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U.S. NUCLEAR REGULATORY COMMISSION  
REGION II

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SYSTEMATIC ASSESSMENT OF  
LICENSEE PERFORMANCE  
BOARD ASSESSMENT

CAROLINA POWER AND LIGHT COMPANY

H. B. ROBINSON STEAM ELECTRIC PLANT UNIT 2  
DOCKET NUMBER 50-261

BRUNSWICK STEAM ELECTRIC PLANT UNITS 1 AND 2  
DOCKET NUMBERS 50-325 AND 50-324

SHEARON HARRIS NUCLEAR POWER PLANT UNIT 1  
DOCKET NUMBER 50-400

FEBRUARY 1, 1983, THROUGH APRIL 30, 1984

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## I. INTRODUCTION

A formal licensee performance assessment program has been implemented in accordance with the procedures discussed in the Federal Register Notice of March 22, 1982. This program, the Systematic Assessment of Licensee Performance (SALP), is applicable to each operator of a power reactor or holder of a construction permit (hereinafter referred to as licensee). The SALP program is an integrated NRC staff effort to collect available observations of licensee performance on a periodic basis and evaluate performance based on these observations. Positive and negative attributes of licensee performance are considered with emphasis placed on understanding the reasons for a licensee's performance in important functional areas, and sharing this understanding with the licensee. The SALP process is oriented toward furthering NRC's understanding of the manner in which: (1) the licensee directs, guides, and provides resources for assuring plant safety; and (2) such resources are used and applied. The integrated SALP assessment is intended to be sufficiently diagnostic to provide meaningful guidance to the licensee. The SALP program supplements the normal regulatory processes used to ensure compliance with NRC rules and regulations.

## II. CRITERIA

Licensee performance is assessed in certain functional areas depending on whether the facility has been in the construction, preoperational, or operating phase during the SALP period. These functional areas encompass a wide spectrum of the regulatory program and represent significant nuclear safety and environmental activities. Functional areas may not be assessed because of little or no licensee activities in these areas, or for lack of meaningful NRC observations.

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

- . Management involvement in assuring quality
- . Approach to the resolution of technical issues from a safety standpoint
- . Responsiveness to NRC initiatives
- . Enforcement history
- . Reporting and analysis of reportable events
- . Staffing (including management)
- . Training effectiveness and qualification

The SALP Board has categorized functional area performance at one of three performance levels. These levels are defined as follows:

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 such 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 such 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 such that minimally satisfactory performance with respect to operational safety or construction is being achieved.

The SALP Board has also categorized the performance trend over the course of the SALP assessment period. The categorization is meant to describe the general or prevailing tendency (the performance gradient) during the SALP period. The performance trends are defined as follows:

Improved: Licensee performance has generally improved over the course of the SALP assessment period.

Same: Licensee performance has remained essentially constant over the course of the SALP assessment period.

Declined: Licensee performance has generally declined over the course of the SALP assessment period.

### III. SUMMARY OF RESULTS

#### A. Overall Utility Evaluation

At the beginning of the SALP period, the Carolina Power and Light Company (CP&L) was implementing a program to improve regulatory performance. This program was implemented because of the licensee's determination to successfully implement its Brunswick Improvement Program (BIP), which was implemented as result of surveillance problems identified in December 1982. Significant improvements were observed at the Brunswick site, and, as a result, CP&L developed a Robinson improvement program, based on the BIP, and also implemented selected improvements at their Harris construction site. These improvement programs have proven effective in reducing plant operational and managerial deficiencies.

In August 1983, the company's corporate organization reorganized under a Senior Vice President Nuclear Generation to consolidate the nuclear organization under one senior manager. All nuclear line functions were organizationally placed under this position, with the exception of the Brunswick facility which remained under the Executive Vice President Power Supply and Engineering and Construction to provide executive level management attention. In addition, department level positions



were formed at each nuclear site, with corporate Vice Presidents occupying two of these positions, to ensure increased communication between the sites and the corporate office, and which would provide increased onsite authority.

In addition to the restructuring of the corporate nuclear line organization, changes were made in the direction taken by the corporate support organization, functioning both in the corporate offices and at their site locations.

During the evaluation period, the increased licensee management attention applied to the entire nuclear organization has changed CP&L from being considered as a poor performer during the previous SALP period to a significantly improved utility. The Improvement Program implemented by CP&L has been used as a model by some other Region II utilities to follow in development of their own improvement programs.

B. Overall Facility Evaluation - H. B. Robinson 2

During the majority of the assessment period, the Robinson facility was in outages; first to determine steam generator (S/G) tube degradation and then to undergo S/G replacement. This extended outage time resulted in site resources being strained; however, few problems were identified. This good performance was partially due to a facility reorganization which allowed for more direct observation of work activities by facility senior management. The facility also developed a new outage management concept which prevented many potential problems from developing. The licensee took the necessary steps to safely implement the S/G replacement outage even though this outage began months ahead of schedule. Major strengths were identified in the areas of surveillance, fire protection, emergency preparedness, and refueling. No major weaknesses were identified.

Several major achievements occurred during this evaluation period. These included construction of the Health Physics/Chemistry Building where radioactive work can be performed with "state-of-the-art" equipment; a training/simulator/Emergency Operations Facility/Technical Support Center building; and a security access area which was started and which will include a new computer system and upgraded security equipment. Additionally, the steam generators were replaced. Although the outage was not complete at the close of the assessment period, it appears that the man-rem actually received will be significantly below the man-rem projections.

Another achievement, in the area of emergency preparedness, was the development of a logic matrix for use by shift personnel to determine emergency action. This improvement should aid in overcoming the problem of determining where to enter the emergency plan.

Several areas were identified where the greatest opportunity for improvement exist. These areas include the security organization and equipment where manning of the security group has been marginally acceptable in the past and the equipment is antiquated. The licensee has taken recent actions to upgrade both staffing and equipment. If followed through, present plans should result in major improvement during the next SALP period.

The opportunity for continued improvement also existed in the area of radiological controls which improved this SALP period, particularly in the area of radwaste control. However, near the end of this SALP period numerous minor violations were identified. With the exception of the steam generator replacement activity, management control of this area has not been dynamic. The licensee was addressing this problem at the close of the assessment period.

The opportunity for improvement also existed in the area of regulatory compliance which suffered from a lack of management direction and attention to detail. During this evaluation period a tracking system for regulatory items was developed. However, it had not been satisfactorily implemented at the close of the assessment period.

The reorganization at H. B. Robinson appears to address the problems at the site. The licensee has recognized the need to have all plant managers and supervisors spend more time on direct observation of work activities, and was aggressive in pursuing this issue.

Overall, the performance of the facility staff appears to be improving.

#### C. Facility Performance - Robinson 2

Tabulation of ratings for each functional area:

##### Operations (Unit 2)

	<u>Functional Area</u>	<u>Category Rating</u>	<u>Trend During This Period</u>
1.	Plant Operations	2	Improved
2.	Radiological Controls	2	Improved
3.	Maintenance	2	Improved
4.	Surveillance	1	Same
5.	Fire Protection	1	Not Determined
6.	Emergency Preparedness	1	Improved
7.	Security and Safeguards	2	Same
8.	Refueling	1	Improved
9.	Licensing Activities	2	Improved
10.	Quality Assurance Program	2	Improved

D. Overall Facility Evaluation - Brunswick Units 1 and 2

During the majority of the SALP period, the Brunswick facility was operating under an NRC Order issued in December 1982, confirming the BIP. In implementing the requirements of this confirmatory order, CP&L not only took steps to meet the action items spelled out in the BIP, but also established measures to identify and implement additional improvements. Major strengths were identified in the areas of radiological controls, emergency preparedness, security and safeguards, and refueling. No major weaknesses were identified.

Several major achievements were noted at the Brunswick facility during the SALP period. These improvements included the implementation and completion of the BIP. Major highlights of the BIP included: the complete rewrite of operations, surveillance, and annunciator procedures; an enhanced training program which helped change operator morale and their interface with training (producing a better product), and allowed satisfactory completion of NRC administered requalification examinations; rewritten and reformatted emergency operating procedures; an increased regulatory sensitivity by most plant staff; an improved discipline of operations; increased attention by management/supervisors of work activities in the field; a plant cleanup program that brought Brunswick to a high level of cleanliness; and increased morale of the plant staff.

An additional improvement was the increased involvement by the Onsite Nuclear Safety (ONS) Unit. The ONS Unit performed a technical review of procedures rewritten under the BIP; developed a restart program for Unit 1, upon completion of an extended outage; and spent more time in the plant performing safety reviews. Additionally, the licensee participated, as part of the boiling water reactor owners group, in 13 of 15 industry wide projects. In many cases, the licensee took the group lead in completing the projects.

Several areas were identified which held the greatest opportunity for improvement. These areas included fire protection, where the implementation of the Appendix R program must receive close management attention to prevent implementation problems in both the safety and regulatory areas; and maintenance, where the licensee has an enormous work effort underway to enhance/develop programs in the areas of procedure rewrite, preventative maintenance and scheduling of work activities, and a trending program for predictive maintenance. During the past two SALP assessment periods, many of the regulatory compliance problems could have been averted had there been stronger management attention applied. There has been some improvement during this SALP period, but two areas which still need to be addressed are the need for

more operations experience and knowledge in the unit; and more emphasis on measures to identify problems prior to their being escalated to enforcement issues.

The reorganization at Brunswick has resulted in a significant increase in management awareness and control, particularly in the areas of operations and outage management. The effects of assigning a corporate Vice President (VP) to the site became evident during this SALP period, as many problems were handled quickly and effectively with the VP dealing directly with administrative obstacles.

Brunswick has made significant improvements over the previous rating period; the management focus for the next SALP period should be the continued application of close oversight of operations.

E. Facility Performance - Brunswick 1 and 2

Tabulation of ratings for each functional area:

Operations (Units 1 and 2)

	<u>Functional Area</u>	<u>Category Rating</u>	<u>Trend During This Period</u>
1.	Plant Operations	2	Improved
2.	Radiological Controls	1	Improved
3.	Maintenance	2	Improved
4.	Surveillance	2	Improved
5.	Fire Protection	2	Improved
6.	Emergency Preparedness	1	Improved
7.	Security and Safeguards	1	Same
8.	Refueling	1	Improved
9.	Licensing Activities	2	Improved
10.	Quality Assurance Program	2	Improved

F. Overall Facility Evaluation - Harris 1

Construction completion during the SALP period progressed from 77% to 84% complete. In December 1983 the licensee announced the cancellation of Unit 2. Even with this cancellation, construction staffing increased to approximately 5000 employees. The major emphasis in construction has shifted to completion of systems and components needed to support the orderly testing of systems needed to meet the projected major milestones of cold hydrostatics testing, hot functional testing and fuel loading now projected for June 1985. Major strengths were identified in the areas of soils and foundations, containment and other



safety related structures, and support systems. No major weaknesses were identified.

As a part of the corporate reorganization, a Vice President was assigned to Harris with overall responsibility for construction and operations. Changes have been implemented to consolidate the administrative and site support functions under control of the Vice President and remove these burdens from the managers of construction and operations.

Licensee performance with respect to construction was satisfactory. Licensee management involvement and support for quality construction increased. The staff was well trained and qualified.

Certain areas were identified in which the opportunity for improvement exists. Included in these areas is pipe hangers and supports where all procedures have been revised and additional supervisory, engineering, craft, and inspection personnel have been assigned. This revised program was being initially implemented at the close of the SALP period. It will require strict management attention to ensure success.

A second area which appears to provide the opportunity for improvement is that of electrical distribution and supply. This area, although improved, still continued to be plagued by the need for rework and repetitious inspections to achieve acceptable quality. It was additionally handicapped by numerous design and field changes required of installations. The licensee has placed additional management emphasis in this area, but additional engineering support and management oversight are still required.

Several areas achieved improved performance during this evaluation period. Included in these areas was pipe hangers and supports which although improved, is still in need of additional improvement (as discussed above).

Another area where improvements were realized was QA/QC. Major improvements in the QA/QC organization have occurred with the QA/QC Manager for Harris now stationed onsite. The addition of an onsite QA Engineering group and additional staffing in the QA/QC areas have provided a more viable, better trained, and better organized inspection force onsite. A second independent inspection group separate from the QA/QC organization is utilized at the Harris site. This group has been given high visibility by the appointment of a new director who reports to the construction manager, which is two levels higher than was previously reported to.

Improved performance also occurred in the area of emergency preparedness through the development of a logic matrix for shift personnel to use in entering emergency action levels.



Finally, it was recognized that a concerted effort was made to upgrade the receipt inspection program. The result of this effort showed significant improvement during the period.

