

U. S. NUCLEAR REGULATORY COMMISSION  
REGION III

Report Nos. 50-373/92010(DRP); 50-374/92010(DRP)

Docket Nos. 50-373; 50-374

License Nos. NPF-11; NPF-18

Licensee: Commonwealth Edison Company  
Opus West III  
1400 Opus Place  
Downers Grove, IL 60515

Facility Name: LaSalle County Station, Units 1 and 2

Inspection At: LaSalle Site, Marseilles, Illinois

Inspection Conducted: April 15 through June 2, 1992

Inspectors: D. Hills  
C. Phillips  
M. Miller  
G. Replogle  
J. Roman, Illinois Department of Nuclear Safety

Approved By:

*RC Knop*  
R. C. Knop, Chief  
Reactor Projects Section 1B

*6/5/92*  
Date

Inspection Summary

Inspection from April 15 through June 2, 1992 (Reports No. 50-373/92010 (DRP); 50-374/92010(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, and surveillance activities; safety assessment/quality verification; temporary instructions 2515/112 and 2515/113; spent fuel pool activities; and report review.

Results: No cited violations were identified. However, three non-cited violations were identified involving missed fire protection Technical Specification surveillances (paragraph 3), an inadequate electrical maintenance procedure (paragraph 5.a), and failure of an instrument technician to restore conditions in accordance with a surveillance procedure (paragraph 6).

Plant Operations

Performance remained steady in this area. Although plant practice regarding non-licensed operator overtime did not strictly meet the entire intent of Generic Letter 82-12, a review of plant licensing basis documents did not

reveal a clear commitment to that particular portion of the generic letter. In addition, no overall problem was apparent in regard to personnel errors attributed to non-licensed operator fatigue. The licensee applied Technical Specification overtime limitations to non-licensed operators and no problems were identified with regard to those limitations. The inspectors reviewed shutdown risk initiatives for decay heat removal capability implemented by the licensee. The results (including assessment) are being transmitted to appropriate NRC personnel for further review. Non-fuel items stored in spent fuel pools were being controlled in accordance with plant procedures.

#### Maintenance/Surveillance

Performance remained steady in this area, although three non-cited violations were identified as described above. Actions taken to address a recurring problem with Unit 1 reactor core isolation cooling pump turbine tripping on mechanical overspeed were good and extensive. Extensive actions were taken to address turbine driven reactor feed pump oil leaks.

#### Safety Assessment/Quality Verification

Performance remained steady in this area. The time required to process procedure changes was excessive. Plant management had already recognized this problem and was developing plans to address it. An Error Free Operations Committee Meeting observed by the inspectors appeared very pointed on issues and concentrated on evaluation of problem areas. Corporate management actively participated and participants were questioned by plant management to ensure adequate progress on problem areas. No program existed to identify changes to the environs around the facility for incorporation into the Updated Final Safety Analysis Report.

## 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
- W. Betourne, Quality Assurance Supervisor
- \*J. Shields, Nuclear Licensing Administrator
- \*T. Peterson, Industrial Relations
- \*R. Crawford, Electrical Maintenance Master
- \*D. Spencer, Technical Staff
- \*D. Carlson, NRC Coordinator
- \*B. Wood, Onsite Nuclear Safety Administrator
- \*J. Borm, Nuclear Quality Programs Engineer

\*Denotes those attending the exit interview conducted on June 2, 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) Violation (374/91002-03(DRP)): Backup nitrogen supply north bank manual isolation valve was shut resulting in the drywell instrument nitrogen system from the backup makeup storage cylinders being isolated to three of the seven automatic depressurization system valves. The corrective actions were reviewed and the inspector has no further concerns. This item is closed.

(Closed) Violation (374/91004-01(DRP)): Failure to correct fire hazard associated with the 2A turbine driven reactor feed pumps (TDRFP). Corrective actions included the installation of drainage trays to catch oil from TDRFP oil leaks and increased emphasis of Station Fire Marshall fire protection work request reviews as to urgency and schedule. In addition, the licensee formed a task force to identify and correct sources of TDRFP oil leaks. Task force actions were extensive, ongoing long-term activities. This item is considered closed although the inspectors will periodically review task force progress and TDRFP status in conjunction with the normal inspection process.

