North Atlantic

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

The Northeast Utilities System

February 28, 2001

Docket No. 50-443

NYN-01018

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

Seabrook Station
License Amendment Request 01-01
"Changes to Electrical Power Systems – A.C. Sources Technical Specifications"

North Atlantic Energy Service Corporation (North Atlantic) has enclosed herein License Amendment Request (LAR) 01-01. License Amendment Request 01-01 is submitted pursuant to the requirements of 10 CFR 50.90 and 10 CFR 50.4.

LAR 01-01 proposes changes to the Seabrook Station Technical Specifications (TS) 3/4.8.1.1 A.C. Sources – Operating. The proposed changes are enhancements to the Seabrook Station Technical Specifications to provide North Atlantic operational flexibility with respect to allowed outage time (AOT) for restoration or verification of Operability of offsite and on-site electrical power sources, as well as reducing accelerated degradation of the emergency diesel generators due to excessive fast starting, rapid loading, and high loads. In addition, other changes are proposed either for clarity, which are reflective of the improved Standard Technical Specifications for Westinghouse Plants, NUREG-1431, Rev. 1 and Draft Rev. 2, or do not meet the four criteria of 10 CFR 50.36 for inclusion in Technical Specifications. Those requirements that do not meet the criteria for inclusion in TS will either be deleted or relocated to the Seabrook Station Technical Requirements (SSTR) manual. The SSTR is a licensee-controlled document that is subject to the provisions of 10 CFR 50.59.

The Station Operation Review Committee and the Nuclear Safety Audit Review Committee have reviewed LAR 01-01.

As discussed in the enclosed LAR Section IV, the proposed change does not involve a significant hazard consideration pursuant to 10 CFR 50.92. A copy of this letter and the enclosed LAR has been forwarded to the New Hampshire State Liaison Officer pursuant to 10 CFR 50.91(b). North Atlantic requests NRC Staff review of LAR 01-01, and issuance of a license amendment by May 31, 2001 (see Section V enclosed). Issuance of a license amendment by May 31, 2001 will allow North Atlantic to maximize the benefit of reduced diesel generator wear and stress as soon as possible during the current operating cycle.

North Atlantic has determined that LAR 01-01 meets the criteria of 10 CFR 51.22(c)(9) for a categorical exclusion from the requirements for an Environmental Impact Statement (see Section VI enclosed).

A001

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

Very truly yours,

NORTH ATLANTIC ENERGY SERVICE CORP.

Ted C. Feigenbaum
Executive Vice President
and Chief Nuclear Officer

cc: H. J. Miller, NRC Regional Administrator
V. Nerses, NRC Project Manager, Project Directorate 1-2
NRC Senior Resident Inspector

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

North Atlantic

SEABROOK STATION UNIT 1

Facility Operating License NPF-86
Docket No. 50-443

License Amendment Request 01-01,
"Changes to Electrical Power Systems – A.C. Sources Technical Specifications"

This License Amendment Request is submitted by North Atlantic Energy Service Corporation pursuant to 10CFR50.90. 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, Joe M. Vargas, Director of Engineering 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
28 day of February, 2001

Marilyn A. Sullivan
Notary Public

Joe M. Vargas
Director of Engineering

Section I

Introduction and Safety Assessment for Proposed Changes

I. INTRODUCTION AND SAFETY ASSESSMENT OF PROPOSED CHANGES

A. Introduction

License Amendment request (LAR) 01-01 proposes changes to the Seabrook Station Technical Specifications (TS) 3/4.8.1.1 A.C. Sources – Operating.

The proposed changes are enhancements to the Seabrook Station Technical Specifications to provide North Atlantic operational flexibility with respect to allowed outage time (AOT) for restoration or verification of Operability of offsite and on-site electrical power sources, as well as reducing accelerated degradation of the emergency diesel generators due to excessive fast starting, rapid loading, and high loads. In addition, other changes are proposed either for clarity, which are reflective of the improved Standard Technical Specifications for Westinghouse Plants, NUREG-1431, Rev. 1 and Draft Rev. 2, or do not meet the four criteria of 10 CFR 50.36 for inclusion in Technical Specifications. Those requirements that do not meet the criteria for inclusion in TS will either be deleted or relocated to the Seabrook Station Technical Requirements (SSTR) manual. The SSTR is a licensee-controlled document that is subject to the provisions of 10 CFR 50.59.

B. Safety Assessment of Proposed Changes

Seabrook Station is connected to the New England grid via three 345 kV offsite transmissions lines. The transmission lines serve as the preferred A.C. electrical power source to the station. The three transmission lines terminate in a switchyard that is designed and arranged so as to provide two physically independent circuits (SF_6 design) between the offsite transmission network and the onsite Class 1E Distribution System. This arrangement ensures a continuous power source to the Class 1E buses.

The onsite Class 1E Distribution System is divided into redundant load groups (trains) so that the loss of any one load group does not prevent the minimum safety functions from being performed. The design has each safety-related train connected to two preferred offsite power sources, which is more than the minimum. Each safety-related train is connected to offsite power either via the train's unit auxiliary transformers (UAT) or reserve auxiliary transformers (RAT). In addition, each safety-related train is backed by one emergency diesel generator (EDG), which serves as a reliable standby power supply. The EDGs are used in situations when offsite power is unavailable. During normal plant operations, the EDGs are in standby condition and start automatically if there is a loss of power on their respective emergency bus or upon receipt of a Safety Injection (SI) signal from the Engineered Safety Features Actuation System (ESFAS). The diesel generators can also be started and controlled from the main control board.

Each EDG is sufficient to supply its train's safety-related and non safety-related loads so that the unit can be placed and maintained in a safe shutdown condition with only one emergency diesel generator. The capacity of one EDG is sufficient to satisfy power requirements for the design basis event, i.e., loss-of–coolant accident (LOCA) coincident with a loss of offsite electrical power, given failure of the other emergency diesel generator to start.

Each EDG is driven by a Colt-Pielstick PC2.3 V 16 cylinder diesel engine. The diesel engine operates at 514 rpm and is capable of producing 6083 kW continuously. The EDGs are designed to rapidly start from standby conditions and attain rated voltage and frequency, as well as energizing the emergency busses with permanently connected loads, within 10 or 12 seconds (dependent on type of start signal).

Following which, they are rapidly loaded with either shutdown or emergency (accident) loads through an automatic sequencer within 108 seconds or less.

As discussed previously, the EDGs are normally in a standby-ready condition. During normal operations (Mode 1 through 4) the EDGs are tested monthly to verify standby-readiness, as required by Technical Specifications (TS). The monthly TS surveillance tests verify start time and capability to operate at a pre-determined load while synchronized to the grid. During cold shutdown and refueling conditions only one EDG is required by TS to be Operable. During a refueling outage (every 18 months) each EDG undergoes certain inspection, maintenance and surveillance testing activities that usually cannot be accomplished during normal plant operation. The 18-month TS surveillance tests are more challenging than the monthly surveillance tests. The current 18-month surveillance tests verify design capability under simulated accident and non-accident conditions.

Industry experience, as well as industry and NRC-sponsored studies and correspondences over the years have indicated that emergency diesel generators are tested too often and that the frequency of surveillance testing can, and does, cause accelerated wear possibly leading to premature emergency diesel generator failures and reducing equipment reliability.

North Atlantic's recent experience with a failure of one emergency diesel generator was recently reported in voluntary Licensee Event Report (LER), 00-008. LER 00-008 reported that subsequent inspections, rebuilding and evaluations of both EDGs indicate that the combination of fast engine starts, rapid loading, and high loading[1] were among the most significant causes that contributed to EDG degradation. As a result of the event investigations, specific recommendations and corrective actions were recommended to prevent recurrence, among which, was the need to change Technical Specifications to relax the current stringent performance requirements on the EDGs imposed by surveillance tests.

The proposed changes are as follows:

Proposed is a change to Limiting Condition for Operation (LCO) 3.8.1.1 Action a. to extend the current allowed outage time (AOT) of 24 hours to 72 hours for restoring at least two offsite circuits to OPERABLE status. The proposed change would afford North Atlantic additional flexibility to investigate the cause of the inoperability, determine the appropriate remedial actions, and schedule the necessary resources without undue time pressure, particularly in light of the expected minimal additional safety benefit with maintaining the current 24-hour AOT. The 72-hour AOT takes into account the capacity and capability of the remaining AC sources, the low probability of a Design Basis Accident (DBA) occurring during this time period and a reasonable time for repairs before subjecting the plant to transients associated with shutdown. As stated previously, Seabrook Station is connected to the New England power grid via three highly reliable offsite transmission lines and the switchyard arranged to ensure a continuous power source to the onsite Class 1E buses. LCO 3.8.1.1 requires a minimum of two offsite circuits to be OPERABLE during MODES 1, 2, 3, and 4. Should one of the two required offsite power circuits become inoperable, Action a. requires operability verification of the remaining offsite power circuit within 1 hour and verification at least once every 8 hours thereafter.