G. Facility Performance - Harris 1

Tabulation of ratings for each functional area:

Construction (Unit 1)

<u>Functional Area</u>	<u>Category Rating</u>	<u>Trend During This Period</u>
1. Soils and Foundations	1	Not Determined
2. Containment and Other Safety Related Structures	1	Same
3. Piping Systems and Supports	2	Improved
4. Safety Related Components	2	Improved
5. Support Systems	1	Same
6. Electrical Power Supply and Distribution	2	Same
7. Instrumentation and Controls	Not rated	Not Determined
8. Licensing Activities	2	Improved
9. Quality Assurance Program	2	Improved

H. SALP Board Members

- R. C. Lewis, Director, Division of Reactor Projects (DRP), Region II (RII), Chairman
- J. A. Olshinski, Director, Division of Reactor Safety (DRS), RII
- J. P. Stohr, Director, Division of Radiation Safety and Safeguards (DRSS), RII
- D. M. Verrelli, Chief, Reactor Projects Branch 1, DRP, RII

I. SALP Board Attendees

- P. R. Bemis, Chief, Reactor Projects Section 1C, Reactor Projects Branch 1, DRP, RII
- M. V. Sinkule, Chief, Technical Support Staff (TSS), RII
- D. S. Price, Reactor Inspector, TSS, RII
- D. O. Myers, Senior Resident Inspector, DRP, RII
- S. Weise, Senior Resident Inspector, DRP, RII
- G. F. Maxwell, Senior Resident Inspector, DRP, RII
- R. Prevatte, Senior Resident Inspector, DRP, RII
- A. K. Hardin, Project Engineer, Reactor Projects Section 1C, Reactor Projects Branch 1, DRP, RII
- T. MacArthur, Radiation Specialist, TSS, RII
- W. H. Rankin, Reactor Engineer, TSS, RII
- B. C. Buckley, Project Manager, Licensing Branch 3, Division of Licensing (DL), Office of Nuclear Reactor Regulation (NRR)
- G. Requa, Project Manager, Operating Reactors Branch 1, DL, NRR
- M. Grotenhuis, Project Manager, Operating Reactors Branch 1, DL, NRR

IV. PERFORMANCE ANALYSIS FOR H. B. ROBINSON

## A. Functional Area Evaluations

### Licensee Activities

During the assessment period, the licensee limited power to below 1955 Megawatts thermal. The power reduction and a low average temperature program constituted an attempt by the licensee to reduce the rate of steam generator (S/G) tube degradation. S/G eddy current inspections were conducted in May, September, and November 1983. Due to the rate at which the S/G tubes were degrading, a refueling and steam generator replacement outage was begun in January 1984. The outage was allowed to commence much earlier than anticipated, due to resolution of all intervenor contentions presented in a hearing before an Atomic Safety and Licensing Board.

Early in the evaluation period CP&L developed a Robinson Improvement Program (RIP), based on the Brunswick Improvement Program. The stated goals of the RIP were: to upgrade operating, maintenance, surveillance, and emergency operating procedures; improve surveillance tracking, scheduling, and audit activities; improve outage management controls and coordination; improve regulatory sensitivity; upgrade training for licensed and unlicensed personnel on modifications and procedural revisions; improve the interfaces between the corporate headquarters and the site; and reduce the plant staff's administrative and offsite support workloads in order to better concentrate efforts on site activities. Implementation of the RIP has progressed well over the SALP period. Considerable progress has been observed in the areas of training, outage management control, procedural upgrade, and reduction of offsite impact on the site staff. Continued licensee efforts in these areas will be monitored by this office.

Modifications in progress at the close of the assessment period included various plant changes which were being implemented as a result of Three Mile Island, a fire protection system upgrade, radwaste facility preparation, and plant secondary system work.

The Institute of Nuclear Power Operations (INPO) conducted an evaluation of management controls and operating practices during the weeks of November 7 and 14, 1983, and a radiological emergency preparedness exercise was conducted September 20 through 23, 1983.

### Inspection Activities

The routine inspection program was performed during the review period. Two special inspections were performed in the area of radiological controls to review an inappropriate waste shipment and an unanticipated exposure in the reactor vessel cavity sump. A special security inspection was performed to review vital area access controls and management controls for reporting of security events. Special inspections were conducted on the quality assurance program and Health Physics program associated with the steam generator replacement preparations and activities.

## 1. Operations

### a. Analysis

During this assessment period, inspections of plant operations were performed by the resident and regional inspection staffs.

Plant procedural inadequacies and failure of operators to either implement procedures or recognize deficient procedures continued to account for over half of the violations cited in this area. This weakness in the area of plant procedures was noted in the previous SALP review. The licensee has been responsive to this concern and has initiated a program for upgrading all plant procedures as part of their Robinson Improvement Program. This procedural upgrade effort was about forty percent complete at the end of the SALP period. These procedural upgrades, along with training of personnel on procedural compliance, have resulted in a reduction of approximately thirty percent in numbers of procedural violations compared to the last SALP review. Only one of ten reportable events assigned to this area resulted from personnel error. The licensee should continue their efforts to improve performance in this area.

Operations staffing and training appeared to be generally adequate, with the exceptions noted above on procedural compliance and maintaining procedures current. In light of the significant number of mode changes performed due to outages to inspect S/Gs, the plant staff appeared to be very observant of Limiting Conditions for Operations and were generally conservative in applying action statement requirements. The operations staff exhibited high morale and competency during most operations observed by the NRC. As evidenced by violations (6) and (10) below, a weakness exists in the licensee's control system for meeting reporting requirements. Inasmuch as the reporting requirements changed during this review period, the licensee emphasized operator sensitivity to potentially reportable items in order to prevent further reporting violations, and in addition, the licensee has implemented a "state of the art" tracking system for regulatory items.

Operator licensing examinations were conducted during the evaluation period, including both written and oral examinations. Licensing examinations were given to eight candidates, all of whom passed; and Senior Reactor Operator licenses were issued to all eight persons. The NRC staff reviewed requalification examinations given to three Reactor Operators and three Senior Reactor Operators by the licensee; all but one Reactor Operator passed. The staff found the requalification program acceptable. During the evaluation period the training department prepared for accreditation by INPO. (INPO Accreditation was received on May 16, 1984). The number of instruction hours in the requalification

training program was increased due to a new training format. This should help decrease even further the number of procedural violations. General Employee Training for site personnel was well defined and implemented, while training for craft personnel was less rigidly defined. However, a formalized program was under development. Overall, training support for plant operations continues to improve as a result of increased staffing and work scope. A direct result of the increased training effort was the implementation of a six shift rotation. Examination results indicated that the training program for licensed operators has been effective. The improvements noted during the last SALP assessment period in the licensee's qualification/requalification programs continued to result in a highly successful program for licensing operator candidates. Management attention to this area was obvious, and a continued high level of management attention is recommended, based on the significant number of major plant modification activities currently in progress.

Plant tours by operations supervisory personnel were generally short, lacked depth, and were infrequent. Due to the number of violations identified, periodic, direct observation of plant operations activities by supervisors is needed to improve regulatory sensitivity and followup on plant activities. Upper plant management has recognized this deficiency and has demonstrated increased emphasis in this area. Site reorganization has allowed many administrative burdens to be removed from the Plant General Manager, who is spending a larger portion of his time in the plant. Licensee emphasis in this area should be continued to include other plant managers/supervisors.

Licensee attention to ensuring indepth corrective actions needs improvement as evidenced by violations (2) and (3). Early in the SALP period licensee management was not sufficiently attentive to proper operation of the low temperature overpressure protection system as evidenced by violations (2), (8), and (10). These violations indicated that operations personnel were still not sufficiently sensitive to reactor vessel protection concerns. The licensee increased the level of review and audit of operation of the overpressure mitigating system in the latter portion of the SALP period and continued management attention should create sufficient sensitivity by operations personnel.

The Robinson Improvement Program (RIP) has been in progress for about one year with approximately one year of work remaining. The program appears to have enhanced sensitivity to regulatory requirements, as evidenced by the reduction in Severity Level IV violations identified. Management control systems have improved, in that the licensee has reduced the frequency of operations violations and has improved at self-identification of deficiencies.



Eleven violations were identified during the evaluation period. These violations continue to indicate a minor breakdown in the areas of procedure adequacy and operator compliance. The violations identified were:

- (1) Severity Level IV violation for failure to implement valve lineup procedures.
- (2) Severity IV violation for failure to implement adequate corrective actions for a malfunction on safety-related equipment.
- (3) Severity Level IV violation for failure to implement adequate corrective actions concerning safety system operability.
- (4) Severity Level IV violation for failure to establish and implement adequate procedures for containment integrity control and verification.
- (5) Severity Level V violation for failure to maintain annunciator procedures.
- (6) Severity Level V violation for failure to make a prompt report.
- (7) Severity Level V violation for failure to establish procedures for control of nuclear instrument setpoints.
- (8) Severity Level V violation for failure to meet overpressure mitigating system operability requirements.
- (9) Severity Level V violation for failure to adequately implement clearance procedures.
- (10) Severity Level V violation for failure to make a licensee event report.
- (11) Severity Level V violation for failure to maintain valve checkoff procedures.

b. Conclusion

Category: 2

Trend: Improved

c. Board Comments

Performance in this area was evaluated as Category 2 during the previous SALP assessment. Licensee management attention in this area was evident. No decrease in licensee or NRC attention in this area is recommended.

2. Radiological Controls

a. Analysis

During the evaluation period inspections of Radiological controls were performed by regional and resident inspection staffs.

The licensee began a steam generator replacement project during the later part of this assessment period. Preplanning, training, and the use of mock-ups for the steam generator replacement project were evident. The licensee continued to have an effective decontamination program which decreased the number of contaminated areas and personnel contamination events. No overexposures or significant radiological events have occurred during this project through the end of the SALP assessment period. The actual man-rem exposure was significantly below that projected and was, at the close of the SALP assessment period, lower than that achieved during any previous S/G replacement outages at other facilities.

During the assessment period, failure to provide adequate control of high radiation areas accounted for two violations. In one case a Severity Level III violation was cited for licensee personnel entering a high radiation area under the reactor vessel with the incore guide thimbles withdrawn. The event occurred because there was inadequate access control for the area and the area was not properly surveyed. The second violation was for inadequate locking of the access to a high radiation area. Licensee management subsequently implemented adequate corrective actions.

The radwaste program, consisting of liquid, gaseous and solid radwaste, accounted for one violation and one deviation. The violation involved a shipment of radioactive material to an unauthorized recipient. The deviation pertained to the failure to adequately train all personnel handling, processing, and packaging of radioactive material as committed. However, since the previous assessment period significant improvement in procedural and regulatory compliance has been noted. Corrective actions taken by the licensee were prompt and appeared to be adequate. Other areas of the liquid and gaseous effluent accountability program were adequate.

The radiation protection program continued to exhibit improvement which included an upgrading of procedures, increased management attention, and improved training program and staffing levels. Considerable management effort has been evident in the planning and execution of activities associated with the steam generator replacement. Increased health physics training, use of mock-ups, and more frequent supervisory tours have all contributed to a reduction in man-rem expended, and a reduction in the number of both NRC and licensee identified deficiencies. The basic program weakness continues to be a failure of workers and/or health physics technicians to follow radiation protection procedures. This issue was identified in the previous SALP assessment. While some improvement has been noted during this evaluation period, the licensee should continue to stress the need for unambiguous procedures, the importance of quality training and contractor screening, and the unequivocal requirement that procedures be followed or properly revised. Stringent control and monitoring during steam generator repair activities and during modification work should continue in order to ensure that health physics activities are fully understood and correctly performed.

Eight violations and one deviation were identified.

- (1) Severity Level III violation for failure to control access to and adequately survey the reactor vessel sump with the flux thimbles withdrawn.
- (2) Severity Level IV violation for failure to ship radioactive waste in accordance with the recipients license.
- (3) Severity Level IV violation for failure to properly label containers as containing radioactive material.
- (4) Severity Level IV violation for failure to post a radiation area sign outside a radiation controlled area.
- (5) Severity Level IV violation for failure to adequately train personnel in the respiratory protection program.
- (6) Severity Level V violation for failure to perform an adequate survey of material leaving a radiation controlled area.
- (7) Severity Level V violation for failure to adequately lock the access to a high radiation area.
- (8) Severity Level V violation for failure to implement radiation work permit procedural requirements.
- (9) Deviation for failure to adequately train personnel who process and package radioactive material for burial.

b. Conclusion

Category: 2

Trend: Improved

c. Board Comment

Performance was evaluated as Category 2 during the previous SALP assessment. Licensee resources appeared adequate in this area. No decrease in licensee or NRC attention is recommended.

