ENCLOSURE 1

FINAL SALP REPORT

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

SALP BOARD REPORT NO. 50-443/87-99

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

SEABROOK STATION, UNIT 1

ASSESSMENT PERIOD: AUGUST 1, 1987 - JUNE 30, 1989

MANAGEMENT MEETING DATE: OCTOBER 11, 1989

8912120068 891204
PDR ADOCK 05000443
Q PDC

TABLE OF CONTENTS

		PAGE
I.	INTRODUCTION	1
II.	SUMMARY OF RESULTS	2
	II.A Overview	2
	II.B Facility Performance Analysis Summary	3
	II.C Unplanned Shutdowns, Plant Trips, and Forced Outages	4
III.	PERFORMANCE ANALYSIS	5
	III.A Plant Operations	5
	III.B Radiological Controls	8
	III.C Maintenance/Surveillance	11
	III.D Emergency Preparedness	14
	III.E Security	17
	III.F Engineering/Technical Support	20
	III.G Safety Assessment/Quality Verification	23

SUPPORTING DATA AND SUMMARIES

A.	Licensee Activities	SD/S-1
B.	Direct Inspection and Review Activities	SD/S-1
C.	Enforcement Activities	SD/S-2
D.	Confirmatory Action Letter	SD/S-3
E.	Licensee Event Report Causal Analysis	SD/S-3

ATTACHMENT 1: SALP CRITERIA

I. INTRODUCTION

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

An NRC SALP Board, composed of the staff members listed below, met on August 23, 1989 to review the observations and data on performance, and to assess licensee performance in accordance with Chapter NRC-0516, "Systematic Assessment of Licensee Performance". The guidance and evaluation criteria are summarized in Attachment 1 of this report. The Board's findings and recommendations were forwarded to the Regional Administrator for approval and issuance.

This report is the NRC's assessment of the licensee's safety performance at Seabrook Station Unit 1 for the period August 1, 1987 through June 30, 1989.

The SALP Board was composed of:

Board Chairman

W. F. Kane, Director, Division of Reactor Projects (DRP)

Board Members

B. A. Boger, Acting Director, Division of Reactor Safety (DRS)
J. H. Joyner, Division Project Manager, Division of Radiation Safety and Safeguards (DRSS)
R. M. Wessman, Director, Project Directorate I-3, NRR
J. R. Johnson, Chief, Projects Branch No. 3, DRP
E. C. McCabe, Chief, Reactor Projects Section 3B, DRP
N. F. Dudley, Senior Resident Inspector, Seabrook
V. Nerses, Senior Project Manager, Project Directorate I-3, NRR

II. SUMMARY OF RESULTS

II.A Overview

During the beginning of this assessment period, the licensee organization transitioned from the construction phase to the operating phase. The transition occurred over a period of several months while the reactor was in Operational Mode 5, Cold Shutdown. Challenges to the organization occurred during plant testing in cold shutdown, plant heatup and cooldown, initial plant startup, low power testing, and conduct of the natural circulation test. Since the number of challenges were limited, the failure to trip the reactor during the natural circulation test on June 22, 1989, is considered significant due to the ineffectiveness of several organizational programs.

In operations, the organization performed well during shutdown and low power physics testing. Additional administrative support had been added to the shifts which permitted licensed operators to direct their attention to plant operations. However, during the natural circulation test the operators failed to trip the reactor when pressurizer level reached 17%, as required by the plant test procedures. The root cause appeared to be operator perceptions of a hierarchy between operating and testing procedures. The operations management was in the main control room during the event, however, no steps were taken to direct the operators to conduct the required trip.

Radiological controls were not evaluated based on the lack of a source term, which prevented the evaluation of the adequacy of program implementation. The radiological controls program was determined to be of the same high quality as that which had been evaluated in the previous SALP period.

The maintenance and surveillance program performance remained stable with excellent program controls in place which effectively tracked and managed the work load. The performance of maintenance and surveillance work assured operability of required systems and components, however, personnel errors and lack of attention to detail adversely affected overall performance.

An effective emergency preparedness program was developed which compensated for the lack of state support. Development of the Vehicular Alert and Notification System and an excellent design report demonstrated management involvement.

An effective security program was maintained. Problems with access control which occurred early in the assessment period were resolved. Significant enhancements were made to the program and equipment which demonstrated management commitment to maintaining an effective and high quality program.

The engineering and technical support programs completed the transition to the operational phase. The approach to technical issues was generally sound and thorough with an increased sensitivity to significant safety issues. Strong

engineering work was demonstrated in several major projects, however, engineering issues which were raised in the previous SALP period, such as problems with the steam admission valves to the turbine driven auxiliary feedwater pump, have not been resolved.

The licensee provided high quality timely responses to NRC requests. The use of the Independent Review Team resulted in improvements in plant operations and was considered a strength. However, the Nuclear Quality Group's performance in the areas of identifying significant safety issues and managing the corrective action process was a weakness.

The challenge for New Hampshire Yankee is to effectively implement the programs which have been developed and to maintain operator and technician proficiency and motivation during the licensing process. Also, New Hampshire Yankee needs to identify and assess the underlying cause of the personnel errors which occurred throughout the assessment period.

II.B Facility Performance Analysis Summary

Functional Area	1987 Category	1989 Category	Trend
Construction Completion	1	(a)	
Startup Testing	1	(b)	
Plant Operations	2	2	
Radiological Controls	1	(c)	
Maintenance/Surveillance	*	2	
Emergency Preparedness	1	1	
Security	1	1	
Engineering/Technical Support	2	2	
Licensing Activities	1	(d)	
Training and Qualification Effectiveness	1	(e)	
Assurance of Quality	2	(d)	
Safety Assessment/Quality Verification	**	2	

* During the previous SALP "maintenance" and "surveillance" were evaluated as part of the "Plant Operations."

** This new SALP area evaluates elements of former "Licensing Activities" and "Assurance of Quality" functional areas.

(a) "Construction Completion" was not evaluated this SALP period since construction activities had terminated.

(b) "Startup Testing" was evaluated this SALP period as part of "Plant Operations."

(c) "Radiological Controls" was not evaluated this SALP period due to the lack of a source term which prevented meaningful evaluation of program implementation.

(d) "Licensing Activities" and "Assurance of Quality" were evaluated this SALP period as part of "Safety Assessment/Quality Verification."

(e) "Training and Qualification Effectiveness" was not evaluated this SALP period as a separate functional area, but was evaluated as part of all other functional areas.

