North Atlantic

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The Northeast Utilities System

October 11, 2002
Docket No. 50-443
NYN-02094

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555-0001

Seabrook Station
License Amendment Request 02-05
"Relocation of Technical Specifications Associated with Boration Systems and Chemistry, Revision of Certain Technical Specifications Associated with the Reactor Coolant System"

North Atlantic Energy Service Corporation (North Atlantic) has enclosed herein License Amendment Request (LAR) 02-05 (Enclosure 1). License Amendment Request 02-05 is submitted pursuant to the requirements of 10 CFR 50.90 and 10 CFR 50.4.

LAR 02-05 proposes changes to the Seabrook Station Unit 1 Technical Specification (TS) 3/4.1.2, "Boration Systems," and 3/4.4.7, "Reactor Coolant System, Chemistry." These changes relocate the Boration System (TS 3.1.2.1, 3.1.2.2, 3.1.2.3, 3.1.2.4, 3.1.2.5, and 3.1.2.6) and Chemistry (TS 3.4.7) Technical Specifications to a licensee controlled document and revise TS 3.1.2.7, "Boration Systems, Isolation of Unborated Water Sources – Shutdown." The Boration Systems relocation was recently approved for the Millstone Nuclear Power Station, Unit 3 within their submittal for the revision of their pressure/temperature curve Technical Specifications (August 27, 2001, TAC No. MB1785).

LAR 02-05 also proposes a revision to Technical Specifications 3/4.4.1.2, "Reactor Coolant System, Reactor Coolant Loops and Coolant Circulation, Hot Standby," 3/4.4.3, "Reactor Coolant System, Pressurizer," and 3/4.9.2, "Refueling Operations, Instrumentation." These changes adopt a portion of NUREG-1431, Revision 2, "Standard Technical Specifications, Westinghouse Plants," involving a wording revision to more closely match Standard Technical Specifications. The revision to TS 3/4.9.2, "Refueling Operations, Instrumentation," also involves surveillance changes.

The Index and the associated Bases for these Technical Specifications will be modified as a result of the proposed changes.

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The Station Operation Review Committee and the Nuclear Safety Audit Review Committee have reviewed LAR 02-05.

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 02-05, and issuance of a license amendment by September 30, 2003 (see Enclosure 1, Section V enclosed).

North Atlantic has determined that LAR 02-05 meets the criterion of 10 CFR 51.22(c)(9) for a categorical exclusion from the requirements for an Environmental Impact Statement (see Enclosure 1, Section VI enclosed).

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

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ENCLOSURE 1 TO NYN-02094

North
Atlantic

SEABROOK STATION UNIT 1

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

License Amendment Request 02-05,
"Relocation of Technical Specifications Associated with Boration Systems and Chemistry, Revision of Certain Technical Specifications Associated with the Reactor Coolant System"

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 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**
- **Section VI - Environmental Impact Assessment**

I, Ted C. Feigenbaum, Executive Vice President and Chief Nuclear Officer 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.

Ted C. Feigenbaum
Executive Vice President and
Chief Nuclear Officer

Sworn and Subscribed
before me this
7th day of October, 2002

Marilyn Sullivan
Notary Public

MARILYN R. SULLIVAN
MY COMMISSION EXPIRES APR. 17, 2007
NOTARY PUBLIC
NEW HAMPSHIRE

SECTION I

INTRODUCTION AND SAFETY ASSESSMENT FOR PROPOSED CHANGES

I. INTRODUCTION AND SAFETY ASSESSMENT OF PROPOSED CHANGES

A. Introduction and Description of Change

Index

Changes to the Index are necessary as a result of the proposed changes to Technical Specifications (TSs) 3.1.2.1, 3.1.2.2, 3.1.2.3, 3.1.2.4, 3.1.2.5, 3.1.2.6, and 3.4.7 which will be discussed. The entries for section 3/4.1.2 on Index Page iii will be revised. The entry for section 3/4.4.7 on Index Page v will be replaced with the words "THIS SPECIFICATION NUMBER IS NOT USED." The entry for Table 3.4-2 on Index Page v will be replaced with the words "THIS TABLE NUMBER IS NOT USED." The entry for Bases Section 3/4.4.7 on Index Page x will also be replaced with the words "THIS SPECIFICATION NUMBER IS NOT USED."

Technical Specifications 3.1.2.1 through 3.1.2.6, and 3.4.7

License Amendment Request (LAR) 02-05 proposes to relocate TS 3/4.1.2, "Boration Systems," and TS 3/4.4.7, "Chemistry" to the Seabrook Station Technical Requirements Manual (SSTR). The basis for the relocation is the NRC's "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors" (58 FR 39312) issued in July 1993, which provided a specific set of four (4) objective criteria to determine which of the design conditions and associated surveillances should be located in the TSs as limiting conditions for operation. The Final Policy Statement noted that implementation of these additional criteria, as amended to 10 CFR 50.36(c)(2)(ii), may cause some requirements presently in TSs to no longer merit inclusion in TSs. Therefore, the justification for relocation of TS requirements has the statement:

> "Extraneous information that does not meet the criteria of 10 CFR 50.36(c)(2)(ii) for inclusion in the Technical Specifications."

The rationale and validation for this statement is the NRC STS Split Report Letter (dated, May 9, 1988, to W.S. Wilgus [Chairman, BWOG], from T.E. Murley [Director, NRR, NRC]), WCAP-11618 ("Methodically Engineered, Restructured and Improved Technical Specifications; MERITS Program – Phase II Task 5, Criteria Application," November 1987), and WCAP-11618, Addendum 1 ("Methodically Engineered, Restructured and Improved Technical Specifications; MERITS Program – Phase II Task 5, Criteria Application," April 1989).

The Seabrook Station Technical Requirements Manual (SSTR) is a licensee controlled document, which contains certain technical requirements, is referenced in the Seabrook Station Updated Final Safety Analysis Report, and is the implementing manual for the Technical Specification Improvement Program. Changes to these requirements are reviewed and approved in accordance with Seabrook Station Technical Specifications, Section 6.7.1.i, and as outlined in the SSTR. Specifically, all changes to the SSTR are evaluated pursuant to 10 CFR 50.59, reviewed by the Station Operations Review

Committee (SORC), and approved by the Station Director (or designee) prior to implementation.

The requirements contained within TSs 3.1.2.1 through 3.1.2.6 and TS 3.4.7 will be relocated to the SSTR. The requirements contained in these specifications do not meet the criteria contained in 10 CFR 50.36c(2)(ii) for items that must be in TSs.

Technical Specification 3.1.2.7

This specification is being modified to allow the Boron Thermal Regeneration System (BTRS) demineralizer beds to be used for the reactor coolant system shutdown chemistry cleanup. Two of the demineralizer beds would be available for boron removal during (MODE 1, 2 or 3), two of the beds would be available for shutdown cleanup (MODE 4, 5, or 6), and the remaining bed would be available for either purpose. As written, the current Technical Specifications limit the system use to MODES 1, 2, or 3. The system is isolated in MODE 4, 5, or 6. To take advantage of the ability of the demineralizers to aid in reactor coolant cleanup in MODE 4, 5, or 6, only the demineralizers loaded with resin intended for deboration will be required to be isolated in MODE 4, 5, or 6.

Technical Specification 3.4.1.2

The Limiting Condition for Operation (LCO) will be modified by replacing the phrases "Reactor Trip System breakers are closed" and "Reactor Trip System breakers are open" with the phrases "Control Rod Drive System is capable of rod withdrawal" and "Control Rod Drive System is not capable of rod withdrawal," respectively. The proposed changes will provide operational flexibility on how to prevent rod withdrawal. It will not result in a change to the requirement for two RCS loops to be in operation when control rods can be withdrawn from the reactor.

