



**North
Atlantic**

North Atlantic Energy Service Corporation
P.O. Box 300
Seabrook, NH 03874
(603) 474-9521

The Northeast Utilities System

November 29, 1999

Docket No. 50-443

NYN-99107

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Seabrook Station
License Amendment Request 99-03,
“Technical Specification Line-Item Improvement to Relocate the
Emergency Diesel Generator Inspection Surveillance Requirement 4.8.1.1.2f.1)”

North Atlantic Energy Service Corporation (North Atlantic) has enclosed herein License Amendment Request (LAR) 99-03. LAR 99-03 is submitted pursuant to the requirements of 10CFR50.90 and 10CFR50.4.

LAR 99-03 proposes a change to the Seabrook Station Technical Specification (TS) Surveillance Requirement (SR) 4.8.1.1.2f to relocate sub-requirement 4.8.1.1.2f.1), which requires inspection of the Emergency Diesel Generators (EDGs) on an 18-month frequency, to the Seabrook Station Technical Requirements (SSTR) Manual. The proposed change would allow North Atlantic the flexibility to evaluate and conduct performance of EDG inspection activities based on condition-based maintenance rather than time-directed maintenance as currently required by TS.

North Atlantic's implementation of the Maintenance Rule Program in accordance with the provisions of 10 CFR 50.65, Regulatory Guide (RG) 1.160, and NUMARC 93-01, "Industry Guide for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," provides basis for performance of conditioned-based maintenance. North Atlantic has extensive experience and expertise in operating and maintaining the EDGs to determine what are the appropriate actions required for maintenance of the EDGs.

The relocated requirements of SR 4.8.1.1.2f.1) to the SSTR will continue to be administratively controlled in accordance with TS Section 6.0, "Administrative Controls." The SSTR is a licensee-controlled document that contains certain technical requirements and is the implementing manual for the Technical Specification Improvement Program. Changes to these requirements are reviewed and approved in accordance with Seabrook Station Technical Specifications, Section 6.7, and as outlined in the SSTR. Specifically, changes to the Technical Requirements require a 10 CFR 50.59 safety evaluation and are reviewed and approved by the Station Operations Review Committee (SORC).

ADD

PDA ADDOC 0500443

In addition, removal of SR 4.8.1.1.2f.1) from the Technical Specifications is a Technical Specification Line-Item Improvement, consistent with NUREG-1431, "Standard Technical Specifications - Westinghouse Plants," Rev. 1, April 1995.

A similar proposal by Commonwealth Edison Company for Byron Station Units 1 & 2 and Braidwood Station Units 1 & 2 has been approved by the NRC Staff as License Amendments 79 and 71, issued February 16, 1996.

LAR 99-03 has been reviewed and approved by the Station Operation Review Committee and reviewed by the Nuclear Safety Audit Review Committee.

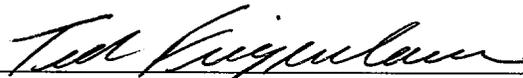
As discussed in the enclosed LAR Section IV, the proposed change does not involve a significant hazard consideration pursuant to 10CFR50.92. A copy of this letter and the enclosed LAR have been forwarded to the New Hampshire State Liaison Officer pursuant to 10CFR50.91(b). North Atlantic requests NRC Staff review of LAR 99-03 and issuance of a license amendment by May 31, 2000 (see Section V enclosed).

North Atlantic has determined that LAR 99-03 meets the criteria of 10CFR51.22(c)(9) for a categorical exclusion from the requirements for an Environmental Impact Statement (see Section VI enclosed).

Should you have any questions regarding this letter, please contact Mr. James M. Peschel – Regulatory Compliance Manager, at (603) 773-7194.

Very truly yours,

NORTH ATLANTIC ENERGY SERVICE CORP.



