

**North
Atlantic**

North Atlantic Energy Service Corporation
P.O. Box 300
Seabrook, NH 03874
(603) 474-9521, Fax (603) 474-2987

The Northeast Utilities System

Ted C. Feigenbaum
Senior Vice President &
Chief Nuclear Officer

NYN- 95071

September 12, 1995

United States Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Document Control Desk

Reference: Facility Operating License No. NPF-86, Docket No. 50-443

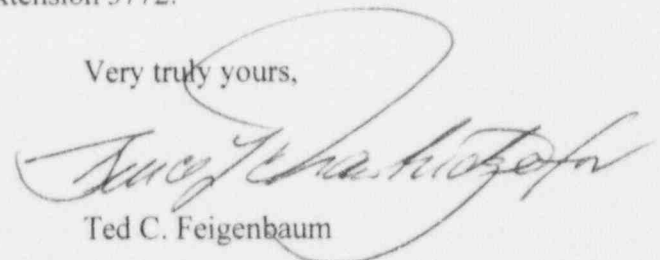
Subject: Change to Technical Specification Bases Section 3/4.4.2

Gentlemen:

This letter transmits changes to the Seabrook Station Unit No. 1 Technical Specification Bases for the Reactor Coolant System Safety Valves (Bases Section 3/4.4.2). The changes were made pursuant to the requirements of 10 CFR 50.59, and are being provided for the Staff's processing. The changes to Bases Section 3/4.4.2 were made to clarify what specifically constitutes an OPERABLE Pressurizer Safety Valve in Mode 5. The change is being made in support of Refueling Outage 4 activities. An analysis/evaluation of the change is provided in Attachment 1, marked-up pages are provided in Attachment 2, and retyped pages are provided in Attachment 3.

Should you have any questions regarding this letter, please contact Mr. James M. Peschel, Regulatory Compliance Manager at (603) 474-9521, extension 3772.

Very truly yours,



Ted C. Feigenbaum

TCF:EWM/act

Enclosure

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cc: Mr. Thomas T. Martin
Regional Administrator
United States Nuclear Regulatory Commission Region I
475 Allendale Road
King of Prussia, PA 19406

Mr. Albert W. De Agazio, Sr. Project Manager
Project Directorate I-4
Division of Reactor Projects
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. John Macdonald
NRC Senior Resident Inspector
P.O. Box 1149
Seabrook, NH 03874

Mr. George L. Iverson, Director
New Hampshire Office of Emergency Management
107 Pleasant Street
Concord, NH 03301

I. INTRODUCTION AND ANALYSIS/EVALUATION OF PROPOSED CHANGES

A. Introduction

Refueling Outage 4 activities require the installation of steam generator nozzle dams. Nozzle dam installation will require that the Reactor Coolant System (RCS) water level be reduced to midloop conditions. North Atlantic has developed contingencies to allow operation at mid-loop conditions with the fuel in the vessel. One of these contingencies is to ensure that an adequate RCS hot leg vent path area is provided to allow the Refueling Water Storage Tank (RWST) to gravity feed the RCS. The required hot leg vent path is a function of the time after shutdown. The required vent area for gravity feed from the RWST to the RCS was determined to be an area equivalent to the size of the pressurizer manway or three pressurizer safety valves removed from their flanges.

Technical Specification 3.4.2.1 "Safety Valves - Shutdown" requires at least one pressurizer safety valve be OPERABLE, in Modes 4 and 5, with a lift setting of 2485 psig \pm 3%. The specification provides the minimum requirements to prevent RCS overpressurization during shutdown conditions.

North Atlantic proposes to add the following clarifying statement to Technical Specification Bases 3/4.4.2:

During plant operations in Mode 5, it is conservative and consistent with Technical Specifications that the OPERABLE pressurizer safety valve may be removed from its flange and continue to meet the intent of this Specification. The removal of the pressurizer safety valve will afford the reactor coolant system superior overpressure protection. This will also allow the removal of the three pressurizer safety valves to be used as a gravity vent path in lieu of removing the pressurizer manway when the plant is at reduced inventory conditions.