[1] The relationship between high loads and wear is established for typical piston engine applications, and engine manufacturers have indicated that aging and wear significantly increase after 95 percent of the continuous load rating is achieved. Ref. NRC SER related to Callaway Amendment 112, dated June 17, 1996. In addition, NUREG/CR-5057, "Aging Mitigation and Improved Programs for Nuclear Service Diesel Generators," notes that fast starting and fast loading tests of nuclear service diesels causes very rapid wear of certain engine components.

Review of historical correspondence[2] indicate that during the development of Seabrook Station's Technical Specifications the current 24-hour AOT was based on the NRC staff's position that the failure rates for SF_6 lines are high and the repair times are longer than those observed for aerial lines. Further, the NRC noted that a published article indicated that surveyed SF_6 installations indicate a four-year break-in period and, in the staff's opinion, Seabrook Station will have a poorer performance than aerial line installations in the near term. The staff did suggest that the applicant may want to reexamine this AOT if he increases the number of offsite ac lines into the site or develops a history of favorable experience.

North Atlantic has not increased the number of offsite ac lines into the site, however, since issuance of the operating license, historical data of SF_6 failures as well as modifications indicate a history of favorable experience[3] that justifies an AOT extension to 72 hours. A 72-hour AOT would be consistent with the improved Standard Technical Specifications (ITS) for Westinghouse Plants, NUREG 1431, Rev. 1 and Draft Rev. 2.

The proposed change to LCO 3.8.1.1 Action b. is to increase the time for demonstrating operability of the remaining diesel generator from 8 hours to 24 hours. This is based on the following factors:

1. The additional 16 hours of exposure is deemed insignificant, because the likelihood of losing offsite power with one diesel generator inoperable whereby AC power is reliant on only one OPERABLE diesel generator is remote.

2. 24 hours is consistent with ITS (NUREG 1431, Rev. 1 and Draft Rev. 2) and other similar facilities that have multiple offsite power sources. Improved Technical Specification Bases 3.8.1, Action B.3.1 and B.3.2, state that 24 hours is a reasonable time frame to confirm that the operable emergency diesel generator is not affected by the same problem as the inoperable emergency diesel generator.

3. Other facilities such as Callaway, which has diesel engines of the same manufacturer, have a 24-hour time-period to ensure operability of the remaining diesel.

Increasing the time-period to 24 hours for needing to start the remaining diesel generator to demonstrate operability would provide North Atlantic additional time to investigate the cause of the inoperability, determine the appropriate remedial actions, and schedule the necessary resources. The current 8-hour

---

[2] NRC letter from Mr. Thomas Novak, Acting Director Division of PWR Licensing-A Office of NRR, to Mr. Robert Harrison President and CEO PSNH, Subject: Seabrook Station TS Improvement Program, dated May 20, 1986.

[3] The last formal evaluation of SF_6 insulator reliability was performed in 1995. That evaluation concluded that the insulator failure rate was relatively constant over the 5 years (1989 - 1994) since an initial evaluation. At that rate, another 20 insulator failures were anticipated over the plant lifetime. The 1995 evaluation estimated the frequency of loss of offsite power due to SF_6 failures to be 1.11E-05 per year, a decrease of two orders of magnitude from previous evaluations (1989).

SF_6 insulator failures in two zones (Zone 2 and Zone 4) are required to initiate a loss of offsite power. All other SF_6 insulator failure initiated losses of offsite power require failures of three or more zones. The insulators in Zones 2 and 4 were replaced with a new design in Outage 01 (1991) and Outage 05 (1997). There have been no insulator failures in the improved design, and no failures in the original design since 1992. This would suggest that the 1995 evaluation still over-estimated the insulator failure rate, since the 1995 study results would predict an additional 5 insulator failures since 1992.

AOT imposes unnecessary time pressure on North Atlantic to quickly remedy the inoperability, particularly when it is desirable to avoid the need for starting the remaining diesel generator to demonstrate operability. A 24-hour time period would reduce the time pressure and potentially avert the need to start the remaining diesel generator, thereby reducing the additional increase in wear and stress on the diesel and its associated components and systems that result from each additional start.

In addition, another change to LCO 3.8.1.1 Action b. proposes to link it with Action d. This linkage is to serve as an operator reminder that the additional actions specified in Action d. must be complied with as well.

The proposed changes to LCO 3.8.1.1 Action c. would revise the wording associated with restoration of at least two offsite power sources to be consistent with the proposed 72-hour AOT in Action a., and link Action c. with Action d, for the same reason as stated for Action b.

A proposed change to the footnote associated with Actions b. and c. would expand the footnote statement to also exclude operability verification of the remaining diesel generator if it has been successfully operated within the last 24 hours or if it is currently operating. This change would reduce repetitive starting by providing clarification to the operator and avert the need for re-testing the operable diesel generator when cascading into another Action statement, e.g., cascading from a condition described in Action c. to Action b. once the remaining diesel generator is demonstrated OPERABLE. The 24-hour time period since last operated would be consistent with the proposed 24-hour time-period for Action b.

The current 8-hour time-period requirement to demonstrate operability of the remaining diesel generator specified in LCO 3.8.1.1 Action c. will remain as currently stated. Retaining the 8-hour time-period is prudent because of the possibility of being in a condition where no AC power is available to a single train and therefore sooner action is warranted. Review of Action c. compatibility with the proposed change to the associated footnote was made to ensure that the 24-hour time-period allowed by the footnote would not lessen the importance of ensuring a reliable onsite power source is available. Though the footnote foregoes the need to demonstrate operability of the remaining diesel generator, if operated within the last 24 hours, the apparent inconsistency is not expected to reduce the confidence of the remaining diesel generator to be OPERABLE, regardless if it is verified in 8 hours or 24 hours. If the diesel generator was demonstrated OPERABLE within the last 24 hours prior to the other diesel generator becoming inoperable there should be no reasonable concern to assume that the remaining diesel generator would itself become inoperable unless a common mode failure was suspected, which the footnote already addresses. Therefore, if the remaining diesel generator has not been operated within the last 24 hours the requirements of Action c. would require the remaining diesel generator to be demonstrated OPERABLE within 8 hours.

The proposed change to LCO 3.8.1.1 Action e. would change the 24-hour requirement to 72 hours to restore at least two offsite circuits to OPERABLE status. Since one offsite source must be restored to OPERABLE status within 24 hours, the remaining offsite power source need not be restored until 72 hours from time of initial loss. This change is consistent with the proposed 72-hour AOT requirement in Actions a. and Action c. for restoration of two offsite power sources.

The AOT times proposed within this LAR are also consistent with the guidance specified in Regulatory Guide 1.93, Revision 0, "Availability of Electric Power Sources."

The proposed change to Surveillance Requirement (SR) 4.8.1.1.1b would delete "during shutdown" and reference a footnote that states this SR shall not be performed in Mode 1 or 2. The proposed change is consistent[4] with ITS (Rev.1) and would afford North Atlantic additional operational flexibility for planning and scheduling purposes by not limiting performance of the surveillance solely to the shutdown modes. North Atlantic programs ensure that the appropriate evaluation/assessment for plant safety and risk is performed whenever activities originally performed during shutdown are performed in modes other than shutdown. This is consistent with the guidance specified in Generic Letter (GL) 91-04, "Changes in Technical Specification Surveillance Intervals to Accommodate a 24-Month Fuel Cycle," the provisions of the Maintenance Rule, 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," and Regulatory Guide 1.160, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants."

The proposed change to SR 4.8.1.1.2 inserts an additional asterisk to its associated footnote for correct referencing purposes only. This is necessary because of the new footnote added to the previous surveillance, SR 4.8.1.1.1b.