The LCO will also be modified by removing the description of what constitutes an OPERABLE loop. The phrases for 3.4.1.2a through 3.4.1.2d (e.g. Reactor Coolant Loop A and its associated steam generator and reactor coolant pump) are being relocated to the Bases.

Action b. will be revised by replacing the phrase "Reactor Trip System breakers in the closed position" with "Control Rod Drive System is capable of rod withdrawal." This change is consistent with the proposed LCO change. Also, the phrase "open the reactor trip breakers" is being replaced with the phrase "return the required reactor coolant loop to operation or place the Control Rod Drive System in a condition incapable of rod withdrawal." This change is consistent with the wording from NUREG-1431.

Action c. will be revised by adding the phrase "place the Control Rod Drive System in a condition incapable of rod withdrawal, and" prior to the phrase "suspend all operations..." This change is consistent with the wording from NUREG-1431.

The Note at the bottom of the page will be revised by adding the phrase "per 8 hour period" after the phrase "1 hour." This change is consistent with the wording from

NUREG-1431.

Surveillance requirement 4.4.1.2.1 is being revised to add the note "Not required to be performed until 24 hours after a required pump is not in operation." This change is consistent with the wording from NUREG-1431.

Technical Specification 3.4.3

LCO 3.4.3 is being modified by adding the phrase "and capable of being powered from an emergency power supply" after the phrase "...of at least 150 kW." This change is consistent with the wording from NUREG-1431 and the requirements contained in surveillance requirement 4.4.3.2.

Action b. is being modified by deleting the phrase "with the Reactor Trip System breakers open" and inserting the phrase "fully insert all rods, place the Control Rod Drive System in a condition incapable of rod withdrawal, and" prior to the phrase "...be in at least HOT STANDBY..." This change is consistent with the wording from NUREG-1431.

Technical Specification 3.9.2

The LCO will be modified by deleting the phrase "each with continuous visual indication in the control room and one with audible indication in the containment and control room." This change is consistent with the wording from NUREG-1431.

Action b. is being revised by adding the phrase "immediately initiate corrective action to restore one source range neutron flux monitor to OPERABLE status and" prior to the phrase "determine the boron concentration..." This change is consistent with the wording from NUREG-1431.

Surveillance requirement 4.9.2.c is being deleted. This change is consistent with the surveillance requirements listed in NUREG-1431.

Surveillance requirement 4.9.2.b, "AN ANALOG CHANNEL OPERATIONAL TEST within 8 hours prior to the initial start of CORE ALTERATIONS, and," is being replaced by "A CHANNEL CALIBRATION* at least once per 18 months." For the CHANNEL CALIBRATION, the note "Neutron detectors may be excluded from CHANNEL CALIBRATION," is also being added. This change is consistent with the surveillance requirements listed in NUREG-1431. The note is also consistent with Current Technical Specifications (CTS) Table 4.3-1, "Reactor Trip System Instrumentation Surveillance Requirements," note (4) which states "Neutron detectors may be excluded from CHANNEL CALIBRATION."

B. Evaluation of Proposed Changes

Index

The proposed changes to the Index are consistent with the proposed relocation of the requirements associated with the boration subsystem to the SSTR. These are non-technical changes.

Technical Specifications 3.1.2.1 through 3.1.2.6, and 3.4.7

TSs 3.1.2.1 and 3.1.2.2 address boration subsystem flowpath requirements to ensure a flow path is available for negative reactivity control. TS 3.1.2.1 is applicable in Modes 4, 5, and 6. TS 3.1.2.2 is applicable in Modes 1, 2, and 3. A boration subsystem flowpath provides a means to supply borated water to the RCS to adjust RCS boron concentration and maintain shutdown margin (SDM).

TSs 3.1.2.3 and 3.1.2.4 address boration subsystem charging pump requirements to ensure charging pumps are available for negative reactivity control. TS 3.1.2.3 is applicable in Modes 4, 5, and 6. TS 3.1.2.4 is applicable in Modes 1, 2, and 3. The boration subsystem charging pumps provide the motive force to supply borated water to adjust RCS boron concentration to maintain SDM.

TSs 3.1.2.5 and 3.1.2.6 address boration subsystem borated water sources to ensure a water source is available for negative reactivity control. TS 3.1.2.5 is applicable in Modes 5 and 6. TS 3.1.2.6 is applicable in Modes 1, 2, 3, and 4. The boration subsystem water sources provide the fluid source for borated water addition to adjust RCS boron concentration to maintain SDM.

TS 3.4.7 ensures that the Reactor Coolant System (RCS) chemistry is maintained within prescribed limits. The RCS chemistry specification places limits on the oxygen, chloride, and fluoride content in the RCS to minimize corrosion. Minimizing corrosion of the RCS will reduce the potential for RCS leakage or failure due to stress corrosion, and ultimately ensure the structural integrity of the RCS.

While the boration subsystem utilizes components (e.g., charging/high head safety injection pumps and the refueling water storage tank) that also provide emergency core cooling, the Emergency Core Cooling System (ECCS) and Boron Injection System are addressed independently by TSs 3.5.2, "Emergency Core Cooling Systems, ECCS Subsystems, Tavg Greater Than or Equal to 350°F," 3.5.3, "Emergency Core Cooling Systems, ECCS Subsystems, Tavg Less Than 350°F," and 3.5.4, "Boron Injection System, Refueling Water Storage Tank." Thus, the evaluation of the relocation of TSs 3.1.2.1 through 3.1.2.6 only considers the boration aspect of the affected equipment.

This group of TSs (3.1.2.1 through 3.1.2.6) addresses the boration subsystem of the Chemical and Volume Control System. The boration subsystem is used to control the boron concentration in the RCS to maintain shutdown margin (SDM) as required by TSs 3.1.1.1, "Reactivity Control Systems, Boration Control, Shutdown Margin - T_{avg} Greater Than 200°F;" 3.1.1.2, "Reactivity Control Systems, Boration Control, Shutdown

Margin - T_{avg} Less Than or Equal To 200°F;" and 3.9.1, "Refueling Operations, Boron Concentration." The SDM requirements provide sufficient reactivity margin to ensure that acceptable fuel design limits will not be exceeded for normal shutdown and anticipated operational occurrences. The SDM defines the degree of subcriticality that would be obtained immediately following the insertion of all shutdown and control rods, assuming that the single rod assembly of highest worth is fully withdrawn. During, power operation, SDM control is ensured by operating with the shutdown banks fully withdrawn, TS 3.1.3.5, "Reactivity Control Systems, Movable Control Assemblies, Shutdown Rod Insertion Limit," and the control banks within the limits of TS 3.1.3.6, "Reactivity Control Systems, Movable Control Assemblies, Control Rod Insertion Limits." When the plant is in the shutdown and refueling modes, the SDM requirements are met by adjusting RCS boron concentration.

Operation of the boration subsystem is not credited for mitigation of any Design Basis Accident (DBA) or Transient. It is assumed that the required SDM has been established prior to the start of the event. This is a valid assumption since the TS SDM requirements are required to be met prior to entering the Mode of Applicability where the event is assumed to occur. If a boron dilution event occurs in Modes 1 or 2, reactor protection is provided by the TS SDM requirements (TS 3.1.1.1), numerous automatic reactor trips, administrative procedures, and sufficient time for the operator to take the appropriate action (isolation of the dilution source) prior to reaching the SDM limit. If a boron dilution event occurs in Modes 3 through 6, reactor protection is provided by the TS SDM margin requirements (TSs 3.1.1.1, 3.1.1.2, and 3.9.1), administrative procedures, and sufficient time for the operator to take the appropriate action (isolation of the dilution source) prior to reaching the SDM limit.

