U.S. NUCLEAR REGULATORY COMMISSION

REGION I

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

INSPECTION REPORT 50-423/85-99

NORTHEAST NUCLEAR ENERGY COMPANY (NNECo)

MILLSTONE NUCLEAR POWER STATION, UNIT 3

ASSESSMENT PERIOD: SEPTEMBER 1, 1984 - AUGUST 31, 1985

BOARD MEETING DATE: NOVEMBER 4, 1985

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TABLE OF CONTENTS

TABLES

I. INTRODUCTION

A. Purpose and Overview

The Systematic Assessment of Licensee Performance (SALP) is an integrated NRC staff effort to periodically collect observations and evaluate licensee performance. SALP objectives are to improve the NRC Regulatory Program and licensee performance.

This SALP differs substantially in emphasis from previous Millstone 3 SALPs. Most construction activities are now combined into one functional area. Functional areas were added to address aspects related to future plant operations. The purpose was to focus this one year SALP (9/1/84 - 8/31/85) heavily on operational readiness and operational performance, with post-SALP period observations included where pertinent.

The SALP evaluation criteria are discussed in Section II and were applied using the "Attributes for Assessment of Licensee Performance" of NRC Manual Chapter 0516.

B. SALP Review Board and Attendees

SALP Review Board Members

R. Starostecki, Director, Division of Reactor Projects (DRP), Chairman
S. Ebneter, Director, Division of Reactor Safety (DRS)
E. Wenzinger, Chief, Projects Branch No. 3, DRP
L. Bettenhausen, Chief, Operations Branch, DRS
R. Bellamy, Chief, Emergency Preparedness and Radiation Protection Branch, Division of Radiation Safety and Safeguards (DRSS)
E. McCabe, Chief, Reactor Projects Section 3B, DRP
T. Rebelowski, Senior Resident Inspector, Millstone 3
E. Doolittle, Licensing Project Manager, NRR

Other Attendees

K. Ferlic, Project Engineer, DRP
R. Summers, Project Engineer, DRP

C. Background

1. Licensee Activities

During this SALP period, the thrust of activities shifted from construction towards preoperational activities. One hundred nine systems were "turned over" from construction to operations

for test performance, and 237 of the 238 systems had been turned over by the end of the SALP period. Also, eight major milestones were completed (plant on permanent power, Reactor Coolant System hydrostatic test, Steam Generator hydrostatic test, fuel receipt, emergency drill, Containment Structural Integrity and Integrated Leak Rate Test, Turbine Building Hot Functional Test to the capacity of the boiler, and Engineered Safety Features Tests). The craft staffing decreased from approximately 3200 to about 1400.

The licensee considered Millstone 3 to be approximately 98% complete as compared with 88% at the end of the previous SALP period. (No NRC estimate of completion status was made.) Northeast Utilities' current estimate for fuel loading is November 1985. The Integrated Hot Functional Testing which is scheduled for September/October 1985 is critical to achieving this date. Equally important is generation and implementation of plant procedures and qualification of the operating staff.

After the SALP period, the integrated hot functional test (IHFT) was begun on September 27.

2. Inspection Activities

One NRC Senior Resident Inspector was assigned throughout the SALP period. Resident Inspector assistance was provided by the Millstone 1/2 Resident Inspector until a full time Resident Inspector was assigned to Millstone 3 in August 1985. Team inspections were conducted by a Headquarters Construction Assessment Team (CAT), a Technical Specifications Review Team, an NDE Independent Measurements Team, a Fire Protection Team (including safe shutdown capability), an allegations Review Team,and an as-built review team (at the end of the assessment period). There was also an Environmental Qualification inspection and numerous NRR visits to evaluate SER concerns.

The NRC inspection effort during the period totalled 7723 hours: 5523 hours were by resident and region-based inspectors; and 2200 hours were for the CAT inspection. The distribution of inspection hours is shown in Table 2. Inspection activities and enforcement data are summarized in Tables 3 and 4, respectively.

Quality assurance was an integral element of all inspections performed during the assessment period. In addition, two inspections were devoted specifically to the QA/QC program.

3. Other Activities

On September 10, 1984 the ACRS reported to the NRC Chairman that, subject to resolution of open NRC items and to the satisfactory completion of construction, staffing, and preoperational testing, the ACRS believes that there is reasonable assurance that Millstone 3 can be operated up to 3411 Mwt without undue risk to public health and safety.

The Millstone 3 simulator is operational and has been used for the initial operator licensing process.

Public officials in Waterford, Connecticut have been routinely informed of major Millstone 3 evolutions by utility officials and separately by the senior resident inspector.

The Safety Evaluation Report (SER), NUREG-1031 was issued by NRR during July 1984. Supplements 1 and 2 were issued in March 1985 and September 1985. Supplement 3 was in draft form at the end of the assessment period.

On March 22, 1985, the applicant established a more formal and comprehensive allegation program after discussions of the need for this with Region I.

On June 5, 1985, an exemption was granted to General Design Criterion 4, allowing NNECo to forgo the installation of pipe whip restraints for primary loop piping.

The 29 Construction Deficiency Reports (CDRs) for this assessment period are summarized in Table 1. Three of these have currently been determined not to be reportable by the licensee.

II. CRITERIA

Licensee performance is assessed in prescribed functional areas based on whether the facility is in a construction, preoperational, or operational phase. Other areas may be added as appropriate. Each area normally represents aspects significant to nuclear safety and the environment. One or more of the following criteria were applied in each area:

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

Each area was classified into one of the following three categories.

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

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

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

The SALP Board also assessed each functional area to compare the licensee's performance for the last quarter of the assessment period to that during the entire SALP period in order to determine the recent trend for each functional area. The trend categories are:

Improving. Licensee performance has generally improved over the last quarter of the current SALP assessment period.

Consistent. Licensee performance has remained essentially constant over the last quarter of the current SALP assessment period.

Declining. Licensee performance has generally declined over the last quarter of the current SALP assessment period.

III. SUMMARY OF RESULTS

	Functional Area	Category Last Period (9/1/83-8/31/84)	Category This Period (9/1/84-8/31/85)	Recent Trend
A.	Operations Support	N/A	2	Consistent
B.	Radiological Controls	N/A	2	Consistent
C.	Maintenance	N/A	2	Consistent
D.	Surveillance	N/A	3	Consistent
E.	Preoperational Testing	1	1	Consistent
F.	Fire Protection & Housekeeping	N/A	1	Consistent
G.	Emergency Preparedness	N/A	2	Consistent
H.	Security	N/A	1	Consistent
I.	Construction	1	1	Consistent
J.	Licensing	2	2	Consistent

Overview

During this transitional period, licensee performance has generally been characterized by management involvement in facility activities, strong QA/QC presence, commitment to training, appropriate corrective action, responsiveness to NRC concerns, and technical competence. Construction quality and preoperational testing has been good. The licensee has been effective at maintaining control over contractor activities. Construction and preoperational testing program development and staffing kept pace with activities and the licensee generally anticipated changes in manning requirements.

Transitions to operating phase programs generally progressed smoothly, with carryover from Millstone 1 and 2 being a substantive aid in the development of Unit 3 programs. Resolution of fire protection issues was particularly well done.

Problems identified included nondestructive examination inadequacies, minor flooding incidents, failures on initial operator licensing examinations, and slow development of procedures to support plant startup and operation. However, it was evident that, while the construction completion schedule was very important to the applicant, safety considerations were resolved without subordination of quality to schedule.

This assessment has not evaluated the licensee's organization as it will exist during ascension to full power. Shift staffing and organizational changes are expected to occur as Unit 3 becomes operational. Continued management attention is needed to ensure a smooth transition.

Training Overview

The applicant's commitment to training has been high. As noted in the Millstone 1/2 SALP (9/1/83 - 2/28/85), organizational training initiatives have been notable and included an upgrading through training staff expansion in size and authority. The licensee is providing simulators for all four facilities and the Millstone 3 simulator is operational.

There was a high failure rate on the initial licensed operator examinations which can be attributed to the use of the simulator in the examination process and some lapses in the operations/training interface. After meetings with the NRC and program revisions to resolve these lapses and increase simulator usage, significant improvement in candidate performance was noted on the second set of examinations.

Overall observation of work performance in all phases of plant activities indicated a well trained and qualified work force. Few problems arose as a result of unqualified personnel or lack of training. Review of training records to verify qualifications and receipt of training and retraining found the records were complete and met program requirements. The effectiveness of training will continue to be monitored after INPO accreditation.

Quality Assurance Programs and Controls Overview

Management of Millstone-3 made an initial strong commitment to assure quality and has maintained that commitment throughout the design, procurement, construction, and preoperational phases. The training and knowledge of QA/QC personnel was found acceptable during all phases. Staffing was generally sufficient and adequate to conduct the QA/QC programs during the transition from construction to operations. Management involvment has been clearly evident in knowledge of QA/QC programs and their status, in onsite presence, and in emphasis on corrective actions.

QA coverage for operations is to be based on acceptable programs in place at Millstone 1 and 2. QA programs for operations, surveillance, and maintenance have not been completed for Millstone 3. Their completion is dependent upon completion of the procedures governing these activities.

QA violations which have occurred during this assessment period relate to the broad spectrum of construction and preoperational activities involved in the latter stages of facility construction. They do not indicate a breakdown in quality programs or serious individual quality problems.

IV. PERFORMANCE ANALYSIS

A. Operations Support (552 Hours, 7%)

This area addresses compliance with commitments and procedural requirements, "turned-over" systems, reporting, staffing, engineering support, design change and modification control, operator training, and safety review committee activities. Fuel receipt, core load preparations, operational aspects of testing, and onsite management of facility evolutions are also included.

