

September 11, 2000

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

SUBJECT: SEABROOK STATION, UNIT NO. 1 - ISSUANCE OF AMENDMENT RE:
ENHANCEMENTS TO TECHNICAL SPECIFICATIONS TO PROVIDE
FLEXIBILITY OF OPERATION (TAC NO. MA8272)

Dear Mr. Feigenbaum:

The Commission has issued the enclosed Amendment No. 74 to Facility Operating License No. NPF-86 for the Seabrook Station, Unit No 1, in response to your application dated February 18, 2000, which was superseded by a letter providing additional information dated June 20, 2000.

The amendment modifies the plant technical specifications (TSs), the TS surveillance requirements (SRs) and the TS Bases. Specifically, the amendment request proposes changes to the Seabrook Station TS 3/4.5.3.2, "ECCS Subsystems - T_{avg} Equal to or Less Than 200 °F;" TS 3/4.4.9.3, "Overpressure Protection Systems;" 3.1.2.4, "Boration Systems - Charging Pumps Operating;" Surveillance Requirement (SR) 4.5.2d.1), "ECCS Subsystems - T_{avg} Greater Than or Equal To 350 °F;" SR 4.5.3.1.2, "ECCS Subsystems - T_{avg} Less Than 350 °F;" and 4.1.2.3.2, "Boration Systems - Charging Pump Shutdown."

The proposed changes provide enhancements to the Seabrook Station TSs to provide operational flexibility during the shutdown modes of operation. These enhancements include: 1) the ability to have a standby Safety Injection (SI) pump available during Reactor Coolant System (RCS) reduced inventory conditions with the RCS pressure boundary intact; 2) realigning a footnote to clarify the allowance of an inoperable SI pump to be energized for testing or filling accumulators; 3) allowance for an additional charging pump to be made capable of injection during pump-swap operations; 4) recognition that a substantial vent area exists for cold overpressure protection when the reactor vessel head is on and the studs are fully detensioned; 5) limit maneuvering the plant beyond Hot Shutdown when one charging pump is operable; and 6) establishes a new value for the open permissive interlock associated with the Residual Heat Removal System suction isolation valves. The Nuclear Regulatory Commission staff has reviewed the proposed changes and found the proposed changes acceptable. The Bases were also changed to note the ability to respond with additional makeup sources when necessary in the unlikely event of a loss of decay heat removal capability or unexpected reduction in RCS inventory and the staff has no objection to this change.

T. Feigenbaum

- 2 -

September 11, 2000

A copy of the Safety Evaluation is enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

/RA/

Robert M. Pulsifer, Project Manager, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-443

Enclosures: 1. Amendment No. 74 to NPF-86
2. Safety Evaluation

cc w/encls: See next page

A copy of the Safety Evaluation is enclosed. Notice of Issuance will be included in the Commissions's biweekly Federal Register notice.

Sincerely,

/RA/

Robert M. Pulsifer, Project Manager, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-443

Enclosures: 1. Amendment No. 74 to NPF-86
2. Safety Evaluation

cc w/encls: See next page

DISTRIBUTION:

PUBLIC
PDI-2 Rdg.
EAdensam
JClifford
RPulsifer
TClark
OGC
ACRS
GHill(2)
WBeckner
JLinville, RGN-I

Accession Number:ML003739067 *SE provided on 07/07/00 no major changes made.

OFFICE	PDI-2/PM	PDI-2/LA	SRXB*	OGC	PDI-2/SC
NAME	RPulsifer	TClark	FAkstulewicz	MYoung	JClifford
DATE	8/11/00	8/10/00	07/07/00	8/22/00	8/25/00

OFFICIAL RECORD COPY

NORTH ATLANTIC ENERGY SERVICE CORPORATION, ET AL.*

DOCKET NO. 50-443

SEABROOK STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 74
License No. NPF-86

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment filed by the North Atlantic Energy Service Corporation, et al. (the licensee), dated, February 18, 2000, which was superceded by letter dated June 20, 2000, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

*North Atlantic Energy Service Corporation (NAESCO) is authorized to act as agent for the: North Atlantic Energy Corporation, Canal Electric Company, The Connecticut Light and Power Company, Great Bay Power Corporation, Hudson Light & Power Department, Massachusetts Municipal Wholesale Electric Company, Little Bay Power Corporation, New England Power Company, New Hampshire Electric Cooperative, Inc., Taunton Municipal Light Plant, The United Illuminating Company, and has exclusive responsibility and control over the physical construction, operation and maintenance of the facility.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-86 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 74, and the Environmental Protection Plan contained in Appendix B are incorporated into Facility License No. NPF-86. NAESCO shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

James W. Clifford, Chief, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: September 11, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 74

FACILITY OPERATING LICENSE NO. NPF-86

DOCKET NO. 50-443

Replace the following pages of the Appendix A, Technical Specifications, with the attached revised pages as indicated. The revised pages are identified by amendment number and contain marginal lines indicating the area of change.