10 CFR 50.36c(2)(ii) contains the requirements for items that must be in TSs. This regulation provides criteria that can be used to determine the requirements that must be included in the TSs. Items not meeting the criteria can be relocated from TSs to a Licensee controlled document. The Licensee can then change the relocated requirements, if necessary, in accordance with 10 CFR 50.59. This will result in significant reductions in time and expense to modify requirements that have been relocated while not adversely affecting plant safety.

Criterion 1 Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.

This criterion addresses instrumentation installed to detect excessive RCS leakage. TS 3.1.2.1 through 3.1.2.6, which ensure the boration subsystem is available for negative reactivity control, and TS 3.4.7, which ensures chemistry is maintained within prescribed limits, do not cover installed instrumentation that is used to detect, and indicate in the control room, a significant degradation of the reactor coolant pressure boundary. The boration subsystem and chemistry limits, do not satisfy Criterion 1.

Criterion 2 A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

The purpose of this criterion is to capture those process variables that have initial values assumed in the design basis accident and transient analyses, and which are monitored and controlled during power operation. This criterion also includes active design features (e.g., high pressure/low pressure system valves and interlocks) and operating restrictions (pressure/temperature limits) needed to preclude unanalyzed accidents and transients.

The boration subsystem is used to establish and maintain SDM. The accident analyses assume the plant is at a specific SDM at the start of an accident. The validity of this assumption is established by the TSs that address SDM (TSs 3.1.1.1, 3.1.1.2, and 3.9.1). This ensures the required SDM will be established prior to entering plant conditions (i.e., operating Mode) where the accidents are of concern. Therefore, the boration subsystem is not a process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

The chemistry limits for oxygen, chloride, and fluoride content in the RCS help to minimize corrosion. The minimization of corrosion ensures the structural integrity of the RCS. The structural integrity of the RCS is monitored and limits placed on leakage as specified in TS 3.4.6. The accident analyses assume the plant is at a specific levels for RCS leakage at the start of an accident. The validity of this assumption is established by the TS that addresses leakage (TS 3.4.6). This TS ensures the required structural integrity is maintained by specifying the required leakage detection systems and establishing the allowed operational leakage prior to entering plant conditions (i.e., operating Mode) where the accidents are of concern. Therefore, the chemistry limits are not a process variable, design feature, or operating restriction that are an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

The boration subsystem and chemistry limits do not satisfy Criterion 2.

Criterion 3 A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

The purpose of this criterion is to capture only those structures, systems, and components that are part of the primary success path of the safety analysis (an examination of the actions required to mitigate the consequences of the design basis accidents and transients). The primary success path of a safety analysis consists of the combinations and sequences of equipment needed to operate, so that the plant response to the design basis accidents and transients limits the consequences of these events to within the appropriate acceptance criteria. Also captured by this criterion are those support and actuation systems that are necessary for items in the primary success path to successfully function. It does not include backup and diverse equipment.

The boration subsystem is used to establish and maintain SDM. The accident analyses assume the plant is at a specific SDM at the start of an accident to provide sufficient time for the plant operators to recognize the event and terminate the event prior to a complete loss of SDM. Providing sufficient time to isolate the dilution source prior to a complete loss of SDM is the primary success path for mitigation of this event. The validity of this assumption is established by the TSs that address SDM. This ensures the required SDM will be established prior to entering plant conditions where the accidents are of concern. The subsequent use of the boration subsystem to regain the required SDM is beyond the scope of a primary success path action. As a result, the boration subsystem is not a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

The chemistry limits for oxygen, chloride, and fluoride content in the RCS help to minimize corrosion. The minimization of corrosion ensures the structural integrity of the RCS. Therefore, the chemistry limits are not a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

The boration subsystem and chemistry limits do not satisfy Criterion 3.

Criterion 4 A structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

The purpose of this criterion is to capture only those structures, systems, and components that operating experience or probabilistic risk assessment has shown to be significant to public health and safety. Requirements proposed for relocation do not contain constraints of prime importance in limiting the likelihood or severity of the accident sequences that are commonly found to dominate risk.

The boration subsystem, which is used to inject borated water to establish and maintain SDM, is not a structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to the public health and safety. The boration subsystem is modeled in the current Seabrook Station Probabilistic Safety Study (SSPSS), but it has a low risk contribution. A review of industry operating experience did not produce any examples where the boration subsystem has had a significant adverse affect on public health and safety.

The chemistry limits for oxygen, chloride, and fluoride content in the RCS help to minimize corrosion. The minimization of corrosion ensures the structural integrity of the RCS. The chemistry limits are not a structure, system, or component and have not been modeled in the SSPSS. Therefore, the chemistry limits are not a structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

The boration subsystem and chemistry limits do not meet Criterion 4.

The requirements contained in TSs 3.1.2.1 through 3.1.2.6 for the boration subsystem do not meet the 10 CFR 50.36c(2)(ii) criteria for items that must be in TSs. Therefore, relocating these requirements from the Seabrook Station Technical Specifications to a Licensee controlled document will not adversely affect public health and safety. The relocation of this information maintains the consistency with NUREG-1431. Any change to this requirement is made in accordance with 10 CFR 50.59.

The requirements contained in TS 3.4.7 for the chemistry limits on the oxygen, chloride and fluoride content in the RCS do not meet the 10 CFR 50.36c(2)(ii) criteria for items that must be in TSs. Therefore, relocating these requirements from the Seabrook Station Technical Specifications to a Licensee controlled document is safe, and will not adversely affect public health and safety. The relocation of this information maintains the consistency with NUREG-1431. Any change to the relocated information is made in accordance with 10 CFR 50.59.

Technical Specification 3.1.2.7

For boron removal, the Boron Thermal Regeneration System (BTRS) demineralizer beds will use the current administrative controls. A bed will be loaded with anion resin and flushed to the Primary Drain Tank (PDT) with water from the Reactor Coolant System (RCS) until chemistry specifications for oxygen, chloride, fluoride, sulfate, silica, and organic carbons are met. Only when these specifications are met would the bed be put in service by operations as desired to remove the remaining boron from the RCS.

For shutdown cleanup, the BTRS demineralizer beds will use the same administrative controls as the Chemical and Volume Control System demineralizer beds. The demineralizer beds could be loaded with mixed bed resin. (Note: A demineralizer filled with mixed bed resin is representative of a worst case boron removal scenario. Actual demineralizer beds will be loaded using a layered combination of resins, which would remove less boron than the worst case scenario discussed.) The beds will have a maximum of 37.5 cubic feet of anion resin. These beds will be loaded during the cycle and flushed to the PDT with water from the RCS until chemistry specifications are met. These specifications will be the same as those listed above and also include boron. Boron will be required to be within 5% or 5 ppm (whichever is greater) of the influent RCS concentration. Once the bed has met all flush criteria it will remain out of service until needed for RCS cleanup, usually later in Mode 3 or early in Mode 4.

A 75 cubic foot demineralizer bed loaded with mixed bed resin has the capacity to remove 29,400 grams of boron. If a bed were to be inadvertently placed inservice prior to the bed being borated, the bed could remove approximately 97 ppm boron from the RCS if not removed from service (based on an RCS volume of 80,000 gallons). If this same bed were placed in service for an hour at 120 gpm letdown flow it would remove about 10% of the RCS boron inventory.

