information disclosed during the inspection could be considered proprietary in nature.