# U.S. NUCLEAR REGULATORY COMMISSION

## REGION III

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| Report Nos: | 50-373/96-13, 50-374/96-13 |
| Licensee: | Commonwealth Edison Company |
| Facility: | LaSalle County Station, Units 1 and 2 |
| Location: | 2601 N. 21st Road<br>Marseilles, IL 61341 |
| Dates: | September 13 - October 25, 1996 and December 13, 1996 |
| Inspectors: | M. Huber, Senior Resident Inspector<br>K. Ihnen, Resident Inspector<br>H. Simons, Resident Inspector<br>D. Roth, Resident Inspector, Dresden Station |
| Approved by: | Marc Dapas, Chief, Projects Branch 2<br>Division of Reactor Projects |

# EXECUTIVE SUMMARY

LaSalle County Station, Units 1 and 2
NRC Inspection Report 50-373/96-13(DRP); 50-374/96-13(DRP)

This inspection included aspects of licensee operations, maintenance, engineering, and plant support, and covered a six-week period from September 13 through October 25, 1996.

The inspectors identified several examples of poor worker practices involving radiological controls and housekeeping, fire protection controls for welding, and procedural adherence. The inspectors were concerned with instances of operating and maintenance department first line supervisors conveying non-conservative procedural adherence expectations to workers. The issues with poor worker practices along with an ineffective overview of engineering requests and the failure to adequately address reactor core isolation cooling rupture disk problems, reflect continuing problems with effective resolution of long-term performance issues.

Plant Operations

- The inspectors identified a violation involving the failure of a Unit Supervisor and other control room operators to follow the general procedure for shutdown and to initiate a procedure change reflecting the actual shutdown process used. (Section 04.1)

- Equipment operators did not follow out-of-service instructions resulting in the wrong battery charger being de-energized. This was considered a violation. (Section 04.2)

- Several self-assessment initiatives were considered good. (Sections 07.1 through 07.3)

Maintenance

- The inspectors identified several plant housekeeping conditions that had the potential to adversely impact plant operations, such as the use of duct tape where it could interfere with valve operation. These conditions were also indicative of poor worker practices. (Section M2.1)

- The licensee's initiative to inspect the drywell to suppression pool downcomers was good. (Section M2.2)

- The inspectors identified a violation involving an inadequate freeze seal maintenance procedure. Workers establishing a freeze seal on an emergency diesel generator (EDG) cooling water line demonstrated a good questioning attitude in identifying that the subject procedure did not contain the required information. However, a maintenance department first line supervisor attempted to resolve the problem by explaining the

intent of the procedure rather than seeking a formal work package clarification or procedure revision. (Section M3.1)

- The inspectors identified a violation involving the failure of maintenance workers to follow a procedure during reassembly of the 0 EDG service water strainer which resulted in excessive leakage of a strainer backwash valve, necessitating rework. Documentation in the rework package was not thorough, representing an impediment to good root cause analysis. (Section M4.1)

- A violation was identified involving the failure to follow work request instructions which resulted in installation of jet pump plugs in the wrong reactor recirculation loop. A fuel handling supervisor demonstrated poor procedural adherence practices by continuing with jet pump plug installation even though he was aware that a required drawing was missing from the work package. (Section M4.2)

- The inspectors identified a violation involving the failure to follow work practices required by fire protection procedures for ensuring a safe welding environment. (Section M4.3)

Engineering

- The inspectors identified a violation involving inadequate administrative procedures for control of engineering work. The licensee did not have a formal, proceduralized process for handling engineering requests and existing informal processes were ineffective in prioritizing and ensuring timely completion of engineering work. (Section E1.1)

- The inspectors identified an apparent violation for the failure to implement corrective actions following a 1994 reactor core isolation cooling system rupture disc event. A second rupture disc event, apparently due to the same root cause as the 1994 event, occurred on August 28, 1996. The ineffective engineering request process was also a contributing factor to the corrective action problem. (Section E2.2)

Plant Support

- The inspectors identified a violation involving several examples of the failure to adhere to required radworker practices. The inspectors were concerned that actions taken by the licensee to address problems with radworker practices and radiological housekeeping conditions, were not sufficient to ensure long-term and consistently good performance in these areas. (Section R1.1)

# Report Details

Summary of Plant Status

Unit 1 began this inspection period at 100 percent power. On September 22, the unit was shut down to repair a servo valve failure on a turbine control valve. The unit remained in cold shutdown for the remainder of the inspection period.

Unit 2 was operating at a reduced power level of 82 percent at the beginning of this inspection period to maintain the core power distribution within allowable limits. On September 19, Unit 2 was shut down for a refueling outage. Major work activities performed during the outage included suppression pool cleaning, core shroud inspections, motor-operated valve testing, and reactor recirculation manual isolation valve modifications.

## I. Operations

### O1 Conduct of Operations

#### O1.1 General Comments (71707)

The inspectors conducted frequent reviews of ongoing plant operations using Inspection Procedure 71707. Walkdowns were performed in the main control room; emergency diesel generator rooms; the auxiliary electrical equipment rooms; safety-related pump rooms; the reactor building, including the drywell; the turbine building; and the radwaste facility. The inspectors also observed and discussed plant status and pending evolutions with shift personnel in the control room.

#### O1.2 Spurious Reactor Water Cleanup (RWCU) Isolations

a. Inspection Scope (93702, 71707)

On September 17, a high differential flow condition occurred in the Unit 2 RWCU system when the 2A filter demineralizer was placed into service. The high differential flow resulted in a Group 5 containment isolation actuation, an engineered safety features system actuation. The inspectors responded to the control room and observed the operator response, reviewed RWCU logs, interviewed the auxiliary operators involved with placing the 2A filter demineralizer in service, and reviewed the following procedures:

- LaSalle Operating Abnormal LOA-2H13-P601 C411, "Division 1 RWCU Flow High," Revision 7
- LaSalle Operating Procedure (LOP)-RT-06, "RWCU System Filter/Demineralizer Precoat," Revision 23
- LaSalle Operating Procedure LOP-RT-07, "RWCU - Placing a Filter/Demineralizer in Service," Revision 15

b. Observations and Findings

The RWCU system Group 5 containment isolation occurred when operators were placing the 2A filter demineralizer in service. The inspectors observed operator actions subsequent to the isolation, which included verification that the RWCU system was isolated, and system inspections to determine if an actual leak existed or some other failure had caused the high differential flow condition.