To prevent a dilution event from occurring, the BTRS demineralizers will be flushed with borated RCS water until the outlet of the demineralizer is within 5% or 5 ppm (whichever is greater) of the inlet concentration. Ensuring the effluent concentration is within 5% of the influent concentration is the current required practice for placing a Chemical and Volume Control System (CVCS) demineralizer in service. Once the bed has been borated, the bed no longer has the capacity to remove boron. The remaining capacity will quickly diminish when the bed is placed in service for end of cycle deboration and shutdown chemistry cleanup.

For future outages, the preferred method of borating a demineralizer bed would occur towards the end of the previous outage. For example, if the demineralizers are to be loaded for OR09, the bed would be borated as described above. Towards the end of OR09, when RCS boron concentration is above 2000 ppm, a fresh demineralizer bed will be borated for use during the next end of cycle deboration and shutdown chemistry cleanup. This will minimize the amount of wastewater produced during the flushing of the bed and ensure that the bed is borated. This will ensure that the potential for a deborating event from inadvertent use of the bed during MODE 1 is bounded by the existing limiting event described in the UFSAR, Chapter 15.4.6, "Chemical and Volume Control System Malfunction that Results in a Decrease in the Boron Concentration in the Reactor Coolant."

Technical Specification 3.4.1.2

TS 3.4.1.2, "Reactor Coolant System, Reactor Coolant Loops And Recirculation, Hot Standby" addresses RCS requirements when the plant is in Mode 3. The proposed changes to replace the wording associated with reactor trip system breaker status with the ability of the Control Rod Drive System (CRDS) to withdraw control rods will not result in any change to RCS loop and flow requirements currently contained in Technical Specifications 3.4.1.2 and 3.4.1.3. The current Technical Specifications only allow one method to prevent control rod withdrawal, open the reactor trip breakers. However, there are numerous ways to prevent the ability of the CRDS from withdrawing control rods. For example, either the 480 VAC input breakers to the control rod drive motor generator sets or the control rod drive motor generator sets output breakers can be opened to prevent control rod withdrawal. If one of these other approaches are utilized to prevent control rod withdrawal, the reactor trip breakers can be closed to conduct required testing of the Solid State Protection System without the need to establish the more restrictive RCS loop and flow requirements.

The proposed changes will provide operational flexibility by allowing the use of alternative methods to prevent control rod withdrawal. However, since the proposed changes will not alter the RCS loop and flow requirements when control rods can be withdrawn, the proposed changes are neither more nor less restrictive.

This wording change from referring to the reactor trip breakers to the control rod drive system is consistent with NUREG-1431 wording and requirements.

LCO 3.4.1.2, Footnote *, allows all required pumps to be de-energized for up to 1 hour upon meeting specific conditions. There are no limits on the number of times this one hour period may be utilized. However, NUREG-1431 LCO 3.4.5, LCO 3.4.6, and LCO 3.4.7 allow all required pumps to be de-energized for only 1 hour per 8 hour period upon meeting specific conditions. The TS has been revised to add the limit of once per 8 hours to clarify the periodicity of the 1 hour allowance to de-energize the required pumps. The intent is that forced cooling flow be provided unless specific needs dictate otherwise. Typically, these specific needs can be met within one hour and are not required more frequently than once per 8 hours. This change limits the amount of time the RCS is without forced cooling consistent with NUREG-1431.

LCO 3.4.1.2 contains details regarding the associated components that constitute RCS loop operability. These details are relocated to the Bases. These details are not necessary to ensure the required reactor coolant loops are OPERABLE. The definition of OPERABLE suffices. The requirements of NUREG-1431 LCO 3.4.5 are adequate for ensuring the required reactor coolant loops are OPERABLE. These details are not necessary to be in the TS to ensure the required reactor coolant loops can perform their intended safety function. As such, these details are not required to be in the TS to provide adequate protection of the public health and safety. The relocation of these details to the Technical Specification Bases section maintains the consistency with NUREG-1431. Any changes to the Bases are made in accordance with 10 CFR 50.59.

SR 4.4.1.2.1 adds a Note *, which states the surveillance is "Not required to be performed until 24 hours after a required pump is not in operation." The definition of when the surveillance requirement is required is consistent with the time requirement of TS 4.0.3, which allows 24 hours to perform a missed surveillance requirement. This allows operational flexibility to periodically start pumps in other loops to equalize temperatures and not create an unnecessary surveillance burden. Delaying the surveillance requirement for 24 hours will not reduce the amount of protection provided for the public health and safety.

Technical Specification 3.4.3

LCO 3.4.3 addition of the phrase "and capable of being powered from an emergency power supply" after the phrase "...of at least 150 kW" is consistent with the wording from NUREG-1431. Surveillance requirement 4.4.3.2 currently requires the power to be measured when the heaters are connected to the emergency bus. Although the pressurizer heaters are not specifically used in the safety analysis, the need to maintain subcooling in the long term during loss of offsite power, as indicated in NUREG-0737, is the reason for providing an LCO requirement to be powered from the safety bus. The current Seabrook design satisfies this requirement and this change is being made to be consistent with NUREG-1431. No physical changes are being made to the plant.

LCO 3.4.3 Action b requires that when the pressurizer is inoperable, the plant is to be in at least Hot Standby with reactor trip breakers open. Under the same condition, NUREG-1431 LCO 3.4.9 Required Action A.3 requires placing the Control Rod Drive System in a condition incapable of rod withdrawal. This change is acceptable because the NUREG-1431 Required Action achieves the same objective as the CTS reactor trip breaker position function. The pressurizer is part of the primary success path that functions or actuates to prevent or mitigate a DBA or transient that either assures the failure of, or presents a challenge to the integrity of a fission product barrier. The safety analysis assumes the pressurizer is Operable with the reactor trip breaker closed and Control Rod Drive System capable of rod withdrawal due to the postulation of a power excursion because of an inadvertent control rod withdrawal. This postulated event is eliminated by initiating methods for preventing a Control Rod Drive System rod withdrawal (i.e. disabling all CRDMs by opening the reactor trip breakers, de-energizing the motor generator sets, or utilizing other equivalent methods. Refer to discussion for TS 3.4.1.2 wording changes from reactor trip breakers to use of control rod drive system). Since both functions provide the capability of meeting the safety analysis, the encompassing requirement is utilized. This change is consistent with NUREG-1431 as modified by TSTF-087, Revision 1.

Technical Specification 3.9.2

CTS LCO 3.9.2 contains details regarding the Operability requirements of the source range neutron flux monitors. The requirement that each monitor provide visual indication, i.e. "... each with continuous visual indication in the control room...," is relocated to the Bases. These details of Operability are not necessary in the LCO. The definition of Operability and the requirements of NUREG-1431 LCO 3.9.3 suffice. As such, these details are not required to be in the TS to provide adequate protection of the public health and safety. The relocation of this detail maintains the consistency with NUREG-1431. Any change to the detail relocated to the Bases will be made in accordance with the Bases Control Program. Any change to this requirement is made in accordance with 10 CFR 50.59.

CTS LCO 3.9.2 also requires "two Source Range Neutron Flux Monitors [(SRMs)] OPERABLE... and one with audible indication in the containment and control room." NUREG-1431 LCO 3.9.3 requires two Source Range Neutron Flux Monitors OPERABLE... and one source range audible alarm circuit shall be OPERABLE". The requirement that each monitor provide audible indication in the containment and the control room is relocated to the Bases. These details of Operability are not necessary in the LCO. The definition of Operability and the requirements of NUREG-1431 LCO

3.9.3 suffice. As such, these details are not required to be in the TS to provide adequate protection of the public health and safety. The relocation of this detail maintains the consistency with NUREG-1431. Any change to the detail relocated to the Bases will be made in accordance with the Bases Control Program. Any change to this requirement is made in accordance with 10 CFR 50.59.