The proposed change to SR 4.8.1.1.2a.5) would revise the 31-day surveillance run of the diesel generator to be consistent with ITS. Currently the 31-day surveillance run of the diesel generator is a fast-start, i.e., must attain rated voltage and frequency within 10 seconds after the start signal. As stated previously, industry and North Atlantic experience has shown that frequent fast-starts of the diesel generator increases wear and stress on the engine and its associated components and systems. This surveillance requirement is considered to be a "Start Test" as described in Regulatory Guide (RG) 1.9, Revision 3[5]. A "Start Test" is performed to demonstrate proper startup from standby conditions and to verify that the required design voltage and frequency is attained. For these tests, RG 1.9, Revision 3, recommends that the emergency diesel generators be slow started and allowed to reach rated speed on a prescribed schedule that is selected to minimize stress and wear. Though removal of the 10-second time requirement would be an exception to RG 1.108, Revision 1, Regulatory Position C.2.c.(1) it is justifiable in order to reduce undue stress and wear on the diesel generators. The proposed change would provide North Atlantic the option to use modified start procedures[6] involving idling and gradual acceleration to synchronous speed. Should the modified start procedures not be used a footnote to SR 4.8.1.1.2a.5)

---

[4] North Atlantic may in a future LAR submittal request changes to allow restricted surveillances to be performed during the restricted modes for the purposes of reestablishing operability, as approved in TSTF-283, Rev. 3.

[5] Regulatory Guide (RG) 1.9, "Selection, Design, Qualification, and Testing of Emergency Diesel Generator Units Used as Class 1E Onsite Electric Power Systems at Nuclear Power Plants," Revision 3, was issued as part of the resolution of Generic Safety Issue B-56, "EDG Reliability." This regulatory guide integrates the guidance previously contained in RG 1.9, Revision 2, RG 1.108, "Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants," and Generic Letter 84-15, "Proposed Staff Actions to Improve and Maintain Diesel Generator Reliability." In addition, it should be noted that Seabrook Station abides by recommendations set forth in RG 1.9, Revision 2, and 1.108, Revision 1, with exceptions as noted in the Updated Final Safety Analysis Report (UFSAR). However, RG 1.9, Revision 3, provides useful information of current staff position, particularly with regard to surveillance testing of emergency diesel generators.

[6] Currently Seabrook Station's diesel generators do not have governors that allow gradual acceleration by automatic means; however, North Atlantic is investigating a design change to pursue this option as a long-term solution. In the mean time, gradual acceleration would be controlled by manual means using a dedicated operator in direct communication with the control room. The dedicated operator would be specifically trained to place the diesel generator to automatic control should a Loss of Power and/or Safety Injection event occur. Other facilities such as Millstone 2, Calvert Cliffs and Wolf Creek manually manipulate the governor for gradual acceleration.

would direct continued fast starting as currently required. The footnote would also link SR 4.8.1.1.2a.5) with SR 4.8.1.1.2a.6) loading requirements.

Demonstration of the 10-second start capability would continue to be satisfied by a proposed change to SR 4.8.1.1.2e on a 184-day frequency. Limiting fast-starts to a 184-day frequency instead of once every month would significantly reduce the amount of stress and wear on the diesel generator and its associated components and systems. The reduction would perhaps be a factor of 6 or more over an 18-month operating cycle, i.e., fast-starting only 2 to 3 times per 18-month operating cycle instead of up to 18 times. Findings published in NUREG-1366, "Improvements to Technical Specifications Surveillance Requirements," state studies show that testing too frequently is counterproductive to safety in terms of equipment availability. In addition, the currently prescribed optional starting methods would be deleted since prescribing certain starting methods for the monthly surveillance run is not necessary to ensure the criteria of the surveillance requirement are satisfied. Additionally, some of the prescribed starting methods may prohibit gradual acceleration, e.g., simulated signals associated with Loss of Power (LOP), Safety Injection (SI), and simulated LOP in conjunction with SI. ITS does not prescribe specific starting methods for the monthly surveillance requirement.

The proposed change to SR 4.8.1.1.2a.6) would specifically state that loading of the diesel generator is to be gradual. Though SR 4.8.1.1.2a.6) does not prohibit gradual loading as currently written, specifying gradual loading would ensure the diesel generators are not subjected to accelerated degradation. Fast loading adversely affects diesel generator reliability. The relationship between high loads and wear is well known for typical piston engine applications and engine manufacturers have indicated that aging and wear significantly increase after 95 percent of the continuous load rating is achieved. NUREG-1366 notes that fast loading is the most significant cause of accelerated degradation of the diesel generators. It can cause rapid piston ring and cylinder liner wear (up to 40 times greater than normal).

In addition, the proposed change to SR 4.8.1.1.2a.6) would also specify a wider load band with a lower limit of 4500 kW. This would be an exception to RG 1.108, Revision 1, Regulatory Position C.2.c.(2). Establishing 4500 kW as the minimum criterion for loading the diesel generator would allow North Atlantic the operational flexibility to operate the diesel generator at a lower load to further reduce potential excess stress and wear that may be experienced when repeatedly running the diesel generator every 31 days at or near rated continuous load. 4500 kW is approximately 74 percent of the rated continuous load (6083 kW, rounded to 6100 kW). Operating experience has shown that at 4500 kW, the diesel generator and its associated components and systems reach stable operating conditions. Regulatory Guide 1.9, Revision 3, states that the monthly surveillance test consists of a Start Test and a Load-Run Test, and that the Load-Run Test should demonstrate operating the diesel generator at 90 to 100 percent of the continuous rating, for an interval of not less than 1 hour and until temperature equilibrium has been attained. Although 4500 kW is less than 90 percent of the continuous load rating, as specified in the regulatory guide, operating the diesel generator at 4500 kW adequately subjects the engine's power parts to normal operating conditions. Monthly demonstration that the diesel generator can operate at 74 percent[7] of rated continuous load at stable operating conditions provides sufficient assurance that the diesel generator will continue to be capable of performing its designed safety function.

The current limit of 90 percent of rated continuous load is to too conservative. Continued repeated testing at higher loads contribute to additional accelerated degradation of the diesel generator. It is

[7] As stated previously, Seabrook Station abides by the recommendations set forth in RG 1.9, Revision 2 and 1.108, Revision 1, with exceptions noted in the UFSAR. Regulatory Position C.2.e.(3) of RG 1.108, Revision 1, notes that a successful start followed by successful loading (sequential or manual) to at least 50% of continuous rating and continued operation for at least one hour should be considered valid successful tests.

expected that operating the diesel generator under more relaxed load conditions will lessen stress and wear on the engine, thereby contributing to the added benefit of increasing the reliability of the diesel generators. In addition, North Atlantic believes that operating the diesel generators at the proposed load band will not lead to other adverse conditions (e.g., excess carbon buildup) that may not be experienced during operation at the 90 to 100 percent continuous load rating. Diesel generator operation and performance will continue to be monitored to ensure proper operation. Furthermore, though 4500 kW is less than the present calculated maximum load for the most loaded train (5495 kW, Train A) it is 125 percent higher than the maximum expected accident load, measured at approximately 3600 kW during pre-operational testing[8]. Using a load value greater than or equal to the maximum expected accident load is consistent with the ITS bases. Testing between 4500 kW to 6100 kW will continue to ensure that the diesel generator is sufficiently challenged to verify its operability. In addition, the 18-month 24-hour test will still verify the continuous rating load capacity, which will further challenge the diesel generator and confirm its operability.

Additionally, the proposed change to SR 4.8.1.1.2a.6) would also include an additional criterion to the 60 minute minimum operating time to ensure the engine attains stable operating temperature. Attaining stable operating temperatures will ensure the engine's power parts come to an equilibrium temperature before unloading the diesel generator, thereby minimizing the potential additional stress and wear due to uneven thermal growth. Although including this additional criterion is not consistent with ITS, it is included as part of the change to ensure the engine's power parts attain thermal equilibrium prior to shutdown, particularly if operating at 4500 kW. Furthermore, the additional criterion is consistent with Regulatory Guide 1.9, Revision 3.

The footnote associated with SR 4.8.1.1.2a.6) is proposed to be modified to state that the surveillance shall be preceded by and immediately follow without shutdown a successful performance of the 31-day or 184-day start surveillance. This change will avert unnecessary additional diesel generator starts and is consistent with ITS. In addition, the second sentence of the footnote is proposed to be deleted since the information conveyed is better suited in the Bases and may be incorporated via North Atlantic's Bases Control Program. Similarly, the second sentence of the footnote associated with SR 4.8.1.1.2f.7) will be deleted for the same reason.