II.C Unplanned Shutdowns, Plant Trips, and Forced Outages

The reactor was tripped manually after a steam dump valve failed open during a natural circulation test. This event was complicated by the fact that operators did not trip the plant when pressurizer level decreased below the low pressurizer level trip setpoint required by the test procedure. Operators later tripped the reactor due to loss of pressurizer pressure control that resulted in a rapidly increasing pressure that was approaching an automatic reactor trip setpoint.

Date	Power Level	Root Cause	Functional Area
6/22/89	2%	Component Failure	Maintenance

III. PERFORMANCE ANALYSIS

III.A Plant Operations (2410 hours, 63.3%)

III.A.1 Analysis

During the previous assessment period, licensee performance in this functional area was rated Category 2. Training and qualification effectiveness and start-up testing, which are being evaluated in this functional area during this assessment period, were rated Category 1 previously. The previous ratings were based on the high level of technical competence demonstrated during program planning and implementation; the licensed operators' conservative judgement and safety conscious attitude; the high degree of professionalism of operators during preoperational testing, core loading and hot functional testing; and the level of management attention to problem areas and responsiveness to NRC concerns.

Seabrook is licensed for low power operations. Since the low power license was not issued until a month before the end of the evaluation period, the basis for assessment in this area is limited. Notwithstanding the limited scope of licensee activities in this area, significant NRC inspection effort was directed toward routine cold shutdown and plant heatup operations, technical specification reporting, the approach to and the achievement of initial criticality, and low power testing.

During the period, one operator licensing examination was administered and one operator license was issued to an individual based on the successful completion of the operating portion of the licensing examination. Licensed operator requalification training was conducted on a continuous basis and the shift supervisors were assigned to Millstone Unit 3 for a month of power operation observation to help maintain their proficiency. Daily discussions with the operators on plant conditions indicated a thorough understanding of plant design and equipment response.

During routine operations in the cold shutdown mode, the staff demonstrated a dedication to safe plant operations by maintaining a detailed knowledge of plant and equipment status, and by displaying proper attention to main control room panel alarms. The operations staff was well-trained, highly motivated, and responsive to NRC concerns. The control room operators maintained a professional decorum through a well-established chain of command, a clear delineation of responsibilities, and clear, concise communications.

During plant heatup, the approach to initial criticality, and the performance of low power testing, the NRC conducted extensive inspections which included twenty-four hour a day shift coverage. The operating crews were observed to conduct operations in a professional manner, to follow procedures properly, and to be cognizant of ongoing activities. The test programs were conducted in a smooth, safe, and well-controlled manner. Communication between management and

operations staff was well established. Personnel assigned to shift operations and test responsibilities received explicit directions from management to proceed with testing in a controlled manner.

The implementation of recommendations made by the licensee self-assessment team improved the overall performance of the operations department. One recommendation involving the assignment of a full-time day shift superintendent was implemented enhancing an already effective planning and scheduling process. Also, the establishment of an operations department work control supervisor in response to NRC and licensee self-assessment concerns resulted in a significant reduction in the administrative burden on the unit shift supervisor.

The staffing of the operations department was adequate to conduct plant operations in a cold shutdown condition and to fully staff a six-crew shift rotation. Additional enhancements to the operations staff are being evaluated based on the self-assessment team's recognition of labor-intensive administrative requirements, such as procedural reviews, and the more challenging requirements of full-power operation.

During the last six months of the assessment period, concerns were raised by the NRC regarding the number of operational errors which had resulted in minor plant incidents. These performance errors indicated a potential reduction in attention to detail during the conduct of routine plant operations. One incident involved failure to properly position and lock valves to prevent boron dilution of the reactor coolant system in accordance with a license condition, which went undetected for several shifts. Licensee review of these incidents revealed an overall reduction in the number of incidents over the assessment period and no common root cause. Although none of these incidents had significant safety impact, they indicated a potential weakness in the conduct of operations.

Following the completion of low power physics testing, the licensee conducted the natural circulation test. That test was the first integrated plant operational test and was intended to verify the ability of the reactor plant to remove decay heat without the reactor coolant pumps running. To perform the test the reactor was maintained critical at 2% of rated power while the reactor coolant pumps were shut off.

During the natural circulation test on June 22, 1989, operations were not conducted in accordance with the test procedure in that the reactor was not tripped as required, when pressurizer level decreased below 17%. Several managers with the responsibility and authority to terminate or recommend termination of the test or plant operations were in the control room during this time. The lack of action by those managers in the control room on June 22, 1989, during the five minutes a test procedure trip criterion was exceeded is a concern, particularly since this condition was identified to management by the NRC.

Investigations of the event were conducted by the licensee and an NRC augmented inspection team. The established licensee programs to prevent this type of incident from occurring were not effective. Some of the findings included: the training of the crew on this one-time unique test was not current; the pre-test briefing was inadequate; the operators had developed an incorrect perception of a hierarchy of importance for test and plant procedural operating limits; and the startup test group provided inadequate direction to the operators during the test. The ineffectiveness of these programmatic elements during a single test is of concern.

After the natural circulation test, management personnel did not promptly review, resolve, and communicate to the NRC the personnel performance implications associated with the failure to trip the reactor. A confirmatory action letter was issued by the NRC which documented the licensee's agreement that Unit 1 would not be restarted until the licensee presented the results of their post-trip review including short- and long-term corrective actions to the NRC.

In summary, the reactor plant was operated safely in a deliberate and controlled manner by a well-trained and highly motivated operations staff with one notable exception. The failure to trip the reactor during the natural circulation test demonstrated the ineffective implementation of several organizational programs. The programmatic and human performance aspects of this event require additional management attention.

III.A.2 Performance Rating

Category 2

III.A.3 Recommendations

No recommendations are appropriate due to the requirements and commitments contained in the Confirmatory Action Letter (CAL) and the Augmented Inspection Team report. Licensee corrective actions in response to the CAL are under NRC evaluation.

III.B Radiological Controls (16 hours, 0.4%)

III.B.1 Analysis

During the previous assessment period, licensee performance in this functional area was rated Category 1. This was based on programmatic and operational readiness reviews of in-plant radiation protection, radioactive waste management, effluent monitoring and controls, radioactive and non-radioactive water chemistry and environmental monitoring. Although the programs in this functional area were not significantly challenged during the last assessment period due to lack of a radiological source term, the licensee demonstrated levels of preplanning, preparation, and program development consistent with a plant ready for operation.

The radiological source term at the station continued to be low throughout the current assessment period. As a result, the programs in this functional area were not significantly challenged. Consequently, NRC inspection efforts were limited to evaluating the implementation of programs needed to support initial criticality and low power operations. Since previous inspections had determined that generally high quality programs were established in this area, the NRC inspections reviewed the programs for any apparent degradation.