3. Maintenance

a. Analysis

During this assessment period inspections of maintenance were performed by regional and the resident inspection staffs.

The licensee has been responsive and has initiated a program for upgrading maintenance procedures as part of the Robinson Improvement Program. This procedural upgrade effort was about fifty percent complete at the end of the SALP period.

As discussed in the previous SALP report, the maintenance program continues to display one programmatic weakness. Specifically, all the violations and three reportable events discussed below were caused or contributed to by a lack of procedural control. Evaluation of deficiencies identified, their significance, and inspection hours expended, however, indicated that fewer deficiencies are occurring per hour of maintenance at the close of the SALP assessment period than at the beginning. Safety-related maintenance activities have generally been properly and professionally conducted. The procedural upgrades, along with continued training of maintenance personnel on procedural compliance, should receive continued emphasis from licensee management.

Maintenance staffing levels increased during the review period at the management, engineer, and technician level. This was appropriate in order to perform an increased workload and to improve the quantity and quality of in-the-field supervision. Management attention is needed to ensure that maintenance supervisory personnel conduct frequent on-the-job observations of maintenance activities. Staffing levels for personnel conducting technical revisions were marginally adequate to accomplish both maintenance and procedural upgrade activities, therefore, the licensee has obtained contract individuals to supplement their staff. The staff has good morale and a high level of technical expertise. The licensee has also developed and initiated increased on-the-job and plant systems training for the

maintenance staff in an effort to improve performance, understanding, and regulatory sensitivity. Communication between the maintenance staff and operations staff with respect to prioritization and control of safety-related maintenance has been consistently noteworthy. Improvement has been observed in maintaining equipment that directly supports safety-related systems.

The licensee did not have a centralized maintenance deficiency tracking system in that each plant unit generates its own maintenance deficiency list and controls its separate deficiency prioritization and tracking system, including corrective actions. The licensee has been responsive and is pursuing a computerized tracking and trending system to replace the manual system and provide better centralized control. Additionally, a trial deficiency tagging system used during this review period was successful and is being expanded in scope. The licensee should continue efforts to improve its maintenance deficiency control and tracking program.

The licensee has placed increased emphasis on development of a comprehensive preventive maintenance program to reduce component failures. Five reportable events resulted from personnel errors and/or procedural inadequacies related to maintenance activities. Two events affected safety system operability and one caused reactor coolant system leakage.

The independent verification controls on instrumentation and control equipment also appeared weak. While no violations were identified in this area, the licensee was made aware of this concern and has initiated a program to address the issue as part of the plant operating manual upgrade.

During the assessment period the licensee was involved with two major modifications: the replacement of a portion of the spent fuel storage racks and the replacement of the steam generator tube bundle section for all three steam generators. Inspections were performed in the following areas: welding-structural and piping; nondestructive examination; spent fuel storage racks; review of procedures; visual inspection observation of work and review of quality records; and, Inspection and Enforcement (IE) Bulletins 79-02 and 79-14.

QA/QC personnel in the maintenance area were well qualified and knowledgeable in procedure requirements. Records were generally complete, well maintained and available.



Eight violations were identified during the evaluation period. These violations continue to indicate the need to improve existing maintenance procedures and to establish additional procedures to control maintenance activities. The violations identified were:

- (1) Severity Level IV violation for failure to adequately establish, implement, and maintain procedures.
- (2) Severity Level IV violation for failure to plug degraded steam generator tubes.
- (3) Severity Level IV violation for failure to establish suitable controls on modification activities affecting service water equipment.
- (4) Severity Level IV violation for failure to correct procedural deficiencies identified in a previous violation.
- (5) Severity Level V violation for failure to establish and implement adequate post-maintenance testing procedures.
- (6) Severity Level V violation for failure to establish adequate procedures.
- (7) Severity Level V violation for failure to establish adequate weld rod controls.
- (8) Severity Level V violation for failure to stop work at hold points.

b. Conclusion

Category: 2

Trend: Improved

c. Broad Comments

Performance was evaluated as Category 2 during the previous SALP assessment. The conduct of activities in this area showed a proper concern for nuclear safety. No decrease in licensee or NRC attention is recommended.

4. Surveillance

a. Analysis

During this assessment period inspections of surveillance activities were performed by the regional and resident inspection staff.

The licensee's surveillance program was generally well established and implemented. Scheduling and completion of surveillances have been timely and have received adequate management attention. Additional programs for surveillance tracking and auditing have been established and implemented to ensure complete compliance with requirements. Considerable inspection effort has not identified any missed Technical Specification requirements. However, violations (1) and (2) below indicate inadequate controls to ensure proper testing of the ventilation filtration systems. Inadequate licensee oversight of contractor support appeared to be contributory to this problem. The licensee should review this program for technical adequacy to ensure comprehensive corrective actions. Reviewed as a program, surveillance and inservice inspection and testing activities were well controlled. Management attention in this area was evident. Three reportable events were identified through surveillance activities, but none were a result of improper performance of surveillance activities. Even though this program has few regulatory issues identified, the licensee has included surveillance tests in its procedural upgrade program. Three violations were identified during the assessment period:

- (1) Severity Level IV violation for failure to conduct adequate surveillance tests on charcoal and absolute filters for ventilation systems.
- (2) Severity Level IV violation for failure to conduct adequate visual inspections on ventilation system equipment.
- (3) Severity Level V violation for inadequate functional testing after calibrations.

b. Conclusion

Category: 1

Trend: Same

c. Board Comments

Performance in this area was evaluated as Category 1 during the previous SALP assessment. Licensee management involvement in this area was evident. No decrease in licensee or NRC attention is recommended.

5. Fire Protection

a. Analysis

During this assessment period, routine inspections were performed by the resident inspection staff.

No violations were identified. Fire protection administrative procedures were generally adequate. The plant fire protection staff was highly motivated, and staff morale appeared high. The licensee utilized the South Carolina Fire Academy for training and this resulted in a highly knowledgeable staff. Staffing levels appeared to be above average. Training in fire response appeared to be above average, but training on detailed actuation system design appeared only average. Contributing to this problem was a lack of up-to-date, correct wiring diagrams for the actuation and detection system. Management attention was applied to rectify this contractor support problem and drawings are being upgraded.

The inspection effort in this area has been considerable due to the problems identified at the Brunswick Station. The lack of violations identified and the inspector's observations showed the H. B. Robinson program to be strong overall and to be receiving high management attention.

b. Conclusion

Category: 1

Trend: Not Determined

c. Board Comments

Performance in this area was not rated during the previous SALP assessment. The Category 1 rating in this area was based on a limited number of inspections performed by the resident inspectors. No decrease in licensee or NRC attention is recommended.

6. Emergency Preparedness

a. Analysis

During the assessment period, inspections were performed by the resident and regional inspection staffs. This effort included two routine inspections and observation of and participation in a full-scale emergency exercise.

A well staffed corporate emergency preparedness organization provides support to the plant organization. All key positions in the plant and corporate emergency planning programs were filled. Corporate management has been directly involved in emergency preparedness activities. An effective tracking system exists for managing emergency preparedness followup issues.

During the inspections, the following essential elements for emergency response were found acceptable: emergency preparedness training; changes to the emergency preparedness program; shift

staffing and augmentation; notification and communications; public information; emergency classification; post accident measurements and instrumentation; dose projection and assessment; emergency worker protection; and QA audits of plant and corporate emergency preparedness program. One violation concerned the licensee's failure to incorporate into the emergency plan and the implementing procedures guidance consistent with Federal guidelines regarding protective action decision-making during general emergencies. In response to this violation, the licensee implemented a logic matrix for use by operating personnel to determine emergency actions. In addition, the licensee has developed and implemented an improved emergency response training program for key personnel. The training program includes more practice drills to increase staff capability to handle abnormal conditions.

The full-scale exercise disclosed that the plan and procedures could be effectively implemented by the licensee's staff, although several areas for improvement were noted by the NRC and the licensee. Licensee critiques of emergency response activities during the annual drill have improved, but management attention should continue to be directed towards this area.

The licensee appeared to be responsive to the concerns identified. Corporate and site management appeared to be supportive of emergency preparedness programs and issues and were directly involved in site activities during the above exercise.

One violation was identified:

Severity Level IV violation for failure to implement procedural guidance regarding protective action recommendations.

b. Conclusion

Category: 1

Trend: Improved

c. Board Comments

Performance in this area was evaluated as Category 2 during the previous SALP assessment. It appears that the licensee has devoted the proper amount of management attention to this area. The adequacy of the interim emergency facilities is marginal; however, this problem has been recognized by the licensee and new emergency response facilities are under construction. No decrease in licensee or NRC attention in this area is recommended.

## 7. Security and Safeguards

### a. Analysis

During this assessment period inspections of security and safeguards activities were performed by the regional and resident inspection staffs.

Security staffing was minimal and resulted in violation (4) being issued. Training appeared to be adequate. The licensee was responsive to NRC initiatives except for minimal staffing of the security force. The licensee continues to expend an excessive amount of time and effort maintaining security equipment that should have been upgraded; this was identified previously as a minor programmatic weakness. While the licensee's compensatory measures have been adequate, increased emphasis on security equipment upgrade and staffing was needed. During the latter portion of the SALP period, action was taken by licensee management to increase security staffing at the site. The site security group is being transferred to a new manager and the licensee has committed to adding additional security personnel. A major upgrade of the security system was in progress at the close of the SALP period which will include a new security computer system and access control/logging/monitoring equipment. Licensee handling of significant issues and responsiveness to correcting problems has been adequate; and improvement was noted.

Four violations were identified during the assessment period. These violations were considered isolated and not indicative of a programmatic breakdown. The violations did indicate some weaknesses in access controls, security force staffing and contractor management's sensitivity toward security violations. The licensee was responsive and initiated prompt and extensive corrective actions, including contractor awareness training. The violations identified were:

- (1) Severity Level III violation for failure to implement vital area access controls.
- (2) Severity Level IV violation for failure of contract security supervisors to notify licensee management of violation (1) above.
- (3) Severity Level V Violation for failure to implement protected area access controls.
- (4) Severity Level V Violation for failure to properly man the central alarm station.



b. Conclusion

Category: 2

Trend: Same

c. Board Comments

Performance was evaluated as Category 2 during the previous SALP assessment. Licensee resources were reasonably effective such that satisfactory performance with respect to security and safeguards was achieved. No decrease in licensee or NRC attention in this area is recommended.

8. Refueling

a. Analysis

During this assessment period inspections of refueling activities were performed by the regional and resident inspection staffs.

A refueling outage commenced in January 1984 and was in progress at the end of this assessment period. No violations and only minor followup items were identified. Preparations for defueling and review of procedures were found to be adequate. Fuel handling activities were observed and found to be in compliance with applicable technical specifications and regulations. The reactor engineering staff was adequate, and the licensee has provided the reactor engineering section with more training and interface guidance. These actions have improved liaison between the plant and the corporate fuel section. The licensee's extensive preparation for this long outage has resulted in reduced exposure to workers while meeting outage schedule goals.

During the assessment period, the licensee implemented a new concept in outage management. The use of the new outage organization has allowed the licensee to better track ongoing and projected work activities while ensuring the completion of documentation.

b. Conclusion

Category: 1

Trend: Improved

c. Board Comments

Performance was evaluated as Category 1 during the previous SALP assessment. Licensee management attention was aggressive in this

area. No decrease in licensee or NRC attention in this area is recommended.

## 9. Licensing Activities

### a. Analysis

The assessment of licensee performance was based on an evaluation of the following licensing activities:

- Project Management Administration
- Adequacy of Station Electrical Distribution, (B-48)
- Containment Pressure Setpoints
- NUREG-0737, items II.F.1.4, 5, and 6
- Miscellaneous Technical Specification Revisions
- Steam Generator Repairs
- Radwaste Scaling Factors
- Appendix R (Fire Protection)
- Radiological Technical Specifications

In general, management involvement has improved. Corporate management has usually been involved in site and corporate licensing activities, and responses have generally been timely. Monthly management status meetings have been established between the NRC and licensee representatives. Management has generally taken a more active role in technical problems and meetings as compared with the previous reporting period. Improvement was evident during this SALP period in the licensee approach to resolution of technical issues. Generally acceptable resolutions were proposed. Licensee understanding of the issues was apparent and conservatism was generally exhibited, which allowed for timely resolution of the issues.

The monthly meetings between the NRC and the licensee have allowed for responses to be viable and timely, with infrequent extension requests. Only one issue of those reviewed for this SALP period has continued for an extended period - Appendix R exemptions.

