

November 7, 2002

Mr. Mark E. Warner
Site Vice President
c/o Mr. James M. Peschel
Seabrook Station
P.O. Box 300
Seabrook, NH 03874

SUBJECT: SEABROOK STATION - NRC INSPECTION REPORT 50-443/02-05

Dear Mr. Warner:

On September 28, 2002, the NRC completed an inspection at the Seabrook Station. The enclosed report documents the inspection findings which were discussed on October 7, 2002, with Mr. J. Vargas and other members of your staff.

This inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, the inspectors identified two issues of very low safety significance (Green). The findings were determined to be violations of NRC requirements involving inadequate corrective actions and security personnel readiness. However, because of their low safety significance and because they have been entered into your corrective action program, the NRC is treating these issues as Non-Cited violations, in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you deny these Non-Cited violations, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington, D.C. 20555-0001, with copies to the Regional Administrator, Region I, and the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, D.C. 20555-001, and the NRC Resident Inspector at the Seabrook Station.

The NRC has increased security requirements at Seabrook Station in response to terrorist acts on September 11, 2001. Although the NRC is not aware of any specific threat against nuclear facilities, the NRC has issued an Order and several threat advisories to commercial power reactors to strengthen licensees' capabilities and readiness to respond to a potential attack. The NRC continues to inspect the licensee's security controls and its compliance with the Order and current security regulations.

Mr. Mark E. Warner

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Sincerely,

/RA/

Brian J. McDermott, Chief
Projects Branch 6
Division of Reactor Projects

Docket No. 50-443
License No: NPF-86

Enclosure: NRC Inspection Report No. 50-443/02-05
Attachment 1: Supplemental Information

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U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.: 50-443

License No.: NPF-86

Report No.: 50-443/2002-05

Licensee: North Atlantic Energy Service Corporation

Facility: Seabrook Station, Unit 1

Location: Post Office Box 300
Seabrook, New Hampshire 03874

Dates: June 30, 2002 to September 28, 2002

Inspectors: Glenn Dentel, Senior Resident Inspector
Javier Brand, Resident Inspector
David Kern, Senior Resident Inspector, Beaver Valley
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Antone Cerne, Senior Resident Inspector, Millstone Unit 3
Thomas Moslak, Health Physicist
Paul Frechette, Security Specialist
Gregory Smith, Senior Security Specialist
Martha Barillas, Reactor Engineer

Approved by: Brian J. McDermott, Chief
Projects Branch 6
Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000443-02-05; North Atlantic Energy Service Corporation (FPL Energy Seabrook, LLC as of November 1, 2002); on 06/30-09/28/2002; Seabrook Station, Unit 1. Surveillance Testing and Response to Contingency Events.

The inspection was conducted by resident inspectors, a reactor engineer, a senior project engineer, a health physics inspector, and security specialists. The inspectors identified two Green findings that were also determined to involve non-cited violations. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be "Green" or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. Inspector Identified Findings

Cornerstone: Mitigating Systems

- **Green.** The inspectors identified a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion XVI "Corrective Action," in that corrective actions were not adequate for degraded electrical connections found on rectifier bank #1 for the "B" Emergency Diesel Generator (EDG) in October 2001. The degraded rectifier bank connections were characterized as "serious" by industry standards for thermography and required prompt corrective maintenance. The licensee's corrective actions did not adequately evaluate whether the cause was applicable to rectifier bank #2. In July 2002, during troubleshooting efforts for problems with the "B" EDG, two additional "serious" hot connections were discovered on rectifier bank #2.

The finding was considered more than minor because if the finding was left uncorrected, the degraded connections could have degraded further and impacted the reliability of the EDG. The finding was determined to be of very low safety significance (Green) since the hot connections did not result in an actual failure of the EDG. Because the finding is of very low safety significance and the finding was captured in the licensee's corrective action program, this finding is being treated as a Non-Cited Violations, consistent with Section VI.A.1 of the NRC Enforcement Policy. (Section 1R22)

Cornerstone: Physical Protection

- **Green.** An in-office review by Region I security specialists identified a non-cited violation of 10 CFR 73.55(b.1.i) and the requirements of Seabrook Physical Security Plan. On July 25, 2002, a member of the Security Response Force failed to respond to an intrusion alarm and was subsequently found inattentive while on duty.

Failure of the response force member to respond to the intrusion alarm in a manner to assure conformance with the requirements of the Seabrook Station Physical Security Plan and Procedures was determined to have very low safety significance using the Interim Physical Significance Determination Process. The finding involved a

vulnerability of Safeguards Systems or Plans, but no actual intrusion occurred and there have not been more than two similar findings in the past four quarters. (Section 3PP3)

B. Licensee Identified Violations

A violation of very low safety significance, which was identified by the licensee, has been reviewed by the inspector. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and its corrective action tracking number are listed in Section 4OA7 of this report.

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Report Details

SUMMARY OF PLANT STATUS:

The plant operated at approximately 100% power for the duration of the inspection period.

1. REACTOR SAFETY

Cornerstone: Initiating Events, Mitigating Systems, Barrier Integrity [R]

1R01 Adverse Weather Protection

.1 Hurricane/Severe Weather Preparations

a. Inspection Scope

The inspectors reviewed Seabrook's preparations for weather related risks associated with tornados, hurricanes, and high winds. The inspectors performed walkdowns of systems including the service water building and the emergency feedwater pump house to evaluate the material condition of tornado dampers, doors, and seals. On August 9, 2002, the inspectors observed testing of tornado dampers. The inspectors reviewed the following Seabrook Station documents:

- OS1200.03, "Severe Weather Conditions," Rev. 10
- NM 11800, "Hazardous Condition Response Plan," Rev. 9
- CR 01-12479, Testing of Tornado Dampers
- WO 01B9987, CBA Tornado Damper Testing and Cleaning
- USFAR Section 1.2, 2.3, 2.4

The inspectors also verified that the NRC Regulatory Issue Summary 2000-15, "Recommendations for Ensuring Continued Safe Plant Operation and Minimizing Requests for Enforcement Discretion during Extreme Weather Conditions" was properly evaluated and procedures were updated.

b. Findings

No findings of significance were identified.

.2 Effects of Hot Weather

a. Inspection Scope

The inspectors reviewed the effects on plant equipment and the station's response to increased ambient temperatures during June through August 18, 2002. The inspectors reviewed CR 02-12420 and CR 02-12419, which documented several alarms caused by the increased ambient temperature, and verified that the effect on the plant was of minor significance and properly captured in the corrective action program.

The inspectors reviewed applicable data documenting repeated high temperature alarms and performed partial walkdowns of the affected areas and the control room. In

addition, the inspectors interviewed control room operators and the instrumentation and control supervisor to assess their understanding of the effect of the heat wave on plant equipment and associated alarms. The following challenges were documented and evaluated by the station.

- Battery rooms “A,” “B,” and “D” high temperature alarms
- Cooling tower basin bulk average temperature alarms
- Emergency feedwater pump house high temperature

In addition, the inspectors reviewed CR 02-12987, which documented potential vulnerabilities introduced by the large error band (+/- 10 degrees Fahrenheit) of the local area temperature indicators. These indicators are used to confirm compliance with area temperature requirements specified in Technical Specification (TS) 4.7.10. The inspectors verified that the TS limits were not exceeded based on other, independent instruments.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment

.1 Full System Walkdown - Service Water System

a. Inspection Scope

The inspectors performed a full system walkdown of the service water (SW) system, involving equipment in both trains, associated main control room valve position indication, and associated piping and in-line components.