Before the event, the RWCU system was operating normally with the 2B filter demineralizer in service. Operators completed routine resin replacement before placing the 2A filter demineralizer in service during the next shift. Following shift turnover, operators prepared to return the 2A filter demineralizer to service, by unisolating the demineralizer with the local control switch. When the local control switch was placed in the unisolate position, the demineralizer inlet and outlet valves automatically opened. Alarms annunciated in the control room, indicating RWCU system high differential flow. Operators attempted to isolate the filter demineralizer to prevent the Group 5 isolation, but were unsuccessful.

During control room observations, the inspectors noted that operators were using a procedure to restore the RWCU system to service following the isolation. While no problems were observed with the restoration procedure, the troubleshooting procedure used for recovery from a Group 5 isolation, which should be performed before returning the RWCU system to service, was not referenced in the alarm response procedure.

Based on a review of procedures for placing the filter demineralizer in service and discussions with operators, the inspectors were not able to determine the cause of the high differential flow condition. The licensee did not identify any leaks during a walkdown of the RWCU system. The inspectors noted that similar events have occurred involving isolation of the RWCU system when the 2A filter demineralizer was placed in service. However, the licensee did not identify the cause of the high differential flow condition for these earlier events. The licensee plans to conduct further testing to determine the cause for the most recent isolation event.

The inspectors will review the results of additional licensee testing to determine the root cause for this event, and will also review operating procedures to determine if they provide sufficient guidance for recovery from a Group 5 containment isolation. This issue is considered an unresolved item (50-374/96013-01) pending the completion of these reviews.

c. Conclusions

The control room and auxiliary operators appeared knowledgeable and used appropriate procedures to respond to the RWCU system isolation. The inspectors will conduct additional followup inspection to evaluate

control room procedural adequacy and licensee corrective actions for this event and previous similar events.

## 04 Operator Knowledge and Performance

### 04.1 Failure to Follow Procedures When Shifting Reactor Recirculation (RR) Pumps to Slow Speed

a. Inspection Scope (71707)

The inspectors observed the normal shutdown of Unit 2 on September 19 in preparation for a refueling outage. Specifically, the inspectors observed the power reduction and the evolution involving transfer of the RR pumps from fast to slow speed.

b. Observations and Findings

The inspectors noted that the licensee's plan for shifting the RR pumps from fast to slow speed differed from the normal shutdown procedure. Step 7 of LaSalle General Procedure LGP-2-1, "Normal Unit Shutdown," Revision 48, required the operators to downshift the RR pumps to slow speed per procedure LOP-RR-08, "Changing Reactor Recirc Speed from Fast to Slow Speed." Instead of shifting the RR pumps per LOP-RR-08, the licensee planned to perform LaSalle Instrument Surveillance LIS-RR-205A, "Unit Recirculation Pump Trip System A Breaker Arc Suppression Response Time Test," Revision 2, which would result in shifting the pumps to slow speed. The intent of this surveillance procedure is to determine recirculation pump breaker arc suppression response times.

The Unit 2 Supervisor conducted an infrequent evolution briefing with involved instrument mechanics, operators, and nuclear engineers before conducting the surveillance test. Personnel conducting the brief did not mention that LGP-2-1 specified the use of LOP-RR-08 for shifting the pumps to slow speed, and that use of LIS-RR-205A to perform the pump shift required a procedure change to LGP-2-1. The inspectors questioned the Unit Supervisor about the discrepancy between the normal shutdown procedure and the planned evolution. After discussing the issue amongst themselves, the operators marked Step 7 of LGP-2-1 "N/A," added a note that instrument surveillance LIS-RR-205A was to be used, and continued with the evolution.

Technical Specification 6.2.A.a requires that applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, be implemented. Regulatory Guide 1.33 specifies procedures for plant shutdown and for procedure adherence and temporary change methods. LaSalle Administrative Procedure LAP-100-40, "Procedure Use and Adherence Expectations," Revision 6, required that a temporary procedure change be completed and procedure LGP-2-1 be revised for the planned RR pump shifting evolution. The failure to either follow LGP-2-1 or initiate a procedure change as required by LAP-100-40 is considered an example of a violation of Technical Specification 6.2.A.a (50-373/96013-02a; 50-374/96013-02a).

04.2 Operator De-energized Wrong Equipment During Out-of-Service (OOS)

a. Inspection Scope (93702, 71707)

On October 12, equipment operators were removing the Unit 2, Division 2 battery charger from service when they shut down the Unit 1 battery charger instead. The inspectors reviewed the OOS procedure, OOS checklist, the applicable operating procedure, and statements written by the operators to evaluate the circumstances surrounding the personnel error.

b. Observations and Findings

Equipment operators (EO) were using procedures to remove the Unit 2 battery charger from service. Out-of-service 960012473 checklist special instructions required shutdown of the Unit 2 battery charger using LOP-DC-01, "Energizing, Startup, and Shutdown of a Battery Charger," Revision 8, Step F.3. The EOs de-energized the Unit 1 battery charger using LOP-DC-01 instead of the Unit 2 battery charger. A control room operator, responding to a control room alarm, contacted the EOs to determine if the Unit 1 charger was de-energized by mistake. The control room operator directed the EOs to re-energize the Unit 1 battery charger and continue as planned with removing the Unit 2 battery charger from service. The inspectors reviewed the OOS checklist and associated procedures and determined that they were adequate.

c. Conclusions

This personnel error apparently resulted from lack of self-checking and inattention to detail. The failure to follow instructions specified in OOS 960012473 is considered an example of a violation of 10 CFR Part 50, Appendix B, Criterion V (50-373/96013-03a; 50-374/96013-03a), as described in the attached Notice of Violation.

07 Quality Assurance in Operations

07.1 Site Quality Verification (SQV) Performance

a. Inspection Scope (40500, 71707)

The inspectors reviewed quality assurance activities related to a licensee integrated assessment of LaSalle station performance.

b. Observations and Findings

The licensee's SQV department performed an integrated review of station performance early in the inspection period. The SQV organization conducted a historical review of identified performance weaknesses and, based on the aggregate of findings, concluded that management needed to evaluate the ability to operate the plant safely in consideration of the many challenges posed to plant operations. Human performance weaknesses in the engineering and mechanical maintenance departments as well as

process and program weaknesses, were identified by the SQV organization as problems that continued to challenge plant operations. In addition, continuing material condition problems and the lack of a self-assessment culture at the station also posed a challenge to plant operations.

The SQV organization developed a list of areas for focused assessments to further validate identified performance concerns. The SQV organization also established criteria for initiating actions such as a stop work order and unit shutdown, based on the significance of findings. The inspectors concluded that the subject criteria were general in nature and equivalent to what a quality assurance organization would use to determine the need for action on a day-to-day basis.

