INITIAL SALP REPORT

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

Inspection Report No. 373/90001; 374/90001

Commonwealth Edison Company

LaSalle County Station

July 1, 1989 through September 30, 1990

TABLE OF CONTENTS

I. INTRODUCTION

The Systematic Assessment of Licensee Performance (SALP) is an integrated NRC staff effort to collect available observations and data on a periodic basis and to evaluate licensee performance on the basis of this information. The program is supplemental to normal regulatory processes used to ensure compliance with NRC rules and regulations. It is intended to be sufficiently diagnostic to provide a rational basis for allocating NRC resources and to provide meaningful feedback to the licensee's management regarding the NRC's assessment of the facility's performance in each functional area.

An NRC SALP Board, composed of the staff members listed below, met on November 14, 1990, to review the observations and data on performance, and to assess licensee performance in accordance with the guidance in NRC Manual Chapter 0516, "Systematic Assessment of Licensee Performance." The guidance and evaluation criteria are summarized in Section III of this report. The Board's findings and recommendations were forwarded to the NRC Regional Administrator for approval and issuance.

This report is the NRC's assessment of the licensee's safety performance at LaSalle County Station for the period July 1, 1989 through September 30, 1990.

The SALP Board for LaSalle County Station was composed of the following individuals:

Board Chairman

C. E. Norelius, Director, Division of Radiation Safety and Safeguards (DRSS)

Board Members

H. J. Miller, Director, Division of Reactor Projects (DRP)
T. O. Martin, Director, Division of Reactor Safety (DRS)
R. J. Barrett, Director, Project Directorate III-2, NRR
R. M. Pulsifer, Project Manager, NRR
T. M. Tongue, LaSalle Senior Resident Inspector

Other Attendees at the SALP Board Meeting

C. J. Paperiello, Deputy Regional Administrator, Region III
C. J. Phillips, LaSalle Resident Inspector
R. A. Kopriva, LaSalle Resident Inspector
W. D. Shafer, Chief, DRP Branch 1
P. D. Rodrik, Reactor Inspector, DRP
C. F. Holden, SALP Program Manager, NRR
C. A. Carpenter, Events Assessment Engineer, NRR
F. A. Maura, Reactor Inspector, DRS
G. C. Wright, Chief, Operations Branch, DRS
P. R. Rescheske, Reactor Inspection, DRS
J. House, Reactor Inspector, DRSS
R. A. Paul, Reactor Inspector, DRSS
C. F. Gill, Reactor Inspector, DRSS
D. Barss, Reactor Inspector, DRSS
H. Simons, Reactor Inspector, DRSS
T. J. Madeda, Reactor Inspector, DRSS

II. SUMMARY OF RESULTS

A. Overview

This assessment period is from July 1, 1989 to September 30, 1990 (15 months versus 15 1/2 months for the previous assessment period). Management involvement was generally evident and resulted in improved performance in all areas with the exception of Emergency Preparedness. Personnel errors declined and enforcement history improved, but increased problems were encountered with procedures and equipment failures. Resolution of technical issues was generally good with some exceptions. Training and qualifications was very good overall except as noted in the areas of Emergency Preparedness and Engineering/Technical Support. Staffing was adequate overall.

The performance ratings during the previous assessment period and this assessment period according to functional areas are given below:

Functional Area	Rating Last Period	Rating This Period	Trend
Plant Operations	1	1	
Radiological Controls	2	2	
Maintenance/Surveillance	2	2	Improving
Emergency Preparedness	1	2	
Security	2 (Improving)	2	Improving
Engineering/Technical Support	2	2	
Safety Assessment/Quality Verification	2	2	Improving

B. Other Areas of Interest

None.

III. CRITERIA

Licensee performance is assessed in selected functional areas. Functional areas normally represent areas significant to nuclear safety and the environment. 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.

The following evaluation criteria were used to assess each functional area:

1. Assurance of quality, including management involvement and control;

2. Approach to the identification and resolution of technical issues from a safety standpoint;

3. Enforcement history;

4. Operational events (including response to, analyses of, reporting of, and corrective actions for);

5. Staffing (including management); and

6. Effectiveness of training and qualification program.

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

On the basis of the NRC assessment, each functional area evaluated is rated according to four performance categories. The definitions of these performance categories are as follows:

Category 1: Licensee management attention to and involvement in nuclear safety or safeguards activities resulted in a superior level of performance. NRC will consider reduced levels of inspection effort.

Category 2: Licensee management attention to and involvement in nuclear safety or safeguards activities resulted in a good level of performance. NRC will consider maintaining normal levels of inspection effort.

Category 3: Licensee management attention to and involvement in nuclear safety or safeguards activities resulted in an acceptable level of performance; however, because of the NRC's concern that a decrease in performance may approach or reach an unacceptable level, NRC will consider increased levels of inspection effort.

Category N: Insufficient information exists to support an assessment of licensee performance. These cases would include instances in which a rating could not be developed because of insufficient licensee activity or insufficient NRC inspection.