B. Analysis/Evaluation

The clarification of the BASES for Technical Specification 3/4.4.2, Safety Valves, will allow the required pressurizer safety valve to remain OPERABLE in Mode 5 by either a safety valve with a lift setting of 2485 psig \pm 3% or by the removal of the safety valve from its flange. This configuration affords superior protection for a RCS overpressure transient than with the valve installed in that immediate pressure relief will be provided in an overpressure transient. This configuration is also consistent with the Standard Technical Specifications for Westinghouse Plants (NUREG-1431) as discussed below.

The Standard Technical Specifications for Westinghouse Plants (NUREG-1431) do not require a pressurizer safety valve in MODE 5. The Bases for the Safety Valve Shutdown provides the following explanation for not requiring a pressurizer safety valve in MODE 5.

"In MODES 1, 2, and 3, and portions of MODE 4 above the LTOP arming temperature, OPERABILITY of three valves is required because the combined capacity is required to keep reactor coolant pressure below 110% of its design value during certain accidents. MODE 3 and portions of MODE 4 are conservatively included, although the listed accidents may not require the safety valves for protection. The LCO is not applicable in MODE 4 when all RCS cold leg temperatures are less than or equal to 329 °F or in MODE 5 because LTOP is provided. Overpressure protection is not required in MODE 6 with reactor vessel head detensioned."

With any RCS cold leg temperatures at or below 329 °F, overpressure protection is provided by the Low Temperature Overpressure Protection (LTOP) System. The change from MODE 1, 2, or 3 to MODE 4 reduces the RCS energy (core power and pressure), lowers the potential for large pressurizer surges, and thereby removes the need for overpressure protection by three pressurizer safety valves.

Technical Specification LCO 3.4.2.1 requires a minimum of one pressurizer safety valve be OPERABLE with a lift setting of 2485 psig \pm 3% while in MODES 4 and 5. The pressurizer Code safety valves operate to prevent the RCS from being pressurized above its Safety Limit of 2735 psig. Each safety valve is designed to relieve 420,000 lb. per hour of saturated steam at the valve setpoint. The relief capacity of a single safety valve is adequate to relieve any overpressure condition which could occur during shutdown. In the event that no safety valve is OPERABLE, the required ACTION is to place an OPERABLE Residual Heat Removal (RHR) loop in operation in the shutdown cooling mode to prevent RCS overpressurization. In addition, the Overpressure Protection System (Technical Specification 3.4.9.3) provides a diverse means of protection against RCS overpressurization at low temperatures.

The Updated Final Safety Analysis Report (UFSAR) Section 5.2 describes that the reactor coolant system pressure boundary is designed to accommodate the system pressures and temperatures attained under all expected modes of plant operation, including all anticipated transients, and to maintain the stresses within applicable limits. Section 5.2.2 specifies that the pressurizer safety valves are designed to relieve an overpressure condition from a design basis loss of load from 100% power. Section 5.2.2.11 describes the methods for reactor coolant pressure control during low temperature operations. Administrative procedures aid the operator in controlling RCS pressure during low temperature operations. However, to provide a backup to the operator, an automatic system is provided to mitigate any inadvertent pressure excursion. Redundant protection against such postulated over-pressurization events is provided through use of two power-operated relief valves (PORV) to mitigate any potential pressure transients. The UFSAR Chapter 15 accident analyses are not affected by the changes to the Technical Specification Bases.

North Atlantic believes that the pressurizer safety valve Bases change provided herein is consistent with and fully meets the intent of the existing Technical Specification requirements. By adding this change to the Bases section of 3/4.4.2, the plant will be permitted to enter a reduced inventory condition without the removal of the pressurizer manway. Screen type coverings will be utilized to prevent foreign materials from entering the pressurizer while the safety valves are removed. This

change will result in time savings during the upcoming and future refueling outages without any reduction in the margin of safety.

II. PROPOSED SCHEDULE FOR ISSUANCE

North Atlantic requests NRC issuance of the changes to Technical Specification Bases 3/4.4.2 by October 15, 1995 in support of the upcoming refueling outage.

III. MARKUP OF PROPOSED CHANGES

The enclosed markup pages reflect the currently issued version of Bases and the proposed changes.