

June 23, 2000

Mr. Ted C. Feigenbaum  
Executive Vice President and Chief Nuclear Officer  
Seabrook Station  
North Atlantic Energy Service Corporation  
c/o Mr. James M. Peschel  
P.O. Box 300  
Seabrook, NH 03874

SUBJECT: NRC's SEABROOK INSPECTION REPORT NO. 05000443/2000-003

Dear Mr. Feigenbaum:

On May 20, 2000, the NRC completed an inspection at your Seabrook Nuclear Power Station. The enclosed report presents the results of this inspection. Results were discussed on June 1, with you and members of your staff.

This inspection was an examination of 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. Within these areas, the inspection consisted of a selected examination of procedures and representative records, observations of activities, and interviews with personnel. No findings were identified during the inspection.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Robert Summers, Acting Chief  
Projects Branch 6  
Division of Reactor Projects

Docket No. 05000443  
License No: NPF-86

Enclosure: NRC Inspection Report No. 05000443/2000-003

cc w/encl:

B. D. Kenyon, President and Chief Executive Officer

J. M. Peschel, Manager - Regulatory Programs

W. A. DiProffio, Station Director - Seabrook Station

R. E. Hickok, Nuclear Training Manager - Seabrook Station

D. E. Carriere, Director, Production Services

L. M. Cuoco, Esquire, Senior Nuclear Counsel

D. A. Smith, Manager of Regulatory Affairs, Northeast Nuclear Energy Company

W. Fogg, Director, New Hampshire Office of Emergency Management

D. McElhinney, RAC Chairman, FEMA RI, Boston, Mass

R. Backus, Esquire, Backus, Meyer and Solomon, New Hampshire

D. Brown-Couture, Director, Nuclear Safety, Massachusetts Emergency  
Management Agency

F. W. Getman, Jr., Vice President and Chief Executive Office, BayCorp Holdings, LTD

R. Hallisey, Director, Dept. of Public Health, Commonwealth of Massachusetts

Seacoast Anti-Pollution League

D. Tefft, Administrator, Bureau of Radiological Health, State of New Hampshire

S. Comley, Executive Director, We the People of the United States

W. Meinert, Nuclear Engineer

S. Allen, Polestar Applied Technology, Incorporated

Mr. Ted C. Feigenbaum

3

Distribution w/encl: (VIA E-MAIL)

H. Miller, RA/J. Wiggins, DRA

R. Summers, DRP

K. Jenison, DRP

R. Junod, DRP

Region I Docket Room (with concurrences)

Nuclear Safety Information Center (NSIC)

NRC Resident Inspector

J. Shea, RI EDO Coordinator

E. Adensam, PD I-3, NRR (ridsnrrdlpmlpdi)

J. Clifford, NRR

B. Pulsifer, NRR

W. Scott, NRR

Inspection Program Branch, NRR (IPAS)

DOCUMENT NAME: G:\BRANCH5\SEABROOK\SEA2000-003.WPD

After declaring this document "An Official Agency Record" it **will/will not** be released to the Public.

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	RI/DRP	RI/DRP
NAME	RLorson/RJS for	RSummers/RJS
DATE	06/22/00	06/23/00

OFFICIAL RECORD COPY

U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.: 05000443

License No.: NPF-86

Report No.: 05000443/2000-003

Licensee: North Atlantic Energy Service Corporation

Facility: Seabrook Generating Station, Unit 1

Location: Post Office Box 300  
Seabrook, New Hampshire 03874

Dates: April 2 - May 20, 2000

Inspectors: Raymond Lorson, Senior Resident Inspector  
Javier Brand, Resident Inspector  
Antone Cerne, Senior Resident Inspector, Millstone Unit 3  
Beth Sienel, Resident Inspector, Millstone Unit 3  
Kenneth Jenison, Senior Project Engineer, DRP

Approved by: Robert Summers, Acting Chief  
Projects Branch 6  
Division of Reactor Projects

## SUMMARY OF FINDINGS

Seabrook Generating Station, Unit 1  
NRC Inspection Report 05000443/2000-003

The report covers a six-week period of resident inspection. The significance of issues is indicated by their color (GREEN, WHITE, YELLOW, RED) and was determined by the Significance Determination Process (SDP) in draft inspection Manual Chapter 0609 (see Attachment 1).