The SALP Report may include an appraisal of the performance trend in a functional area for use as a predictive indicator. Licensee performance during the assessment period should be examined to determine whether a trend exists. Normally, this performance trend should only be used if a definite trend is discernible.

The trend, if used, is defined as:

Improving: Licensee performance was determined to be improving during the assessment period.

Declining: Licensee performance was determined to be declining during the assessment period, and the licensee had not taken meaningful steps to address this pattern.

IV. PERFORMANCE ANALYSIS

A. Plant Operations

1. Analysis

Evaluation of this functional area was based on the results of eleven routine inspections by the resident inspectors, one Safety System Functional Inspection (SSFI) and one routine fire protection inspection.

Enforcement history in this functional area remained basically unchanged from the previous assessment period. A total of three Severity Level IV violations, one Severity Level V violation, and one non-cited violation were identified. One violation arose from having an inadequate procedure that resulted in a spill from the Reactor Building Closed Cooling Water System. A second violation pertained to a failure to follow procedures with six examples. Three out of the six examples were attributable to operations. The third violation concerned fire protection in which retesting of a fire pump was not accomplished after corrective actions had been taken. The Severity Level V violation was for lack of controlling contractors in which an air and water system were cross connected. The non-cited violation was for a typographical error in the Technical Specifications.

The number of Licensee Event Reports (LER's) involving operations that were issued during this assessment period increased to fourteen from six during the previous period. The increase was primarily the result of problems related to equipment failures. However, the number of LER's attributed to personnel errors remained constant and low (2). No other trends were noted.

There were a total of five scrams this assessment period which is an increase from last assessment period in which there was one scram. Four of the scrams occurred with reactor power greater than 15% and one with reactor power less than 15%. Of these five scrams, four were attributed to equipment problems, and one resulted from a spurious signal in the Reactor Protection System (RPS). There were no personnel errors involved with any scrams. Engineering Safety Feature (ESF) actuations have declined and they were of minor safety significance. Although the number of scrams have increased during this assessment period, this does not appear to be indicative of declining performance of operations.

During this period both of the units have experienced feedwater transients and heater perturbations as a result of controlling circuits and equipment. A reactor core reactivity

increase occurred on one of the units during a normal, controlled shutdown at approximately 1% power. The reactivity addition resulted from a combined temperature transient, pressure reduction and unusually low decay heat. In these cases, the operators showed a considerable amount of proficiency in controlling the plant during transients and off-normal conditions.

Control room personnel continued to maintain a business-like and professional atmosphere. The control room was maintained quiet and work efforts such as outages and extensive control room modifications did not interfere with the operation of the units. Access to the control room was well controlled by the Shift Control Room Engineer (SCRE) to minimize distractions. The conduct of the operators during routine activities and shift turnovers was thorough and effective. Personnel were consistently attentive and cognizant of the different activities (maintenance and surveillance) taking place in the plant that affected plant operations.

Shift staffing for plant operations was unchanged during this period which was adequate and effective. Positions were identified, and authorities and responsibilities were well defined. Staffing remained stable with a few changes taking place to improve management oversight. At the end of the SALP period, a new Production Superintendent, with extensive past experience at the site, had been reassigned to the station. An additional Shift Control Room Engineer (SCRE) was assigned during major refueling/modification outages to handle the coordination and authorization of work activities of the shut down unit. This relieved potential confusion and conflict of activities for the SCRE on the operating unit and helped minimize distractions within the control room for maintenance and operations activities. Overtime for the operating staff was scheduled in accordance with the licensee's requirements which resulted in no apparent discrepancies with the NRC guidelines.

Housekeeping conditions within the plant continued to improve throughout the assessmert period. The licensee is continuing their efforts of painting the plant which makes leaks and spills more visible. The labeling and tagging of items has been instrumental in preventing identification errors and inadvertent manipulation of components on the wrong unit or trains. Management involvement in housekeeping has increased, with management routinely performing housekeeping tours with different supervisors from the operations department. However, a weakness identified during the later part of the SALP period was that plant cleanliness appears to be cyclic. Plant cleanliness conditions appear to decline before efforts are made to improve the situation. An observation made by the NRC resident inspectors during the drywell closeout inspections of the units at the end of the last

two refueling outages was that the drywell contained excessive loose materials. Additional managerial attention was required to rectify the situation.

Management involvement for ensuring the quality of plant operations was evident as demonstrated by the relatively consistent plant performance and aggressive corrective actions taken for resolution of events. In addition, plant management continued their extensive involvement in the day-to-day operations of the plant through daily walkdowns of the control room panels, attendance at the plan-of-the-day meetings, and attendance at lessons-learned meetings, which also included periodic attendance by senior corporate management. During critical plant evolutions, the licensee maintained a policy of placing a senior management person on backshift to monitor these evolutions.