In response to the concerns raised by the SQV department, the licensee formed two teams: one team to review the identified areas of concern for safety significance, and the second team to identify corrective actions to resolve the problems.

c. Conclusions

The inspectors considered the integrated review of LaSalle station performance by the SQV organization to be a good initiative. The response of plant management to the concerns identified by the SQV organization was timely. However, additional time is needed to evaluate the effectiveness of licensee initiatives in resolving the broad performance problems identified.

07.2 Event Screening Committee (ESC) Meeting Changes

a. Inspection Scope (40500, 71707)

The inspectors reviewed the licensee's process for identifying and reporting problems and observed several ESC meetings which included discussion of problem identification forms (PIF).

b. Observations and Findings

The licensee uses the PIF process to document problems and conditions adverse to quality. Problem identification forms initiated during the preceding day are discussed at the daily ESC meeting. The inspectors documented weaknesses in the ESC function in NRC Inspection Report 50-373/96004; 50-374/96004. Subsequently, the licensee revised the format of the ESC meetings. The licensee identified additional weaknesses in the ESC process following the service water event in July 1996, and as a result the licensee initiated further changes to the ESC.

During this inspection period, the inspectors observed several ESC meetings and noted that the most recent changes to the ESC involved both the membership and conduct of the meeting. The meeting membership is comprised of senior managers, with representatives from operations, engineering, maintenance, and work control. The inspectors noted that

PIFs were no longer pre-screened before the meeting, with all PIFs receiving the same level of review. Licensee management reiterated to the staff their expectations for problem identification and as a result, the number of PIFs generated by plant personnel increased dramatically. The increased number of PIFs resulted in a backlog such that the ESC was not able to review all of the PIFs written the previous day.

c. Conclusions

The inspectors concluded that the changes to the structure and format of the ESC produced mixed results. The elevation of problems to the senior management level and the membership of the committee appeared more stable. However, more resources were required to review the increased number of PIFs and the timeliness of PIF evaluations was impacted as a result. The licensee attempted to eliminate the PIF backlog. However, continued licensee management attention is necessary to ensure quality and timely reviews of PIFs in order to properly identify and classify trends.

07.3 Departmental Self-Assessments (40500, 71707)

The licensee instituted a departmental self-assessment program as part of the continuing effort to develop a self-assessment culture among plant personnel. Periodically, a given department presents self-assessment results to the Site Vice-President and Plant Manager. The inspectors attended a mechanical maintenance department self-assessment presentation. Maintenance personnel were self-critical, the discussion was open, and no defensive posture was apparent. The inspectors considered the department self-assessment review to be a good initiative.

## 08 Miscellaneous Operations Issues

08.1 NRC Review of Institute for Nuclear Power (INPO) Evaluations

The inspectors reviewed the INPO Evaluation Report dated August 1996. No new safety issues were identified.

# II. Maintenance

## M1 Conduct of Maintenance

M1.1 General Comments

a. Inspection Scope (62703 and 61726)

The inspectors observed the following maintenance and surveillance activities during this inspection period in accordance with inspection procedures 62703 and 61726:

- Work Request (WR) 960085699-01, "Disassemble and Repair Valve Internals (2B EDG Cooling Water Strainer Backwash Outlet Valve)"
- WR 960085699-02, "Freeze Seal on the 2B EDG Cooling Water Strainer Backwash Valve"
- WR 950055465-01, "Open and Repair 0 EDG Cooling Water Pump Strainer"
- WR 950055645-02, "Weld Repair of the 0 EDG Covers"
- WR 950099971-01, "Valve 2E13F332A Repairs"
- WR 940060460-01, "Unit 2 High Pressure Core Spray EDG Cooling Water Pump Repair"
- WR 940061754-01, "Install/Remove 2B RR Loop Jet Pump Plugs to Support 67B Work"

b. Observations and Findings

The inspectors determined that licensee personnel performed work in accordance with the work instructions specified in the various work requests. Involved workers appeared knowledge of the maintenance tasks, and operations and engineering personnel were appropriately involved in the work activities. However, the inspectors did identify a procedural weakness and examples of the failure to follow procedures and work instructions while observing licensee work activities. The inspectors findings are discussed in detail in Section M3, "Maintenance Procedures and Documentation," and Section M4, "Maintenance Staff Knowledge and Performance."

## M2 Maintenance and Material Condition of Facilities and Equipment

### M2.1 Plant Material Condition

a. Inspection Scope (62703)

The inspectors assessed plant material condition and cleanliness during plant tours of accessible areas of the reactor and turbine buildings.

b. Observations and Findings

During the tours, the inspectors noted several examples of poor housekeeping including the following:

- A small leak (2-3 drops/minute) on the Unit 1 motor-driven reactor feedwater pump (MDRFP) seal cooler line with no catch basin,
- No placard identifying parts staged or stored outside of the MDRFP room,
- Use of a valve-chain for valve 2CD009A, "A GLAND STEAM CONDENSER OUTLET VALVE," to tie open a door,
- The gear box that connected valve 2CD011B, "B OFFGAS CONDENSER INLET," to its reach rod was wrapped with duct tape, and
- A black fluid was dripping down the outside of containment below the Unit 1 main steam isolation valve room.

c. Conclusions

The inspectors concluded that the use of duct tape where it could interfere with valve operation, leaving parts unattended and unmarked in the field, and using a valve chain to hold open a door, were poor worker practices. Workers were not sensitive to conditions that could adversely impact plant operations. The inspectors discussed the identified practices with the appropriate Unit Supervisors.

M2.2 Suppression Pool Inspection and Cleaning

a. Scope (62703)

The inspectors reviewed licensee activities pertaining to the Unit 2 suppression pool cleaning, desludging, and inspection conducted in response to NRC Bulletin 95-02, "Unexpected Clogging of a Residual Heat Removal Pump Strainer While Operating in Suppression Pool Cooling Mode."

b. Observations and Findings

In response to NRC bulletin 95-02, the licensee committed to clean the suppression pool during the current Unit 2 refueling outage. The licensee inspected the emergency core cooling system (ECCS) suction strainers to determine the as-found condition of the strainers before commencing cleaning activities. The inspection was performed by a diver and recorded on videotape. The inspectors viewed the videotape and noted that the ECCS strainers appeared to be free of debris with the exception of a small amount of foreign material (less than one percent of the surface area). The foreign material, which consisted of short (less that six inches) strings that may have been remnants of duct tape, was easily removed by the divers. In the videotape, the diver pointed out the silt layer on the bottom of the pool and identified small pieces of foreign material in the silt, such as silicon caulk, wire tie wraps, and a beverage can lid. More debris, such as a three foot by three foot rubber mat and a three foot by three foot sheet of gasket material, were discovered under the silt layer during cleaning and desludging activities. The licensee also inspected the downcomers in the suppression pool for the presence of debris and found a six foot by four foot nylon bag.

