

August 30, 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. 48 TO FACILITY OPERATING LICENSE NPF-86: ELECTRICAL
POWER SYSTEMS ONSITE POWER DISTRIBUTION - LICENSE AMENDMENT REQUEST
96-17 (TAC M95694)

Dear Mr. Feigenbaum:

The Commission has issued the enclosed Amendment No. 48 to Facility Operating
License No. NPF-86 for the Seabrook Station, Unit No. 1, in response to your
application dated June 20, 1996.

The amendment revises the Appendix A Technical Specifications (TSs) relating
to Electrical Power Systems, Onsite Power Distribution. Specifically, the
amendment changes TS 3.8.3.1, Action a., to increase from 8 hours to 7 days
the allowable time that 480-volt Emergency Bus #E64 may be less than fully
energized.

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:
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-96-006

Enclosures: 1. Amendment No. 48 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
August 30, 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
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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,

A handwritten signature in cursive script that reads "Albert W. De Agazio, Sr.".

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-96-006

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cc w/encls: See next page

T. Feigenbaum
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Seabrook Station, Unit No. 1

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T. Feigenbaum
Northeast Utilities Service Company

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Seabrook Station, Unit No. 1

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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. 48
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 June 20, 1996, 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. 48, 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



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: August 30, 1996

ATTACHMENT TO LICENSE AMENDMENT NO. 48

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.

Remove

3/4 8-17

-

3/4 8-18*

Insert

3/4 8-17

3/4 8-17a**

3/4 8-18*

- * overleaf page - no changes
- ** overflow page - no changes

ELECTRICAL POWER SYSTEMS

ONSITE POWER DISTRIBUTION

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.3.1 (Continued)

i. Train A, 125-volt D.C. Busses consisting of:

- 1) 125-volt D.C. Bus #11A energized from Battery Bank 1A* or 1C*, and
- 2) 125-volt D.C. Bus #11C energized from Battery Bank 1C* or 1A*.

j. Train B, 125-volt D.C. Busses consisting of:

- 1) 125-volt D.C. Bus #11B energized from Battery Bank 1B* or 1D*, and
- 2) 125-volt D.C. Bus #11D energized from Battery Bank 1D* or 1B*.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

- a. With one of the required trains of A.C. emergency busses (except 480-volt Emergency Bus # E64) not fully energized, reenergize the train within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
 1. With 480-volt Emergency bus #E64 not fully energized, reenergize the bus within 7 days or be in HOT STANDBY within 6 hours and COLD SHUTDOWN within the following 30 hours.
- b. With one A.C. vital panel either not energized from its associated inverter, or with the inverter not connected to its associated D.C. bus:
 - (1) reenergize the A.C. vital panel within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; and
 - (2) reenergize the A.C. vital panel from its associated inverter connected to its associated D.C. bus within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. With one D.C. bus not energized from its associated battery bank, reenergize the D.C. bus from its associated battery bank or close the bus tie to the alternate OPERABLE battery of the same train within 2 hours* or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

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ELECTRICAL POWER SYSTEMS

ONSITE POWER DISTRIBUTION

OPERATING

LIMITING CONDITION FOR OPERATION

SURVEILLANCE REQUIREMENTS

4.8.3.1 The specified busses and panels shall be determined energized in the required manner at least once per 7 days by verifying correct breaker alignment and indicated voltage on the busses.

*No more than one Battery Bank (1A, 1B, 1C, or 1D) at a time may be taken out of service for more than 30 days.

ELECTRICAL POWER SYSTEMS

ONSITE POWER DISTRIBUTION

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.3.2 As a minimum, the following electrical busses shall be energized in the specified manner:

- a. One train of A.C. emergency busses consisting of the 4160-volt and the 480-volt A.C. emergency busses listed in 3.8.3.1a. and b. (excluding 480-volt Emergency Bus #E64);
- b. Two of the four 120-volt A.C. vital Panels 1A, 1B, 1C, and 1D energized from their associated inverters connected to their respective D.C. busses;
- c. One of the two 120-volt A.C. Vital Panels 1E or 1F energized from its associated inverter connected to the respective D.C. bus; and
- d. Two 125-volt D.C. busses (in the same train) energized from their associated battery banks.

APPLICABILITY: MODES 5 and 6.

ACTION:

With any of the above required electrical busses and panels not energized in the required manner, immediately suspend all operations involving CORE ALTERATIONS, positive reactivity changes, or movement of irradiated fuel, initiate corrective action to energize the required electrical busses and panels in the specified manner as soon as possible, and within 8 hours, depressurize and vent the RCS through at least a 1.58-square-inch vent.

