

October 22, 2001

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:
REACTOR COOLANT PUMP FLYWHEEL INSPECTION (TAC NO. MB2241)

Dear Mr. Feigenbaum:

The Commission has issued the enclosed Amendment No. 79 to Facility Operating License No. NPF-86 for the Seabrook Station, Unit No 1, in response to your application dated June 12, 2001. The amendment changes Technical Specification (TS) 4.4.10 to incorporate alternative reactor coolant pump flywheel inspections and makes administrative wording changes to TSs 6.4.1.7.b, 6.4.2.2.d, and 6.4.2.3.

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,

/RA/

George F. Wunder, 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. 79 to NPF-86
2. Safety Evaluation

cc w/encls: See next page

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Seabrook Station, Unit No. 1
cc:

William J. Quinlan, Esq.
Assistant General 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. Daniel G. Roy
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. Gene F. St. Pierre
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

Seabrook Station, Unit No. 1

cc:

Mr. Bruce 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

NORTH ATLANTIC ENERGY SERVICE CORPORATION, ET AL.*

DOCKET NO. 50-443

SEABROOK STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 79
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 June 12, 2001, 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. 79, 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: October 22, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 79

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.

Remove

3/4 4-37

B 3/4 4-17

6-8

6-8 A

Insert

3/4 4-37

B 3/4 4-17

6-8

6-8 A

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 79 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 June 12, 2001, North Atlantic Energy Service Corporation (the licensee) submitted for staff review and approval its proposed Technical Specifications (TS) change for Seabrook Station, Unit No. 1 (Seabrook 1), regarding inspection requirements for the unit's reactor coolant pump (RCP) flywheels. The proposed changes would also modify TS 6.4.1.7.b, TS 6.4.2.2.d, and TS 6.4.2.3. by replacing the phrase "an unreviewed safety question" with the phrase "a need for a license amendment."

The RCP flywheel inspection issue was addressed in the Westinghouse topical report, WCAP-14535A, "Topical Report on Reactor Coolant Pump Flywheel Inspection Elimination," which was approved by the U.S. Nuclear Regulatory Commission (NRC) with certain conditions. These conditions are specified in the staff's safety evaluation (SE) dated September 12, 1996, for WCAP-14535A. The licensee intended to apply this topical report to Seabrook 1 and change its RCP flywheels inspection intervals in accordance with the conclusion of the SE on WCAP-14535A.

The function of RCPs in the reactor coolant system (RCS) of a pressurized water reactor (PWR) is to maintain an adequate cooling flow rate by circulating a large volume of primary coolant water at high temperature and pressure through the RCS. A concern regarding overspeed of the RCP and its potential for failure led to the issuance of Regulatory Guide (RG) 1.14 in 1971. Since then, all licensees for PWR plants, with very few exceptions, have adopted the guidelines of RG 1.14 to conduct their RCP flywheel examinations. These guidelines are normally specified as requirements in the individual plant's TS, as is the case for Seabrook 1.

2.0 EVALUATION

In the SE on Westinghouse topical report WCAP-14535A, the staff stated that the evaluation methodology for RCP flywheels in WCAP-14535A is appropriate and the criteria are in accordance with the design criteria of RG 1.14. In addition, the staff specified:

- (1) Licensees who plan to submit a plant-specific application of this topical report for flywheels made of SA 533 B material need to confirm that their flywheels are made of SA 533 B material. Further, licensees having Group-15 flywheels need

to demonstrate that the material properties of their A516 material are equivalent to SA 533 B material, and its reference temperature, RT_{NDT} , is less than 30°F .

- (2) Licensees who plan to submit a plant-specific application of this topical report for their flywheels not made of SA 533 B or A516 material need to either demonstrate that their flywheel material properties are bounded by those of SA 533 B material, or provide the minimum specified ultimate tensile stress, S_u , the fracture toughness, K_{Ic} , and the reference temperature, RT_{NDT} , for that material. For the latter, the licensees should employ these material specific properties, and use the methodology in the topical report, as extended in the two responses to the staff's request for additional information (RAI), to provide an assessment to justify a change in inspection schedules for their plants.
- (3) Licensees meeting either (1) or (2) above should either conduct a qualified in-place ultrasonic testing (UT) examination of the volume from the inner bore of the flywheel to the circle of one-half the outer radius or conduct a surface examination (MT and/or PT) of exposed surfaces defined by the volume of the disassembled flywheels once every 10 years. The staff considers this 10-year inspection requirement not burdensome when the flywheel inspection is conducted during scheduled ISI inspection or RCP motor maintenance. This would provide an appropriate level of defense in depth.

Further, the staff required:

Licensees with Group-10 flywheels need to confirm in the near term that their flywheels have an adequate shrink fit of the flywheel at the maximum overspeed.

The licensee confirmed in its submittal that the flywheels for Seabrook 1 are made of SA 533 B material. Hence, only (1) and (3) apply. The staff further verified that the flywheels for Seabrook 1 do not belong to either Group 10 or Group 15 flywheels, for which additional analyses need to be performed. Therefore, the plant-specific applicability of WCAP-14535A to Seabrook 1 has been established, and the 10-year inspection requirement with details specified in (3) is acceptable.

The NRC staff has reviewed this submittal and determined that the analysis and conclusions in the Westinghouse topical report WCAP-14535A are applicable to Seabrook 1. Therefore, the staff accepts the licensee's proposed change (i.e., 10-year inspection intervals for RCP flywheels) in accordance with (3) above, to TS Surveillance 4.4.10 for Seabrook 1.

The staff also finds that the proposed wording changes to TSs 6.4.1.7.b, 6.4.2.2.d, and 6.4.2.3 have no negative effect on safety. The staff finds these changes 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

With respect to TS 4.4.10, 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 (66 FR 38764). Accordingly, this portion of the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). With respect to TSs 6.4.1.7.b, 6.4.2.2.d, and 6.4.2.3, the amendment changes administrative procedures or requirements. Accordingly, this portion of the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(10). 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: S. Sheng

Date: October 22, 2001