The inspectors used the piping and instrumentation drawings for the SW system, the system health report, the system design bases document, and a list of system related condition reports and open work orders, to verify the material condition of the inspected equipment. In addition, the inspectors used the following completed valve lineup procedures to verify the position of a sample of selected system valves.

- OX1416.01 Service Water System Fill and Vent, Forms A, B, and C, Rev. 7.
- OS1016.01 Monthly Service Water Valve Verification, Rev. 9.

b. Findings

No findings of significance were identified.

.2 Full System Walkdown - "A" Emergency Diesel Generator and Support Systems

a. Inspection Scope

The inspectors performed a full system walkdown of the "A" Emergency Diesel Generator (EDG) and partial system walkdowns of several support systems including the equipment associated with the main control room EDG indicators and associated piping and in-line components.

The inspectors referenced Seabrook Piping and Instrumentation Drawings for the EDG fuel oil system, EDG air start system, service water system, and electrical distribution system. In addition, the inspectors reviewed a list of EDG related condition reports and a selection of automated work orders to verify the material condition of the inspected equipment.

b. Findings

No findings of significance were identified.

.3 Partial System Walkdown - Instrument Air System

a. Inspection Scope

The inspectors performed a partial system walkdown of the instrument air system to verify system alignment during installation and testing of Design Change Request (DCR) 00-0014, "Instrument Air Dryer Replacement," (see Section 1R17). Installation of the DCR involved configuration changes which connected the new dryer (SKD-18B) and a temporary air dryer to the instrument air system. This system was selected for alignment verification due to the increased likelihood for a reactor trip initiating event during DCR installation.

The inspectors reviewed the following documents to determine proper equipment alignments.

- Procedure ON1042.01, "Operation of the Compressed Air System," Rev. 8
- Procedure ON1242.01, "Loss of Instrument Air," Rev. 7
- Drawing 1-IA-20636, "Instrument Air," Rev. 2
- Drawing 1-IA-20637, "Instrument Air," Rev. 12
- Drawing 1-IA-20638, "Instrument Air," Rev. 11
- Drawing 1-IA-20639, "Instrument Air," Rev. 10
- Drawing 1-SA-20650, "Service Air," Rev. 20
- Temporary Modification 01-0007, Temporary Air Dryer, Rev. 1

Additionally, the inspectors reviewed and evaluated impact on instrument air system operation for selected open work orders, design change packages, engineering evaluations, and corrective action program condition reports. The system health report was reviewed and open issues were discussed with the system engineer.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors examined several areas of the plant to assess: 1) the control of transient combustibles and ignition sources; 2) the operational status and material condition of the fire detection, fire suppression, and manual fire fighting equipment; 3) the material condition of the passive fire protection features (fire doors, fire dampers, fire penetration seals, etc.); and 4) the compensatory measures for out-of-service or degraded fire protection equipment. The following areas were inspected:

- “B” Essential Switchgear Room-Control Building, 21'6" elevation
- “A” Emergency Diesel Generator Building, all elevations - multiple occasions
- “B” Emergency Diesel Generator Building, all elevations - multiple occasions
- “A” High Head Safety Injection Pump Room-Primary Auxiliary Building, 7'0" elevation
- “B” High Head Safety Injection Pump Room-Primary Auxiliary Building, 7'0" elevation
- “A” and “C” Battery Rooms-Control Building, 21'6" elevation
- “B” and “D” Battery Rooms-Control Building, 21'6" elevation
- Cable Spreading Room-Control Building, 50'0" elevation

The inspectors reviewed the following documents:

- Fire Protection Pre-Fire Strategies
- FP2.1 “Control of Ignition Sources,” Rev. 5
- FP2.2 “Control of Combustible Materials,” Rev. 6
- OX0443.12 “Fire Protection Dry Pipe Spray and Sprinkler Systems 18 Month Inspection,” Rev. 6
- Compensatory List of Fire Protection Equipment out-of-service
- Fire Protection Equipment Layout Drawings.
- Technical Requirements Manual Sections 2.7 to 2.12
- Selected CRs and Work Orders

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

On August 15, 2002, the inspectors observed operator training focusing on human performance of time critical tasks. The inspectors reviewed the operators' ability to correctly evaluate the training scenario and implement the emergency plan. The inspectors also evaluated whether or not deficiencies were identified and discussed during critiques.

b. Findings

No findings of significance were identified

1R12 Maintenance Rule Implementation

.1 Enclosure Air Handling (EAH) Damper Failure

a. Inspection Scope

The inspectors evaluated Maintenance Rule (MR) implementation pertaining to an enclosure air handling (EAH) ventilation damper (EAH-DP-30B) failure that occurred on August 29, 2002. The damper failed to open as required upon starting its associated fan for monthly surveillance testing. The damper failure was due to failure of its normally energized solenoid valve (EAH-FY-30B). The inspectors verified that system performance was monitored and evaluated as required by 10 Code of Federal Regulations (CFR) 50.65, "Requirements for Monitoring the Effectiveness of Maintenance of Nuclear Power Plants." The inspectors performed field walkdowns and a review of historical EAH damper related CRs. The inspectors also performed a review of historical data documenting solenoid valves' failures to access the general performance of these valves including the effects of aging. In addition, the inspectors interviewed various licensee personnel including the several system engineers and evaluated the licensee's operability and reportability evaluation documented in CR 02-12902. The following documents were reviewed:

- CR 02-12902, "EAH-DP-30B failed to open upon starting fan EAH-FN-4B";
- IS0603.005, "Equipment qualification for ASCO Solenoid Valves," Rev. 4;
- Work Order 0227324 issued to investigate damper EAH-DP-30B failure;
- NUREG-1275, Vol.6, "Operating Experience Feedback Report Solenoid-Operated Valve Problems";
- List of historical CRs documenting solenoid valves and ventilation dampers' failures.

b. Findings

No findings of significance were identified.

.2 Instrument Air System

a. Inspection Scope

The inspectors evaluated MR implementation for the instrument air system. The system was placed in MR category (a)(1) on March 7, 2002, due to unreliable air dryer performance. Specific attributes reviewed included MR scoping, characterization of failed structures, systems, and components (SSCs), MR risk categorization of SSCs, SSC performance criteria or goals, and appropriateness of corrective actions. The inspectors verified that system performance was monitored and evaluated as required by 10 Code of Federal Regulations (CFR) 50.65, "Requirements for Monitoring the Effectiveness of Maintenance of Nuclear Power Plants." The inspectors interviewed engineers, observed system testing, and reviewed various documents including:

- Instrument Air System Performance Report dated July 2002;

- MR (a)(1) Improvement Plan for Instrument Air Dryer IA-SKD-18B, Rev. 0;
- Instrument Air System MR Performance and Scope Report, Rev. 1;
- CR 01-07313, 01-13574, 01-12718, 01-11776, 01-10564, 02-03059, and 02-11619.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed the scheduling and control of maintenance activities in order to evaluate the effect on plant risk. The inspectors reviewed the routine planned maintenance and emergent work for the following equipment removed from service.

