

SALP BOARD REPORT

U.S. NUCLEAR REGULATORY COMMISSION
REGION III

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

COMMONWEALTH EDISON COMPANY

LASALLE COUNTY NUCLEAR POWER STATION

Docket No(s). 50-373; 50-374

Report(s) No. 50-373/84-08; 50-374/84-09

Assessment Period

January 1, 1983 through April 30, 1984

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I. INTRODUCTION

The Systematic Assessment of Licensee Performance program is an integrated NRC staff effort to collect available observations and data on a periodic basis and to evaluate licensee performance based upon this information. SALP is supplemental to normal regulatory processes used to ensure compliance to NRC rules and regulations. SALP is intended to be sufficiently diagnostic to provide a rational basis for allocating NRC resources and to provide meaningful guidance to the licensee's management to promote quality and safety of plant construction and operations.

During the SALP 4 assessment period LaSalle Unit 1 completed its initial startup test program and was declared in commercial service on January 1, 1984. LaSalle Unit 2 completed the final phase of construction and preoperational testing. A low power operating license was issued on December 16, 1983. Low power startup testing began with low power license issuance and continued until full power license issuance on March 23, 1984. From March 23, 1984 until the close of the assessment period Unit 2 underwent power ascension startup testing.

In general, the SALP 4 assessment period was characterized by a high level of activity and changing plant status. This high level of activity placed a strain on the licensee's resources in all areas and at all levels from general employee through upper management. This was particularly true in the areas of testing (preoperational and startup), plant operations, maintenance, and radiological controls. While the licensee's performance in these areas was judged to be acceptable overall, weaknesses were noted and culminated in a request by the NRC that the licensee implement a management overview program during the final phases of Unit 2 preoperational testing and final loading to ensure that the number of concurrent activities remained controllable.

A NRC SALP Board, composed of the staff members listed below, met on July 11, 1984, to review the collection of performance observations and data to assess the licensee performance in accordance with the guidance in NRC Manual Chapter 0516, "Systematic Assessment of Licensee Performance." A summary of the guidance and evaluation criteria is provided in Section II of this report.

This report is the SALP Board's assessment of the licensee's safety performance at LaSalle County Station for the period January 1, 1983 through April 30, 1984.

SALP Board for LaSalle:

<u>Name</u>	<u>Title</u>
J. A. Hind	Chairman, SALP Board
A. B. Davis	Deputy Regional Administrator
R. L. Spessard	Director, Division of Reactor Safety
C. E. Norelius	Director, Division of Reactor Projects
T. N. Tambling	Chief, Technical Support Staff
N. J. Chrissotimos	Chief, Projects Section 2C
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W. G. Guldemon	Chief, Operational Programs Section
G. L. Pirtle	Physical Protection Inspector
J. R. Creed	Chief, Physical Security Section
M. P. Phillips	Chief, Emergency Preparedness Section
A. Bournia	Project Manager, LaSalle, NRR

II. CRITERIA

The licensee performance is assessed in selected functional areas, depending on whether the facility is in a construction, preoperational, or operating phase. Each functional area normally represents areas significant to nuclear safety and the environment, and are normal programmatic areas. Some functional areas may not be assessed because of little or no licensee activities or lack of meaningful observations. Special areas may be added to highlight significant observations.

Section III of this report, "Summary of Results" presents those functional areas assessed during SALP 4. Because of the wide range of activities occurring during the assessment period, most of the performance category assignments were based on observations from both units; however, some functional areas encompassed a limited range of activities or were one time only activities and, as such, the assessment in those areas was based on observations from only one unit. This is reflected in Section III.

One or more of the following evaluation criteria were used to assess each functional area.

1. Management involvement and control in assuring quality
2. Approach to resolution of technical issues from a safety standpoint
3. Responsiveness to NRC initiatives
4. Enforcement history
5. Reporting and analysis of reportable events
6. Staffing (including management)
7. Training effectiveness and qualification

However, the SALP Board is not limited to these criteria and others may have been used where appropriate.

Based upon the SALP Board assessment each functional area evaluated is classified into one of three performance categories. The definition of these performance categories is:

Category 1. Reduced NRC attention may be appropriate. Licensee management attention and involvement are aggressive and oriented toward nuclear safety; licensee resources are ample and effectively used so that a high level of performance with respect to operational safety or construction is being achieved.

Category 2. NRC attention should be maintained at normal levels. Licensee management attention and involvement are evident and are concerned with nuclear safety; licensee resources are adequate and are reasonably effective so that satisfactory performance with respect to operational safety or construction is being achieved.

Category 3. Both NRC and licensee attention should be increased. Licensee management attention or involvement is acceptable and considers nuclear safety, but weaknesses are evident; licensee resources appear to be strained or not effectively used so that minimally satisfactory performance with respect to operational safety or construction is being achieved.

Trend. The performance gradient over the course of the SAL^D assessment period.

III. SUMMARY OF RESULTS

Overall, the licensee's performance was found acceptable. The overall performance trend towards the end of the assessment period was improving although performance during the assessment period had declined in two functional areas. This positive note toward the end of the assessment appears to be indicative of renewed management attention to operating problems subsequent to the major efforts involved in the transition from preoperational and startup testing. However, equipment control and operator awareness remained as NRC concerns requiring continued management attention.

Functional Areas	Applica- bility	January 1 - December 31 1982	January 1, 1983 - April 30, 1984	Trend Within The Period
A. Plant Operations	Common	2	3	Declined
B. Radiological Controls	Common	2	2	Same
C. Maintenance	Common	1	2	Declined
D. Surveillance	Unit 1*	3	2	Improved
E. Fire Protection	Common	2	2	Same
F. Emergency Preparedness	Common	2	2	Same
G. Security and Safeguards	Common	3	2	Improved
H. Initial Fuel Loading	Unit 2	1	1	Same
I. Licensing Activities	Unit 2*	2	2	Same
J. Preoperational and Startup Testing	Common**	2	2	Same
K. Piping Systems and Supports	Unit 2	2	2	Same
L. Contractor Quality Assurance	Common	3	2	Improved
M. Quality Programs and Administrative Controls Affecting Quality	Common	Not Rated	2	ID
N. Electrical Equip- ment and Cables	Common	Not Rated	2	ID
O. Containment and Other Safety- Related Structures	Common	Not Rated	2	ID

NR = not rated

ID = indeterminate

* = Observations were made predominantly on the unit referenced

** = Preoperational testing observations were predominantly from Unit 2.
Startup testing observations were predominantly from Unit 1.

IV. PERFORMANCE ANALYSES

A. Plant Operation

1. Analysis

Inspection activities in this functional area consisted of portions of 15 inspections performed by two resident inspectors and two special inspections conducted by a combination of resident, Region III, and Office of Nuclear Reactor Regulation (NRR) personnel. Resident inspector activity focused on Technical Specification, license, and procedural compliance, emergency systems operability, operator performance, and operational problems including an assessment of technical and managerial support of these areas for Unit 1 and 2 operations during startup testing and Unit 1 operations following completion of the startup testing program. The two special inspections were performed at the initiative of the NRC to assess specialized areas germane to Unit 2 license issuance. The first special inspection focused on the ability of the operating staff to respond to off-normal conditions as a cohesive unit. The second special inspection focused on the degree to which as-built conditions conformed to FSAR descriptions and Technical Specification requirements. Neither special inspection identified any items of noncompliance, deviation, or concern.

As a result of resident inspections, 15 items of noncompliance were identified as follows:

- a. Severity Level V - Failure to lock a valve as required by procedure following an operational evolution (50-373/83-01).
- b. Severity Level V - Failure to identify and perform required operational testing with one offsite power supply out of service (50-373/83-42).
- c. Severity Level V - Failure to reposition and lock a valve after manipulation as required by procedure (50-374/84-13).
- d. Severity Level IV - Failure to lock a valve as required by procedure following a testing evolution (50-373/83-05).
- e. Severity Level IV - Failure to report an inoperable containment vacuum breaker in a timely fashion (50-373/83-26).
- f. Severity Level IV - Failure to follow a procedure for paralleling a diesel generator resulting in damage to the diesel generator (50-373/83-34).
- g. Severity Level IV - Failure to monitor plant temperature with a resulting inadvertent mode change with required systems inoperable (50-373/83-34).

