

U.S. NUCLEAR REGULATORY COMMISSION
REGION III

Report No. 50-373/93035(DRP); 50-374/93035(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 25, 1993 through January 10, 1994

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1/31/94
Date

Inspection Summary

Inspection from November 25 through January 10, 1994 (Reports No. 50-373/93035 (DRP); 50-374/93035(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; and review of operational safety, maintenance, surveillance, and engineering activities.

Results: One violation was identified involving inadequate procedures for main steam safety relief valve maintenance. One non-cited violation was identified involving a failure to follow procedure which caused an unexpected engineered safety features actuation. Three unresolved items were identified involving testing of an incorrect breaker, a missed surveillance critical due date, and a failure to provide timely updating of test procedures with inservice testing program baseline information. A previous unresolved item remained open to provide further review of a missed on-site review.

Plant Operations

Operator response to events continued to be good with appropriate actions taken. However, several communication problems involving the operating department were noted. Inadequate communications between operations and other groups resulted, in separate instances, in untimely return to service of a breaker and a diesel generator trip. The latter was not adequately reviewed for root cause by the licensee, indicating continued root cause analysis weaknesses. In addition, plant management and NRC representatives were not informed of a loss of rod position indication in a timely manner. Finally, upper plant management performance expectations were not adequately conveyed to lower supervisory personnel, resulting in an unplanned engineered safety features actuation. Other examples of poor communication of management expectations in the operating department were noted in previous inspection reports and were of concern in the last systematic assessment of licensee performance (SALP) report. The inspectors noted a large number of significant licensee actions, resulting from NRC generic communications or NRC inspections, were awaiting a plant shutdown to complete. Good housekeeping was noted in the drywell following completion of the licensee's drywell closeout procedure.

Maintenance

A review of previous NRC augmented inspection team findings for possible enforcement actions confirmed fundamental weaknesses in the maintenance program. The licensee performed a maintenance team investigation to further define these concerns and an action plan was under development. Actions to pursue a permanent fix to testable check valve indication problems were good and licensee preparations for cold weather were adequate. However, the inspectors considered a licensee decision to not revise main steam safety relief valve maintenance procedures and instead rely solely on post-maintenance testing to identify any problems as a non-conservative action with respect to safety. In addition, maintenance personnel were not adequately documenting as-found conditions of equipment, presenting a potential impediment to root cause analysis. Equipment problems, identified as Unit 2 came out of an extended refuel outage, were disturbing in both number and significance. A more extensive review of this concern to identify any generic implications was planned. The amount of maintenance personnel overtime was reasonable.

Engineering

Engineering approach to problem resolution was mixed. The licensee was taking substantial actions to address overall air operated valve problems, indicating good engineering overview of this area. The inspectors will continue to monitor for effectiveness of these actions. The licensee was also planning enhancements to scaffolding design and control. However, long term problems with fuel pool gate leakage and an associated alarm were not being adequately resolved. In addition, two more examples of narrow licensee responses to NRC generic communications were noted indicating a weak engineering approach. Other examples have been noted in previous reports. Although engineering interaction in resolving a failure of all rod position indication was

eventually good and effective, substantial involvement started late, thereby, unnecessarily delaying repair. Continued weaknesses in the licensee's commitment management process were noted including vague statements in correspondence to the NRC and an example where the responsible individual was not aware of all actions needed to address an action item record. The inspectors regarded site quality verification issuance of a level 1 corrective action record as positive, effectively providing a more aggressive quality assurance stance than seen in the past.