The licensee concluded that under design basis accident conditions involving a blowdown of the drywell into the suppression pool, the foreign material could have migrated to the ECCS suction strainers resulting in blockage of greater than 50 percent of the surface area causing a potential loss of net positive suction head to the ECCS pumps. Based on this determination, the licensee initiated a 10 CFR Part 50.72 notification on October 16, 1996, for a condition discovered while shutdown that could have resulted in the plant being outside the design basis while at power.

c. Conclusions

The inspectors concluded that the suppression pool cleaning and desludging efforts were thorough and the initiative to inspect the downcomers was good. The licensee plans to perform further engineering analysis to determine the full impact of the foreign material on ECCS operability. This issue is considered an unresolved item (50-374/96013-04) pending NRC review of the licensee's analysis and the adequacy of the licensee's previous actions to ensure suppression pool cleanliness.

## M3 Maintenance Procedures and Documentation

### M3.1 Inadequate Procedure Caused Confusion During Freeze Seal

a. Inspection Scope (62703)

The inspectors observed workers establishing a freeze seal for valve actuator maintenance and reviewed LaSalle Maintenance Procedure LMP-GM-14, "Use of Freeze Jackets," Revision 4, dated July 1, 1992. The inspectors also discussed the work activity and the procedure with the involved Maintenance Department first line supervisor.

b. Observations and Findings

On October 10, the inspectors observed maintenance workers using LMP-GM-14 to establish a freeze seal on the Unit 2, Division 3 EDG cooling water strainer backwash line. The evolution involved the use of a freeze jacket which circulated liquid nitrogen to freeze the water in the pipe. Workers used two thermocouples at different locations (one upstream and one downstream of the freeze seal) to measure the temperature of the pipe.

One of the thermocouples was not functioning properly which caused a large difference in thermocouple readings. The workers reviewed the procedure to determine the minimum allowable freeze seal temperature limit such that the material properties of the piping would not be challenged. Procedure LMP-GM-14 did not provide any guidance on freeze seal temperature limits to protect the piping integrity. The licensee delayed the work evolution to pursue adding a clarification to the work package. The inspectors determined that procedure LMP-GM-14 was inadequate for the circumstances in that it did not specify a lower temperature limit for the freeze seal. This is considered an example of a violation of 10 CFR Part 50, Appendix B, Criterion V (50-373/96013-05a; 50-374/96013-05a), as described in the attached Notice of Violation.

The inspectors were also concerned that a maintenance supervisor was communicating incorrect procedural adherence expectations to workers. A first line maintenance supervisor walked by while the workers were reviewing procedure LMP-GM-14. The supervisor attempted to resolve the workers' questions by walking the workers through the procedure and

explaining the basis and intent of the procedure, rather than encouraging them to initiate a procedure change. This issue was discussed extensively between the involved workers and their supervisor.

The inspectors also noted that the first line supervisor asked them how to interpret the procedure. The inspectors explained to the supervisor that becoming involved in licensee activities was not appropriate unless there was an immediate safety concern. The maintenance worker agreed to proceed if acceptable to the NRC inspectors. Again, the inspectors explained the need for NRC inspectors to remain independent of licensee activities.

c. Conclusions

The workers establishing a freeze seal on an EDG cooling water line demonstrated a good questioning attitude in identifying that the governing procedure did not contain the required information. However, the maintenance first line supervisor attempted to resolve the problem by explaining the intent of the procedure rather than seeking a formal work package clarification or procedure revision. Eventually, a work package clarification was obtained after maintenance management became involved.

M3.2 Post-Maintenance Testing (PMT) Review (62703)

The inspectors reviewed completed containment isolation valve work packages to determine the scope of work and the adequacy of post-maintenance testing (PMT) as it related to the American Society of Mechanical Engineers in-service testing requirements.

The inspectors reviewed the completed work packages for the following valves:

- 2RE024, Drywell equipment drain inboard isolation valve
- 2RE025, Drywell equipment drain outboard isolation valve
- 2RF012, Drywell floor drain sump isolation valve
- 2RF013, Drywell floor drain sump isolation valve

The inspectors did not identify any problems with the PMT requirements prescribed in the work packages.

**M4 Maintenance Staff Knowledge and Performance**

M4.1 Failure to Follow a Procedure Resulted in Maintenance Rework

a. Inspection Scope (62703, 61726)

The inspectors observed maintenance activities on the 0 EDG cooling water pump strainer and PMT which included a hydrostatic pressure test. The inspectors discussed the repair work and rework due to failed PMT with various maintenance personnel, including the Lead Work Analyst and Construction Superintendent.

b. Observations and Findings

On October 2, the inspectors observed the operators returning the 0 EDG cooling water strainer to service so that a hydrostatic pressure test could be performed. When the essential service water system was started, licensee personnel observed excessive leakage from the shaft of the strainer backwash valve. The licensee aborted the pressure test and directed the work analyst to provide instructions in the work package for troubleshooting the cause of the leak. Using the revised work package, the licensee determined that a spacer was not installed on the backwash valve shaft during reassembly.

The inspectors reviewed the original work package in detail to determine potential causes for the leak. The workers used procedure LMP-GM-25, "Emergency Core Cooling System Service Water Strainer Maintenance," Revision 4, to perform maintenance on the strainer. Step F.4.25 of this procedure required that the workers ensure that various interfaces between the drive shaft and thrust bearings in the backwash valve were flush with each other. If these faces were not flush, the procedure directed the worker to install a spacer. The procedure did not require a sign-off for step F.4.25. The inspectors concluded that the worker either missed this step in LMP-GM-25 or made an error in performing the step.

The inspectors also identified that the reason for the rework, specifically, the failure to install the necessary spacer during reassembly of the strainer and backwash valve, was not well documented in the rework package. The description of the work that was performed to fix the leak was vague and the rework package did not document the as-found conditions of the strainer upon disassembly.