SURVEILLANCE REQUIREMENTS

4.8.3.2 The specified busses and panels shall be determined energized in the required manner at least once per 7 days by verifying correct breaker alignment and indicated voltage on the busses.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 48 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 June 20, 1996, North Atlantic Energy Service Corporation (North Atlantic/the licensee) has proposed an amendment to the Appendix A Technical Specifications (TSs) for the Seabrook Station, Unit 1 (Seabrook) Electrical Power Systems, Onsite Power Distribution. Currently, TS 3.8.3.1 Limiting Condition for Operation (LCO) requires, in part, two trains (Train A and Train B) of A.C. Emergency Busses to be energized. TS 3.8.3.1, ACTION a., allows one of the required trains of A.C. emergency busses to be not fully energized for up to 8 hours. If the bus cannot be fully energized within that time, ACTION a. requires the unit to be in at least hot standby within 6 hours and in cold shutdown within the following 30 hours. To be operable, the trains of the Emergency Busses are required to be fully energized as follows:

Train A:

- 1) 4160-volt Emergency Bus #E5,
- 2) 480-volt Emergency Bus #51, and
- 3) 480-volt Emergency Bus #52.

Train B:

- 1) 4160-volt Emergency Bus #E6,
- 2) 480-volt Emergency Bus #61,
- 3) 480-volt Emergency Bus #62, and
- 4) 480-volt Emergency Bus #E64.

The proposed amendment would modify TS 3.8.3.1, ACTION a., to increase from 8 hours to 7 days the allowable time that Train B 480-volt Emergency Bus #E64 may be less than fully energized. The allowable outage times for the remaining busses of Train B and all busses of Train A would not be changed by the proposed amendment. The proposed amendment would change ACTION a. to state:

- a. With one of the required trains of A.C. emergency busses (except 480-volt Emergency Bus #E64) not fully energized, reenergize the

train within 8 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

1. With 480-volt Emergency bus #E64 not fully energized, re-energize the bus within 7 days or be in HOT STANDBY within 6 hours and COLD SHUTDOWN within the following 30 hours.

2.0 DISCUSSION

North Atlantic has proposed to revise the Seabrook Station, Unit No. 1, Appendix A, Technical Specifications to change the action required for Bus #E64 (including Unit Substation US-E64) being inoperable to be equivalent to the action required for one service water cooling tower loop being inoperable. Specifically, this would increase the allowed outage time for Bus #E64 to 7 days before further action is required. North Atlantic has proposed this change at this time because US-E64 is exhibiting signs of degradation as evidenced by unusual odors and increased noise level. North Atlantic plans to inspect US-E64 and perform necessary corrective maintenance. North Atlantic asserts, however, that the inspection and possible corrective maintenance cannot be performed within the current 8 hour allowed outage time.

North Atlantic's basis for the proposed change is that Bus #E64 only supplies power to components associated with the Train B service water cooling tower loop and therefore the allowed outage time for Bus #E64 should be equivalent to the allowed outage time for the loads it powers.

North Atlantic notes that unlike the other 480 v electrical busses, which supply electrical power to several different Train B safety-related systems, Bus #E64 supplies electrical power to components which are only associated with the Train B service water cooling tower loop. The components which receive power from Bus #E64 are listed Table 1. North Atlantic notes, further, that Technical Specification 3.7.4, Service Water System/Ultimate Heat Sink, Action b., allows one service water cooling tower loop to be inoperable for up to 7 days. Thus, North Atlantic asserts that the existing Action requirement for Bus #E64 being inoperable is overly restrictive and inconsistent with the Action requirement for one service water cooling tower loop being inoperable.

Technical Specification 3.8.3.2, Onsite Power Distribution - Shutdown, recognizes that Bus #E64 supplies electrical power to only Train B service water cooling tower loop components because Bus #E64 is explicitly excluded from the Limiting Condition for Operation. Technical Specification 3.8.3.2 is applicable in Modes 5 and 6; in these Modes there is no requirement for the Service Water System to be operable.

3.0 EVALUATION

The Seabrook Service Water System consists of two independent trains, Train A and Train B. Each train can accomplish its safety function with either a service water ocean loop or a service water cooling tower pump loop.