DETAILS

1. Persons Contacted

W. Murphy, Site Vice President
D. Ray, Plant Manager
*E. Martin, Quality Verification Director
*J. Schmeltz, Operations Manager
*J. Gieseke, Site Engineering and Construction Manager
*C. Sargent, Support Services Director
M. Reed, Technical Services Superintendent
J. Lockwood, Regulatory Assurance Supervisor
*M. Santic, Maintenance Superintendent
R. Crawford, Work Planning Assistant Superintendent
*T. Shaffer, Executive Assistant
*J. Miller, Support Engineering Supervisor
*S. Harmon, Training Supervisor
*W. Sly, Acting Administrative Operating Engineer
*P. Barnes, Regulatory Services
*E. McVey, Regulatory Assurance
*C. Laskey, Site Quality Verification Inspector
*J. Bell, Maintenance Staff
*J. Arnould, Regulatory Assurance
*T. Hammerich, System Engineering Mentor
*M. Cray, Master Instrument Mechanic
*J. Lewis, Lead Health Physicist

*Denotes those attending the exit interview conducted on January 10, 1994.

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 (50-373/93022-01(DRP)). An inadequate maintenance procedure did not have specific tolerance acceptance criteria for setting bearing lubrication oil levels. LaSalle Maintenance Procedure (LMP)-GM-50, "Crane Deming Model 5063/5064 Pump Maintenance" was revised on October 4, 1993 to include the oil level setting critical tolerances. This item is closed.

(Open) Unresolved Item (50-374/93020-C4(DRP)): Evaluate adequacy of safety evaluation of a high pressure feedwater heater emergency drain valve out-of-service. Based on a review of the safety evaluation and an Office of Nuclear Reactor Regulation (NRX) response dated September 3, 1993 to a Task Interface Agreement, it was concluded that an unreviewed safety question did not exist. However, during the review it was found that the licensee did not perform a complete on-site review of the safety evaluation as required by LaSalle Administrative Procedure (LAP)-1200-1, "On-Site Review and Investigative Function," revision 11,

attachment D. The regulatory on-site review coordinator did not understand the requirements of the LAP-1200-1 procedure. Site quality verification (SQV) committed to perform by January 21, 1994 a surveillance to ascertain whether other items did not receive proper on-site review. This will remain open pending review of the surveillance methods and results to evaluate the scope and response to the on-site review concern.

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 or planned in accordance with the technical specifications:

(Closed) LER 374/93008 Inadvertent Engineered Safety Features (ESF) Actuations Due to Personnel Error During Performance of Instrument Surveillance

(Closed) LER 373/93016 Reactor Core Isolation Cooling Declared Inoperable Due to Loss of Power to Governor Control

(Closed) LER 373/93017 Technical Specification Surveillance Not Performed Within Required 30 Days Due to Personnel Errors

(Closed) LER 373/93020 Unit 1 and 2 Secondary Containment Ventilation Isolation Due to Loss of Reactor Protection System Bus Power

(Closed) LER 373/93015 Unit 1 Scram and Loss of Offsite Power Due to Bus Duct Water Intrusion

(Closed) LER 373/93019 Missed Technical Specification Surveillance Due to Misinterpretation

(Closed) LER 373/93018 Closure of Primary Containment Isolation Valves Due to a Failed Logic Card

In addition, recent problem identification forms (PIF) were reviewed in order to monitor conditions related to plant or personnel performance and to detect potential development of trends.

No violations or deviations were identified in this area except as noted elsewhere in this report.

4. Plant Operations (40500, 61715, 71707, and 71714)

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) Ineffective communications between system engineering and operations caused a trip of the high pressure core spray (HPCS) 1B diesel generator (DG). The DG tripped on September 29, 1993 on reverse power when the output breaker was closed for its monthly operability surveillance. The HPCS DGs had different voltage regulator response characteristics than the other DGs. The operating surveillance procedure used for loading the DG instructed the operator to adjust the incoming voltage (DG voltage when paralleling the unloaded DG to the grid) slightly higher than the running voltage. The DG output voltage was set too high in comparison to bus voltage resulting in high reactive load when the breaker was closed.

A technical staff letter (TSL) #93-039, dated August 27, 1993, discussed in detail the proper voltage setting when paralleling the B diesel generators to the bus. The system engineer stated that the TSL was given to the operating engineers to pass on to the control room operators. Discussions with the operating engineers indicated that the TSL was never received by the operating department.