The failure to assemble the 0 EDG cooling water strainer backwash valve in accordance with LMP-GM-25 is considered an example of a violation of Technical Specification 6.2.A.a (50-373/96013-02b; 50-374/96013-02b), as described in the attached Notice of Violation.

c. Conclusions

The inspectors concluded that maintenance workers failed to follow a procedure in the work package when reassembling the 0 EDG cooling water strainer and backwash valve. As a result, the strainer leaked excessively necessitating rework. In addition, documentation in the rework package was not thorough, representing an impediment to good root cause analysis.

M4.2 Failure to Obtain Appropriate Information for Work Package

a. Inspection Scope (62703, 71707)

The inspectors reviewed the circumstances surrounding an error during the installation of jet pump plugs on Unit 2. The inspectors discussed the error with the fuel handling supervisor directly involved in the

evolution, reviewed the associated work package, and directly observed the removal of the incorrectly installed jet pump plugs.

b. Observations and Findings

On October 9, fuel handlers and General Electric (GE) personnel began installing jet pump plugs on the B reactor recirculation (RR) loop. Work request 940061754-01, "Install/Remove 2B Reactor Recirculation Loop Jet Pump Plugs to Support 67B Work," specified that jet pump plugs be installed in jet pumps 11 through 20 in accordance with the applicable drawing contained in the work package. During the pre-job briefing for this evolution, the fuel handling supervisor identified that the required drawing was missing from the work package. This drawing identified the location of the jet pumps for each recirculation loop. The fuel handling supervisor contacted GE personnel to determine which jet pumps were associated with the B RR loop. He also requested a copy of the missing drawing. However, the fuel handling supervisor decided to start the work activity and install jet pump plugs without first obtaining the necessary drawing.

The oncoming crew of fuel handlers brought the required drawing to the refuel floor and noticed that jet pump plugs had been installed on the A RR loop rather than the B loop. At the time of discovery, two jet pump plugs had been installed in the A RR loop. The Shift Manager stopped work on the refuel floor to investigate the incident. The work package was also revised to facilitate removal of the two plugs installed on the A RR loop.

The failure to install jet pump plugs in the jet pumps specified in WR 940061754-01 instructions is considered an example of a violation of 10 CFR Part 50, Appendix B, Criterion V (50-373/96013-03b; 50-374/96013-03b), as described in the attached Notice of Violation. The inspectors discussed this event with the involved fuel handling supervisor. In retrospect the fuel handling supervisor agreed that he had made a poor decision to continue work without all of the required documentation available in the work package.

The inspectors observed the removal of the jet pump plugs installed in the A RR loop. No problems were identified with procedural adherence during this work activity. The inspectors also reviewed the work package and concluded that it was adequate. The inspectors observed that foreign material exclusion controls on the refuel floor were strictly enforced. In addition, the inspectors noted that the radiation protection technician assigned to the job provided good support. Contamination was properly controlled by wiping down the refueling bridge after each plug had been removed.

c. Conclusions

The fuel handling supervisor demonstrated poor judgement by continuing with the jet pump plug installation even though he was aware that a required drawing was missing from the work package.

M4.3 Failure to Follow Procedure for Cutting and Welding

a. Inspection Scope (62703)

On September 28, the licensee stopped all work due to a problem with an OOS and a misinterpretation of Technical Specifications. These events resulted in a special NRC inspection which was documented in Inspection Report 50-373/96016; 50-374/96016. The inspectors responded to the site to ensure that the work was stopped in an orderly, safe fashion. In addition, the inspectors toured the plant and observed activities associated with the few jobs that were allowed to continue on systems important to shutdown risk.

The inspectors observed welding activities on the flanges and covers of the 0 EDG cooling water strainer and reviewed LAP-900-10, "Fire Protection Procedure for Welding and Cutting." The inspectors discussed their findings with the Fire Protection Group Leader, Construction Superintendent, and the Quality Assurance Supervisor.

b. Observations and Findings

On September 29, the inspectors observed a weld repair on the 0 EDG cooling water strainer end flange and noted that the control of combustibles in the vicinity of the welding activity was poor.

When the inspectors entered the area, the workers began picking up the obvious flammable material, including cloth rags and unnecessary electrical cords. The inspectors noted that a nylon foreign material exclusion bag and a nylon garbage bag were hung on scaffolding around the strainer and that these items were being used as a flash shield at the work site. The inspectors discussed their observations with the Fire Protection Group Leader and he agreed that the workers were not in compliance with the applicable fire protection procedure and were not meeting the licensee's expectation for control of combustibles during welding activities.

LaSalle Administrative Procedure LAP-900-10, "Fire Protection Procedure for Welding and Cutting," Revision 16, requires that areas where cutting and welding are in progress be kept clean and that all accumulation of trash, rags, etc., be removed. The failure of workers to keep the 0 EDG cooling water strainer area clean and to remove unnecessary material in the vicinity of the welding site, is considered a violation of Technical Specification 6.2.A.g (50-373/96013-06; 50-374/96013-06), as described in the attached Notice of Violation.

The inspectors observed approximately twelve other welding activities during the inspection period and did not identify any problems with the control of combustibles at the work sites.

c. Conclusions

The inspectors identified that workers were not consistently adhering to required safe work practices for welding. This event also reflected insufficient supervisory focus considering that the welding activity was one of the few jobs in progress at the time due to a plant-wide work stoppage.

## III. Engineering

### E1 Conduct of Engineering

#### E1.1 Weaknesses in the Engineering Request (ER) Process

a. Inspection Scope (37551)

The inspectors reviewed the engineering backlog with emphasis on the reactor core isolation cooling (RCIC) system. Specifically, the inspectors reviewed the status of ERs in the licensee's electronic work control system (EWCS). The process for writing, prioritizing, and following up on ERs was discussed with engineering management. The inspectors also discussed the ER process with several system engineers to assess their knowledge and understanding of the process.

b. Observations and Findings

The inspectors reviewed LAP-1300-15, "Engineering Request," Revision 1, which prescribes how to generate an ER using the EWCS. A separate procedure, LAP-1300-18, "Roadmap to Plant Design Changes," Revision 1, defines the process after an ER has been reviewed and approved. However, neither of these procedures defined the process by which ERs were reviewed, approved, and prioritized.

The inspectors noted that there are 14 types of ERs defined in the subject procedures. These range from plant design change requests (PDCRs) which require extensive engineering work and are presented to the licensee's Technical Review Committee (TRC) for approval, to system engineering assistance requests and site support engineering requests which are typically less involved and can be completed in a short time period.