CTS SR 4.9.2.b and SR 4.9.2.c require the performance of an Analog Channel Operational Test (ACOT) every 7 days and within 8 hours prior to core alterations on the Source Range Neutron Flux Monitors when in MODE 6. NUREG-1431 SR 3.9.3.2 requires the performance of a CHANNEL CALIBRATION every 18 months on the Source Range Neutron Flux Monitors when in MODE 6. The CTS Mode 6 ACOT requirements have been deleted and replaced by the CHANNEL CALIBRATION requirement. This is acceptable for the following reasons:

- The source range monitors, when in MODE 6, are required for indication and alarm functions for the short period of time that the refueling occurs in. There are no precise setpoints associated with these instruments in MODE 6. As the source range counts indication slowly increases due to fuel loading, the setpoint has been set at 750 counts per second (CPS) to ensure that an inadvertent criticality is not overlooked. The source range instrumentation is typically used to read a change in counts per second (CPS) relative to previous readings, not precise CPS indication. The source range instrumentation is monitored for significant changes in count rate which are important to evaluate the change in core status. Even the accepted convention defining criticality only requires a slowly increasing count rate with a slightly positive startup rate be verified.
- Consistent with NUREG-1431, indicating instruments require only CHANNEL CHECKS and CHANNEL CALIBRATIONS. The more frequent ACOTs are applied only to those channels with operational interlocks or other setpoint actuations. In MODE 6, actuation of the source range alarm alerts an operator to a potential increasing count rate due to a potential boron dilution event. In MODES 2, 3, 4, and 5, the source range monitors perform actuation or control functions. In these MODES, TS 4.3.1.1 requires source range ACOTs at least once per 92 days and within 31 days of startup.
- The 18 month channel calibration and the 12 hour channel check are typically all that is required for indicating instruments and have proven effective in maintaining those instruments operable. The 18 month CHANNEL CALIBRATION, like the ACOT, performs a check of the audible alarms.
- The history of the surveillance data for the source range instruments indicates that for the period of time that the plant is in MODE 6 (typically less than 10 days), performance of the ACOT every 7 days during a refueling (typically less than 40 days) is unnecessary. The instruments will maintain their accuracy. Also, based upon the surveillance data, performance 8 hours prior to core alterations is not necessary, since the performance of the ACOT in one of the previous MODES or by performance of the CHANNEL CALIBRATION, operability would have been ensured.

Therefore, considering the ACOTs performed on this instrumentation in other MODES, the effectiveness of these surveillance requirements in maintaining the instruments operable, and the accuracy required of these instruments in MODE 6, the MODE 6 channel calibration and channel check requirements for the source range monitors are adequate to ensure their operability.

SR 4.9.2.b includes a Note that excludes the neutron detectors from the channel calibration because there is no adjustment that can be made to the detectors. This note is consistent with the source range CHANNEL CALIBRATION requirements in other MODES. Furthermore, adjustment of the detectors is unnecessary because they are passive devices, with minimal drift. This change is consistent with NUREG-1431.

C. Safety Assessment Conclusion of Proposed Changes

The proposed relocation of the Boration System and Chemistry TSs (TS 3.1.2.1 through 3.1.2.6, and 3.4.7) discussed in this LAR is administrative in nature. The proposed change does not affect nor modify the physical configuration, the operation, maintenance and management of the facility nor the manner in which it responds to normal, transient or accident conditions. Thus, the relocation changes are an enhancement and do not affect plant safety.

The proposed modification of the isolation of the unborated water sources TS in MODE 4, 5 or 6 (TS 3.1.2.7) will isolate only the demineralizers which are intended for deborating the Reactor Coolant System (RCS). The unisolated resin beds will use the same administrative controls that are currently in use for control of the Chemical Volume and Control System (CVCS) demineralizers. The current administrative controls for replenishing resin, ensure that for a new Boron Thermal Regeneration System (BTRS) demineralizer resin bed, a boron dilution event is bounded by the existing analysis contained in the Updated Final Safety Analysis Report, Chapter 15.4.6, "Chemical and Volume Control System Malfunction that Results in a Decrease in the Boron Concentration in the Reactor Coolant." These controls will ensure that for an unisolated BTRS demineralizer, an inadvertent criticality does not occur due to removal of boron from the RCS. The conclusions of UFSAR for a dilution event in all Modes of operation remain valid. Since the administrative controls will ensure plant operation remains within the conclusions of the safety analysis, plant safety will not be affected by this change.

The proposed changes which are more restrictive than current requirements (TS 3.4.1.2 and 3.4.3) do not adversely affect the operation of the plant. As written, they enhance the current requirements and ensure that the plant is operated within current assumed limits. Operation within the current limits will not adversely affect plant safety.

The proposed changes which change the specific wording within the Technical Specifications (TS 3.4.1.2 and 3.4.3) from using the reactor trip breakers to wording using the Control Rod Drive System does not make any physical changes to the plant.

These changes introduce operational flexibility. By allowing this flexibility, the operation of the system may actually be enhanced and response to problems potentially more timely, depending on the specific conditions. Since the changes do not adversely affect system performance, plant safety will not be adversely affected.

The changes to the shutdown source range surveillance requirements (TS 3.9.2) will not adversely affect the source range instrumentation. The instrumentation operability will be ensured by performance of surveillances that are required in other MODEs as well as the calibration requirement that is being added. A source range ACOT is performed prior to plant startup which ensures that required trips and actuations are available during startup, the most likely time they will be needed to mitigate plant accidents. Since the duration of MODE 6 is so short when compared to the normal surveillance frequency in other MODEs, deletion of the performance of an ACOT in MODE 6 will not adversely affect plant safety.

North Atlantic concludes that based upon the above discussion (Section B., Evaluation of Proposed Changes), 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.

D. References

1. NUREG-1431, Revision 2, "Standard Technical Specifications, Westinghouse Plants," April 2001

2. WCAP-11618, "Methodically Engineered, Restructured and Improved, Technical Specifications," November 1987

3. WCAP-11618, Addendum 1, "Methodically Engineered, Restructured and Improved, Technical Specifications," April 1989

4. WOG-88-076, "Westinghouse Owners group, NRC STS Split Report," May 16, 1988

5. NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980

SECTION II

MARKUP OF PROPOSED CHANGES

Refer to the attached markup of the proposed changes to the Technical Specifications (TSs). The attached markup reflects the currently issued revision of the TSs listed below. Pending TSs or TS changes issued subsequent to this submittal are not reflected in the enclosed markup.