This area was under routine review by resident and region-based inspectors throughout the assessment period. The analysis is based in part on review of operations-related aspects of inspections of other Functional Areas and therefore involves a larger inspection basis than was allocated.

Observation of control room activities found personnel knowledgeable of their current assigned duties and responsibilities (e.g., response to facility emergencies [containment fire], manipulation of controls during preoperational testing, hanging and removal of tags and jumpers).

A formal method of processing design changes and written administrative controls for controlling temporary modifications, jumpers, and bypasses, including controls for maintaining logs, was in place throughout the assessment period. These are the framework for control during operations and were effective during testing. Improvements have been made as deficiencies were found (e.g., changes to jumper controls to establish a one time, unique tag number.) However, review of recent plant incident reports found multiple tagging problems, and administrative procedural controls should be reviewed by the licensee to assure their adequacy for operations. Similarly, licensee reviews should be performed to assure log keeping requirements and shift turnover protocols provide the more rigorous controls needed for operation.

Although no violations were cited in the operations area, several aspects of three flooding events which occurred are related to operational controls. In a Service Building flooding event, the elapsed time between the Shift Supervisor's release for test performance (signifying the plant systems had been verified and ready for test) and the actual performance of the test was nine months with no reverification, and changed system status resulted in the event. In a flooding event in the Control Building, failure to follow procedural controls resulted in isolating a section of service water pipe without emptying the pipe, which then was drained to the Control Building. In an Engineered Safety Features Building flooding event, failure of to follow the automated work order tag requirements caused flooding. Corrective action was initiated for each of these events. No similar events have occurred recently. However, operational

controls and staff training in these areas should be re-reviewed by the licensee prior to power operations to further safeguard against such occurrences.

New fuel receipt occurred during the SALP period. Few problems were encountered with fuel receipt, transfer, cleaning, storage, and documentation of these activities. Personnel involved were knowledgeable of their responsibilities and of program and NRC license requirements. The licensee was cognizant of IE Information Notices concerning fuel handling and had incorporated the recommended actions into procedural, alarm, and interlock provisions. Personnel training was found adequate in associated areas (fire protection, health physics, security, preoperational testing). QA/QC coverage was provided.

Initial cold license operator examinations were conducted during May. A second set of examinations in September immediately followed the close of the SALP period. The simulator was used during the examinations. The initial set of examinations resulted in an approximately 50% failure rate. The failures tended to be concentrated in the simulator portion of the operating test. A meeting with the candidates who failed the test was held by NRC supervisors to both further understand what transpired and to explain how examiners expect the candidates to perform for upcoming tests. Some of the failures can be attributed to the fact that the simulator was very recently placed in service and a comprehensive training program integrating the simulator was not in place for the candidates. Consequently, the candidates may not have been sufficiently familiar with both the simulator and the newly developed emergency operating procedures. Further analysis of the operator training program indicated that another weakness may be poor communications between the training organization and the operations department in that there was not a mutual understanding regarding operating philosophy and training needs, and the technical feedback required to assure that the training desired is being achieved was lacking. An example was the confusion generated regarding the role of the shift supervisor (SS) and the supervising control room operator (SCRO) which caused some problems in examining the senior reactor operator (SRO) candidates since the two positions had divided responsibilities. The licensee didn't anticipate that the SS may in fact not be in the control room or readily available at all times and that the SCRO may have to perform both functions. Consequently, emphasizing the duties of the SCRO as being a subset of SS duties resulted in confusion. This, coupled with the problems between operations and training, resulted in the high failure rate. A management meeting was held to discuss these problems and, subsequently, the examinations conducted in September and the retake examinations given in October reflected an improvement in training and performance on the simulator. Meetings were held between the NRC examiners and the candidates before the second set of examinations to explain scope and conduct of the test.

Two events near the end of the assessment period are potentially significant. These were a condenser chloride intrusion and a diesel fuel oil spill. The chloride intrusion was caused by corrosion of bolts fastening the air reduction pipe to the condenser tube sheet. During the recovery, examination revealed that additional bracing was needed. This was a major task. Management response was extremely thorough, technically sound, and provided long term corrective action to both corrosion and bracing problems. Inspector review found that licensee actions exceeded those required to fix the "broken part" and demonstrated an aggressive "correct the root cause" approach. The second event was a fuel oil spill caused by over-filling the 'B' fuel storage tank while transferring from the 'A' fuel storage tank via the day tank. Procedural inadequacies appeared to be involved. Licensee investigation was in progress at the end of the SALP period. However, concern for the fuel spill did not appear to be approached with as thorough a "correct the root cause" approach as the chloride intrusion. Although the fuel spill was much less important than the chloride intrusion, it indicates that correcting root causes could be more thoroughly ingrained in plant personnel.

Conclusion

Category 2, consistent.

Board Recommendation

Licensee:

1. Review control of and training for jumpers and lifted leads, tagging, log keeping, and shift turnover requirements to assure controls are adequate for power operation.

2. Assess whether formal methods and personnel orientation on correcting root causes are sufficient.

NRC:

Conduct a special team inspection to assess the functional operational performance of the plant operating staff during the power ascension program and/or early during operation at high power.

B. Radiation Control (181 Hours, 2%)

Preoperational inspections of radiological controls were initiated in this SALP period. Programs reviewed were radiation protection, radioactive waste management, radioactive material transportation, effluent control and monitoring, and radiochemistry. These programs have been used at of Unit 1 and 2 and are being applied to Unit 3. Radiological controls for Units 1 and 2 were Category 2 for the last assessment period (9/1/83 - 2/28/85), and the programs are well established and operationally sound.

Procedures for Unit 1 and 2 radiation protection are generally well stated and provide explicit directions for controlling radiological activities. All of the procedures applied to Unit 3 were subject to management review before incorporation to assure that radiological control was not over-generalized. Minor examples of procedural deficiencies have been identified in NRC reviews but programmatic weakness is not indicated. However, detailed radiological controls for handling of contaminated individuals exiting the Unit 3 containment and their transfer to a decontamination area have not been established.

The radiation protection program was not fully implemented for fuel receipt. Nevertheless, the licensee's fuel receipt efforts demonstrated good planning and effective procedure development. The personnel involved were adequately trained and able to establish thorough and complete radiological controls. Records of this activity were complete, well maintained, and available for review.

Personnel who implement the radiation protection program at Unit 3 undergo the same formal training as at Units 1 and 2. Additionally, all personnel received special unit specific training in plant systems and layouts. The training program is well defined and implemented for the entire staff.

The licensee's chemistry/radiochemistry program is based on proven procedures adopted from the program for the operating units. Personnel are trained and qualified. A consistently good performance has been noted in this area at Millstone 1 and 2.

The radioactive waste management program, common for the site, has not yet been implemented for Unit 3. All radwaste systems have been turned over to the utility. Preoperational testing is in progress. Liquid waste, gaseous waste, and boron recovery systems remain to be tested. The test program appears technically sound and sufficient. Several operational deficiencies have been identified, but there is a concerted effort to resolve and correct them. Waste system operating and surveillance procedures have not been finalized and, consequently, were not reviewed.

Support activities such as external dosimetry, whole body counting, maintenance and calibration of radiation instrumentation are common to the site. The respiratory protection program, although also common, has not been reviewed for how the Unit 3 subatmospheric containment and associated changes in controls, if any, will be addressed.

The Radiological Environmental Monitoring Program for the operating units will also apply to Unit 3. This program has been effectively implemented and is technically sound. Only minor discrepancies have been noted. These have received immediate attention.

Immediately after the SALP period, NRC inspectors identified a radwaste program concern. The FSAR solid radwaste system description and the SER did not refect the installed system. Differences included (1) the binder system used to supplement solidification as described in the FSAR was essentially eliminated in 1983, (2) several system components have been eliminated during startup testing, and (3) the FSAR failed to describe resin dewatering by the primary waste process and how much volume could be handled. Changes to the FSAR had not been submitted. Upon identification, the applicant was quick to draft an FSAR revision.

Conclusion

Category 2, consistent.

Board Recommendation

Licensee:

1. Assure the FSAR accurately describes the solid radwaste system.

NRC: None

C. Maintenance (169 Hours, 2%)

Resident and region-based inspectors observed corrective and preventive maintenance and reviewed the programs for maintenance support planned for use during power operations. Pre-turnover and post-turnover maintenance activities were observed in the areas of mechanical, electrical, and instrumentation and control systems. The inspection effort consisted of one program inspection by a region-based inspector and review of maintenance activities during other inspection efforts.

Both the Maintenance Department (mechanical and electrical) and the Instrument and Controls (I&C) Department were fully staffed based on current manning projections. Training programs were established for I&C personnel and a comprehensive written test was given to all I&C contract technicians prior to performance of activities (instead of relying on vendor certification programs). Maintenance Department training procedures were in existence at the time of the program inspection, but the training program was still being developed.

The maintenance organizations are established. Programs for corrective maintenance, preventive maintenance, and instrumentation and control maintenance were functioning in support of pre-operational testing and system turnovers. Procedures have been in place for initiating, approving, reviewing, and scheduling of plant and preventive maintenance for equipment protection. Administrative controls were established for preparation and retention of maintenance records. Weaknesses identified during the CAT inspection in the corrective action taken to control preventive maintenance after components had been turned over for testing/operations were promptly addressed by the applicant. However, a large backlog in the generation of maintenance, preventive maintenance, and plant instrument calibration procedures existed at the end of the SALP period.