The proposed change to SR 4.8.1.1.2b would delete the requirement to check and remove any accumulated water from the day fuel tank whenever the diesel operates for 1 hour or greater. Checking for and removing accumulated water would continue to be performed at least once every 31 days. The proposed change would make this surveillance requirement consistent with ITS. In addition, ITS considers that the 31-day frequency is a reasonable time frame to perform this surveillance. Additionally, ITS considers the performance of this surveillance as preventative maintenance and that the presence of water does not necessarily represent failure of this surveillance, provided the accumulated water is removed during the performance of the surveillance. Operating experience at Seabrook Station indicates that the presence of water following a run of 1 hour or more has not been a problem.

The proposed change to SR 4.8.1.1.2e would relocate the current requirement associated with inspection of the silencer outlet of the diesel exhaust system to the Seabrook Station Technical Requirements (SSTR) manual. The SSTR is a licensee-controlled document. Changes to the SSTR are subject to the

[8] Per NUREG/CR-4557, "A Review of Issues Related to Improving Nuclear Power Plant Diesel Generator Reliability," the NRC stated in Appendix C that it considers continuous load tests for diesel generators should be at maximum emergency service loads (MESL). In addition, Appendix D contains the response from the vendor, Colt Industries, indicating that they believe diesel generator load testing should be at MESL plus 5%.

provisions of 10 CFR 50.59. Relocating the current surveillance requirement to the SSTR is appropriate since it appears that this SR is specific to Seabrook Station (i.e., not part of ITS). Furthermore, the requirement does not have immediate impact on diesel generator operability and does not meet the four criteria specified in 10 CFR 50.36 for inclusion in the Technical Specifications.

In place of SR 4.8.1.1.2e is a new surveillance requirement for fast starting the diesel generator on a 184 day frequency, as previously mentioned in the aforementioned paragraph associated with the proposed change to SR 4.8.1.1.2a.5). The wording is consistent with ITS, which also allows for potential "overshoot" in voltage during initial diesel generator start or frequency outside the stated allowed limits due to the diesel generator being tested in the unloaded condition. Currently, the Seabrook Station TS does not have this provision. Additionally, a footnote is added to link SR 4.8.1.1.2e with SR 4.8.1.1.2a.6) loading requirements and to state that performance of this surveillance satisfies SR 4.8.1.1.2a.5). Though the addition of the footnote is not consistent with ITS it provides clarity to avert an unnecessary diesel generator start solely to satisfy SR 4.8.1.1.2a.5) and serves as a reminder that the requirement of SR 4.8.1.1.2a.6) must be met as well.

In addition, because of the new footnote being added to SR 4.8.1.1.2e, an additional # sign is required to be inserted to SR 4.8.1.1.2f and its associated footnote for correct referencing. Furthermore, it is proposed to revise the associated footnote to delete the reference that when performing an evaluation, to support safe conduct of that surveillance in a condition or mode that is consistent with safe operation of the plant other than shutdown, must be done pursuant to 10 CFR 50.59. Evaluations performed pursuant to 10 CFR 50.59 are not to determine if performing an activity is safe to do, rather, 10 CFR 50.59 is essentially a licensing test to determine if an amendment to the operating license is required. Generic Letter 91-04 never stated nor intended that evaluations be performed pursuant to 10 CFR 50.59. Therefore, deletion of mandating a 10 CFR 50.59 safety evaluation relieves North Atlantic from the burden of doing an unnecessary and inappropriate evaluation.

The proposed change to SR 4.8.1.1.2f.3) would delete the full load rejection test[9]. The full load rejection test is currently a requirement of ITS and Regulatory Guides 1.9 and 1.108. North Atlantic believes that the full load rejection test, per se, should not be a periodic surveillance test for the following three reasons: 1) it does not meet the periodic test program objectives, as defined in IEEE Std. 338-1987[10], Paragraph 6.2(7), to provide tests that simulate, as much as possible, the actual operating conditions during which the system under test would be required to operate; 2) it is not a test, as defined in IEEE Std. 338-1987, Section 4, that contributes to the realization of desired system operational availability and system performance as stated in the design bases; and 3) does not meet the threshold for a being a surveillance requirement, which assures that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met, as stated in 10 CFR 50.36.

North Atlantic believes that performance of the full load rejection test subjects the diesel generator and its associated components and systems to rapid thermal gradients and additional stress and wear, which contributes to accelerated degradation as the diesel generator instantaneously goes from full load to no load condition. The ITS Bases notes that the surveillance is to demonstrate the diesel generator's

[9] North Atlantic currently performs the test mode verification surveillance, SR 4.8.1.1.2f.10), in conjunction with the full load rejection test. With deletion of the full load rejection test, verification of proper operation while in the test mode will be likely performed at minimal load to minimize additional wear and stress.

[10] Seabrook Station is currently committed to IEEE Std. 338-1977/1975, however, the wording is similar to IEEE Std. 338-1987.

capability to reject a full load without overspeed tripping or exceeding the predetermined voltage limits, and that these acceptance criteria provide for diesel generator protection. The ITS Bases further notes that the test is to ensure that the diesel generator is not degraded for future application, including reconnection to the bus *if* (emphasis added) the trip initiator can be corrected or isolated. The diesel generator is not expected to experience a full load rejection transient during an event. However, should a full load rejection actually occur, it is highly likely that it is indicative of a serious electrical failure of the diesel generator or the electrical distribution system, which will render the diesel generator out of service. Furthermore, regardless if the diesel generator tripped or not, North Atlantic would not return the diesel generator back to service without first determining the cause and carrying out the necessary corrective actions, which is expected to take significant time. Therefore, determining if the diesel generator is readily available for future application following a full load rejection, particularly during an accident sequence, is unrealistic and unnecessary. Determining the diesel generator is not degraded for future application can be better demonstrated by the other surveillance tests specified in SR 4.8.1.1.2, as well as on-going engine performance monitoring and I&C calibration tests. North Atlantic believes that the largest single load rejection test is an adequate test to observe diesel generator performance. Rejection of the largest single load is a more realistic test and possibly more apt to occur during the sequencing of loads. These tests are more than adequate to ascertain diesel generator health and demonstrate satisfactory operation of the diesel generator components without the need for a full load rejection test. North Atlantic believes that performing this surveillance to ascertain whether the diesel generator is capable to reject a load of 6083 kW without tripping and not exceeding a generator voltage of 4784 volts during and following the load rejection is inappropriate, since it contributes to unnecessary additional stress and wear. Overspeed tripping of the diesel generator may be indicative of a governor problem and exceeding a generator voltage of 4784 volts may be indicative of a regulator problem whereby generator components may be stressed (e.g., insulation), however the test is not an appropriate test to demonstrate operability or to determine if the diesel generator is experiencing degradation. The additional assurance that the full load demonstration provides is minimal compared to the additional stress and wear the diesel generator would be subject to, thus adding little to ensure the diesel generator is operable. Therefore, North Atlantic sees no significant safety benefit to continue with such testing, particularly in light of its additional burden on diesel generator reliability. Full load rejection testing is not a surveillance requirement at facilities such as North Anna, Surry, Cooper, Beaver Valley, Pilgrim, and Calvert Cliffs.

A proposed change to SR 4.8.1.1.2f.4)b) and 4.8.1.1.2f.5) would add an asterisk after the term 'standby conditions' and an associated footnote would state that starting of the diesel per these specifications may be performed with the engine at or near normal operating temperature. North Atlantic believes that repeated fast starts during an 18-month outage with the diesel engine starting at a standby condition temperature of approximately equivalent to the "keep-warm" systems (engine water jacket: 140 – 150°F and lube oil: 130 – 135°F) still contributes to accelerated engine degradation. Generic Letter 84-15 states that the staff has also determined that the demonstration of a fast start test capability for emergency diesel generators from ambient conditions cannot be totally eliminated because the design basis for the plant, i.e., large LOCA coincident with loss of offsite power, requires such a capability. Starting of the diesel generator from standby conditions, equivalent to the keep-warm systems temperature, would continue to be performed per SR 4.8.1.1.2f.6) (the loss-of-offsite power in conjunction with an SI actuation test signal) which would meet the spirit of GL 84-15. This allowance would also benefit outage planning and scheduling to shorten the length of the outage by not needing to wait for the engine to cool down before starting the next test. In addition, this capability would continue to be verified several times during the 18-month operating cycle when performing the 184-day fast start test per SR 4.8.1.1.2e. Therefore, North Atlantic believes that the repeated 184-day surveillance and the one-time fast start per SR 4.8.1.1.2f.6) during the 18-month outage justifies allowance for 'hot fast starts' during the performance of

SRs 4.8.1.1.2f.4) and 4.8.1.1.2f.5). Other facilities such as Wolf Creek and Columbia Generating Station (formally WNP-2) currently perform similar testing as that being proposed.

