

April 9, 1998

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

SUBJECT: AMENDMENT NO. 56 TO FACILITY OPERATING LICENSE NPF-86:
SEPARATION OF CONTROL ROOM EMERGENCY MAKEUP AIR AND
FILTRATION SUBSYSTEM FUNCTIONS - LICENSE AMENDMENT REQUEST
97-05 (TAC NO. M99733)

Dear Mr. Feigenbaum:

The Commission has issued the enclosed Amendment No. 56 to Facility Operating License No. NPF-86 for the Seabrook Station, Unit No. 1, in response to your application dated September 26, 1997, as supplemented by letter dated March 12, 1998.

The amendment revises the Appendix A Technical Specifications (TSs) relating to the requirements for control room subsystems. The amendment modifies TS 3.7.6, to separate the requirements for the emergency makeup air and filtration subsystem and the air conditioning subsystem. The amendment also increases the allowed outage time for the control room air conditioning subsystem. The associated Bases also are changed.

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

Sincerely,

/s/

Craig W. Smith, Project Manager
Project Directorate I-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-443

- Enclosures: 1. Amendment No. 56 to NPF-86
- 2. Safety Evaluation

cc w/encls: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

April 9, 1998

Mr. Ted C. Feigenbaum
Executive Vice President and
Chief Nuclear Officer
North Atlantic Energy Service Corporation
c/o Mr. Terry L. Harpster
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Sincerely,

A handwritten signature in black ink, appearing to read "Craig W. Smith".

Craig W. Smith, Project Manager
Project Directorate I-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-443

Enclosures: 1. Amendment No. 56 to NPF-86
2. Safety Evaluation

cc w/encls: See next page

North Atlantic Energy Service Corporation

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

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

Mr. Peter LaPorte, Director
ATTN: James Muckerheide
Massachusetts Emergency Management
Agency
400 Worcester Road
P.O. Box 1496
Framingham, MA 01701-0317

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

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

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

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

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

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

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

Mr. Terry L. Harpster
Director of Licensing Services
Seabrook Station
North Atlantic Energy Service Corp.
P.O. Box 300
Seabrook, NH 03874

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

Mr. D. M. Goebel
Vice President-Nuclear Oversight
Northeast Utilities Service Company
P.O. Box 270
Hartford, CT 06141-0270

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

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

Mr. Frank W. Getman, Jr.
Great Bay Power Corporation
Cocheco Falls Millworks
100 Main Street, Suite 201
Dover, NH 03820

Mr. B. D. Kenyon
President - Nuclear Group
Northeast Utilities Service Group
P.O. Box 128
Waterford, CT 06385



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. 56
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 26, 1997, as supplemented by letter dated March 12, 1998, 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 the agent for: North Atlantic Energy Corporation, Canal Electric Company, 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 United Illuminating Company, and has exclusive responsibility and control over the physical construction, operation, and maintenance of the facility.

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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. 56, 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, to be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Cecil O. Thomas, Director
Project Directorate I-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: April 9, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 56

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.

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PLANT SYSTEMS

CONTROL ROOM SUBSYSTEMS

EMERGENCY MAKEUP AIR AND FILTRATION

SURVEILLANCE REQUIREMENTS (Continued)

- b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:
- 1) Verifying that the filtration system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than .05% and uses the test procedure guidance in Regulatory Position C.5.a, C.5.c, and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978*, and the system flow rate is 1100 cfm \pm 10%;
 - 2) Verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978*, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978*, for a methyl iodide penetration of less than 1.0%; and
 - 3) Verifying a system flow rate of 1100 cfm \pm 10% during system operation when tested in accordance with ANSI N510-1980.
- c. After every 720 hours of charcoal adsorber operation, by verifying, within 31 days after removal, that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978*, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978*, for a methyl iodide penetration of less than 1.0%;
- d. At least once per 18 months by:
- 1) Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks, for filter CBA-F-38, is less than 2.8 inches Water Gauge while operating the system at a flow rate of 1100 cfm \pm 10%; and verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks, for filter CBA-F-8038, is less than 6.3 inches Water Gauge while operating the system at a flow rate of 1100 cfm \pm 10%.
 - 2) Verifying that upon generation of an 'S' test signal, the following automatic system functions occur:
 - a. The normal makeup air fan(s) trip off and the normal makeup air isolation damper(s) close;

*ANSI N510-1980 shall be used in place of ANSI N510-1975 as referenced in Regulatory Guide 1.52, Revision 2.