The licensee has recognized the problems with closing out open items and management has taken the initiative in making changes in the organization and staffing to improve this situation. Additional corporate licensing personnel as well as an onsite licensing representative, have been added, to improve communications between the corporate headquarters and the plant site. Executive management has taken an active role in this area, and the results show improvement over the previous evaluation period. The recent reorganization ensures that project reporting will come from onsite except in the areas of quality assurance, nuclear safety, and training. Previously project personnel reported to corporate.

An overall comparison between the previous SALP period and this period demonstrates a significant improvement in all areas, particularly in management involvement.

b. Conclusion

Category: 2

Trend: Improved

c. Board Comments

Performance was evaluated as Category 3 during the previous SALP assessment. Management involvement in this area was evident.

10. Quality Assurance

a. Analysis

During this assessment period, routine inspections were performed by the resident and regional inspection staffs.

The corporate quality assurance staff was reorganized in June 1983. Reporting to the Corporate QA Manager are the Construction QA/QC Manager (responsible for the Harris site); the Operations QA/QC Manager (responsible for the Brunswick and Robinson sites); and the QA Services Manager (responsible for the QA engineering staff, vendor surveillance staff, Performance Evaluation Unit staff (PEU), and the QA training and administrative staffs).

This reorganization has strengthened corporate QA by providing direct management supervision overseeing various staff activities. The following changes were in progress at the end of the SALP period:

Increased management attention was being exercised to assure regulatory compliance relative to auditing activities.

The Corporate QA staff was being increased by five additional personnel.

The Corporate QA procedures were being rewritten to make them more understandable and implementable.

A proposed Topical Quality Assurance Program was being written.

A contract was being considered for increased auditor training.

Auditing functions were performed by the PEU. Audits were generally complete and thorough. However, interviews with QA personnel indicated that approximately 75% of the auditor's time was devoted to paperwork reviews. Consequently, audit findings were somewhat limited to verification that records were properly completed. Due to as many as 10 to 12 areas being covered during an audit, findings tend to be shallow even though the audit met regulatory requirements. With an increased amount of audit training and an increased number of personnel, it is expected that audits will become more effective in determining the overall acceptability of the quality assurance program. Auditing records and training records for audit personnel were generally complete, well maintained, and available for review.

The licensee was generally responsive to NRC QA initiatives. Of eight previously identified NRC items, seven were closed based on NRC review of completed corrective actions. The remaining item had appropriate corrective actions in progress.

Special inspections were conducted of licensee preplanning for the steam generator replacement. Appropriate management controls had been directed to this effort. The onsite QA/QC group was expanded to support this activity.

The licensee has generally adequate QA procedures and policies as evidenced by NRC review and discussions with QA personnel. The onsite QA organization has continued to establish new procedures and revise existing QA inspection and surveillance procedures in an effort to provide improved inspection techniques in a broader range of technical areas. Licensee records were generally well controlled and easily retrievable. Procurement activities appeared well controlled and documented. Onsite QA personnel at all levels were consistently responsive to NRC concerns and correction of enforcement items. Reviews of onsite QA nonconformance reports indicated that surveillance and inspection activities were generally thorough. Corrective actions for the items identified were usually adequate to above average.

Onsite QA staff training appeared adequate, although the violations below indicate some lack of attention to detail. Staff training has improved in the area of plant operations surveillance, as the licensee has sent some onsite QA inspectors to the basic plant systems course. This is expected to improve the depth of inspection in the technical area of plant operations. The technical expertise of the onsite QA staff has improved over the assessment period due to increased training and experience and due to supplementing the staff with contractor personnel. Additional enhancement of this area should continue in order to ensure in-depth review of highly technical and specialized functional areas.

The PEU conducted adequate audits at Robinson. Increased corporate level management attention to the audit function was noted during the assessment period and corrective actions have generally been implemented to assure that audits were conducted at proper frequencies with reports and responses issued in a timely manner. The licensee has not made significant progress in the use of audit teams supplemented by individuals with special expertise. Increased temporary use of individuals with detailed operations, maintenance, engineering, and health physics expertise has not been evident in PEU audits and should be used for technical viability.

Two violations were identified during the assessment period and did not indicate a programmatic breakdown.

- (1) Severity Level IV Violation for an inaccurate statement concerning corrective action that was taken in response to a violation and which was not identified during QA inspection activities.
- (2) Severity Level V Violation for failure to establish an adequate inspection program.

b. Conclusion

Category: 2

Trend: Improved

c. Board Comments

Performance was evaluated as Category 3 during the previous SALP assessment. Licensee resources appeared adequate in this area. No decrease in licensee or NRC attention is recommended.

B. Supporting Data

1. Reports Data

a. Licensee Event Reports (LERs)

Thirty-four LERs were reviewed for Robinson Unit 2 for this assessment period.

These reports were categorized in terms of SALP functional areas as follows:

Operations	10
Maintenance	18



Surveillance	3
Quality Assurance	1
Radiation Protection	2

The LERs for this plant were evaluated for completeness and accuracy. Component failure prompted the majority of LERs. The event descriptions were clear and detailed, and supplemental information was provided for every LER. In each case, the licensee made an attempt to determine the root cause of the event and possible implications of the event to other plant equipment. If numerous failures occurred, an investigation was conducted to determine if the problem might be generic. One weakness noted was that submission of supplemental LERs, for LERs having unresolved or incomplete corrective actions, was not timely. Two additional minor weaknesses were noted: inconsistent LER system coding for similar/identical events and similar occurrences not being referenced by LER number.

b. Part 21 Reports

None

2. Investigation and Allegation Review

One allegation involving the area of health physics was examined by the staff. It was not substantiated.

3. Enforcement Actions

a. Violations

Severity Level I, II - 0

Severity Level III - 2

Severity Level IV - 17

Severity Level V - 18

b. Civil Penalties

November 1983 - \$20,000.00 for one Severity Level III violation for failure to implement vital area access control.

March 1984 - proposed \$30,000.00 for one Severity Level III violation for failure to implement radiological and key control procedures associated with personnel entry into the reactor vessel sump.

c. Orders

March 14, 1983 - confirming licensee commitments on post-TMI related issues.

February 21, 1984 - confirming licensee commitments on emergency response capability.

d. Administrative Actions

None

4. Management Conferences

March 28, 1983: Enforcement Conference; radioactive waste shipment containing free liquid.

June 28, 1983: Management Meeting; status of planning and preparations for the steam generator replacement outage.

August 16, 1983: Enforcement Conference; safeguards violations.

February 23, 1984: Enforcement Conference; violations of radiation protection requirements and effectiveness of management controls.

V. PERFORMANCE ANALYSIS FOR BRUNSWICK 1 & 2

## A. Functional Area Evaluation

### Licensee Activities

Brunswick 1 started the assessment period in cold shutdown for a planned outage. The shutdown occurred on December 10, 1982. During the outage, major licensee activities at Brunswick 1 included refueling, torus modification, off gas system replacement, condenser retubing, analog instrument installation, TMI modifications and recirculation piping weld overlay. The unit restarted on August 26, 1983. The unit experienced approximately 275 days of planned outage time, plus 14 days of down time associated with four scrams. At the close of the period, Unit 1 was at full power.

Unit 2 began the period at power. At the end of the assessment period, Brunswick 2 was in a refueling and modification outage which began March 12, 1984, and is projected to last until early fall. The reactor has been defueled and work has begun on the torus modification, off gas system replacement, condenser retubing, analog instrument installation, TMI modifications and ten year inservice inspection program. During this period, two completed outages totaling 94 days were undertaken for TMI modifications, diesel generator starting circuit modifications and recirculation pipe weld inspection and overlay. The unit has experienced approximately 160 days of planned outage time plus 12 days of down time associated with 5 scrams.

Management attention was focused, during the assessment period, on implementation of programs and completion of the task to upgrade the overall performance of the Brunswick facility, as detailed in the Brunswick Improvement Program.

### Inspection Activities

Increased inspection efforts recommended in the previous SALP were manifested in the assignment of a third resident inspector to the site. Special inspections were conducted for emergency preparedness exercise, related inspections, steam jet air ejector (SJAE) radiation monitor inoperability event, standby gas treatment system (SBGT), deluge system isolation event, TLD tampering event, special safeguards inspection, and TLD transferring event. Enforcement conferences were held for three of the events: the SBGT deluge system; the SJAE radiation monitor event; and the security event. Brunswick was also the first site to undergo the NRC administered reactor operator and senior reactor operator requalification examinations.

#### 1. Plant Operations

##### a. Analysis

During the assessment period, inspections of plant operations were performed by the resident and regional inspection staffs.

Significant improvements in plant operations have been noted during the period, indicating significant management attention and direction of resources into this area. The Brunswick Improvement Program (BIP) initiated during the last SALP period, required the total rewrite of operations and annunciator procedures during 1983. This milestone was reached on time and resulted in a high quality tool that was well accepted by the plant staff. The operations unit was reorganized and a new Operations Manager and Principal Engineer were hired. The reorganization included a new position of Operations Superintendent whose job was to run the day-to-day affairs of the operating shifts. This change allowed the operations manager to better focus his attention to operational problems. The reorganization has worked very well. Administrative staffing increases to the operating shift have allowed a redirection of key supervisory individuals on shift from administrative to operational duties. The facility management continue to focus on the needs of the operations staff as shown through the progressive attitude toward the use of computer aids in the control room, control room appearance, human factors upgrade, and staff incentive programs. This dedication to improvement has resulted in a decrease in operator turnover overall improved morale, and fewer regulatory violations. A significant event occurred early in the period regarding the steam jet air ejector radiation monitor isolation. During the enforcement conference for this event, a high level of intensity toward detailed investigation on behalf of the plant staff to identify and correct root causes of problems was noted. This intense and aggressive attitude was a direct contributor to the decline in the number and significance of regulatory related events during the latter portion of the period. The staff continued to be very responsive to NRC initiatives.

Minor operator errors continued to occur. Operator inattentiveness led to suppression pool levels exceeding allowable limits; loss of a diesel generator due to failure to utilize appropriate procedure; and unit scram on mode switch changed by reactor operator. These errors, though individually not safety significant, must be overcome for the staff to achieve the expected levels of excellence.

Training of operations personnel has reached its highest level in plant history with the addition of new on-site training facilities, a plant specific simulator and a professional attitude toward the individual needs of students. Improved morale and confidence in the plant staff has resulted.

Licensed operator requalification training has improved due to a new training director being appointed and a new dedication to training shown by senior management. Many retraining program aspects, such as study material and classroom lectures, have been revised. Requalification training records were well maintained



and readily available. General Employee Training (GET) was being upgraded, with the previous two part program being revised to three parts. Implementation began in October 1983. GET training records were well maintained and retrievable. The site is presently implementing a formal Auxiliary Operator (AO) training program which is extensive and should reduce AO errors, and increase overall knowledge.

During the SALP reporting period, replacement examinations were administered to 20 Senior Reactor Operator (SRO) candidates and 17 Reactor Operator (RO) candidates during two site visits. Of the 20 SROs, 16 passed and of the 17 ROs, 11 passed. The passing rates of 80% for SROs and 65% of ROs are characteristic of the industry average.

In June 1983, requalification examinations were administered by the NRC to 15 randomly selected licensees including 8 SROs and 7 ROs. All candidates received a four category written examination and in-plant oral evaluations. Eleven of 15 passed the written examination while all passed the orals. Those who failed the written examination were removed from licensed duties and participated in accelerated retraining prior to being re-examined and returned to duties. On the basis of the written and oral pass rate, the Brunswick requalification program has been evaluated as satisfactory for the current year.

On-shift "real time" training on significant events, occurring both on-site and in the industry, provided for a timely operator awareness of potential problems. This concept began during this SALP period and has proven to be very beneficial.

Licensee investigation and analysis of reportable events improved with the advent of Operating Instruction OI-22, "Plant Incident and Post Trip Investigations" investigations. The redirection of Shift Technical Advisor and operating engineer time into this valuable area resulted in more in-depth reviews of events and led to the utilization of aids such as parameter trending to predict problem areas. This increased effort was warranted as two violations occurred early in the period for failure to make timely 10 CFR 50.72 reports (Violations (2) and (4) below). Continued emphasis on analytical problem solving techniques by shift personnel may aid in preventing errors associated with procedural deficiencies.

Nine violations were identified during the assessment period:

- (1) Severity Level III violation for the improper return of the SJAE radiation monitor to service.