One initial licensing examination was administered during this assessment period to three Reactor Operator (RO) and two Senior Reactor Operator (SRO) candidates in April 1990. Four of the five candidates passed the examinations. Two requalification examinations were administered, one in August 1989 and a second in April 1990. Nine crews were evaluated consisting of 44 individuals. Overall, 96% passed the individual examination and 78% of the crews passed their examinations. One individual passed a requalification retake examination during the period.

2. Performance Rating

The licensee's performance is rated 1 in this area. The licensee's performance was rated Category 1 in the previous assessment period.

3. Recommendations

None.

B. Radiological Controls

1. Analysis

Evaluation of this functional area was based on the results of five inspections by regional inspectors, an As Low as Reasonably Achievable (ALARA) team assessment, and observations by resident inspectors.

Enforcement history in this functional area was good. One Severity Level IV violation was identified during this assessment period.

Staffing, training, and qualifications were good. The experience level of personnel increased as a result of low turnover, and technician specialization has increased. The ALARA group was strengthened by the addition of two health physicists and two former radiation protection technicians (RPTs). The licensee improved staffing by using other RPTs as dedicated project technicians and assigning persons with radiation protection supervisory experience to training positions. The chemistry staff was well qualified and adequate to handle the workload. The health physics (HP) staff was well qualified to handle the radiological environmental monitoring program (REMP). The chemistry department was separated from the health physics activities and headed by a chemistry supervisor. Several chemists were added, including one responsible for quality control.

Management involvement in ensuring quality and support for the radiological control program has improved and was generally good during this assessment period. Management support for the chemistry/radiochemistry area was evidenced by a water quality control program consistent with industry guidelines and by improvements in the gamma counting operations and the Quality Assurance/Quality Control (QA/QC) program, including improved instrument control charts and trending of water chemistry parameters. The licensee has somewhat improved the ALARA program, including a source term reduction program, and has integrated ALARA/HP controls into the maintenance process. However, the licensee has not completed corrective actions for program deficiencies identified during an ALARA assessment, which occurred in the latter half of the period. Stronger management support for the radiological control program was indicated by improving the unconditional release program, consolidating station radwaste, upgrading the radwaste facility and solid radwaste reduction program, and initiating an aggressive program for hot particle and contamination control. Cooperation between department managers regarding ALARA/HP matters also continued to improve. However, the licensee was slow to address the cleanup of several contaminated radwaste tank rooms and radioactive spills were still occurring, although at a reduced frequency. Management control weaknesses were identified regarding an event involving a low level airborne radioactivity intake by a person working in the suppression pool area, and repetition of self identified radiological control problems. Although the corrective actions appear adequate to preclude recurrence of specific problems, they were not broad enough in scope to prevent other problems with similar root causes.

The licensee's approach to the identification and resolution of technical issues was adequate. The licensee adequately addressed weaknesses identified by others with regard to the

ALARA program and radiological controls for the radwaste tank room reclamation project. The licensee installed permanent radiation monitors on the fuel handling bridge and continued to significantly reduce the number of radiologically controlled exit points to improve contamination control. The licensee identified high levels of chromium in the reactor coolant and expended considerable effort in an attempt to determine sources and possible effects. The annual dose for 1989 was 1386 person-rem, which while about 1100 person-rem below that for 1988 is still high. The projected dose for 1990 is about 950 person-rem. This downward trend in annual doses reflects an overall improvement in the ALARA program during this assessment period. However, the licensee has not fully corrected poor work scope and practices, which remains an important cause of high radiation exposures. Personal contamination events (PCEs) and posted contaminated areas have been significantly reduced during this assessment period as the result of improvements in contamination control. Liquid releases were reduced and solid radwaste production was about the same as during the previous assessment period; reported liquid and gaseous radioactive effluents were well within Technical Specification limits. No transportation events were identified. However, performance weaknesses were identified regarding suppression pool and radwaste tank cleanup jobs, and in several of the self-identified radiological occurrence reports. These weaknesses were due to pervasive problems with pre-job review and planning, and communications between various station groups.

The results of the radiological confirmatory measurements were very good, with agreement between all 76 comparisons. The results of the nonradiological confirmatory measurements were good, with agreement between 28 of the 30 initial analyses and the licensee was able to resolve the two disagreements. The radiological environmental monitoring program (REMP) was well conducted during this assessment period.

2. Performance Rating

The licensee's performance is rated Category 2 in this area. The licensee's performance was rated Category 2 in the previous assessment period.

3. Recommendations

None.

C. Maintenance/Surveillance

1. Analysis

Evaluation of this functional area was based on the results of ten routine inspections performed by resident inspectors and four inspections by regional inspectors.

Enforcement history in this functional area remained relatively unchanged in this assessment period. Two Severity Level IV violations in the maintenance area were identified during this SALP period. One violation pertained to the licensee failing to verify proper relay trip settings associated with the High Pressure Core Spray (HPCS) system. The other Severity Level IV violation listed six examples of failure to follow procedures, of which three were in the maintenance area. Enforcement history in the surveillance area has improved. There were two Severity Level IV violations directly attributable to surveillance. The violations during this period were attributable to inadequate procedures. The first was a failure of the surveillance procedure to require monitoring of the motor-driven fuel supply train of the diesel generator associated with the HPCS systems. The second was a failure to perform a Unit 2 main turbine bypass valve surveillance. There was no major safety significance related to these violations.