The following TS changes are included in the attached markup:

Technical Specification	Title	Page(s)
Index	Limiting Conditions for Operation and Surveillance Requirements	iii & v & x
3.1.2.1	Reactivity Control Systems Boration Systems, Flow Paths - Shutdown	3/4 1-7
3.1.2.2	Reactivity Control Systems Boration Systems, Flow Paths - Operating	3/4 1-8
3.1.2.3	Reactivity Control Systems Boration Systems, Charging Pump - Shutdown	3/4 1-9
3.1.2.4	Reactivity Control Systems Boration Systems, Charging Pumps - Operating	3/4 1-10
3.1.2.5	Reactivity Control Systems Boration Systems, Borated Water Sources - Shutdown	3/4 1-11
3.1.2.6	Reactivity Control Systems Boration Systems, Borated Water Sources - Operating	3/4 1-12 & 13
3.1.2.7	Reactivity Control Systems Boration Systems, Borated Water Sources - Operating	3/4 1-14
3.4.1.2	Reactor Coolant System Reactor Coolant Loops And Recirculation Hot Standby	3/4 4-2 & 3
3.4.3	Reactor Coolant System Pressurizer	3/4 4-10
3.4.7	Reactor Coolant System Chemistry	3/4 4-25 & 26
3.9.2	Refueling Operations Instrumentation	3/4 9-2

Technical Specification	Title	Page(s)
3/4.1.2	Boration Systems	B 3/4 1-2 & 3
3/4.4.1	Reactor Coolant Loops and Coolant Recirculation	B 3/4 4-1
3/4.4.7	Chemistry	B 3/4 4-5
3/4.9.2	Instrumentation	B 3/4 9-2a

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

~~REACTIVITY CONTROL SYSTEMS~~

~~3/4.1.2 BORATION SYSTEMS~~

~~FLOW PATHS - SHUTDOWN~~

LIMITING CONDITION FOR OPERATION

3.1.2.1 As a minimum, one of the following boron injection flow paths shall be OPERABLE and capable of being powered from an OPERABLE emergency power source:

a. A flow path from the boric acid tanks via either a boric acid transfer pump or a gravity feed connection and a charging pump to the Reactor Coolant System if the boric acid storage tank in Specification 3.1.2.5a. is OPERABLE, or

b. The flow path from the refueling water storage tank via a charging pump to the Reactor Coolant System if the refueling water storage tank in Specification 3.1.2.5b. is OPERABLE.

APPLICABILITY: MODES 4, 5, and 6.

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ACTION:

With none of the above flow paths OPERABLE or capable of being powered from an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

SURVEILLANCE REQUIREMENTS

4.1.2.1 At least one of the above required flow paths shall be demonstrated OPERABLE at least once per 31 days by verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

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LIMITING CONDITION FOR OPERATION

3.1.2.2 At least two of the following three boron injection flow paths shall be OPERABLE:

a. The flow path from the boric acid tanks via a boric acid transfer pump and a charging pump to the Reactor Coolant System (RCS), and

b. Two flow paths from the refueling water storage tank via charging pumps to the RCS.

APPLICABILITY: MODES 1, 2, and 3*

ACTION:

With only one of the above required boron injection flow paths to the RCS OPERABLE, restore at least two boron injection flow paths to the RCS to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to at least the limit specified in the CORE OPERATING LIMITS REPORT (COLR) for the above MODES at 200°F within the next 6 hours; restore at least two flow paths to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

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SURVEILLANCE REQUIREMENTS

4.1.2.2 At least two of the above required flow paths shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position;

b. At least once per 18 months during shutdown by verifying that each automatic valve in the flow path actuates to its correct position on a safety injection test signal; and

c. At least once per 18 months by verifying that the flow path required by Specification 3.1.2.2a. delivers at least 30 gpm to the RCS.

*The provisions of Specifications 3.0.4 and 4.0.4 are not applicable for entry into MODE 3 for the centrifugal charging pump declared inoperable pursuant to Specification 4.1.2.3.2 provided that the centrifugal charging pump is restored to OPERABLE status within 4 hours or prior to the temperature of one or more of the RCS cold legs exceeding 375°F, whichever comes first.

~~REACTIVITY CONTROL SYSTEMS~~

~~BORATION SYSTEMS~~

~~CHARGING PUMP - SHUTDOWN~~

LIMITING CONDITION FOR OPERATION

3.1.2.3 One charging pump in the boron injection flow path required by Specification 3.1.2.1 shall be OPERABLE and capable of being powered from an OPERABLE emergency power source.

APPLICABILITY: MODES 4, 5, and 6.

ACTION:

With no charging pump OPERABLE or capable of being powered from an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

SURVEILLANCE REQUIREMENTS

4.1.2.3.1 The above required charging pump shall be demonstrated OPERABLE when tested pursuant to Specification 4.0.5.

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4.1.2.3.2 All charging pumps, excluding the above required OPERABLE pump, shall be demonstrated inoperable* by verifying that the motor circuit breakers are secured in the open position** within 4 hours after entering MODE 4 from MODE 3 or prior to the temperature of one or more of the RCS cold legs decreasing below 325°F, whichever comes first, and at least once per 31 days thereafter, except when the reactor vessel head closure bolts are fully detensioned or the vessel head is removed.

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*An additional pump may be made capable of injecting under administrative control for up to 1 hour during pump-swap operation, except during RCS water-solid conditions. Additionally, an inoperable pump may be energized for testing provided the discharge of the pump has been isolated from the RCS by a closed isolation valve with power removed from the valve operator, or by a manual isolation valve secured in the closed position.

**An alternate method to assure pump inoperability may be used by placing the control room pump-control switch in the Pull-to-Lock position and isolating the discharge flow path of the pump from the RCS by at least one closed isolation valve. Use of the alternate method requires inoperability verification at least once every 12 hours.

~~REACTIVITY CONTROL SYSTEMS~~

~~BORATION SYSTEMS~~

~~CHARGING PUMPS - OPERATING~~

LIMITING CONDITION FOR OPERATION

3.1.2.4 At least two charging pumps shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.*

ACTION:

With only one charging pump OPERABLE, restore at least two charging pumps to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to at least the limit specified in the CORE OPERATING LIMITS REPORT (COLR) for the above MODES at 200°F within the next 6 hours; restore at least two charging pumps to OPERABLE status within the next 7 days or be in HOT SHUTDOWN within the next 6 hours.

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SURVEILLANCE REQUIREMENTS

4.1.2.4 At least two charging pumps shall be demonstrated OPERABLE when tested pursuant to Specification 4.0.5.

*The provisions of Specifications 3.0.4 and 4.0.4 are not applicable for entry into MODE 3 for the centrifugal charging pump declared inoperable pursuant to Specification 4.1.2.3.2 provided that the centrifugal charging pump is restored to OPERABLE status within 4 hours or prior to the temperature of one or more of the RCS cold legs exceeding 375°F, whichever comes first.

~~REACTIVITY CONTROL SYSTEMS~~

~~BORATION SYSTEMS~~

~~BORATED WATER SOURCES - SHUTDOWN~~

LIMITING CONDITION FOR OPERATION

3.1.2.5 As a minimum, one of the following borated water sources shall be OPERABLE:

a. A Boric Acid Storage System with:

1) A minimum contained borated water volume of 6,[illegible]00 gallons,

2) A minimum boron concentration of 7000 ppm, and

3) A minimum solution temperature of 65°F.

b. The refueling water storage tank (RWST) with:

1) A minimum contained borated water volume of 24,500 gallons,

2) A minimum boron concentration of 2700 ppm, and 1

3) A minimum solution temperature of 50°F.

APPLICABILITY: MODES 5 and 6.

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ACTION:

With no borated water source OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

SURVEILLANCE REQUIREMENTS

4.1.2.5 The above required borated water source shall be demonstrated OPERABLE:

a. At least once per 7 days by:

1) Verifying the boron concentration of the water,

2) Verifying the contained borated water volume, and

3) Verifying the boric acid storage tank solution temperature when it is the source of borated water.

b. At least once per 24 hours by verifying the RWST temperature.