- h. Severity Level IV - Failure to follow Residual Heat Removal startup procedures with a resultant reactor vessel overfill and pressurization (50-373/83-34).
- i. Severity Level IV - Failure to identify the need to test one diesel generator after another was taken out of service inoperable (50-373/83-42).
- j. Severity Level IV - Failure to identify that a valve access plate constituted part of secondary containment with the result that secondary containment was inadvertently violated (50-373/83-42).
- k. Severity Level IV - Maloperation of a containment isolation valve rendering the valve inoperable in the open position (50-373/83-48).
- l. Severity Level IV - Failure to include certain containment isolation valves on a locked valve checklist as required by procedure (50-373/83-48).
- m. Severity Level IV - Failure to identify and terminate an unmonitored liquid radwaste discharge (50-373/84-02).
- n. Severity Level IV - Failure to lock valves as required by procedure (50-374/84-01).
- o. Severity Level III - Failure to coordinate activities and follow procedures resulting in an isolated containment vacuum breaker (50-373/83-26).

Six of the 15 items of noncompliance identified in the operations area were the result of a failure to adequately control the status of sensitive equipment (items a., c., d., l., n., and o.). All of these, in whole or in part, involved a failure to comply with existing controls for locked valves. Four of the items of noncompliance were the direct result of a failure to identify and take required compensatory actions for off-normal conditions (items b., g., i., and m.). Two items resulted from a lack of understanding by personnel of the impact of actions taken (items j. and k.). Two items resulted from a failure to follow procedures (items f. and h.). One of these items resulted in damage to safety-related equipment. The other created the potential for damage to safety-related equipment. One item (item e.) was an isolated case of failure to report a significant event.

Of particular concern to the NRC during the assessment period were those items of noncompliance relating to equipment control and identification of off-normal conditions. Equipment control was the focus of an enforcement conference held on June 30, 1983 following identification of the Severity Level III item of

noncompliance relating to an inoperable containment vacuum breaker which resulted in a civil penalty. Identification of off-normal conditions was the subject of an enforcement conference held on September 30, 1983, following identification of the item of noncompliance relating to inadvertent heatup and mode change. Despite these NRC initiatives and licensee-initiated corrective actions, problems in these areas continued throughout the assessment period.

The inoperable vacuum breaker was a significant violation. The causal factors of this incident were: (1) Failure to control the status of equipment which was one of two areas of significant weakness identified during the SALP 3 assessment period; (2) Equipment control problems which continued throughout the assessment period despite licensee corrective actions and an enforcement conference and; (3) Equipment control problems which occurred not only in the operations area, but in other areas, particularly maintenance, as discussed in other sections of this report. Based on these factors and despite the commitment of significant resources to this area, licensee management initiatives failed to solve existing problems early in the rating period.

Two items of noncompliance noted above in the area of operator identification of off-normal conditions are viewed as being of some significance. The inadvertent heatup and mode change is viewed as significant because of the number of indicators which should have alerted the operating staff to the potential problem and the fact that the operators were aware that they were relying on equipment for cooling which had previously been identified as deficient. The unmonitored discharge is significant for the same reasons and compounded by the potential impact of a release in excess of regulatory limits.

Concerns in the area of operations identification of off-normal conditions are highlighted by: (1) This area was the second of two areas of significant weakness identified in the plant operations functional area of SALP 3 and; (2) Problems in this area continued throughout the assessment period despite an enforcement conference following the inadvertent heatup, and licensee initiatives in this area.

In addition, 17 reportable events occurred during the assessment period. Fourteen of the events were the result of personnel error, one event was the result of equipment failure, one event was the result of a communications breakdown, and one event was the result of inadequate procedures.

Twenty-eight reactor trips occurred, twenty-two on Unit 1 and six on Unit 2. Fifteen trips were due to material problems, four were planned, six were due to personnel errors, the remaining are classified as other. A detailed breakdown of these reactor trips is given in Figure 1, Section V.

The Board recognized the difficulty of initial operation and startup testing of the plants which are more complex than most older plants and have the more extensive technical specifications.

During the assessment period four sets of replacement examinations were administered to LaSalle County Station personnel. In addition, requalification oral examinations were administered to 15 licensed persons in July of 1983. The evaluation of the requalification examinations indicated that the program appeared to be adequate and personnel were being trained on the differences between Unit 1 and 2. Of 32 examinations administered, 22 were passed for an overall pass rate of 68%, which is below the national average of approximately 80%.

In response to NRC concerns in November 1983, the licensee assigned a supervisory individual to monitor control room activities. The primary purpose of this assignment was to ensure that the number of activities was held to a controllable level. This action produced positive results.

In response to NRC concerns in the plant operations area, the licensee implemented a Regulatory Improvement Program during the first quarter of 1984. This program included a General Office reorganization to better focus management attention on operations, periodic Corporate management visits to the operating sites, around-the-clock management presence at the sites, and implementation of more extensive sanctions for personnel-related regulatory compliance violations. The initial assessment of this program at the LaSalle facility was that it succeeded in focusing management and supervisory attention on operating activities with a resultant decrease in the number of operating personnel errors.

Several strengths were noted in the area of plant operations during the SALP 4 assessment period. These included:

- (1) In all cases, licensee management exhibited a strong desire to devote those resources necessary to resolve identified problems. Failure to resolve problems noted above is not viewed as hesitance on the part of management to become involved or devote resources, but rather a failure to clearly define the problems.
- (2) Operator reaction to off-normal conditions, when identified, was aggressive, thorough, and correct.

- (3) Communications within the plant organization and with the NRC were effective and showed continuing improvement.
- (4) Conservative approaches were uniformly taken during problem resolution.
- (5) Plant housekeeping and cleanliness showed continual improvement throughout the assessment period.

Although these strengths are recognized, overall performance in the area of plant operations showed little improvement. Weaknesses in the areas of equipment control and operator awareness of off-normal conditions continued.

2. Conclusion

The licensee is rated Category 3 in this functional area based on the number of noncompliances in the areas previously addressed as weaknesses in SALP 3.

3. Board Recommendations

None, recognizing that a Regulatory Performance Improvement Program has been implemented.

B. Radiological Controls

1. Analysis

Five inspections, one preoperational radiation protection, two operational radiation protection, one operational radwaste and Unit 1 startup, and one confirmatory measurements and environmental monitoring were performed during the assessment period by region based inspectors. The resident inspectors also inspected in this area for programmatic implementation and procedural compliances. Five violations were identified as follows:

- a. Severity Level V - Failure to follow procedure for completion of radiation work permits (373/83-18).
- b. Severity Level V - Failure to perform bioassays at the frequencies specified in station procedures (373/84-34; 374/83-33).
- c. Severity Level V - Failure to follow procedure for personal frisking and release of material from controlled areas (373/83-53; 374/83-56).
- d. Severity Level IV - Failure to follow procedure for posting of a contaminated area (373/84-02; 374/84-01).
- e. Severity Level V - Failure to perform environmental monitoring in accordance with Technical Specification 4.12.1 (373/83-40).

These violations are indicative of licensee inattention to procedural details and may reflect adjustment difficulties in converting from a preoperational to an operational radiation protection program. No overexposures or other violations of 10 CFR 20 resulted. The licensee has generally been responsive to regulatory and internal audit concerns; corrective actions have been timely and adequate. Training and qualifications of radiation protection personnel were adequate. The licensee is seeking acceptable candidates to increase the staff of Health Physicists and Rad/Chem Technicians to correct a recognized shortage now existing. Management support of, and involvement in, station radiological matters appear adequate.

There is insufficient operational history to permit meaningful comparative evaluation of personal radiation exposure control, radioactive effluents, and solid radwaste program effectiveness; however, no significant problems were identified in these areas. ALARA program improvements continued during this assessment period.

Problems concerning the frequent failure rate of process and effluent monitors, and eating, drinking, smoking, and chewing in radiologically controlled areas, described in the previous SALP report, have been adequately corrected based on observations during this assessment period.

In the area of Confirmatory Measurements the licensee had 26 agreements or possible agreements out of 26 comparisons. The licensee does a good job of reviewing gamma analysis results. Quality control and quality assurance in the chemistry labs and counting room appear adequate. Procedures appear adequate and, with a few exceptions, are current.

Minor changes were made in the licensee's Radiological Environmental Monitoring Program (REMP), which is basically sound, to bring it into full agreement with the Technical Specifications requirements. Air sampling stations and equipment examined were operating properly. No management problems were identified.

2. Conclusion

The licensee is rated Category 2 in this area.

3. Board Recommendations

None.

C. Maintenance

1. Analysis

One special inspection was conducted by region based inspectors to review activities surrounding Licensee Event Report (LER) 83-107/03L-0. The LER specifically dealt with the excessive leakage rate of the inboard feedwater check valves experienced during local leak rate testing.