Licensee root cause analysis of this issue was insufficient in that the associated problem identification form was closed out without any discussion on why the operators did not properly set DG voltage. This issue is similar to other recent examples of root cause analysis and corrective action problems discussed in several previous inspection reports. The licensee was still in the process of developing an action plan to address these fundamental issues. Therefore, no violation was considered for this issue.

- (2) The inspectors walked down the Unit 2 drywell following completion of the licensee's refuel outage drywell closeout. No obvious, visual signs of degraded equipment were noted. Housekeeping was good throughout the drywell although some loose paper was found on top of piping about a foot below the grating in one area. In addition, covers were found open on three integrated leak rate testing junction boxes. The licensee subsequently addressed these observations. The inspectors also completed a sample verification of filter removal from drywell air handling units and coolers. The

filters, considered a potential fibrous material source, were removed to address NRC Bulletin 93-02, "Debris Plugging of Emergency Core Cooling Suction Strainers." The licensee's response, dated June 9, 1993, to the bulletin mentioned the filters but did not commit to their removal. Following further discussion with the NRC regarding this response, the licensee removed them on Unit 2 during the refuel outage and planned removal of the filters on Unit 1 during the next cold shutdown.

- (3) The inspectors observed questionable nuclear station operator (NSO) response to a high control rod drive hydraulic temperature alarm in the control room. The alarm was present for a period of 10 to 15 minutes after being acknowledged. The NSO, however, had not determined the cause of the alarm.
- (4) The inspectors noted a number of significant concerns on Unit 1 were awaiting a cold shutdown to rectify. The licensee committed to accomplish these activities in response to NRC generic communications or in response to specific NRC inspection findings. (Therefore, detailed information on each was or will be available in public documents). This concern was discussed with plant management and the licensee's safety review board, emphasizing the need to ascertain their effect, in aggregate on plant status. The areas of concern are as follows:
 - Reactor vessel level indication system backfill modification
 - Removal of fibrous materials from the drywell
 - Refurbishment of ITE breakers
 - Resetting reactor protection system electrical protection assemblies
 - Replacement of two main steam safety relief valves which had not been setpoint tested within appropriate intervals

In addition, a recirculation pump seal was failing at a rate such that it was doubtful the unit could make it to the next refuel outage scheduled for March 1994.

- (5) On January 4, 1994, at 11:04 p.m., a multiplexer card failure in the Unit 1 rod position indication system resulted in a loss of all rod position indication. The appropriate technical specification action statement, requiring placing the Unit into hot shutdown within the following 12 hours if not restored within one hour, was

entered. A notice of enforcement discretion (NOED) was approved by the NRC and the system was repaired and declared operable approximately 15 hours after the failure. The inspectors concluded the following regarding the event.

- Operator response was good with the appropriate abnormal procedures entered and compensatory measures taken.
 - Considering the shortness of the technical specification action statement, the initial approach to the failure was not aggressive enough. Appropriate engineering personnel did not become extensively involved in the troubleshooting process in a timely manner. This resulted in unnecessary delays in fixing the problem. Once proper personnel became involved, good interaction was noted.
 - Communications regarding the event were lacking. The NRC resident inspectors and various plant management were not informed until the following morning. This resulted in the placement of unnecessary time constraints on the NOED process.
- 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.
- d. The inspectors noted site quality verification issued a severity level 1 corrective action record (CAR) due to an ineffective corrective actions program. This same area has been a concern in several NRC inspection reports and the last NRC SALP report. The inspectors will continue to follow activities in this area to ascertain actions taken and the effectiveness of this CAR.
- e. The inspectors toured the lake screen house, outside storage tanks including the condensate tanks, and the exterior of the plant to assess cold weather preparations including heat tracing on plant equipment and space heaters in the lake screen house. Space heaters in the lake screen house, including the diesel fire pump rooms, were verified to be energized. LaSalle Operating Surveillance (LOS)-ZZ-A2, "Preparation for Winter Operation" checklist was reviewed. The inspectors observed operator's

inspection rounds inside the lake screen house and discussed cold weather actions with the operator. No problems were observed.

No violations or deviations were identified in this area.

