New Hampshire Yankee

SEABROOK STATION UNIT 1

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

License Amendment Request No. 91-11
Code Safety Valve Setpoint
Tolerance Relaxation

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 Assessment 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
- Section VIII - Other Supporting Information

Sworn and Subscribed
to before me this
5th day of May, 1992

Tracy A. DeCredico
Notary Public

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

Bruce L. Drawbridge
Executive Director - Nuclear Production

## I. Introduction and Description of Proposed Changes

### A. Introduction

The Seabrook Station overpressure protection design incorporates three Code safety valves on the primary system pressurizer and a total of twenty Code safety valves on the four main steam lines (five per line) in the secondary system. The pressurizer safety valves (PSVs) were designed and manufactured to meet the 1971 Edition, including the Winter 1972 Addenda, of the ASME Code, Section III. The main steam safety valves (MSSVs) were designed and manufactured to meet the 1974 Edition, including the Summer 1975 Addenda, of the ASME Code, Section III. An ASME Code, Section III requirement for both the PSVs and the MSSVs is that they be designed to open within ± 1% of their set pressure. The current Technical Specification Limiting Conditions for Operation (LCO) for the PSVs and MSSVs also impose the tolerance of ± 1% on their set pressure.

The Technical Specification Surveillance Requirements for the PSVs and the MSSVs require that testing be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10CFR50.55a(g), except where specific written relief has been granted by the Commission. The PSVs and the MSSVs are tested to verify that their lift pressures and seat leakages are acceptable pursuant to the New Hampshire Yankee Inservice Test (IST) Program which complies with the ASME Boiler and Pressure Vessel Code, Section XI, 1983 Edition through the Summer 1983 Addenda. The NRC evaluation of the NHY IST Program is documented in NUREG-0896, Supplement No. 6, "Safety Evaluation Report Related to the Operation of Seabrook Station, Units 1 and 2", dated October 1986. The 1983 Edition of ASME Section XI does not specify a tolerance to be applied to safety valve lift pressure verification; therefore the tolerance (± 1%) prescribed in the LCO for the PSVs and MSSVs is utilized as the acceptance criteria for ASME Section XI testing. ASME Section XI, Article IWV-3513, requires additional safety valve testing when a safety valve "fails to function properly". Currently, a PSV or MSSV which has a tested lift pressure outside the ± 1% tolerance specified in the LCO is determined to have failed to function properly, thereby requiring re or replacement per IWV-3514 and testing of additional valves in the syste per IWV-3513.

The 1989 Edition of the ASME Code, Section XI, requires that the PSVs and MSSVs be tested pursuant to the ASME/ANSI OM-1987, Part 1, "Requirements for Inservice Performance Testing of Nuclear Power Plant Pressure Relief Devices." This standard allows the tested lift pressure to exceed the stamped set pressure by up to 3% before declaring a test failure. It also provides a guideline for testing additional valves when a valve exceeds the ± 3% tolerance. Therefore, increasing the PSV and MSSV setpoint tolerance to ± 3% for testing acceptance criteria is in compliance with the later ASME Code, Section XI requirements. New Hampshire Yankee is proposing to revise the Seabrook Station Technical Specifications as discussed below to allow a relaxation in the PSV and MSSV setpoint tolerance to ± 3% for testing acceptance criteria.

The proposed relaxation of the setpoint tolerances for the PSVs and the MSSVs has been determined to be in compliance with the 1989 Edition of the ASME Code, Section III, Subarticle NB-7410/NC-7410, which states that: "The set pressure of at

least one of the pressure relief devices connected to the system not be greater than the Design Pressure of any component within the pressure retaining boundary of the protected system". The Reactor Coolant System design pressure is 2485 psig (reference UFSAR Table 5.3-1) which corresponds to the setpoint of the PSVs. The Main Steam Supply System design pressure is 1185 psig (reference UFSAR Section 10.3.2.1) which corresponds to the Group 1 MSSVs which have the lowest opening setpoint.