- On July 18, 2002, the inspectors reviewed the risk associated with restoration of the "A" battery following discharge testing. The inspectors attended the pre-evolution briefing, observed the work activity, and verified the proper use of procedures. When the normal battery supply breaker did not close as expected (CR 02-11408), the inspectors verified that operators minimized the risk associated with a battery configuration.
- On August 6, 2002, the inspectors reviewed the risk assessment for the day's work activities. The equipment removed from service included the "A" cooling tower fan, two switch yard breakers, the "A" EDG and the "A" residual heat removal (RHR) pump. The inspectors evaluated the controls placed on the risk significant activities and active measures taken to reduce the risk. For example, the inspectors verified the surveillance test, which resulted in inoperability of the EDG and RHR pump, was not performed at the same time as active work in the switch yard (risk for loss of offsite power).
- On August 13, 2002, the inspectors reviewed the risk associated with spurious trips of the Tewksbury offsite power line on August 10 and 13. The inspectors examined the operators' actions to evaluate risk and actions taken by maintenance technicians to prevent further trips. The inspectors reviewed CRs 02-12194, 02-12279 and 01-00507, interviewed maintenance technicians and the system engineer, and reviewed various electrical prints.
- On August 19, 2002, the inspectors reviewed the risk associated with inspections of vendor supplied electrical wire terminations on the "A" EDG panels (CP-75A and B). The inspectors observed the work activity, interviewed field personnel, verified the proper use of procedures, and reviewed the associated work order (WO 0225256). The inspectors also reviewed the engineering evaluation documented under CR 02-12142 and associated corrective actions for some broken strands and loose wires identified during the inspection of both EDG cabinets.
- On August 30, 2002, the inspectors reviewed the risk associated with emergent work to investigate the failure of EAH damper (EAH-DP-30B) and to implement repairs.

The inspectors performed field walkdowns, reviewed the associated work order (WO) 0227324, and verified the proper use of procedures.

- On September 17, 2002, the inspectors reviewed the risk associated with inspections and actions to correct deficiencies in the “B” and “C” secondary component cooling water pumps oil bubblers. The inspectors performed field walkdowns, interviewed the pump specialist, and reviewed CR 02-13505. In addition, the inspectors verified that the evaluation of this issue included an adequate extent of condition review and assessment of generic implications.

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-routine Plant Evolutions

.1 Spent Fuel Pool Dive and Strainer Gasket Replacement

a. Inspection Scope

On September 11 to 16, 2002 the inspectors reviewed the activities associated with the gasket replacement for the spent fuel pool skimmers. The replacement required the use of qualified divers and the installation of a temporary platform for the divers. The inspectors examined the controls placed on the divers by reviewing procedure HN0960.01, “Radiological Safety Requirements for Diving Operations,” Rev. 23, and by interviewing the divers, operators, the job supervisor, maintenance engineers and technicians, and radiation protection personnel. In addition, the inspectors attended several pre-job briefs, reviewed the WO 00C5355, and assessed the controls of foreign material and temporary equipment.

b. Findings

No findings of significance were identified.

.2 Control Room Annunciator Power Failure

a. Inspection Scope

On September 9, the inspectors reviewed the operators' activities associated with the unexpected loss of power to hard wired annunciator panel UA-51 documented under CR 02-13247. The inspectors performed field walkdowns, interviewed operators, and examined the Seabrook Station Alarm Response Procedures associated with this panel to assess the effect on plant safety. The inspectors also reviewed the Emergency Response Manual, Section 1.1 to confirm the determination that the loss of the annunciators did not require an entry into an emergency action level.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

.1 Incorrectly Installed Electrical Connection on the Emergency Diesel Generator Control Panel

a. Inspection Scope

The inspectors reviewed CR 02-11097, which evaluated the effects of a shorted connection in the "A" EDG, in order to determine that the identified condition did not adversely affect safety system operability or plant safety. The shorted connection, which the licensee attributed to a human performance error, occurred on July 10, while the "A" EDG was out of service for scheduled maintenance activities. The inspectors verified the TS limiting condition for operation implications were properly addressed, and that an adequate extent of condition review was performed. Seabrook Station Administrative Procedure OE 4.5, "Operability Determination," and NRC Generic Letter 91-18, "Resolution of Degraded and Nonconforming Conditions" were used to evaluate the licensee's operability determination.

b. Findings

No findings of significance were identified.

.2 Emergency Power Sequencer Switch Found in the Test Position

a. Inspection Scope

The inspectors reviewed the Operability Determination (OD) prepared on August 1, 2002 to address the degraded equipment conditions documented in two condition reports, (CRs) 02-11857, which discusses the trip of battery charger 1-EDE-BC-1B, and CR 02-11865, which identifies a condition where the test switches in the emergency power sequencer (EPS) on both safety trains were found to be in an abnormal position (the TEST mode). The CRs are related by the facts discovered during the investigation of the loss of the battery charger, which noted that an EPS output relay had spuriously

energized, causing the battery charger's power supply input breaker to trip open. Since the EPS test switches were determined to have been out of position since May 2002, the OD was initiated to evaluate this condition with respect to the functionality of each EPS, the possibility of a causal relationship between the mis-positioned switches and the failed relay, and the potential for either the energized relay or a relay driver card malfunction to adversely affect the EPS function.

The inspectors reviewed the WOs 0224585 and 0224586 issued to conduct the troubleshooting activities to determine the cause of the loss of battery charger 1-EDE-BC-1B and subsequently witnessed testing and repair activities in the train "B" EPS to establish that the problem was caused by an intermittent failure of a relay driver card. The inspectors also reviewed the record for the operational surveillance (OX1426.20) for the testing in May 2002 of one EDG and its associated EPS. The inspectors verified consistency between the surveillance test logic and details in the OD regarding the EPS design features that allow proper sequencing of the EDG loads with the sequencer switch position in TEST. The applicable electrical schematic diagrams (e.g., FP 31427) for the battery charger supply power, related EPS relays and wiring were reviewed and discussed with the cognizant licensee instrumentation, and control personnel involved in the troubleshooting and repair activities.

The inspectors evaluated the Seabrook's justification for continued operation, addressing the problems identified in both CRs that necessitated the required operability determination. The inspectors verified that the post-maintenance test and operational surveillance (OX1426.03) of the train "B" EPS validated the troubleshooting results, corrective actions, and overall determination regarding operability of the EPS function.

b. Findings

No findings of significance were identified.

.3 Emergency Diesel Generator Issues

a. Inspection Scope

The inspectors reviewed the following conditions in order to determine that the conditions did not adversely affect safety system operability or plant safety. In addition, where a component was determined to be inoperable, the inspectors verified the TS limiting condition for operation implications were properly addressed. Seabrook Station Administrative Procedure OE 4.5, "Operability Determination," and NRC Generic Letter 91-18, "Resolution of Degraded and Nonconforming Conditions" were used to evaluate the licensee's operability determinations. The inspectors performed field walkdowns, interviewed personnel, and reviewed the following items:

- CR 02-10604, "B" EDG jacket water leak at the right bank turbocharger. The inspectors reviewed the evaluation, interviewed the system engineer, evaluated the impact of a small jacket water leak, and examined the effects of a sustained leak for a 24-hour period. The inspectors also evaluated the expected accident loading for the EDG since the size of the leak appeared load dependent. In addition, the

inspectors reviewed the available indications of a jacket leak and prescribed operator actions in response to those indications.

- CR 02-12412, Loose wires in the “B” EDG rectifier selector switch. During determination of the rectifier selector switch, maintenance technicians identified wires that separated from a lug. Subsequent inspections of the “A” and “B” EDGs identified other loose or not optimal connections. The inspectors reviewed the past operability evaluation concentrating on the seismic qualification, the extent of condition review evaluation, and actions taken to correct the deficiencies.

b. Findings

No findings of significance were identified.