5. Maintenance (37828, 40500, 61726, and 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 activity was observed and reviewed:

WR L20538 Perform breaker inspection and replace trip devices if needed

Significant observations included:

- a. The inspectors evaluated for possible enforcement action findings described in inspection report 50-373/93026(DRS); 50-374/93026(DRS) regarding the September 14, 1993 Unit 1 loss of station auxiliary transformer (SAT) event. As indicated in the Augmented Inspection Team report, these issues in aggregate indicated fundamental problem areas in the maintenance program. As a result of these and concerns documented in previous inspection reports, the licensee performed a maintenance team investigation to ascertain specific problem areas needing action. Any identified enforcement actions are described below:
 - System auxiliary transformer trip - The previous inspection attributed the SAT failure to lack of appropriate maintenance and poor design. Although not discussed in that report, further review identified a similar failure of a unit auxiliary transformer non-segregated bus duct in 1987. Although the licensee instituted periodic bus duct inspections as a result of this failure, these inspections were insufficient to prevent recurrence. The licensee was taking additional actions to address this concern. However, since the affected equipment was not safety related and therefore, 10 CFR 50, Appendix B, did not apply, enforcement action is not appropriate for this failure.
 - Safety relief valve discrepancies - The previous inspection attributed the failure of SRV "D" to open from the control room to air (instrument nitrogen) leaks which were caused by lack of adequate maintenance. The report did not give any further description of this deficiency or the rationale behind this conclusion. The failure involved an attempted relief valve actuation, two hours after the loss of normal instrument air, utilizing the lower capacity non-safety related accumulator.

The inspectors reviewed the licensee's response to Generic Letter 88-14, "Instrument Air Supply System Problems Affecting Safety-Related Equipment." This letter required, "Verification that the design of the entire instrument air system including air and other pneumatic accumulators is in accordance with its intended function, including verification by test that air operated safety related components will perform as expected in accordance with all design basis events, including loss of the normal instrument air system." It also required "verification that maintenance practices ...are various and adequate to ensure that safety related equipment will function as intended on loss of instrument air." The licensee's response, dated August 21, 1990, was vague. Licensee's actions were narrowly focused to examples described in NUREG-1275, Volume 2, "Operating Experience Feedback Report - Air Systems Problems" (referred to in the bulletin) and included accumulator sizing calculations (safety-related automatic depressurization only) and limited testing of the safety-related accumulator system for leaks. This testing did not include the accumulator actuator. Other examples of narrowly focused actions in response to NRC generic communications have been noted in recent inspection reports and further NRC followup is planned. As followup to this event, the licensee performed a more extensive air drop test (including the actuator) on both units and found several more air leaks of various degrees. The licensee planned to continue the more extensive testing on a routine basis.

The report noted that SRV "K" opened before "S" and "A" due to setpoint tolerances which resulted in overlapping pressure areas. The previous inspection did not address other SRV problems including indication problems with SRVs "C" and "U", and SRV "E" only partially opening. The indication problems were corrected with recalibration of the lift indicating switch assemblies (LISA) and all SRVs were subsequently tested.

SRV "E" failed due to a shortened valve stroke caused by improper adjustment of a spindle nut. The valve was replaced January 29, 1993 through work request L15527. Testing of Unit 2 valves during the subsequent refuel outage identified a similar problem on SRV "L", last replaced on April 11, 1992 through work request L23736. This is a violation (50-373/93035-01(DRP)) of 10 CFR 50, Appendix B, Criterion V, since LaSalle Mechanical Procedure (LMP)-MS-06, "Installation of Main Steam Safety Relief Valves", and LaSalle Electrical Procedure (LEP)-MS-101, "SRV Lift Indicating Switch Assembly Removal" were inappropriate to ensure proper spindle nut adjustment.