During the last six weeks of this assessment period, the radiological controlled area (RCA) was formally established. The transition to a formal RCA followed an extended period of training and was effectively implemented. All personnel granted access to the RCA received proper training. An effective method of monitoring the General Employee Training status of personnel was implemented.

In order to maintain the knowledge and skills of radiological controls personnel, the licensee sent members of the radiological controls group to other stations during outages to gain practical experience. Licensee radiation protection supervisors and managers were used to assist in performance of radiation protection QA audits at other Yankee system facilities. These efforts and the continuing training provided onsite to personnel were considered excellent means to maintain the knowledge and skills of the group.

The licensee conducted high quality performance-based self-assessments to verify establishment and implementation of an effective radiological controls program to support initial criticality and low power operation. The licensee performed these self-assessments using experienced staff and independent audit personnel. Self-identified deficiencies were corrected prior to initial criticality.

The licensee was found to have a well-defined and fully staffed radiation protection organization capable of supporting full power operations. The staff was augmented with sufficient contractor support to assist in performance of initial radiation surveys during station start-up. Personnel within the radiation protection department were properly trained and qualified.

One concern identified in the area of training was the lack of an effective program to ensure that personnel were trained in new procedures or procedure changes. For example, some radiation protection personnel had not reviewed new procedures for High Radiation Area access control. The licensee took immediate and effective action to require personnel to review these procedures and initiated action to change training procedures to address the problem. NRC observations identified good inter- and intra-departmental communication. Radiation protection technicians overseeing shift work exhibited a good understanding of on-going and planned work. Staff morale was good.

Licensee posting, barricading and access control of radiological controlled areas was conservative and took into consideration expected radiation levels during plant start-up. The licensee had on hand an ample supply of state-of-the-art, calibrated radiation protection instruments to support initial criticality and low power operation. The licensee performed comprehensive start-up radiological surveys to verify shielding integrity and to ensure that all appropriate radiological areas were properly controlled.

Because of the lack of a radiological source term, no significant reactor-produced contamination exists at the site. However, the contamination control program effectively detected low-level contamination on an individual who had handled a contaminated radiation detector. The licensee's response to this incident was timely and extensive.

Although comprehensive radiation protection procedures were implemented, NRC review found that subjective interpretation of requirements was permitted due to frequent use of the term "should." The licensee was responsive and immediately required that all "shoulds" contained in procedures be treated as procedure requirements until thorough review and appropriate revisions could be made.

NRC questioning of licensee personnel indicated that although the procedures permitted some flexibility in the actions taken by personnel, the actions taken would be conservative. This understanding was confirmed by NRC questioning of staff personnel as to what actions would be taken during certain situations.

In the area of effluent monitoring and control, a high level of management involvement was noted during the last assessment period and continued to be noted this assessment period. NRC monitoring of operability and licensee maintenance of radiation monitoring systems during this assessment period indicated effective attention to these systems.

Late in the assessment period the liquid from a waste test tank was improperly released. The high alarm setpoint of the tank effluent radiation monitor was improperly set too high. The improper setpoint was caused by technician error in entering the setpoint into the computer and an incorrect procedure sequence during setpoint verification. Although the errors did not result in any off-site impact, this matter indicates lack of attention to detail. At the end of the assessment period, the licensee was consolidating all radwaste processing,

handling, and shipping activities under one department. The centralization is intended to enhance overall management of the radwaste program. Preliminary NRC review indicated that this effort was well-managed.

In summary, the licensee was found to have implemented a defined, comprehensive radiation protection program to support initial criticality and low power operations. The radiological controls organization was staffed with well-qualified personnel capable of implementing an effective radiological controls program. NRC-identified concerns were quickly resolved by the licensee. A problem involving setting of an alarm set point indicates the need for increased attention to detail when discharging effluent tanks.

NRC reviews in this area did not detect any degradation of program quality. However, because there was no significant source term present at the facility this assessment period, the NRC was unable to assess the capabilities of the program to function properly under normal plant conditions. This lack of a source term and consequent challenge to the program resulted in limited inspection activity at the facility. As a result, there is insufficient basis to rate licensee performance and no rating is provided.

III.B.2 Performance Rating

No rating assigned due to insufficient activities to evaluate.

III.B.3 Recommendations

Licensee

None.

NRC

Perform an inspection of the effluent monitoring and control program during the first quarter of FY 1990.

III.C Maintenance/Surveillance (372 hours, 9.8%)

II.C.1 Analysis

During the previous assessment period, licensee performance in this area was evaluated as part of the operations functional area which was rated Category 2. This was based on implementation of a computerized surveillance tracking system, involvement of competent technical support engineers in maintenance activities, and the effective planning and scheduling of maintenance and surveillance activities.

Adequate staff was assigned to support test evolutions and maintenance activities. In general, the technicians are adequately trained, are knowledgeable about test equipment and procedures, are fully capable of judging test results against specific acceptance criteria and maintain effective communication with the control room during performance of surveillance and maintenance activities. However, several incidents which reflect inattention to detail occurred due to technician performance errors. These included failure to check an electrical lead with a voltmeter resulting in an electrical shock to a technician; inadvertent actuation of a relay resulting in an engineered safety feature actuation of the control room ventilation isolation system; and generation of a reactor trip signal during installation of a pressure transmitter.

Maintenance and surveillance procedures are generally well written, with clear requirements and specifications. The instructions provide explicit directions and sufficient technical detail to adequately control the maintenance and testing of safety related systems. Implementation of a post-maintenance testing procedure provided generic guidelines for the conduct of post maintenance testing and significantly improved the quality and consistency of post maintenance testing. However, a post-maintenance stroke test on a steam dump valve was not completed prior to the natural circulation test and may have contributed to the event.

Certain surveillance procedures did not adequately test all required components in a system. A limited number of slave relays in the safety injection actuation system and the emergency feedwater pump tachometer class 1E circuit breaker were identifed by the NRC as not being functionally tested by procedures. Extensive reviews were conducted by the licensee to assure that similar surveillance procedures included testing of all required components.

The licensee has developed an effective integrated work control system which assigns priorities and operational mode relationships for surveillances, preventive and corrective maintenance activities. The tracking system for inservice testing and inspection has been extensively developed and is well controlled. In the field, maintenance and surveillance activities are well managed and coordinated by system engineers, control room operators and use of quality control hold points. Comprehensive pre-job briefings are routinely conducted.

The management of the technical specification related surveillances resulted in the completion of required surveillances within the specified surveillance intervals. The tracking and management of non-technical specification surveillances allowed the assignment of work priorities to assure the continued availability of safety-related equipment. The surveillances were conducted by knowledgeable technicians, who interfaced well with the control room operators and conducted the surveillances in accordance with procedures.