(Closed) Violation (373/91020-01(DRP)): Failure to notify the NRC within four hours of the determination of inadequate testing of the undervoltage relays for safety divisions 1, 2, and 3 electrical buses. This resulted from an inadequate licensee management interpretation of Generic Letter 87-09. The event was discussed among plant senior

management and regulatory assurance personnel to ensure proper disposition of missed surveillances. This item is closed.

(Closed) Unresolved Item (374/92003-02(DRP)): Review of the reportability of diesel generator failures. The inspectors reviewed the Technical Specifications, Regulatory Guide 1.108, IEEE 387, and conferred with NRC specialists. The inspectors agreed with the licensee's reportability decisions in each case reviewed and have no further concerns in this area.

(Open) Open Item (374/92008-04(DRP)): Review licensee plans for reducing the number of open Temporary System Changes. The licensee formed a dedicated task group to address this area. However, the task group had not yet had time to formulate or implement plans. Therefore, this item will remain open until further progress is made in this area.

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 373/92004 Technical Specification Surveillance Not Completed By Critical Due Date Due To Personnel Error. On March 13, 1992, it was discovered by the licensee that LaSalle Mechanical Surveillance (LMS)-FP-15, "Monthly Fire Inspection Of Technical Specification Fire Hose Stations", was not completed by the critical due date of March 10, 1992. The surveillance was not performed due to a personnel error made by the mechanical maintenance department surveillance scheduler. The stations were inspected and found to be in satisfactory condition. The inspector reviewed the licensee's additional corrective actions and found them satisfactory. The failure to perform this surveillance was in violation of Technical Specification 4.7.5.4.a which required that hose stations be visually inspected every 31 days. However, the licensee identified this violation and 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 (1992)) were satisfied. The inspector has no further concerns in this area and this item is closed.

(Closed) LER 374/92004 Unit 2 Manual Scram Due To Bypass Valve Cycling For Unknown Reasons

(Closed) LER 374/92006 Reactor Water Cleanup High Differential Flow Isolation Due to Relief Valve Lifting

(Closed) LER 373/92005 Reactor Core Isolation Cooling (RCIC) Turbine Overspeed Trip During Surveillance Testing

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 non-cited violation was identified in this area.

4. Operational Safety Verification (71707)

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:

A sample of non-licensed operator overtime for the past twelve months was inspected. On average, non-licensed operators worked approximately 60 hours per week during outage periods and approximately 50 hours per week during non-outage periods. This did not meet the intent of Generic Letter 82-12, which stated, "the objective is to have operating personnel work a normal 8-hour day, 40-hour week while the plant is operating". However, a review of the plant licensing basis did not reveal a clear commitment to achieve a 40-hour work week for operations staff. There was no indication of an increase in personnel errors due to fatigue in non-licensed operators. Technical Specification overtime limitations were also applied to non-licensed operators. No problems were identified with regard to these limitations. Non-licensed operator overtime will continue to be monitored by the resident inspector staff.

- 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 engineered safety features (ESF) 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. The ESFs reviewed were:



Unit 1

Unit 1 Residual Heat Removal System  
Unit 1 Reactor Core Isolation Cooling System (RCIC)  
Unit 1 Low Pressure Core Spray System

Unit 2

Unit 2 Residual Heat Removal System

No violations or deviations 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:

Unit 1

WR-L2116 Perform LaSalle Electrical Procedure (LEP)-EQ146 Motor Operated Valve Inspections and Refurbish and VOTES Test

WR-L11803 Replace the 1A Diesel Generator Air Start Check Valve 1DG049A

WR-L15221 Replace the Reactor Core Isolation Cooling Water Leg Pump

WR-L14938 Reactor Core Isolation Cooling Turbine Overspeed During Surveillance Testing

Unit 2

WR-L11368 Install New Trip Devices in MC 235Y-3 Compartment 201D

WR-L15732 Install New Unit 2 Feed Breaker For "O" Diesel Generator Cooling Water Pump

Significant observations included:

- a. During the 24 hour surveillance run of the O diesel generator (DG) on February 22, 1992, the breaker in MCC 235Y-3, compartment 201D failed to trip open when bus 241Y was deenergized. The breaker did not trip because the shunt trip coil (which would have tripped the breaker on an undervoltage signal) was not included on the replacement breaker that was recently installed. The oversight was attributed to a deficiency in LEP-GM-171, "Exchanging Circuit Breakers on Electrical Buses," Revision 1, which did not require

verification that the replacement breaker had a shunt trip coil. The vast majority of breakers in the plant did not have this device. No specific post-maintenance test (PMT) guidance existed for this type breaker with the program relying upon experience of involved individuals to determine PMT requirements. As the procedure did not address the shunt trip coil, these individuals did not identify the PMT requirements in Nuclear Work Request L12758 to demonstrate the capability of the breaker to trip open on bus undervoltage.

The licensee revised LEP-GM-171 to require the work analyst to check replacement breakers against design specifications for components such as shunt trip coils. The work analyst was also required to review a list of testing procedures for applicability to the components. This list included a procedure that tested shunt trip coils. The trip function of the breaker was to ensure that non-safety related loads were removed from the 241Y bus prior to powering the bus from the diesel. The additional load on the bus in this case would not have affected the ability of the diesel to supply power to safety-related loads during an accident and the plant was shut down during the time that the shunt trip coil was not installed. Therefore, the safety consequences of this occurrence was minimal.

Failure to incorporate specifications requiring the installation of a shut trip coil, when applicable, and to provide for adequate PMT through LEP-GM-171 was an example of a violation of 10 CFR 50, Appendix B, Criterion V. However, the licensee identified this violation and 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 (1992)) were satisfied.

- b. On April 6, 1992, the Unit 1 RCIC turbine tripped on mechanical overspeed during the performance of a quarterly cold quick start surveillance (LER 373/92005). The cause of the overspeed was found to be the governor valve sticking in the open position. This event was similar to events which occurred on Unit 1 on July 29, 1991, (LER 373/91012) and October 23, 1991, (LER 373/91017).

The cause of the governor valve sticking in the July 1991 event was stated in the LER to be not known. The RCIC system had previously injected into the vessel and this was believed to have contributed to the overspeed event. Operating procedures were changed to require that the RCIC system be run at least one hour prior to shutting the system down. In addition, the actuator and remote servo for the governor were replaced at the recommendation of the governor valve vendor.

The licensee attributed the cause for the October 1991 event to the carbon spacers, which held the governor valve stem in a

stationary position, binding the valve stem, such that it could not move in the axial direction. Water was found in the area of the valve plug and stem which was thought to have contributed to the binding. A new governor valve was installed with the exception of the old valve plug and stem. In addition, the governor valve leakoff line was rerouted to help eliminate water trapped in the governor valve during system standby. A special test was also written to test for RCIC governor valve freedom of movement.

A working group consisting of numerous department and vendor representatives was formed following the April 1992 event. The working group directed the disassembly of the governor valve and linkage in a step by step process. The carbon spacers were found to be bonded to the valve stem. The bonded assembly was sent to Argonne Labs for analysis. The governor valve bonnet was reassembled with a new set of carbon rings and a new valve stem. Proper operation of the valve, servo oil pressure, and governor valve drain line vacuum provided by the barometric condenser vacuum pump were verified. Additional completed and planned corrective actions included: inspecting the electrical controls to the hydraulic actuator from the control box and ramp generator, verifying proper routing of the actuator oil lines, obtaining an oil sample for analysis, reinstating the governor valve motion test on a routine basis, checking the steam supply admission valve for leakage with the system in standby, checking the leakoff lines to the RCIC trip and throttle valve for clogging, and investigating the possibility of changing the valve stem material.

The inspectors considered licensee actions following the April 1992 event to be an aggressive pursuit of a recurring equipment problem. The forming of a working group was a good decision. Ideas and corrective actions which came out of the working group were extensive.