Maintenance is controlled by a computerized system in use at all Northeast Utilities Companies and accessible throughout the company. This system is called the Production Maintenance Management System (PMMS). Each department has a PMMS planner trained to make entries to the system. PMMS information includes the frequency of preventive maintenance and the maintenance history files. The system can review maintenance records for generic failure implications and identify periodic replacement of plant components based on environmental qualification service time limits. Work orders are issued by the system, including preventive maintenance and calibration activities. Manual backup is used if the computer is down and for emergency maintenance. As of June, a backlog existed on

computer input activities for the PMMS of Unit 3 mechanical equipment. Much of the work in this area was being performed on manually prepared work orders to give the PMMS time to catch up. Adequacy of the automated aspects of PMMS therefore remains to be proven.

Observation of maintenance (e.g., component cooling water pump coupling and thrust bearing repairs, service water pump disassembly and inspection, steam generator "J" tube replacement, service water inlet elbow repairs on CCW heat exchanger) found the program effective. Controls were sufficient to assure preoperational test results were not invalidated and that retesting was conducted on equipment for which work orders were issued.

Conclusion

Category 2, consistent.

Board Recommendation

Licensee: Establish a schedule for the completion and implementation of maintenance related procedures and training programs.

NRC: None

D. Surveillance (195 Hours, 2%)

Surveillance activities necessary to support plant operations were reviewed. Particular attention was given to development and implementation of the surveillance program for Technical Specification requirements, availability and development of surveillance procedures, availability and retention of equipment baseline data, and the pre-service and inservice inspection programs. Inspections in this area involved a program review in May, as-built review for conformance to Technical Specifications in July, and examination of parts of the surveillance program during other inspections.

For the most part, surveillance programs have been developed. Staffing was in progress or complete and personnel were knowledgeable of their responsibilities. Development of a master surveillance index, a computerized production and implementation schedule, and interdepartmental coordination methods had not been completed.

In July 1985, a special team inspection found that surveillance procedures were largely in draft form, varied substantially in quality, and were generally not ready for inspection. That condition persisted beyond the SALP period. (I&C surveillance procedures were significantly ahead of the others.) The license pointed out that delays in final Technical Specification issuance was a significant factor in delaying the facility procedures. NRC review concluded that the lack of procedure readiness included work that either did not depend on Technical Specifications or could have been put in near final form with provisions made for required validation upon Technical Specification issuance (a feature also needed for future TS changes). Development of facility procedures was therefore evaluated as a tardy effort which did not properly support operations on the licensee's planned schedule. (As recently as early November 1985, the NRC postponed inspections in this area because procedures were not ready.)

The applicant has provided a satisfactory program to obtain baseline information on plant equipment. In addition to obtaining field data (e.g., steam generator eddy current base line data), procedures and programs are being developed to maintain equipment history as discussed under the maintenance section.

Conclusion

Category 3, consistent.

Board Recommendation

Licensee:

Assure surveillance procedures support future planned testing and operations. Particular emphasis should be placed on orderly development and review of procedures.

NRC:

Conduct special follow-up inspection of surveillance program and procedure adequacy.

E. Preoperational Testing (1835 Hours, 23%)

Preoperational Testing was rated Category 1 during the last SALP. It was characterized as a well-defined program with an adequate staff and experienced senior managers. Adequate controls existed for plant maintenance, preventive maintenance, training, and documentation. The QA/QC program was evaluated as well-conceived. The supporting organizational elements, NUSCo-QA and NNECo-QA/QC, were staffed with experienced personnel.

During this SALP period, there were fifteen region-based inspections plus routine observations by the resident inspector. In addition to test program adequacy, test witnessing, and test results evaluation, NRC independent measurements were performed. Preoperational procedures were generally consistent with regulatory requirements, guidance, and commitments. An exception was the Chemical Tank drawdown test, which did not reflect all FSAR commitments. The applicant initiated prompt corrective action.

Management involvement has been evident in planning, procedure development, staffing, training, and results review. Also, the startup program was modified to improve performance. Three notable examples were (1) assignment of an auxiliary system test coordinator to accept selected responsibilities from the nuclear system balance-of-plant test coordinators during high activity, (2) requiring the NNECo Operations Department to review system test results as well as the Startup Department, and (3) reorganization from a discipline-orientated to a task-orientated organization.

Several tests have had a great number of changes (exceptions). These included the Chemical Addition Tank test, Engineered Safety Features test, RCS hydrostatic test, and Steam Generator hydrostatic test. Based on the changes reviewed, exceptions did not affect test results or change basic test objectives. Changes were found to be properly reviewed, approved, and documented. Throughout the SALP period, the NRC has had to review draft procedures. However, only approved procedures have been found in use during testing. Based on the test results reviewed by the NRC inspectors, no problems have occurred because of late procedure generation.

Technical solutions to problems have been well defined and executed except for a few isolated examples where resolution was incomplete or slow. An example is valve indication on manual and motor-operated valves (slip of butterfly valve indication arrows, reverse installation of indicators, reverse raised letter indication, no labelling for position indicator, and handwheel operation contrary to normal convention). The containment sump flooding in May was in part a result of failure to establish the position in the Containment Sump/Containment Recirculation Pump suction isolation valve. The valve stop for the butterfly valve had not been installed and the operator positioned the butterfly valve past the closed position by following the position indication (arrow).

During this SALP period, the containment Local Leak Rate Testing (LLRT), Integrated Leak Rate Testing (ILRT), and Structural Integrity Test (SIT) were completed. Test procedures and results met requirements. Personnel were knowledgeable of the procedures and equipment. Staffing was adequate. Test personnel made tours to look for leaks. The applicant exercised good engineering judgement. Only one Construction Deficiency was identified: two 3/4 inch leakage monitoring lines were improperly installed and left open to the atmosphere. That Deficiency was corrected.

Test personnel and management involved with the SIT were committed to assuring an accurate, high quality test. Comparison to the predicted analytical deflections was done by crack mapping and crack width measurements in accessible unpainted areas. The applicant also measured exterior containment deflections across seismic ("rattle space") separations between the containment and adjacent structures. Preliminary indications were that actual deflections agreed with predicted ones. Overall, SIT efforts exceeded the provisions of SIT Regulatory Guide 1.18.

During the SALP period, preoperational testing proceeded without serious delay. The only safety-related system encountering significant difficulties was the Emergency Diesel Generators (EDGs), which experienced repeated seizing of the fuel injection pumps. Subsequent fuel system cleaning and flushing, and modifications to the fuel filters, appeared to resolve this problem. An EDG delay resulted when Stone and Webster Engineering review of Colt Industries QA/QC activities found it was necessary to replace numerous crimps in EDG panels. The rework proceeded in a thorough manner without sacrificing quality for time.

QA/QC involvement was observed during preoperational testing. QC hold points are not included in preoperational test procedures. Rather, the QA/QC program consists of surveillances timed to give broad QA coverage of the preoperational test program. This monitoring program includes in-process verifications, test witnessing, checks on instrument calibration, receiving and storage of test equipment, etc. No significant problems were noted.

A trending/tracking program was established during preopeational testing for outstanding items, QA audit reports, completed actions, and other similar items. This program was found effective.

Conclusion

Category 1, consistent.

Board Recommendations

Licensee:

1. Upgrade timeliness of issuance of startup and power ascension test procedures and of evaluation of test results.

2. Assure that any as-built plant, SAR, and Technical Specifications discrepancies revealed by preop tests are corrected.

NRC: None

F. Fire Protection and Housekeeping (172 Hours, 2%)

Fire protection and housekeeping are also routinely reviewed by most NRC personnel who visit the site, making the actual data base greater than is recorded in inspection hour records. During this SALP period, there was one team inspection plus routine inspections by the resident and region based inspectors. The inspections confirmed that the applicant was implementing an effective program for fire prevention and fire protection. Licensee coverage included control of combustible materials, storage and use of flammable liquids, availability and maintenance of fire fighting equipment, operations involving open flames or arcs and fire prevention for temporary services and work activities. Throughout the SALP period, fire prevention and fire protection was well implemented and maintained, and housekeeping and cleanliness were satisfactory.

The NRC team inspection confirmed the ability to shutdown safely in the event of a design basis fire. Management involvement in assuring a safe shutdown capability was evident throughout the licensee's effort involved in applying the NUREG 800 Guidelines. The applicant formed a fire protection inspection team of hand picked specialists from his staff and contractor personnel. This team addressed shutdown concerns and capabilities, design changes, and compliance with guidelines. Management attention resulted in an efficient licensee team which adequately addressed all NRC concerns. The applicant demonstrated a clear understanding of safe shutdown issues and concerns. Their analysis was comprehensive and well documented. Such thoroughness was also reflected in the supporting calculations reviewed by the NRC. Throughout the NRC team inspection, applicant responses were timely and technically sound.

In November 1984, a small fire in containment was caused by a short in a temporary lighting cable, apparently due to crimping of the cable by scaffolding planks. The damage was minor. No permanent plant equipment was damaged. The applicant's response was prompt and well organized. A reflash watch was stationed for several hours. Corrective action implemented after a September 1981 fire limited the scope of this fire. This event demonstrated an effective fire response capability.

One concern was the licensee's Hot Functional Testing approach which waived fire protection for areas protected by carbon dioxide due to problems with fire control panels. The licensee committed to additional patrols of the potential hazard areas to provide minimum protection. The carbon dioxide system has yet to be demonstrated. As late as November, this system was not tested due to a problem with the Heating, Ventilation and Air Conditioning System.

Staff responsibilities were evaluated as well defined and authorized manning levels as ample to meet those responsibilities.

Conclusion

Category 1, consistent.

Board Recommendation

Licensee: None

NRC: Follow-up CO_2 System testing and associated damper testing.

