

May 7, 1996

Mr. Ted C. Feigenbaum
Executive Vice President and
Chief Nuclear Officer
Northeast Utilities Service Company
c/o Mr. Terry L. Harpster
Director - Nuclear Licensing Services
P.O. Box 128
Waterford, CT 06385

SUBJECT: AMENDMENT NO. 47 TO FACILITY OPERATING LICENSE NPF-86: AUTOMATIC
SWITCHOVER TO CONTAINMENT SUMP ON LOW-LOW RWST LEVEL - LICENSE
AMENDMENT REQUEST 95-07 (TAC M93778)

Dear Mr. Feigenbaum:

The Commission has issued the enclosed Amendment No. 47 to Facility Operating
License No. NPF-86 for the Seabrook Station, Unit No. 1, in response to your
application dated September 22, 1995.

The amendment revises the Appendix A Technical Specification 3.3.2, Engineered
Safety Features Actuation System Instrumentation. Specifically, the amendment
changes the ACTION referenced in Table 3.3-3 from ACTION 18 to ACTION 15 for
Functional Unit 8.b, Automatic Switchover to Containment Sump - RWST Level
Low-Low.

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

Sincerely,

Original signed by:

9605090170 960507
PDR ADOCK 05000443
P PDR

Albert W. De Agazio, Sr. Project Manager
Northeast Utilities Project Directorate
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-443
Serial No. SEA-96-002

Enclosures: 1. Amendment No. 47 to NPF-86
2. Safety Evaluation

cc w/encls: See next page

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OFFICE	LA	E	PM:NUPD	D:NUPD	BC:WLCB	OGC:RWEISMAN
NAME	LBerry		ADeAgazio	PMcKee	JWermiel	RWeisman
DATE	04/18/96		04/23/96	04/15/96	04/25/96	05/06/96

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 7, 1996

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Sincerely,

A handwritten signature in cursive script, reading "Albert W. De Agazio", is written over the typed name.

Albert W. De Agazio, Sr., Project Manager
Northeast Utilities Project Directorate
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-443
Serial No. SEA-96-002

Enclosures: 1. Amendment No. 47 to NPF-86
2. Safety Evaluation

cc w/encls: See next page

T. Feigenbaum
Northeast Utilities Service Company

Seabrook Station, Unit No. 1

cc:

Lillian M. Cuoco, Esq.
Senior Nuclear Counsel
Northeast Utilities Service Company
P.O. Box 270
Hartford, CT 06037

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

Jane Spector
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Room 8105
Washington, DC 20426

Town of Exeter
10 Front Street
Exeter, NH 03823

Mr. George L. Iverson, Director
New Hampshire Office of Emergency
Management
State Office Park South
107 Pleasant Street
Concord, NH 03301

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. Jack Dolan
Federal Emergency Management Agency
Region I
J.W. McCormack P.O. &
Courthouse Building, Room 442
Boston, MA 02109

Mr. David Rodham, Director
ATTN: James Muckerheide
Massachusetts Civil Defense Agency
400 Worcester Road
P.O. Box 1496
Framingham, MA 01701-0317

Jeffrey Howard, Attorney General
G. Dana Bisbee, Deputy Attorney
General
33 Capitol Street
Concord, NH 03301

Mr. D. B. Miller, Jr.
Senior Vice President
Nuclear Safety and Oversight
Northeast Utilities Service Company
P.O. Box 270
Waterford, CT 06141-0270

Mr. E. A. DeBarba
Vice President - Nuclear Technical
Services
Northeast Utilities Service Company
P.O. Box 128
Waterford, CT 06385

Mr. F. C. Rothen
Vice President - Nuclear Work Services
Northeast Utilities Service Company
P.O. Box 128
Waterford, CT 06385

Mr. F. R. Dacimo, Vice President
Nuclear Operations
Northeast Utilities Service Company
P.O. Box 128
Waterford, CT 06385

Mr. A. M. Callendrello
Licensing Manager - Seabrook Station
North Atlantic Energy Service Corp.
P.O. Box 300
Seabrook, NH 03874

T. Feigenbaum
Northeast Utilities Service Company

Seabrook Station, Unit No. 1

cc:

Mr. S. E. Scace, Vice President
Nuclear Reengineering Implementation
Northeast Utilities Service Company
P.O. Box 128
Waterford, CT 06385

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

Mr. Frank W. Getman, Jr.
Vice President and General Counsel
Great Bay Power Corporation
20 Ladd Street
Portsmouth, NH 03801



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

NORTH ATLANTIC ENERGY SERVICE CORPORATION, ET AL*

DOCKET NO. 50-443

SEABROOK STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 47
License No. NPF-86

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by North Atlantic Energy Service Corporation, et al. (the licensee), dated September 22, 1995, 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 Company (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 and Power Department, Massachusetts Municipal Wholesale Electric Company, Montaup Electric Company, New England Power Company, New Hampshire Electric Cooperative, Inc., Taunton Municipal Light Plant, and The United Illuminating Company, and has exclusive responsibility and control over the physical construction, operation, and maintenance of the facility.

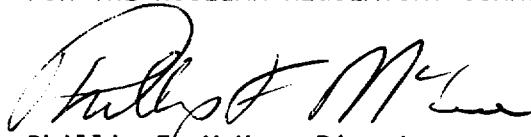
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-86 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 47, 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 the date of its issuance, and is to be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Phillip F. McKee, Director
Northeast Utilities Project Directorate
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 7, 1996

ATTACHMENT TO LICENSE AMENDMENT NO. 47

FACILITY OPERATING LICENSE NO. NPF-86

DOCKET NO. 50-443

Replace the following pages of Appendix A, Technical Specifications, with the attached pages as indicated. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change. Overleaf pages have been provided.*

Remove

3/4 3-21

3/4 3-22*

Insert

3/4 3-21

3/4 3-22*

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
b. RWST Level--Low-Low Coincident With: Safety Injection	4	2	3	1, 2, 3, 4	15
See Item 1. above for all Safety Injection initiating functions and requirements.					
9. Loss of Power (Start Emergency Feedwater)					
a. 4.16 kV Bus E5 and E6- Loss of Voltage	2/bus	2/bus	1/bus	1, 2, 3, 4	14
b. 4.16 kV Bus E5 and E6- Degraded Voltage Coincident with SI	2/bus	2/bus	1/bus	1, 2, 3, 4	14
See Item 1. above for all Safety Injection initiating functions and requirements.					
10. Engineered Safety Features Actuation System Interlocks					
a. Pressurizer Pressure, P-11	3	2	2	1, 2, 3	19
b. Reactor Trip, P-4	2	2	2	1, 2, 3	21
c. Steam Generator Water Level, P-14	4/stm. gen.	2/stm. gen.	3/stm. gen.	1, 2, 3	18

TABLE 3.3-3 (Continued)

TABLE NOTATIONS

*The provisions of Specification 3.0.4 are not applicable.

#Trip function may be blocked in this MODE below the P-11 (Pressurizer Pressure Interlock) Setpoint.

**Trip function automatically blocked above P-11 and may be blocked below P-11 when Safety Injection on low steam line pressure is not blocked.

ACTION STATEMENTS

ACTION 13 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 12 hours and in COLD SHUTDOWN within the following 30 hours; however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1, provided the other channel is OPERABLE.

ACTION 14 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

- a. The inoperable channel is placed in the tripped condition within 6 hours, and
- b. The Minimum Channels OPERABLE requirements is met; however, the inoperable channel may be bypassed for up to 2 hours for surveillance testing of other channels per Specification 4.3.2.1.

ACTION 15 - With the number of OPERABLE channels one less than the Total Number of Channels, operation may proceed provided the inoperable channel is placed in the bypassed condition and the Minimum Channels OPERABLE requirement is met. One additional channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1.

ACTION 16 - With less than the Minimum Channels OPERABLE requirement, operation may continue provided the containment purge supply and exhaust valves are maintained closed.

ACTION 17 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION 18 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 47 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 application dated September 22, 1995, North Atlantic Energy Service Corporation (North Atlantic/the licensee) proposed an amendment to the Appendix A Technical Specifications (TSs) for the Seabrook Station, Unit 1 (Seabrook). The proposed change would modify Technical Specification 3.3.2, Table 3.3-3, Engineered Safety Features Actuation System Instrumentation. Specifically, ACTION 18 would be changed to ACTION 15 for Functional Unit 8.b, Automatic Switchover to Containment Sump - RWST Level Low-Low.