The inspection identified one item of noncompliance (Inspection Reports 50-373/83-41 and 50-374/83-42) relating to inadequate design control measures relative to the modifications from hard seat seals to soft seat seals on the feedwater check valves and to the procurement of the soft seat seals. The deficiencies specifically dealt with structural adequacy and environmental qualification of the soft seat seal material. This issue is being treated generically by the NRC.

As a result of this inspection, the licensee has embarked on an accelerated valve testing program and a program to environmentally qualify a seal material for use in the feedwater check valves. A confirmatory action letter was issued for licensee commitments made in this area.

Portions of eight resident inspector inspections were devoted to maintenance activities. These inspections involved monitoring work activities, review of maintenance procedures, interface with operations, and system restoration following maintenance. As a result of these inspections, eight items of noncompliance were identified as follows:

- a. Severity Level V - Failure to reconnect nuclear instrument cables following maintenance (50-3, '84-05).
- b. Severity Level V - Failure to revise procedures following a plant modification (50-373/83-15).
- c. Severity Level IV - Inadequate maintenance procedure for the Traversing Incore Probe System (50-373/83-17).
- d. Severity Level V - Failure to control maintenance on the Standby Gas Treatment System (SBGT) rendering the system inoperable (50-373/83-29).
- e. Severity Level IV - Failure to control a jumper installation in the SBGT initiation circuitry (50-373/83-49).
- f. Severity Level IV - Failure to incorporate post maintenance testing requirements into a diesel generator modification procedure (50-373/83-49).

- g. Severity Level V - Failure to review and update drawings (50-374/84-04).
- h. Severity Level V - Failure to control installation of a jumper (50-374/84-04).

In addition to the above noted items of noncompliance, 27 reportable events occurred in the maintenance area. Thirteen of these events involved personnel error, six of which were inadvertent jostling of sensitive equipment. The remaining seven events involved improper maintenance practices. Eight events involved discovery of leaking welds. One event involved material failure. Five events involved improper quality classification of maintenance work, four of which related to the feedwater check valve issue discussed above.

Of the nine items of noncompliance, four items involved failure to control equipment during maintenance activities (items a., d., e., and h.), two items involved failure to update related documents following maintenance/modification activities (items b. and g.) and are viewed as isolated events, two items involved failure to incorporate applicable requirements into maintenance procedures (items c. and f.) and are likewise viewed as isolated events. One item involved improper classification of modification activities.

As noted in the Plant Operations section of this report, the failure to control the status of equipment is of concern to the NRC. It is noteworthy that noncompliance items a., e., and h. in this area exhibited two common attributes - lack of supervisory involvement and lack of independent verification of activities. These factors were key contributors to a subsequent event during which a control room atmosphere monitor was miswired.

The licensee was rated Category 1 in the maintenance area during SALP 3 based on the technical ability of the maintenance staff and the few number of events attributable to maintenance activities. During the SALP 4 assessment period, a deterioration in performance was observed as indicated by the number of items of noncompliance, reportable events, and lack of supervisory involvement.

The licensee has been aggressive in pursuing the root causes of maintenance errors and has been responsive to NRC concerns and extensive training on independent verification requirements has been conducted.

2. Conclusion

The licensee is rated Category 2 in this functional area. This represents a decline in performance from the previous SALP assessment. The overall trend in performance during the assessment period was downward.

3. Board Recommendations

None.

D. Surveillance

1. Analysis

Portions of eight resident staff inspections were devoted to this functional area during the assessment period. These inspections focused on procedural compliance and adequacy, results review, and scheduling of tests. One special inspection was conducted to observe the Unit 2 containment integrated leak rate test. Portions of a routine fire protection inspection were devoted to surveillance testing of fire protection equipment. As a result of these inspections, 11 items of noncompliance were identified as indicated below:

- a. Severity Level V - Failure to document test performance (50-373/83-02).
- b. Severity Level V - Failure to perform a control rod position indication test (50-373/83-53).
- c. Severity Level V - Failure to follow the containment integrated leak rate test (CILRT) procedure (50-374/83-23).
- d. Severity Level V - Failure to establish valve controls as required by the CILRT procedures (50-374/83-23).
- e. Severity Level V - Failure to follow a test procedure (50-374/83-29).
- f. Severity Level IV - Inadequate surveillance procedure (50-373/83-14).
- g. Severity Level IV - Failure to perform a time response test (50-373/83-14).
- h. Severity Level IV - Inadequate fire protection surveillance procedures (50-373/83-44; 50-374/83-48).
- i. Severity Level IV - Failure to perform a breathing air cylinder hydrotest (50-373/83-44; 50-374/83-48).

- j. Severity Level IV - Failure to perform surveillance on nuclear instrumentation (50-373/83-43).
- k. Severity Level IV - Failure to restore instruments to service following a surveillance (50-373/84-05).

Four of these items of noncompliance (items b., g., i. and j.) involved a failure to perform required surveillance testing and were indicative of program weaknesses. Two items (d. and k.) involved failure to control the status of equipment during surveillance testing, a problem addressed in Section IV.1 of this report. Two items (f. and h.) occurred as the result of inadequate procedures. Two items (c. and e.) involved failure to follow procedures. One item a. involved a failure to document test results.

Twenty-six reportable events (1.5 events per month) occurred as a result of surveillance activities. Fourteen of these events were attributable to personnel errors, five were attributable to inadequate procedures, two were attributable to faulty equipment, and five were attributable to program weaknesses including failure to incorporate testing requirements into the surveillance tracking program.

Evaluation of the noncompliance and reportable event data for this functional area supported three concerns:

- (1) The personnel error rate was undesirably high. This was due, in part, to the manpower resources available to support Unit 1 operational surveillances, and Unit 2 preoperational test and surveillances. This problem was identified to the licensee prior to Unit 2 low power license issuance. In response to this concern the licensee committed to retain the services of a contractor until such time as the workload and staffing levels are more consistent.
- (2) The problems of equipment control identified in Section IV.1 of this report also surfaced in the area of surveillance testing, indicative of a facility-wide problem. Lack of independent verification was again a contributory factor. The licensee conducted additional training on this subject and revised procedures to more clearly reflect independent verification requirements.
- (3) Weakness existed in the surveillance program in the areas of entering required tests into the program and tracking their status. This concern was originally identified at the close of the SALP 3 period and carried over to SALP 4.

During the SALP 4 assessment period, the licensee devoted significant management resources to ensure that a comprehensive surveillance program was in place. These actions included; reviews by all departments of assigned surveillance responsibilities and comparison to existing surveillance requirements; creation of a surveillance task force; preparation of a detailed surveillance matrix; plant-requested corporate audits of the surveillance program; computerization of the surveillance programs for tracking; and a utility-requested INPO inspection of the surveillance program and activities.

These actions resulted in a significant upgrading of the surveillance program at LaSalle and prevented a recurrence of similar problems on Unit 2.

Four of five reportable events attributable to program weaknesses were licensee identified as a result of the aforementioned activities.

Throughout the SALP 4 assessment period extensive management involvement in the surveillance area produced significant programmatic improvements. Where other weaknesses were identified, prompt corrective action was initiated including training and procedure changes; however, the staffing problems identified above were reflective of a weakness in planning.

2. Conclusion

The licensee is rated Category 2 in the surveillance area. This rating represents an improvement over the SALP 3 rating and is based primarily on licensee reaction to identified programmatic weaknesses.

3. Board Recommendations

None.

E. Fire Protection

1. Analysis

One inspection to assess the implementation of fire protection FSAR commitments and license conditions was performed by the regional inspection staff during this evaluation period. Meetings were held on November 14 and 22, 1983 in Bethesda, Maryland, and November 18, 1983, in the Region III office to discuss those findings which were of concern to a scheduled Unit 1 restart following extensive maintenance activities. In addition, portions of fifteen resident staff inspections were devoted to fire protection. Resident inspection activities focused on

fire hazards control and equipment operability. Six items of noncompliance, one with eight examples, were identified as follows:

- a. Severity Level IV - Failure to comply with 10 CFR 50, Appendix R, Section III.J. regarding four of five emergency lighting units tested that failed the 8-hour discharge test. In addition, a sufficient number of emergency lighting units were not provided for access and egress routes to areas and equipment needed to accomplish safe shutdown (50-373/83-44).
- b. Severity Level V - Failure to comply with 10 CFR 50, Appendix R, Section III.H. in that an onsite 6-hour supply of reserve air was not provided with neither the air compressor being operable to provide adequate breathing quality air, nor were there sufficient numbers of NIOSH approved hydrostatically tested breathing apparatus cylinders available (50-373/83-44).
- c. Severity Level IV - Seven examples of inadequate fire protection program implementing procedures regarding 10 CFR 50, Appendix R and National Fire Protection Association Standards (NFPA) (50-373/83-44).
- d. Severity Level V - Failure to take prompt corrective action after an air flow problem with the carbon monoxide monitor was identified. The monitor is required to assure air quality when refilling the self-contained breathing apparatus used by the fire brigade (50-373/83-44).
- e. Severity Level IV - Failure to adequately design and install the fire detection system throughout all areas of the plant to meet the provisions of NFPA Standard 72E in that the number of detectors installed were inadequate and those detectors installed are improperly positioned (50-373/83-44; 50-374/83-48).
- f. Severity Level V - There was no documented evidence that offsite contractor personnel performing fire watch duty were required to be trained in the use of portable fire extinguishers including adequate classroom and hands-on training on test fires (50-374/83-48).