G. Emergency Preparedness (140 Hours, 2%)

This is the first SALP evaluation for Millstone 3 in this area. Unit 3 is an additional unit in the common site Emergency Plan and is in part dependent on the program for Units 1 and 2. The site program was rated as Category 2 (period 9/1/83 - 2/28/85) with the recommendation that the licensee evaluate measures for the timely completion of action items. The major issue was the establishment of an integrated emergency plan training/retraining program to ensure that lesson plans were developed and training accomplished for each functional area of emergency activity. At the end of the Unit 1/2 assessment period, the "Emergency Preparedness Training Program" was only available in draft form but contained the revised training lesson plan format and testing requirements. This program, which was to be implemented by June 30, 1985, was late but acceptable in quality.

A Unit 3 Emergency Preparedness Implementation Appraisal was conducted in July 1985. It covered facilities and equipment, organization, procedures, and training. Afterwards, a meeting was held in Region I to discuss deviations from current guidelines. During that meeting, the applicant presented information which resolved the concerns or proposed acceptable corrective action. In many cases, a more complete description in the Emergency Plan or implementing procedures would have allowed an earlier resolution.

On May 15, 1985, the NRC observed an emergency drill for Millstone 3. Participation was limited to utility personnel. This drill implemented selected response aspects including operator response, technical support activities, event classification and reporting, and coordination of emergency response activities. Overall performance was acceptable. Personnel were appropriately trained and qualified to perform the emergency functions observed. Areas noted as needing improvement were coordination of emergency repair activities between the Technical and Operational Support Centers and crowding of some facilities in the OSC. The crowding was in part due to the dispatching of repair crews from the OSC.

Management commitment and close involvement in assuring an adequate level of emergency preparedness was shown during the emergency drill and program reviews.

Conclusion

Category 2, consistent.

Board Recommendation

Licensee: Increase management attention to assure corrective actions are accomplished in a timely manner.

NRC: None.

H. Security (84 Hours, 1%)

This was the first SALP evaluation of Unit 3 Security and reviewed the development of a physical protection program for Unit 3 and preparations for integration of the Unit 3 program into a site (Units 1, 2 and 3) security program. Also assessed was the licensee's developing and implementing of a program for receipt and storage of new fuel. Three announced preoperational security program reviews, including two inspections of new fuel were performed by a region-based physical security inspector. Continued review of the program was conducted by NRC resident inspectors.

The development of the physical security program and its integration into the program for Units 1 and 2 included modification of the security management organization; the procurement, installation and acceptance testing of new equipment and the operational interface of the Unit 3 equipment and systems with the existing system; and the hiring and training of additional contract security personnel.

A major rewrite of the site physical protection plan was completed and submitted to the NRC in May 1985. NRC review identified some minor issues which required rework by the licensee. All of these issues have been resolved. In addition, the licensee submitted its Plan for Receipt of New Fuel in March 1985. It required little rework and was approved by NRC in April 1985. The licensee is currently reviewing its Suitability, Training and Qualification, and Safeguards Contingency plans to provide for the integration of Unit 3. It appears that only minor administrative changes will be necessary. All security program plans were observed to be professionally prepared, well organized, responsive to regulatory requirements, and submitted in a timely manner. Minor changes necessitated as a result of NRC review were accomplished in a timely and professional manner.

The design engineering and layout of the Unit 3 security equipment and systems are well conceived. Practical applications and utilization of state-of-the-art equipment are evident. Quality assurance oversight of program-related activities was evident throughout the assessment period. Project engineers and security supervisors were knowledgeable of program status, turnover dates and NRC performance criteria. Procedures were in place to assure the proper acquisition and retention of acceptance testing documentation. Documentation was found easily retrievable during NRC reviews. These reviews indicated close coordination and oversight by licensee management for all activities. The newly constructed site security facilities were well planned with an adequate allocation of space. Human factors consideration was evident.

The hiring of new contract guards and watchpersons is complete. The security organization has increased by approximately one third, to about 280 personnel, including both proprietary and contract staffing. The training and qualification of new security personnel has been in progress since March 1985 and is scheduled for completion in September 1985. Specialized training being administered to the new personnel was observed during Region I program reviews and was found consistent with the licensee's NRC approved Suitability, Training and Qualification Program. Experienced Unit 1 and 2 personnel are in line for command and access control positions.

The last two Preoperational Security Program Reviews during the assessment period included implementation inspections of the Plan for Receipt of New Fuel and associated control procedures. No problems were identified.

Corporate and site management involvement in planning, procurement, installation, hiring of employees, budgetary support, quality assurance and audit have been evident throughout the assessment period. Presentations on the status of projects were professional and technically competent. Sufficient personnel are trained, qualified and available to compensate for unplanned system or equipment failures.

The licensee promptly informed the NRC of occurrences in the security area during the construction of Unit 3.

Conclusion

Category 1, consistent.

Board Recommendation

Licensee: None.

NRC: None.

I. Construction (4774 Hours, 59%)

The previous SALP assessment evaluated six areas of construction separately. These were Containment and Other Safety-Related Structures; Piping Systems and Supports; Safety-Related Components; Support Systems; Electrical Power, Instrumentation and Controls; and Engineering-Construction Interfaces. All areas were rated Category 1 except Piping Systems and Supports which was rated Category 2. All six areas have been combined under one functional area for this SALP.

Concerns addressed in the previous SALP included: (1) assumed pipe and fitting sizes were used in stress calculations (2) lack of aggressive action to correct deficiencies in the control of NDE quality, (3) minor delays in correcting deficiencies in safety-related components and (4) choice of the proper Non-Destructive Examination (NDE) method for inspecting of containment electrical penetration and end-plate welds.

Inspection of construction involved eighteen inspections in addition to routine review by the resident inspectors. There was a team inspection from NRC Headquarters and one from the Region. Three team inspections involved the Engineering Assessment In-Depth Technical Audit. Ten construction violations were identified. None of these were considered serious or indicative of a breakdown in the quality of construction.

Most electrical systems were energized during this SALP period to support testing. Although there were problems with control of electrical and I&C equipment due to dirt, aggressive management attention was effective in correcting this. Overall, electrical construction has been good. Design requirements and specifications were generally met. Deficiencies noted included not meeting electrical separation criteria for some raceways and cables, some Class 1E cable terminations not in accord with design drawings, some main control board redundant wires in contact with each other, and random use of color tape to identify cable channels. The applicant quickly initiated acceptable corrective actions. Vendor wire termination problems were uncovered by the licensee and resulted in an aggressive 100% reinspection program of four vendors. The associated rework has been completed for the main control board and the Systems Control vendors and was in progress for the other two.

Work observation, as-built verifications, and independent measurements and calculations have found the instrumentation and controls to be in compliance with drawings and commitments.

Containment and other safety-related structures have been constructed with only minor problems/weaknesses found. These have included rattle spaces smaller than committed, concrete in the rattle space between Containment and the Main Steam Valve Room, and some steel connections not in accordance with design drawings. Repair of containment liner damage from a September 1981 fire were acceptably completed. Overall, structural construction was in accordance with applicable codes, commitments, and requirements.

Engineering-construction interfaces have generally been good and have effectively functioned during operational turnovers. Although a large number of open items may be present on turnover, there are controls to determine how these items will be dispositioned. Management has been very responsive. Improvements were noted in post-turnover control of wiring changes and preventive maintenance deficiencies. The applicant has knowledgeable personnel who are aware of requirements involved with turnover documentation, but some files are incomplete and it was very time consuming to assemble the data. No major problems were experienced as a result.

Problems associated with the vendor radiographic program, identified by the NRC Van inspection during the last SALP period, indicated that management was not sufficiently involved in control of non-destructive examination (NDE) quality and that technical evaluations were not adequate. Additional problems were identified during this SALP period. These include drawing control, missed radiographic indications in site and vendor welds, and failure of the licensee to have the independent authorized nuclear inspector review final re-radiographs of welds. These involved 600-700 vendor (Tubeco) weld radiographs. The applicant initiated corrective action. Relief from code requirements was requested from NRR for 30 welds imbedded in concrete. As of this writing, no substantive rework has been required to assure the ability to meet functional design requirements. Nevertheless, continued management attention is warranted to NDE record quality.

In August 1985, selected results of Preservice Inspection (PSI) ultrasonic examinations of centrifugally cast stainless steel for the reactor coolant piping were reviewed. The review identified discrepancies involving documentation of examination limitations and the disposition of indications attributed to geometric reflectors. These indicate a need for additional licensee management attention to the review of Westinghouse PSI data.

During the CAT inspection discrepancies were identified in pipe support/restraints and mechanical equipment foundations, and between as-built drawings and piping configurations. The team also identified a need for more thorough engineering review activities, and additional reinspection and/or reanalysis. In August 1985, an extensive inspection was performed on structural steel bolting and welding, pipe support welding, vendor tank welding, and stress reconciliation. This inspection included independent measurements and followup of licensee activities in response to CAT findings. Overall, the results indicate good onsite welding quality and an adequate program for response to the CAT findings.

Immediately after the SALP period a multidisciplinary team inspection assessed whether selected, as-built systems substantially agreed with the descriptions contained in the FSAR and the SER. It was concluded that overall workmanship was good and that the systems generally conform to the FSAR and SER. Capacity and seismic mounting discrepancies were, however, identified in the control room air pressurization system.

The senior resident inspector and Region I managers have found that, in general, submitted Construction Deficiency Reports were timely, thorough, and of good quality. Technical solutions for Construction Deficiencies has been sound. Corrective action has been performed by properly trained personnel using approved procedures. However, resolution of a number of items has continued to proceed slowly and needs additional management attention.

Nonconformance and Disposition reports are usually resolved in a timely manner, with positive corrective action being taken. Design modifications and modification requests were handled in accordance with procedures. Disposition of these requests were based on engineering justification and review by members of the Joint Test Group. Engineering and Design Coordination Reports have been generally effective.