~~REACTIVITY CONTROL SYSTEMS~~

~~BORATION SYSTEMS~~

~~BORATED WATER SOURCES - OPERATING~~

LIMITING CONDITION FOR OPERATION

3.1.2.6 As a minimum, the following borated water sources shall be OPERABLE as required by Specification 3.1.2.2:

a. A Boric Acid Storage System with:

1) A minimum contained borated water volume of 22,000 gallons,

2) A minimum boron concentration of 7000 ppm, and

3) A minimum solution temperature of 65°F.

b. The refueling water storage tank (RWST) with:

1) A minimum contained borated water volume of 477,000 gallons,

2) A boron concentration between 2700 and 2900 ppm,

3) A minimum solution temperature of 50°F, and

4) A maximum solution temperature of 98°F.

APPLICABILITY: MODES 1, 2, 3 and 4.

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ACTION:

a. With the Boric Acid Storage System inoperable and being used as one of the above required borated water sources, restore the system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and borated to a SHUTDOWN MARGIN equivalent to at least the limit specified in the CORE OPERATING LIMITS REPORT (COLR) for the above MODES at 200°F; restore the Boric Acid Storage System to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

b. With the RWST inoperable, restore the tank to OPERABLE status within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

~~REACTIVITY CONTROL SYSTEMS~~

~~BORATION SYSTEMS~~

~~BORATED WATER SOURCES - OPERATING~~

SURVEILLANCE REQUIREMENTS

4.1.2.6 Each borated water source shall be demonstrated OPERABLE:

a. At least once per 7 days by:

1) Verifying the boron concentration in the water,

2) Verifying the contained borated water volume of the water source, and

3) Verifying the Boric Acid Storage System solution temperature when it is the source of borated water.

b. At least once per 24 hours by verifying the RWST temperature.

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ISOLATION OF UNBORATED WATER SOURCES - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.7 Provisions to isolate the Reactor Coolant System from unborated water sources shall be OPERABLE with:

a. The Boron Thermal Regeneration System (BTRS) isolated from the Reactor Coolant System, and

b. The Reactor Makeup Systems inoperable except for the capability of delivering up to the capacity of one Reactor Makeup Water pump to the Reactor Coolant System.

APPLICABILITY: MODES 4, 5, and 6

ACTION:

With the requirements of the above specification not satisfied immediately suspend all operations involving CORE ALTERATIONS or positive reactivity changes and, if within 1 hour the required SHUTDOWN MARGIN is not verified, initiate and continue boration at greater than or equal to 30 gpm of a solution containing greater than or equal to 7000 ppm boron or equivalent until the required SHUTDOWN MARGIN is restored and the isolation provisions are restored to OPERABLE.

SURVEILLANCE REQUIREMENTS

4.1.2.7 The provisions to isolate the Reactor Coolant System from unborated water sources shall be determined to be OPERABLE at least once per 31 days by:

a. Verifying that at least the BTRS outlet valve, CS-V-302, or the BTRS moderating heat exchanger outlet valve, CS-V-305, is closed and locked closed, and

b. Verifying that power is removed from at least one of the Reactor Makeup Water pumps, RMW-P-16A or RMW-P-16B.

or the manual outlet isolation valve for each demineralizer* not saturated with boron, CS-V-284, CS-V-295, CS-V-288, CS-V-290, CS-V-291,

* A demineralizer may be unisolated to saturate a bed with boron provided the effluent is not directed back to the Reactor Coolant System.

3/4.4 REACTOR COOLANT SYSTEM

3/4.4.1 REACTOR COOLANT LOOPS AND COOLANT CIRCULATION

STARTUP AND POWER OPERATION

LIMITING CONDITION FOR OPERATION

3.4.1.1 All reactor coolant loops shall be in operation.

APPLICABILITY: MODES 1 and 2.*

ACTION:

With less than the above required reactor coolant loops in operation, be in at least HOT STANDBY within 6 hours.

SURVEILLANCE REQUIREMENTS

4.4.1.1 The above required reactor coolant loops shall be verified in operation and circulating reactor coolant at least once per 12 hours.

No Change, For Information Only

*See Special Test Exceptions Specification 3.10.4.

REACTOR COOLANT SYSTEM

the Control Rod Drive System is capable of rod withdrawal

REACTOR COOLANT LOOPS AND COOLANT CIRCULATION

HOT STANDBY

the Control Rod Drive System is not capable of rod withdrawal.

LIMITING CONDITION FOR OPERATION

3.4.1.2 At least two ~~of the~~ reactor coolant loops ~~listed below~~ shall be OPERABLE with two reactor coolant loops in operation when ~~the Reactor Trip System breakers are closed~~ and one reactor coolant loop in operation when ~~the Reactor Trip System breakers are open:~~*

~~a. Reactor Coolant Loop A and its associated steam generator and reactor coolant pump,~~

~~b. Reactor Coolant Loop B and its associated steam generator and reactor coolant pump,~~

~~c. Reactor Coolant Loop C and its associated steam generator and reactor coolant pump, and~~

~~d. Reactor Coolant Loop D and its associated steam generator and reactor coolant pump.~~

APPLICABILITY: MODE 3.

(1)

ACTION:

two

the Control Rod Drive System is capable of rod withdrawal

a. With less than ~~the above required~~ reactor coolant loops OPERABLE, restore the required loops to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.

b. With only one reactor coolant loop in operation and ~~the Reactor Trip System breakers in the closed position~~, within 1 hour ~~open the Reactor Trip System breakers~~.

c. With no reactor coolant loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required reactor coolant loop to operation.

return the required reactor coolant loop to operation or

place the Control Rod Drive System in a condition incapable of rod withdrawal.

place the Control Rod Drive System in a condition incapable of rod withdrawal, and

per 8 hour period

*All reactor coolant pumps may be deenergized for up to 1 hour provided: (1) no operations are permitted that would cause dilution of the Reactor Coolant System boron concentration, and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

(1)

HOT STANDBY

*

SURVEILLANCE REQUIREMENTS

4.4.1.2.1 At least the above required reactor coolant pumps, if not in operation*, shall be determined OPERABLE once per 7 days by verifying correct breaker alignments and indicated power availability.

4.4.1.2.2 The required steam generators shall be determined OPERABLE by verifying secondary side water level to be greater than or equal to 14% at least once per 12 hours.

4.4.1.2.3 The required reactor coolant loops shall be verified in operation and circulating reactor coolant at least once per 12 hours.

* Not required to be performed until 24 hours after a required pump is not in operation.

REACTOR COOLANT SYSTEM

3/4.4.3 PRESSURIZER

LIMITING CONDITION FOR OPERATION

3.4.3 The pressurizer shall be OPERABLE with a water volume of less than or equal to 92% of pressurizer level (1656 cubic feet), and at least two groups of pressurizer heaters each having a capacity of at least 150 kW and capable of being powered from an emergency power supply.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

a. With only one group of pressurizer heaters OPERABLE, restore at least two groups to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

b. With the pressurizer otherwise inoperable, fully insert all rods, place the Control Rod Drive System in a condition incapable of rod withdrawal, and be in at least HOT STANDBY ~~with the Reactor Trip System breakers open~~ within 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.4.3.1 The pressurizer water volume shall be determined to be within its limit at least once per 12 hours.

4.4.3.2 The capacity of each of the above required groups of pressurizer heaters shall be verified by energizing the heaters from the emergency power supply and measuring circuit current at least once each refueling interval. 1

3/4.4.7 ~~CHEMISTRY~~ (THIS SPECIFICATION NUMBER IS NOT USED)

LIMITING CONDITION FOR OPERATION

3.4.7 The Reactor Coolant System chemistry shall be maintained within the limits specified in Table 3.4-2.

APPLICABILITY: At all times.