One non-cited 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:



### Unit 1

LaSalle Operating Surveillance (LOS)-DG-M3 1B Diesel Generator Operability Test

LES-GM-102 Inspection of 480 Volt Klockner-Moeller Motor Control Center

LaSalle Instrument Surveillance (LIS)-NR-303B Unit 1 Average Power Range Monitor Channels B, D, and F Rod Block and Scram Weekly Functional Test

LaSalle Operating Surveillance (LOS)-RI-Q4 Reactor Core Isolation Cooling System Cold Quick Start in Conditions 1, 2, and 3

LaSalle Special Test (LST)-92-110 Unit 1 "0" Diesel Generator Output Breaker ACB 1413 Test

### Unit 2

LIS-NR-403 Unit 2 Average Power Range Monitor Rod Block and Scram Weekly Functional Test

LOS-DG-M3 1B Diesel Generator Operability Test

LIS-MS-201 Unit 2 Mainsteam Line Low Pressure Main Steam Isolation Valve Isolation Calibration

Significant observations were:

On May 3, 1992, during a routine tour of the Unit 1 reactor building the inspectors noted a voltmeter connected to the division 2 residual heat removal (RHR) flow high differential pressure alarm circuit in the B and C RHR pump room. An instrument technician performing LIS-RH-112, "Unit 1 Residual Heat Removal (Shutdown Cooling Mode) High Suction Flow Isolation Calibration," Revision 8, on April 30, 1992, had forgotten to remove the voltmeter upon completion. The voltmeter did not inhibit the ability of the alarm to perform its function and the circuitry involved was not safety related. The voltmeter was removed, the technician was counseled, and a written reprimand was placed in his personnel file. Step F.2.c of the procedure clearly stated to remove the voltmeter. This was in violation of Technical Specification 6.2.A.1 which required, in part, that procedures be adhered to. However, the violation was categorized as Severity Level V and it is not being cited because the criteria specified in Section VII.B.1 of the "General Statement of Policy and Procedures for NRC Enforcement Actions," (Enforcement Policy, 10 CFR Part 2, Appendix C (1992)) were satisfied.

One non-cited violation was identified in this area.

7. Safety Assessment/Quality Verification (40500)

- a. The inspectors observed the Error Free Operations Committee Meeting conducted May 14, 1992. The meeting was conducted in a new format that was more structured with a larger number of participants. Corporate management was in attendance and actively participated. The meeting appeared very pointed on issues and concentrated on evaluation of known problem areas. Management questioned participants to ensure adequate progress was being made on these problem areas.
- b. The inspectors reviewed the procedure change process to assure procedures were changed when deficiencies were identified and to determine the length of time it takes to change a procedure. The inspector reviewed LAP-820-2, "Station Procedure Preparation and Revision," and LAP-820-6, "Identification of Procedure Deficiencies". In addition, the inspector discussed the procedure change process with station personnel familiar with the process and reviewed procedure files for procedure deficiency forms. Procedure changes and deficiencies were processed in accordance with the applicable procedure. It took an average of 90 days for a procedure change to be accomplished, with some changes taking as long as four or five months. The majority of the 90 day time frame for a procedure change involved on-site review. The licensee implemented a chain type review where the procedure was passed from department to department for review. Plant management had recognized the procedure change process was too long and was in the process of attempting to shorten the review process. The plant manager's goal was to have the average procedure change take 30 days to complete. Licensee actions to address this concern will be reviewed in conjunction with a previous open item (373/92003-07(DRP)) involving overall modifications to the procedure review process.

No violations or deviations were identified in this area.

8. Temporary Instructions

- a. (Closed) Temporary Instruction 2515/112

The inspectors reviewed the method used to identify changes to the environs around reactor facilities and whether those changes were incorporated into the Updated Final Safety Analysis Report (UFSAR).

Station personnel stated that no program was in place for the sole purpose of updating the UFSAR. Changes in the population were reviewed following each national 10 year census and a 3 year survey of chlorine shipments by barge on the Illinois River was required by procedure to evaluate control room habitability. The incorporation of such data into the UFSAR was dependent on the assigned person responsible for updating the UFSAR.

One major change to the environs was the construction of the Illinois Army Reserve National Guard Training Facility which was identified by licensee personnel. The licensee toured the facility and incorporated the facility information into the UFSAR. The identification of this facility was not the result of an ongoing review program.