PLANT SYSTEMS

3/4.7.6 CONTROL ROOM SUBSYSTEMS

AIR CONDITIONING

LIMITING CONDITION FOR OPERATION

3.7.6.2 Two independent Control Room Air Conditioning Subsystems shall be OPERABLE.

APPLICABILITY: All MODES

ACTION:

MODES 1, 2, 3 and 4:

With one Control Room Air Conditioning Subsystem inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

MODES 5 and 6:

- a. With one Control Room Air Conditioning Subsystem inoperable, restore the inoperable system to OPERABLE status within 30 days or initiate and maintain operation of the remaining OPERABLE Control Room Air Conditioning Subsystem or immediately suspend all operations involving CORE ALTERATIONS or positive reactivity changes.
- b. With both Control Room Air Conditioning Subsystems inoperable, or with the OPERABLE Control Room Air Conditioning Subsystem unable to maintain temperature below the limiting equipment qualification temperature in the control room area, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

SURVEILLANCE REQUIREMENTS

4.7.6.2 Each Control Room Air Conditioning Subsystem shall be demonstrated OPERABLE at least once per 92 days by verifying the ability to maintain temperature in the control room area below the limiting equipment qualification temperature for 24 hours.

PLANT SYSTEMS

BASES

3/4.7.4 SERVICE WATER SYSTEM/ULTIMATE HEAT SINK (Continued)

discussed, realignment to the service water pumphouse requires manual action; maintaining the control switches in the pull-to-lock position does not change this required action sequence. Pump operation is not affected by maintaining the control switches in the pull-to-lock position during this period; therefore, OPERABILITY of the service water pumps is not compromised.

The limitations on service water pumphouse minimum water level and the requirements for cooling tower OPERABILITY are based on providing a 30-day cooling water supply to safety-related equipment without exceeding the safety related equipment design basis temperature and is consistent with the recommendations of Regulatory Guide 1.27, "Ultimate Heat Sink for Nuclear Plants," March 1974.

The Cooling Tower is normally aligned to allow return flow to bypass the tower sprays and return to the basin. In addition, the control switches for the cooling tower fans are normally maintained in the "pull-to-lock" position. Upon receipt of a Tower Actuation Signal, the fans and sprays are manually operated as required. This manual operation, which is governed by procedures, ensures that ice does not buildup on the cooling tower tile fill and fans. The cooling tower basin temperature limit of 70°F provides sufficient time for manual initiation of the cooling tower sprays and fans following the design basis seismic event with a concurrent LOCA, during the design extreme ambient temperature conditions. Under this scenario, manual action is sufficient to maintain the cooling tower basin at a temperature which precludes equipment damage during the postulated design basis event.

3/4.7.5 (THIS SPECIFICATION NUMBER IS NOT USED)

PLANT SYSTEMS

BASES

3/4.7.7 SNUBBERS (Continued)

Surveillance to demonstrate OPERABILITY is by performance of the requirements of an approved inservice inspection program.

Permanent or other exemptions from the surveillance program for individual snubbers may be granted by the Commission if a justifiable basis for exemption is presented and, if applicable, snubber life destructive testing was performed to qualify the snubbers for the applicable design conditions at either the completion of their fabrication or at a subsequent date. Snubbers so exempted shall be listed in the list of individual snubbers indicating the extent of the exemptions.

The service life of a snubber is established via manufacturer input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubbers, seal replaced, spring replaced, in high radiation area, in high temperature area, etc.). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life.

3/4.7.8 SEALED SOURCE CONTAMINATION

The limitations on removable contamination for sources requiring leak testing, including alpha emitters, is based on 10 CFR 70.39(a)(3) limits for plutonium. This limitation will ensure that leakage from Byproduct, Source, and Special Nuclear Material sources will not exceed allowable intake values.

Sealed sources are classified into three groups according to their use, with Surveillance Requirements commensurate with the probability of damage to a source in that group. Those sources which are frequently handled are required to be tested more often than those which are not. Sealed sources which are continuously enclosed within a shielded mechanism (i.e., sealed sources within radiation monitoring or boron measuring devices) are considered to be stored and need not be tested unless they are removed from the shielded mechanism.

3/4.7.9 (This specification number is not used.)

3/4.7.10 AREA TEMPERATURE MONITORING

The area temperature limitations ensure that safety-related equipment will not be subjected to temperatures in excess of their environmental qualification temperatures. Exposure to excessive temperatures may degrade equipment and can cause a loss of its OPERABILITY. The temperature limits include an allowance for instrument error of $\pm 4.5^{\circ}\text{F}$.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 56 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 26, 1997, as supplemented by letter dated March 12, 1998, North Atlantic Energy Service Corporation (the licensee) proposed an amendment to the Appendix A Technical Specifications (TSs) for the Seabrook Station, Unit 1 (Seabrook). The existing TS 3/4.7.6, "Control Room Emergency Makeup Air and Filtration Subsystem," requires that each subsystem of control room emergency makeup air and filtration system include an operable emergency makeup air and filtration unit and an operable air conditioning unit. The proposed amendment would separate the TS 3/4.7.6 limiting condition for operation (LCO) and surveillance requirements (SR) for the control room emergency makeup air and filtration subsystem (CREMAFS) and the control room air conditioning subsystem (CRACS) based on system function. Additionally, the proposed amendment would increase the allowed outage time (AOT) for the CRACS from 7 days to 30 days. The supplemental letter provides clarifying information within the scope of the original application and did not change the staff's initial proposed no significant hazards determination.

