



SEABROOK STATION UNIT 1

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

License Amendment Request No. 91-10 Supplement 1
Revision to the Diesel Generator
Surveillance Requirements

This License Amendment Request is submitted by New Hampshire Yankee pursuant to 10CFR50.90. The following information is enclosed in support of this License Amendment Request:

- Section I - Introduction and Description of Proposed Changes
- Section II - Markup of Proposed Changes
- Section III - Retype of Proposed Changes
- Section IV - Safety Evaluation of Proposed Changes
- Section V - Determination of Significant Hazards for Proposed Changes
- Section VI - Proposed Schedule for License Amendment Issuance and Effectiveness
- Section VII - Environmental Impact Assessment

Sworn and Subscribed
to before me this

11th day of June, 1992

Tracy A. DeCredico
Notary Public

TRACY A. DeCREDICO, Notary Public
My Commission Expires October 3, 1995

Bruce L. Drawbridge
Bruce L. Drawbridge
Executive Director Nuclear Production

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1. Introduction and Description of Proposed Changes

A. Introduction

The purpose of the proposed Technical Specification change is to revise Technical Specification 3/4.8.1 "A.C. Sources" to:

1. Revise the method of verifying diesel generator hot restart capability. Presently Technical Specification Surveillance Requirement 4.8.1.1.2f.7) verifies diesel generator hot restart capability by initiating a Loss of Offsite Power/Safety Injection (LOP/SI) test within 5 minutes of completing the 24 hour diesel generator run. The current Technical Specification creates significant scheduling demands during an outage by reducing schedule flexibility and imposing unnecessary operational burdens. The revised Surveillance requirement will verify diesel generator hot restart capability by either manually or automatically starting the diesel generator and verifying that it attains rated voltage and frequency within the required time. The requirement to sequence on the LOP/SI loads does not contribute to verifying the ability of the diesel generator to start from normal operating temperatures.

Regulatory Guide 1.108, Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants Position C.2.a(5), which is the basis for the requirement to verify hot restart capability by performing a LOP/SI test immediately following the 24 hour test states the purpose of the requirement is to: "demonstrate functional capability at full load temperature conditions". The capability of the diesel generator to start from a normal operating temperature condition will continue to be verified. Demonstrating diesel generator hot restart capability without loading the engine with LOP/SI loads does not invalidate or reduce the effectiveness of either test, provided normal operating temperatures are achieved prior to demonstrating hot restart capability.

Normal operating temperature conditions will be assured by performing the test within 5 minutes of completing the 24 hour diesel generator run. If for some reason the surveillance cannot be conducted within the 5 minute time period, or if the surveillance is unsuccessful, the engine may be brought to normal operating temperature by operating at a load of greater than or equal to 5600 kW and less than or equal to 6100 kW for 2 hours or until operating temperature has stabilized.

2. Surveillance Requirement 4.8.1.1.2a.6) specifies that at least once per 184 days, that the diesel generator be rapidly loaded to greater than or equal to 6083 kW in less than or equal to 120 seconds. Rapidly loading the diesel generator in this manner introduces mechanical stresses and engine wear. The purpose of this test is to demonstrate that the diesel generator is capable of accepting load by simulating the loading rate of the emergency power sequencer. This test does not validate any operational requirement which is not demonstrated by performance of Surveillance Requirements 4.8.1.1.2.f.4) and 6). These tests are the Loss of Offsite Power and Loss of Offsite Power/Safety Injection tests. Performance of these tests demonstrate that the diesel generators are capable of accepting load as it is sequenced by the emergency power sequencer.

from substep 5) to apply to the entire SURVEILLANCE REQUIREMENT of 4.8.1.1.2 because the engine prelube option is applicable to all test starts.

2. The term "ambient condition" is replaced with the term "standby conditions" in SURVEILLANCE REQUIREMENT 4.8.1.1.2a.5). The term "standby conditions" is inserted in SURVEILLANCE REQUIREMENTS 4.8.1.1.2f.4)b), 4.8.1.1.2f.5), and 4.8.1.1.2f.6). This term (standby conditions) more accurately describes the condition in which the diesel generators are maintained and accounts for the jacket water and lube oil warning systems which are continually in operation.
3. A load of "greater than or equal to 6083 kW" is replaced by a load range of "greater than or equal to 5600 kW and less than or equal to 6100 kW" in the following SURVEILLANCE REQUIREMENTS 4.8.1.1.2a.6) and 4.8.1.1.2f.7) and to the note at the bottom of page 3/4 8-7. The load range is provided to preclude routinely exceeding the continuous load rating of the diesel generator. Similarly, the 2 hour load rating specified in SURVEILLANCE REQUIREMENT 4.8.1.1.2f.7) is changed to a load range of "greater than or equal to 6300 kW and less than or equal to 6700 kW".
4. The requirement of SURVEILLANCE REQUIREMENT 4.8.1.1.2a.6), to load the diesel generators "in less than or equal to 120 seconds", is deleted. This test introduces mechanical stress and wear on the diesel engine and does not validate any operational requirement which is not already validated by performing other surveillances.
5. The existing notes at the bottom of page 3/4 8-4 and 3/4 8-7 are being deleted for the following reasons; 1) the requirement to rapidly load the diesel generators has been deleted, 2) the note concerning diesel generator prelube has been relocated so that it applies to the entire SURVEILLANCE REQUIREMENT and, 3) the diesel generators at Seabrook Station are not gradually accelerated to operating speed. A new note stating: "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 changing bus conditions, do not invalidate the test." is being added. The information contained in the new note will provide the operator with additional information concerning performance of the surveillance. These notes are applicable to SURVEILLANCE REQUIREMENTS 4.8.1.1.2a.6) and 4.8.1.1.2f.7).

The information in this note is also being added at the bottom of page 3/4 8-7. This will be in the form of a new note and revision to the existing note.

6. The requirement to verify diesel generator hot restart capability by performing a LOP/SI test is replaced by a requirement to demonstrate hot restart capability by manually or automatically starting the diesel generator and verifying that rated voltage and frequency are attained within the required time. Specifically, "perform Specification 4.8.1.1.2f.6)b)*" (the LOP/SI test) is replaced with "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 at least 5 minutes***". The requirement to sequence on the LOP/SI loads does not contribute to verifying the ability of the diesel generator to start from normal