There was a significant reduction in total LER's attributed to this functional area. There was an effective effort to reduce personnel errors. Conversely, the number of LER's that were procedure related, i.e., failure to follow or inadequate, remained about the same. None of these events involved a matter of major safety significance.

The Units experienced one refueling outage each and five forced outages due to equipment failures. One outage was extended due to lack of control of a non-station maintenance worker that resulted in wetting of the interior of the main generator. There were no trends attributed to the equipment failures. There were no events caused by poor or inadequate maintenance or surveillance performance practices.

Management involvement to ensure quality in this area was good. Implementation of the "Conduct of Maintenance" program, which was in the development stage during the last SALP period, was in progress and about half implemented. This is a three year effort scheduled to be completed in 1991. Two other examples of effective programs are the control room work request (CRWR) reduction effort which has reduced CRWR's by 35% during calendar year 1990 and the use of new computer software to improve maintenance planning and scheduling. The licensee is in the process of initiating reliability-centered maintenance, oil wear product analysis, and thermography inspection which are examples indicating effective management involvement. The licensee also was developing a comprehersive maintenance trending program. The lack of trending was noted as a weakness in the last SALP period.

The maintenance/surveillance program appears to identify and resolve issues. This is evidenced in improved material

condition of the plant, the use of a contractor to evaluate system preventative maintenance, minimal evidence of entering Technical Specifications Limiting Condition for Operations due to improper maintenance, and a successful effort to reduce missed surveillances. In addition, the inservice testing program is adequate and the inservice inspection program is good.

Plant staffing in the maintenance surveillance area appeared good. The corrective maintenance work request backlog not related to outages was maintained at approximately 740, which is considered low and manageable.

The licensee was using contractor personnel extensively to perform Valve Operational Test Equipment System (VOTES) testing of motor-operated valves (MOV's). This analytical system has the potential to be effective; however, there was a shortage of personnel (licensee or contractor) with specific training assigned to conduct operability checks of all MOV's.

Maintenance training and qualification programs for station maintenance staff were considered good. There were no safety-related problems that could be attributed to poor training in this functional area. However, the implementation of the MOV training program, as previously discussed, was not well defined. The licensee had not committed to a schedule to present the courses and had not indicated the number of personnel that would receive this training.

2. Performance Rating

The licensee is rated Category 2 improving in this functional area. The licensee was rated Category 2 during the previous assessment period.

3. Recommendations

None.

D. Emergency Preparedness

1. Analysis

Evaluation of this functional area was based on the results of three inspections by regional inspectors and observations made by resident inspectors.

Enforcement history in this area remained good. No violations were identified during this assessment period.

Management involvement in ensuring quality remained good. Annual quality assurance audits continued to expand in depth and scope and included management review to ensure adequate corrective actions had been taken. The licensee acted promptly to correct identified weaknesses. Improvement items identified through drill/exercise critiques were appropriately addressed. Exercise scenarios were challenging and included the use of mockups to provide realistic conditions for responders.

The licensee's identification and resolution of technical issues was adequate. Two exercise weaknesses were identified, one during the 1989 Emergency Preparedness exercise for the failure to adequately demonstrate assembly/accountability within 30 minutes, and one during the 1990 exercise for the failure to classify an Unusual Event in a timely manner. The licensee initiated timely and in depth solutions to correct the exercise weaknesses and address the root causes of the problems, which included upgrading training and revising procedures. In addition to the exercise weakness in 1990, problems were observed in the Operational Support Center (OSC) with the timeliness of the exchange of information from implant teams through the OSC to other emergency response centers. The smooth flow of information was also hindered because the OSC status boards were not updated in a timely manner.

The licensee's response to operational events was good. Five emergency plan activations occurred from the beginning of this assessment period through August 24, 1990. For each event, an appropriate classification was made and notifications to the State and NRC were timely. The licensee conducted an event review for each activation, which has helped improve the emergency planning program.

Staffing levels for the emergency response organization (ERO) were good. The licensee maintained a roster with at least three qualified personnel available to fill all key positions in the ERO. The licensee's non-emergency organization had two changes. One resulted in the elimination of one level of management in the EP coordinator's reporting chain to the plant manager. The other divided Chemistry and Radiation Protection into two separate functions. Both of these changes have benefitted and enhanced the EP program.

The EP training program was adequate. Personnel received training in the required timeframes, and training for director-level positions was good in scope and depth. A significant, but isolated, weakness was identified in the training program concerning OSC personnel. Personnel assigned to Repair and Damage Control teams had not received specific specialized training. These personnel were not adequately knowledgeable of their responsibilities and duties. The licensee had identified

tive training of Repair and Damage Control teams as an area for improvement as part of a company wide EP training standardization program. At the close of the assessment period, lesson plans to address this concern had not been approved or implemented.