A trending program for maintenance work requests, repetitive tests and design change requests was implemented. The program provides status on open work requests, outstanding design change requests and outstanding non-technical specification repetitive tasks. The number of open work requests has been above the goals set by the licensee, with no significant reduction over the last half of the assessment period. However, the NRC has not observed any detrimental effects on the availability of equipment due to the maintenance backlog. There are no overdue preventive maintenance tasks for technical specification related equipment, nor has the NRC identified any preventive maintenance or surveillance activities which adversely affected the operability of safety-related equipment.

The maintenance program was evaluated by a maintenance department assessment team in 1987 and the recommendations from the evaluation were implemented during this assessment period. Another licensee self-assessment team evaluated the maintenance program in November 1988 and the recommendations required for low power testing were completed. Quality control is well integrated into the maintenance and surveillance program through procedure holdpoints and program audits as demonstrated by identification by the licensee of deficiencies in the welding program. The deficiencies were self identified, properly addressed and corrected by the production services department.

Vendor recommendations and NRC information notices regarding potential maintenance and surveillance concerns were reviewed in detail and the applicable recommendations were satisfactorily implemented. The licensee has generally been effective in identifying and resolving technical issues. For example, the licensee inspection and repair of the service water supply pipes was comprehensive in both modification planning and implementation. However, in the case of the control of the secondary cooling water system temporary modification, additional attention was warranted since the temporary modification was not controlled to the same level as the initial installation.

Sufficient resources were expended to develop an adequately trained maintenance staff and effective procedures. The management and scheduling of activities is well developed and effective. The daily planning meetings to coordinate implementation of the schedule are comprehensive and well managed.

Overall, the effective performance of maintenance and surveillance activities has maintained a high level of plant equipment operability. The staff is adequately trained, procedures are generally well written and work activities are effectively integrated and controlled. Resolution of technical problems was thorough and comprehensive.

III.C.2 Performance Rating

Category 2

IV.C.3 Recommendations

None.

III.D Emergency Preparedness (350 hours, 9.2%)

IV.D.1 Analysis

During the previous assessment period, the licensee was rated Category 1 in this area based upon the strong performance noted during the 1986 qualifying emergency preparedness exercise, the depth and training of personnel in the Emergency Response Organization (ERO) and involvement in the resolution of off-site concerns.

During this assessment period, three routine safety inspections and a special safety inspection were conducted and both the 1987 partial participation and the 1988 full-participation annual emergency exercises were observed and evaluated.

In the observation and evaluation of the 1987 partial participation annual exercise, it was noted that there was positive command and control in all Emergency Response Facilities and classifications were prompt and correct. Exercise weaknesses were identified concerning use of Emergency Action Levels (EALs) and performance of dose assessment in the Emergency Operations Facility. During the 1988 full-participation exercise, those weaknesses were considered to be satisfactorily corrected. Particular strengths noted during the 1988 exercise included prompt and accurate assessment of plant conditions including correct EAL classification of events, timely notification of off-site authorities, very good command and control, smooth and effective shift turnover with no apparent loss of control of the situation and timely and conservative protective action recommendations. Overall performance was excellent, indicative of the strong training program that is in effect. A minor weakness was identified in the Joint News Center involving depth and accuracy of response to questions by the press. Additional training has been provided to Joint News Center spokespersons to improve their skills in providing information to the public in an understandable and accurate manner.

A unique alerting system was designed and installed to compensate for the inability to install permanent sirens in the Massachusetts towns within the Emergency Planning Zone (EPZ) due to lack of cooperation by the state and local communities. Sirens are truck mounted and dispatched from staging areas to alerting points where the sirens are raised on a boom and activated. A special safety inspection of this Vehicular Alert and Notifications System (VANS) determined that the system would meet the design criteria for a public alert and notification system.

The licensee's self-assessment conducted by the Independent Review Team (IRT) included a recommendation that the emergency preparedness (EP) group conduct an evaluation of EP commitments for low power testing and also evaluate the clarity of the existing organizational description of the Emergency Response Organization. A second recommendation was made by the IRT that an evaluation be

made of regulatory, liconsing and internal commitments to verify that the commitments are reflected in current EP procedures and that a program be implemented to ensure that commitments are not inadvertently deleted in future procedure revisions. Both recommendations were implemented prior to low power operation.

During the three routine inspections, all aspects of the EP program were considered adequate. A follow-up inspection to review the licensee's corrective actions, regarding failure to notify the State of Massachusetts of an Unusual Event during the last assessment period, demonstrated prompt and effective management attention. The adequacy of the corrective action was demonstrated in January 1989, when the licensee properly classified and reported an Unusual Event caused by the complete loss of the meteorological tower indications.

A well-qualified and ample staff is maintained with well-defined authorities and responsibilities. The licensee has established a Fully Integrated Nuclear Information System which tracks training records and qualification time periods. It is updated monthly and provides an excellent tool for management oversight of the maintenance of ERO qualifications as well as other on-site requirements (medical, respiratory, exposure status, etc). Quality assurance audits were thorough and were conducted by independent persons. Program weaknesses identified in the audit received prompt and technically appropriate corrective action by licensee management. A large number and variety of drills were conducted and weaknesses identified by licensee observers were recorded, tracked, and verified corrected.

The licensee's revision to its on-site emergency plan in April 1988 resulted in a low power Safety Evaluation Report input free of any unresolved emergency planning issues.

In April 1988, the licensee also revised its off-site emergency plan to compensate for the Massachusetts communities that do not participate in the planning. The revised plan incorporated the complicated technical and legal issue of developing and implementing the New Hampshire Yankee Off-s te Response Organization (NHY-ORO) and the Seabrook Plan for Massachusetts Communities (SPMC), in accordance with recently revised NRC regulations (the realism rule) which assume that in an emergency responsible state governments will take the appropriate actions to protect public health and safety. The licensee's clear understanding of the realism policy and its excellent coordination with the Federal Emergency Agency (FEMA) resulted in FEMA approval of the SPMC with three identified plan implementation items to be corrected by the licensee prior to issuance of a full power license. The licensee's technical expertise in its planning and coordination with FEMA, off-site planning agencies and the NRC enabled it to successfully prepare for and conduct a full-participation, graded exercise involving the Seabrook Station, the NHY-ORO and the states of New Hampshire and Maine.