Licensee event report 373/93015, dated October 12, 1993, stated under corrective actions that "the method of tightening the spindle nuts was revised to ensure the loading plate was secured prior to locking the spindle nut in place." This statement was vague and misleading as it could be interpreted to mean appropriate procedure changes had been accomplished. However, an

action item record (AIR) was also listed implying something still needed to be accomplished. The response to the confirmatory action letter also included this misleading statement (but did not contain the AIR reference). In addition, the inspectors were concerned that the individual assigned responsibility for the AIR was only aware of and pursuing needed changes to the LMP but not to the LEP. The AIR did not mention the specific procedure numbers. These items reflected previous concerns regarding commitment control weaknesses.

In actuality, the licensee did not immediately change the procedures (and assigned a due date of February 1, 1994) since the Unit 2 work packages were already in the field for the refuel outage. Instead, the licensee relied on more extensive post-maintenance testing to ultimately ensure the work was accomplished correctly. The inspectors regarded this temporary method of control as weak, effectively reducing the lines of defense. This post-maintenance testing identified a similar problem with Unit 2 SRV "G", even though this valve was replaced on December 16, 1993 through work request L21456, subsequent to the loss of offsite power event.

- Security backup power supply breaker out-of-service - The Unit 2 feed to busses 131A and 132A was out-of-service causing a delay in providing backup power to various security equipment. The breaker was out-of-service since February 21, 1992 following a breaker inspection. The out-of-service was not corrected promptly because the licensee was awaiting parts (overcurrent trip devices) on back order from the vendor. Work was completed on August 7, 1993 with the breaker available, although not required by procedure, to be placed back in service. Due to a breakdown in communications between electrical maintenance and operations, the out-of-service was never cleared on the breaker.
- 1B reactor protection system motor generator (MG) set failure - A heavy layer of dirt covered both ends of the motor winding. The winding had a turn to turn short at the first coil of a phase group. The condition of the motor winding contributed to the failure of the MG set. The insulation degraded from the abrasive action of the dirt on the winding insulation due to coil movement or windage damage. The failure occurred due to inadequate maintenance in that the licensee took a narrow view of vendor recommendations. Vendor maintenance instructions described in GEI-56128B, "Motor Installation and Maintenance," stated that the motor should be inspected at regular intervals. Another section gave instructions on how to clean the motor windings including using a soft brush and, if necessary, a slow acting solvent. The licensee's maintenance procedure, LaSalle Electrical Surveillance (LES)-RP-101, only gave instructions to blow out the motor using dry, compressed air. Subsequent to the failure, the licensee disassembled the effected motor generator set on Unit 1 and both sets on Unit 2 during the recent refuel outage. The licensee

planned to clean the remaining motor generator set during the Unit 1 refuel outage in March 1994. However, as the affected equipment was not safety related and therefore, 10 CFR 50, Appendix B, did not apply, enforcement action is not appropriate for this procedure inadequacy.

- Improper closed indication on low pressure core spray system discharge testable check valve - A loosened set screw caused the closed limit switch cam to become loose. This was due to a design problem for which the licensee had already devised a solution at the time of the event. This modification, installed on Unit 2 valves during L2R05, changed the cam securing mechanism allowing the elimination of the set screw. The licensee planned to complete the same modification on Unit 1 during the next refuel outage.
- b. The inspectors reviewed a sample of outstanding outage work requests that were to remain open for Unit 2 at the conclusion of the refuel outage. None were safety significant and rationale existed as to why they were not completed during the refuel outage. The inspectors also noted that non-outage corrective work requests for the entire plant had trended up over the course of the outage, to 520, well above the 300 prior to the outage, and slightly above the licensee's goal of 450.

The inspectors noted numerous additional equipment problems that became apparent during the Unit 2 startup such as heater bay steam leaks, a condenser tube leak, nuclear instrumentation problems, and drywell equipment drain sump pumps cycling at the incorrect levels. The licensee eventually instituted a short maintenance outage to correct these problems. (Additional problems were noted during the associated unit shutdown process.) In light of the long length of the recent Unit 2 refuel outage, the need to review the problems in aggregate for possible generic implications was evident. The inspectors discussed this with plant management and site quality verification (SQV). SQV indicated they had not planned such a review, however maintenance department personnel indicated they were already aware and reviewing the issue. SQV subsequently also decided to independently review the issue. A detailed NRC review of a small sample of these problems did not reveal any obvious generic implications. However, the inspectors plan to review licensee investigation methods and results in this area.