ACTION 15 would require placing an inoperable channel in the bypassed condition instead of the tripped condition as currently required by ACTION 18. ACTION 15 does not specify a time interval for placing the channel into bypass whereas ACTION 18 specifies the affected channel is to be placed in the tripped condition within 6 hours. However, North Atlantic has stated that ACTION statements without explicit time requirements are interpreted to be performed immediately. North Atlantic asserts that the proposed change would correct an error that should have been identified during review and acceptance of the Technical Specifications.

2.0 EVALUATION

The Seabrook Emergency Core Cooling System (ECCS) consists of the centrifugal charging pumps (CCPs), safety injection (SI) pumps, the residual heat removal (RHR) pumps and heat exchangers, safety injection accumulators, the refueling water storage tank (RWST), and associated valves and piping. If a small leak of coolant from the reactor coolant system (RCS) develops, the small capacity high head CCPs will be used to replace the coolant lost. If the leak is larger than the capacity of the CCPs, the pressurizer level will decrease until the low level setpoint is reached. This will initiate a reactor trip and a safety injection signal which will start the CCPs, the SI pumps, and the RHR pumps, and align suction of these pumps to the RWST. During the injection phase, water from the RWST will be injected into the RCS to cool the reactor. As water is injected from the RWST, the level will decrease. When two out of four RWST level channels indicate a RWST level less than the low-low setpoint coincident with the safety injection signal, automatic changeover to the recirculation phase will be initiated. The changeover to the recirculation

phase will open the containment sump recirculation isolation valves to align the RHR pumps to take suction from the containment sump. Manual operator action is required to align the CCPs to operate in series with the RHR pumps to complete the changeover.

Initially, the containment sump is dry, but as the loss of coolant accident continues and coolant is lost from the RCS, the sump will begin to fill and the RWST level will decrease. The switchover to the sump must occur before the RWST is empty to prevent damage to the ECCS pumps and subsequent loss of cooling capability. For the same reasons, the switchover must not occur until there is sufficient water in the sump to support operation of the pumps. Additionally, the proper timing of the switchover assures that sufficient borated water from the RWST will have been injected (and leaked to the sump) to assure the reactor will remain shut down in the recirculation mode. Thus, the condition where two channels of the RWST low-low level protection function are prematurely tripped is not conservative.

If an inoperable Functional Unit 8.b. channel were tripped as required by ACTION 18 and a single active failure of another channel of Functional Unit 8.b. occurs in the presence of an SI signal, the containment sump recirculation isolation valves could open prematurely potentially adversely affecting the ECCS function. North Atlantic asserts that placing the inoperable channel in bypass, as required by ACTION 15, precludes premature switchover to recirculation in the event of a single active failure of another Functional Unit 8.b channel in the presence of an SI signal. With the inoperable channel in bypass, the output logic is changed to two out of three from two out of four. The proposed change to ACTION 15 would not alter the minimum number of channels required to be operable.

The proposed change as described above would be consistent with the corresponding table in NUREG-0452, Rev. 4, *Standard Technical Specifications for Westinghouse Pressurized Water Reactors*, Fall 1981. The proposed change would also be consistent with Table 3.3.2-1 of NUREG-1431, Rev. 1, *Standard Technical Specifications Westinghouse Plants*.

The staff has reviewed the proposed change and concludes that premature switchover to the containment sump has the potential to cause damage to the ECCS pumps or could result in air binding of the pumps. The staff, further, concludes that placing an inoperable channel of Functional Unit 8.b. in the tripped condition could, in the event of a single active failure of another Functional Unit 8.b. channel in the presence of an SI signal, result in premature switchover. This can be precluded by placing the inoperable channel in bypass. With the channel in bypass, the protective function will still be provided with redundancy, and the minimum number of channels required to be operable will be unchanged.

Therefore, based upon this review and the consistency of the proposed change to the Standard Westinghouse Technical Specifications (NUREG-0452 and NUREG-1431), the staff finds the proposed change acceptable.

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. 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 (60 FR 62493). 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.

Principal Contributor: Albert W. De Agazio

Date: May 7, 1996