The impact of the relaxed PSV and MSSV setpoint tolerance on the licensing basis analysis documented in the Seabrook Station Updated Final Safety Analysis Report (UFSAR), Chapter 15, has been reviewed by Yankee Atomic Electric Company (YAEC) and documented in topical report YAEC-1847 "Seabrook Station Code Safety Valve Setpoint Tolerance Relaxation". A copy of YAEC-1847 is enclosed in Section VIII, herein. YAEC-1847 demonstrates that the licensing basis criteria are still met when the relaxed Code safety valve tolerance of ± 3% is assumed.

It is important to note that NHY proposes to utilize the ± 3% tolerance for the "as-found" acceptance criteria for additional valve testing required by ASME Section XI, Subsection IWV-3513. The proposed Technical Specification revisions require that the PSV and MSSV setpoints be restored to within ± 1% of their nominal setpoints following testing.

B. Description of Proposed Changes

New Hampshire Yankee is proposing to revise the Seabrook Station Technical Specifications to allow a relaxation in the PSV and MSSV setpoint tolerances to ± 3% for testing acceptance criteria. The proposed Technical Specification changes also require that the PSV and MSSV setpoints be restored to within ± 1% of their nominal setpoints following testing. New Hampshire Yankee is also proposing to revise the BASES for Technical Specification 3/4.7.1.1 to specify the correct Edition of the ASME Boiler and Pressure Vessel Code, Section III applicable to the MSSVs. The affected Technical Specifications and BASES are identified below:

Technical Specification 3/4.4.2 SAFETY VALVES SHUTDOWN

Technical Specification Limiting Condition for Operation (LCO) 3.4.2.1 currently requires that "A minimum of one pressurizer Code safety valve shall be OPERABLE with a lift setting of 2485 psig ± 1%" in MODES 4 and 5. New Hampshire Yankee is proposing to revise LCO 3.4.2.1 to allow a relaxation in the PSV lift setting tolerance to ± 3% for testing acceptance criteria. The proposed change to LCO 3.4.2.1 also incorporates a footnote which will specify that the setpoint tolerance is "within ± 1% following pressurizer Code safety valve testing".

Technical Specification 3/4.4.2 SAFETY VALVES OPERATING

Technical Specification LCO 3.4.2.2 currently requires that "All pressurizer Code safety valves shall be OPERABLE with a lift setting of 2485 psig ± 1%" in MODES 1, 2, and 3. New Hampshire Yankee is proposing to revise LCO 3.4.2.2 to allow a relaxation in the PSV lift setting tolerance to ± 3% for testing acceptance criteria. The proposed change to LCO 3.4.2.2 also incorporates a footnote which will specify that the setpoint tolerance is "within ± 1% following pressurizer Code safety valve testing".

Technical Specification Table 3.7-2 Steam Line Safety Valves Per Loop

Technical Specification Table 3.7-2 identifies the twenty main steam line code safety valves which are located in the four main steam lines. The five safety valves in each main steam line have increasing lift settings of 1185 psig, 1203 psig, 1220 psig, 1238 psig and 1255 psig. Table 3.7-2 currently identifies the lift setting tolerance for each of the main steam line Code safety valves as ± 1%. New Hampshire Yankee is proposing to revise Table 3.7-2 to allow a relaxation in the MSSV lift setting tolerance to ± 3% for testing acceptance criteria. The proposed change to Table 3.7-2 also incorporates a footnote which will specify that the setpoint tolerance is "within ± 1% following main steam line Code safety valve testing".

BASES for Technical Specification 3/4.7.1.1 SAFETY VALVES OPERATING

Currently the BASES for Technical Specification 3/4.7.1.1 which addresses the main steam line Code safety valves states that "The specified valve lift settings and relieving capacities are in accordance with the requirements of Section III of the ASME Boiler and Pressure Vessel Code, 1971 Edition". New Hampshire Yankee is proposing to revise the BASES for Technical Specification 3/4.7.1.1 to specify the correct Edition of ASME Section III which is applicable to the main steam line Code safety valves. The proposed change will specify the 1974 Edition, including the 1975 Addenda of ASME Section III.

Additionally, NHY is proposing to correct a typographical error in the BASES for Technical Specification 3/4.7.1.1. The BASES currently contain an incorrect reference to Technical Specification Table 3.7-2, whereas the correct reference is to Table 3.7-1.

A markup of the proposed Technical Specification changes is enclosed in Section II. A retype of the proposed Technical Specification changes is enclosed in Section III.