<u>Remove</u>	<u>Insert</u>
x	x
3/4 1-9	3/4 1-9
3/4 1-10	3/4 1-10
3/4 4-34	3/4-4-34
3/4 4-34a	3/4 4-34a
3/4 4-35	3/4 4-35
3/4 5-6	3/4 5-6
3/4 5-9	3/4 5-9
3/4 5-10	3/4 5-10
B 3/4 1-3	B 3/4 1-3
B 3/4 1-4	B 3/4 1-4
B 3/4 4-15	B 3/4 4-15
B 3/4 4-16	B 3/4 4-16
B 3/4 4-16a	B 3/4 4-16a
B 3/4 4-16b	B 3/4 4-16b
B 3/4 5-1	B 3/4 5-1
B 3/4 5-2	B 3/4 5-2
B 3/4 5-3	B 3/4 5-3

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 74 TO FACILITY OPERATING LICENSE NO. NPF-86

NORTH ATLANTIC ENERGY SERVICE CORPORATION

SEABROOK STATION, UNIT NO. 1

DOCKET NO. 50-443

1.0 INTRODUCTION

By letter dated February 18, 2000, as superceded by letter dated June 20, 2000, the North Atlantic Energy Service Corporation (the licensee) submitted a request for changes to the Seabrook Station, Technical Specifications (TSs). The requested changes would modify the plant TSs, the TS surveillance requirements (SR) and the TS Bases. Specifically, the amendment request proposes changes to the Seabrook Station TS 3/4.5.3.2, "ECCS Subsystems - T_{avg} Equal to or Less Than 200 °F;" 3/4.4.9.3, "Over pressure Protection Systems;" 3.1.2.4, "Boration Systems - Charging Pumps Operating;" SR 4.5.2d.1), "ECCS Subsystems - T_{avg} Greater Than or Equal To 350 °F;" SR 4.5.3.1.2, "ECCS Subsystems - T_{avg} Less Than 350 °F;" and 4.1.2.3.2, "Boration Systems - Charging Pump Shutdown." The June 20, 2000, letter provided clarifying information and superceded the original amendment request dated February 18, 2000.

The proposed changes provide enhancements to the Seabrook Station TSs to provide operational flexibility during the shutdown modes of operation. These enhancements include: 1) the ability to have a standby Safety Injection (SI) pump available during Reactor Coolant System (RCS) reduced inventory conditions with the RCS pressure boundary intact; 2) realigning a footnote to clarify the allowance of an inoperable SI pump to be energized for testing or filling accumulators; 3) allowance for an additional charging pump to be made capable of injection during pump-swap operations; 4) recognition that a substantial vent area exists for cold overpressure protection when the reactor vessel head is on and the studs are fully detensioned; 5) limit maneuvering the plant beyond Hot Shutdown when one charging pump is operable; 6) establishes a new value for the open permissive interlock associated with the Residual Heat Removal System suction isolation valves; and 7) the Bases notes the ability to respond with additional makeup sources when necessary in the unlikely event of a loss of decay heat removal capability or unexpected reduction in RCS inventory.

2.0 EVALUATION

2.1 SR 4.1.2.3.2 Boration Systems - Charging Pump Shutdown

The licensee is making a number of modifications to SR 4.1.2.3.2. The first change is to allow a charging pump to be made capable of injecting for up to 1 hour under administrative control to permit pump swap operations, except during RCS water solid conditions. Under water solid conditions in the RCS this still will not be permitted. This change is similar to what was approved by the Nuclear Regulatory Commission (NRC) in Technical Specification Task Force (TSTF) -285. The change is acceptable because being able to swap operating pumps without loss of flow reduces stress on piping and reduces the potential for degradation of reactor coolant pump seals. Additionally, it is unlikely that an overpressure event will occur while under administrative control in the 1 hour permitted by the modified TS.

The licensee is also changing the SR to permit an alternative method to be used to demonstrate that the charging pumps are not capable of injecting. The alternative method is putting the pump in pull-to-lock and isolating a discharge flow path isolation valve. The alternate method includes the requirement to verify the alignment every 12 hours. This is acceptable because pump injection would require two independent actions and is consistent with the intent of the Westinghouse Standard TS.