The licensee has an informal process for reviewing and prioritizing ERs on a weekly basis. Licensee efforts to prioritize ERs were not effective in facilitating engineering work. The licensee had 1380 ERs in a review status awaiting approval, 297 of which were PDCRs. Many of the outstanding ERs were generated in 1994 and 1995 and had not yet been reviewed. During interviews, several system engineers stated that the ER process was vague and that it was not clear who had responsibility for processing design changes such that a presentation could be made to the TRC. Based on the large number and age of ERs in a review status and the results of interviews with various system engineers, the inspectors concluded that the ER process was ineffective.

The ineffectiveness of the ER process was evident in the licensee's followup to the 1994 RCIC rupture disc event. The team that investigated the event recommended the following three actions: (1) Consider installation of a RCIC turbine remote trip device near the RCIC room exit, (2) Relocate the RCIC exhaust pressure trip sensors, and (3) Upgrade the RCIC drain line piping to stainless steel. On July 3, 1995, the responsible system engineer wrote an ER for installation of a remote RCIC turbine trip device at the RCIC room exits. The ER was reviewed by site engineering personnel who subsequently requested that the system engineer submit the request to the TRC. However, before the ER could be presented to the TRC, a design had to be specified, cost estimates generated, and alternative solutions developed. Design engineering support for this additional work was not provided and consequently, no action has been initiated for this ER which remained in a review status.

Regarding the recommendation to relocate the RCIC exhaust pressure trip sensors, the responsible system engineer wrote an ER which was presented to the TRC and subsequently approved. However, implementation of the design change package was not scheduled. The inspectors considered this an example of the lack of prioritization for pending design changes. Regarding the recommendation to upgrade the drain line piping to stainless steel, the responsible system engineer wrote an ER for a plant design change. Although this was a plant design change, this ER was approved without the involvement of the TRC. The inspectors noted that some ERs were approved "on the spot," indicative of the informality of the ER process.

Other deficiencies in implementing corrective actions from the 1994 RCIC rupture disk event, which contributed to a similar event in August 1996, are discussed in Section E2.2 of this report.

c. Conclusions

The inspectors concluded that the licensee did not have a formal, proceduralized process for the review, approval, and prioritization of ERs, and that the informal processes being used were inconsistent and ineffective in ensuring the timely completion of engineering work. The failure of LAP-1300-16 and LAP-1300-18 to provide adequate controls for engineering work is considered an example of a violation of 10 CFR 50, Appendix B, Criterion V (50-373/96013-5b; 50-374-96013-05b), as described in the attached Notice of Violation.

## E2 Engineering Support of Facilities and Equipment

### E2.1 Auxiliary Electrical Equipment Room (AEER) Habitability Not Evaluated for Plant Modification

a. Inspection Scope (37551, 92903)

On October 10, the licensee discovered a condition while shutdown that could have resulted in Unit 1 being in an unanalyzed condition while at power. The licensee did not evaluate the dose consequences in the AEER before modifying the plant by removing the main steam isolation valve (MSIV) leakage control system. The inspectors reviewed this licensee finding to determine if the licensee had properly bounded the scope of the condition.

b. Observations and Findings

The licensee identified the unanalyzed condition while preparing evaluations for removal of the MSIV leakage control system from Unit 2 during the current refueling outage. The licensee determined that dose consequences to operators in the AEER following an accident had not been addressed for the same design change already completed on Unit 1.

As specified in Section 6.4 of the Final Safety Analysis Report (FSAR), the AEER has a ventilation system designed to ensure that the room is habitable during all normal and abnormal conditions, including accident conditions. The system is designed to filter incoming air to reduce radioactive material and other contaminants and to maintain a positive pressure in the AEER of 1/8 inch $H_2O$ column relative to the pressure in surrounding areas. The Unit 1, MSIV leakage control system was removed from service in March 1996. This modification affected the post-accident dose rates to personnel in the AEER. The licensee had not determined the magnitude of the dose increase and therefore concluded that Unit 1 was in an unanalyzed condition during power operations subsequent to the modification.

Based on a review of Technical Specification requirements, the licensee concluded that there was no requirement to periodically test the capability of the AEER ventilation system to maintain the FSAR specified positive pressure of 1/8 inch $H_2O$ column. However, the licensee was not able to provide the inspectors with the results of a test that confirmed that the AEER ventilation system could establish the pressure specified in the FSAR.

The licensee conducted a walkdown of the AEER and discovered two doorways where air flowed into the room. In this condition, the AEER was not at a pressure greater than the surrounding area. The flow of air into the room did not pose an immediate safety concern because both units were in cold shutdown.

The inspectors questioned the licensee about the lack of testing and operating procedures to ensure that the AEER was being maintained within

the design basis. The licensee planned to calculate the dose consequences resulting from the removal of the MSIV leakage control system and perform testing to determine if the AEER could be pressurized to the appropriate design level specified in the FSAR.

c. Conclusions

The inspectors concluded that the licensee may have operated both Unit 1 and Unit 2 outside of the original design basis since the plant was initially licensed, due to the potential inability of the respective AEERs to remain habitable following a design basis accident. This issue is considered an unresolved item (50-373/96013-07; 50-374-96013-07) pending further NRC review of the licensee's dose calculations and the results of additional AEER ventilation system testing.

E2.2 Inadequate Corrective Action for RCIC Rupture Disc Event

a. Inspection Scope (37551)

Following the August 19, 1996, RCIC rupture disk event, which is described in NRC Inspection Report 50-373/96010; 50-374/96010, the inspectors completed a comprehensive review of licensee activities associated with operation of this system. The inspectors reviewed several licensee evaluations of the RCIC system, ERs, and corrective action items tracked via the licensee's nuclear tracking system. Many of these actions had been initiated following a similar 1994 RCIC rupture disc event.

The inspectors reviewed the following RCIC system evaluations performed by the licensee:

- "Recommendations Report for LaSalle RCIC Systems," dated December 16, 1992, performed by GE
- "Report of RCIC Rupture Disc Investigation Team," dated March 17, 1994
- "Independent Safety Engineering Group Review of RCIC Systems," (OVL 01-94-087), dated September 30, 1994

b. Observations and Findings

Although RCIC system improvements and actions were identified in licensee assessments, the licensee did not consistently implement recommended corrective actions. While some corrective actions were implemented, several were not.

Lack of Comprehensive Improvement Plan

One of the corrective actions recommended by the licensee following the 1994 RCIC rupture disk event was to:

> "Prepare a comprehensive RCIC improvement program which encompasses the findings from this investigation, the Quad Cities

6/9/93 event, INPO assist visit of January 1994, and the December 1992 GE report. This overall program for both units should mandate specific due dates that shall be met. Assure appropriate resources are provided to ensure the end result is a RCIC system that meets the standards of the Site Vice President and Station Manager."