Ted C. Feigenbaum
Executive Vice President
And Chief Nuclear Officer

Enclosure

cc: H. J. Miller, NRC Regional Administrator
J. T. Harrison, NRC Project Manager, Project Directorate 1-2
R. K. Lorson, NRC Senior Resident Inspector

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

ENCLOSURE 1 TO NYN-99107



**North
Atlantic**

SEABROOK STATION UNIT 1

**Facility Operating License NPE-86
Docket No. 50-443**

**License Amendment Request No. 99-03,
"Technical Specification Line-Item Improvement to Relocate the Emergency Diesel
Generator Inspection Surveillance Requirement 4.8.1.1.2f.1)"**

North Atlantic Energy Service Corporation pursuant to 10CFR50.90 submits this License Amendment Request. The following information is enclosed in support of this License Amendment Request:

- **Section I - Introduction and Safety Assessment for Proposed Change**
- **Section II - Markup of Proposed Change**
- **Section III - Retype of Proposed Change**
- **Section IV - Determination of Significant Hazards for Proposed Change**
- **Section V - Proposed Schedule for License Amendment Issuance And Effectiveness**
- **Section VI - Environmental Impact Assessment**

I, Ted C. Feigenbaum, Executive Vice President and Chief Nuclear Officer of North Atlantic Energy Service Corporation hereby affirm that the information and statements contained within this License Amendment Request are based on facts and circumstances which are true and accurate to the best of my knowledge and belief.

Sworn and Subscribed

before me this

29 day of November, 1999

Mauryn R. Sullivan
Notary Public

Ted C. Feigenbaum
Ted C. Feigenbaum
Executive Vice President and
Chief Nuclear Officer

Section I

Introduction and Safety Assessment for the Proposed Change

I. INTRODUCTION AND SAFETY ASSESSMENT OF THE PROPOSED CHANGE

A. Introduction

License Amendment Request (LAR) 99-03 proposes a change to the Seabrook Station Technical Specification (TS) Surveillance Requirement (SR) 4.8.1.1.2f to relocate sub-requirement 4.8.1.1.2f.1), which requires inspection of the Emergency Diesel Generators (EDGs) on an 18-month frequency, to the Seabrook Station Technical Requirements (SSTR) Manual. The proposed change would allow North Atlantic the flexibility to evaluate and conduct performance of EDG inspection activities based on condition-based maintenance rather than time-directed maintenance as currently required by TS.

North Atlantic's implementation of the Maintenance Rule Program in accordance with the provisions of 10 CFR 50.65, Regulatory Guide (RG) 1.160, and NUMARC 93-01, "Industry Guide for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," provides basis for performance of conditioned-based maintenance. North Atlantic has extensive experience and expertise in operating and maintaining the EDGs to determine what are the appropriate actions required for maintenance of the EDGs.

The relocated requirements of SR 4.8.1.1.2f.1) to the SSTR will continue to be administratively controlled in accordance with TS Section 6.0, "Administrative Controls." The SSTR is a licensee-controlled document that contains certain technical requirements and is the implementing manual for the Technical Specification Improvement Program. Changes to these requirements are reviewed and approved in accordance with Seabrook Station Technical Specifications, Section 6.7, and as outlined in the SSTR. Specifically, changes to the Technical Requirements require a 10 CFR 50.59 safety evaluation and are reviewed and approved by the Station Operations Review Committee (SORC).

In addition, removal of SR 4.8.1.1.2f.1) from the Technical Specifications is a Technical Specification Line-Item Improvement, consistent with NUREG-1431, "Standard Technical Specifications - Westinghouse Plants," Rev. 1, April 1995.

B. Safety Assessment

North Atlantic's maintenance rule program establishes specific performance criteria for structures, systems and components (SSCs). Reliability and unavailability performance criteria have been assigned to risk significant and standby safety-related non-risk significant SSCs. Other in-scope SSCs have been assigned appropriate reliability and/or plant level performance criteria. SSCs that are determined to not meet the established performance criteria are designated as (a)(1) and are subject to action plans, goal setting, and goal monitoring. Performance of (a)(1) SSCs is compared to the established goals. When it is determined that the performance goals have been achieved, a SSC may be returned to the normal performance monitoring (a)(2) status.