The last change proposed for the SR is the option to fully detension all of the reactor head closure bolts rather than demonstrating the charging pumps are inoperable. This involves removal of all of the closure nuts from the studs and verifying the existence of a gap. Because the opening created by the gap below the vessel head is large enough to mitigate the design basis overpressure events, the staff finds the alternative to be acceptable.

2.2 TS 3.1.2.4 Boration Systems - Charging Pumps - Operating

The action statement for the TS is being modified to require entry into hot shutdown, Mode 4, rather than into cold shutdown, Mode 5, if two charging pumps are not operable. TS 3.1.2.3 is applicable to Modes 4, 5, and 6, and thus provides the necessary limits and actions for inoperable charging pumps in these modes. Because TS 3.1.2.4 is only applicable in Modes 1, 2, and 3, it is appropriate for this TS to require entry into Mode 4 and subject the charging pumps to the requirements of TS 3.1.2.3. Therefore, entry into Mode 5 is unnecessary and the staff finds the TS change acceptable.

2.3 TS 3.4.9.3 Overpressure Protection Systems

A new option is being added to the condition for which in Modes 5 or 6 one safety injection pump is operable. Currently, the TS require that there be a vent area greater than 18 square inches. The modified TS adds a new condition that permits the plant be in a reduced inventory condition. A reduced inventory condition is when the water level is lower than 36 inches below the reactor vessel flange. The modified TS provides operational flexibility and permits leaving a safety injection pump operable with the pump make-up capability available for longer periods of time, increasing safety. The reduced inventory conditions assure a large free volume in the reactor vessel and gives the operator ample time to recognize an overpressure condition and terminate the event. The licensee has determined that the operators have more than 50

minutes to respond to an overpressure event. Given the amount of time the operators have to respond to the event, the change is acceptable.

SR 4.4.9.3.4 is being added to require that when the reduced inventory condition is being used as the means of overpressure protection, the condition must be verified every 12 hours. The time of 12 hours is an appropriate frequency to assure a reduced inventory condition exists. The action statement is also being changed accordingly. The staff finds these changes to be acceptable.

The applicability of the TS is also being modified to recognize the ability for the operators to fully detension the reactor vessel head as an acceptable means of providing overpressure protection. This means of providing overpressure protection was previously found acceptable with respect to SR 4.1.2.3.2, above. Therefore, this change is acceptable.

2.4 SR 4.5.2 ECCS Subsystems - T_{AVG} Greater than or Equal to 350 °F

The SR is being modified to require that the residual heat removal (RHR) suction isolation valve interlock setpoint be verified to be greater than or equal to 440 psig rather than 365 psig. The RHR suction isolation valves provide isolation of the RHR system during normal power operation. The valves are normally closed, with power removed from their motor operators to preclude spurious or inadvertent operation with the potential for a loss of RCS coolant. The licensee identified that, with the existing setpoint a situation could occur where the valves could be opened above the interlock setpoint, but below the reset value, if the interlocks were actuated on RCS decreasing pressure. If the RCS pressure were subsequently to be raised, the valves may not be shut. As a result, the licensee developed a new interlock value that accounts for RHR suction relief valve settings and allowable tolerance, bistable deadband, total instrument channel uncertainty associated with the interlock, and available operating margin (differential pressure operating limit) for reactor coolant pump operation to ensure a safe shutdown can be accomplished. The staff finds the change to be acceptable.

2.5 SR 4.5.3.1.2, ECCS Subsystems - T_{AVG} Less than 350 °F

The SR is being modified to allow one hour under administrative control to swap operating pumps. Additionally, the SR is being modified to allow an alternate means of demonstrating the pumps are not capable of injecting. These are the same provisions for the charging pumps as found acceptable for SR 4.1.2.3.2. Therefore, the changes are acceptable.

2.6 TS 3.5.3.2 ECCS Subsystems - T_{AVG} Equal to or Less than or Equal To 200 °F

The TS is being modified to allow the use of a reduced inventory condition or a fully detensioned reactor vessel to be used as adequate means for overpressure protection. Additionally, this TS is being modified to allow an alternate means of demonstrating safety injection pump are not capable of injecting. These are the same changes that were previously found acceptable for SR 4.1.2.3.2 and TS 3.4.9.3. Therefore, these changes are acceptable.