The licensee never developed or implemented this plan. An Action Item Record (AIR) was issued to track this corrective action item with an original assigned completion date of October 3, 1994. The following series of due date extensions were granted by Regulatory Assurance:

- Extension to December 31, 1994 - SQV personnel were performing an audit and the cognizant individuals wanted to include the audit findings in the RCIC improvement program.

- Extension to June 15, 1995 - The system engineer responded to the AIR on December 21, 1994, and stated that improvement items from many sources, including the SQV report, were being tracked for RCIC system improvements. The system engineer requested the extension on the AIR to continue to track the RCIC improvements.

- Extension to January 2, 1996 - The status of the item was reviewed on May 31, 1995, and another extension granted.

The licensee closed the AIR on January 5, 1996, although the licensee had not taken the action originally specified in the subject AIR. While the responsible system engineer was able to track and facilitate some improvements to the RCIC system, a formalized plan with buy in from all departments was not developed. Due to the implementation of some system improvements and increased system availability, the RCIC system did not receive licensee management's attention. The system engineer lacked the management support needed to complete additional system improvements.

Failure to Install Drain Line Tap and Procedurally Check for Water

An AIR had been generated following the 1994 RCIC rupture disk event to evaluate the need for either a modification such as adding a sight glass to the drain line, or developing another suitable method for verifying that water was not present in the RCIC drain pot. In the AIR response dated August 17, 1994, the licensee proposed that flanges be installed in the connecting drain line and that a tap with isolation valves be installed in the line between the flanges for flushing the exhaust line drain pot. In the AIR response, the licensee also proposed implementing a periodic surveillance requirement to inspect and flush the drain lines every outage. A note was included at the bottom of the AIR response stating that drain pot taps would be available for water checks. In September 1994, SQV personnel performed an audit, QVL 01-94-087, and reviewed the proposed corrective actions included in the subject AIR response. In addition to these corrective actions, SQV personnel recommended that the licensee generate a procedure that required

monitoring of the system for water accumulation before each run of the RCIC pumps.

The licensee's failure to implement corrective actions to address the accumulation of water in the RCIC exhaust line drain pot following the 1994 rupture disc event, was a contributing cause for the August 1996 event. The modification involving the installation of drain line taps was completed on Unit 2 during the February 1995 refueling outage. The modification was scheduled to be installed in the Unit 1 RCIC system during the January 1996 refueling outage, however, the modification was not initiated. The RCIC system engineer did not know why this modification had been deferred. The recommendation from the SQV audit to implement a procedure for monitoring water accumulation before RCIC pump runs was also never acted on. If the licensee had implemented these recommendations, the accumulation of water in the drain pot may have been identified and consequently the August 1996 rupture disc event prevented.

The failure to take appropriate corrective action to preclude recurrence of a rupture disc event is considered an apparent violation of 10 CFR Part 50, Appendix B, Criterion XVI (50-373/96013-08).

Lack of Timely Corrective Actions and Root Cause Evaluation for the 1996 Rupture Disc Event

Licensee implementation of corrective actions to address RCIC rupture disk failures following the 1996 event continued to be slow and lacked management involvement:

- During discussion of the August 28, 1996, event at the Plant Operations Review Committee meeting, the root cause evaluation team committed to issue their final report within two weeks of the meeting. As of the end of this inspection period, the subject report had not been issued.

- As with the 1994 event, one of the recommended corrective actions following the 1996 event was to periodically check for water accumulation in the drain pot. The licensee wrote a procedure to accomplish this, however, engineering personnel made an error in calculating how much water should be expected to accumulate in the drain pot. In an ER written on September 2, 1995, engineering personnel were asked to perform another calculation by September 15, 1995. However, this calculation had not been completed as of the end of this inspection period.

- The licensee also determined that over-torquing of the rupture discs during periodic replacement may have been a contributing cause of the event. Maintenance personnel noted that the discs were "wrinkling" during the torquing evolution and questioned whether the work procedure contained the correct torque values. After reviewing the specified torque values and contacting the vendor, the licensee concluded that the torque values were too

high and may have caused damage to the rupture discs. The licensee decided to send the Unit 2 rupture discs offsite for testing to quantify the affect of over-torquing. The inspectors noted that this action was also progressing slowly.

c. Conclusions

The inspectors concluded that the licensee failed to implement adequate corrective actions following the 1994 RCIC system rupture disc event, and as a result, a similar event occurred on August 28, 1996. The licensee also did not implement other corrective actions in a timely manner, although these were not directly related to the RCIC rupture disc event. Recommended corrective actions following the 1996 event were also not being implemented in a timely manner. Weaknesses in the licensee's ER process, as described in Section E1.1 of this report, along with insufficient licensee management attention for continued system improvements, also contributed to inadequate implementation of corrective actions.

## E8 Miscellaneous Engineering Issues

E8.1 (Closed) Unresolved Item 50-374/96010-02(DRP): This item is discussed in Section E2.2 of this report. The inspectors determined that the licensee did not take adequate corrective action for a previously identified problem. This item is closed.

E8.2 (Closed) Inspector Followup Item 50-373/374-96005-02(DRP): Lack of preventive maintenance for full core display air filters.

This followup item involved review of the preventive maintenance activity intended to prevent heat-related problems with the full core display due to clogged air filters. The licensee discussed the condition with the vendor and determined that an annual replacement of the air filters was appropriate. The inspectors verified that the licensee had developed a preventive maintenance procedure and schedule. This item is closed.

# IV. Plant Support

## R1 Radiological Protection and Chemistry Controls

R1.1 Decline in Radworker Performance

a. Inspection Scope (71750)

The inspectors evaluated radworker practices while observing maintenance, engineering, and operations personnel in the radiological protected area. The inspectors discussed their observations with radiation protection management.

b. Observations and Findings

The inspectors noted several instances of poor radworker performance:

- On October 7, the inspectors identified that various hoses crossing a contaminated area boundary in the 2D heater drain (HD) pump room were not secured. The licensee corrected the condition, however, on October 11, the inspectors again identified hoses breaching a contaminated area boundary in the 2A HD pump room that were not taped or secured.

- On October 10, the inspectors observed that a maintenance worker was not wearing required protective clothing while in a contaminated area. The worker was wearing rubber gloves and rubber shoe covers but did have on cloth gloves or cloth shoe covers.

- The inspectors observed personnel loitering in relatively high dose rate areas and a worker kneeling in a contaminated area while wearing only minimal protection clothing.