In summary, licensee management has placed emphasis on superior EP performance and has been responsive to NRC initiatives. It has met the challenges of creating an EP plan without state support and has applied a significant level of

management involvement to establish an effective and efficient emergency preparedness program. The licensee's development of the VANS, and its issuance of an excellent design report demonstrates a clear understanding of the issues and provides evidence of management involvement in emergency planning and assignment of priorities and decision making at a high level. This achievement also indicates a commitment by licensee management regarding public safety and a complete emergency preparedness program. In addition, the licensee effectively addressed the complex issue associated with development and implementation of a program to meet the concept of the realism rule.

III.D.2. Performance Rating

Category 1

III.D.3 Recommendations

None.

III.E Security (113 hours, 3.0%)

III.E.1 Analysis

During the previous assessment period, the licensee's performance in this functional area was rated Category 1. No major regulatory issues were identified by either region-based or resident inspectors. The licensee continued to demonstrate a thorough understanding of NRC security objectives and maintained a good enforcement history.

During this assessment period, three unannounced routine security inspections were performed by region-based inspectors. During these inspections, one minor violation of security program requirements was cited. Routine inspections by the resident inspectors continued throughout the period.

Both senior plant operations and security management continued to be aggressively involved in the security program at Seabrook and in nuclear power plant security, in general. This was demonstrated by the licensee's continuing attention to program needs, e.g.: acquiring state-of-the-art search equipment; establishing a computerized system for analysis of the security program on a monthly basis; expanding the security system computer's memory and enhancing its reliability; establishing a computer test bed to test software changes on a live system; and maintaining the drug detection program with searches on site (minimum of 20 hours per week) with trained dogs. Additionally, the licensee's follow-up and resolution on NRC Circulars and Notices demonstrated a clear understanding of the NRC's security program performance objectives.

The site security supervisor and his staff are well-trained. Qualified security professionals have been vested with the necessary authority and discretion to ensure that the security program is carried out effectively and in compliance with NRC regulations. They are actively supported by a very knowledgeable and effective senior management team.

Security management also continues to actively participate in the Region I Nuclear Security Association and in other groups engaged in nuclear plant security matters. In addition, they actively interface with law enforcement and emergency services agencies to maintain good working relationships.

The security program is actively supported by other plant functional groups and effective communication channels exist among security (both licensee and contractor) and the other plant groups, as evidenced by a lack of interface problems on site.

The licensee continues to monitor the security force contractor's performance by providing proprietary shift security supervisors on all shifts. Staffing of the contract security force is consistent with program needs as evidenced by the limited use of overtime. The contractor also exercises adequate oversight as demonstrated by the good performance of the security force and their very

good morale. During this assessment period the contract security force experienced an attrition rate of about 25 percent per year. The licensee analyzes the attrition rate on a monthly basis to identify trends. The licensee's analysis indicates that about one-third of the attrition is due to termination by the contractor during the probation period, about one-third for other employment, and the remaining one-third for other reasons (e.g. moving from the area, medical reasons, etc.). The licensee continues the practice of hiring contract security force personnel to fill openings in the licensee's proprietary security organization and other plant groups, thereby providing a career employment ladder for members of the security force. The attrition rate has had no adverse impact on the effectiveness of the security program.

The security force training and requalification program is well developed and is administered by an experienced staff of two full-time contract instructors. In addition to the above-mentioned training staff, three full-time contract shift training sergeants are provided to administer the requalification and self-assessment programs on shift. Facilities for training and requalification are located on site. The facilities are well-equipped and well-maintained. The licensee also provides substantial resources for special, off-site training courses for members of the contract security organization, including: special computer schools, law enforcement leadership training, weapons maintenance courses, and supervisory and management schools. Contingency drills are conducted each week and are effectively used for training purposes by conducting critiques that are fed back into the formal training and requalification program. The licensee's operations organization participates in these exercises when the postulated contingency event could have an effect on plant operation.

The licensee's event reporting procedures were found to be clear and consistent with the NRC's reporting requirements in 10 CFR 73.71. Fourteen event reports were submitted to the NRC during the assessment period. The licensee's event reporting program was found to be acceptable. However, early in the assessment period there were several examples of repetitive events, notably in the area of access control, which indicated a lack of effectiveness by the licensee in identifying and correcting the root causes of the events. Since January 1988, performance in this area has significantly improved, with no further recurrences.

During the assessment period, the licensee submitted one revision to the security force Training and Qualification Plan under the provisions of 10 CFR 50.54(p). This revision was of high quality and technically sound, and reflected well-developed policies and procedures. Security personnel involved in maintaining program plans current are knowledgeable of NRC requirements and objectives.

The licensee fitness for duty program is active and visible. Positive results of drug tests were used as a basis for termination of employees and the use of a canine to conduct searches for contraband provided a visible deterrent. The security force is sensitive to the issue of contraband, however, a report to the NRC of the discovery of contraband on site was not made in a timely manner.

In summary, the licensee continues to maintain a very effective security program. Significant enhancements were made to the program which is indicative of management attention to and interest in the program. The efforts to upgrade the operation and reliability of systems and equipment during this period are commendable and demonstrate the licensee's commitment to maintaining an effective and high quality program.

III.E.2 Performance Rating

Category 1

III.E.3 Recommendations

None.

III.F Engineering/Technical Support (285 hours, 7.5%)

III.F.1 Analysis

In the prior assessment, which was the first evaluation of Engineering and Technical Support as a separate functional area, this area was rated Category 2. This rating was principally based on generally good performance in addressing NRC concerns and self-identified design problems and in supporting construction completion and ongoing operations from an engineering standpoint. During that period the licensee reorganized the engineering staff to transition from a large construction engineering organization heavily dependent on architect/engineer support to a smaller in-house New Hampshire Yankee engineering organization. The previous SALP noted the need for more timely and complete engineering analysis of deficiencies, particularly by the corporate engineering staff. Also, the SALP noted that the recurrent nature of some of the problems during the period which indicated the need for additional licensee attention to corrective action.

The following evaluation is based on assessments of engineering support effectiveness from the routine and special inspections performed during this assessment period. Several inspections emphasized the review and assessment of engineering performance, while others assessed engineering support effectiveness during routine inspections of other functional areas. Assessments were also made of the licensee's activities in response to prior assessment comments.

During this SALP period, the corporate engineering staff demonstrated an increased sensitivity to significant safety issues. The engineering evaluations have continually improved. The on-site technical support department is staffed with knowledgeable personnel who have demonstrated the ability to execute such complex multi-disciplinary activities as the mid-loop operations test and residual heat removal systems pump thrust bearing evaluations, with a minimum of difficulty. However, the licensee's engineering staff has not yet been challenged to support plant activities during the pressures of continued operation at full power.