NNECo contracted Stone and Webster Engineering Corporation (SWEC), the AE for Millstone 3, to conduct an Engineering Assurance Program Technical Audit. NRC review found the audit to be in accordance with the approved program plan and of sufficient technical depth to achieve the program objectives. There was a concern that reviewers were not deviating from the review plan as necessary to thoroughly evaluate both the adequacy of the design and the adequacy of the design process when potential problems were identified. Also, interfaces between the major disciplines of the AE audit team needed improvement to ensure that potential discrepancies in one discipline was reflected in others. As an outgrowth of the AE audit, NRC is reviewing the applicant's Seismic II/I program. This consideration is included in the Licensing Functional Area.

QA/QC personnel were rountinely observed to be performing construction and preoperational testing functions. During construction, "hold points" for inspection of completed work were readily apparent. Subsequent reviews of the QA/QC involvement (quality examination, procedure reviews, surveillance, and auditing) indicated logs and/or records were being maintained and the results reported. Nonconforming or unsatisfactory conditions were being followed for corrective action.

Overall, the construction at Millstone 3 has been in accordance with the applicant's commitments and applicable codes and regulations.

Conclusion

Category 1, consistent.

Board Recommendation

Licensee: Assure more timely closeout of CDRs and outstanding items.

NRC: None.

J. Licensing Activities

This area was rated Category 2 during the previous SALP, with recommendations that the licensee continue to take the initiative to resolve fuel load items and to provide appropriate management involvement in significant review areas. During the current period, NRR review supported issuance of Safety Evaluation Report Supplements 1 and 2 (March and September 1985) toward resolution of 19 SER open items, 70 confirmatory items, and 7 license conditions. There were several NRR on-site, in-depth technical audits in addition to meetings, conference calls, and review of applicant inputs.

For those items identified as part of the staff's safety review, the applicant demonstrated prior planning and assignment of priorities. The applicant continues to take an aggressive approach to complete unresolved items identified in the staff's SER. There were well-stated and explicit applicant procedures for activity control. In general, NNECO assigned technical people as needed to develop complete high quality responses. The fire protection review effort was a good example of this. Additionally, evidence of prior planning and assignment of priorities was demonstrated during several on-site technical audits. Audits were held on schedule and the appropriate technical and management support was involved so that the NRC staff's questions were answered with a minimum number of open items after the audits.

Generally, the applicant exhibited conservatism in its decisions where safety significance existed. An example of this is the Engineering Assurance Program. The applicant, on its own initiative, took a sound and thorough approach to the independent design review, using an engineering assurance technical audit program performed by Stone & Webster. Open items identified by S&W during this audit were vigorously pursued by the utility.

In contrast to the approach taken by the applicant on many SER items, there were a significant number of review matters for which the applicant was unresponsive. The applicant did not come forward with several potential review concerns early in the review process until NRC forced the issue. In other cases, the applicant persisted in supporting a position contrary to the staff's requirements. As a result, several items of potentially high safety significance surfaced or remained unresolved late in the review process. High level NRC management involvement was then necessary to accelerate the review and assess potential impact on licensing. An example of this is the Seismic Interaction Program. In this case, the applicant failed to notify the staff of its planned approach to meet NRC criteria until that approach was identified by the staff during the Engineering Assurance Program Audit. It was not until after several meetings with NRC staff to discuss and agree upon supplementary

information that progress was made toward resolution. Other examples are the shift staffing/operating experience on shift issue and the Technical Specification review. The position taken by the applicant on both these matters was that the staff was aware of the applicant's position early. The applicant did not pursue interaction with the staff to assure that NRC requirements were met. NRC repeatedly attempted to work with the utility on shift staffing before the utility began to be responsive. As a consequence, an inordinate amount of staff involvement was necessary to complete this review. The applicant was also unresponsive in regard to the Technical Specification review. The applicant did not submit the justifications needed for non-Standard Technical Specifications in a timely manner. An accelerated review schedule became necessary.

In summary, the applicant has provided satisfactory inputs to the NRC, but too many items have not been timely.

Conclusion

Category 2, consistent

Recommendation

Licensee: Increase management involvement in the licensing review process in order to assure more timely resolution of licensing issues.

NRC: None

V. SUPPORTING DATA AND SUMMARIES

A. Construction Deficiency Reports (CDRs)

The applicant identified 29 items of potentially significant deficiencies during the assessment period. Subsequently, 3 were evaluated as not to be reportable by the applicant. At the end of the assessment period, 15 remain open pending resolution of the issue. The CDRs are listed in Table 1.

B. Investigation Activities

One investigation of a painter qualification incident was completed. The report has not been released for public distribution. Another investigation was in progress but not completed.

C. Escalated Enforcement Action

No escalated enforcement actions were taken this SALP period.

D. Management Meetings

On September 13 and 14, 1984, NRC staff met with Northeast Nuclear Energy Company at Millstone 3 to discuss LOCA loads and load combinations used in design of Millstone 3 pipe and component supports.

On December 17, 1984 at Millstone 3, Waterford, Connecticut, a management meeting was held to present the results of the Systematic Assessment of Licensee Performance (SALP) for the assessment period 9/1/83 - 8/31/85.

A periodic management meeting requested by Millstone 3 and Northeast Utilities management to discuss the project status and progress was held on February 8, 1985 at the Region I office.

A Seismic Qualification Review Team (SQRT) and Pump and Valve Operability (PVORT) audit was conducted during the week of March 4, 1985 by the NRC staff.

On May 21, 1985, a meeting was held at the Millstone 3 site with the NRC Radiological Assessment Branch to discuss and verify FSAR commitments relating to the radiation protection program.

On June 21, 1985, a meeting was held at NRC Headquarters to discuss Seismic II/I design considerations for Millstone 3.

On July 2, 1985, a meeting was conducted at NRC Headquarters to discuss the Millstone 3 environmental qualification report.

On July 9, 1985, a meeting was held at the NRC Region I Office to discuss the status of licensed operator training and of the Millstone 3 project.

On July 11, 1985, a meeting was held with Northeast Utilities to discuss the Millstone 3 fire protection at NRC Headquarters.

On July 29 and July 30, 1985, an audit of the Millstone 3 Safety Parameters Display System (SPDS) to perform design verification and design validation was conducted at the Northeast Utilities General Offices in Berlin, Connecticut.

On August 1, 1985, a working meeting was held at the NRC Region I office to resolve emergency planning pre-licensing issues for Millstone 3.

A meeting was held on August 6, 1985 at NRC Headquarters to discuss the applicant's response to questions resulting from the staff's review of the Millstone Nuclear Power Station Emergency Plan, Draft 2, to Revision No. 0, dated January 1985.

TABLE 1

CONSTRUCTION DEFICIENCY REPORTS

(September 1, 1984 - August 31, 1985)

MILLSTONE NUCLEAR POWER STATION, UNIT 3

CRD NO.	DEFICIENCY	STATUS	CAUSE CODE
84-00-10	Eleven Westinghouse process control cabinets had internal wiring which should have been removed at the factory	Closed	A
84-00-11	Unqualified motors on safety-related motor-operated valves	Closed	A
84-00-12	Potential leakage path in seal of Rosemont Model 1153 Series B pressure transmitters	Closed*	B
84-00-13	Problems with Flakt-Bahnson air conditioning units	Open*	B
84-00-14	Potential failure of auxiliary feedpump wear rings	Open	B
84-00-15	Oil leak and broken upper bearing housing in containment recirculation spray pump motors	Closed	B
84-00-16	GE relays potentially operating in less time than the set time delay	Closed	B
84-00-17	Potential cracking of emergency diesel generator engine driven lube oil pump discharge nozzle due to over-torquing	Closed	A
84-00-18	Improper installation of conduit seal for Rosemount Pressure Transmitter	Closed	F
85-00-01	Possible material problems with Parker-Hannifin stainless steel fittings	Open	B
85-00-02	Safety grade power supplies tied to control grade cables without appropriate isolation devices in Westinghouse Model 7300 Process Control Cabinets	Closed	B
85-00-03	Potentially inoperable non-motor-operated curtain type fire damper	Open	B

CRD NO.	DEFICIENCY	STATUS	CAUSE CODE
85-00-04	Improper operation of the emergency generator load sequencers	Closed	B
85-00-05	No drain holes in Foxboro Transmitter junction boxes	Closed	F
85-00-06	Failure of emergency diesel generator load sequencer to shed required loads	Closed	B
85-00-07	Non-seismically qualified auxiliary feed pump lube oil pressure switches	Open	B
85-00-08	Nonconforming terminations in CVI corporation equipment	Open	B
85-00-09	Cooper and Turner load indicating washers with preload out of compliance with design	Closed*	B
85-00-10	Broken tack welds on feedwater check valves	Open	E
85-00-11	Emergency diesel generator fuel oil injection pump failures	Open	E
85-00-12	Improper cable separation for Reactor Protection System cables	Closed	B
85-00-13	Improper dimensioning of fillet welds on tube steel connections where skewed angle is less than 45 degrees	Closed	F
85-00-14	Structural steel connections in the Main Steam Valve Building installed to incorrect welding detail	Closed	F
85-00-15	Core exit thermocouple total system error exceeds error assumed in Westinghouse Emergency Response Guidelines	Open	B
85-00-16	Improper installation of upper reactor internal core thermocouple compressing fitting	Open	F
85-00-17	Seismic failure of Amphenol Triax Connector	Open	E
85-00-18	Potential seismic interaction between the Flux Mapping System and Seal Table	Open	B

CDR NO.	DEFICIENCY	STATUS	CAUSE CAUSE
85-00-19	Potential seismic failure of GE Type PVD21 Differential Relays	Open	E
85-00-20	Improper Emergency Diesel generator sequencing	Open	B

* Licensee subsequently classified item as not reportable

CAUSE CODES

A - Personnel Error

B - Design/Fabrication Error

C - External Cause

D - Defective Procedure

E - Component Failure

F - Site Construction Error

TABLE 2

INSPECTION HOURS SUMMARY (9/1/84 - 8/31/85)

MILLSTONE NUCLEAR POWER STATION, UNIT 3

	Functional Area	Hours	% of Time
A.	Operations Supports	552	7
B.	Radiological Controls	181	2
C.	Maintenance	169	2
D.	Surveillance	195	2
E.	Preoperational Testing	1865	23
F.	Fire Protection	172	2
G.	Emergency Preparedness	140	2
H.	Security	84	1
I.	Construction	4774	59
J.	Licensing Activities	--	--
	TOTAL	8201	100

NOTE: The above values are approximate.