- The inspectors identified several instances of poor contaminated area boundary control. For example, the contaminated area outside the outboard MSIV room in the reactor building was disorganized and contained a large amount of contaminated material in a small contaminated area. As a result, contaminated equipment was crossing the contaminated area boundary.

- The licensee also identified additional examples of poor radworker performance practices similar to those identified by the inspectors.

LaSalle Radiation Procedure LRP-1490-1, "Construction of Radiologically Posted Areas and Step Off Pad Areas," Revision 13, dated January 12, 1996, Step F.2.d, requires that hoses, electrical cords, etc., which breach a contaminated area boundary, be taped or tied securely, or otherwise be secured where they exit the area. The condition of unsecured hoses crossing the contaminated area boundary in the 2A and 2D HD pump rooms is considered an example of a violation of Technical Specification 6.2.B (50-373/96013-09a; 50-374/96013-09a), as described in the attached Notice of Violation.

LaSalle Radiation Procedure LRP-1410-2, "Minimal Protective Clothing," Revision 7, dated June 23, 1994, Step F.2, requires that minimal protective clothing requirements include cloth and rubber shoe covers and cloth and rubber gloves. The failure of a maintenance worker to wear the required minimal protective clothing in a contaminated area is considered an example of a violation of Technical Specification 6.2.B (50-373/96013-09b; 50-374/96013-09b), as described in the attached Notice of Violation.

c. Conclusions

The inspectors concluded that radworker performance and radiological housekeeping standards had declined. Historically, radworker performance has been mixed with improved performance being a function of the degree of management involvement. The inspectors were concerned that actions taken by the licensee to address problems with radworker practices and radiological housekeeping conditions, were not sufficient to ensure long-term and consistently good performance in these areas.

## V. Management Meetings

### X1 Exit Meeting Summary

The inspectors presented the results of their inspection activities to licensee management at an exit meeting on October 25, 1996. The inspectors further discussed the results of their inspection related to the August 28, 1996, RCIC system rupture disc event at an inspection exit meeting on December 13, 1996. The licensee acknowledged the findings presented.

The inspectors asked the licensee if any materials examined during the inspection period should be considered proprietary. No proprietary information was identified.

## PARTIAL LIST OF PERSONS CONTACTED

ComEd

*W. Subalusky, Site Vice President
*D. Ray, Station Manager
*L. Guthrie, Operations Manager
*A. Magnafici, Acting Maintenance Superintendent
*A. Javorik, System Engineering Supervisor
*D. Boone, Health Physics Supervisor
*R. Crawford, Work Control Superintendent
*J. Burns, Regulatory Assurance Supervisor

* Present at exit meeting on October 25, 1996.

## INSPECTION PROCEDURES USED

| | |
|---|---|
| IP 37551 | Onsite Engineering |
| IP 40500 | Effectiveness of Licensee Controls in Identifying, Resolving, and Preventing Problems |
| IP 61726 | Surveillance Observation |
| IP 62703 | Maintenance Observation |
| IP 71707 | Plant Operations |
| IP 71750 | Plant Support Activities |
| IP 93702 | Prompt Onsite Response to Events at Operating Power Reactors |
| IP 92903 | Followup - Engineering |

## ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

| | | |
|---|---|---|
| 50-374/96013-01 | URI | Review of spurious RWCU isolations |
| 50-373/374-96013-02a | VIO | Failure to follow shutdown procedure |
| 50-373/374-96013-02b | VIO | Failure to follow maintenance procedure |
| 50-373/374-96013-03a | VIO | Failure to follow out-of-service instructions |
| 50-373/374-96013-03b | VIO | Failure to follow work request instructions |
| 50-374/96013-04 | URI | Review of ECCS operability in response to strainer clogging |
| 50-373/374-96013-05a | VIO | Inadequate freeze seal procedure |
| 50-373/374-96013-05b | VIO | Inadequate Engineering Request process |
| 50-373/374-96013-06 | VIO | Failure to follow fire protection procedure |
| 50-373/374-96013-07 | URI | Review AEER dose calculations and ventilation testing |
| 50-373/96013-08 | EEI | Failure to take corrective action for 1994 RCIC rupture disc event |
| 50-373/374-96013-09a | VIO | Failure to follow RP procedures for taping hoses across contamination boundary |
| 50-373/374-96013-09b | VIO | Failure to follow RP procedures by not wearing appropriate protective clothing |

Closed

| | | |
|---|---|---|
| 50-373/374-96005-02 | IFI | Lack of preventive maintenance of full core display air filters |
| 50-374/96010-02 | URI | Followup of RCIC rupture disc event corrective actions |

## LIST OF ACRONYMS USED

| | |
|---|---|
| AEER | Auxiliary Electric Equipment Room |
| AIR | Action Item Record |
| ALARA | As Low As Reasonably Achievable |
| DRP | Division of Reactor Projects |
| ECCS | Emergency Core Cooling System |
| EDG | Emergency Diesel Generator |
| EO | Equipment Operator |
| ER | Engineering Request |
| ESC | Events Screening Committee |
| EWCS | Electronic Work Control System |
| FSAR | Final Safety Analysis Report |
| FME | Foreign Material Exclusion |
| GE | General Electric |
| HD | Heater Drain |
| IDNS | Illinois Department of Nuclear Safety |
| INPO | Institute for Nuclear Power Operations |
| IR | Inspection Report |
| IFI | Inspection Follow-up Item |
| LAP | LaSalle Administrative Procedure |
| LCO | Limiting Condition for Operation |
| LER | Licensee Event Report |
| LGP | LaSalle General Procedure |
| LIS | LaSalle Instrument Surveillance |
| LMP | LaSalle Maintenance Procedure |
| LOP | LaSalle Operating Procedure |
| LRP | LaSalle Radiation Procedure |
| MSIV | Main Steam Isolation Valve |
| MDRFP | Motor-Driven Reactor Feedwater Pump |
| NRC | Nuclear Regulatory Commission |
| OOS | Out-of-service |
| PDCR | Plant Design Change Request |
| PIF | Problem Identification Form |
| PMT | Post-Maintenance Testing |
| PDR | NRC Public Document Room |
| RCIC | Reactor Core Isolation Cooling |
| RP | Radiation Protection |
| RR | Reactor Recirculation |
| RWCU | Reactor Water Cleanup |
| SQV | Site Quality Verification |
| TRC | Technical Review Committee |
| URI | Unresolved Item |
| VIO | Violation |
| WR | Work Request |