2.0 DISCUSSION

The control room heating, ventilation, and air conditioning (HVAC) system includes, among other subsystems for normal and emergency conditions, the CRACS and the CREMAFS. The CREMAFS is required to remove particulate and gaseous radioactivity from the control room atmosphere following an event which involves core damage and subsequent release of radioactive material. The CRACS is required for control room habitability and for maintaining the appropriate environment for equipment in the area. The HVAC system for the control room is classified as a safety related system and is supplied from Train A and Train B emergency buses that are backed by the respective emergency diesel generators.

LCO 3.7.6 requires two independent CREMAFS to be operable in all operational modes. SR 4.7.6.a requires verification that the control room is maintained below the limiting equipment qualification temperature in the control room area. Thus, the current TS 3/4.7.6 is considered to include the combined functions of emergency makeup air and filtration and the control room air conditioning.

North Atlantic asserts correctly that as currently written, LCO 3.7.6 could require a plant shutdown due to unrelated failures in opposite trains of the air conditioning and makeup air and filtration subsystems. In such a scenario, one train of air conditioning and one train of makeup air and filtration could be

provided in each subsystem. However, shutdown would be required per TS 3.0.3 because neither train would have both subsystems operable. Additionally, the current LCO Allowed Outage Time (AOT) of seven days restricts the ability of Seabrook Station to perform scheduled preventive maintenance and normally occurring corrective maintenance. This restriction could result in the shutdown of the unit due to the loss of both air conditioning units.

3.0 EVALUATION

The existing TS 3/4.7.6 combines the LCO and SR for the CREMAFS and CRACS, treating them as a combined subsystem. The proposed amendment would establish separate LCO and SRs for each subsystem based on system function. The requirements for the CREMAFS would be contained in LCO 3.7.6.1 and SR 4.7.6.1. The requirements for the CRACS would be contained in LCO 3.7.6.2 and SR 4.7.6.2.

The proposed amendment does not alter any of the LCO or SRs requirements applicable to the CREMAFS established in the existing TSs.

SR 4.7.6.a establishes the existing testing requirements for the CRACS. The proposed amendment would remove SR 4.7.6.a and establish a new SR 4.7.6.2 for the testing of the CRACS. The existing SR 4.7.6.a requires that at least once per 12 hours the CRACS shall be demonstrated operable by verifying that the control room is maintained below the limiting equipment qualification temperature in the control room area. The proposed amendment would eliminate this requirement and in its place establish a new SR 4.7.6.2 to require that each CRACS shall be demonstrated operable each quarter by verifying the ability to maintain temperature in the control room area below the limiting equipment qualification temperature for 24 hours. The 24-hour surveillance run would represent typical load variations based on the normal daily fluctuations in outdoor temperature. SR 4.7.10 requires that the control room temperature be verified less than 75° F every 12-hours. The actions specified in LCO 3.7.10, should the temperature exceed the limit, are more restrictive than the actions contained in the existing LCO 3.7.6. Therefore, it is determined that the 12-hour temperature verification per SR 4.7.6.a is redundant and unnecessary.

The proposed amendment would also increase the AOT for the CRACS from 7 days to 30 days. Controlling the temperature in the control room is achieved primarily by the CRACS. The system is conservatively sized to handle the worst heat load condition postulated based on normal conditions, accident conditions, and conservative meteorology. Temperature changes in the control room are gradual even under degraded conditions. Time is available to find alternate sources to cool the control room. If alternate cooling methods are not effective, the plant can be shutdown from the Remote Safe Shutdown Panel. A 30-day AOT is reasonable for a system whose full capability may not be required at certain times of the year for any postulated design basis accident, whose complete failure will not have an immediate, irreversible impact, and whose function can possibly be restored or mitigated by plant staff actions. The proposed surveillance requirement for the CRACS would require that each subsystem be demonstrated operable on a quarterly basis by verifying the systems cooling capability to maintain the control room environment below the equipment temperature limit for 24 hours.

The separation of the TS requirements for CREMAFS and CRACS based on system function is consistent with NUREG-1431, "Standard Technical Specifications Westinghouse Plants," Revision 1. The AOT of 30 days for the CRACS is also consistent with NUREG-1431. The surveillance

requirements proposed by the licensee differ from those listed in NUREG-1431, but are acceptable. The NUREG-1431 surveillance requirements require testing every 18 months, and the licensee has proposed a quarterly test schedule.

In consideration of the foregoing, the changes are acceptable.

4.0 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.

5.0 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 a surveillance requirement. 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 (62 FR 54874). 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.

6.0 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: Craig W. Smith

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