The licensee's responsiveness to NRC concerns and initiatives is generally sound and thorough. For example, the licensee provided an excellent technical response to NRC Bulletin 88-05 on nonconforming materials. Ample engineering, inspection and testing resources were provided to ensure timely completion of a demanding schedule. Additional examples of good responsiveness to NRC concerns included the engineering staff's resolution of qualification issue regarding certain electrical relays and the evaluation of abandoned supports in seismic areas. However, problems with relays had been discussed in NRC Information Notice 87-66 and the licensee review of this Information Notice for applicability to Seabrook concerning installed equipment did not occur until after NRC inspector involvement. Also, a review of the licensee's electrical cable splice program established in response to NRC Information Notice 86-53, identified several deficiencies in the qualification and physical inspection methods used for electrical splices.

The above indicates a weakness in the licensee's timely disposition of NRC Information Notices. The licensee is addressing this weakness by reviewing the methodology used to evaluate Information Notices. Once concerns were identified, the licensee took conservative actions. For example, the licensee reviewed and identified additional installation records that did not clearly establish the acceptability of some electrical splices. Even though a destructive examination of some of the splices with questionable records indicated that the splices were acceptable, the licensee made a conscious decision to replace all questionable splices prior to full power operation.

In other instances the licensee has been responsive to concerns that have a potential adverse impact on safety-related equipment. The licensee reviewed for applicability to Seabrook the fabrication and testing problems of spent fuel storage racks at U.S. Tool and Die, Incorporated as identified by the NRC. Also, the licensee reviewed the structural failure of an overhead crane in the circulating water pump house for generic applicability to other cranes in the plant. In both of the above examples, the licensee conducted good assessments of generic implications and concluded that no safety-related equipment was adversely impacted.

The licensee's resolutions of technical issues from a safety perspective were generally well directed, timely and thorough although there have been isolated instances where technical issues have not been thoroughly resolved or fully understood. In response to NRC Bulletin 88-01, the licensee conducted a detailed inspection and identified that all of the reactor trip breakers had unacceptable pole shaft welds. Even though the engineering analysis indicated that these breakers are usable for up to 4000 cycles, the licensee decided to consider these breakers inoperable until new pole shafts with acceptable welds were installed. This is an example which demonstrates the licensee's ability to place considerable emphasis and effort on resolving generic technical issues in a conservative manner.

In another instance, the licensee demonstrated conservative engineering judgement in the resolution of technical problems associated with residual heat removal system pump thrust bearing premature failure. A detailed root cause analysis was performed and the failure mode was analyzed and established. Licensee analysis indicated that the thrust bearing life was about 7000 hours which agreed with 7400 hours of operation prior to the bearing failure. Based on this analysis, the licensee took short-term corrective actions to limit post-accident operation to 2400 hours with a maximum running time of 4600 hours.

The licensee's program for evaluating the extent of corrosion in service water system piping was innovative and comprehensive. A remote video camera was used to inspect the piping system. Modifications were made to the piping system to facilitate future video camera inspections. While the modification was in progress, the licensee completed video camera inspection of a 692-foot section of the twenty-four inch diameter, cement lined piping system. Each individual field weld was examined radially and mapped. There was good supervision and close monitoring by the licensee's system engineers for this contractor assisted activity.

In spite of overall good performance, isolated instances of inadequate engineering and technical support continued to exist. The treatment of non-class 1E loads powered from class 1E sources was one example of a technical issue which was not fully understood. Several non-class 1E loads were not included in the licensee's Technical Requirements Manual (TRM) list of devices to be tested per technical specifications. Subsequently, the licensee revised the applicable programs.

Other instances during the period indicated that resolution of certain problems in the RHR system and the emergency feedwater (EFW) pump turbine main steam piping were not initially comprehensive. Weld failures in the RHR pump recirculation piping were initially corrected prior to fully understanding the root cause. Subsequently, the licensee concluded that the failures were due to excessive flow-induced vibration which possibly caused damage to the disc guides for a nearby flow control valve. A modification changing this flow control valve from a gate to a globe valve is expected to effect a comprehensive solution. Also, late in the SALP period, the engineering staff conducted modifications to the steam admission control valves for the EFW pump turbine. Subsequently, sufficient steam leakage through these valves caused undesirable downstream check valve disc banging which called into question the overall reliability of the current design. A permanent solution to this concern was still in progress at the end of the SALP period. The above two examples indicate a weakness in root cause evaluation.

In summary, the licensee's engineering staff is knowledgeable and has demonstrated an increased sensitivity to significant safety issues. Its responsiveness to NRC concerns and the challenges identified during startup testing was generally sound and thorough. Also, the licensee has generally performed satisfactorily in resolving technical issues from a safety perspective. However, problems continue to appear in the engineering and technical support area regarding the comprehensiveness of certain corrective actions.

III.F.2 Performance Rating

Category 2

III.F.3 Recommendation

Licensee

None.

NRC

Conduct an Environmental Qualification inspection in the first quarter of FY 1990.

III.G Safety Assessment/Quality Verification (265 hours, 6.8%)

III.G.1 Analysis

During the previous assessment period, the licensee's performance in this functional area was evaluated under the functional areas of licensing activities and assurance of quality, which were rated Category 1 and Category 2 respectively. The rating of licensing activities was based on the actions required to obtain a fuel load license and effective coordination of efforts to provide input to the NRC. The rating of assurance of quality was based on strong first line supervision, a strong quality conscious attitude throughout all levels of the plant organization, and the diminished strength of the Quality Assurance organization as an independent force and prime mover.

The licensee continued to demonstrate strength in its approach to resolution of licensing technical issues from a safety standpoint, in the qualifications and level of staffing of their licensing staff and in the active involvement of corporate management up to and including the President of NHY. The licensee has provided the capability needed in the engineering disciplines to resolve items of concern to the NRC. Resolutions of technical issues generally have been thorough and consistent. The licensee has been willing to perform additional studies, as necessary, to answer outstanding NRC questions. Effective communication between the licensee and the NRC staff has been beneficial in processing licensing actions. An example that typifies these desirable performance attributes is described in the functional area of emergency preparedness in Section III.D.1.

In general, the licensee continued to facilitate timely resolution of a number of licensing safety issues that were outstanding. Of particular note was the licensee's timely response to NRC Bulletin 88-05. This Bulletin was issued on May 6, 1988, and subsequently two supplements were issued. The subject of the Bulletin was the discovery that certified material test reports for material supplied to the nuclear industry by certain manufacturers and suppliers contained false information. The second supplement was issued August 3, 1988. Seabrook was one of the plants affected and became the lead plant for developing timely resolution. The licensee conducted a timely multi-faceted program, which was thorough and comprehensive, to identify, locate, and replace, as appropriate, nonconforming flanges and fittings supplied by certain manufacturers and suppliers. However, licensing issues such as fire protection and sampling and analyses of effluents, for which resolution was identified at the time of issuance of the fuel load license in October 1986, have not yet been completed.