.4 Unit Substation Electrical Breaker Found in Incorrect Position

a. Inspection Scope

The inspectors reviewed CR 02-10945, which discusses the incorrect racked out position of unit substation breaker 61, to determine if the as found condition had any adverse effect on any of the offsite electrical power supplies to Seabrook Station. The inspectors reviewed the licensee’s evaluation to determine the cause of the breaker being found in the incorrect position.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed DCR 00-0014, “Instrument Air Dryer Replacement,” design change notice (DCN) number two to verify that system design bases, licensing bases, and performance capability were not degraded by the DCR. The inspectors observed selected instrument air dryer SKD-18B testing activities to ensure operability of the instrument air system and to verify that plant risk was not adversely impacted. The inspectors monitored installation of a temporary air dryer as a contingency for continued system operation during SKD-18D installation and testing. The inspectors observed pre-evolution briefings, interviewed various station personnel, witnessed a portion of the post-installation testing, and reviewed selected design documents including those listed below. The DCR incorporated changes to address a recent industry loss of an instrument air event and met the requirements of North Atlantic Design Control (NADC) Manual, Rev. 19.

- DCR 00-0014, “Instrument Air Dryer Replacement,” DCN 2
- DCR 00-0014 installation schedule
- Work Order 01C0451, “Post-Installation Testing of Instrument Air Dryer Skid SKD-18B,” Rev. 0

- NADC Manual, Rev. 19
- North Atlantic Work Management Program, Rev. 17
- Seabrook Updated Final Safety Analysis Report Sections 8.3.1.4, 9.3.1.2.a, 9.3.1.5, and 10.4.10.2, Rev. 7
- Calculation SBC-565, "Diesel Generator Fuel Oil Tank Vortexing Evaluation" dated April 1, 1993
- Calculation 760-11, "Diesel Generator Fuel Oil Storage System Capacity" dated December 21, 1984
- Calculation C-S-1-E-0161, "Diesel Generator Maximum Allowable Fuel Oil Consumption Rate," Rev. 11

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed the on-line maintenance assessment forms, and several post-maintenance testing (PMTs) activities to ensure: 1) the PMT was appropriate for the scope of the maintenance work completed; 2) the acceptance criteria were clear and demonstrated operability of the component; and 3) the PMT was performed in accordance with procedures. The following PMTs were reviewed:

- On July 10, LSO563.58, "Trip Check Procedure for The Diesel Generator Switchgear Breakers," Rev. 1, following the preventive maintenance replacement of several safety-related relays associated with the "A" EDG. The inspectors also reviewed condition reports, CR 02-11114 and CR 01-11160, which documented minor deficiencies identified during the testing.
- On July 16, the function stroke of the "C" atmospheric dump valve following corrective maintenance on the valve positioner completed per WO 0222395. The inspectors also reviewed several condition reports, which documented minor deficiencies identified during the testing.
- On July 26 through July 29, numerous tests of the "B" EDG were conducted using various combinations of installed rectifier banks and the operability surveillance OX1426.05, "DG 1B Monthly Operability Surveillance," following the performance of several associated work orders that addressed rectifier bank condition, synchronizing relay operability and other supporting maintenance activities.
- On August 9, emergency starts of the "B" EDG using the #1 and #2 rectifier banks and the operability surveillance OX1426.05, "DG 1B Monthly Operability Surveillance," Rev. 8 following replacement of the #1 rectifier bank (WO 0223733) and the rectifier selector switch (WO 0223721) in the "B" EDG control panel.
- On September 25 and 26, OX1412.02, "PCCW Train B Quarterly Operability, 18 Month Position Indication, And Comprehensive Pump Testing," Rev. 8, following

corrective maintenance inspection and leak repair of the “D” primary component cooling water pump seal water piping. The inspectors also reviewed the applicable on-line maintenance assessment evaluation.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

.1 Miscellaneous Surveillance Tests

a. Inspection Scope

The inspectors observed portions of several surveillance tests for safety-related systems to verify that the system and components were capable of performing their intended safety function, to verify operational readiness, and to ensure compliance with required TSs and surveillance procedures.

The inspectors attended some of the pre-evolution briefings, performed system and control room walkdowns, observed operators and technicians perform test evolutions, reviewed system parameters, and interviewed the system engineers and field operators. The following surveillance procedures were reviewed:

- On July 9, IX1668.341, “SI-P-937 Containment Pressure Protection Channel I Operational Test,” Rev. 6;
- On July 12, LS0563.68, “Diesel Generator Bus Undervoltage Relay Inspection, Testing and PM,” Rev. 1;
- On July 23, IX1680.922, “Solid State Protection System Train B Actuation Logic Test,” Rev. 8;
- On July 25, LX0563.01, “Reactor Coolant Pump Undervoltage Quarterly Surveillance,” Rev. 3;
- On September 17, CS0910.01, “Primary Systems Sampling at SS-CP-166A,” Rev. 9 and CX0901.02, “Determination of Dose Equivalent I-131,” Rev. 10.

b. Findings

No findings of significance were identified.

.2 Emergency Diesel Generator Surveillance Testing

a. Inspection Scope

The inspectors reviewed licensee performance related to the following surveillance tests, involving periodic operability verification of the EDGs:

- OX1426.01, "DG 1A Monthly Operability Surveillance"
- OX1426.18, "Aligning DG 1A Controls for Auto Start"
- OX1426.20, "Diesel Generator 1A 18 Month Operability Surveillance"
- OX1426.21, "Diesel Generator 1B 18 Month Operability Surveillance"

The test records for the 18-month operability surveillance of the "A" and "B" EDGs, conducted in May 2002, were reviewed. The surveillance records were checked for evidence of the satisfactory performance testing of both trains of EDG equipment, when subjected to postulated accident signals, and EDG design events consistent with the TS 4.8.1.1.2f requirements. The inspectors examined the sequence of the test performance and the system lineup for the conduct of each successive test event. The inspectors verified that the surveillance records included proper notation of the test equipment used, documentation of the required procedural step performance, and evidence of the resolution of test exceptions.

The inspectors also reviewed and evaluated the operational preparations for surveillance testing of the "A" EDG on July 30 and 31, 2002. The surveillance was conducted based upon questions raised regarding common mode concerns relating to recent problems with the "B" EDG surveillance test performance. [Note: the results of an NRC Special Inspection of the problems observed, and resulting period of inoperability for the "B" EDG was documented in NRC Inspection Report 50-443/02-10.] Work Orders associated with the "A" EDG surveillance run were reviewed and the records of the successful completion of surveillance procedures OX1426.01 and OX1426.18 were verified to provide adequate documentation of the TS 4.8.1.1.2 a.5, 6, and 7 requirements. The inspectors discussed the performance results of the "A" EDG operational test with the cognizant operations and engineering personnel to confirm consideration of the test data in the continuing review of the impact of the "B" EDG surveillance problems and to verify appropriate Seabrook management attention to the EDG TS compliance ramifications (reference: Condition Report 02-11795).

b. Findings

No findings of significance were identified.

.3 Emergency Diesel Generators - Hot Connections

a. Inspection Scope

On July 26, 2002, during a maintenance run of the "B" EDG following problems with reactive load fluctuations, engineers identified two unusual hot connections through the use of thermography. NRC Inspection Report 50-443/02-10 documented the special inspection team review of the reactive load swings. The inspectors reviewed the results from a previous surveillance test on the "B" EDG conducted on October 17, 2001, which also identified two hot connections. The inspectors reviewed the corrective actions for the October 2001 event and their relation to the identified hot connection in July 2002 through interviewing various system engineers and examining the following documents:

- CR 01-10979 Two hot connections in control cabinet 1-DG-CP-76A ("B" EDG) - October 2001
- CR 01-12362 Thermography Program Issues
- CR 02-11735 Two hot connections in control cabinet 1- DG-CP-76A ("B" EDG) - July 2002
- ES1807.016, "Thermography Program," Rev. 2
- OX1426.05, "DG 1B Monthly Operability Surveillance," Rev. 8
- WO 0223733 Replace/Repair Rectifier #1 for 10DG-1-B
- WO 0223721 Replace Rectifier Selector Switch

b. Findings

Introduction

The inspectors identified that Seabrook's corrective actions and extent of condition reviews were not adequate for two hot connections found in the "B" EDG control panel in October 2001. Failure to have adequate corrective actions contributed to not identifying two additional hot connections that were discovered following problems with the "B" EDG control panel in July 2002. This issue was assessed as having very low safety significance (Green) and was determined to be a non-cited violation of 10 CFR 50, Appendix "B," Criterion XVI "Corrective Action."