The inspections also identified 20 unresolved items for both units and 13 open items for Unit 2, concerning safe shutdown, instrumentation for safe shutdown, 10 CFR 50 Appendix R, Section III.H. and J., fire hoses, HVAC effect on the fire detection system, hydrogen buildup in battery rooms, surveillance testing of fire protection equipment, and fire pumps. These issues were resolved by incorporation as Unit 2 license conditions. No items of noncompliance were identified during those inspections conducted by the resident staff.

It is the view of Region III that the above noted inspection findings were the result of a lack of clear understanding on the part of the licensee of certain technical issues related to fire protection requirements compounded by a failure on the part of the licensee to clearly communicate to the NRC the intent of commitments made to industry codes and standards. In general, the station fire organization did adequately implement those requirements imposed by the corporate organization.

Following issuance of the inspection report documenting the regional staff inspection, the licensee indicated they would appeal violations c., d., e., and f. The basis for this appeal was not the technical merits of the issues represented by the items of noncompliance but the manner in which the requirements referenced in the items of noncompliance were being imposed. On March 28, 1984 a meeting was convened with the licensee and representatives of the NRR staff to discuss the concerns related to the appeal. During the meeting the licensee proposed certain actions to resolve these concerns outside the appeal process. This proposal is being reviewed by NRR.

The following attributes of the onsite fire protection program were observed during routine resident inspections:

- (1) Fire brigade response was very good to both actual and simulated fire conditions. Staffing levels were adequate and quality training of fire brigade members was witnessed.
- (2) The licensee has established a good working relationship with the offsite fire department and has demonstrated the ability to expeditiously process that department onsite during simulated fire conditions. This is indicative of comprehensive pre-planning for fire emergencies.
- (3) The Fire Marshal and his assistant are extremely capable and knowledgeable in fire protection matters. They aggressively pursue resolution of issues identified internally or by the NRC.
- (4) Effective onsite communication was maintained with the NRC. All events were promptly reported.
- (5) Corrective action for identified deficiencies was prompt and effective.

During the SALP 4 period the licensee's onsite fire protection organization maintained the same level of performance identified in SALP 3. Improvements were made in the overall level of fire protection as a result of resolution to issues identified by the regional staff inspection.

2. Conclusion

The licensee is rated Category 2 in this area.

3. Board Recommendations

None.

F. Emergency Preparedness

1. Analysis

Four inspections or portions of inspections were conducted between January 1983 and early May 1984, to evaluate compliance with 10 CFR Part 50, Technical Specifications, and procedures. Two items of noncompliance were identified as follows:

- a. Severity Level V - Failure to declare an Unusual Event on HPCS initiation (373/83-12).
- b. Severity Level IV - Failure to demonstrate the capability of initially notifying State governmental agencies within 15 minutes after emergency plan activation (373/84-12).

The second item was first identified in a deficiency issued to the licensee at the beginning of the rating period. During the rating period, the licensee's capability to promptly notify State agencies of an emergency declaration had improved due to increased emphasis on training and several refinements to the notification process. However, the licensee continued the policy of notifying the load dispatcher and corporate duty officer prior to notifying the State. As a result, for the two emergency declarations that occurred after implementation of the aforementioned corrective actions, the State was not notified in a timely manner.

Between routine inspections the licensee made effective use of the station's action item tracking system for addressing emergency preparedness items. All NRC concerns except those involving issuance of the next emergency plan revision, which is handled at the corporate level, have been satisfactorily corrected. Since the beginning of the rating period, the licensee has demonstrated improvements in the following areas of emergency preparedness: reviewing Emergency Action Levels with offsite support groups; expanding the scope of internal audits; record-keeping related to drills, exercises, communications tests and actual plan activations; and documenting training requirements for specific onsite emergency organization positions. The training program was still in the process of being upgraded to include a required reading file for procedure

revisions between annual training sessions. In addition, a checklist was being developed to evaluate plan activation records to ensure that they were complete. These actions indicate that station personnel have been and are continuing to strive to improve the emergency planning program. The licensee maintained a staff, adequate in numbers and in training, to fulfill all onsite emergency response duties, and was in the process of filling a permanent emergency planning coordinator position. Currently, two Rad/Chem staff personnel share this responsibility.

The licensee's overall performance during the 1983 exercise was generally acceptable; however, weaknesses were identified in the following areas: completing onsite assembly/accountability in a timely manner; providing inplant teams with adequate respiratory protection guidance and survey report forms; and several items related to the performance of personnel at the Emergency Operations Facility. Most of these items were acceptably addressed in procedures; however, the performance of the participants indicated that the training program could be improved. The licensee had undertaken corrective actions on all of these items. Most actions have been completed, but will not be observed until the next exercise.

In summary, the licensee's overall performance has improved during this rating period, as evidenced by the number of corrective actions completed and by the implementation of several other program improvements. However, the licensee needs to implement additional measures to ensure that State agencies are consistently notified of emergency declarations in accordance with the current regulatory time requirement.

2. Conclusion

The licensee is rated Category 2 in this area. The licensee's performance has generally improved over the course of the assessment period.

3. Board Recommendations

None.

G. Security and Safeguards

1. Analysis

Seven inspections (four routine and three reactive inspections) were conducted by region based physical security inspectors during this assessment period. The resident inspectors also made periodic inspections of security activities assessing routine program implementation and providing initial response to security events.

Twelve violations, including a civil penalty violation, were identified during the inspection effort.

- a. Severity Level IV - The licensee failed to conduct testing of some search equipment (373/83-03).
- b. Severity Level IV - One type of search equipment did not perform its function with a high probability of detection (373/83-03).
- c. Severity Level IV - A protected area barrier was not adequately controlled (373/83-03).
- d. Severity Level V - An item of security equipment was not alarm equipped (373/83-03).
- e. Severity Level IV - A piece of security equipment lacked a required safeguard capability (373/83-03).
- f. Severity Level IV - The licensee failed to adequately control obstructions within the isolation zone (373/83-22).
- g. Severity Level IV - Personnel screening deficiencies were noted in some records (373/83-22).
- h. Severity Level V - A designated vehicle was not adequately controlled within the protected area (373/83-22).
- i. Severity Level IV - The licensee failed to adequately compensate for a short-term defective feature of alarm station equipment (373/83-22).
- j. Severity Level IV - The licensee failed to adequately protect some Safeguards Information (373/83-22).
- k. Severity Level III - A vital area access point was not controlled as required by the security plan (373/83-45).
- l. Severity Level IV - An alarm monitor station did not have a capability required by the security plan (373/83-45).

Ten of the 12 violations occurred within the first six months of the 16-month assessment period.

During the initial portion of the assessment period, the licensee failed to adequately correct programmatic weaknesses identified in the previous SALP report. Evidence of inadequate supervision and a breakdown in management controls continued during the early months. For example, the inspection conducted in January 1983 noted continued inadequate management controls and ineffective guidance in the documentation, follow-up, and correction of identified problems on a generic basis.

The licensee's performance and progress in gradually correcting the programmatic weaknesses addressed in the previous SALP became evident in subsequent inspections. The inspection conducted in May and June 1983 noted that, although the number of violations (5) were the same as the January 1983 inspection, the nature of the violations had changed in that the violations generally pertained to noncompliance with procedures rather than lack of programmatic effectiveness and guidance.