Another change proposed to SR 4.8.1.1.2f.5) is to allow for the potential "overshoot" in voltage during initial diesel generator start, similar to the proposed change to SR 4.8.1.1.2e. This is consistent with ITS.

The proposed change to SR 4.8.1.1.2f.7) modifies the 24-hour test whereby the 2-hour 110 percent of continuous rated load run (currently, during the first 2 hours of the 24-hour run) would no longer be required to be performed as long as the auto-connected loads do not exceed the diesel generator continuous rating of 6100 kW. Should the auto-connected loads exceed 6100 kW then the 2-hour 110 percent of rated continuous load run would have to be performed, however not necessarily during the first 2 hours of the 24-hour run. Not specifying when the 2-hour 110 percent of continuous rated load run is to be performed within the 24-hour time band is consistent with ITS.

Currently, Train A is the most heavily loaded bus with a maximum calculated load of 5495 kW. The load band for the 24-hour test would remain at its current range of 5600 to 6100 kW. Though Regulatory Guide 1.9, Revision 3, states that the diesel generator should be loaded to 105 to 110 percent of rated continuous load for at least 2 hours, and Regulatory Guide 1.108, Revision 1, states a 2-hour run at the 2-hour rating (6697 kW, rounded to 6700 kW), North Atlantic believes that the requirements are too conservative (particularly since the maximum expected accident load is approximately 3600 kW). The perceived added safety benefit from this conservatism may actually be detrimental to diesel generator reliability. Therefore, North Atlantic believes that operating the diesel generators at the current load band of 5600 to 6100 kW, without the need to load an additional load of 10 percent, is an adequate demonstration of diesel generator operability. The proposed change to SR 4.8.1.1.2f.7) is similar to that granted to Callaway in Amendment 112. In addition, Beaver Valley and Wolf Creek do not perform a 110 percent of continuous rated load test.

In addition, the proposed surveillance requirement will incorporate the current requirement of SR 4.8.1.1.2f.8) to verify that auto-connected loads do not exceed the diesel generator short time load rating of 6697 kW (to be rounded to 6700 kW). This requirement is no longer incorporated in ITS, however, should future auto-connected loads be added which may necessitate doing the 2-hour 110 percent test then it seems prudent to add this requirement to the surveillance that is most likely to approach the 6700 kW limit. It should be noted that if new loads are contemplated in the future, North Atlantic's modification/design control program would thoroughly and carefully review all additional loads to ensure diesel generator loading and load-carrying capability are not jeopardized.

Also as part of revising SR 4.8.1.1.2f.7), the 5-minute hot restart test will be split out and relocated to SR 4.8.1.1.2f.8). This will allow the 5-minute hot restart test to be a stand-alone surveillance without tying it to the 24-hour test. This is consistent with ITS. In addition, the load band is modified for similar reasons as stated for the proposed change to SR 4.8.1.1.2a.6). Also, since the 5-minute hot restart will be a separate SR, the present *** footnote linking the 5-minute hot restart to the 24-hour test is no longer applicable and, therefore, will be deleted with exception of retaining the wording associated with momentary transients.

The proposed change to SR 4.8.1.1.2f.13) would relocate the current requirement associated with verifying the diesel generator lockout features that prevent starting to the Seabrook Station Technical Requirements (SSTR) manual. The SSTR is a licensee-controlled document. Changes to the SSTR are subject to the provisions of 10 CFR 50.59. Relocating the current surveillance requirement to the SSTR is appropriate since it is not associated with operability determination of the diesel generator. The

requirement is not included in ITS and it does not meet the four criteria specified in 10 CFR 50.36 for inclusion in the Technical Specifications.

Proposed are two changes to SR 4.8.1.1.2g. The first change is an editorial change to prevent starting the diesel generators from cold ambient conditions by stating that both diesel generators shall be started simultaneously from standby condition. This is consistent with ITS. The second change revises the surveillance criteria to address potential "overshoot" in voltage during initial diesel generator start or frequency outside the stated allowed limits due to the diesel generator being tested in the unloaded condition. The revision would also specify a steady-state band. Currently, the Seabrook Station TS does not have a voltage criterion, thus this change would specify additional criteria for the 10-year surveillance to be consistent with ITS. The proposed changes will not diminish the purpose of the 10-year test, which is to verify diesel generator independence.

Lastly, for ease in operator usage, TS pages 3/4 8-1 through 3/4 8-8 are consolidated to remove large gaps created by deletion of wording.

North Atlantic concludes that the above discussion as well as the Determination of Significant Hazards for Proposed Changes, presented in Section IV, that the proposed changes do not adversely affect or endanger the health or safety of the general public or involve a significant safety hazard.

SECTION II

MARKUP OF PROPOSED CHANGES

Refer to the attached markup of the proposed changes to the Technical Specifications. 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
3.8.1.1 Action a, b, c & e.	Electrical Power Systems A.C. Sources - Operating	3/4 8-1, 8-2 & 8-2a
4.8.1.1.1 & 4.8.1.1.2	Electrical Power Systems A.C. Sources - Operating	3/4 8-3, 8-4, 8-5, 8-6, 8-7 & 8-8

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E Distribution System, and

b. Two separate and independent diesel generators, each with:

1) A separate day fuel tank containing a minimum fuel volume fraction of 3/8 (600 gallons),

2) A separate Fuel Storage System containing a minimum volume of 62,000 gallons of fuel, (1)

3) A separate fuel transfer pump,

4) Lubricating oil storage containing a minimum total volume of 275 gallons of lubricating oil, and

5) Capability to transfer lubricating oil from storage to the diesel generator unit.

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

ACTION:

a. With an offsite circuit of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. source by performing Specification 4.8.1.1.1a. within 1 hour and at least once per 8 hours thereafter; restore at least two offsite circuits to OPERABLE status within (24) 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ELECTRICAL POWER SYSTEMS

A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.1.1 (Continued)

PERFORM ACTION d.

ACTION:

b. With a diesel generator inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Specification 4.8.1.1.1a within 1 hour and at least once per 8 hours thereafter. Demonstrate the OPERABILITY of the remaining diesel generator by performing Specification 4.8.1.1.2a.5) within 8 hours.* Restore at least two diesel generators to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. 24

c. With one offsite circuit and one diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. source by performing Specification 4.8.1.1.1a. within 1 hour and at least once per 8 hours thereafter. Demonstrate the OPERABILITY of the remaining diesel generator by performing Specification 4.8.1.1.2a.5) within 8 hours.* Restore at least one of the inoperable sources to OPERABLE status within 12 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore at least two offsite circuits to OPERABLE status within 24 hours and two diesel generators to OPERABLE status within 72 hours from the time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

PERFORM ACTION d.

IF IT HAS BEEN SUCCESSFULLY OPERATED WITHIN THE LAST 24 HOURS, OR IF CURRENTLY OPERATING, OR

*The OPERABILITY of the remaining diesel generator need not be verified if the diesel generator became inoperable due to:

1. Preplanned preventive maintenance or testing,

2. An inoperable support system with no potential common mode failure for the remaining diesel generator, or

3. An independently testable component with no potential common mode failure for the remaining diesel generator.

LIMITING CONDITION FOR OPERATION

3.8.1.1 (Continued)

ACTION:

d. With one diesel generator inoperable in addition to ACTION b. or c. above, verify that:

1. All required systems, subsystems, trains, components, and devices that depend on the remaining OPERABLE diesel generator as a source of emergency power are also OPERABLE, and

2. When in MODE 1, 2, or 3, the steam-driven emergency feedwater pump is OPERABLE.

If these conditions are not satisfied within 2 hours be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

e. With two of the above required offsite A.C. circuits inoperable; restore at least one of the inoperable offsite sources to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours. With only one offsite source restored, restore at least two offsite circuits to OPERABLE status within 72 hours from time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

f. With two of the above required diesel generators inoperable, demonstrate the OPERABILITY of two offsite A.C. circuits by performing the requirements of Specification 4.8.1.1.1a. within 1 hour and at least once per 8 hours thereafter; restore at least one of the inoperable diesel generators to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore at least two diesel generators to OPERABLE status within 72 hours from time of initial loss or be in least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the Onsite Class 1E Distribution System shall be:

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments, indicated power availability, and

b. Demonstrated OPERABLE at least once per 18 months during shutdown by transferring (manually and automatically) unit power supply from the normal circuit to the alternate circuit.*

4.8.1.1.2 Each diesel generator shall be demonstrated OPERABLE:**

a. At least once per 31 days on a STAGGERED TEST BASIS by:

1) Verifying the fuel level in the day fuel tank;

2) Verifying the fuel level in the fuel storage tank;

3) Verifying the fuel transfer pump starts and transfers fuel from the storage system to the day tank;

4) Verifying the lubricating oil inventory in storage;

5) Verifying the diesel starts from standby conditions and attains a generator voltage and frequency of 4160 ± 420 volts and 60 ± 1.2 Hz within 10 seconds after the start signal. The diesel generator shall be started for this test by using one of the following signals:

a) Manual, or

b) Simulated loss-of-offsite power by itself, or

STEADY-STATE

*** PERFORMANCE OF SPECIFICATION 4.8.1.1.2a.6) MUST IMMEDIATELY FOLLOW THIS SURVEILLANCE. ADDITIONALLY, A MODIFIED START INVOLVING IDLING AND GRADUAL ACCELERATION TO SYNCHRONOUS SPEED MAY BE USED FOR THIS SURVEILLANCE. WHEN MODIFIED START PROCEDURES ARE NOT USED, THE TIME, VOLTAGE, AND FREQUENCY TOLERANCES OF SPECIFICATION 4.8.1.1.2e MUST BE MET.

* THIS SURVEILLANCE REQUIREMENT SHALL NOT BE PERFORMED IN MODE 1 OR 2.

* *All planned starts for the purpose of these surveillances may be preceded by an engine prelube period.

4.8.1.1.2 (Continued)

c) Simulated loss-of-offsite power in conjunction with an SI Actuation test signal, or

d) An SI Actuation test signal by itself.

6) Verifying the generator is synchronized, loaded to greater than or equal to 5600 kW and less than or equal to 6100 kW***, and operates with a load greater than or equal to 5600 kW and less than or equal to 6100 kW for at least 60 minutes, and UNTIL STABLE ENGINE OPERATING TEMPERATURE IS ATTAINED; AND

7) Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.

b. At least once per 31 days and after each operation of the diesel where the period of operation was greater than or equal to 1 hour by checking for and removing accumulated water from the day fuel tank;

c. At least once per 31 days by checking for and removing accumulated water from the fuel oil storage tanks;

d. By verifying fuel oil properties of new and stored fuel oil are tested in accordance with, and maintained within the limits of, the Diesel Fuel Oil Testing Program;

e. AT LEAST ONCE EVERY 184 DAYS# BY VERIFYING THE DIESEL STARTS FROM STAND BY CONDITION AND ACHIEVES:

1) A GENERATOR VOLTAGE AND FREQUENCY GREATER THAN OR EQUAL TO 3740 VOLTS AND 58.8 HZ WITHIN 10 SECONDS AFTER THE START SIGNAL, AND

2) A STEADY-STATE GENERATOR VOLTAGE AND FREQUENCY OF 4160 ± 420 VOLTS AND 60 ± 1.2 HZ.

*** Diesel generator loading may be in accordance with manufacturers recommendations, including a warmup period. The load range is provided to preclude routine overloading of the diesel generator. Momentary transients outside the load range, due to changing bus conditions, do not invalidate the test. IN ADDITION, THIS SURVEILLANCE SHALL BE PRECEDED BY AND IMMEDIATELY FOLLOW ~~THIS~~ WITHOUT SHUTDOWN A SUCCESSFUL PERFORMANCE OF SPECIFICATION 4.8.1.1.2a.5) OR 4.8.1.1.2e.

PERFORMANCE OF SPECIFICATION 4.8.1.1.2a.6) MUST IMMEDIATELY FOLLOW THIS SURVEILLANCE. ADDITIONALLY, PERFORMANCE OF SPECIFICATION 4.8.1.1.2e SATISFIES SPECIFICATION 4.8.1.1.2a.5).

4.8.1.1.2 (Continued)

SEE PREVIOUS PAGE

e. At least once every 31 days 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)

4.8.1.1.2 (Continued)

3) NOT USED → ~~Verifying the generator capability to reject a load of 6083 kW without tripping. The generator voltage shall not exceed 4784 volts during and following the load rejection;~~

4) Simulating a loss-of-offsite power by itself, and:

a) Verifying deenergization of the emergency busses and load shedding from the emergency busses, and

b) Verifying the diesel starts from standby conditions ### on the loss of offsite power signal, energizes the emergency busses with permanently connected loads within 12 seconds, energizes the auto-connected shutdown loads through the emergency power sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the shutdown loads. After energization, the steady-state voltage and frequency of the emergency busses shall be maintained at 4160 ± 420 volts and 60 ± 1.2 Hz during this test.

5) Verifying that on an SI actuation test signal, without loss-of-offsite power, the diesel generator starts from standby conditions ### on the auto-start signal and operates on standby for greater than or equal to 5 minutes. The generator voltage and frequency shall be ~~4160 ± 420 volts and 60 ± 1.2 Hz~~ GREATER THAN OR EQUAL TO 3740 VOLTS AND 58.8 HZ within 10 seconds after the auto-start signal; the steady-state generator voltage and frequency shall be maintained ~~within these limits~~ during this test;

6) Simulating a loss-of-offsite power in conjunction with an SI actuation test signal; and

AT 4160 ± 420 VOLTS AND 60 ± 1.2 HZ

a) Verifying deenergization of the emergency busses and load shedding from the emergency busses;

b) Verifying the diesel starts from standby conditions, on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto-connected emergency (accident) loads through the emergency power sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After energization, the steady-state voltage and frequency of the emergency busses shall be maintained at 4160 ± 420 volts and 60 ± 1.2 Hz during this test; and

c) Verifying that all automatic diesel generator trips, except engine overspeed, low lube oil pressure, 4160-volt bus fault, and generator differential, are automatically bypassed upon loss of voltage on the emergency bus concurrent with a Safety Injection actuation signal.

STARTING OF THE DIESEL FOR SPECIFICATIONS 4.8.1.1.2f.4) AND 4.8.1.1.2f.5) MAY BE PERFORMED WITH THE ENGINE AT OR NEAR NORMAL OPERATING TEMPERATURE.

4.8.1.1.2 (Continued)

7) Verifying the diesel generator operates for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded to greater than or equal to 6363 kW and less than or equal to 6700 kW.** During the remaining 22 hours of this test, the diesel generator shall be loaded to greater than or equal to 5600 kW and less than or equal to 6100 kW. The generator voltage and frequency shall be 4160 ± 420 volts and 60 ± 1.2 Hz within 10 seconds after the start signal; the steady-state generator voltage and frequency shall be maintained within these limits during this test. Within 5 minutes after completing this 24-hour test, verify that the diesel generator starts on a manual or auto start signal, attains generator voltage and frequency of 4160 ± 420 volts and 60 ± 1.2 Hz within 10 seconds, and operates for longer than 5 minutes.***

8) Verifying that the auto-connected loads to each diesel generator do not exceed the short time rating of 6697 kW;

9) Verifying the diesel generator's capability to:

a) Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power,

b) Transfer its loads to the offsite power source, and

c) Be restored to its standby status.

**Diesel generator loading may be in accordance with manufacturers recommendations, including a warmup period. The load range is provided to preclude routine overloading of the diesel generator. Momentary transients outside the load range, due to changing bus conditions, do not invalidate the test.

***If the diesel generator fails to start during this test, then it is not necessary to repeat the preceding 24-hour test. Instead, the diesel generator may be operated at greater than or equal to 5600 kW and less than or equal to 6100 kW for 2 hours or until operating temperature has stabilized. The load range is provided to preclude routine overloading of the diesel generator. Momentary transients outside the load range, due to changing bus conditions, do not invalidate the test.

INSERT
(A)

Verifying full-load carrying capability of the diesel generator for an interval of not less than 24 hours:

a) At a load greater than or equal to 5600 kW and less than or equal to 6100 kW,#### or

b) Should auto-connected loads increase above 6100 kW;

1. Verify the diesel generator operates for an interval of not less than 2 hours at a load greater than or equal to 6363 kW and less than or equal to 6700 kW.#### For the remaining hours, at a load greater than or equal to 5600 kW and less than or equal to 6100 kW, and

2. Verify that the auto-connected loads to each diesel generator do not exceed the short time rating of 6700 kW.

INSERT
(B)

Within 5 minutes of shutting down the diesel generator, after the diesel generator has operated for an interval of not less than 2 hours at a load greater than or equal to 4500 kW and less than or equal to 6100 kW,+ by verifying the diesel starts and achieves:

a) A generator voltage and frequency greater than or equal to 3740 volts and 58.8 Hz within 10 seconds after the start signal, and

b) A steady-state generator voltage and frequency of 4160 $\pm$ 420 volts and 60 $\pm$ 1.2 Hz.