2. Performance Rating

Licensee performance is rated Category 2 in this area. The licensee was rated Category 1 in the previous assessment period.

3. Recommendations

None.

E. Security

1. Analysis

Evaluation of this functional area was based on the results of four inspections conducted by regional inspectors and observations made by resident inspectors.

Enforcement related performance has slightly declined. Two Severity Level IV violations and one Severity Level V violation were identified during this period. The violations were not indicative of programmatic breakdowns.

Management involvement in ensuring the quality of the security program was generally good, with some isolated examples of performance weaknesses. Site security management was receptive to correcting observed weaknesses and displayed a positive attitude toward improving security practices. Both corporate and plant management involvement continue to be supportive of the security program as evidenced by the allocation of additional personnel and material resources. Improvements included equipment upgrades for the perimeter detection system to replace aged equipment with a state-of-the-art system; implementing an upgrade that significantly increased alarm assessment capability; and continued use of industry experts and support to conduct independent performance evaluations of barriers, training and intrusion systems. In addition, the licensee had initiated a program to expand its use of contract security personnel to conduct more audits and surveillances of the security program. However, a weakness was identified as a result of two violations that were attributed to a lack of knowledge of specific program requirements by site licensee security management personnel. The first one involved a degraded vital area barrier identified in the beginning of the assessment period, and the second was for controlling personnel egress identified late in the period. In addition, one violation was identified in which several members (five) of the contract security force had conducted inadequate vehicle searches because of inattention to detail.

The licensee's approach to the identification and resolution of technical security issues was good and has shown improvement during the assessment period. The licensee continued to conscientiously evaluate security equipment, which resulted in improved reliability, particularly of the Closed Circuit Television (CCTV) system and perimeter intrusion detection system. Management has taken a good approach to identify and resolve technical issues that are identified and documented in security event logs. Licensee action to identified problems is good and corrective actions have usually been comprehensive and completed in a timely manner. This was evidenced in NRC review of licensee corrective actions. In only one isolated case was additional action necessary to adequately resolve an NRC-identified enforcement issue. During this assessment period, security management personnel maintained good communication with NRC regional personnel. Two working meetings were held and numerous other contacts were made to discuss security upgrade projects and other issues related to security personnel.

Security events were properly identified and analyzed. The licensee had three reportable events and a significant increase in the number of loggable security events during the assessment period. This increase in loggable events was largely a result of expanded and revised corporate guidelines that were developed and implemented in response to weaknesses identified during the previous assessment period. The scope of the licensee's procedures for loggable items now more closely follows regulatory guidance. The majority of loggable events identified particular problems with environmental effects on security equipment, equipment reliability, and personnel errors involving vital area portals. The licensee has evaluated these problems and developed programs to correct these deficiencies. Program implementation was started near the end of the assessment period.

Security staffing levels are ample to ensure a level of performance that meets regulatory requirements and also allows for timely responses to changing security needs. Staffing was expanded to accommodate additional security responsibilities in the fitness for duty area and to enhance audit responsibilities. Positions within the security organization were properly identified and duties/responsibilities were adequately implemented.

The training and qualification program utilized by the licensee, and implementation by the security contractor, was acceptable, and meets commitments. However, the tactical contingency training program that was developed and implemented by the licensee and security contractor exceeded commitments and was a program strength. This program includes computerized simulator aids and innovative practical response training.

2. Performance Rating

The licensee's performance is rated a Category 2 improving in this area. The licensee's performance was rated Category 2 improving in the previous SALP assessment period.

3. Recommendations

None.

F. Engineering/Technical Support

1. Analysis

Evaluation of this functional area was based on the results of one team inspection, one Safety System Functional Inspection (SSFI), licensed operator examinations, several inspections by the resident inspectors, NRR interactions with the licensee, and review of licensee submittals.

Enforcement history included one Severity Level III and one Severity Level IV violation. Although the Severity Level III violation was issued during this assessment period, the referenced inspection had been conducted in early 1987.

Eight LERs were attributed to this area. Seven of the LER's were Engineering Safety Feature (ESF) actuations or ESF signals. Of these, six were procedure deficiencies related to original construction, lack of procedures, or deficient existing procedures. Two events were caused by a mixture of steam and water in the steam line of the Reactor Core Isolation Cooling (RCIC) system and resulted in the RCIC isolating during warm-up. In each of these cases, the analysis and corrective actions appeared appropriate. There were no events in this functional area due to personnel error and none resulted in NRC violations or enforcement actions.

Management involvement to ensure quality in this area was mixed. For the most part, modifications were properly designed and supporting calculations were accurate. Management contacted the reactor vendor to jointly pursue a problem with single control rod scrams due to ruptured scram valve diaphragms. Involvement in the operator requalification program showed improvement in the second half of the assessment period, with improvement in procedural usage being most evident.