Two violations, including a civil penalty violation, were identified in October 1983. The civil penalty violation was identified by the licensee as a result of an employee's analysis of possible vulnerabilities in vital area barriers, and management initiated immediate action when advised of the violation. An enforcement conference was held on November 10, 1983. The civil penalty violation was reduced by 75 percent of the base amount (\$40,000) because of the licensee's prompt, extensive, and effective corrective actions, and timely reporting. The licensee's corrective actions involved a review of barrier integrity for all vital area portals, rather than just the portal cited in the inspection report. Additionally, the licensee's Corporate Security office required all other sites under the licensee's control to conduct an analysis to assure that similar violations were not present at the other sites. This was indicative of addressing corrective actions on a generic rather than a single incident onsite specific basis.

No violations were identified during the two security inspections conducted since October 1983. The March 1984 inspection addressed management effectiveness and noted a significant improvement in the area of management effectiveness from that noted during the previous SALP period when the licensee was rated a Category 3, due in large part to ineffective management controls.

The licensee has initiated several actions to strengthen the security program and management related weaknesses noted in the previous SALP report and early months of this evaluation period. An additional security administrator was added to the site security staff in early 1983. The new security administrator spends approximately 50 percent of his available time within the plant observing activities and identifying potential problem areas before they become significant issues. Site security management review of security events also appear more in-depth. Corrective actions appear effective in preventing recurrence and have been technically sound. Daily review of security shift logs by licensee and contract security management has resulted in the recognition and prompt action for non-reportable security

concerns. A systematic approach to solving equipment problems has become evident. For example, the licensee's recently implemented a preventive maintenance program for card reader access control equipment. This is indicative of security management's approach to address root causes rather than the symptomatic problems. The quality of the security program audits has also improved, particularly toward the latter part of the evaluation period.

The licensee's response to two violations noted in the January 1983 inspection was either unsatisfactory or incomplete and required follow-up correspondence to adequately resolve. Since April 1983, the site security staff has responded to cited violations and areas of concern in a manner that resolved the issues in a timely manner. Areas of concern appear to receive the same level of site security management review as violations receive. Most issues are resolved at the Station Security Administrator level. The licensee has generally been responsive to NRC concerns.

Senior site management support for the security program has also improved since the previous SALP report. Addition of the assistant security administrator position, general support of security budget items, and the planned conversion of a warehouse facility into an administrative/training center for the security force demonstrates senior management's action to provide sufficient resources to improve security effectiveness. The actions cited above have also had a positive effect on the morale of the security force. The previous SALP report cited excessive overtime as having a negative effect on guard force morale. This no longer appears to be a problem.

The licensee has generally reported security events in a timely manner and with adequate information. Corrective actions initiated for security events which are reported or logged appear adequate.

Training effectiveness and qualification of the security force has improved, particularly in the latter part of the assessment period. Errors due to inattentiveness have occurred however, and require close supervisory attention.

Corporate security support of site security operations appears adequate. Licensing actions are submitted in a timely manner and corporate security representatives monitor inspection results.

2. Conclusion

The licensee is rated Category 2 in this area. This is a higher rating than was given in the previous assessment period, and is primarily due to the licensee's ability to reverse the adverse

trend noted in the previous SALP and early part of this assessment period. The licensee's actions resulted in a sustained improvement for the last 10 months of the assessment period. The civil penalty violation, although significant, was identified by a licensee employee prior to an incident occurring, and the corrective actions were extensive, timely and broad in scope. Management and programmatic weaknesses noted in the previous SALP appear resolved.

3. Board Recommendations

None.

H. Initial Fuel Loading

1. Analysis

During the assessment period a portion of one inspection was devoted to Unit 2 initial fuel loading to assess procedural compliance and personnel qualifications. One item of noncompliance was identified:

Severity Level V - Failure to update a fuel load status aid as required by procedure (374/83-56).

Initial fuel loading was conducted during the period December 30, 1983 through January 10, 1984. The item of noncompliance was minor in nature and immediate corrective action was taken. Based on the short time required to load fuel and the lack of problems encountered it was apparent that sufficient numbers of well trained personnel were made available and that the effort was well coordinated from a management standpoint. This level of performance was consistent with that observed during the Unit 1 fuel load documented in SALP 3.

2. Conclusion

The licensee is rated Category 1 in this area. They were also rated Category 1 for Unit 1 during the previous SALP assessment period.

3. Board Recommendations

None.

I. Licensing Activities

1. Analysis

Planning and assignment of priorities and decision making is at a level that ensures adequate management review of licensing

activities. Management within CECO was accessible which facilitated the reviews. Typical areas where management involvement was evident were resolution of Appendix R issues following identification by the NRC, inservice inspection, technical specifications, cable separation and responding to the requirements of emergency response capability.

With respect to resolution of technical issues from a safety standpoint in the area of fire protection the licensee demonstrated a lack of understanding of the specific fire protection principles involved with the resolution of technical issues. In contrast to this the licensee demonstrated strengths in adequate core cooling where they took the initiative to propose a concept design of reactor water level reference leg cooling for assuring accurate water level measurement in the reactor. Management attention and involvement with matters of nuclear safety is evident, and staffing and training is highly regarded with respect to the implementation and availability of trained personnel.

The licensee has generally provided timely responses which are sound and thorough, e.g., reduction of fast starts for diesel generators. They have generally been aware of and sensitive to the needs of the staff to perform its review function with adequate lead time; however, some delays were experienced in receiving submittals to resolve licensing issues. The licensee has been responsive to meet with the staff on short notice to resolve critical path issues. However, in the licensing activity related to Engineered Safety Features (ESF) reset the reporting was not complete and as a result of a Region III inspection further review was performed to rectify the problem.

The licensee has competent plant managers with nuclear experience. Most of the plant managers have worked up through the organization and have acquired nuclear background. The licensee has 23 ROs and 26 SROs, all having Unit 1 experience. The staffing requirements to operate the station are 36 licensed personnel and the licensee has a total of 49. Therefore, the station is well staffed with operating personnel. In addition, the licensee has the position which has the combination of an SRO/STA position.

The licensee as a result of being committed to nuclear power has both a corporate training program which includes simulators for their plants and at each respective site for its site specific program. Training and qualification for Unit 2 was effectively implemented to provide sufficient numbers of licensed personnel for the operation of Unit 2. As indicated above, the licensee does not have any problems with respect to resources for manning the station.

Management attention and involvement with matters of nuclear safety is evident, and staffing and training is highly regarded with respect to the implementation and availability of trained personnel. The licensee's responses are usually, but not always, timely and the resolution of licensing activities and licensing actions are reasonably responsive although occasionally repeated attempts are necessary to gain resolution to technical problems.

The licensing activities represent a lower rating than was determined for the previous SALP evaluation period (January 1, 1982 to December 31, 1983) and an equal rating for the licensing actions. This downward trend for the licensing activities may be due, in part, to management involvement in both operating and constructing of plants.

2. Conclusion

The licensee is rated Category 2 in this functional area.

3. Board Recommendations

None.

J. Preoperational and Startup Testing

1. Analysis

During the assessment period Unit 1 conducted its initial startup testing program and Unit 2 completed its preoperational testing program and began its startup testing program.

Unit 1 inspection activities during the assessment period consisted of witnessing of startup test performance, in-depth review of startup test results evaluations, independent inspection effort, and observation of corrective actions for problems identified. This inspection effort was divided between region based and resident inspectors. The region based inspectors performed two inspections during this assessment period. Portions of eight inspections by resident inspectors were devoted to this area.

Unit 2 inspection activities during the assessment period consisted of in-depth reviews of both preoperational and startup test procedures, witnessing of preoperational and startup test performance, in-depth reviews of preoperational test results evaluations, observations of corrective actions for problems identified, and independent inspection effort. The inspection effort was divided between region based and resident

inspectors. The region based inspectors performed 12 inspections during this assessment period. Portions of eight inspections by resident inspectors were devoted to this area.

Twelve items of noncompliance were identified as follows:

- a. Severity Level V - Failure to ensure that all testing requirements were adequately implemented (50-374/83-05).
- b. Severity Level IV - Failure to follow an approved procedure (50-374/83-05).
- c. Severity Level IV - Two examples of failure to have an adequate preoperational test procedure (50-374/83-06).
- d. Severity Level V - Failure to identify deficient conditions and to note in the evaluation that the acceptance criteria had not been met (50-374/83-20).
- e. Severity Level IV - Failure to follow procedures during the Residual Heat Removal System preoperational test such that initial test conditions were not adequately prescribed (50-374/83-23).
- f. Severity Level V - Failure to follow procedures in that a control switch was out of position during performance of the Diesel Generator 2A preoperational test (50-374/83-29).
- g. Severity Level V - Failure to have a written procedure for performing maintenance on a reactor core isolation cooling system motor operated valve (50-374/83-39).
- h. Severity Level IV - Failure to have a procedure to test a safety design feature (50-373/83-54) and (50-374/83-57).
- i. Severity Level V - Two examples of failure to use a calibrated instrument (50-374/83-57).
- j. Severity Level V - Two examples of failure to have appropriate acceptance criteria for a test affecting quality (50-374/84-11).
- k. Severity Level V - Failure to test a replaced safety-related component (50-374/84-14).
- l. Severity Level IV - Failure to implement all design requirements in a safety-related design (50-373/83-52) and (50-374/83-55).