There were no changes to the environs that the inspectors were aware of that were not identified by the licensee. The results of this inspection are being transmitted to appropriate NRC personnel for review in accordance with the temporary instruction.

b. (Closed) Temporary Instruction 2515/113

The inspectors reviewed shutdown risk initiatives for decay heat removal (DHR) capability implemented by the licensee prior to refuel outage L2R04 (January through March 1992). In addition, the inspectors reviewed the licensee's Onsite Nuclear Safety Group (ONSG) shutdown risk assessment. The licensee's shutdown risk initiatives were newly developed, functioning on a trial basis, and subject to revision for future outages based on that trial. The licensee developed shutdown risk guidelines to ensure availability of decay heat removal and electrical systems beyond those required by Technical Specifications. Although these guidelines were followed throughout the outage, they were not proceduralized. Toward the beginning of the outage, the ONSG was relying on the line organization to inform them of any deviations from the guidelines. The ONSG, began independently reviewing plant status to ensure conformance with the guidelines later in the outage.

Sufficient instrumentation and procedural requirements to monitor vital reactor parameters (i.e. pressure, level, and temperature) were available during the outage. The licensee did not evaluate and identify prior to the outage planned evolutions with highest risk to DHR. Instead, these were identified by the operating engineer on a continuing basis and operators were alerted through the night orders. Shutdown risk training for operators consisted of a brief (approximately 15 minute) introduction to the subject given to all station personnel. DHR contingency procedures such as LaSalle Operating Abnormal (LOA)-RH-01, "Loss of Shutdown Cooling" existed. The ONSG assessment also concluded sufficient plans to address loss of DHR existed.

The licensee's shutdown risk guidelines also ensured minimum availability of offsite and onsite power sources. A non-standard lineup utilized during the outage included backfeeding through the main transformer and unit auxiliary transformer. This configuration was controlled through LaSalle Operating Procedure (LOP)-AP-08, "Removing System Auxiliary Transformer (SAT) 142(242) From Service With Unit 1(2) In Shutdown". This procedure also covered cross connection of buses including load restrictions in

the alternate configuration. DC power was available to required loads when battery testing or maintenance was being performed through a cross tie to the other unit. LOP-DC-07, "Changing Modes of Operations in the DC Electrical System" was utilized several times during the outage to transfer 125 VDC distribution panels between alternate and normal power sources. Technical Specification limiting conditions for operations were declared depending on the configuration. Temporary cabling providing a center tap from the 250 volt batteries to supply 125 volt battery loads during battery modifications was also utilized. This configuration was reviewed and controlled in accordance with LLP-91-069, "Unit 2, Division 2, Temporary 125 VDC Power Supply." Battery capacity was evaluated and addressed in the procedure safety evaluation.

Work being done below the vessel which increased vulnerability to inadvertent draining of the vessel was accomplished after the reactor had been completely defueled. Therefore, minimal electrical power availability was not necessarily scheduled to avoid the same time period as this work. As a result of an ONSG concern, a process was instituted midway through the outage for non-licensed operators to be aware of systems with reduced redundancy so as to observe for activity that may have adverse impact in the vicinity of remaining operable equipment. Station Policy Guide No. 6 required that within the Protected Area (including the switchyard) any vehicle larger than a pickup truck needed an observer when operating in reverse. In addition, concrete blocks were placed around various electrical components where activity was expected.

The results of this inspection are being transmitted to appropriate NRC personnel for further review and assessment in accordance with the temporary instruction.

No violations or deviations were identified in this area.

9. Spent Fuel Pool Activities (86700)

Due to recent industry events involving items falling in spent fuel pools, an inspection was performed to determine if appropriate controls were in place for storing items in the spent fuel pools. The procedure that controlled nonfuel items stored in the spent fuel pool was LaSalle Fuel Procedure (LFP)-100-5, "Control of Material/Equipment in or Around the Spent Fuel Storage Pools, Cask Well, Dryer/Separator Pit, and Reactor Cavity." This procedure was reviewed, discussions were held with the personnel in charge of the spent fuel pool, and a visual inspection of the spent fuel pools was conducted. Activities were conducted in accordance with the procedure.

No violations or deviations were identified in this area.

10. 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.

11. 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 June 2, 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.