SURVEILLANCE REQUIREMENTS

4.8.1.1.2 (Continued)

10) Verifying that with the diesel generator operating in a test mode, connected to its bus, a simulated Safety Injection signal overrides the test mode by: (1) returning the diesel generator to standby operation, and (2) automatically energizing the emergency loads with offsite power;

11) Verifying that the fuel transfer pump transfers fuel from each fuel storage tank to the day tank of each diesel via the installed cross-connection lines;

12) Verifying that the emergency power sequence timer is OPERABLE with the interval between each load block within ± 10% of its design interval;

13) Verifying that the following diesel generator lockout features prevent diesel generator starting:

NOT USED →

a) Barring device engaged, or

b) Differential lockout relay.

14) Simulating a Tower Actuation (TA) signal while the diesel generator is loaded with the permanently connected loads and auto-connected emergency (accident) loads, and verifying that the service water pump automatically trips, and that the cooling tower pump automatically starts. After energization the steady state voltage and frequency of the emergency buses shall be maintained at 4160 ± 420 volts and 60 ± 1.2 Hz; and

15) While diesel generator 1A is loaded with the permanently connected loads and auto-connected emergency (accident) loads, manually connect the 1500 hp startup feedwater pump to 4160-volt bus E5. After energization the steady-state voltage and frequency of the emergency bus shall be maintained at 4160 ± 420 volts and 60 ± 1.2 Hz.

g. At least once per 10 years or after any modifications which could affect diesel generator interdependence by starting both diesel generators simultaneously, during shutdown, and verifying that both diesel generators ~~accelerate to 60 ± 1.2 Hz in less than or equal to 10 seconds; and~~ achieve: from standby condition,

INSERT C

INSERT
C

1) A generator voltage and frequency greater than or equal to 3740 volts and 58.8 Hz within 10 seconds after the start signal, and

2) A steady-state generator voltage and frequency of 4160 $\pm$ 420 volts and 60 $\pm$ 1.2 Hz.

SECTION III

RETYPE OF PROPOSED CHANGES

Refer to the attached retype of the proposed changes to the Technical Specifications. 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.

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E Distribution System, and

b. Two separate and independent diesel generators, each with:

1) A separate day fuel tank containing a minimum fuel volume fraction of 3/8 (600 gallons),

2) A separate Fuel Storage System containing a minimum volume of 62,000 gallons of fuel,

3) A separate fuel transfer pump,

4) Lubricating oil storage containing a minimum total volume of 275 gallons of lubricating oil, and

5) Capability to transfer lubricating oil from storage to the diesel generator unit.

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

ACTION:

a. With an offsite circuit of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. source by performing Specification 4.8.1.1.1a. within 1 hour and at least once per 8 hours thereafter; restore at least two offsite circuits to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

LIMITING CONDITION FOR OPERATION

3.8.1.1 (Continued)

ACTION:

b. With a diesel generator inoperable, demonstrate the OPERABILITY of the remaining A.C. sources by performing Specification 4.8.1.1.1a within 1 hour and at least once per 8 hours thereafter. Perform ACTION d. Demonstrate the OPERABILITY of the remaining diesel generator by performing Specification 4.8.1.1.2a.5) within 24 hours.* Restore at least two diesel generators to OPERABLE status within 72 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 offsite circuit and one diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. source by performing Specification 4.8.1.1.1a. within 1 hour and at least once per 8 hours thereafter. Perform ACTION d. Demonstrate the OPERABILITY of the remaining diesel generator by performing Specification 4.8.1.1.2a.5) within 8 hours.* Restore at least one of the inoperable sources to OPERABLE status within 12 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore at least two offsite circuits and two diesel generators to OPERABLE status within 72 hours from the time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

* The OPERABILITY of the remaining diesel generator need not be verified if it has been successfully operated within the last 24 hours, or if currently operating, or if the diesel generator became inoperable due to:

1. Preplanned preventive maintenance or testing,

2. An inoperable support system with no potential common mode failure for the remaining diesel generator, or

3. An independently testable component with no potential common mode failure for the remaining diesel generator.

LIMITING CONDITION FOR OPERATION

3.8.1.1 (Continued)

ACTION:

d. With one diesel generator inoperable in addition to ACTION b. or c. above, verify that:

1. All required systems, subsystems, trains, components, and devices that depend on the remaining OPERABLE diesel generator as a source of emergency power are also OPERABLE, and

2. When in MODE 1, 2, or 3, the steam-driven emergency feedwater pump is OPERABLE.

If these conditions are not satisfied within 2 hours be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

e. With two of the above required offsite A.C. circuits inoperable; restore at least one of the inoperable offsite sources to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours. With only one offsite source restored, restore at least two offsite circuits to OPERABLE status within 72 hours from time of initial loss or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

f. With two of the above required diesel generators inoperable, demonstrate the OPERABILITY of two offsite A.C. circuits by performing the requirements of Specification 4.8.1.1.1a. within 1 hour and at least once per 8 hours thereafter; restore at least one of the inoperable diesel generators to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. Restore at least two diesel generators to OPERABLE status within 72 hours from time of initial loss or be in least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the Onsite Class 1E Distribution System shall be:

a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments, indicated power availability, and

b. Demonstrated OPERABLE at least once per 18 months by transferring (manually and automatically) unit power supply from the normal circuit to the alternate circuit.*

4.8.1.1.2 Each diesel generator shall be demonstrated OPERABLE:**

a. At least once per 31 days on a STAGGERED TEST BASIS by:

1) Verifying the fuel level in the day fuel tank;

2) Verifying the fuel level in the fuel storage tank;

3) Verifying the fuel transfer pump starts and transfers fuel from the storage system to the day tank;

4) Verifying the lubricating oil inventory in storage;

5) Verifying the diesel starts from standby conditions and attains a steady-state generator voltage and frequency of 4160 ± 420 volts and 60 ± 1.2 Hz.***

---

* This surveillance requirement shall not be performed in Mode 1 or 2.

** All planned starts for the purpose of these surveillances may be preceded by an engine prelube period.

*** Performance of Specification 4.8.1.1.2a.6) must immediately follow this surveillance. Additionally, a modified start involving idling and gradual acceleration to synchronous speed may be used for this surveillance. When modified start procedures are not used, the time, voltage, and frequency tolerances of Specification 4.8.1.1.2e must be met.

4.8.1.1.2 (Continued)

6) Verifying the generator is synchronized, gradually loaded**** to greater than or equal to 4500 kW and less than or equal to 6100 kW, and operates within this load band for at least 60 minutes, and until stable engine operating temperature is attained; and

7) Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.

b. At least once per 31 days by checking for and removing accumulated water from the day fuel tank;

c. At least once per 31 days by checking for and removing accumulated water from the fuel oil storage tanks;

d. By verifying fuel oil properties of new and stored fuel oil are tested in accordance with, and maintained within the limits of, the Diesel Fuel Oil Testing Program;

e. At least once every 184 days# by verifying the diesel starts from standby condition and achieves:

1) A generator voltage and frequency greater than or equal to 3740 volts and 58.8 Hz within 10 seconds after the start signal, and

2) A steady-state generator voltage and frequency of 4160 ± 420 volts and 60 ± 1.2 Hz.

**** Diesel generator loading may be in accordance with manufacturers recommendations, including a warmup period. Momentary transients outside the load range, due to changing bus conditions, do not invalidate the test. In addition, this surveillance shall be preceded by and immediately follow without shutdown a successful performance of Specification 4.8.1.1.2a.5) or 4.8.1.1.2e.

Performance of Specification 4.8.1.1.2a.6) must immediately follow this surveillance. Additionally, performance of Specification 4.8.1.1.2e satisfies Specification 4.8.1.1.2a.5).