Items a., b., c., e., f., g., and j. above involved procedure compliance problems relative to Unit 2 preoperational testing activities. The licensee corrected each of the specific items as they were identified; however, the licensee's corrective actions did not consistently address the root cause of the problem as evidenced by the repetitive nature of the noncompliances. The problems encountered with procedure compliance were attributable in part to insufficient management presence in the field during testing evolutions. As noted in other sections of this report, as the assessment period progressed, licensee corrective actions for identified problems became more comprehensive. This is supported by the fact that the procedure compliance problem did not manifest itself in the startup test program at either unit as no items of noncompliance were identified in this area.

A problem was identified that dealt with the licensee's lack of compliance with several specific NRR directives (Noncompliance Items h. and l.). Specifically, the licensee failed to have a test to verify that no Engineered Safety Feature (ESF) components would reposition themselves upon reset of an ESF signal. Further, the licensee failed to either modify or report to the NRC all ESF components that did not conform to NRC criteria as set forth in NUREG-0737 and IE Bulletin No. 80-06. This was the subject of a management meeting on November 21, 1983, and an enforcement conference on February 28, 1984. The failure to provide complete and accurate information to the NRC has been determined to be an isolated event, and it was concluded that the licensee has in place appropriate management systems to provide an adequate level of confidence in their submittals.

Analysis of the licensee's noncompliance history in this functional area indicates that:

- (1) The number and severity level of the items of noncompliance are consistent with other facilities undergoing preoperational testing. Further, the noncompliance history compares favorably with operating facilities in Region III considering that over 3000 inspector-hours were expended in this functional area to meet inspection program requirements. The approximately 250 hours of inspection per item of noncompliance in this functional area compares favorably with the regional average for operating facilities during this SALP period of 117 hours of inspection per item of noncompliance. It should be noted that during this assessment period, LaSalle had one unit in startup testing and operations, and the second unit in preoperational and startup phases.
- (2) None of the items of noncompliance in this functional area resulted in corrective action by the licensee which required extensive rereview, reanalysis, or retesting of licensee completed preoperational or startup tests.

- (3) The licensee's preoperational testing problems indicated by the items of noncompliance have been largely corrected. This is indicated by the fact that none of the above items of noncompliance resulted from inspection in the area of startup testing.

The licensee generally responds to NRC initiatives in a timely fashion with viable, sound and thorough responses. The licensee has few longstanding regulatory issues pending in this functional area.

Licensee staffing in this area is generally adequate in size and the training and qualifications of the staff are adequate.

The SALP Board stated during the previous SALP that the construction Operations Analysis Department (OAD) performance would be monitored during the Unit 2 preoperational test program to determine if its performance had improved. The results of this monitoring indicate that OAD performance has not improved during this rating period. In Inspection Report No. 50-374/83-39, the NRC expressed a concern that activities affecting quality appear to be performed by construction OAD without adequate written procedures and without maintaining adequate documentation of the work they have performed. Since construction OAD's role at LaSalle is complete, this will be followed as it may pertain to the Byron and Braidwood sites.

2. Conclusion

The licensee is rated Category 2 in the area of preoperational testing and startup testing. The licensee performance has remained essentially constant during this assessment period.

3. Board Recommendations

The performance of construction OAD should be monitored at other Commonwealth Edison Company sites. The performance of the licensee in the area of startup testing of Unit 1 indicates that reduced inspection in this area should be considered for the Unit 2 startup test program.

- K. Piping Systems and Supports

1. Analysis

Examination of this functional area consisted of eight routine inspections and one special inspection on Unit 2. The inspections examined the (1) specific calculations and the methodology being applied for fatigue usage factors, (2) repairs made to various pipe restraints in response to damage caused by "water hammer" as reported in LER 83-120/03L-0, (3) evaluations, welding repairs, post weld heat treatment, and the failure

analysis performed on the socket welds connecting 2" O.D. drain lines to main steam isolation valves as reported in LER 83-006/02L-0 and LER-007/01T-0, (4) induction heating stress improvement treatment performed on Unit 2 recirculation system piping welds to prevent the initiation of intergranular stress corrosion cracking, (5) piping installation records and a field as-built verification of selected portions of safety-related piping systems, (6) radiographs for over 130 shop and field piping welds, (7) actions related to previous inspection findings, 10 CFR 50.55(e) items and IE Bulletins, and (8) allegations brought to the attention of the NRC.

The activities in this area were conducted during the latter stages of construction. No items of noncompliance or deviations were identified. The activities observed, the management controls used, and the records and record control systems in place met requirements. Records indicate the personnel were properly trained and certified. The licensee's audit reports were found to be generally complete and thorough.

The inspections into the problems contained in the allegations related primarily to the qualification of welders. Areas examined during the review included welding instructions, lecture outlines, welding procedures, surveillance reports, and welder qualification records. Within the scope of the review, no items of noncompliance or deviations were identified. The concern that the licensee's Quality Assurance organization had recently identified that for approximately two months a welder employed by Walsh performed welds in Unit 2 for which he was not qualified, was substantiated; however, appropriate notifications were made and corrective actions were taken. Other allegations were not substantiated. The observations in this area indicate that overall performance was satisfactory.

2. Conclusions

This licensee is rated Category 2 in this area. This is the same rating as the previous assessment period.

3. Board Recommendations

None.

I. Contractor Quality Assurance

1. Analysis

One inspection was conducted by two NRC inspectors to follow up on quality assurance concerns identified in followup of allegations associated with Morrison Construction Company as

recommended by SALP 3. The findings of this inspection indicated that the licensee has adequately resolved concerns with respect to contractor auditing.

2. Conclusion

Licensee performance has improved over the course of the SALP assessment period. The licensee is rated Category 2 in this functional area.

3. Board Recommendations

The enhanced inspection effort recommendation in SALP 3 may be discontinued. Future assessments in this area will be made as part of the assessment for Quality Programs and Administrative Controls Affecting Quality.

M. Quality Programs and Administrative Controls Affecting Quality

1. Analysis

Three Quality Assurance Program inspections by region based personnel and portions of two inspections by resident personnel were performed.

One inspection involved determining the adequacy of the QA Programs for the administrative control of procurement; documentation; receipt, storage, and handling of equipment and materials; records; design change and modifications; maintenance; tests and experiments; surveillance testing and calibration; test and measurement equipment; lifted leads and jumpers; and startup testing activities.

One item of noncompliance in the area of modifications was issued for failure to follow procedures. Corrective action was completed during the inspection.

Several weaknesses were identified in the areas of maintenance and modifications involving lack of detail in modification procedures, drawing updates, and review of maintenance requests for root causes.

Another inspection was conducted to verify that the licensee's audit program met the requirements of Technical Specification Section 6.1.G.1.b.1 regarding Technical Specification audits. One unresolved item was identified during this inspection regarding the adequacy of QA audits to verify adherence to Technical Specifications. NRC policy relative to this item has been developed and is currently being implemented in the Regional inspection program.

The third inspection addressed the following activities: Monthly and annual reports, general office auditing, unit evaluation, onsite auditing, nonconformance control, design change control and contractor program reviews. No items of noncompliance were identified.

Management policies appear to be adequately stated and understood. Audits are generally complete, timely and thorough. Corporate management was usually involved in site activities. Procedures and policies are rarely violated in the areas inspected. Procurement is generally well controlled and documented. Key positions are identified and authorities and responsibilities are defined in the areas inspected. The training and qualification program contributes to a generally adequate understanding of work and fair adherence to procedure with a modest number of personnel errors.

The resident staff inspection activities in this area focused on field implementation of program requirements and identified one problem relating to implementation of QA manual requirements related to QA involvement in startup testing activities. The licensee was performing the required activities but had not established a program to ensure that all activities were accomplished.

2. Conclusion

The licensee is rated Category 2 in this functional area.

3. Board Recommendations

None.

N. Electrical & Instrumentation Equipment and Cables

1. Analysis

Licensee activities in this area were observed in ten inspections. The areas inspected included observation of electrical and instrumentation installations, review of storage, maintenance and QA/QC records, allegations and followup on one Licensee Event Report (373/84-143).