Specific problems reviewed in detail by the inspectors included:

- Recirculation pump seal injection check valve, 2B33-F017A, leaked through the bonnet to body threads and the overlying seal weld during unit start-up after valve repair and testing. The valve, located outside the drywell, was part of the reactor coolant system pressure boundary. Work request L24744, completed on December 14, 1993, repaired the valve following a local leak rate

test failure during the refuel outage. Post-maintenance testing included a local leak rate test and a leak check at normal operating pressure. (The valve was in the scope of the vessel hydro.) Both the weld process and liquid penetrant examination (report 93-364) were verified by plant quality control. Leakage was not identified during these activities. Qualification records for the welder and non-destructive examiner were adequate.

While reviewing work request L24744, the inspectors noted one question on LaSalle Administrative Procedure (LAP)-300-7, "Nuclear Work Request System Post-Maintenance Testing," revision 10, attachment J, "Maintenance Work Request Classification and Post-Maintenance Checklist," had been answered incorrectly by the maintenance foreman. The answer indicated that the work did not require entry into a system that could affect the pressure boundary. However, there were no missed actions or adverse consequences of this error. The mechanical maintenance master discussed this with the involved foreman and subsequently held a meeting with the other foremen to clarify expectations.

- On January 3, 1994, Unit 2 experienced several unplanned power spikes with changes in reactor power, steam flow, feed flow, reactor pressure, and "B" recirculation pump discharge flow. Power varied between approximately 77 and 92 percent. The licensee believed, based on the data analyzed, that noise in the "B" recirculation flow control valve (FCV) servo control signal may have caused the flow control valve to change position enough to cause a small power swing. The licensee subsequently controlled recirculation flow control valve position manually and inhibited FCV motion. A bad local variable differential transformer (LVDT) on the valve was suspected as the cause of the servo valve noise. The licensee had worked on the LVDT during the L2R05 refuel outage and planned to inspect the LVDT during the upcoming short maintenance outage.
- The less than 90 percent full open input in the reactor protection system for the "D" inboard main steam isolation valve (MSIV) failed to clear. The inspector observed the troubleshooting on the valve limit switch during the short maintenance outage. The switch lever did not return to its normal position and the switch was replaced. Although the observed troubleshooting eventually resulted in repair, better planning and clearer instructions could have reduced the time spent in a high radiation area, thereby reducing effective dose for the job and reduced the number of times the MSIV was cycled in a dry condition.
- c. Three of four safety related ITE breaker operating mechanisms manufactured by ABB and purchased by Commonwealth Edison through Nutherm in 1991 were found to have missing pieces. While performing a refurbishment of the Unit 2 suppression pool clean-up pump breaker operator mechanism, the licensee noted several discrepancies. Three different kinds of grease were used, two

retaining rings were missing, and tension springs used were not those expected. The operating mechanisms, in this and the other subject breakers, were purchased through Nutherm because ABB did not have a qualified quality assurance (QA) program. Inspections of two of the other three mechanisms revealed missing pieces and in one case the operating mechanism frame was bent. Although later reinstated, Nutherm was previously removed from Commonwealth's qualified bidders list because of quality related problems. The inspectors will continue to follow this potential generic concern to ensure it is properly addressed.

During the course of the breaker inspections, the inspectors observed that electricians did not know if they should document problems found with the breakers. The inspectors considered failure to adequately document the as-found condition to be a potential impediment to the root cause analysis program. The inspectors prompted electrical maintenance supervisors to ensure that all problems were documented in the work packages. Documentation of as found equipment condition for root cause use was a previously identified concern. The inspectors will evaluate licensee action plans to ensure this concern is adequately addressed.