The engineering analysis supporting licensee submittals demonstrated a good understanding of safety issues, management involvement, and a technically qualified staff. When clarification was needed on an issue, the licensee's most cognizant individuals generally became involved to ensure

all concerns and questions were resolved. Further, the licensee kept the staff informed as status changed on various issues.

However, there were instances where engineering analyses relating to plant operations were inconsistent. For example, the minimum temperature assumed in the station battery sizing calculations was higher than the minimum temperature currently allowed by the Technical Specifications. Similarly, the adequacy of the Division III batteries was based on a battery capacity of 89% of the manufactured rating although the surveillance test measuring capacity had an acceptance criteria of 80%. There were three cases where procedures had not been revised to reflect recent modifications. The subsequent performance of these procedures resulted in unplanned actuations ESF equipment. For example, the May 1990 performance of the Division I response time testing procedure resulted in the inadvertent closure of the Reactor Water Clean Up (RWCU) outboard isolation valve and trip of the RWCU pump. The procedure had been revised in February 1990, but a verification or validation had not been performed at that time.

The licensee's approach to the identification and resolution of technical issues was usually prompt and effective. The failure of clamping nuts affecting the installation of seismically qualified battery racks was thoroughly analyzed and effective corrective action was taken. NRC SSFI concerns regarding the discrepancies between design and operation for the batteries were promptly corrected with night orders for the short term, and procedure revisions for the long term to ensure that the batteries would remain operable. Discrepant procedures were promptly revised, such as the procedure used for monitoring Division III battery room temperatures. Other than the battery sizing issues discussed earlier, the licensee's actions to resolve the concerns identified in the NRC SSFI and Probabilistic Risk Assessment (PRA) inspections were responsive and complete. However, some longstanding issues such as the degraded high pressure core spray return line to the condensate storage tank, the residual heat removal system shutdown cooling suction valve which was difficult to open, and the oversized feedwater control valve which made reactor vessel level control difficult for low flow conditions are just recently being addressed.

The staffing of the onsite engineering and technical support groups has been substantially increased by approximately 20 engineers during the assessment period. However, most of the new engineers lack the experience and training needed to effectively contribute in the near term. The system engineer staff included positions and responsibilities that were clearly defined, and required the engineers to develop a systems notebook addressing operations and trends for their systems. The licensee

has also taken steps to strengthen the corporate engineering staff by the addition of several experienced engineers. The corporate engineering staff has an enhanced presence with full time engineers assigned to the site. This facilitates support of modifications through more involvement by corporate engineering. This was evidenced in modifications during refueling such as; control room improvements, battery replacements, main condenser cleaning, etc. The interface between engineering organizations appears to be working well.

The licensee's requalification and operator replacement programs were considered satisfactory as evidenced by the fact that 42 out of 44 individuals and 7 out of 9 crews passed the requalification examinations, and 4 out of 5 individuals passed their initial operator examination. However, several deficiencies were identified during the preparation week in the failure of Job Performance Measures (JPMs) to include all the critical steps needed to complete the task. The simulator scenarios also needed to have the Individual Simulator Critical Tasks (ISCTs) changed to make them more oriented to the safety significant actions instead of administrative actions.

Training of initial operators did not adequately address identification and use of redundant plant parameter information, knowledge of Technical Specification interpretations, and of reactivity anomalies.

2. Performance Rating

The licensee's performance is rated Category 2 in this area. The licensee's performance rating was rated Category 2 during the previous assessment period.

3. Recommendations

None.

G. Safety Assessment/Quality Verification

1. Analysis

Evaluation of this functional area was based on the results of routine and special inspections by resident and regional inspectors. In addition, NRC staff review of licensee submittals and requests for amendments to the operating license were considered.

Enforcement history during this assessment period improved considerably. One Severity Level IV violation was issued during this SALP period as compared to one Severity Level III, five Severity Level IV, and one Severity Level V violations issued

during the last SALP period. The Severity Level IV violation was issued for the failure to implement corrective actions for a valve failure in the diesel air start system. The Severity Level IV violation attributed to Section IV.F. Engineering/Technical Support, regarded safety evaluations, is similar to ones identified at other licensee sites, and had been identified during the conduct of the licensee's SSFI. However, the corrective actions for the problem focused only on future modification work, and did not review the evaluations for modifications that were in progress. As a result, the evaluation for a modification that was in progress at the time of implementation of corrective actions for the finding was not addressed, and the violation occurred. These violations were examples of instances of insufficient corrective actions.

Management involvement to ensure quality was generally good. Resident inspectors found that managers made frequent plant tours and were actively involved in, or monitored, daily meetings, review processes, and planning sessions. An effective management tool was the corporate overview meetings on site with representatives from all work groups. Issues raised were tracked and dispositioned.