- a. Severity Level V - Quality Assurance Level 1 requirements were not established and implemented for the installation of cables of the Standby Liquid Control System motor and auxiliary equipment (50-374/83-36).
- b. Severity Level V - Several examples of failure to follow procedures to separate safety-related cables and failure to correctly identify instrument sensing lines. One

example of failure to establish a procedure specifying minimum separation for cables after they exit cable trays (50-374/83-18).

- c. Severity Level V - Failure to establish and execute adequate requirements to inspect and document the inspection results of safety-related electrical conductor splices (50-374/84-08).
- d. Severity Level V - Failure to follow procedures relative to the installation of electrical jumpers (50-374/84-08).
- e. Severity Level V - Failure to verify that up to date electrical drawings were maintained in accordance with Procedure LAP-810-5, Revision 9 (50-374/84-04).
- f. Severity Level V - Electrical equipment installations as-built configuration not in accordance with design drawings and specifications (50-374/84-04).
- g. Severity Level IV - Failure to have adequate cable separation (50-374/83-14).
- h. Severity Level V - Failure to have adequate housekeeping practice in cable trays (50-374/83-14).
- i. Severity Level V - Failure to have adequate housekeeping practices in cable trays (50-373/83-16).

During the previous SALP period, the licensee was not rated specifically in this area because of limited electrical inspections directly attributed to Unit 2.

During this SALP period (16 months) a significant amount of NRC inspection effort was used on the investigation of allegations and review of as-built configurations. More than 20 allegations were examined. A significant allegation that was substantiated involved improper electrical cable splices and terminations. As a result of NRC determination that improper electrical splices existed, CECO was required to perform a 100% reinspection of the identified electrical equipment for this attribute. All discrepancies were identified and corrected. NRC provided 100% coverage of this reinspection activity. The level of NRC inspection activity was significantly increased as a result of this and a number of other allegations. The nature of the individual noncompliance identified is of minor safety significance and the number is not considered unusual in the context of the level of construction and NRC inspection activity. In each instance the licensee has taken or is taking an appropriate corrective action and has been fully responsive to NRC concerns.

Overall, the licensee's performance as assessed in part by ten NRC inspections in this area during this SALP period, was substantially in conformance with NRC and design requirements. Licensee management was adequately and effectively involved in quality assurance, and the identification and resolution of technical and administrative issues.

2. Conclusion

The licensee is rated Category 2 in this area. The licensee's performance in this area has been essentially the same over this SALP assessment period.

3. Board Recommendations

None.

0. Containment and Other Safety-related Structures

1. Analysis

Examination of this functional area consisted of three routine inspections (50-373/83-10, 50-374/83-04; 50-373/83-13, 50-374/83-03; 50-374/83-43). The inspections examined installation and records for the spent fuel storage racks and a field as-built walkdown and related record review for the fabrication and erection of structural steel in the Auxiliary Building, the Diesel Generator Building and in the containment for Unit 2. The walkdown included a review of special bolting requirements for expansion connections in response to a finding identified in Unit 1 in early 1982. No items of noncompliance or deviations were identified. The work activities in this area were limited because construction was essentially complete. The activities observed, the management controls used, and the records and record control systems in place met requirements. Personnel involved in the areas reviewed were properly trained and certified.

2. Conclusions

The licensee is rated Category 2 in this area.

3. Board Recommendations

None.

V. SUPPORTING DATA AND SUMMARIES

A. Licensee Activities

1. During the period January 1, 1983 through January 1, 1984, Unit 1 proceeded through the initial startup testing program. The unit was declared in commercial service on January 1, 1984. The power and outage histories are shown in Figure 1.
2. The Unit 2 preoperational testing program was in progress at the beginning of the assessment program and continued through low power license issuance on December 16, 1983. Initial fuel loading was performed during the period December 30, 1983 through January 11, 1984. Initial criticality occurred on March 10, 1984. Startup testing continued through the end of the assessment period including full power license issuance on March 23, 1984.

B. Inspection Activities

The inspection program at LaSalle consisted of routine resident and region-based inspections. No major team inspections were conducted during the SALP period. Three special inspections were conducted, one to assess operator readiness for Unit 2 license issuance, one to assess Technical Specification - FSAR - as-built conformance, and one to follow up on Engineered Safeguard Reset Testing Activities.

TABLE 1
INSPECTION ACTIVITY AND ENFORCEMENT

FUNCTIONAL AREA	NO. OF VIOLATIONS IN EACH SEVERITY LEVEL				
	I	II	III	IV	V
Plant Operations			1	11	3
Radiological Controls				1	4
Maintenance				3	5
Surveillance and Calibration				6	5
Fire Protection				3	3
Emergency Preparedness				1	1
Security and Safeguards			1	9	2
Fuel Loading					1
Licensing Activities					
Preoperational and Startup Testing				5	7
Piping Systems and Supports					
Contractor Quality Assurance					
Quality Programs and Administrative Controls Affecting Quality					1
Electrical Equipment and Cables				1	7
Containment and Other Safety- Related Structures					
TOTAL			2	40	39

C. Major Investigation and Allegations Review

During the assessment period two sets of allegations were received by the NRC. The first set concerned inadequate welder qualifications. Only one of the allegations in this area was substantiated; however, the licensee had previously identified the problem and taken adequate corrective actions.

The second set of allegations (approximately 25) concerned improper electrical construction practices in Unit 2. These were investigated by resident and region-based inspectors during March 1984. As a result of these inspections numerous discrepancies were identified in cable splices in Units 1 and 2. No other substantial problems were identified. These discrepancies were corrected prior to Unit 2 full power issuance.

D. Escalated Enforcement Actions

1. Civil Penalties

- a. A civil penalty in the amount of \$40,000 was issued for a Severity Level III violation involving operation of Unit 1 with an inoperable primary containment vacuum breaker for a period of time in excess of that permitted by the Technical Specifications (IE Inspection Report No. 50-373/83-26).
- b. A civil penalty in the amount of \$10,000 was issued for a Severity Level III violation involving a degraded vital area boundary (IE Inspection Report 50-373/83-45).

2. Orders

None.

E. Management Conferences Held During the Appraisal Period

1. Conferences

- a. January 26, 1983 A management meeting was held in the NRC Region III offices to discuss proposed Commonwealth Edison Company guidelines for Commonwealth Edison Company personnel to be used for providing information to NRC Region III inspectors.
- b. February 17, 1983 A management meeting was held in the NRC Region III offices to discuss future improvement of the regulatory performance of Commonwealth Edison Company.
- c. May 12, 1983 SALP 3 meeting.

- d. May 13, 1983 Enforcement Conference to discuss Unit 1 surveillance program deficiencies.
- e. June 30, 1983 Enforcement Conference to discuss a Severity Level III violation involving circumstances that resulted in a mispositioned drywell to suppression chamber vacuum breaker isolation valve and resulted in a civil penalty.
- f. July 26, 1983 A management meeting was held in the Commonwealth Edison Company corporate offices to discuss improvement of licensee regulatory performance and enhancement of communications between the NRC and Commonwealth Edison Company.
- g. September 9, 1983 A management meeting was held at the Commonwealth Edison Company corporate offices to continue discussions on improvement of licensee regulatory performance and enhancement of communications between Commonwealth Edison and the NRC.
- h. September 30, 1983 Enforcement Conference to discuss the circumstances surrounding the inadvertent heatup event occurring on August 24, 1983.
- i. October 19, 1983 A management meeting was held at the Holiday Inn in Aurora, Illinois to continue discussions on improvement of licensee regulatory performance and enhancement of communications between Commonwealth Edison and the NRC.
- j. November 10, 1983 Enforcement Conference concerning unresolved potential enforcement actions with respect to Engineered Safety Feature reset problems, and an inoperable primary containment isolation valve.
- k. November 10, 1983 Enforcement Conference to discuss a Severity Level III violation involving a degraded vital area boundary and resulting in a civil penalty.
- l. February 28, 1984 Enforcement Conference to discuss deficiencies in Engineered Safety Feature reset submittals.
- m. September 27, 1983 Management meeting to discuss cable separation issues.

- n. March 23, 1984 Commission meeting for full power license issuance for LaSalle Unit 2.
- o. March 28, 1984 Informational meeting with NRR on certain fire protection issues under appeal.

2. Confirmation of Action Letters (CAL)

On November 28, 1983, a CAL was issued to confirm licensee commitments with respect to accelerated leakage testing of feedwater check valves and qualification of the valves' soft seat material following a series of valve leakage test failures. All testing requirements have been satisfied. The licensee is in the process of qualifying the valves' soft seat material.