TABLE 3

INSPECTION ACTIVITIES

MILLSTONE NUCLEAR POWER STATION, UNIT 3

INSPECTION REPORT NUMBER AND DATES	INSPECTION/ HOURS	AREAS INSPECTED
84-14 8/19 - 9/29/84	Resident 114 hours	Open items; preoperational testing; incore thermocouples; structural settlement monitoring program; procedures; diesel fuel storage; licensee/contractor self audits; significant deficiencies; ACRS items.
84-15	Specialist	Previous SALP period.
84-16	CANCELLED	
84-17 9/17 - 21/84	Specialists 37 hours	Preoperational test program review including program requirements, control of documents, test procedures, engineering drawings, manuals, design changes and modifications, jumpers and bypasses; plant maintenance, preventive maintenance, and maintenance records; test procedure reviews and test results evaluations.
84-18 9/17 - 21/84	Specialists 32 hours	Followup on previous inspection findings; work observation; review of QC of pipe supports.
84-19		1984 Millstone Unit 3 SALP.
84-20 9/30 - 11/10/84	Resident 266 hours	Follow-up on previous inspection findings; start-up test program review and observation; event follow-up; welding electrode control; training; maintenance; construction; and housekeeping.
84-21 10/15-19/84	Specialists 36 hours	Facility tour; pipe and pipe support welding; copper-nickel welding; repair welding; and follow-up on open items.
84-22 10/15-19/84	Specialists 39 hours	Follow-up on open items; preoperational test program requirements and implementation; test procedure review and witnessing emergency diesel generator set test verification; and facility tour.
84-23 10/22-26/84	Specialists 66 hours	Installation of safety-related electrical and instrumentation system components.

INSPECTION REPORT NUMBER AND DATES	INSPECTION/ HOURS	AREAS INSPECTED
84-24 11/5-9/84	Specialists 29 hours	Preoperational test program requirements and implementation; test results evaluation and witnessing; auxiliary boiler repair and testing; preparations for steam generator hydrostatic testing; quality assurance and quality control; facility tour.
84-25 11/11/84-1/7/85	Resident 192 hours	Preoperational testing; follow-up on open items; control room practices; plant tours; control rod drive fabrication review; event follow-up; IE Notice review; implementation of security measures; audit activities; fire protection testing; hazards program review; changes to plant management; and Tubeco repairs.
84-26 11/26-12/5/84 12/ 3- 5/84 12/10-12/84	Specialists 134 hours	Preoperational test program requirements and implementation; test procedures and results results review; steam generator hydrostatic testing; quality assurance and quality control; and facility tours.
85-01 1/8-10/85	Specialists 64 hours	Construction Deficiency Reports
85-02 1/9-2/4-85	Resident 151 hours	Preoperational testing; previous inspection findings; control room practices; plant tours; potential significant deficiencies; flushing program activities; IE Bulletins; allegations; valve positioning anomalies; fuel receipt preparations; service water hydraulic testing; safety injection plump test anomaly.
85-03 1/21-25/85	Specialists 70 hours	Preoperational test program requirements and implementation; test procedure and results reviews; test witnessing; auxiliary boiler status; quality assurance and quality control; and facility tours.
85-04 2/19-3/1/85 3/11-22/85	Specialists 2200 hours	Construction appraisal team: Electrical and instrumentation construction; mechanical construction; welding and non-destructive examination; civil and structural construction; material traceability and control; design change control; corrective action systems.

INSPECTION REPORT NUMBER AND DATES	INSPECTION/ HOURS	AREAS INSPECTED
85-05 2/5-3/18/85	Resident 183 hours	Review of activities including refueling cavity seal ring leak test, emergency diesel generator EDG-A gage repair, EDG-A lubrication system performance, system flushes, hydraulic expansion of steam generator tubes, emergency plan training, and FSAR/design verification maintenance training; open items; NRC Bulletins, steam generator field service report; construction deficiencies; and allegation followup.
85-06 2/12-15/ 2/25-3/1/85	Specialists 63 hours	Preoperational test program requirements and implementation; test procedures and results review; test witnessing; open items; and plant tour.
85-07 2/11-15/85	Specialists 31/10 hours**	Combined report for Units 1, 2 and 3: Preoperational program for operational environmental monitoring program including management controls, quality control of analytical measurements, meteorological monitoring, radiological environmental monitoring program.
85-08 2/4-7/85	Specialists 31 hours	Installation of safety-related instrumentation.
85-09 2/11-15/85	Specialists 33 hours	Physical security plan and implementing procedures for security and audits program, records and reports, testing and maintenance, locks, keys, physical barriers, security system power supply, lighting, assessment aids, access control, detection aids, alarm stations, communications, training and qualifications, security contingency plans and proposed 10 CFR 73.55 and 73.67 plan commitments.
85-10 3/18-22/85	Specialists 66 hours	Preoperational test program requirements and implementation; test procedure reviews; test witnessing; open items; reactor coolant system hydrostatic test; new fuel receipt and storage; quality assurance and quality control; facility tours.
85-11 3/25-28/85	Specialists 56 hours	Procedure review, test witnessing, and evaluation of the preoperational Integrated Leak Rate Test, Structural Integrity Test, and Local Leak Rate Test; facility tour.

INSPECTION REPORT NUMBER AND DATES	INSPECTION/ HOURS	AREAS INSPECTED
85-12 3/18-4/22/85	Resident 222 hours	Primary cold hydrostatic test and Chemical Addition Tank Drawdown test witnessing; event followup; open items; potential significant deficiencies; IE Bulletins; IE Information Notices; steam generator "J" tube inspection; and preparations for initial fuel receipt.
85-13 4/8-12/85	Specialists 102 hours	Installation of safety-related electrical and instrumentation equipment; quality control documentation; training of personnel; status of audits and findings.
85-14 4/8-27/85	Specialists 121 hours	Preoperational test program review; test procedural review, witnessing, and evaluation; open items; emergency diesel generator status; reactor coolant system cold hydrostatic test witness; new fuel receipt inspection and storage; quality assurance and quality control interfaces; facility tour.
85-15 5/14-17/85	Examiner	Oral, written and simulator examinations for sixteen Senior Reactor Operators and five Reactor Operators.
85-16 4/23-5/27/85	Resident 268 hours	Observation of limited emergency exercise; event followup; auxiliary feedwater pump flushing; field welding; ultrasonic testing of low pressure safety injection system; and eddy current testing of a steam generator.
85-17 3/25/85	Examiner	Use of Millstone 3 simulator for NRC operator licensing examinations.
85-18 5/6-10/85	Specialists 80 hours	Preoperational test program implementation; engineered safety feature test status; emergency diesel generator status; pre-core hot functional test status; test procedure review and verification; new fuel receipt, inspection and storage; turbine building hot functional test status; quality assurance and quality control; facility tours.
85-19 5/7-10/85	Specialists 70 hours	Preoperational status pertaining to radiation protection and radioactive waste management, including organization, personnel training and qualifications, facilities and equipment, and procedure development.

INSPECTION REPORT NUMBER AND DATES	INSPECTION/ HOURS	AREAS INSPECTED
85-20 5/13-17/85	Specialists 37 hours	Safety-related pipe welding; Post Weld Heat Treatment of containment shell penetrations; reactor vessel clevis hard surfacing; review of in progress work including welding; allegation followup; and review of service water clad elbow leakage.
85-21 5/13-17/85	Specialists 30 hours	Maintenance program; I&C program; and quality assurance and quality control interfaces.
85-22 5/20-6/14/85	Specialists 575 hours	NRC independent measurements inspection using the Mobile Nondestructive Examination Laboratory on selected safety-related piping fabricated to ASME Code Section III, Classes 1, 2, and 3.
85-23 5/20-6/14/85	Resident 95 hours	Open items; facility events; Type C leak rate testing; and vital batteries.
85-24 5/20-24/85	Specialists 67 hours	Preoperational test program implementations; emergency diesel generator status; pre-core hot functional test status; test procedure review and verification; new fuel receipt, inspection and storage; quality assurance and quality control interfaces; facility tours.
85-25 6/24-27/85 8/8-11/85	Specialists 82 hours	Preoperational test program; test procedure reviews and witnessing. Emergency diesel generator status; quality assurance and quality control; and identification of new EDG components.
85-26 5/28-8/8/85	Resident 131 hours	Steam generator "J" tube modifications; eddy current testing and tube plugging; preparations for Containment Structural Integrety Test; IE Bulletins; Preoperational testing.
85-27 6/3-7/85	Specialists 102 hours	Preoperational test program; EDG status; proposed technical specifications status and review; test procedure review and verification; engineered safety features tests; pre-core hot functional tests; valve problems; turbine building hot functional tests; containment HVAC; new fuel receipt, inspection and storage; quality control and quality assurance interfaces; facility tours.
85-28 6/3-7/85	Specialists 34 hours	Installation of safety-related instrumentation and associated control circuits.