- There were no findings during this inspection.

# TABLE OF CONTENTS

	<u>Page</u>
SUMMARY OF FINDINGS .....	ii
TABLE OF CONTENTS .....	iii
Summary of Plant Status .....	1
REACTOR SAFETY .....	1
1R04 Equipment Alignments .....	1
1R05 Fire Protection .....	1
1R15 Operability Evaluations .....	1
1R16 Operator Workarounds .....	2
1R22 Surveillance Testing .....	2
4. OTHER ACTIVITIES [OA] .....	3
4OA4 Performance Indicator Verification .....	3
4OA4 Cross-cutting Issues .....	3
4OA4 Other .....	4
4OA5 Meetings .....	4
PARTIAL LIST OF PERSONS CONTACTED .....	5
LIST OF ACRONYMS USED .....	5
Attachment 1 .....	6

## Report Details

Summary of Plant Status: The plant was operated at approximately 100% power for the duration of the inspection period.

### 1. **REACTOR SAFETY**

#### **Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity**

#### 1R04 Equipment Alignments

##### a. Inspection Scope

During a "B" train maintenance outage, that included safety injection (SI) system and vital battery maintenance, the inspectors performed partial system alignment checks of the emergency feedwater (EFW), and "A" emergency diesel generator (EDG) systems.

##### b. Issues and Findings

There were no findings identified and documented during this inspection.

#### 1R05 Fire Protection

##### a. Inspection Scope

On April 22, 2000, the inspector toured six areas important to reactor safety to observe; control of combustible materials and ignition sources; material condition, line-up, and effectiveness of fire protection systems; and condition of fire barriers . The areas toured included: the control room, computer room, emergency switchgear room, cable spreading room, EFW pump room and both EDG rooms.

##### b. Issues and Findings

There were no findings identified and documented during this inspection.

#### 1R15 Operability Evaluations

##### .1 Primary Auxiliary Building Ventilation System Review

##### a. Inspection Scope

NRC Inspection Report 05000443/2000-002 discussed an issue, identified during surveillance testing on March 26, 2000, involving two inoperable primary auxiliary building (PAB) safety-related ventilation dampers that were found to be painted shut. The licensee performed an engineering evaluation and concluded that the ventilation system problem would not have caused any safety-related equipment temperature limits to be exceeded. On April 21, 2000, the licensee retracted the 10 CFR 50.72 event report for this condition. The inspector reviewed the engineering evaluation for this event.

##### b. Issues and Findings

There were no findings identified and documented during this inspection.

.2 Spray Additive Tank (SAT) Level Verification

a. Inspection Scope

The inspector reviewed the licensee activities performed to ensure that the SAT inventory would be maintained within the Technical Specification (TS) 3.6.2.2 limits.

b. Issues and Findings

There were no findings identified and documented during this inspection.

1R16 Operator Workarounds

a. Inspection Scope

On April 15, 2000, the inspector performed a partial review of operator "work-around" and operational impact item lists. The term, "work-around," as used in this report, refers to non-routine actions performed by the operating crew to compensate for equipment not functioning as designed. The inspector reviewed the work-around items for risk significance, the effect on mitigating systems, and the aggregate impact on the operators' ability to implement abnormal or emergency operating procedures.

b. Issues and Findings

There were no findings identified and documented during this inspection

1R22 Surveillance Testing

a. Inspection Scope

The inspectors observed several surveillance test activities including: reactor protection system (RPS) reactor coolant loop low flow and over-temperature-delta-temperature (OTdT) channel alignments, "A" EDG monthly testing, and "A" EDG slave relay testing.

b. Issues and Findings

There were no findings identified and documented during this inspection.



#### 4. OTHER ACTIVITIES [OA]

##### 4OA4 Performance Indicator Verification (TI 2515/144)

###### a. Inspection Scope

The inspector reviewed a sample of site performance indicators to ensure that the licensee had a clear understanding of the indicator definitions, data reporting elements, calculational methods, definitions of terms and clarifying notes. It was determined whether the licensee's process was capable of producing accurate performance indicators in accordance with the guidance in NEI 99-02, Performance Indicators.

###### b. Issues and Findings

There were no findings identified and documented during these inspections.