Description

On October 17, 2001, Seabrook identified two hot connections associated with rectifier bank #1 in the "B" EDG control panel. This was the first full thermography performed on the "B" EDG control panel. The two hot connections were classified as "serious" based on the temperature deviation from normal per the program guidance documents. The issue was captured in the corrective action system (CR 01-10979) and immediate actions were taken to correct the condition. The evaluation identified original construction deficiencies that caused the hot connection and corrective actions included some checks of the wiring.

The inspectors identified the corrective actions did not include a full review of "B" EDG with rectifier bank #2 in-service. The local control panel for each EDG has two rectifier banks, with only one bank in service at a time. The rectifier bank in service is typically

alternated on a monthly basis. Although it was the first full thermography, Seabrook did not recognize that rectifier bank #2 potentially also had the same condition, which could degrade and affect the reliability of the EDG. In addition, one of the two rectifier banks on the "A" EDG had also not been analyzed with thermography.

On July 26, 2002, engineers identified two additional "serious" hot connections as part of a troubleshooting effort following problems with reactive load fluctuations on the "B" EDG. The hot connections were associated with rectifier bank #2 and located on a termination (crimp lug barrel) of cable F1A near diode CR4 and on a termination of cable P2A near the rectifier bank selector switch SW1. Engineers later determined that the hot connections were not the most probable cause of the reactive load swings. Although the serious hot connections were not identified as the most probable cause, the hot connections could have affected the reliability of the EDG.

Analysis

Seabrook's failure to have adequate corrective actions for degraded electrical connections found on rectifier bank #1 for the "B" EDG is considered a performance deficiency since the corrective action program is required to assure the cause of significant conditions is determined and corrective action taken to preclude repetition. The licensee's corrective actions did not adequately evaluate whether the cause was applicable to rectifier bank #2. In July 2002, during troubleshooting efforts for problems with the "B" EDG, two additional "serious" hot connections were discovered on rectifier bank #2.

The finding was considered more than minor because if the finding was left uncorrected, the degraded connections could have degraded further and impacted the reliability of the EDG. Using Appendix "A," Phase 1 of Manual Chapter MC 0609, the finding was determined to be of very low safety significance (Green) since the hot connections did not result in actual failure of the EDG. This analysis was based on the assumption that the hot connections did not cause the "B" EDG reactive load fluctuation observed in July 2002 and described in NRC Inspection Report 50-443/02-10.

The failure to have adequate corrective actions and extent of condition reviews is an item affecting the problem identification and resolution cross cutting area. (Section 40A2)

Enforcement

Traditional enforcement does not apply because the issue did not have any actual safety consequence or potential for impacting the NRC's regulatory function and was not the result of any willful violation of NRC requirements or Seabrook's procedures.

10 CFR 50, Appendix B, Criterion XVI "Corrective Action" requires for a significant condition adverse to quality, measures shall assure the cause of the condition is determined and corrective action taken to preclude repetition. The hot connections on the EDG control panel were considered significant since they could affect the EDG controls and therefore the reliability of the EDG. Contrary to this requirement, Seabrook failed to have adequate corrective actions to preclude recurrence of the deficiency.

Because this violation was of very low safety significance and Seabrook entered this finding into its corrective action program (CR 02-14103), this violation is being treated as a Non-Cited Violation consistent with section VI.A.1 of the NRC Enforcement Policy **(NCV 50-443/02-05-01)**.

1R23 Temporary Plant Modifications

a. Inspection Scope

On September 20, the inspectors reviewed temporary alteration 02-003 associated with the installation of a temporary pneumatic gag to hold a charging and volume control system valve (1-CS-V-521) in the open position to allow testing of a system circuit breaker. The inspectors reviewed associated implementing documents including CR 02-13501 and loop diagram 1-NHY-506275, Rev. 17, to verify the design basis and that the affected system/component operability was maintained.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness (EP)

1EP6 Drill Evaluation

a. Inspection Scope

On August 21, the inspectors observed portions of the Combined Functional Emergency Preparedness Drill, 02-02, to evaluate the conduct of the drill and adequacy of the Seabrook's critique. The inspectors verified that event classification and notification were properly conducted and priorities were communicated in the technical support center. The inspectors also verified that identified problems were entered into the corrective action program through observation of the critique, review of the drill evaluation report, and review of the list of CRs initiated.

The inspectors reviewed CR 02-13215, which documented a condition identified by the inspectors, regarding the proper level of involvement by coaches and controllers during critical evolutions. In addition, the inspectors reviewed CR 02-13203, which documented a condition identified by the inspectors regarding the procedural requirement to use data provided by the off-site emergency operations facility software rather than the control room software when determining the projected off-site dose calculation.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Public Radiation Safety (PS)

2PS2 Radioactive Material Processing and Transportation

.1 System Walkdown

a. Inspection Scope

The inspectors walked down accessible portions of the radioactive liquid and solid waste collection/processing systems, and radwaste storage locations, with a Nuclear Systems Operator and the Health Physics Technical Supervisor, respectively, to determine if: systems and facilities were consistent with descriptions contained in the Updated Final Safety Analysis Report (UFSAR); to evaluate general material conditions; and to identify changes to the systems. Systems visually inspected included portions of the Asphalt Solidification System, Boron Recovery System, and Steam Generator Blowdown System. Radwaste storage locations visually inspected included the Waste Concentrates Tank Room, Spent Resin Sluice Filter Room, Resin Centrifuge Room, Unit-2 Cooling Tower, and Radioactive Materials Storage Building.

During the walkdowns, the inspectors also reviewed the following:

- the status of any non-operational waste process equipment and the adequacy of administrative and physical controls for those systems;
- changes made to radioactive waste processing systems and the potential radiological impact, including safety evaluations, of these changes;
- current processes for transferring radioactive waste resin and sludge to shipping containers and the mixing and sampling of the waste;
- radioactive waste/material storage and handling practices;
- sources of radioactive waste at the station; and,
- the general condition of facilities and equipment.

The review was against the criteria contained in the UFSAR, Technical Specifications, the Process Control Plan (PCP), 10 CFR Parts 20, 61, 71, applicable Branch Technical Positions, and the Seabrook procedures.

b. Findings

No findings of significance were identified.

.2 Waste Characterization and Classification

a. Inspection Scope

The inspectors reviewed the following matters:

- radio-chemical sample analysis results for the radioactive waste streams;
- the development of scaling factors for difficult to detect and measure radio nuclides;
- methods and practices to detect changes in waste streams;
- classification and characterization of waste relative to 10 CFR 61.55 and 10 CFR 61.56;
- implementation of applicable Branch Technical Positions on waste classification; concentration averaging, waste stream determination, and sampling frequency;
- current waste streams and their processing relative to descriptions contained in the UFSAR and the station's PCP; and
- current processes for transferring radioactive waste resin and sludge discharges into shipping/disposal containers to determine the adequacy of sampling.

The review was against the criteria contained in the UFSAR, PCP, applicable Branch Technical Positions, 10 CFR Parts 20, 61, 71, and licensee procedures.

b. Findings

No findings of significance were identified.