INSPECTION REPORT NUMBER AND DATES	INSPECTION/ HOURS	AREAS INSPECTED
85-29 5/28-29/85	Specialists	Engineering Assurance In-Depth Technical Audit: inspection of the program preparation.
85-30 6/17-21/85	Specialists 26 hours	Continuation of Preoperation Security Reviews; review of receipt, storage, and protection of new fuel.
85-31 6/24-28/85	Specialists	Engineering Assurance Program Technical Audit Implementation: inspection of program
85-32 8/8-12/85	Specialists 58 hours	Followup of violations, unresolved and construction deficiency reports; verification of FSAR commitment to Reg. Guide 1.94 for exemptions from concrete testing.
85-33 7/5-15/85	Specialists 106 hours	Containment leakage testing program: review, witnessing and evaluation of integrated leak rate test, structural integrity test, and local leak rate test, and online primary containment leakage monitoring; facility tour.
85-34 7/8-12/85	Specialists 68 hours	Installation of safety-related electrical/instrumentation components and associated circuits; quality control documentation and open items.
85-35 7/9-8/12/85	Resident 201 hours	Preoperational inspections; repairs to condenser air piping; auxiliary feed pump endurance runs; allegations; electrical termination for diesel generators; event follow up; steam generator wet layup; status of reactor water level monitoring; and status of Safety Parameter Display System.
85-36 7/22-26/85	Specialists 111 hours	QA/QC administration; audit program; procurement program; receipt, storage and handling program; record storage program and document control program.
85-37 7/8-19/85	Contractor 240 hours	Inspection/evaluation of specific aspects of licensee's Probabilistic Safety Study to assess whether significant discrepancies exist between Technical Specifications, the Final Safety Analysis Report, the Safety Evaluation Report, and the as-built configuration.

INSPECTION REPORT NUMBER AND DATES	INSPECTION/ HOURS	AREAS INSPECTED
85-38 7/15-19/85	Specialists 44 hours	Preoperational test program - procedure review, test witnessing and evaluation; ESF test status; Emergency Diesel Generator status; Quality Assurance and Quality Control; ESF valve testing.
85-39 7/22-26/85	Specialists	Emergency Planning Implementation Appraisal; organization, training, emergency facilities, equipment and emergency implementing procedures.
85-40 7/8/85	Examiner	NRC licensee meeting to discuss operator licensing examinations for Millstone 3.
85-41 8/5-9/85	Specialists 35 hours	Quality records and work activities related to the inspection and testing of safety-related electrical equipment and open items.
85-42 8/5-9/85	Specialists 76 hours	Chemistry and radioactive effluent control programs organization, and staffing, training and qualification facilities, equipment, plans, and procedures.
85-43 8/5-9/84	Specialists 87 hours	Preoperational test program procedure review, test witnessing, and evaluation; review status emergency diesel generators; engineered safeguards test status; quality assurance and quality control.
85-44	Examiners	Oral, written, and simulator examinations for Senior Reactor Operators and Reactor Operators.
85-45	Examiners	October 1985 examinations, outside the SALP assessment period.
85-46 8/12-16/85	Specialists 226 hours	Open item followup; ASME Code N-5 certification program; stress reconciliation program, structural steel bolting; welding (structural steel, pipe support, tack weld); preservice inspection data for RCS piping; applicants response to IE Bulletin 79-02.
85-47 8/5-9/85	Specialist 75/25 hours**	Dosimetry program: open items, organization personnel selection, facilities and equipment, calibrations, dose assessment, quality assurance, documentation and recordkeeping, independent performance.

INSPECTION REPORT NUMBER AND DATES	INSPECTION/ HOURS	AREAS INSPECTED
85-48 8/5-9/85	Specialists 25 hours	Continuation of preoperational security reviews; review of receipt, storage and protection of new fuel, review of proposed consolidated site security.
85-49 8/19-23/85	Specialists 107 hours	Operational Quality Assurance Program for design changes and modifications, tests and experiments, measuring and test equipment, and Safety Committee activities.
85-50 8/12-16/85	Specialists 24 hours	Allegation and open item followup in electrical area.
85-51 8/19-9/13/85	Specialists 184 hours	Preoperational test program OIL witnessing of Engineered Safeguards Features (ESF) tests, reactor plant component cooling water pump performance test, normal service station transformer test, and the 24 hour testing of Emergency Diesel Generator EDG-3; test result evaluation; and assessment of EDG status.
85-52 8/13-9/23/85	Resident 238 hours	Review of Main Condenser Structural Reports, diesel generator reliability, Three Mile Island items, main steam indication and cable repair, Safety Evaluation Report Items, prevention of cable damage, potentially significant deficiencies and open items.
85-53 8/19-9/23/85	Specialists 172 hours	Capability to shutdown plant in event of design basis fire; emergency lighting; reactor coolant pump oil collection system.

** - Site inspection; Millstone 3 one-third of total hours.

TABLE 4

ENFORCEMENT DATA

(September 1, 1984 - August 31, 1985)

MILLSTONE NUCLEAR POWER STATION, UNIT 3

A. Number and Severity level of Violations and Deviations

1. Severity Level

Severity Level I	0
Severity Level II	0
Severity Level III	0
Severity Level IV	11
Severity Level V	2
Deviations	1
	14

B. Violations and Deviations vs. Functional Area

Functional Area	Severity Level IV	Severity Level V	Deviations
A. Operations	0	0	0
B. Radiological Controls	0	0	0
C. Maintenance	0	0	0
D. Surveillance	0	0	0
E. Preoperational Testing	3	0	0
F. Fire Protection	0	0	1
G. Emergency Preparedness	0	0	0
H. Security	0	0	0
I. Construction	8	2	0
J. Licensing Activities	0	0	0
TOTAL	11	2	1

C. Listing of Violations and Deviations

REPORTS	DATES	SUBJECT	REFERENCE	SEVERITY LEVEL	FUNCTIONAL AREA
84-20	9/30-11/10/85	Failure to maintain control of low hydrogen welding electrodes	Appendix B Crit. IX	IV	I
84-23	10/22-26/85	Failure to follow electrical installation procedures	Appendix B Crit. V	V	I
85-04	2/19-3/1/85 3/11-22/85	Failure to translate class 1E wiring design requirements into documents	Appendix B Crit. III	IV	I
		Failure to follow intructions for post-wiring changes and document control	Appendix B Crit. V	IV	I
		Failure to establish measures to assure purchased equipment conforms to procurement documents	Appendix B Crit. VII	IV	I
		Failure to establish controls to prevent use of incorrect/defective items	Appendix B Crit. VIII	IV	I
		Inspection program did not verify conformance with design documents	Appendix B Crit. X	IV	I
		Failure to assure conditions adverse to quality promptly identified	Appendix B Crit. XVI	IV	I
85-12	3/18-4/22/85	Failure to provide adequate procedure for testing and flushing	Appendix B Crit. V	IV	E
85-16	4/23-5/27/85	Failure to provide adequate procedure for flushing	Appendix B. Crit. V	IV	E

REPORTS	DATES	SUBJECT	REFERENCE	SEVERITY LEVEL	FUNCTIONAL AREA
85-22	5/20-6/14/85	Failure to properly control nondestructive examinations	Appendix B. Crit. IX	IV	I
		Failure to properly identify welds on control drawings	Appendix B Crit. V	V	I
85-23	5/20-6/14	Failure to provide adequate procedure for flushing	Appendix B Crit. V	IV	E
85-33	8/19-8/23	Failure to provide hydrogen recombiner area and several floor levels of main steam valve enclosure with fire detection and steel members of ESF building walls not fire proofed.	Fire Protection Evaluation Report	DEV	F

NORTHEAST UTILITIES

NU

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September 17, 1985

Docket No. 50-423
B11640

Mr. R. W. Starostecki, Director
SALP Board Chairman
Division of Project and Resident Programs
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

Gentlemen:

Millstone Nuclear Power Station, Unit No. 3
Systematic Appraisal of Licensee Performance (SALP)

As we have stressed in previous meetings with you regarding the SALP program, Northeast Utilities (NU) places high priority on achieving excellence in all areas of performance. The SALP ratings provide NU with one assessment of our performance in those areas of activity evaluated by that program and achievement of superior ratings provides an indication that our management controls are functioning properly and that our primary corporate goal of striving for excellence in the maintenance of nuclear safety is being realized.

In the past, we have met to discuss the SALP ratings and NRC's evaluation of our strengths and potential areas for improvement subsequent to publication of the initial NRC SALP report. As a result, the initial reports have at times not considered important information that otherwise could have been strengthened by an exchange between ourselves and NRC. To maximize the potential for full consideration of relevant views, we are taking this opportunity to provide some of our perspectives on our level of performance on Millstone Unit No. 3 during the past year.

We believe it necessary for us to interact positively with the Staff whenever it is appropriate to ensure that public health and safety is maintained, particularly given the finite resources at the disposal of both NU and the NRC. We do so in the interest of further improving the regulatory process and assuring that through discussion, all aspects of a proposed action are understood and considered by NRC and NU. A significant factor which should be considered in assessing licensee performance is NU's consistent attempts to further the depth and quality of the exchange with the regulators, both in terms of interacting with the NRC and participating actively in efforts to disseminate needed information to the industry. Northeast Utilities executive management is active in numerous industry initiatives, having made presentations at public meetings before the Commission as well as meeting with individual Commissioners where appropriate. The NU management team is active in, and in some instances chair, various industry groups addressing a broad range of nuclear issues. We also

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consistently attempt to further improve the quality of the regulatory process by taking the opportunity to provide comments on proposed rulemakings and generic letters as evidenced in the examples provided in Attachment I.