With regard to the EDGs, these components and the associated support systems are risk significant and standby safety-related. The experience to date, applying the Maintenance Rule Program to the EDGs, has proven to be positive. Risk informed decisions concerning the benefits of maintenance and time out of service has maintained reliable EDGs with unavailability consistent with the assumptions in the Seabrook Station Probabilistic Risk Assessment (PRA).

SR 4.8.1.1.2f.1) is one of several requirements to verify operability of the EDGs. Satisfying this surveillance requirement is part of the overall process undertaken to ensure EDG operability and reliability. Periodically, (normally every refueling outage) Seabrook Station's two EDG units are physically inspected using the vendor's recommended inspection guidelines.

Station procedures and maintenance activities are employed to perform inspections and to routinely replace, clean, rework or make adjustments to particular items, which are associated with those procedures. Occasionally, more extensive work/rework is required on an item that is not directly associated with the particular inspection activity but was discovered in a somewhat less than optimal condition while the unit was undergoing physical inspection. The corrective maintenance program through the work control system addresses these types of rework/work items.

Some system component degradation and potential failures can be identified through on-line monitoring techniques employed during the fuel cycle. Operations Department personnel perform daily, weekly, biweekly, monthly and quarterly walkdowns and inspections of various items as well as a monthly surveillance run (approximately 4 hours) on each EDG. These inspections, system control panel alarms, and on-line monitoring of engine performance, vibration and oil sampling enable expeditious response to a degraded condition and provide a mechanism for failure identification prior to performance of the refueling interval surveillances.

In addition, EDG maintenance program improvements have been made which are expected to make future inspections less intrusive and improve overall system reliability, yielding less required corrective maintenance than in the past, thereby providing satisfactory results and successful performances of this surveillance in future outages.

North Atlantic has extensive experience gained over approximately fifteen (15) years of operating and maintaining the diesel generators since initial system operation, and, therefore, has the expertise to determine what are the appropriate actions required for maintenance of the EDGs. North Atlantic will continue to use prudent engineering judgment when conducting testing, preventive, and corrective maintenance on the EDGs, taking into account available manufacturer recommendations, Seabrook Station emergency diesel generator maintenance and operating history, on-line performance monitoring and component operational trending data, and industry experience where applicable. In addition, the other surveillance testing required by SR 4.8.1.1.2f would continue to ensure that the EDGs are capable of performing their safety function.

Throughout the first six fuel cycles, overall EDG condition has steadily improved with the use of improved design, utilization of better condition monitoring tools and procedures and the reduction of intrusive preventative maintenance tasks made possible by the improved on-line condition monitoring methods. These improvements resolved problems that were recognized during the early years of EDG operation.

Surveillance testing of the EDGs during normal plant operation provides assurance that the proposed change will not adversely affect the reliability of the EDGs. Therefore, it is concluded that the effect on plant safety by the relocation of the inspection surveillance requirement to a licensee-controlled document(s) is insignificant. As such, the proposed change will not degrade the ability of the emergency diesel generators to perform their safety function. In addition, the proposed change does not adversely affect nor invalidate assumptions in the plant licensing basis, as the EDGs will remain fully capable of performing their specified safety function.

