

**North
Atlantic**

SEABROOK STATION UNIT 1

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

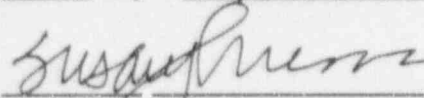
License Amendment Request No. 95-08
Feedwater Isolation - Low RCS T_{avg} Coincident With a Reactor Trip

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:

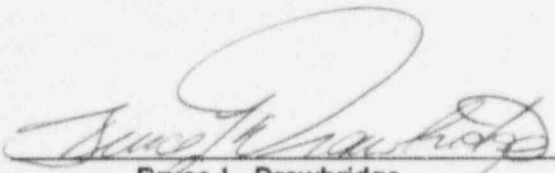
- Section I - Introduction and Safety Evaluation for the Proposed Changes
- Section II - Markup of Proposed Changes
- Section III - Retype of Proposed Changes
- Section IV - Determination of Significant Hazards for Proposed Changes
- Section V - Proposed Schedule for License Amendment Issuance and Effectiveness
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Sworn and Subscribed
to before me this

20th day of September, 1995



Notary Public



Bruce L. Drawbridge
Executive Director - Nuclear Production

I. Introduction and Safety Evaluation for Proposed Changes

A. Introduction

License Amendment Request (LAR) 95-08 proposes that the Seabrook Station Technical Specifications be revised by relocating Functional Unit 6.b, "Feedwater Isolation - Low RCS T_{avg} Coincident with a Reactor Trip" from Technical Specification 3.3.2. (Engineered Safety Features Actuation System Instrumentation) to the Seabrook Station Technical Requirements Manual which is a licensee controlled document. The feedwater isolation function isolates main feedwater on low Reactor Coolant System (RCS) T_{avg} coincident with a reactor trip. The function is not being removed from the plant design and will be relocated to the Technical Requirements Manual. The relocation from the Technical Specifications is justified on the basis that the function is not required for any protective action related to accident mitigation and is not credited in the Updated Final Safety Analysis Report (UFSAR) accident analyses.

B. Safety Evaluation of Proposed Changes

The purpose of the feedwater isolation function on low RCS T_{avg} coincident with a reactor trip is to preclude overcooling events due to continued feedwater flow following a reactor trip. It also has a role in establishing the design transients which form the basis of the system and components design. Thus, even though it is acceptable to relocate the feedwater isolation setpoint from the Technical Specifications, it is assumed that the function itself will remain active. If in the future, changes to the setpoint are required the value of the setpoint will be determined in accordance with the following considerations and revised pursuant to the requirements of 10CFR50.59.

After a reactor trip, the average RCS Temperature (T_{avg}) will decrease to the no-load temperature due to steam dump actuation and continued feedwater flow. Additionally, for reactor trips from power levels above 50%, the shrink in steam generator level typically goes below the lo-lo level setpoint, actuating emergency feedwater (EFW). If feedwater flow is not isolated while the RCS is cooling down, T_{avg} will undershoot the target value of no-load temperature. The addition of EFW will further aggravate the undershoot affects. This undershoot could subsequently result in safety injection actuation on low RCS pressure as well as loss of required minimum shutdown margin. Consequently, a feedwater isolation on low RCS T_{avg} coincident with reactor trip has been provided.

However, while the feedwater flow isolation feature is not credited in the safety analysis it does perform a control function. In accordance with the guidance of NUREG 1-31 and the criteria of 10 CFR 50.36, this function is not required to be included in the Technical Specifications and therefore relocation of the function to the Seabrook Station Technical Requirements Manual is requested. It is intended that the function will remain operable and any changes to the setpoint or function will be controlled pursuant to the requirements of 10 CFR 50.59.

Westinghouse Electric Corporation performs the Loss of Coolant Accident (LOCA) and related analyses for Seabrook Station. Westinghouse confirmed that the LOCA analyses and related analyses, including large and small break LOCA, reactor vessel and loop LOCA blowdown forces, post-LOCA long term core cooling subcriticality, post-LOCA long term core cooling minimum flow and hot leg switchover to prevent boron precipitation are not affected by the low

RCS T_{avg} feedwater isolation setpoint. Feedwater isolation in these analyses is achieved as the result of the initiation of a Safety Injection (SI). Yankee Atomic Electric Company (YAEC) performs the non-LOCA safety analyses for Seabrook Station. YAEC has confirmed that the isolation of feedwater on low RCS T_{avg} following a reactor trip is not credited in the non-LOCA safety analyses. The Westinghouse and YAEC reviews are available for NRC review at Seabrook Station.

The isolation of feedwater on low RCS T_{avg} following a reactor trip is generic to Westinghouse plants. Although this function is implemented in the Solid State Protection System (SSPS), it is not required for any protective action related to accident mitigation. The function is not included in the Westinghouse Standard Technical Specifications in either the NUREG 0452, Draft Rev. 5 or NUREG 1431 versions of the Standard Technical Specifications. The Seabrook Station Technical Specifications are based upon NUREG 0452, Draft Rev. 5. Because feedwater isolation on low RCS T_{avg} coincident with a reactor trip is not required for either primary or backup protective action, the function can be relocated from Technical Specification Table 3.3-3, 3.3-4 and 4.3-2 to the Seabrook Station Technical Requirements Manual.

LAR 95-08 proposes the following changes to the Technical Specifications:

- Table 3.3-3, Engineered Safety Features Actuation System Instrumentation, Functional Unit 6, Feedwater Isolation, Item b., Low RCS T_{avg} Coincident with Reactor Trip. This function will be deleted from the Technical Specifications and relocated to the Technical Requirements Manual. Functional Unit 6.c., Safety Injection, will be re-numbered as 6.b.
- Table 3.3-4, Engineered Safety Features Actuation System Instrumentation, Functional Unit 6, Feedwater Isolation, Item b., Low RCS T_{avg} Coincident with Reactor Trip. This function will be deleted from the Technical Specifications and relocated to the Technical Requirements Manual. Functional Unit 6.c., Safety Injection, will be re-numbered as 6.b.
- Table 4.3-2, Engineered Safety Features Actuation System Instrumentation, Surveillance Requirements, Functional Unit 6, Feedwater Isolation, Item b., Low RCS T_{avg} Coincident with Reactor Trip. This function will be deleted from the Technical Specifications and relocated to the Technical Requirements Manual. Functional Unit 6.c., Safety Injection, will be re-numbered as 6.b.

II. Markup of Proposed Changes

The enclosed markup pages reflect the currently issued version of the Technical Specifications and Bases.