The licensee's limited scope Safety System Functional Inspection (SSFI) was a positive initiative. The licensee's efforts were excellent in finding and correcting labeling problems and most drawing concerns. The SSFI revealed many cases in which the actual design margins were less than those stated in the Updated Final Safety Analysis Report (UFSAR) or were in conflict with the requirements of the Technical Specifications. All of the examples, which included diesel fuel oil consumption, reserve in the HPCS diesel day tank after level alarm initiation, and diesel load rejection tests, related to calculations performed during prior assessment periods. The NRC, however, identified some deficiencies identified by the SSFI that were not sufficiently corrected, which is indicative of a need for additional management involvement.

Some of the licensee's mechanisms that have contributed to quality were the Monthly Performance Evaluations, the Event Frequency Reduction Committee, and third-party performance indicators and audits.

The licensee's approach to identification and resolution of technical issues was evidenced by an overall reduction in the number of licensee event reports (LER's) from the previous SALP period. Improvement was especially noted in the overall reduction in personnel errors which went from 16 to 5. This improving trend is considered significant in the station performance. There was, however, an increase in procedure related problems. The LER's were consistent in providing specific details of the

events, assessment of the root cause, and corrective actions taken. Safety analyses were thorough and well written, taking into account the actual plant status during the event and postulating effects of the events on differing plant modes, as deemed appropriate. Previous similar occurrences were properly referenced in the LERs.

Licensee self audits are conducted by offsite corporate teams and onsite Quality Assurance (QA) personnel. The offsite audit groups are made up of personnel with diverse experience and shared knowledge of lessons learned from other stations. Comprehensive audits have been conducted at LaSalle in all functional areas with usually effective tracking and followup on the findings. This was further evidenced in the specialty areas such as radiation protection, emergency preparedness, and security. The NRC found these audits properly assessed technical performance, compliance with requirements, established policies on plans, training, and qualification. The licensee's responses to these audits was found to be thorough, timely, and technically sound. Onsite QA audits have been found to be acceptable. The onsite auditors were experienced with diverse backgrounds and sufficient technical orientation to conduct thorough audits.

Examples of effective quality audits and corrective actions was apparent in that the licensee identified a number of contractor quality control inspectors with insufficient or incorrectly documented credentials and a battery rack supplier not on the approved supplier list. The licensee's prompt and effective followup actions were examples of good management involvement and control. The Regulatory Assurance group is well staffed with well qualified personnel and performance in this area is considered good.

During the assessment period, NRC issued nine Technical Specifications (TS) amendments for Unit 1 and eleven amendments for Unit 2. Other safety evaluations were issued involving: Generic Letter 83-28, Item 2.2 Part 1; primary containment tendon wire strength and inservice inspections; and various Generic Letters and Bulletins.

The quality and technical content of engineering evaluations supporting license submittals were mixed, and often required additional information to complete the review. The responses required for two TS change evaluations were delayed due to late licensee responses. The licensee's response to NRC Bulletins, Generic Letters and non-obligatory surveys were generally timely. There have been instances where the NRC has had to request confirmation that a licensee commitment had been met. The licensee has done some reorganization within the group handling generic issues, and the Nuclear Licensing Administrator (NLA) is taking a more active role in this area so as to improve the licensee's timeliness and quality of submittals.

The licensee also had problems with clearly defining subsequent submittals to license amendment applications. On one occasion several submittals were made that hadn't adequately addressed changes requested on previous applications. This inconsistency in applications could raise the chance of providing an inadequate safety evaluation in the event of a missed application.

The licensee's program for conducting 10 CFR 50.59 reviews appeared thorough and comprehensive. However, the reporting of 10 CFR 50.59 reviews in an annual report to the NRC appears to be incomplete in that nonsafety-related 10 CFR 50.59 reviews were not reported and the results of the safety evaluation were not provided as required. Station personnel are taking a proactive role to ensure that the reporting of new 50.59 evaluations is complete.

Open, effective, and frequent personnel communication channels existed between NRC and the licensee's licensing and station personnel. Conference calls and meetings to discuss technical issues or administrative problems occurred in a proactive environment.

2. Performance Rating

The licensee is rated category 2 improving in this functional area. The licensee was rated Category 2 during the previous assessment period

3. Recommendations

None.

V. SUPPORTING DATA AND SUMMARIES

A. Licensee Activities

1. Unit 1

LaSalle Unit 1 began the assessment period operating at up to 100% power and was load following. On September 15, 1989, refueling/maintenance activities began. Unit 1 was returned to service on January 10, 1990. The unit operated routinely at or near full power for the remainder of the assessment period with the exception of two scrams which occurred on March 28, 1990, and June 26, 1990.

Unit 1 experienced eight ESF actuations and two reactor scrams. The scrams occurred at greater than 15% power and both scrams were the result of equipment failure.

Significant outages and major events that occurred during the assessment period are summarized below.

Significant Outages and Events

a. On September 15, 1989, Unit 1 was shut down for a planned refueling/maintenance outage.

b. On March 28, 1990, Unit 1 scrammed from 100% power when a "B" phase insulator on a 345 Kv line near the Unit 1 east main transformer exploded.

c. On June 26, 1990, Unit 1 scrammed from near full power due to the input of a faulty limit switch during surveillance testing.