.3 Shipment Records and Documentation

a. Inspection Scope

The inspectors selected and reviewed records associated with five (5) non-excepted shipments of radioactive material made since the previous inspection of this area. The shipments were Nos. 01-006, 01-009, 02-003, 02-010, and 02-036. The following aspects of the radioactive waste packaging and shipping activities were reviewed:

- Implementation of applicable shipping requirements including completion of waste manifests;
- Implementation of the specifications in applicable Certificates of Compliance, for the approved shipping casks including limits on package contents;
- Classification and characterization of waste relative to 10 CFR 61.55 and 61.56;
- Implementation of 10 CFR 20, Appendix G;
- Labeling of containers;
- Placarding of transport vehicles;
- Conduct of vehicle checks;
- Providing of driver emergency instructions;
- Completion of shipping paper/disposal manifest;

The review was against criteria contained in 10 CFR Parts 20, 61, 71, applicable Department of Transportation requirements, as contained in 49 CFR Parts 170-189; station procedures; and applicable disposal site licenses and related correspondence.

b. Findings

No findings of significance were identified.

3. SAFEGUARDS

Cornerstone: Physical Protection [PP]

3PP3 Response to Contingency Events

.1 Response Force Member Inattentive to Duty

a. Inspection Scope

The inspectors conducted an in-office review of the circumstances involving a failure of a Response Force Member to respond to an Intrusion Alarm, as a result of being inattentive to duty, on July 25, 2002. The following documents were reviewed:

- Seabrook Station Physical Security Plan, Revision 29, December 18, 2001
- Seabrook Station Contingency Plan, Revision 13, January 11, 2002
- Condition Report 02-05891, April 30, 2002, NRC perceived inattentive to duty
- Condition Report 02-10104, June 14, 2002, Security Officer inattentive to duty
- Condition Report 02-10541, June 25, 2002, Explore negative trends in Security Officers being inattentive to duty
- Condition Report 02-11729, July 25, 2002, Security Officer inattentive to duty

The review was against applicable requirements contained in 10 CFR 73.55, "Requirements for physical protection of licensed activities in nuclear power reactors against radiological sabotage," and the Seabrook Physical Security Plan, Revision 29, dated December 18, 2001.

b. Findings

Introduction

The inspectors identified a finding having very low safety significance (Green) involving the failure of a Seabrook Station armed response force member to respond to an intrusion alarm, as a result of being inattentive while on duty on July 25, 2002. This finding was considered a non-cited violation of the NRC-approved Physical Security Plan for the Seabrook facility as required by 10 CFR 73.55, "Requirements for physical protection of licensed activities in nuclear power reactors against radiological sabotage."

Description

At approximately 2130 hours, on July 25, 2002, Central Alarm Station (CAS) operator attempted to contact a security response officer (an armed responder) by radio to direct the individual to respond to a vital area door alarm, which is a possible indication of intrusion. The security officer did not answer the radio call, and did not respond to the vital area door alarm. A security supervisor who heard the radio transmission responded to the indicated vital area door, and appropriately resolved the alarm condition. The supervisor subsequently went to the ready room and found the response force member inattentive to duty.

On the basis of radio communications, the inspectors determined that this condition existed for no more than thirty minutes.

Analysis

The security response officer's failure to meet specific conditions of the NRC-approved Physical Security Plan, relative to being alert and immediately available for response, constitutes a performance deficiency. The cause of this matter was reasonably within Seabrook's ability to foresee and correct; and should have been prevented. However, the occurrence did not represent an immediate safety concern since an alternate responder properly assessed the alarm and appropriately resolved the alarm condition. No actual intrusion occurred.

Traditional enforcement does not apply because the issue did not have any actual safety consequence or potential for impacting the NRC's regulatory function. While the matter does not currently appear to be the result of any willful violation of NRC requirements or Seabrook Station's procedures, this finding will be re-evaluated in accordance with NRC's Enforcement Policy if deliberateness is later determined.

The finding involved an occurrence relative to the licensee's Physical Security program that was contrary to NRC regulations and the NRC approved Physical Security Plan. The matter is more than minor in that the issue is associated with the Response to Contingency Events attribute of the Safeguards cornerstone; and affected the objective of this cornerstone since failure to comply with the requirements of the Physical Security Plan may compromise the licensee's ability to provide high assurance that the physical protection system can protect against the design basis threat of radiological sabotage.

The response force officer's failure to maintain alertness and be immediately available for response in accordance with the Physical Security Plan, was determined to have very low safety significance (Green) using the Interim Physical Protection Significance Determination Process (Appendix "E," Manual Chapter 0609). Specifically, the finding involved a Vulnerability of Safeguards Systems or Plans. However, in this case, no actual intrusion occurred; and there have not been greater than two similar findings in the last four quarters. A second similar licensee identified violation is described in Section 4OA7.

Enforcement

10 CFR 73.55(b)(1)(i) requires all licensees to maintain safeguards in accordance with Commission regulations and the licensee's security plan. Seabrook Station License Condition 2.E, "Physical Security," requires in part, the licensee to fully implement and maintain in effect all provisions of the physical security plan previously approved by the Commission, and all amendments and revisions to such plans. Section 10.1 of the Seabrook Physical Security Plan, Revision 29, dated December 18, 2001, states that armed responders will be immediately available for response. The Physical Security Plan also states, in Section 2.6.7, that specific duties of security personnel are described in Seabrook Station Administrative Procedures. Section 4.1.3 of the Seabrook Station Security Department Instruction SDI 0042, "Security Posts and Recall of Security Personnel," requires security personnel to remain alert and prevent unauthorized entry to protected and vital areas.

Contrary to the above, a response force officer was inattentive to duty in the ready room at approximately 2130, on July 25, 2002 and consequently, failed to remain alert and immediately available for response. Specifically, the security response officer failed to respond to a vital area door alarm, a possible indication of intrusion; and was subsequently observed to be inattentive to duty, by a security supervisor.

Seabrook documented this issue in its corrective action program as Condition Report 02-11729, and initiated immediate actions to preclude recurrence, including initiation of a formal root cause assessment. This finding is considered a non-cited violation having very low safety significance (Green). **(NCV 50-443/02-05-02)**

.2 Periodic Inspection of Response to Contingency Events

a. Inspection Scope

The following activities were conducted to determine the effectiveness of Seabrook Station's Response to Contingency Events, as measured against the requirements of 10 CFR 73.55 and the Seabrook Station Safeguards Contingency Plan:

- On September 12, 2002, a review of documentation associated with the licensee's force-on-force exercise program was conducted. The review included documentation and critiques for exercises conducted since the first quarter of 2002 when the exercises were resumed post September 11, 2001.
- On September 11, 2002, performance testing of the Seabrook Station intrusion detection systems was conducted. This testing was accomplished by touring the entire perimeter and selected areas of potential vulnerability in the intrusion detection system. During the walkdown of the intrusion detection system, nine specific locations were selected for testing. Observations were made of a Seabrook Station Security Force Member performing crawl, jump and run testing at these nine locations.
- On September 10, 2002, a review was conducted of the Seabrook Station defensive strategy, response time lines, target sets and relevant implementing procedures.

- On September 10, 2002, three tabletop exercises were conducted. The mock adversary was provided entry location and target set information by the inspector. The response force was directed by a Central Alarm Station Operator. A senior member of the Seabrook Station Operations staff provided relevant operations information during the evolution of the exercises.

b. Findings

No findings of significance were identified.