Section II

Markup of the Proposed Change

The attached markup reflects the currently issued revision of the Technical Specifications listed below. Pending Technical Specifications or Technical Specification changes issued subsequent to this submittal are not reflected in the enclosed markup

The following Technical Specification is included in the attached markup:

Technical Specification	Title	Page(s)
4.8.1.1.2f.1)	A.C. Sources - Operating	3/4 8-5

ELECTRICAL POWER SYSTEMS
A.C. SOURCES
OPERATING
SURVEILLANCE REQUIREMENTS

4.8.1.1.2 (Continued)

- b) A kinematic viscosity at 40°C of greater than or equal to 1.9 centistokes, but less than or equal to 4.1 centistokes, if gravity was not determined by comparison with the supplier's certification;
 - c) A flash point greater than or equal to 125°F; and
 - d) A clear and bright appearance with proper color when tested in accordance with ASTM-D4176-82.
- 2) By verifying within 30 days of obtaining the sample that the other properties specified in Table 1 of ASTM-D975-81 are met when tested in accordance with ASTM-D975-81 except that the analysis for sulfur may be performed in accordance with ASTM-D1552-79 or ASTM-D2622-82.
- e. At least once every 31 days:
- 1) By obtaining a sample of fuel oil in accordance with ASTM-D2276-78, and verifying that total particulate contamination is less than 10 mg/liter when checked in accordance with ASTM-D2276-78, Method A, and
 - 2) By visually inspecting the lagging in the area of the flanged joints on the silencer outlet of the diesel exhaust system for leakage (also after an extended operation of greater than 24 hours).
- f. At least once per 18 months, during shutdown*, by:
- 1) ~~Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service;~~
 - 2) Verifying the generator capability to reject a load of greater than or equal to 671 kW while maintaining voltage at 4160 ± 420 volts and frequency at 60 ± 4.0 Hz;

(NOT USED)
↑
ALL CAPS

*selected surveillance requirements, or portions thereof, may be performed during conditions or modes other than shutdown, provided a 10 CFR 50.59 Safety Evaluation supports safe conduct of that surveillance in a condition or mode that is consistent with safe operation of the plant. (Ref. NRC GL 91-04)

SECTION III

Retype of the Proposed Change

The attached retype reflects the currently issued version of the Technical Specifications. Pending Technical Specification changes or Technical Specification changes issued subsequent to this submittal are not reflected in the enclosed retype. The enclosed retype should be checked for continuity with Technical Specifications prior to issuance.

ELECTRICAL POWER SYSTEMS

A.C. SOURCES

OPERATING

SURVEILLANCE REQUIREMENTS

4.8.1.1.2 (Continued)

- b) A kinematic viscosity at 40°C of greater than or equal to 1.9 centistokes, but less than or equal to 4.1 centistokes, if gravity was not determined by comparison with the supplier's certification;
 - c) A flash point greater than or equal to 125°F; and
 - d) A clear and bright appearance with proper color when tested in accordance with ASTM-D4176-82.
- 2) By verifying within 30 days of obtaining the sample that the other properties specified in Table 1 of ASTM-D975-81 are met when tested in accordance with ASTM-D975-81 except that the analysis for sulfur may be performed in accordance with ASTM-D1552-79 or ASTM-D2622-82.
- e. At least once every 31 days:
 - 1) By obtaining a sample of fuel oil in accordance with ASTM-D2276-78, and verifying that total particulate contamination is less than 10 mg/liter when checked in accordance with ASTM-D2276-78, Method A, and
 - 2) By visually inspecting the lagging in the area of the flanged joints on the silencer outlet of the diesel exhaust system for leakage (also after an extended operation of greater than 24 hours).
 - f. At least once per 18 months, during shutdown[#], by:
 - 1) (NOT USED)
 - 2) Verifying the generator capability to reject a load of greater than or equal to 671 kW while maintaining voltage at 4160 ± 420 volts and frequency at 60 ± 4.0 Hz;

[#]selected surveillance requirements, or portions thereof, may be performed during conditions or modes other than shutdown, provided a 10 CFR 50.59 Safety Evaluation supports safe conduct of that surveillance in a condition or mode that is consistent with safe operation of the plant. (Ref. NRC GL 91-04)