During this SALP assessment period all major construction and test milestones have been met to support the November, 1985 fuel load date. As of the end of August, the Millstone Unit No. 3 project is 98.2% complete which is 1.8% above the management target. Some of the key construction and startup milestones that have occurred during this SALP period are as follows:

- Completed Steam Generator Hydrostatic Test
- Completed Reactor Coolant System Hydrostatic Test
- Completed Millstone Unit No. 3 Emergency Drill
- Completed Structural Integrity Test and Integrated Leak Rate Test
- Completed Engineering Safety Features Test
- Conducting Turbine Building Hot Functional Test

In June, 1985 all system turnovers were completed and any building turnovers that remain will be completed on a schedule that supports the November, 1985 fuel load date.

Licensing activities during this SALP period have been at a high level. The Millstone Unit No. 3 Safety Evaluation Report (SER) was issued in July, 1984. The SER identified 19 open items, 70 confirmatory items and 7 licensing conditions. Most of these items have been resolved and have been or will be documented in SER supplements. The remaining issues have resolution schedules which support the November, 1985 fuel load date. During this period numerous meetings, site audits and reviews and conference calls have been held to support licensing activities. Also, during this period several amendments to the FSAR and to the ER have been submitted to the NRC. NU's responses to SER issues, as well as NRC questions resulting from site audits or reviews, show high-level management involvement, clear understanding of technical issues, timeliness, and responsiveness to NRC initiatives. Examples of individual activities demonstrating this are provided in Attachment I to this letter.

Regarding day-to-day licensing activities, our licensing staff is consistently very responsive to the NRC Licensing Project Manager. As a result of a recommendation received from the NRC Project Management, changes have been made to improve the interface with NRC by establishing a single point of contact within the NU licensing staff. This has centralized and helped prioritize the many day-to-day licensing activities occurring between the NRC Licensing Project Manager and our licensing staff. The NRC Licensing Project Manager is routinely updated, via daily telephone conversations and periodic meetings, on NU's licensing activity status and schedule for response to and resolution of all remaining SER items and identified licensing actions to OL issuance.

In general, we believe that this information may prove useful in your deliberations when the SALP Board convenes for Millstone Unit No. 3. Should you have any questions, please contact us.

Very truly yours,

J. F. Opeka
Senior Vice President

By: E. J. Mroczka
Vice President

cc: E. L. Doolittle, Licensing Project Manager, NRR
E. B. McCabe, Chief, Reactor Projects Section 3B, DPRP
T. E. Murley, Regional Administrator
T. Rebelowski, Senior Resident Inspector, Millstone Unit No. 3

ATTACHMENT I

Inputs to SALP Evaluation Process

The following items provide summary examples of some of the meetings, letters and other activities which we believe are relevant to the SALP evaluation process for Millstone Unit No. 3. The list is not a complete compilation of pertinent issues and documents and is not intended to suggest that other items not discussed herein are less important.

- The NRC staff performed Seismic Qualification Review Team (SQRT) and Pump and Valve Operability (PVORT) Audits during the week of March 4, 1985. At the audit exit meeting, the Staff praised the responsiveness and diligence of NNECO personnel in answering questions raised by the Staff during the document review phase of the audit. The Staff indicated that all questions raised during the audit were successfully resolved. The Staff observed that NNECO has a good qualification program and a thorough understanding of what is required to maintain seismic qualification throughout the life of the plant.

- During the Construction Appraisal Team (CAT) Inspection, conducted between February 19 and March 22, 1985, four Construction Weaknesses were noted and subsequently identified in the Inspection Report (50-423/85-04). Although no specific response was required by the Inspection Report, NU provided the NRC our planned course of action for each of these items in a letter dated July 11, 1985. We subsequently received a request from NRC to provide a response to these weaknesses and to six violations that were identified separately. Our advanced response to the identified weaknesses is an example of Millstone 3 management's commitment to take an aggressive attitude in responding to NRC concerns and proposing timely corrective actions. We subsequently responded to the violations in an appropriately docketed follow-up letter.

- On May 21, 1985, a site visit was conducted by the NRC Radiological Assessment Branch (RAB). The purpose of the visit was to verify FSAR commitments related to the Radiation Protection program including staffing, radiation monitoring and plant design features included to maintain radiation exposures ALARA. Various aspects of the Radiation Protection Program and the Health Physics Organization were discussed with the Health Physics Supervisor and a tour of the plant was conducted. The NRC reviewer was very satisfied with the Radiation Protection Program and the facilities. The reviewer indicated that NNECO had qualified personnel and was well prepared to implement its Radiation Protection Program.

- On June 5, 1985 NNECO was granted a schedular exemption to General Design Criterion (GDC) 4 allowing us to forego the installation of pipe whip restraints for primary loop piping. This exemption was granted based on information provided by NU, Westinghouse and other industry and agency studies which allowed the NRC Staff to conclude that "the placement of pipe whip restraints and jet impingement shields degrades plant safety, reduces the accessibility for and effectiveness of in-

service inspection, increases in-service inspection radiation dosages, and adversely affects construction and maintenance economics." The NRC published the proposed modification to GDC 4 in a July 1, 1985 Federal Register notice.

- At NU's option, since this is not a licensing requirement, a simulator training and examination program was developed and implemented for Millstone Unit No. 3. The Millstone Unit No. 3 simulator was delivered to the site in December 1984. Following installation, the simulator entered a verification test phase which was completed on January 15, 1985. From January 15, to February 11, 1985, the simulator was used to test the training program curriculum and to validate the simulator against this curriculum. On February 11, 1985 training on the simulator commenced. Each cold license candidate receives 5 weeks of simulator training which includes 125 hours of actual simulator experience, along with 75 hours of classroom training. The accelerated program culminated in the administering of the NRC operator licensing exams on the simulator for our first class of cold license candidates, beginning on May 13, 1985. The implementation of the simulator training and examination program is an example of NU's proactive stance and responsiveness to NRC initiatives.

- An allegations program was developed and implemented. It consists of the following elements:

  - A full-time administrator has been appointed for providing overall coordination for allegation reviews. He will report directly to our Vice President-Generation Engineering and Construction and is located on site.

  - A visible, on-site facility designated the Quality Concern Office (QCO) has been established where allegations regarding project safety can be expressed with an individual independent of Project Management with a guarantee of anonymity. A full-time consultant has been hired and is stationed at the site to work with us in establishing our allegations program. This consultant has been involved with worker allegations in the past and is familiar with the processes being used at other sites.

  - An Allegation Review Team (Review Team) has been established to review safety concerns raised and to determine whether or not there is any basis for the allegation. The Review Team responsibilities are delineated in a specific project procedure as well as in a specific charter which has been established. The Review Team is comprised of key management personnel who have a wide range of backgrounds and extensive experience in the nuclear industry.

  - An Independent Review Board is being assembled to conduct an independent and detailed investigation of any allegation

which has been determined by the Review Team to potentially have substance. This Board will be comprised of one or more individuals who have expertise in the areas of labor relations, law, nuclear construction, and quality assurance/quality control.

- NRC regulations do not require that an emergency preparedness exercise be performed for Millstone Unit No. 3 prior to receipt of a full-power operating license since the operating license for Millstone Unit No. 3 will not be the first operating license for the Millstone site. Nonetheless, an onsite emergency preparedness drill for Millstone Unit No. 3 was conducted on May 15, 1985 to validate the Millstone Unit No. 3 specific aspects of the Millstone Nuclear Power Station Emergency Plan. This drill is illustrative of our efforts (beyond those necessary to obtain an operating license) to assure ourselves that we are ready to operate Millstone Unit No. 3 in a manner that will adequately protect the public health and safety. The Millstone Unit No. 3 drill was quite successful and demonstrated the readiness of our organization to respond to an emergency at Millstone Unit No. 3.

- The NRC Staff conducted an audit of the Safety Parameter Display System (SPDS) for Millstone Unit No. 3 on July 29-30, 1985. Although a formal audit report has not yet been received, the NRC Staff indicated at the exit meeting that our overall program was quite good and that they were impressed with the type of program which we had implemented. On a related matter, unsolicited responses to several NRC concerns were formally provided to the NRC two (2) months before the SPDS audit in an attempt to expedite resolution of these items during the audit.

- In the resolution of fire protection issues we believe we have exhibited a clear understanding of the issues and conservative, sound technical approaches are routinely employed. For example, the information provided in support of the suppression systems in the cable spreading area and other areas was judged by the NRC staff to be a valid and acceptable justification for the existing design. Other examples of our pro-active approach to addressing issues are the docketed submittals and meetings with the NRC fire protection reviewer well in advance of the Fire Protection Audit. We identified potential deviations to the NRC along with thorough technical justifications in advance to resolve them without waiting for the audit to be conducted. The NRC Fire Protection Audit for Millstone Unit No. 3 was conducted at the site from August 19 through 23, 1985. The audit was successful in that NRC questions were promptly addressed and there were very few significant items requiring followup after the audit. The staff observed that the engineering analysis for safe shutdown of the plant was one of the best observed, to date.

- There has been a high level of NU management involvement noted by the auditors for all of the NRR audits conducted at the site. A high level of management review and approval of all correspondence to the

NRC is procedurally required at NU, this ensures a consistently clear licensee understanding and reponsiveness to NRC initiatives.

- In letters dated October 26, 1984 and February 19, 1985, NU provided documentation of our assurance that Millstone Unit No. 3 had been designed and constructed in accordance with applicable requirements based on Stone & Webster Engineering Corporation (SWEC) Engineering Assurance (EA) Program, our strong Quality Assurance Program and other verification programs. The NRC concurred on April 17, 1985 that a separate Independent Design Verification Program (IDVP) or an Integrated Design Inspection (IDI) conducted by the Staff was not necessary to achieve design assurance for Millstone Unit No. 3 and approved SWEC's EA audit as an acceptable alternative to a third party review performed at the end of design and construction efforts.

We feel the above examples serve to provide evidence of some of NU's efforts and accomplishments in the construction, licensing, and testing of Millstone Unit No. 3 during this SALP period.