- d. The use of overtime by the maintenance departments during the last three months was acceptable. The inspectors determined the average number of hours worked per week over the last three months for a sample of ten individuals. An average amount of overtime was then calculated. Mechanical and instrument maintenance departments had reasonable amounts of overtime at eight hours and eleven hours respectfully. The electrical maintenance department was exceptionally high with an average of 19 hours per week. However, considering the amount of work required of electrical maintenance from the dual unit outage and the mandatory ITE breaker inspections this was considered acceptable for the circumstances and was within the guidance established in Generic Letter 82-12, "Nuclear Power Plant Staff Working Hours."
- e. On November 27, 1993, the licensee determined that a Unit 2 recirculation pump ITE breaker had been improperly tested by the electrical maintenance department (EMD). Prior to turning the breaker over to the operations department for operational testing, the EMD was to perform certain physical checks and tests in accordance with the work request. EMD performed these checks on the wrong breaker and the breaker subsequently failed to pass its operational tests after being installed. This is an unresolved item (50-374/93035-02(DRP)) pending further NRC review to determine the cause and examine the results of the licensee's investigation (scheduled completion by January 28, 1994.)

Surveillance testing required by technical specifications, the safety analysis report, maintenance activities, or modification activities were observed 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 and review signatures, test results properly dispositioned, and independent verification documented. The following activities were observed or reviewed:

LaSalle Instrument Surveillance (LIS)-NB-215, "Unit 2 High Pressure Excess Flow Check Valve Operability Test"

LaSalle Technical Surveillance (LTS)-300-4, "Unit 2 Primary Containment Integrated Leak Rate Test (ILRT)"

LTS-1100-12, "Control Rod Drive Pump Performance Curve"

LIS-RT-102A, "Unit 1 Reactor Water Cleanup Area Ambient and Differential Temperature Outboard Isolation Instrument Channel A Quarterly Calibration"

Significant observations included:

- a. On October 22, 1993, while performing LIS-NB-216, "Low Pressure Excess Flow Check Valve Refuel Operability Test (EFCV)" a division I emergency core cooling system initiation signal was received and the Unit '0' diesel generator automatically started. An operator opened a valve as directed by an instrument maintenance control systems technician (CST) without referring to the procedure. The CST did not properly identify the valve required to be opened by the procedure and directed the operator to open the wrong valve. The CST did not use the valve tag but used valve numbers in the immediate vicinity to identify the valve. The valve's tag was not attached to the valve but to the pipe approximately eight inches downstream. Although the operator's performance did not meet the expectations of senior plant management, it did meet the expectations of first line operations management. This was an example of poor communications of expectations within the operating department. Failing to follow a procedure is a violation of 10 CFR 50, Appendix B, Criterion V. The corrective actions for this event were listed in LER 374/93008. This was a Severity Level V violation identified by the licensee and was not cited because the criteria specified in section VII.B of the "General Statement of Policy and Procedures for NRC Enforcement Actions," (Enforcement Policy, 10 CFR Part 2, Appendix C (1993)) were satisfied.
- b. The inspectors reviewed the circumstances regarding the licensee missing the stroke time surveillance critical due date of October 26, 1993 by one day for the Unit 1 drywell equipment drain recirculation inboard isolation valve, 1RE026. This valve was on an increased inservice testing frequency (from quarterly to monthly) since stroke times had entered the alert range. The late performance was caused by the scheduler incorrectly entering the

- b. NRC review of the licensee's response to NRC Bulletin 93-02, "Debris Plugging of Emergency Core Cooling System Suction Strainers" revealed that LaSalle had misinterpreted the intent of the bulletin. The licensee had believed the bulletin applied only to the temporary use of fibrous material in the drywell. In addition, the licensee incorrectly believed the filters could not release fibrous materials during an accident. However, the licensee had no analysis to support this assumption. After inspecting the licensee's use of fibrous roughing filters in two air handling units and six coolers located in the drywell, the NRC informed the licensee of the correct interpretation of the bulletin. Once the intent of the bulletin was recognized, the licensee removed all roughing filters from the Unit 2 drywell and performed an operability evaluation for Unit 1. The licensee planned to remove the roughing filters for Unit 1 during the next cold shutdown. The inspectors considered the licensee's initial response to the bulletin to be narrowly focused and indicated weak engineering support and analysis.
- c. The inspectors noted numerous caution tags had been placed on Unit 2 valve switches in the control room referencing specific engineering evaluations for valve timing acceptance criteria. These evaluations were for valves which underwent maintenance and were rebaselined for the inservice testing (IST) program during the refuel outage. The IST engineer was waiting for outage completion (to ensure no more maintenance and hence rebaselining) before updating the applicable valve timing surveillance procedures. The caution tags were to inform the operators performing the surveillances of the new acceptance criteria and where to find it. The number of valves involved were much greater than previously identified since the licensee had lowered its threshold for rebaselining. (For example, environmental qualification inspections had not previously required rebaselining). The inspectors noted that this method of control tended to unnecessarily clutter the control boards. The IST engineer indicated he already had discussions with the operating engineers regarding better methods to control this information.