##### 4OA4 Cross-cutting Issues

###### Problem Identification and Resolution

###### a. Inspection Scope

During routine baseline inspection activities, the inspectors assessed whether Seabrook Station technicians identified problems during various surveillance testing activities and included them in their corrective action system.

###### b. Issues and Findings

There were no findings identified during these inspections.

The inspector identified some examples in which technicians had not identified problems with the potential to affect the mitigation systems cornerstone. Each of these issues was considered minor since the equipment remained operable as verified by the inspector during the baseline inspections.

The inspectors identified the following:

- The surveillance procedure used to compare the initial and measured source range nuclear instrument detector plateau curves did not provide detailed instructions or acceptance criteria for performing this comparison.
- During an RPS OTdT channel alignment, technicians installed a locally manufactured jumper between the test standard and an RPS circuit card. The licensee had not evaluated whether installation of the jumper affected the instrument calibration accuracy.
- The monthly EDG operability surveillance contained unclear guidance for testing the operation and automatic start function of the EDG fuel oil transfer pump.

These NRC-identified items represent missed opportunities on the part of station personnel to identify problems. The issues were entered into the Seabrook corrective action process as Condition Reports 0006286, 0006267, and 0006729, respectively.

#### 4OA4 Other

- .1 (Closed) LER 50-443/00-001: non-compliance with TS 4.8.4.2 requirements. A TS requirement to test an additional 10% of the circuit breaker population following test failures of the Type FJ, 480 volt, molded case circuit breakers was not properly implemented prior to the start-up from refueling outage five (June 1997). The licensee properly implemented the TS test requirements during refueling outage six, and planned to revise the test procedure guidance to prevent this event from recurring. The test failures did not adversely affect plant safety and the licensee's corrective actions to prevent recurrence of this event appeared reasonable. This failure was considered a violation of minor significance not subject to formal enforcement action.
- .2 (Closed) LER 50-443/00-002: non-compliance with TS 4.9.7 surveillance requirement. The design and testing of the spent fuel pool (SFP) bridge crane overload protection interlocks did not meet TS requirements, which were designed to prevent the lifting of loads in excess of 2100 pounds over spent fuel assemblies. The licensee implemented a modification to the SFP bridge crane interlocks and planned to revise the test procedure to meet the TS requirements prior to further use of the crane. Licensee procedural requirements were in place prior to this event to prevent the lifting of heavy loads over spent fuel assemblies. This failure was considered a violation of minor significance not subject to formal enforcement action.

#### 4OA5 Meetings

##### Exit Meeting Summary

The inspectors presented the inspection results to Mr. T. Feigenbaum and other members of licensee management on June 1, 2000. The licensee acknowledged the findings presented.

## PARTIAL LIST OF PERSONS CONTACTED

### Licensee

W. Diprofo, Unit Director  
 J. Grillo, Assistant Station Director  
 G. StPierre, Operations Manager  
 B. Seymour, Security Manager  
 T. Nichols, Technical Support Manager  
 D. Sherwin, Maintenance Manager

## ITEMS OPENED, CLOSED, AND DISCUSSED

### Closed:

LER 50-443/00-001: Non-compliance with Technical Specification 4.8.4.2 Action Requirements  
 LER 50-443/00-002: Inadequate Surveillance Testing of the Spent Fuel Pool Bridge and Hoist Interlock

## LIST OF ACRONYMS USED

EDG	Emergency Diesel Generator
EFW	Emergency Feedwater
LER	Licensee Event Report
OTdT	Over-temperature - delta-temperature
PAB	Primary Auxiliary Building
RPS	Reactor Protection System
SAT	Spray Additive Tank
SFP	Spent Fuel Pool
SI	Safety Injection
TI	Temporary Instruction
TS	Technical Specifications
UFSAR	Updated Final Safety Analysis Report

## Attachment 1

**NRC's REVISED REACTOR OVERSIGHT PROCESS**

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

**Reactor Safety**

- Initiating Events
- Mitigating Systems
- Barrier Integrity
- Emergency Preparedness

**Radiation Safety**

- Occupational
- Public

**Safeguards**

- Physical Protection

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: <http://www.nrc.gov/NRR/OVERSIGHT/index.html>.