NHY management has actively participated in licensing actions and generally has maintained awareness and knowledge of current and anticipated licensing activities during this evaluation period. On several occasions, licensee management has demonstrated prompt, appropriate corrective action to situations where the responsiveness by the licensee staff to NRC initiatives was deemed incomplete or not timely, such as the thermal stratification of the pressurizer surge line

issue. NHY has also demonstrated a willingness to meet with the NRC to discuss licensing action status on an as-needed basis and with a cooperative attitude to resolve problems.

An example of particular note regarding active NHY management participation occurred during the NRC's review of the financial condition of the utility joint owners and its impact on safe operation of the plant and on decommissioning the facility. This was considered a significant licensing issue due to the bankruptcy filing of the lead owner and financial difficulties of several other owners. Top level licensee executive's availability to the NRC staff on short notice was of great assistance in completing the review. The executives provided up-to-date, thorough information on the financial status of each owner. The information provided was well supported and fairly balanced in that it reflected the financial problems as well as the financial strengths of the utilities.

NHY engineering has been adequately staffed, as indicated by the qualified representatives attending meetings and participating in conference calls with the NRC. Competent technical staff have participated in scheduled reviews and effected satisfactory resolution of open items. The NHY Bethesda Licensing Office has continued to remain active throughout this SALP period as a significant licensee initiative that continues to provide priority attention to NRC licensing issue concerns. In general, the licensee's licensing group has effectively coordinated the efforts needed to obtain the necessary inputs to NRC from the different functions within the NHY organization.

The Station Operations Review Committee (SORC) is composed of department managers and provided consistent, effective review of significant plant issues, including design changes, station incident reviews, reportable events, and station-wide procedures. The Nuclear Safety Audit Review Committee (NSARC) is composed of senior managers and independently reviewed and audited safety evaluations, potential unreviewed safety questions, violations, and SORC meetings and minutes. Licensee corporate management considers that the number and extent of the reviews required by the NSARC is excessive and is evaluating methods to reduce the review burden.

New Hampshire Yankee recently initiated the Human Performance Evaluation System (HPES), a detailed analysis method for determining root causes of incidents involving personnel error. The HPES techniques were used to evaluate the circumstances surrounding the June 22, 1989 reactor trip event which occurred during the natural circulation test. These analysis techniques provided a thorough evaluation of personnel errors. However, with respect to the post-trip review process, personnel errors were not specifically evaluated, which reduced the effectiveness of the self-assessment process immediately following a reactor trip.

The previous SALP report indicated that weaknesses existed in the ability of the Nuclear Quality Group (NQG) to identify significant safety issues and drive the corrective action process. During this reporting period, this weakness continued. The NQG focus on developing programmatic controls was proper, but

the overall emphasis upon program conduct and completion appeared to diminish the emphasis upon program effectiveness accomplished through inspection, surveillance, and audit functions. Also, the credibility of NQG findings over the course of this SALP period appeared to be a source of contention and question by other licensee departments, thus diminishing the effectiveness of required corrective actions. Following a series of discussions with the NRC, senior management formed a team of expert consultants under the Independent Review Team (IRT) Manager. A detailed programmatic analysis was performed, late in the assessment period, which closely confirmed NRC concerns in the areas of strained departmental interfaces, undefined management expectations for the Operational Quality Assurance Program, duplication of efforts among NQG sections, duplication of effort between NQG and other review groups, and the quality of audit findings.

The IRT recommended a number of changes which if implemented would address the concerns. Management has made other programmatic changes where areas of weakness were acknowledged prior to the IRT review. For example, a findings review board has been established to ensure consistency and validity of all NQG findings.

In summary, licensing activities remain a strength of the organization, including resolution of technical issues, timely response to outstanding licensing safety issues, and prompt resolution of NRC concerns. The Independent Review Team (IRT) findings were detailed and recommendations for corrective actions were made, however, weaknesses continued to be observed in the effectiveness of the Quality Assurance program.

III.G.2 Performance Rating

Category 2

III.G.3 Recommendations

Licensee

Implement recommendation of IRT final report on operational quality assurance program implementation.

Conduct self-assessment of program activities and meet with the NRC staff to discuss the results at predefined milestones.

NRC

None.

SUPPORTING DATA AND SUMMARIES

A. Licensee Activities

This assessment period began with the plant in Operational Mode 5, Cold Shutdown with fuel loaded in the core.

On January 28, 1988 Public Service Company of New Hampshire filed a voluntary petition for relief under Chapter 11 of Title 11 of the United States Code in the United States Bankruptcy Court for the District of New Hampshire.

On April 5-9, 1988 a special mid-loop operations test was conducted to determine how low the reactor coolant system could be drained before cavitation occurred on the residual heat removal pumps.

On June 28-29, 1988 a graded emergency preparedness exercise was conducted.

On July 19, 1988 while performing surveillance testing on the containment building spray system, an improper valve lineup caused approximately 5,000 gallons of water from the refueling water storage tank to flow into the reactor coolant system.

On November 20, 1988 a bubble was drawn in the pressurizer and the secordary system was filled and vented. On December 2, 1988 the plant was heated up to Operational Mode 4, Hot Shutdown. On December 3, 1988 the plant was cooled down to Operational Mode 5, Cold Shutdown.

On May 26, 1989 a low power license was issued and the plant attained initial criticality on June 13, 1989. Low power physics testing was conducted on June 13-22, 1989.

An unplanned manual reactor trip occurred on June 22, 1989 during a natural circulation test due to a failure of a steam dump valve. The plant was then cooled down to Operational Mode 5 on June 29, 1989. The licensee agreed not to restart the plant without authorization of the Regional Administrator in accordance with Confirmatory Action Letter 89-11.

On June 29, 1988, the Vice President-Nuclear Production was relieved of all responsibilities related to Seabrook Station. On July 24, 1989, organizational changes became effective which created the positions of Senior Vice President and Chief Operating Officer, Executive Director of Engineering and Licensing, Executive Director of Nuclear Production, and Director of Quality Programs; and abolished the positions of Vice President-Nuclear Production and Vice President-Engineering, Licensing, and Quality Programs.