The inspectors noted that the caution tags were only utilized on some of the rebaselined valves. No controls existed for the other valves. Therefore, the potential existed for valves to fail the new acceptance criteria and the operators would not be aware of it. This is considered an unresolved item (50-373/93035-04(DRP)) pending review of licensee corrective actions in the next inspection report.

- d. The inspectors determined that the site was not adequately addressing seismic requirements for scaffolding in safety-related applications, i.e. adjacent or over operating or operable safety-related equipment. The licensee's corporate office had undertaken a project to improve engineering analysis of scaffolding designs, as evidenced through technical information directives. The

licensee was revising the scaffolding procedure to incorporate these enhancements. The licensee addressed the identified concerns for scaffolding in the Unit 2 reactor building on elevation 786 and planned to also incorporate additional general concerns in their overall scaffolding process.

Areas to be covered included:

- Providing formal training of personnel in seismic requirements (both Commonwealth Edison and contractor crafts responsible for erecting scaffolding).
- Erecting horizontal members as the scaffolding erection proceeds and not waiting until completion of the vertical and diagonal members.
- Providing seismic qualification of the Brand Cuplok Scaffolding system collars to the NRC.
- Following scaffold erection, add an inspection of the scaffolding for structural (seismic) attributes and a signoff on the scaffold request tag.

Consideration was given to have both the training and inspection conducted by structural engineers from the Site Engineering Group Department. The inspector noted that the licensee already had a good training program for licensee personnel in the considerations for scaffolding erection.

- e. The inspectors reviewed temporary system changes (TSC) remaining on Unit 2 control room annunciator alarm points at the end of the Unit 2 refuel outage. The inspectors concluded that a long term problem of leakage past the fuel pool gate into the reactor cavity was not being adequately resolved.

The fuel pool gate leakage input into the Unit 2 "Fuel Pool Cooling System Trouble" alarm was disconnected in 1991. This input alarmed at 0.99 gpm leakage from the fuel pool into the reactor cavity. Leakage past the gate into the reactor cavity consistently exceeded the alarm setpoint since 1989 when a work request to repair this leakage was written. The purpose of the alarm was to give indication of gate seal failure to prevent the lowering of the fuel pool level into the reactor cavity.

The system engineer explained that the leakage had not been repaired because the leakage could be changed depending on how the gate was installed. At the end of refuel outage L2R05 the leakage alarm was cycling in and out thereby causing a nuisance. The leakage was considered acceptable at the end of L2R05 and the work request was to be cancelled. The existing leakage was routed to the equipment drain system through another temporary system change installed in 1991. Leakage was monitored by examination of sump

levels once per shift. The licensee planned to raise the setpoint of the leakage flow alarm sometime in the next six to nine months.

The system engineer was, however, unable to explain who made the determination that the leakage was acceptable, the basis of the decision, or basis of the alarm setpoint. In addition, the inspectors considered the long length of time to change the setpoint excessive, especially in light of the long period operators had already been without benefit of this annunciator.

No violations or deviations were identified in this area.

7. 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 10 CFR as appropriate.

No violations or deviations were identified in this area.

8. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, violations, or deviations. Unresolved items disclosed during the inspection are discussed in Paragraphs 5 and 6.

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 January 10, 1994. 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.