Section IV

Determination of Significant Hazards for the Proposed Change

IV. DETERMINATION OF SIGNIFICANT HAZARDS FOR THE PROPOSED CHANGE

License Amendment Request (LAR) 99-03 proposes a change to the Seabrook Station Technical Specification (TS) Surveillance Requirement (SR) 4.8.1.1.2f to relocate sub-requirement 4.8.1.1.2f.1), which requires inspection of the Emergency Diesel Generators (EDGs) on an 18-month frequency, to the Seabrook Station Technical Requirements (SSTR) Manual. The proposed change would allow North Atlantic the flexibility to evaluate and conduct performance of EDG inspection activities based on condition-based maintenance rather than time-directed maintenance as currently required by TS.

North Atlantic's implementation of the Maintenance Rule Program in accordance with the provisions of 10 CFR 50.65, Regulatory Guide (RG) 1.160, and NUMARC 93-01, "Industry Guide for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," provides basis for performance of conditioned-based maintenance. North Atlantic has extensive experience and expertise in operating and maintaining the EDGs to determine what are the appropriate actions required for maintenance of the EDGs.

The relocated requirements of SR 4.8.1.1.2f.1) to the SSTR will continue to be administratively controlled in accordance with TS Section 6.0, "Administrative Controls." The SSTR is a licensee-controlled document that contains certain technical requirements and is the implementing manual for the Technical Specification Improvement Program. Changes to these requirements are reviewed and approved in accordance with Seabrook Station Technical Specifications, Section 6.7, and as outlined in the SSTR. Specifically, changes to the Technical Requirements require a 10 CFR 50.59 safety evaluation and are reviewed and approved by the Station Operations Review Committee (SORC).

In addition, removal of SR 4.8.1.1.2f.1) from the Technical Specifications is a Technical Specification Line-Item Improvement, consistent with NUREG-1431, "Standard Technical Specifications - Westinghouse Plants," Rev. 1, April 1995.

In accordance with 10 CFR 50.92, North Atlantic has reviewed the attached proposed change and has concluded that it does not involve a significant hazards consideration (SHC). The basis for the conclusion that the proposed change does not involve a SHC is as follows:

1. The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed change does not adversely affect accident initiators or precursors nor alter the design assumptions, conditions, and configuration of the facility or the manner in which the plant is operated. The proposed change does not alter or prevent the ability of structures, systems and components (SSCs) to perform their intended function to mitigate the consequences of an initiating event within the acceptance limits assumed in the Updated Final Safety Analysis Report (UFSAR).

Performance of EDG inspection activities based on condition-based maintenance rather than time-directed maintenance will neither exacerbate nor significantly increase the probability or consequences of an accident previously evaluated in the Seabrook Station UFSAR. North Atlantic has extensive experience and expertise in operating and maintaining the EDGs to determine the appropriate maintenance activities for demonstrating operability of the EDGs. North Atlantic will continue to use, in conjunction with manufacturer recommendations, prudent engineering judgment when conducting testing, preventive and corrective maintenance activities on the EDGs. In addition, the other surveillance testing required by SR 4.8.1.1.2f would continue to ensure that the EDGs are capable of performing their safety function.

Throughout the first six fuel cycles, overall EDG condition has steadily improved with the use of improved design, utilization of better condition monitoring tools and procedures and the reduction of intrusive preventative maintenance tasks made possible by the improved on-line

condition monitoring methods. These improvements resolved problems that were recognized during the early years of EDG operation.

North Atlantic has implemented the Maintenance Rule Program in accordance with the provisions of 10 CFR 50.65, Regulatory Guide (RG) 1.160, and NUMARC 93-01, "Industry Guide for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants."