.3 Response to Contingency Events

The Office of Homeland Security (OHS) developed a Homeland Security Advisory System (HSAS) to disseminate information regarding the risk of terrorist attacks. The HSAS implements five color-coded threat conditions with a description of corresponding actions at each level. NRC Regulatory Information Summary (RIS) 2002-12a, dated August 19, 2002, "NRC Threat Advisory and Protective Measures System," discusses the HSAS and provides additional information on protective measures to licensees.

a. Inspection Scope

On September 10, 2002, the NRC issued a Safeguards Advisory to reactor licensees to implement the protective measures described in RIS 2002-12a in response to the Federal government declaration of threat level "orange." Subsequently, on September 24, 2002, the OHS downgraded the national security threat condition to "yellow" and a corresponding reduction in the risk of a terrorist threat.

The inspector interviewed licensee personnel and security staff, observed the conduct of security operations, and assessed licensee implementation of the threat level "orange" protective measures. Inspection results were communicated to the region and headquarters security staff for further evaluation.

b. Findings

No findings of significance were identified.

3PP4 Security Plan Changes

a. Inspection Scope

An in-office review was conducted of changes to the Physical Security Plan (Revisions 28 and 29), Safeguards Contingency Plan (Revisions 12 and 13) and Training and Qualification Plan (Revisions 12, 13, and 14) submitted to the NRC on April 5, 2001, January 11, 2002, and March 22, 2002 in accordance with the provisions of 10 CFR 50.54(p). The review was conducted to confirm that the changes were made in accordance with 10 CFR 50.54(p), and did not decrease the effectiveness of the plan.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES [OA]

4OA1 Performance Indicator Verification

.1 (Closed) URI 50-443/01-08-03: Emergency Preparedness Performance Indication - Evaluating Exceeding the 15 Minutes for Classifications

In NRC Inspection Report 50-443/01-08, the inspectors identified Seabrook guidance that potentially would consider classification of events greater than 15 minutes acceptable for the emergency preparedness performance indicator. Seabrook submitted a frequently asked question (FAQ) to resolve the issue. Seabrook has since withdrawn the FAQ and revised their internal performance indicator guidance in accordance with Nuclear Energy Institute (NEI) 99-02, Regulatory Assessment Performance Indicator Guideline, Rev. 2.

The inspectors reviewed the procedure "Emergency Preparedness Performance Indicators (EPDP-03)," Rev. 9 and concluded that the corrective actions addressed the issue. The inspectors determined based on a review of a sample of the 2002 performance indicator (PI) data that the actual guidance was not utilized to accept greater than 15 minute classifications. Therefore, the data submitted to the NRC was unchanged and no violation of NRC requirements was identified.

.2 Safety System Functional Failures

a. Inspection Scope

The inspectors reviewed the PI data for safety system functional failures to determine whether NEI 99-02 was properly implemented. The inspectors reviewed the data collected, PI definitions, and 10 CFR 50.73 requirements described in detail in NUREG 1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73," Rev. 2. The inspectors verified the accuracy of the reported data through reviews of the Licensee Event Reports submitted during the period of September 2001 to August 2002.

b. Findings

No findings of significance were identified.

.3 Reactor Coolant System Activity

a. Inspection Scope

The inspectors reviewed the PI data for reactor coolant system activity to determine whether NEI 99-02 was properly implemented during the period of June 2001 to June 2002. The inspectors verified the calculations and observed the reactor coolant system sample and analysis using CS0910.01 and CX0901.02 (See Section 1R22). The inspectors reviewed the following documents in the evaluation of the PI data:

- UFSAR Section 1.8 “Conformance to NRC Regulatory Guides”;
- Regulatory Guide 1.109, “Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I,” Rev. 1;
- JD0999.910, “Reporting Key Performance Indicators Per NEI 99-02,” Rev. 0;
- RCS sample results given in iodine 131 to 135 and as dose equivalent iodine;
- TS 3.4.8, “Specific Activity”

b. Findings

No findings of significance were identified.

.4 Reactor Coolant System Leakage

a. Inspection Scope

The inspectors reviewed the PI data for reactor coolant system leakage to determine whether NEI 99-02 was properly implemented during the period of June 2001 to June 2002. The inspectors reviewed a sample (April, May, and June data) of the data used to determine the maximum monthly leakage. The inspectors reviewed and observed operator use of procedure OX1401.02, “RCS Steady State Leak Rate Calculation,” Rev. 6. The inspectors also reviewed the RCS leakage TS requirements and verified the PI calculation.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

.1 Processing and Shipping of Radioactive Material

a. Inspection Scope

The inspectors reviewed Nuclear Oversight Department (Quality Assurance) audits/surveillance reports, and Health Physics Department self-assessments relating to the radioactive waste handling, processing, storage, and shipping programs, including the Process Control Plan. The inspectors also reviewed twenty (20) Condition Reports (CRs) related to the control of radioactive material initiated between January 2001 and

August 2002 to evaluate Seabrook's threshold for identifying, evaluating, and resolving problems in implementing these programs. This review was conducted against the criteria contained in 10 CFR Parts 20 and 71.101. The following documents were reviewed:

QUALITY ASSURANCE SURVEILLANCE REPORTS/AUDITS:

- QASR 01-0171 Assessment of Mixed Waste
- QASR 02-0019 Assessment of Radiological Waste Services move of a High Integrity Container to a Transfer Cask
- QASR 02-0095 Health Physics Activities during OR08
- Audit No. 00-A07-01 Radwaste/Process Control Program
- Audit No. 98-A07-01 Radwaste/Process Control Program

HEALTH PHYSICS DEPARTMENT SELF-ASSESSMENTS:

- SA 01-0045 Processing of "Green-Is-Clean" Trash
- SA 02-0074 HP/Radwaste Biannual Condition Report Trend Analysis

b. Findings

No findings of significance were identified.

.2 October 2001 Reactor Trip due to Control Rod Drop - Problem Identification and Resolution Sample

a. Inspection Scope

The reactor trip and past issues leading to the trip were discussed in NRC Inspection Reports 50-443/01-010, 01-011, and 02-03. The inspectors had previously reviewed the root cause and corrective actions identified in the CR 01-10868. During this review, the inspectors examined the additional corrective actions completed under CR 01-12250. The inspectors verified that remote inspections of the control rod drive mechanisms were conducted, reviewed the videotape, and interviewed the engineers that conducted the examination. Additionally, the inspectors independently reviewed chemistry sampling data to determine if any trend was identified to further substantiate the root cause of the reactor trip.

b. Findings

No findings of significance were identified.

.3 Emergency Diesel Generators - Hot Connections

The inspectors identified a finding related to inadequate corrective actions and extent of condition reviews. The finding is documented in Section 1R22.

40A3 Event Follow-Up

.1 Reactive Load Fluctuation on the "B" Emergency Diesel Generator

a. Inspection Scope

On July 24, Seabrook experienced reactive load fluctuation on the "B" EDG during normal monthly surveillance testing. Operators declared the EDG inoperable. The inspectors observed troubleshooting activities through: 1) attendance at various planning meeting; 2) interviews with engineers and maintenance technicians; 3) walkdowns of the EDG system; and 4) observations of several EDG maintenance runs. The overall evaluation of the event was completed by a special inspection team and documented in NRC Inspection Report 50-443/02-010.

b. Findings

No findings of significance were identified.

40A5 Other Activities

.1 License Transfer

On October 25, 2002, the NRC approved the transfer of the operating licensee for Seabrook Station from North Atlantic Energy Service Corporation to FPL Energy Seabrook, LLC. On November 1, the transfer was completed. Although this inspection was performed while North Atlantic Energy Service Corporation was the license holder, this report was issued and addressed to the new licensee holder, FPL Energy Seabrook, LLC.