- (2) Severity Level IV violation for failure to make a timely 10 CFR 50.72 report associated with Standby Gas Treatment deluge system.
- (3) Severity Level V violation for failure to implement Operating Procedure, OP 41.
- (4) Severity Level V violation for failure to make a timely 10 CFR 50.72 report associated with the SJAE radiation monitor.
- (5) Severity Level V violation for an inadequate procedure. Certain valve stem leakoff valves were not identified on the procedure's valve line-ups.
- (6) Severity Level V violation for failure to follow procedures leading to the existence of outdated procedures in the remote shutdown panel.
- (7) Severity Level V violation for an inadequate procedure which led to an inadvertent reactor scram. The procedure failed to identify that intermediate range monitors needed to be checked prior to mode switch changes.
- (8) Severity Level V violation for an inadequate procedure which failed to identify complete valve line ups.
- (9) Severity Level V violation for failure to post per 10 CFR 19.

b. Conclusion

Category 2

Trend: Improved

c. Board Comments

Performance was evaluated as Category 3 during the previous SALP assessment. The Board noted that significant improvement has been achieved during this period. Continued management and NRC attention will ensure that additional improvements are realized.

2. Radiation Controls

a. Analysis

During the assessment period, inspections were performed by regional and resident inspection staffs.

The radiation protection program continued to show improvement when compared to findings of the previous evaluation period. Health physics coverage of work in progress has increased since the previous SALP period. The radiation protection area accounted for one violation ((1) below) with two examples of failure to perform air sampling. One of these examples led to an internal deposition and was due to a worker performing unauthorized work.

The ALARA program was supported by management and contained several exposure reduction elements including the Radiological Information Management System which was added to provide a computer based Radiation Work Permit (RWP) Dosimetry record system and a management record system for exposure control and management.

During 1983, the total collective dose was 3492 man-rem. This is high as compared to about 2000 man-rem average for a two unit BWR, but a reduction from the previous year was evident. The high man-rem exposure for the plant was related to both units accumulating over 400 outage days during calendar year 1983.

The licensee has plant systems and other applicable training for the health physics technicians. Subjects are chosen to meet staff needs. Qualifications of contract technicians that are used to supplement the health physics staff are verified through a screening process prior to selection.

The licensee's efforts to decontaminate the contaminated areas in the plant have been very effective.

The health physics organization has specialists in the areas of in-plant health physics, dosimetry, respiratory protection, radwaste transportation and ALARA, and a technical support group. The unit added additional technicians and supervision over the past assessment period which made this organization highly effective in supporting plant maintenance and operations both during outages and normal operation. The health physics group has developed a good working relationship with other plant organizations, which made planning and worker protection easier.

The radwaste program, consisting of liquid, gaseous and solid radwaste, accounted for one violation (3) in the surveillance section below for failure to properly perform a step in the SJAE monitor calibration procedure. The licensee modified the Unit 1 gaseous waste system to allow additional hold up time for decay. This modification will be added to Unit 2 during a future outage period. The modification is expected to reduce the waste gas releases. During the latter half of the evaluation period, the licensee initiated an aggressive solid waste reduction program.

Although waste reduction methods were initiated, the waste volume will run above average for similar sized plants due to the large number of outage days in the period.

The radioactive waste transportation program received one violation ((2) below). This violation was in part due to inadequate procedures from a vendor for preparation of a cask for shipment. The radwaste transportation program was well managed.

The environmental monitoring program was effectively managed with adequate staffing and support at the site and the Harris Environmental Center, where the radioanalytical work was performed. Licensee investigation of the cause of elevated Co-60 concentrations in sediments from the discharge canal was adequate. The sampling frequency of sediments was increased to help identify the source of Co-60 and provide corrective actions. The environmental monitoring program was implemented in accordance with Radiological Environmental Technical Specifications.

One QC and confirmatory measurements inspection was performed during the evaluation period using the Region II Mobile Laboratory. No violations or deviations were identified. The inspection disclosed appropriate licensee QC actions in the counting room area to identify and correct an effluent measurement problem. The results for all liquid, gaseous and particulate samples analyzed showed agreement with the NRC analytical measurements. All other aspects of the laboratory program met or exceeded requirements.

Of the two violations identified during the evaluation period, none were indicative of major program weaknesses. The radiation protection, radioactive waste management, transportation, and environmental and quality control programs were well managed. The licensee was responsive in correcting the causes of the violations identified below:

- (1) Severity Level IV violation for failure to perform air sampling.
- (2) Severity Level IV violation for failure to prepare a radioactive material shipping cask as required by the NRC certificate of compliance.

b. Conclusion

Category: 1

Trend: Improved



c. Board Comments

Performance was evaluated as Category 2 during the previous SALP assessment. Licensee management attention was aggressive in this area. No decrease in licensee or NRC attention is recommended.

3. Maintenance

a. Analysis

During the assessment period, maintenance activities were inspected by the regional and resident inspection staffs.

Improvement was noted in management controls and involvement in assuring quality maintenance activities, identified as areas of concern during the previous assessment period. Specifically, previously identified areas of significant programmatic breakdown, such as post maintenance testing and calibration of technical specification associated instruments, now have programs established to address these problems. However, continued expansion and improvement are required to ensure uniformity of work practices. Maintenance instructions in many areas remain poorly understood, leading to decision making at a level which seldom ensures adequate management review. This area was being aggressively addressed with the addition of contract support to rewrite maintenance procedures. Supervisory presence in field maintenance activities showed significant improvement over the period.

The licensee's approach to the resolution of technical issues exhibited conservatism. The incorporation of industry standard as suggested by INPO and other organizations, led to improved craft skills which compliment the efforts of site QA in ensuring quality work on plant systems. The good interface between operations and maintenance caused obvious improvement in the development of coordinated staff resolution to complex system problems.

The licensee has been receptive to NRC initiatives. Problems of regulatory concern have subsided during the period as the licensee's programs evolved to address long-standing regulatory issues. Continued sensitivity in this area should lead to total resolution of regulatory concerns.

The previous SALP assessment addressed a concern in the field of training. The licensee, in response, added three training specialists to the maintenance staff to participate in maintenance on-the-job training. In addition, the maintenance manager was participating in SRO license training at the end of this evaluation period.



Improvements in performance were observed in upgraded procedural requirements, attention to detail, understanding of technical issues, and improved surveillance of vendors.

Although marked improvement has been observed, and only two violations were identified, the extensive problems identified in the previous SALP were not fully overcome. The licensee has a program in place, that when fully implemented, will create a high quality maintenance unit.

The violations identified in this area were as follows:

- (1) Severity Level III violation for failure to place an item on the Q List.
- (2) Severity Level IV violation for inadequate temporary procedure change control.

b. Conclusion

Category: 2

Trend: Improved

c. Board Comments

Performance was evaluated as Category 3 during the previous SALP assessment. Licensee resources were reasonably effective, such that satisfactory performance with respect to operational safety was achieved. No decrease in licensee or NRC attention in this area is recommended.

4. Surveillance and Inservice Testing

a. Analysis

Surveillance and inservice testing activities were inspected by the regional and resident staffs.

General Surveillance

During the review period, significant progress was made in program development as a result of management involvement promulgated by the Brunswick Improvement Program. This increased involvement led to corrective action systems that generally recognized and addressed both reportable and nonreportable events. The quality assurance and on-site nuclear safety groups' involvement has increased the technical overview of surveillance activities and has resulted in improved performance. Marginal procedures continue to plague efforts to significantly improve the groups'

performance. Use of these procedures by less experienced technicians contributed to violations (3) and (4), below. Present management emphasis on procedural improvements, as evidenced by a significant effort to rewrite periodic tests, has been recognized as a major step in correcting this long standing deficiency. Progress has been seen in the upgrading of technician training, such as through the use of vendor supplied simulators for complex integrated control system troubleshooting of the high pressure coolant injection (HPCI) and reactor core isolation cooling (RCIC) systems. The stressing of personnel accountability for work, improved training, and improved procedures provides the basis for adequately stated and understood policies in this area.

The licensee's approach to the resolution of technical issues provided for conservative, sound and thorough resolutions. This is exemplified in the correction of long standing problems with Average Power Range Monitor spiking and feedwater pump controllers performance. A more fundamental understanding of the importance of surveillance in the overall operation of the plant improved departmental relationships and resulted in unified approaches to plant problems. The licensee was receptive to NRC initiatives, as well as initiatives by other plant groups, and generally proposed acceptable resolutions. Continued close contact and a technically diversified staff should provide for continued improvement of regulatory understanding in the surveillance area.

#### Inservice Inspection and Testing (ISI, IST)

Corrective actions initiated by the licensee to strengthen their surveillance and inservice testing programs began to achieve positive results early in the reporting period. The licensee's inservice testing program for pumps and valves reviewed during late July 1983 reflected the licensee's commitment to a quality program. The results of this review indicated the following:

The licensee had submitted a comprehensive IST program. When required, the licensee quickly submitted a revision to the IST program that included acceptable resolutions of outstanding items.

The licensee had established an engineering group specifically for IST surveillance.

The licensee had developed a computerized tracking system for IST surveillance testing and was implementing the IST program as required.

With the help of a contractor, all of the IST procedures had been reviewed and updated.

Throughout discussions with licensee personnel, there were repeated references to corporate management involvement in the upgrading of the IST program.

As related to surveillance of welding and inservice inspection activities: CP&L's progress in pre-planning, staging, and executing outage activities; housekeeping, care and preservation of equipment; personnel training and employee attitude; and CP&L's cognizance of vendor personnel and production showed marked improvement.

The violations identified in this area were as follows:

- (1) Severity Level V violation for failure to provide a procedure to test isolation of mechanical vacuum pumps.
- (2) Severity Level V violation for an inadequate procedure for testing of SBT system dampers.
- (3) Severity Level V violation for failure to follow the procedure for calibration of the SJA radiation monitor.
- (4) Severity Level V violation for failure to follow ISI procedure for recording angle beam data.

b. Conclusion

Category: 2

Trend: Improved

c. Board Comments

Performance was evaluated as Category 3 during the previous SALP assessment. The proper amount of management involvement was directed to this area. No decrease in licensee or NRC attention is recommended.

5. Fire Protection

a. Analysis

During this assessment period, inspections of fire protection activities were performed by the resident inspection staff.

Early in the assessment period, serious breakdowns in the implementation of the fire protection program, brought about by poorly stated, poorly understood, or non-existent policies, and general lack of management's involvement and control, led to a civil penalty which was assessed in February 1984 ((1) below). Lack of

personnel training and management support was further reflected in violations (3) and (4), below.

Immediate and significant management attention was observed by NRC subsequent to inspections surrounding events related to the civil penalty. Restructuring of the fire protection group and placement of an operations principal engineer directly responsible for fire protection activities resulted in an increased visibility and understanding of the role of fire protection in plant activities. An aggressive, thorough program is underway, dedicated toward identifying and correcting program deficiencies.

Licensee management, in written responses to the civil penalty actions, outlined a far reaching program aimed at elevating the status of the fire protection function to a level of safety well beyond minimum Technical Specification requirements. This was expected to eliminate future problems in this long standing weak area. The improvements were to include the areas of training and procedures.

An increased number of personnel, additional experience gained in past events, and continued management attention have led to significant improvement through this period.

Violations identified during this assessment period were as follows:

- (1) Severity Level III violation for exceeding the limits of a Technical Specification action statement associated with the SBT deluge system.
- (2) Severity Level IV violation failure to post a fire watch where required by Technical Specifications.
- (3) Severity Level IV violation for failure to implement surveillance procedures.
- (4) Severity Level IV violation for failing to submit special reports required by Technical Specifications.
- (5) Severity Level IV violation for failure to follow a procedure associated with positioning of yard fire main valves.

b. Conclusion

Category: 2

Trend: Improved

c. Board Comments

Performance was evaluated as Category 3 during the previous SALP assessment. Licensee resources appeared to be properly applied in this area. No decrease in licensee or NRC attention is recommended.

6. Emergency Preparedness

a. Analysis

During the assessment period, inspections were performed by regional and resident inspection staffs. These included observation of a full scale emergency exercise. The routine inspection addressed emergency response and the related implementing procedures.

A well staffed corporate emergency response planning organization provided support to the plant organization. Key positions in the corporate emergency response planning organizations were filled with experienced personnel. Corporate management was committed to emergency response programs and had direct involvement in the annual exercise and followup critiques. The plant emergency planning program includes a highly qualified, full time emergency preparedness coordinator. Plant management demonstrated keen awareness of emergency preparedness issues and was supportive of staff needs. The licensee was responsive to NRC initiatives.

A good working relationship and high degree of cooperation exist between the plant and offsite emergency support organizations.