North Atlantic's maintenance rule program establishes specific performance criteria for SSCs. Reliability and unavailability performance criteria have been assigned to risk significant and standby safety-related non-risk significant SSCs. Other in-scope SSCs have been assigned appropriate reliability and/or plant level performance criteria. SSCs that are determined to not meet the established performance criteria are designated as (a)(1) and are subject to action plans, goal setting, and goal monitoring. Performance of (a)(1) SSCs is compared to the established goals. When it is determined that the performance goals have been achieved, a SSC may be returned to the normal performance monitoring (a)(2) status.

With regard to the EDGs, these components and the associated support systems are risk significant and standby safety-related. The experience to date, applying the Maintenance Rule Program to the EDGs, has proven to be positive. Risk informed decision-making concerning the benefits of maintenance and time out of service has maintained reliable EDGs with unavailability consistent with the assumptions in the Seabrook Station Probabilistic Risk Assessment (PRA).

Furthermore, Operations Department personnel perform daily, weekly, biweekly, monthly and quarterly walkdowns and inspections of various items as well as the monthly surveillance run on each diesel. These inspections, combined with system control panel alarms, engine oil sampling and on-line monitoring of engine vibration and running performance (cylinder firing, fuel delivery and exhaust temperatures), enable expeditious response to a developing degraded condition and provide a mechanism for failure identification prior to performance of the refueling interval surveillances.

Based on the reviews of the surveillance tests, inspections and maintenance activities, it is concluded that there is no significant impact on the reliability of the EDGs and, therefore, there is no significant increase in the probability or consequences of any previously analyzed accident.

2. Create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed change does not alter the design assumptions, conditions, and configuration of the facility or the manner in which the plant is operated. There are no changes to the source term, containment isolation or radiological release assumptions used in evaluating the radiological consequences in the Seabrook Station UFSAR. Existing system and component redundancy is not being changed by the proposed change. The proposed change has no adverse affect on component or system interactions. Therefore, since there are no changes to the design assumptions, conditions, configuration of the facility, or the manner in which the plant is operated, the proposed change does not create the possibility of a new or different kind of accident from any previously analyzed.

3. Involve a significant reduction in a margin of safety.

The proposed change does not adversely affect equipment design or operation and there are no changes being made to the Technical Specification required safety limits or safety system settings that would adversely affect plant safety. The proposed change does not adversely affect the EDG's ability to ensure that sufficient power is available to supply the safety related equipment required for: 1) the safe shutdown of the facility, and 2) the mitigation and control of accident conditions within the facility.

Surveillance testing of the EDGs during normal plant operation provides assurance that the proposed change will not adversely affect the reliability of the EDGs. North Atlantic will continue to use, in conjunction with manufacturer's recommendations, prudent engineering judgment when conducting testing, preventive, and corrective maintenance activities on the EDGs. In addition, the other surveillance testing required by SR 4.8.1.1.2f would continue to ensure that the EDGs are capable of performing their safety function. Thus, it is concluded that the EDGs would continue to be available upon demand to mitigate the consequences of an accident and, therefore, there is no significant reduction in a margin of safety.

Based on the above evaluation, North Atlantic concludes that the proposed change does not constitute a significant hazard.

Sections V & VI

**Proposed Schedule for License Amendment Issuance and Effectiveness
And
Environmental Impact Assessment**

V. PROPOSED SCHEDULE FOR LICENSE AMENDMENT ISSUANCE AND EFFECTIVENESS

North Atlantic requests NRC Staff review of License Amendment Request 99-03 and issuance of a license amendment by May 31, 2000, having immediate effectiveness and implementation required within 90 days.

VI. ENVIRONMENTAL IMPACT ASSESSMENT

North Atlantic has reviewed the proposed license amendment against the criteria of 10CFR51.22 for environmental considerations. The proposed change does not involve a significant hazards consideration, nor increase the types and amounts of effluent that may be released offsite, nor significantly increase individual or cumulative occupational radiation exposures. Based on the foregoing, North Atlantic concludes that the proposed change meets the criteria delineated in 10CFR51.22(c)(9) for a categorical exclusion from the requirements for an Environmental Impact Statement.