Unit 2

LaSalle Unit 2 began the assessment period operating at 100% power and load following. On March 7, 1990, refueling/modification activities began and the unit was returned to service on June 12, 1990. Three scrams occurred while the reactor was critical, during the assessment period (August 26, 1989, February 6, and September 12, 1990). Two reactor scrams occurred at greater than 15% power, and one occurred at less than 15% power. Two scrams occurred because of equipment failure, and the cause of the third scram was unknown. Unit 2 experienced six ESF actuations.

Significant outages and major events that occurred during the assessment period are summarized below.

Significant Outages and Events

a. On August 26, 1989, Unit 2 scrammed from 10% power during a shutdown, the cause was unknown. This outage was extended 12 weeks because of unplanned wetting of the generator internals.

b. On February 6, 1990, Unit 2 scrammed from full power during an instrument surveillance due to a spurious signal.

c. On March 7, 1990, Unit 2 was shut down for its third refueling outage.

d. On September 12, 1990, Unit 2 scrammed from full power as a result of a generator load reject/turbine trip.

B. Inspection Activities

Thirty-three inspection were conducted during in this SALP period (July 1, 1989, through September 30, 1990) and the

related inspection reports are listed below. Table 1 lists the violations per functional area and severity levels Significant inspection activities are listed in paragraph 2 of this Section, Special Inspection Summary.

1. Inspection Data

a. Unit 1
Docket No: 50-373
Inspection Reports Nos: 89015, 89017 through 89027
90002 through 90021

b. Unit 2
Docket No: 50-374
Inspection Reports Nos: 89015, 89017 through 89025
90002 through 90022

TABLE 1

Number of Violations in Each Severity Level

		UNIT 1			UNIT 2			COMMON		
	Functional Areas	III	IV	V	III	IV	V	III	IV	V
A.	Plant Operations								3*	1
B.	Radiological Controls								1	
C.	Maintenance/Surveillance					1			3*	
D.	Emergency Preparedness									
E.	Security		1						1	1
F.	Engineering/Technical Support							1	1	
G.	Safety Assessment/ Quality Verification								1	

	UNIT 1			UNIT 2			COMMON TO BOTH		
	III	IV	V	III	IV	V	III	IV	V
TOTALS		1			1		1	9	2

* Severity Level IV violation with six (6) examples - 3 examples in Operations and 3 examples in Maint./Surveillance

2. Special Inspection Summary

a. During August 1 - August 3, 1989, a team inspection was conducted of the licensee's annual emergency preparedness exercise (Inspection Report Nos. 373/89015, 374/89015).

b. During July 24 - October 10, 1989, a team inspection was performed of the HPCS system (Inspection Report Nos. 373/89018, 374/89018).

c. During June 5 - June 8, 1990, a team inspection was conducted of the licensee's annual emergency preparedness exercise (Inspection Report Nos. 373/90005, 374/90006).

d. During April 22 - April 27, 1990, a special inspection of the ALARA Program was performed (Inspection Report Nos. 373/90008, 374/90009).

e. During May 14 - June 13, 1990, a team inspection of design changes and modifications was conducted (Inspection Report Nos. 373/90011, 374/90011).

C. Escalated Enforcement Actions

One Severity Level III Violation was issued with no Civil Penalty with respect to records falsification in 1987.

D. Confirmatory Action Letters (CAL)

None.

E. Review of Licensee Event Reports Submitted by the Licensee

Collectively, 40 LERs were issued during this assessment, in accordance with NUREG-1022 Guidelines.

Unit 1 LER Nos. 89021 through 89028, 90001 through 90011.

Unit 2 LER Nos. 89007 through 89018, and 90001 through 90009.

Table 2 below, shows cause area counts by Unit:

TABLE 2

Number of LERs by Cause

Cause Areas	Unit 1	Unit 2
Personnel Errors	3	2
Design Deficiencies	0	0
External	0	0
Procedure Inadequacies	5	8
Equipment/Component	11	7
Other/Unknown	0	4
Total	19	21

Table 3 shows a cause code comparison for SALP 8 and SALP 9.

TABLE 3

Cause Areas	SALP 8 (15.5 Mo) Number	SALP 8 (15.5 Mo) Percent	SALP 9 (15 Mo) Number	SALP 9 (15 Mo) Percent
Personnel Errors	16	(22.5%)	5	(12.5%)
Design Deficiencies	3	(4.2%)	0	(0.0%)
External	0	(0.0%)	0	(0.0%)
Procedure Inadequacies	6	(8.5%)	13	(32.5%)
Equipment/Component	13	(18.3%)	18	(45.0%)
Other/Unknown	33	(46.5%)	4	(10.0%)
Total	71*	(100.0%)	40	(100.0%)
Frequency (LERs/Month)	4.6		2.7	

*Includes 18 voluntary reports

Note: The above LER information was derived from a review of LER's performed by NRC Resident Staff and may not completely coincide with the licensee's cause code assignments.