F. Review of Licensee Event Reports (LER)

Licensee Event Reports (LERs) submitted were adequate in all important aspects including technical accuracy, completeness, and intelligibility. The LERs provided clear descriptions of the cause and nature of the events as well as adequate explanations of the effects on both system function and public safety. Most of the LERs provided supplemental information in attachments to the LER forms, thereby facilitating evaluation of the safety significance of the events.

The following table presents a summary of Licensee Event Reports categorized by proximate cause. It should be noted that on January 1, 1984, the Commission's regulations were amended to include a new section, 10 CFR 50.73 "Licensee Event Report System," which superseded existing requirements contained in Technical Specifications. The intent of the new regulation was to eliminate reporting of those items of little interest to the Commission. As a result, the table below has been separated into two sections for SALP 4. The first section contains a summary of those LERs issued prior to January 1, 1984. The second section contains those LERs issued after December 31, 1983. Comparison of SALP 3 and SALP 4 data is valid only for those LERs issued before January 1, 1984.

<u>Proximate Cause</u>	<u>SALP 3 (04/17/82 - 12/31/82)</u>	<u>SALP 4 (01/01/83 - 12/31/83)</u>	<u>SALP 4 (01/01/84 - 04/30/84)</u>
Personnel Error	41	38	7
Design, Mfg., Construction/Installation	16	11	3
External Cause	1	1	0
Defective Procedures	6	0	1
Component Failure	78	90	17
Other	7	15	0
TOTALS	<u>149</u>	<u>155</u>	<u>32</u>

Analysis of the rate of reportable events for the comparable periods in SALP 3 and SALP 4 shows a net overall decrease of 26%. Significant reductions have been made in the rate of events due to personnel errors (33% improvement), design, manufacturing, construction/installation errors (53% improvement), and component failures (18% improvement).

The overall reduction in the rate of personnel errors is attributable to two factors:

1. Personnel are becoming acclimated to the units in operation instead of construction.
2. Management attention has been focused on attention to detail and personal responsibility for actions taken.

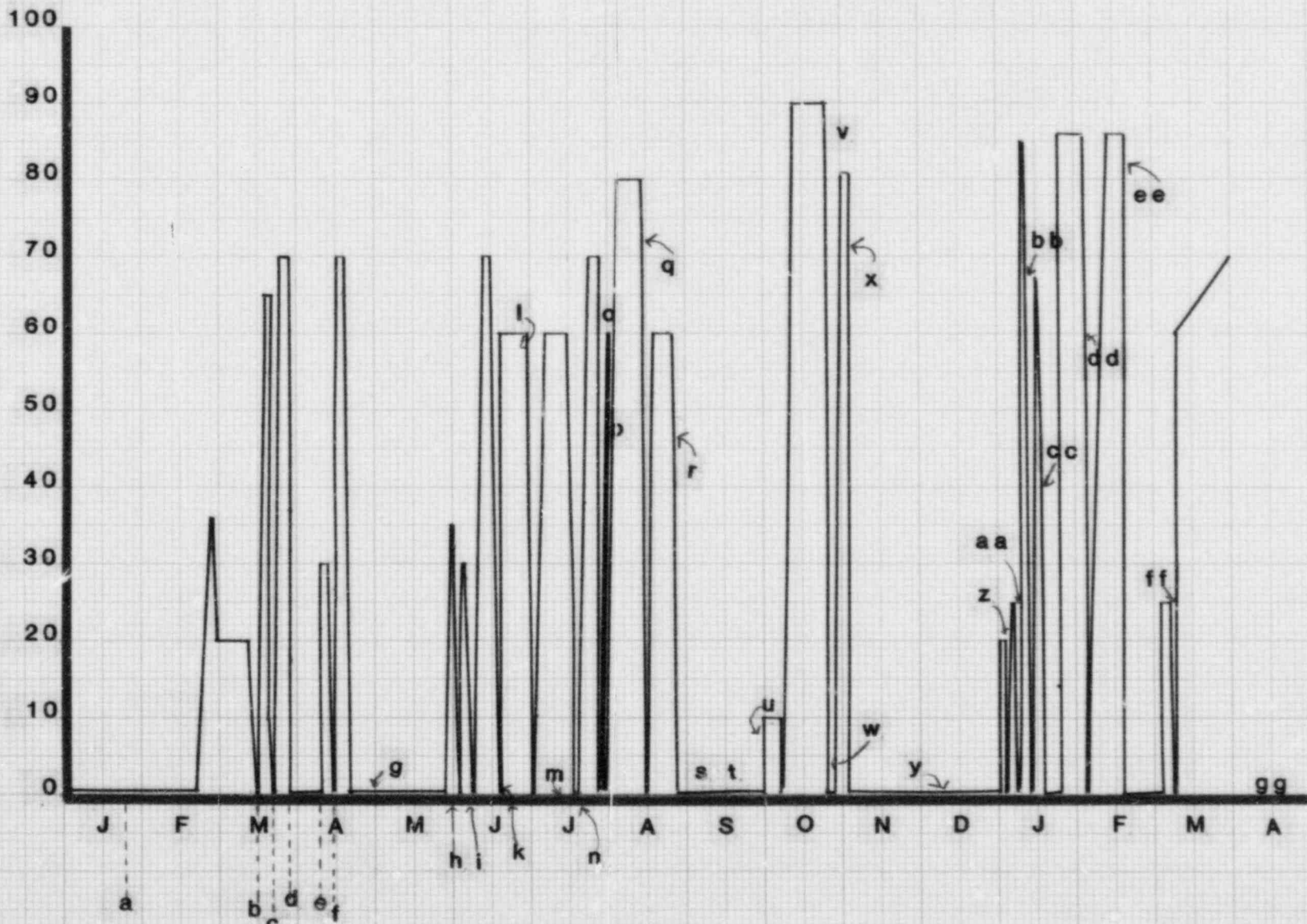
The reduction in the rate of component failures and problems caused by design, manufacturing, construction/installation errors is reflective of the fact that many of the Unit 1 deficiencies in existence at the time operations commenced have been corrected and adequate preplanning and foresight prevented recurrence on Unit 2.

While the trend in the overall rate of LERs and personnel errors is encouraging, it should be noted that the rate of personnel errors in maintenance and surveillance activities has increased. In the case of maintenance, this increase is significant (one versus eight events). This is indicative of a need to focus additional attention on personnel performance in these areas and is supportive of a change in the rating category in the maintenance area.

FIGURE 1

LA SALLE SALP4

Unit 1 Average Power Level (%)



January 1, 1983 thru April 30, 1984

Attachment to Figure 1 Outage Summary

- a. Equipment outage - relief valve failure
- b. Scram on high steam tunnel differential temperature
- c. Scram on spurious Turbine Stop Valve closure signal
- d. Scram due to Intermediate Range Monitor (IRM) Power Supply spike
- e. Scram due to spurious hydraulic transient on an instrument line during surveillance
- f. Autoscrام on reactor vessel low level - feed pump trip
- g. Outage for condenser repairs
- h. Scram due to surveillance error
- i. Scram due to turbine trip on spurious high water level
- j. Scram during startup due to IRM spike while changing ranges
- k. Scram due to turbine trip on spurious high water level
- l. Planned scram for startup testing
- m. Scram due to maintenance error on the Electro-Hydraulic Control System
- n. Scram due to maintenance error on startup
- o. Scram due to spurious main steam line low pressure
- p. Scram due to spurious main steam line low pressure
- q. Scram due to surveillance error
- r. Scram on loss of feedwater flow
- s. Outage for recirculation pump seal replacement and modifications to Turbine Control
- t. Scram during startup due to leaking "O" rings on scram solenoids
- u. Scram due to generator trip on neutral ground - water leakage
- v. Planned scame for startup testing
- w. Scram during startup due to loss of instrument air
- x. Planned scram for startup testing
- y. Outage due to drywell overheating problem
- z. Manual planned scram for surveillance
- aa. Loss of feedwater scram - overheated feed pump
- bb. Scram due to loose generator fuse
- cc. Scram due to condenser boot seal failure
- dd. Scram due to Reactor Core Isolation Coating surveillance error
- ee. Scram due to condenser boot seal failure
- ff. Shutdown due to potential drywell ventilation overstress
- gg. April 14 - Scram due to low reacto vessel level while paralleling feed pumps

<u>Planned</u>	<u>Operating</u>	<u>Maintenance</u>	<u>Surveillance</u>	<u>Material</u>
4	3	2	4	15