The following essential elements for emergency response were found to meet or exceed standards: the method for revision, review and approval of emergency preparedness program plans and procedures; emergency detection and classification; notification and communications; public information; shift staffing and augmentation; training; dose calculation and assessment; emergency worker protection; post accident measurements and instrumentation; and, annual QA audits of plant and corporate emergency planning program.

One exercise clearly demonstrated that the emergency preparedness program plan and respective procedures could be effectively implemented by the licensee's emergency organization. During the exercise, the plant emergency director demonstrated firm direction and control over the emergency organization.

Licensee critiques of emergency response activities during the annual exercises were thorough and effective. Tracking systems were established as a means of ensuring corrective action on exercise and drill identified items. Significant improvement in



onsite emergency response facilities was also noted. At the end of the assessment period, the licensee's new emergency response facilities were nearly completed. These facilities will be reviewed during the forthcoming appraisal.

One deficiency was identified as discussed below.

The licensee's plan and procedures did not incorporate federal guidance requiring that protective action decisions be based on plant conditions. The guidance further requires that, in a general emergency, the licensee make a recommendation for precautionary evacuation of a two-mile radius around the plant. The licensee was immediately responsive to the NRC finding. In response, the licensee initiated development of a logic matrix to assist the shift supervisor in directing implementation of the emergency plan.

b. Conclusions

Category: 1

Trend: Improved

c. Board Comments

Performance was evaluated as Category 1 during the previous SALP assessment. Licensee management attention in this area was aggressive. No decrease in licensee or NRC attention is recommended.

7. Security and Safeguards

a. Analysis

During this assessment period, inspections of security and safeguards were performed by the regional and resident inspection staffs.

Security staffing was adequate and performed in a professional manner. Training of personnel was thorough, and was reflected in job performance. Personnel morale was good. The licensee was responsive to NRC initiatives. The licensee continues an aggressive program of repairing and maintaining security equipment. This effort reduced compensatory measures by 26,000 man-hours compared to the previous period. Site management supported the security program, and security awareness was positive. Licensee handling of significant issues and responsiveness to correcting problems was good.

Two violations were identified during the assessment period. Although one Severity Level III violation ((1) below) was issued, no civil penalty was imposed due to prompt corrective action.

Two violations were identified during the period as follows:

- (1) Severity Level III violation for an authorized employee entering the protected area without being searched and without a security badge.
- (2) Severity Level IV violation for having a designated vehicle in the protected area which was not secured and which had a key in ignition.

b. Conclusion

Category: 1

Trend: Same

c. Board Comments

Performance was evaluated as Category 1 during the previous SALP assessment. Licensee resources were effectively used such that a high level of performance was achieved. No decrease in licensee or NRC attention is recommended.

8. Refueling

a. Analysis

During this assessment period, numerous inspection man-hours were expended in refueling operations by the resident inspection staff.

Activities on the refueling floor and in the control room showed evidence of prior planning and assignment of priorities. Well stated, clearly defined procedures were utilized for control of activities. Management involvement and control improved significantly compared to the previous period. This performance improvement is expected to continue.

During the latter part of the SALP period, the site reorganized and created an outage management section. In previous extended outages, the licensee had not effectively managed the ongoing activities. This was evident from the long outage time estimate overruns that occurred. This new management concept appeared to be the solution to previous problems, in that Unit 2 is well into an extended outage and was within one day of schedule at the close of the assessment period. Strong management and the addition of computerized outage scheduling appeared to have solved previous problems.

## b. Conclusion

Category: 1

Trend: Improved

## c. Board Comments

Performance was evaluated as Category 3 during the previous SALP assessment. Licensee resources were ample and oriented toward nuclear safety. No decrease in licensee or NRC attention in this area is recommended.

## 9. Licensing Activities

## a. Analysis

The assessment of licensee performance was based on an evaluation on the following licensing activities:

- Project Management Administration
- Response to NUREG 0737 Items
- Control of Heavy Loads
- Environmental Qualification
- Mark I Containment
- Spent Fuel Pool Expansion
- NUREG 0737 Supplement I Items
- Adequacy of Station Electric Distribution System
- Masonry Wall Design
- Radiological Effluent Technical Specifications
- NUREG 0737 Technical Specifications
- Reactor Protection System Review
- Pipe Crack Inspection
- Containment Vent and Purge Review
- Reload Review
- 17 Additional Technical Specification Change Licensing Actions

Direct involvement by corporate officers and other corporate management was highly evident during this period. In particular, close attention to the battery problem, Appendix R, and Environmental qualification, showed the positive results of direct involvement of management in producing a high quality product. In the case of the battery problem, a project organization was established with appropriate technical expertise as well as management attention and involvement. Several issues involving amendments which were part of the Brunswick Pilot Effort\* were

\*On about October 1, 1983, a special cooperative effort was begun by CP&L and NRC to clear up as much of the Brunswick Licensing backlog as possible in a short time (3 or 4 months). This special effort is referred to as the Brunswick Pilot Effort.

delayed by slow responses and poor communication within CP&L. Upon bringing the problem to the attention of CP&L management, there was a quick response to correct the situation for the immediate problem as well as for the long range future.

Steps were taken to increase CP&L licensing staff, communications, and effectiveness on a permanent basis. For example, a licensing staff member will be located at the Brunswick site and an additional staff member was added in the corporate office. Monthly review meetings were instituted to review the status of licensing actions.

There appeared to be a clear understanding of most technical issues, and workable approaches were taken to resolve them. The overall technical competence was good. Sound technical basis and conservatism were generally provided to support the licensee's positions. These attributes were most aptly demonstrated in responding to the actions on the battery problem, where the personnel involved exhibited a clear understanding and conservative approach to its solution. Responses to NRC initiatives were usually timely. For those that were late, the licensee usually provided advance notice to the NRC. The timeliness problems that developed during the Brunswick Pilot Program were resolved.

The licensee's staff for implementing licensing actions was adequate. While there was a period during the pilot effort where the licensee's staff was not as responsive as necessary, steps were taken by CP&L management to improve the situation. The licensee plans to increase the licensing staff by one at the plant and one at the corporate office.

The licensee's staff has demonstrated willingness to work with the NRC in a timely manner. They have an understanding of plant design and operations. Their responsiveness in most licensing issues was impressive. Management capability in licensing was strengthened, and the licensee made a strong commitment to licensing activities.

b. Conclusion

Category: 2

Trend: Improved

c. Board Comments

Performance was evaluated as Category 3 during the previous SALP assessment. The Board noted that considerable improvement was achieved during this period. Licensee performance during the latter portion of the period was at the Category 1 level. No decrease in licensee or NRC attention is recommended.

## 10. Quality Assurance

### a. Analysis

During this assessment period, routine inspections were performed by the resident and regional inspection staffs.

The corporate quality assurance staff was reorganized in June 1983. The new organization and functions are described in the Robinson section of this report.

Audit records and training records for audit personnel were generally complete, well maintained, and available for review. Corporate presence on site recently improved. The last audit revealed an improved attitude toward providing substantive feedback to the site beyond minor editorial comments. The effort to fully understand findings, and demand conclusive long-term corrective actions for meaningful audit findings, can be provided by those persons experienced in the areas being audited. For this reason, the QA organization needs to be innovative in its efforts to improve its service to CP&L, such as using qualified personnel from other sites to provide indepth critical reviews.

The corrective action system generally recognized and addressed nonreportable concerns. With increased management attention to regulatory commitments, audit findings were being tracked and closed in a more timely manner. Where corrective action problems occurred, escalation to a higher level of management was used to obtain resolution. The onsite QA surveillance group was involved with increased open item tracking mechanisms and has obtained timely resolution of identified problems. Procurement activities were generally well controlled and documented. Minor problems were identified with vendor qualifications and distributors. The problem with vendor qualifications was evaluated and corrected. The problem with distributors was under evaluation. The facility experienced a few problems of minor significance in the design control or verification program. Two problems were identified, and involved the need to clarify regulatory specialist and Plant Nuclear Safety Committee review responsibilities. These were being evaluated by the licensee at the close of the assessment period.

The licensee was generally responsive to NRC QA initiatives. Of fourteen previously identified items, twelve were closed based on NRC review of completed corrective actions. The remaining two items could not be closed during the assessment period; however, appropriate corrective actions were in progress.

The site QA staff significantly improved its onsite presence and its performance reflected the increased attention required by the previous SALP.



The QA surveillance group performed inspections of licensee commitments to NRC and other agencies in a prompt and professional manner, which reinforced and enhanced the overall quality of the site preparation and issue of important correspondence. The quality of technical inspections, in many cases, was very good. Preparation for, and insight into, the particular area in which the surveillance was performed was also good. This type of insight was possible because of the addition of operations experienced personnel and QA engineers to the staff. QA management onsite appeared dedicated to continued improvement of both the administration and execution of the program. Examples of recent improvements are: the Director of QA personally reviewed all significant Nonconformance Reports (NCRs); NCRs were categorized according to severity in order to eliminate complacency associated with issuance of numerous NCRs on both safety and nonsafety subjects; and, escalation of inadequate responses were streamlined to provide for more prompt management involvement. This progressive attitude toward the QA function on site improved the relationship of QA with other site organizations. Onsite QA continued to be responsive to NRC concerns.

An area where present and future efforts needed to be increased was the overall QA visibility and involvement. To continue to evolve into a service organization, which provides an obvious return for the manhours expended, QA needs to take a more aggressive role in interpreting and promoting high quality standards; (e.g., QA expanding hold points in procedures, quality inspections which go beyond the scope of specific tasks, and providing a quick and easy mechanism for general employee feedback). Senior management was dedicated to increasing QA's presence and quality.

One violation was identified during this evaluation period.

Severity Level V violation for failure to have adequate procedures to control the review, approval, and issuance of enhanced control drawings.

b. Conclusion

Category: 2

Trend: improved

c. Board Comments

Performance was evaluated as Category 3 during the previous SALP assessment. Improvement was noted. However, NRC and strong management attention should continue.

## B. Supporting Data

## 1. Reports Data

## a. Licensee Event Reports

During the assessment period, there were 60 LERs reviewed for Unit 1, and 85 for Unit 2. The distribution by SALP Functional Area is shown below:

## SALP Functional Area

<u>Category</u>	<u>Unit 1</u>	<u>Unit 2</u>
Operations	34	67
Maintenance	1	0
Surveillance	20	10
Fire Protection	3	1
Quality Assurance	2	7
TOTAL	<u>60</u>	<u>85</u>

The LERs were evaluated for completeness clarity, understandability and adequacy of content. The LERs were assessed to provide sufficient data to give clear and adequate descriptions of the occurrences, their direct consequences, and the corrective actions taken. The LERs were correctly coded and the codes agreed with the narrative descriptions. Supplementary information and followup report were submitted as applicable. The review indicates that the licensee provided adequate event reports during the assessment period.

## b. Part 21 Reports

None

## 2. Investigation and Allegation Review

Three allegations involving health physics were examined. None were substantiated. One allegation involving improper Quality Assurance practices was not substantiated.

## 3. Enforcement Actions

## a. Violations

Severity Level I	-	0
Severity Level II	-	0
Severity Level III	-	4
Severity Level IV	-	9
Severity Level V	-	12

b. Civil Penalties

Severity Level III Violation for \$40,000.00 for closed deluge valves in the fire protection system.

c. Orders

No orders relating to enforcement matters were issued.

d. Administrative Action

None

4. Management Conference

March 18, 1983 - Management Conference - Status of the Brunswick Improvement Program

March 28, 1983 - Enforcement Conference - Standby Gas Treatment Deluge System

April 26, 1983 - Enforcement Conference - CP&L's Action Relative to Q-list Equipment

May 18, 1983 - Enforcement Conference - Inoperability of Unit 2 Off Gas Radiation Monitor

July 8, 1983 - Management Conference - Outstanding CP&L Regulatory Issues

July 27, 1983 - Enforcement Conference - Breach of Plant Security

August 31, 1983 - Management Conference - Restructuring of CP&L's Corporate Organization

December 9, 1983 - Management Conference - Review of CP&L Management Initiated Changes

VI. PERFORMANCE ANALYSIS FOR HARRIS 1

## A. Functional Area Evaluations

### Licensee Activities

Between February 1, 1983, and April 30, 1984, the construction project progressed from 77% complete to 84% complete. In December of 1983, CP&L announced the cancellation of Unit 2. Since the cancellation of Unit 2, site staffing has increased for Unit 1 to a point where construction activities are in progress on three shifts. Currently, the project has approximately 5,000 employees.