B. Direct Inspection and Review Activities

Throughout the assessment period there was one NRC resident inspector assigned to the site. A second NRC resident inspector was assigned to the site during the first half of the assessment period. Evaluations of the emergency preparedness exercises were conducted by the NRC on December 15-17, 1987 and on

June 27-29, 1988. A readiness assessment team inspection was conducted on May 27 to June 1, 1989. An inspection team reviewed initial criticality and low power testing June 12-23, 1989. June 27-29, 1989, an Augmented Inspection Team reviewed the plant response and licensee actions taken during and after the events connected with the manual reactor trip that occurred on June 22, 1989 during the natural circulation test.

There was a total of 3806 direct inspection hours during the assessment period or 1986 direct inspection hours on an annualized basis. The following table provides a summary of the direct inspection hours per functional area.

	Actual	Annualized Hours	Percent
Plant Operations	2410	1257	63.3%
Radiological Controls	16	8	0.4%
Maintenance/Surveillance	372	194	9.8%
Emergency Preparedness	350	183	9.2%
Security	113	59	3.0%
Engineering/Technical Support	285	149	7.5%
Safety Assessment/Quality Verification	260	136	6.8%
Totals	3806	1986	100%

C. Enforcement Activities

The number of violations issued per month during this assessment period and the severity levels of the violations were not significantly different from the previous assessment period. The following table summarizes the violations issued this assessment period.

	Number of Violations by Severity Level					
Functional Area	V	IV	III	II	I	Total
Plant Operations	3	2				5
Radiological Controls						
Maintenance/Surveillance	1					1
Emergency Preparedness						
Security	1	1				2
Engineering/Technical Support	1	1				2
Safety Assessment/Quality Verification	-	1				1
Totals*	6	5				11

*Enforcement action for the June 22, 1989 event is under evaluation.

D. Confirmatory Action Letter

A Confirmatory Action Letter (CAL) 89-11 was issued on June 23, 1989 in response to licensee actions taken during and after the events which occurred on June 22, 1989 during the performance of the natural circulation test. Public Service of New Hampshire committed to review with the NRC, the results of their post-trip review of the June 22, 1989 event including short- and long-term corrective actions prior to restart of Unit 1.

E. Licensee Event Report Causal Analysis

The licensee submitted twenty-one licensee event reports (LERs) during the assessment period. The following LERs were reviewed.

87-015 to 87-025 (with exception of six security event reports)
88-001 to 88-010
89-001 to 89-006

The two reported events identified as significant events by the NRC were: LER 50-443/87-019, "Failure of Gould/Telemecanique J-10 Relay," which reported failed relays caused by embrittlement of plastic at the end of the magnet yoke assembly; and LER 50-443/88-006, "Technical Specification Surveillance Requirement Not Satisfied Due to Procedural Inadequacy," which identified certain auxiliary and isolation relays associated with the reactor coolant system cold overpressure mitigation system as not being included in surveillance test procedures.

All the LERs adequately described the major aspects of each event including component or system failures that contributed to the event and the significant corrective actions taken or planned to prevent recurrence. The reports were thorough, detailed, fairly well written and easy to understand. The narrative sections typically included specific details of the event such as valve identification numbers, model numbers, number of operable redundant systems, the date of the completion of repairs, etc., to provide a good understanding of the event. The root causes of the events were identified. The updated LERs were adequate.

Previous similar occurrences were properly referenced in the LERs as applicable. Although the event information was well organized and complete, a separate heading or title for each section of specific information would lead to a clearer understanding of the event information.

The underlying causes of the events did not show a problem in uncovering deficiencies and correcting them.

The following table provides a summary of the cause for the LERs which were reviewed. Security event reports are discussed in section III.E, Security.

Functional Area	A	B	C	D	E	Total
Plant Operations	4	1		1	3	9
Radiological Controls						
Maintenance/Surveillance	5			3	2	10
Emergency Preparedness						
Security						
Engineering/Technical Support		1			1	2
Safety Assessment/Quality Verification						
Totals	9	2		4	6	21

Cause Codes *

Type of Events

A. Personnel Error..... 9
B. Design/Mfg/Constr/Install..... 2
C. External Cause..... 0
D. Defective Procedure..... 4
E. Component Failure..... 6

Total 21

*Root causes assessed by the SALP Board may differ from those listed in the LER.

ATTACHMENT 1

SALP CRITERIA

Licensee performance is assessed in selected functional areas, depending on whether the facility is in a construction or operational phase. Functional areas normally represent areas significant to nuclear safety and the environment. Some functional areas may not be assessed because of little or no licensee activities or lack of meaningful observations. Special areas may be added to highlight significant observations.

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

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

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

3. Responsiveness to NRC initiatives;

4. Enforcement history;

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

6. Staffing (including management); and

7. Effectiveness of training and qualification program.

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

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

Category 1. Licensee management attention and involvement are readily evident and place emphasis on superior performance of nuclear safety or safeguards activities, with the resulting performance substantially exceeding regulatory requirements. Licensee resources are ample and effectively used so that a high level of plant and personnel performance is being achieved. Reduced NRC attention may be appropriate.

Category 2. Licensee management attention to and involvement in the performance of nuclear safety or safeguards activities is good. The licensee has attained a level of performance above that needed to meet regulatory requirements. Licensee resources are adequate and reasonably allocated so that good plant and personnel performance is being achieved. NRC attention may be maintained at normal levels.

Category 3. Licensee management attention to and involvement in the performance of nuclear safety or safeguards activities are not sufficient. The licensee's performance does not significantly exceed that needed to meet minimal regulatory requirements. Licensee resources appear to be strained or not effectively used. NRC attention should be increased above normal levels.

The SALP Board may assess a functional area to compare the licensee's performance during the last quarter of the assessment period to that during the entire period in order to determine the recent trend. The trend categories used by the SALP Board are as follows:

Improving: Licensee performance was determined to be improving near the close of the assessment period.

Declining: Licensee performance was determined to be declining near the close of the assessment period and NHY has not taken meaningful steps to address this pattern.

A trend is assigned only when, in the opinion of the SALP Board, the trend is significant enough to be considered indicative of a likely change in the performance category in the near future. For example, a classification "Category 2, Improving" indicates the clear potential for "Category 1" performance in the next SALP period.

It should be noted that Category 3 performance, the lowest category, represents acceptable, although minimally adequate, safety performance. If at any time the NRC concluded that a licensee was not achieving an adequate level of safety performance, it would then be incumbent upon NRC to take prompt appropriate action in the interest of the public health and safety. Such matters would be dealt with independently from, and on a more urgent schedule than, the SALP process.

It also should be noted that the industry continues to be subject to rising performance expectations. NRC expects each licensee to actively use industry-wide and plant-specific operating experience in order to effect performance improvement. Thus, a licensee's safety performance would be expected to show improvement over the years in order to maintain consistent SALP ratings.