Each service water ocean loop consists of a service water pump and the piping, valves, and other components necessary to provide a flow path for heat removal. Each service water cooling tower loop consists of a service water cooling tower pump, and the necessary piping, valves and other components required to provide its flow path. The ultimate heat sink for the service water ocean loop is the Atlantic Ocean; the ultimate heat sink for the service water cooling tower loop is a mechanical draft cooling tower.

Bus #E64 supplies electrical power to components associated with service water cooling tower loop Train B only, the inoperability of Bus #E64, including US-E64, does not affect any of the components associated with Train B service water ocean loop nor does it affect any Train A components. Thus, even if Bus #E64 is inoperable, the Train B service water ocean loop remains operable and capable of providing cooling during normal and accident conditions in addition to the Train A service water ocean and service water cooling tower loops.

Maintaining the operability of Train A and Train B emergency and vital busses ensures that the emergency safety features redundancy incorporated into the design is not defeated, and a single failure within any system or within the electrical power distribution subsystems will not prevent safe shutdown of the reactor. Since Bus #E64 serves only the Train B service water cooling tower loop, and since the allowed outage time is 7 days for the Train B service water cooling tower loop (TS 3.7.4), North Atlantic's proposed change to the action requirement would have no effect upon redundancy and single-failure issues, i.e., the result would be the same whether Bus #E64 or the service water cooling tower loop were inoperable. Thus, the proposed change to increase the allowed outage time for Bus #E64 to be equivalent with the allowed outage time for an inoperable service water cooling tower loop would make no reduction in the availability of the Service Water System to perform its intended safety function beyond that which is already permitted by the technical specifications. Furthermore, the capability of the Service Water System to perform its function would not be affected.

The staff has reviewed North Atlantic's proposed change to TS 3.8.3.1, Action a., to increase from 8 hours to 7 days the allowable time that 480-volt Emergency Bus #E64 may be less than fully energized. The staff concludes that because the proposed change would not have any effect upon redundancy and single failure issues, and would not reduce the Service Water System availability beyond that now permitted, the proposed change is 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 (61 FR 33142). 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.

ATTACHMENT: Table 1

Principal Contributor: Albert W. De Agazio

Date: August 30, 1996

TABLE 1
480V UNIT SUBSTATION 1-EDE-US-64 LOADS

US-E64

SERVICE WATER COOLING TOWER FAN 1-SW-FN-51B
SERVICE WATER COOLING TOWER FAN 2-SW-FN-51B
460V MCC-E641
MOTOR CONTROL CENTER 1-EDE-MCC-641 LOADS

MCC-E641

SW SYSTEM PROCESS HEAT TRACING DISTR. PNL. HT-CP-429
COOLING TOWER SW PUMP 110B TEST/BYPASS VLV. SW-V26
COOLING TOWER SW PUMP 110B DISCHARGE VLV. SW-V25
COOLING TOWER FAN 51B GEAR REDUCER IMMERSION HEATER SW-H-67B
COOLING TOWER FAN 2-51B GEAR REDUCER IMMERSION HEATER 2-SW-H-67B
COOLING TOWER SPRAY BYPASS RECIRC VLV SW-V140
COOLING TOWER SW PUMP 110B TEST RECIRC VLV SW-V27
COOLING TOWER SWGR RM TRAIN B SUPPLY FAN SWA-FN-63
COOLING TOWER SWGR RM TRAIN B EXHAUST FAN SWA-FN-70
COOLING TOWER SWGR RM TRAIN B HEATER SWA-UH-114
COOLING TOWER SWGR RM TRAIN B HEATER SWA-UH-115
480-120/240V XFMR FOR 12 CIRCUIT DISTR. PNL.

HT-CP-429

COOLING TOWER PUMP DISCHARGE NORMAL SYSTEM HEATER HT-H-301A
COOLING TOWER PUMP DISCHARGE BACKUP SYSTEM HEATER HT-H-301B
COOLING TOWER SPRAY BYPASS HEADER NORMAL SYSTEM HEATER HT-H-302A
COOLING TOWER SPRAY BYPASS HEADER BACKUP SYSTEM HEATER HT-H-302B

EDE-MCC-641

MOTOR HEATERS:

1-SW-V140-HTR
1-SW-V26-HTR
1-SW-V25-HTR
1-SW-V27-HTR
1-SWA-FN-63-HTR
1-SWA-FN-70-HTR
1-SW-FN-51B-HTR
2-SW-FN-51B-HTR

SPACE HEATERS:

1-EDE-US-64-HTR
1-EDE-MCC-641-HTR
shunt trip coil for heat tracing panel (ht-cp-429)

NOTE: All loads are Train B only