Significant construction progress was made in the areas of equipment installation, installation and welding on large and small bore piping, concrete, and structural steel. Although progress was made in the areas of electrical (raceway, cable pulling and terminations), the completion of work in this area was reduced due to rework and reinspection activities on cable tray hangers.

Work efforts in the area of pipe hangers accelerated during the assessment period but a revision of the inspection program and procedures, which resulted in reinspection requirement for all completed pipe hangers, has reduced the overall progress in this area.

The operations department has become more active and is manning the control room on a 24 hour basis. They now have control of all equipment turned over to operations, maintain overall systems status, and control the operation and safety tag out of equipment. The operations maintenance group performs all maintenance on permanent plant equipment after installation in the power block. The startup testing group received over 400 turnover packages during this period, and are actively testing these components and systems.

### Inspection Activities

The routine inspection program was performed during this evaluation period. The Regional Construction Assessment Team conducted an indepth review of site management during the summer of 1983.

#### 1. Soils and Foundations

##### a. Analysis

Inspections were performed in this area by the regional inspection staff. The NRC examined design criteria, quality assurance implementing procedures, and specifications, and observed backfill operations, calibration controls on soil testing equipment, and quality records for ongoing work in the powerblock. The NRC also examined quality records and controls for the dam inspection program on the main and west auxiliary dams.



Examination of procedures and specifications, work activities, and quality records, showed that the licensee has an excellent quality assurance program for control of backfill operations and the dam inspection program. Procedures and specifications meet NRC requirements and industry standards. Work activities were performed in accordance with the procedure and specification requirements. No violations were identified in procedure adequacy, work activities, or documentation of work activities. Quality records were well maintained and readily retrievable. Discussions with QC inspectors indicated they were knowledgeable in specification and procedure requirements, and are documenting their inspections on applicable documents. Staffing in this area is appropriate for the level of activity involved.

No violations were identified in this area.

b. Conclusion

Category: 1

Trend: Not Determined

c. Board Comments

Performance in this area was not rated during the previous SALP assessment. Licensee management attention and involvement were aggressive in this area. The rating in this area was based upon limited inspection activity. Because of the limited inspection activity, no trend could be determined.

2. Containment and Other Safety Related Structures

a. Analysis

Inspections were performed by the resident and regional inspection staffs during the assessment period. The inspections involved: review of QA implementing procedures; observation of work activities, including containment structural steel, containment concrete, rebar installation, grounding cable, cadwelding, and embed plates; and, review of quality records.

One violation ((1) below) in the concrete area was identified involving two examples of inadequate procedures. Procedure WP-29, Grouting, was inadequate in that it did not address the hand method used in mixing the cement and sand ingredients, and did not stress the importance of thorough blending of the cement and sand. Review of test data for grout cubes showed that some grout cubes were under strength as a result of improper blending of the cement and sand. The second example involved procedure TP-36, Structural Steel Inspection. The procedure was inadequate in that it required extra flat washers to be used for oversize holes, but did

not provide for documentation of inspection for oversized holes. With the exception of the above minor violation, QA/QC procedures and controls were found to meet NRC requirements and work activities were found to have been performed in accordance with those QA/QC procedures.

The review of quality records led to the conclusion that they were well maintained and readily retrievable.

Observations by NRC of problems that arose during concrete placements indicated that licensee supervision was actively involved in having problems with concrete placements addressed and corrected. Observations and discussions with licensee inspectors indicated that staffing and training were adequate for current work activities. The licensee was responsive in correcting the violation concerning inadequate procedure instructions.

During the assessment period inspection effort was performed in the area of steel structures by regional and resident inspection staff. Included in these inspections were: observation of work for safety related structures outside the containment; procedure review; observation of work and review of quality records for containment penetrations; observation of welding heat treatment and review of quality records for safety related structures within the containment.

Quality assurance/quality control personnel were well qualified for their job functions and knowledgeable in procedural requirements. Staffing in this area was adequate for the level of construction activity. Records were generally complete, well maintained and available.

Two violations were identified which were not indicative of a program breakdown.

- (1) Severity Level V violation for inadequate procedures for mixing and blending of cement and sand ingredients of grout, and for failure to document inspection of oversize holes in structural steel bolted connections.
- (2) Severity Level V violation for failure to provide adequate procedures for structural installation.

b. Conclusion

Category: 1

Trend: Same

c. Board Comments

Performance was evaluated as Category 1 during the previous SALP assessment. Licensee resources were effectively used such that a high level of performance was achieved. No decrease in licensee or NRC attention is recommended.

3. Piping Systems and Supports

a. Analysis

During the evaluation period, inspections were performed by the regional and resident inspection staffs.

Inspections included reviews of the program and procedures; observation of work activities; and review of records in the areas of: pipe welding, structural welding, welder qualification, welding filler material control, welding repair, pipe supports, pipe storage, and preservice inspection.

In the early portion of this assessment period, the licensee conducted an evaluation of the hanger erection program. This evaluation was prompted by construction management's review of the problems identified, experience gained in the early phases of hanger erection, discussions with other utilities, program deficiencies which had been identified by the licensee and the NRC that required reinspection of previously accepted work, and the projected acceleration of work in this area. The results of this evaluation indicated a strong need for program revision and additional emphasis in this area. Based upon the above, the licensee, in July 1983, stopped all inspections and reduced the work activity in this area to permit an orderly revision of this program.

The following changes were implemented. The work and inspection procedures were revised and additional training was conducted for engineering, craft, and inspection personnel. The hanger construction activities were placed under the control of the resident mechanical engineer. The piping group was reorganized, and staffing levels were increased from 24 to 117 personnel in the piping group. A resident engineer was assigned to the hanger group, and staffing levels in this area were increased approximately 300 percent. The majority of these newly assigned personnel had experience from recently completed nuclear plants. To provide direct assistance to the erection crews, a hanger engineer was assigned to each work force foreman to provide guidance and timely resolution of field problems.

A revised hanger inspection program was implemented in December 1983 which in addition to revising the hanger inspection program required reinspection of all previously inspected hangers. This program in addition to increased staffing, incorporated a detailed inspection checklist similar to that used at recently completed inspections. It additionally incorporated a work and inspection package concept that contained all drawings, instructions, changes, inspection checklists and all associated material used in erection and inspection of the individual hanger.

The licensee's QA surveillance group and the corporate audit group have conducted inspections on this revised program with no major deficiencies noted. Although an indepth evaluation of this revised program has not been conducted by the NRC, CP&L QC inspections show that the program will provide for much needed improvements in this area. This program now has the highest level of construction activity on site. During the period January 1984 through April 1984 over 10,500 points on the hangers were inspected. Of those points only approximately 5% were found to be unacceptable by the stringent criteria applied. Less than 0.5% required rework and none had major safety significance. QA Surveillance performed an audit of over 1200 QC accepted hanger packages and found only 3 unacceptable. All three defects occurred after QC final inspection. This data leads the NRC to conclude the program is functioning as designed.

Nine violations were identified. Six of the violations (2,3,4, 6, 8 and 9 below) were unrelated, and did not indicate a programmatic breakdown. The remaining three violations (1, 5 and 7) were identified in the area of pipe hanger installation prior to the implementation of the licensee's December 1983 hanger reinspection program. The licensee has performed a detailed review of completed hanger packages and only a few minor problems have been found. It should be noted that only limited NRC inspections of this area have been made since December 1983, so the effectiveness of this program has not yet been fully determined.

Nine violations were identified as follows:

- (1) Severity Level IV violation for failure of inspection personnel to identify unacceptable pipe hanger conditions.
- (2) Severity Level IV violation for inadequate control of piping installation inspections.
- (3) Severity Level V violation for improperly supporting piping during installation.

- (4) Severity Level V violation for failure to adequately control welding.
- (5) Severity Level V violation for failure to follow hanger installation procedure requirements.
- (6) Severity Level V violation for failure of vendor spool piece welds to meet requirements.
- (7) Severity Level V violation for failure to follow hanger fabrication and installation procedure requirements.
- (8) Severity Level V violation for failure of as-built drawings to reflect actual piping configuration.
- (9) Severity Level V violation for failure to provide adequate procedure for heat number verification.

b. Conclusion

Category: 2

Trend: Improved

c. Board Comments

Performance was evaluated as Category 2 during the previous SALP assessment.

Although this program would have been assigned a Category 3 rating early in the evaluation period, subsequent major revisions to the program improved this area to a Category 2 rating for the entire evaluation period. No decrease in licensee or NRC attention is recommended.

4. Safety Related Components

a. Analysis

During the assessment period, inspections were performed by the regional and resident inspection staffs. These inspections concerned: the reactor vessel, reactor vessel internals, safety related components; and, spent fuel storage racks in the areas of: receipt inspection, storage, rigging and handling, and installation. The procedures and controls utilized by the licensee during these observations demonstrated evidence of good planning and priority assignment by the licensee. Precautions commensurate with the potential for damage, which could occur to equipment and materials, were evident during these activities.



The licensee has shown marked improvement in the area of receipt inspection. During this assessment period, the staffing for receipt inspection was increased from 12 to approximately 30 personnel. A rigorous training and qualification program provided the licensee with qualified inspectors for each area of receipt inspection. The licensee has implemented a trending program to identify vendors that fail to provide material which meets all purchase specifications, and it conducts full receipt inspections on the equipment received onsite supplied by these vendors. This program led to the identification of manufacturing problems which may have otherwise gone undetected.

The licensee increased staffing in the area of storage and maintenance of safety-related items by approximately 50 percent. The staff was augmented with two engineers to provide increased problem identification, field follow-up, and better coordination. Procedures were reviewed and modified for the turnover of maintenance activities from construction to operations. The operations permanent plant maintenance staff was assigned maintenance responsibility for all equipment once it was installed in the plant. This, in addition to providing more concentrated efforts on equipment maintenance, will relieve the construction staff of this task.

Five violations were identified during the assessment period. All the violations resulted from actions during or before the first five months of the assessment period, with no violations occurring during the 12 months after licensee corrective action. The violations were unrelated, of minor significance, and not indicative of a programmatic breakdown.

- (1) Severity Level IV violation for failure to follow motor control center inspection procedure.
- (2) Severity Level IV violation for inadequate reactor vessel installation verification procedure.
- (3) Severity Level V violation for failure to establish adequate measures to protect the emergency airlock.
- (4) Severity Level V violation for failure to implement vendor storage requirements for filters.
- (5) Severity Level V violation for failure to follow housekeeping procedure requirements.

b. Conclusion

Category: 2

Trend: Improved

c. Board Comments

Performance was evaluated as Category 2 during the previous SALP assessment. Licensee management attention and involvement were evident. No decrease in licensee or NRC attention is recommended.

5. Support Systems

a. Analysis

During the assessment period, routine inspections were performed by the regional and resident inspection staffs.

In the fire protection area, NRC reviewed the permanent plant fire pump, exterior fire protection yard piping system, and supports for cable spreading room fire barriers.

Overall, management involvement and control of the fire protection features were being accomplished under a well defined and administered quality assurance program which should assure that these features will be properly installed. Responsiveness to NRC initiatives has been timely.

The licensee's fire protection system for construction continued to be strong and remained above industry standards. The licensee representatives conducted frequent safety inspections of the construction activities to assure that the site was protected from fires. The licensee requires site fire protection drills and routinely trains craft personnel in the proper use of portable and temporary fire-fighting equipment. The site fire brigade was well trained and familiar with necessary techniques to be used to extinguish the various types of fires which could occur.

The current permanent plant staffing and training for the fire protection program was adequate for the existing construction phase. No fire protection violations were identified.

In the area of heating, ventilation, and air conditioning, a special inspection was performed by regional, vendor program, and resident inspector staffs. This included a review of procedures, review of procurement records, observation of installation activities, and visual examination of completed work.

Some problems were identified with a supplier of some of the air handling units. Licensee management demonstrated involvement in resolving the problems which were brought to its attention relative to this supplier. The licensee was conducting an evaluation of the problems which were identified with vendor materials, and a resolution is expected.

One violation was identified during the evaluation period. The violation was of minor significance and not indicative of a programmatic breakdown in this area. It should be noted that the action causing the violation occurred prior to the SALP period and no violations have occurred since the restructuring of the receipt inspection organization.

Severity Level IV Violation for failure to establish adequate procurement controls.

b. Conclusion

Category 1

Trend: Same

c. Board Comments

Performance was evaluated as Category 1 during the previous SALP assessment. Licensee resources appeared ample and were oriented toward nuclear safety. No decrease in licensee or NRC attention is recommended.

6. Electrical Power Supply and Distribution

a. Analysis

During this assessment period, inspections were performed by the resident and regional inspection staffs. The areas inspected included: electrical equipment receipt, storage and installation; raceway and electrical cable installation; quality assurance records, training and qualification of inspection and craft personnel, corrective actions for 10 CFR 50.55(e) items and NRC identified items.