4.8.1.1.2 (Continued)

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;

3) NOT USED

4) Simulating a loss-of-offsite power by itself, and:

a) Verifying deenergization of the emergency busses and load shedding from the emergency busses, and

b) Verifying the diesel starts from standby conditions[###] on the loss of offsite power signal, energizes the emergency busses with permanently connected loads within 12 seconds, energizes the auto-connected shutdown loads through the emergency power sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the shutdown loads. After energization, the steady-state voltage and frequency of the emergency busses shall be maintained at 4160 ± 420 volts and 60 ± 1.2 Hz during this test.

5) Verifying that on an SI actuation test signal, without loss-of-offsite power, the diesel generator starts from standby conditions[###] on the auto-start signal and operates on standby for greater than or equal to 5 minutes. The generator voltage and frequency shall be greater than or equal to 3740 volts and 58.8 Hz within 10 seconds after the auto-start signal; the steady-state generator voltage and frequency shall be maintained at 4160 ± 420 volts and 60 ± 1.2 Hz during this test;

Selected surveillance requirements, or portions thereof, may be performed during conditions or modes other than shutdown, provided an 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)

Starting of the diesel for Specifications 4.8.1.1.2f.4) and 4.8.1.1.2f.5) may be performed with the engine at or near normal operating temperature.

4.8.1.1.2 (Continued)

6) Simulating a loss-of-offsite power in conjunction with an SI actuation test signal; and

   a) Verifying deenergization of the emergency busses and load shedding from the emergency busses;

   b) Verifying the diesel starts from standby conditions, on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto-connected emergency (accident) loads through the emergency power sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After energization, the steady-state voltage and frequency of the emergency busses shall be maintained at 4160 ± 420 volts and 60 ± 1.2 Hz during this test; and

   c) Verifying that all automatic diesel generator trips, except engine overspeed, low lube oil pressure, 4160-volt bus fault, and generator differential, are automatically bypassed upon loss of voltage on the emergency bus concurrent with a Safety Injection actuation signal.

7) Verifying full-load carrying capability of the diesel generator for an interval of not less than 24 hours:

   a) At a load greater than or equal to 5600 kW and less than or equal to 6100 kW,#### or

   b) Should auto-connected loads increase above 6100 kW;

      1. Verify the diesel generator operates for an interval of not less than 2 hours at a load greater than or equal to 6363 kW and less than or equal to 6700 kW.#### For the remaining hours, at a load greater than or equal to 5600 kW and less than or equal to 6100 kW, and

      2. Verify that the auto-connected loads to each diesel generator do not exceed the short time rating of 6700 kW.

Diesel generator loading may be in accordance with manufacturers recommendations, including a warmup period. Momentary transients outside the load range, due to changing bus conditions, do not invalidate the test.

4.8.1.1.2 (Continued)

8) Within 5 minutes of shutting down the diesel generator, after the diesel generator has operated for an interval of not less than 2 hours at a load greater than or equal to 4500 kW and less than or equal to 6100 kW,[+] by verifying the diesel starts and achieves:

   a) A generator voltage and frequency greater than or equal to 3740 volts and 58.8 Hz within 10 seconds after the start signal, and

   b) A steady-state generator voltage and frequency of 4160 $\pm$ 420 volts and 60 $\pm$ 1.2 Hz.

9) Verifying the diesel generator's capability to:

   a) Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power,

   b) Transfer its loads to the offsite power source, and

   c) Be restored to its standby status.

10) Verifying that with the diesel generator operating in a test mode, connected to its bus, a simulated Safety Injection signal overrides the test mode by: (1) returning the diesel generator to standby operation, and (2) automatically energizing the emergency loads with offsite power;

11) Verifying that the fuel transfer pump transfers fuel from each fuel storage tank to the day tank of each diesel via the installed cross-connection lines;

12) Verifying that the emergency power sequence timer is OPERABLE with the interval between each load block within ± 10% of its design interval;

13) NOT USED

+ Momentary transients outside the load range, due to changing bus conditions, do not invalidate the test.

4.8.1.1.2 (Continued)

14) Simulating a Tower Actuation (TA) signal while the diesel generator is loaded with the permanently connected loads and auto-connected emergency (accident) loads, and verifying that the service water pump automatically trips, and that the cooling tower pump automatically starts. After energization the steady state voltage and frequency of the emergency buses shall be maintained at 4160 ± 420 volts and 60 ± 1.2 Hz; and

15) While diesel generator 1A is loaded with the permanently connected loads and auto-connected emergency (accident) loads, manually connect the 1500 hp startup feedwater pump to 4160-volt bus E5. After energization the steady-state voltage and frequency of the emergency bus shall be maintained at 4160 ± 420 volts and 60 ± 1.2 Hz.

g. At least once per 10 years or after any modifications which could affect diesel generator interdependence by starting both diesel generators simultaneously from standby condition, during shutdown, and verifying that both diesel generators achieve:

1) A generator voltage and frequency greater than or equal to 3740 volts and 58.8 Hz within 10 seconds after the start signal, and

2) A steady-state generator voltage and frequency of 4160 $\pm$ 420 volts and 60 $\pm$ 1.2 Hz.

SECTION IV

DETERMINATION OF SIGNIFICANT HAZARDS FOR PROPOSED CHANGE

IV. DETERMINATION OF SIGNIFICANT HAZARDS FOR PROPOSED CHANGES

License Amendment request (LAR) 01-01 proposes changes to the Seabrook Station Technical Specifications (TS) 3/4.8.1.1 A.C. Sources – Operating. The proposed changes are enhancements to the Seabrook Station Technical Specifications to provide North Atlantic operational flexibility with respect to allowed outage time (AOT) for restoration or verification of Operability of offsite and on-site electrical power sources, as well as reducing accelerated degradation of the emergency diesel generators due to excessive fast starting, rapid loading, and high loads. In addition, other changes are proposed either for clarity, which are reflective of the improved Standard Technical Specifications for Westinghouse Plants, NUREG-1431, Rev. 1 and Draft Rev. 2, or do not meet the four criteria of 10 CFR 50.36 for inclusion in Technical Specifications. Those requirements that do not meet the criteria for inclusion in TS will either be deleted or relocated to the Seabrook Station Technical Requirements (SSTR) manual. The SSTR is a licensee-controlled document that is subject to the provisions of 10 CFR 50.59.

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

1. *The proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.*

   The proposed changes do not involve a change in the operational limits or physical design of the electrical power systems, particularly the emergency power systems. The proposed changes do not change the function or operation of plant equipment or affect the response of that equipment if called upon to operate. The proposed AOT extensions to allow for additional operational flexibility will not cause a significant increase in the probability or consequences of an accident previously evaluated. The AOT extension will lessen the burden of time pressure to quickly determine the cause of failure and perform corrective actions without needing to place the plant in a transient to shutdown because of a short allotted AOT.

   Emergency diesel generator reliability and availability will continue to be assured while minimizing the number of required diesel generator starts that is known to accelerate degradation. In addition, minimizing severe test conditions that can lead to premature failures will enhance emergency diesel generator reliability. Therefore, the proposed changes do not involve a significant increase in the probability or consequences of accidents previously evaluated.

2. *The proposed changes do not create the possibility of a new or different kind of accident from any previously evaluated.*

   The proposed changes do not involve a change in the operational limits or physical design of the electrical power systems, particularly the emergency power systems. The proposed changes do not change the function or operation of plant equipment or introduce any new failure mechanisms. The plant equipment will continue to respond per the design and analyses and there will not be a malfunction of a new or different type introduced by the proposed changes. Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any previously evaluated.

3. *The proposed changes do not involve a significant reduction in the margin of safety.*

The proposed changes do not involve a change in the operational limits or physical design of the electrical power systems, particularly the emergency power systems. The proposed changes do not change the function or operation of plant equipment or affect the response of that equipment if it is called upon to operate. The performance capability of the emergency diesel generators will not be affected. Emergency diesel generator reliability and availability will be improved by implementation of the proposed changes. Therefore, the proposed changes do not involve a significant reduction in the margin of safety.

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

SECTION V and 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 review of License Amendment Request 01-01, and issuance of a license amendment by May 31, 2001, having immediate effectiveness and implementation within 90 days. Issuance of a license amendment by May 31, 2001 will allow North Atlantic to maximize the benefit of reduced diesel generator wear and stress as soon as possible during the current operating cycle.

VI. ENVIRONMENTAL IMPACT ASSESSMENT

North Atlantic has reviewed the proposed license amendment against the criteria of 10 CFR 51.22 for environmental considerations. The proposed changes do 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 changes meet the criteria delineated in 10 CFR 51.22(c)(9) for a categorical exclusion from the requirements for an Environmental Impact Statement.