40A6 Meetings, including Exit

.1 Exit Meeting Summary

The inspectors presented the inspection results to Mr. J. Vargas on October 7, 2002, following the conclusion of the period. The licensee acknowledged the findings presented. The licensee did not indicate that any of the information presented at the exit meeting was proprietary.

.2 Site Management Visit

On September 26 and 27, Mr. Hubert Miller, Regional Administrator, Region I and Mr. R. Crlenjak, Deputy Division Director, Division of Reactor Safety, toured the site and met with Mr. Ted Feigenbaum and other members of Seabrook's management.

Mr. Brian McDermott, Branch Chief, Division of Reactor Projects, Branch 6 visited the site September 24 to 27 and accompanied Mr. Miller and Mr. Crlenjak.

On July 22 to 24, Mr. Douglas Starkey, Project Manager, Nuclear Reactor Regulation toured the site and met with members of the Seabrook's staff.

4OA7 Licensee Identified Violations

The following violation of very low significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as NCV.

- 10 CFR 73.55(b)(1)(i) requires all licensees to maintain safeguards in accordance with Commission regulations and the licensee's security plan. Section 10.1 of the Seabrook Physical Security Plan, Revision 29, dated December 18, 2001, states that armed responders will be immediately available for response. On June 14, 2002, an armed responder was inattentive to duty, as described in the licensee's corrective action program Condition Report 02-10104. Though this matter involved a vulnerability of Safeguards Systems or Plans, in this case no actual intrusion occurred, and there have not been greater than two similar findings in the last four quarters. Accordingly, this matter is being treated as a non-cited violation.

**ATTACHMENT 1
SUPPLEMENTAL INFORMATION**

a. Key Points of Contact

Licensee:

B. Plummer, Operations Manager
T. Nichols, Technical Support Manager
D. Sherwin, Maintenance Manager
J. Pandolfo, Security Manager
R. Hickok, NRC Coordinator
M. O'Keefe, Regulatory Compliance Supervisor
C. Berry, Corrective Action/Human Performance Program Manager
M. Bianco, Radwaste Supervisor
W. Cash, Health Physics Department Manager
F. Hannify, Radwaste Technical Supervisor
W. Leland, Chemistry/Health Physics Group Manager
E. Metcalf, Plant Engineering Assistant Manager
J. More, Nuclear Systems Operator
R. Thurlow, Health Physics Technical Supervisor
D. Robinson, Chemistry Supervisor
T. Smith, Rad Technical Specialist (Training)
A. Stall, President Nuclear Production, Florida Power and Light
G. St. Pierre, Station Director
E. Moore, Security Supervisor
J. Peschel, Manager, Regulatory Programs
J. Sobotka, Manager, Oversight
P. Ryan, Supervisor, Security Operations

b. Items Opened, Closed, and Discussed

Opened and Closed:

50-443/02-05-01	NCV	Inadequate corrective actions and extent of condition reviews for two hot connections found in the EDG control panel (Section 1R22).
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50-443/02-05-02	NCV	Failure to maintain safeguards in accordance with 10 CFR 73.55(b.1.i) and the licensee's security plan (Section 3PP3).
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Closed:

50-443/01-08-03	URI	Emergency Preparedness Performance Indication - Evaluating Exceeding the 15 Minutes for Classifications (Section 4OA1.1)
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Attachment 1 (Cont.)

c. List of Acronyms

ADAMS	Agencywide Documents Access and Management System
CR	Condition Report
DCN	Design Change Notice
DCR	Design Change Request
DG	Diesel Generator
EDG	Emergency Diesel Generator
EPS	Emergency Power Sequencer
FAQ	Frequently Asked Question
MR	Maintenance Rule
NEI	Nuclear Energy Institute
OD	Operability Determination
PARS	Publicly Available Records
PCP	Process Control Plan
PI	Performance Indicator
PMT	Post-maintenance Testing
RHR	Residual Heat Removal
SDP	Significance Determination Process
SSC	Structure, System, and Component
SW	Service Water
TS	Technical Specifications
UFSAR	Updated Final Safety Analysis Report

d. Partial List of Documents Reviewed

PROCEDURES:

ES0825.01, Rev. 0	Abandoned and Infrequently Used Equipment
RP 13.1, Rev. 18	Radiological Controls for Material
WN0598.072, Rev. 3	Shipment of Radioactive Material
HD0958.32, Rev. 14	Release of Material From Radiological Controls
HD0963.41, Rev. 8	Calibration of Nuclear Enterprises SAM-9
CP 5.1, Rev. 15	Isotopic Characterization of Radwaste
CS0918.02, Rev. 5	Radwaste Analysis Methods
WD0598.069, Rev. 0	Storage of Radioactive Material/Waste Controlled by the Waste Services Department
HD0958.38, Rev. 23	Evaluation of Isotopic Mix

SELF-ASSESSMENTS:

SA 01-0045	Processing of "Green-Is-Clean" Trash
SA 02-0074	HP/Radwaste Biannual Condition Report Trend Analysis

QUALITY ASSURANCE SURVEILLANCE REPORTS/AUDITS:

QASR 01-0171	Assessment of Mixed Waste
QASR 02-0019	Assessment of Radiological Waste Services move of a High Integrity Container to a Transfer Cask
QASR 02-0095	Health Physics Activities during OR08
Audit No. 00-A07-01	Radwaste/Process Control Program
Audit No. 98-A07-01	Radwaste/Process Control Program

Attachment 1 (Cont.)

CONDITION REPORTS:

02-11981, 02-11875, 02-11874, 02-11873, 02-11797, 02-11796, 02-11627, 02-11616,
02-09445, 02-08226, 02-06973, 02-05600, 02-02716, 02-01917, 01-12722, 02-01135,
01-12423, 01-11716, 01-01973, 01-01588,
02-05891, April 30, 2002, NRC perceived inattentive to duty
02-10104, June 14, 2002, Security Officer inattentive to duty
02-10541, June 25, 2002, Explore negative trend in Security Officers being inattentive to
duty
02-11729, July 25, 2002, Security Officer inattentive to duty

SHIPPING MANIFESTS:

Ship No. 01-006, Dewatered Filter Cartridges, 98 Ci, LSA II, Class C
Ship No. 01-009, Dewatered Resin, 41 Ci, LSA II, Class B
Ship No. 02-003, Dewatered Resin, 35 Ci, LSA II, Class B
Ship No. 02-010, Dewatered Resin, 36 Ci, LSA II, Class B
Ship No. 02-036, Dewatered Filter Cartridges, 39 Ci, LSA II, Class C

HEALTH PHYSICS STUDY/TECHNICAL INFORMATION DOCUMENT:

HPSTID 93-008	Radiological and Safety Evaluation for Storage of Spent Resin in Water in the Waste Processing Building
HPSTID 91-003	Use of the Nuclear Enterprise Small Article Monitor for Determining Compliance with Seabrook Station Contamination Release Limits
HPSTID 90-005	NEA Small Article Monitor Evaluation and Set-Up

OTHER:

Change Management Plan - Waste Liquid Processing Vendor System Replacement
Engineering Evaluation EE-02-001, Rev. 0 - Comparison of the Duratek and Nukem
Liquid Processing Systems
Process Control Plan, Rev. 31
Radwaste Training Qualification Matrix
Seabrook Station Physical Security Plan, Rev. 29, December 18, 2001
Seabrook Station Contingency Plan, Revision 13, January 11, 2002

SECURITY DOCUMENTS:

Safeguards Event Reports for the last three quarters of 2002
Seabrook Station Contingency Plan
Seabrook Station Physical Security Plan
Drill and Exercise documentation for first three quarters of 2002