The installation of cable raceways was basically completed during this assessment period. A violation ((1) below) issued in May 1983, resulted in the initiation of a 100% reinspection of all previously inspected cable tray support and hanger welds. The failure to follow inspection procedures requiring the inspection of hanger welds prior to painting and fireproofing the installed hangers has caused the reinspection effort to proceed slowly. To date, approximately 600 of 3500 supports have been reinspected. Less than 10% of the supports were found to have weld defects. Approximately one percent of the weld defects identified required repair. The need for reinspection in this area indicated that the inspection program at the time the violation was discovered may have been poorly defined or ineffectively applied by a portion of the QC inspection staff.

During this assessment period, NRC examined 26 installed power cables for proper routing, separation, identification, and termination. Safety-related electrical equipment installations were examined for proper location, seismic mounting, identification, and separation. The inspection of cable installation activities resulted in two violations ((5) and (9) below). These violations did not indicate programmatic breakdown.

Various records for the inspection of onsite storage personnel training and qualification, and electrical cables and equipment, resulted in six unrelated violations (Nos. (2), (3), (6), (7), (11) and (12) below). These violations had minor significance compared to the total volume of records maintained, and do not indicate a programmatic breakdown in this area.

Two violations, ((8) and (10) below), were identified in the area of operations. One of these violations was the result of periodic battery maintenance performed for three months on the emergency 125v batteries without approved procedural requirements. Subsequent testing revealed no degradation of the batteries. The other violation ((10) below), was the result of the following incident: heavy rains caused water to enter an energized motor control center (MCC) shorting the transformer and tripping the power feed to the MCC. The operating staff was not aware of this tripped condition for approximately two hours. The attempt to reenergize the MCC without adequate testing resulted in damage to the transformer and MCC cabinet. These two violations indicated that more attention to the use of procedures for performing tasks affecting safety related equipment was required.

During this period, the licensee placed extensive efforts in the revision of procedures, and training of operations, craft and inspection personnel. While licensee nonconformances and NRC violations were identified in these areas, a marked improvement was demonstrated. The quality of work in this area continues to be a source of licensee nonconformances and NRC violations.

The following violations were identified:

- (1) Severity Level IV violation for failure to maintain inspection status of the electrical raceway supports for class 1E cable trays.
- (2) Severity Level IV violation for failure to process non-conformance reports in accordance with procedural requirements.
- (3) Severity Level V violation for failure to require that procedures be followed, prior to pulling class 1E cables.

- (4) Severity Level V violation for inadequate corrective action on a nonconforming item identified by the licensee.
- (5) Severity Level V violation for failure to adequately control electrical cable installations.
- (6) Severity Level V violation for failure to follow procedures for filing certification records.
- (7) Severity Level V violation for failure to document completion of training requirements.
- (8) Severity Level V violation for failure to require that written procedures be provided for periodic battery maintenance.
- (9) Severity Level V violation for failure to follow procedures for cable tray removal.
- (10) Severity Level V violation for failure to protect electrical equipment.
- (11) Severity Level V violation for failure to follow or revise instructions specified on QA hold tags.
- (12) Severity Level V violation for failure to retrieve the required QA Inspection Report for work performed on MCC 1A34-SA.

b. Conclusion

Category: 2

Trend: Same

c. Board Comments

Performance was evaluated as Category 2 during the previous SALP assessment. A large amount of both licensee and NRC inspection activity occurred during the evaluation period. Although a significant number of violations were identified, there was no indication of a programmatic breakdown. The violations did, however, indicate a need for continued management attention in this area.

7. Instrumentation and Controls

a. Analysis

One inspection was conducted in this area by the resident inspection staff. Safety-related instrumentation installation was less



than ten percent complete, and less than one percent has been inspected and accepted by the licensee. One violation was identified which resulted from Field Change Requests not being identified by QA personnel as being nonconforming when they had not been approved within the 60 day procedural time limit. This resulted in a procedure being revised to prevent similar nonconformances from occurring. No similar problems were identified since then.

The following violation was identified:

Severity Level V violation for failure to document discrepancies when required by procedural requirements.

b. Conclusion

Category: Not Rated.

Trend: Not Determined.

c. Board Comments

Performance in this area was not rated during the previous SALP assessment. There was insufficient inspection activity in this area during the current evaluation period to justify either a rating or a trend determination.

8. Licensing Activities

a. Analysis

The assessment of licensee performance was based on an evaluation of the following licensing activities.

- Meteorology
- Site Analyses
- Environmental and Hydrological Engineering
- Materials Engineering
- Accident Evaluation
- Power Systems
- Containment Systems
- Auxiliary Systems
- Radiation Protection
- Instrumentation and Control Systems
- Fire Protection
- Reactor Systems

Throughout the review process, licensee activities exhibited evidence of improved prior planning and proper assignment of priorities. Decisions usually were made at a level that ensured

adequate management review. An example of active management involvement was their allocation of necessary resources to resolve the approximately 400 open items identified in the February 1983, Safety Evaluation Report (SER) to less than the 20 identified in the SER issued in November 1983.

In regard to the licensee's approach to resolution of technical issues from a safety standpoint, the licensee has shown a clear understanding of the safety issues. The licensee provided generally timely responses and the approaches were usually sound, viable, thorough, and acceptable.

Resolutions to questions were generally technically sound and thorough. The licensee was responsive in meeting deadlines for submittals, which usually resulted in timely resolution of issues. An example of the licensee's responsiveness to an NRC initiative was its response to generic concerns raised by the Advisory Committee on Reactor Safeguards on essential chilled water systems.

Positions of contact personnel at the licensee's corporate office, including their authorities and responsibilities, were well defined. Adequate technical personnel participated in review meetings resulting in a timely resolution of open items. For the majority of the period, the licensee assigned a full time licensing engineer to expedite licensing actions between NRC and CP&L.

During the rating period, the licensee has met a commitment to improve licensing activities between the staff and itself. During this rating period, the licensee's performance had continued to improve, and at the end of the rating period, the performance exceeded the average rating demonstrating that the licensee's involvement and aggressiveness directed toward nuclear safety was evident.

b. Conclusion

Category: 2

Trend: Improved

c. Board Comments

Performance was evaluated as Category 3 during the previous SALP assessment. Licensee management involvement was evident in this area.

## 9. Quality Assurance Program

### a. Analysis

Inspections were performed by the regional and resident inspection staffs. A special Region II Construction Assessment Team (RCAT) inspection was conducted to examine various QA activities and engineering disciplines. The QA program, design control, procurement activities, and audits were inspected at the corporate office. Site project management, training, material receiving and storage, design control, 10 CFR 21 handling, QA audits and records, and QA inspection of work performance in the civil, piping, and electrical areas were examined during the assessment period.

In early 1983, CP&L management conducted an extensive review and evaluation of numerous inspection activities that were previously conducted at Harris. The reviews covered the pilot INPO evaluation, CP&L self initiated evaluation, MACQA audit, McCormick and Paget's CRESAP, NRC inspections and findings, the SALP (including its recommendations for improvement), and CP&L corporate QA audits. They also evaluated previous site generated nonconformances, past work and problems encountered in safety related areas, projected increasing work activities, and recurring problems in areas of pipe hangers, electrical, and the vendor quality release (VQR) inspection programs. The reviews indicated that additional management attention and QA involvement was required in the above areas. As a result, significant QA organization changes, increased staffing levels, and procedural changes were implemented throughout the assessment period to strengthen and provide a more viable quality assurance program at Harris.

A new manager for Construction Inspection (CI) was assigned, and this position now reports directly to the Project General Manager for Construction instead of to the Senior Resident Engineer. The staffing levels for QA/QC and CI inspection groups were increased from 267 to 425 personnel during this assessment period. A new site QA engineering unit was established to provide additional support to the line QA/QC organizations. The QA surveillance group staffing was increased and its activities have increased significantly during this period with special emphasis being placed on areas where construction work accelerated. The QA surveillance activities have strongly emphasized hardware acceptability.

The manager of QA/QC for Harris moved on site and the position of Manager of QA Services Section (QASS) was created to supervise Corporate Quality Assurance Department (CQAD) functions related to engineering, vendor surveillance, performance evaluation, training, and administration. These organizational changes resulted in

a stronger, more viable QA program for the Harris site and for direct corporate management involvement in daily QA activities. QA manuals, organizational structure, and functional relationship of the construction and QA organizations were acceptable and in accordance with the licensee's accepted quality assurance program.

During the assessment period, the Corporate Nuclear Safety Group began an extensive program to interview inspection personnel. This program was designed to independently address all concerns of QA/QC inspectors. The program was well received and will be ongoing.

Design assurance audits were complete, timely, and technically thorough. The onsite engineering group was considered a strength in that it provided intimate understanding and prompt resolution of construction problems. CP&L management has continued to increase the staffing of site design personnel and upgrade site engineering expertise and design responsibility with the intent that the onsite design group would eventually perform all plant design work, thereby providing a knowledgeable site engineering base that would be present during the operational phase. Procurement activities were controlled and documented.

In general, QC personnel were knowledgeable of their inspection functions, familiar with acceptance criteria, and proficient in performance of their assigned inspection tasks.

The licensee provided timely and acceptable resolutions to the violations listed below. Violations (2) through (5) below, and one violation listed in the electrical area of the report indicate a weakness in the licensee's QA program concerning records control. These violations generally involve QA records which were not being forwarded to the vault for storage as required. Although the missing records were generally located somewhere on site, these violations indicated a weakness in the implementation of controls in this area.

Violation (1) below was corrected by issuing a new nonconformance and corrective action procedure CQA-3, R3, Nonconformance Control. However, additional clarification was needed regarding methods used to trend and evaluate subordinate nonconformances. A new nonconformance form will be used to document all nonconforming conditions identified by QA/QC and the CI group. Previously, Discrepancy Reports (DRs) had been used by CI and Design Deficiency Reports (DDRs) and Nonconformance Reports (NCRs) were used by QA/QC. The new and improved NCR form being used by all site inspection groups has resulted in better control in the identification and processing of nonconformances.

Violation (6) below was not a significant problem, and the licensee committed to proper corrective action. Even though six violations were identified in the QA area by resident and regional inspectors, this area has shown considerable improvement during this assessment period.

The following violations were identified:

- (1) Severity Level IV violation for failure to establish measures to assure that conditions adverse to quality were promptly identified, controlled, and corrected.
- (2) Severity Level V violation for failure to follow records storage procedures and to promptly correct record storage conditions adverse to quality.
- (3) Severity Level V violation for failure to require Deficiency and Disposition Reports to be evaluated and completed accordance with procedures.
- (4) Severity Level V violation for failure to properly store radiographic film in an acceptable temperature, and humidity environment.
- (5) Severity Level V violation for failure to review QA operational surveillance records and forward them to the QA vault for safe keeping.
- (6) Severity Level V violation for failure of the Plant Engineering organization to have a procedure for identifying and correcting deficiencies, deviations, and nonconformances.

b. Conclusion

Category: 2

Trend: Improved

c. Board Comments

Performance was evaluated as Category 2 during the previous SALP assessment. As was discussed in the above analysis, substantial improvements in staff and organization were made, which was expected to add significant strength to the program. These improvements should also aid the resolution of the issues involving pipe supports and cable tray supports. The increased staffing and organizational improvements should directly increase the organization's effectiveness. Continued management attention in this area could result in a Category 1 rating in subsequent evaluations.



## B. Supporting Data

## 1. Reports Data

## a. Construction Deficiency Reports (CDRs)

During the assessment period, 23 reportable CDRs were reviewed. The distribution of these reports is as follows:

<u>Category</u>	<u>Unit 1</u>
Welding	6
Mechanical	6
Electrical	3
QA	2
Design/Analysis	3
Misc.	3
TOTAL	23

## b. Part 21 Reports

During the assessment period, nine part 21 reports were issued.

## 2. Investigation and Allegation Review

One allegation involving defects in hanger welds was examined by the staff. It was not substantiated.

## 3. Enforcement Actions

## a. Violations

Severity Level I	-	0
Severity Level II	-	0
Severity Level III	-	0
Severity Level IV	-	8
Severity Level V	-	28
Deviations		0

## b. Civil Penalties

None

## c. Orders

None

## d. Administrative Actions - Confirmation of Action Letters

None

4. Management Conference

February 28, 1983 - Management Conference - Discussion of Self-Evaluation Program

February 23, 1984 - Management Conference - Discussion of QA Program Related to Vendor Supplied Materials and Devices