The licensee is also modifying the action statement to require immediate action to correct the condition rather than require the action be complete in 4 hours. This specification is more conservative because it requires the operators to take immediate action; however, it does not

prescribe an arbitrary completion time which may vary greatly depending on the circumstances. The change is also consistent with the intent of the Standard Technical Specifications for Westinghouse plants. Therefore, the staff finds this change to be acceptable.

Finally, the licensee is making an editorial change that moves the location of a noted exception in the technical specification without substantively changing the TS. The staff finds this change acceptable.

The staff has reviewed the licensee's amendment request, the revised TSs, the revised TS Bases, and the supporting technical justification. Based on the above, the staff finds the amendment to be acceptable. The licensee has made conforming changes to the TS Bases for these changes and the staff has no objection. The licensee has also added statements in the Bases that pumps that have been rendered inoperable by the TS may be put into service if an event occurs where pumped reactor coolant system inventory is needed. The staff does not object to the changes.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New Hampshire and Massachusetts State officials were notified of the proposed issuance of the amendment. The State officials had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (65 FR 48752). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

6.0 REFERENCES

1. Letter from T. C. Feigenbaum, North Atlantic Energy Service Corporation, to U. S. Nuclear Regulator Commission, Attention Document Control Desk, Subject, "Seabrook Station, License Amendment Request 00-01, "Enhancements To Technical Specifications Addressing Reduced Inventory Conditions" dated February 18, 2000.
2. Letter from T. C. Feigenbaum, North Atlantic Energy Service Corporation, to U. S. Nuclear Regulator Commission, Attention Document Control Desk, Subject, "Seabrook Station, License Amendment Request 00-01, Revision 1, "Enhancements To Technical Specifications Addressing Reduced Inventory Conditions" dated February 18, 2000.
3. NUREG-1431, Revision1, "Standard Technical Specifications, Westinghouse Plants, April 1995.
4. Memorandum From E. Weiss, Chief, PWR Reactor System Section, Reactor Systems Branch, Subject, "CHANGE FROM 15 MINUTES TO 1 HOUR FOR THE ALLOWANCE TO HAVE TWO CHARGING/MAKEUP PUMPS CAPABLE OF INJECTING INTO THE RCS WHILE IN THE LTOP REGION (TSTF-285)," January 29, 1999.

Principal Contributor: C. Jackson

Date: September 11, 2000

Seabrook Station, Unit No. 1
cc:

Lillian M. Cuoco, Esq.
Senior Nuclear Counsel
Northeast Utilities Service Company
P.O. Box 270
Hartford, CT 06141-0270

Mr. Peter Brann
Assistant Attorney General
State House, Station #6
Augusta, ME 04333

Resident Inspector
U.S. Nuclear Regulatory Commission
Seabrook Nuclear Power Station
P.O. Box 1149
Seabrook, NH 03874

Town of Exeter
10 Front Street
Exeter, NH 03823

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Office of the Attorney General
One Ashburton Place
20th Floor
Boston, MA 02108

Board of Selectmen
Town of Amesbury
Town Hall
Amesbury, MA 01913

Mr. Dan McElhinney
Federal Emergency Management Agency
Region I
J.W. McCormack P.O. &
Courthouse Building, Room 401
Boston, MA 02109

Mr. Stephen McGrail, Director
ATTN: James Muckerheide
Massachusetts Emergency Management
Agency
400 Worcester Road
Framingham, MA 01702-5399

Philip T. McLaughlin, Attorney General
Steven M. Houran, Deputy Attorney
General
33 Capitol Street
Concord, NH 03301

Mr. Woodbury Fogg, Director
New Hampshire Office of Emergency
Management
State Office Park South
107 Pleasant Street
Concord, NH 03301

Mr. Roy E. Hickok
Nuclear Training Manager
Seabrook Station
North Atlantic Energy Service Corp.
P.O. Box 300
Seabrook, NH 03874

Mr. James M. Peschel
Manager - Regulatory Programs
Seabrook Station
North Atlantic Energy Service Corp.
P.O. Box 300
Seabrook, NH 03874

Mr. W. A. DiProfio
Station Director
Seabrook Station
North Atlantic Energy Service Corporation
P.O. Box 300
Seabrook, NH 03874

Mr. Frank W. Getman, Jr.
President and Chief Executive Officer
BayCorp Holdings, LTD
20 International Drive, Suite 301
Portsmouth, NH 03801-6809

Mr. B. D. Kenyon
President and Chief Executive Officer
Northeast Utilities Service Company
P.O. Box 270
Hartford, CT 06141-0270

Mr. Steve Allen
Polestar Applied Technology, Inc.
77 Franklin Street, Suite 507
Boston, MA 02110