ACTION:

MODES 1, 2, 3, and 4:

a. With any one or more chemistry parameter in excess of its Steady-State Limit but within its Transient Limit, restore the parameter to within its Steady-State Limit within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; and

b. With any one or more chemistry parameter in excess of its Transient Limit, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

At All Other Times:

With the concentration of either chloride or fluoride in the Reactor Coolant System in excess of its Steady-State Limit for more than 24 hours or in excess of its Transient Limit, reduce the pressurizer pressure to less than or equal to 500 psig, if applicable, and perform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the Reactor Coolant System; determine that the Reactor Coolant System remains acceptable for continued operation prior to increasing the pressurizer pressure above 500 psig or prior to proceeding to MODE 4.

SURVEILLANCE REQUIREMENTS

4.4.7 The Reactor Coolant System chemistry shall be determined to be within the limits by analysis of those parameters specified in Table 3.4-2 at least once per 72 hours.*

~~*Sample and analysis for dissolved oxygen is not required with $T_{avg} \leq 250°F$~~

(1)

TABLE 3.4-2

~~REACTOR COOLANT SYSTEM CHEMISTRY LIMITS~~

PARAMETER	STEADY-STATE LIMIT	TRANSIENT LIMIT
~~Dissolved Oxygen*~~	~~≤ 0.10 ppm~~	~~≤ 1.00 ppm~~
~~Chloride~~	~~< 0.15 ppm~~	~~≤ 1.50 ppm~~
~~Fluoride~~	~~≤ 0.15 ppm~~	~~≤ 1.50 ppm~~

~~*Limit not applicable with T_{avg} less than or equal to 250°F~~

(THIS TABLE NUMBER IS NOT USED)

1

3/4.9.2 INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.9.2 As a minimum, two Source Range Neutron Flux Monitors shall be OPERABLE. ~~each with continuous visual indication in the control room and one with audible indication in the containment and control room~~.

APPLICABILITY: MODE 6.

ACTION:

immediately initiate corrective action to restore one source range neutron flux monitor to OPERABLE status and

a. With one of the above required monitors inoperable or not operating, immediately suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

b. With both of the above required monitors inoperable or not operating, determine the boron concentration of the Reactor Coolant System at least once per 12 hours.

SURVEILLANCE REQUIREMENTS

4.9.2 Each Source Range Neutron Flux Monitor shall be demonstrated OPERABLE by performance of:

a. A CHANNEL CHECK at least once per 12 hours,

b. ~~An ANALOG CHANNEL OPERATIONAL TEST within 8 hours prior to the initial start of CORE ALTERATIONS, and~~

~~c. An ANALOG CHANNEL OPERATIONAL TEST at least once per 7 days.~~

A CHANNEL CALIBRATION* at least once per 18 months.

* Neutron detectors may be excluded from CHANNEL CALIBRATION.

Amendment No.

BORATION CONTROL

3/4.1.1.3 MODERATOR TEMPERATURE COEFFICIENT (Continued)

The surveillance requirements for measurement of the MTC at the beginning and near the end of the fuel cycle are adequate to confirm that the MTC remains within its limits since this coefficient changes slowly due principally to the reduction in RCS boron concentration associated with fuel burnup.

The cycle specific upper MTC limit in ~~the~~ COLR is determined during the design of each cycle. The upper MTC limit provides assurance of compliance with the ATWS Rule and the basis for the Rule by limiting core damage frequency from an ATWS event below the target of 1.0 x 10^{-5} per reactor year established in SECY-83-293. The COLR limit will also assure that the core will have an MTC less positive than -8 PCM/DEG F for at least 95% of the cycle time at full power.

Prior to initial operation above 5% RATED THERMAL POWER after each fuel loading, the MTC is measured as required by Surveillance Requirement 4.1.1.3.a. A measurement bias is derived from the difference between test measurement and test prediction. All predicted values of MTC for the cycle are conservatively corrected based on measurement bais. The corrected predications are then compared to the maximum upper limit of Technical Specification 3.1.1.3. Control rod withdrawal limits are established, if required, to assure all corrected values of predicted MTC will be less positive than the limit specified in the COLR, and the maximum upper limit required by Technical Specification 3.1.1.3.

3/4.1.1.4 MINIMUM TEMPERATURE FOR CRITICALITY

This specification ensures that the reactor will not be made critical with the Reactor Coolant System average temperature less than 551° F. This limitation is required to ensure: (1) the moderator temperature coefficient is within its analyzed temperature range, (2) the trip instrumentation is within its normal operating range, (3) the pressurizer is capable of being in an OPERABLE status with a steam bubble, and (4) the reactor vessel is above its minimum RT_{NDT} temperature.

~~3/4.1.2 BORATION SYSTEMS~~

~~The Boron Injection System ensures that negative reactivity control is available during each mode of facility operation. The components required to perform this function include: (1) borated water sources, (2) charging pumps, (3) separate flow paths, (4) boric acid transfer pumps, and (5) an emergency power supply from OPERABLE diesel generators.~~

~~With the RCS in MODES 1, 2, or 3, a minimum of two boron injection flow paths are required to ensure single functional capability in the event an assumed failure renders one of the flow paths inoperable. The boration capability of either flow path is sufficient to provide a SHUTDOWN MARGIN as specified in the CORE OPERATING LIMITS REPORT from expected operating conditions after xenon decay and cooldown to 200° F. The maximum expected~~

3/4.1.2 BORATION SYSTEMS ~~(Continued)~~

boron capability requirement occurs at EOL from full power equilibrium xenon conditions and requires 22,000 gallons of 7000 ppm borated water from the boric acid storage tanks or a minimum contained volume of 477,000 gallons of 2700 - 2900 ppm borated water from the refueling water storage tank (RWST).

The limitation for a maximum of one centrifugal charging pump to be OPERABLE and the Surveillance Requirement to verify all charging pumps except the required OPERABLE pump to be inoperable in MODES 4, 5, and 6 except when the reactor vessel head closure bolts are fully detensioned or the vessel head is removed, provides assurance that a mass addition pressure transient can be relieved by operation of a single PORV or an RHR suction relief valve.

As a result of this, only one boron injection system is available. This is acceptable on the basis of the stable reactivity condition of the reactor, the emergency power supply requirement for the OPERABLE charging pump and the additional restrictions prohibiting CORE ALTERATIONS and positive reactivity changes in the event the single injection system becomes inoperable.

The boron capability required below 200°F is sufficient to provide a SHUTDOWN MARGIN as specified in the CORE OPERATING LIMITS REPORT after xenon decay and cooldown from 200° F to 140° F. This condition requires a minimum contained volume of 6500 gallons of 7000 ppm borated water from the boric acid storage tanks or a minimum contained volume of 24,500 gallons of 2700 ppm borated water from the RWST.

The contained water volume limits include allowance for water not available because of discharge line location and other physical characteristics.

The limits on contained water volume and boron concentration of the RWST also ensure a pH value of between 8.5 and 11.0 for the solution recirculated within containment after a LOCA. This pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components.

The OPERABILITY of one Boron Injection System during REFUELING ensures that this system is available for reactivity control while in MODE 6.

The limitations on OPERABILITY of isolation provisions for the Boron Thermal Regeneration System and the Reactor Water Makeup System in Modes 4, 5, and 6 ensure that the boron dilution flow rates cannot exceed the value assumed in the transient analysis.

A resin bed is considered saturated with boron when the effluent boron concentration is within 5% or 5 ppm, whichever is greater, of the Reactor Coolant System boron concentration at the time the resin bed was saturated. Saturation ensures that no further boron may be removed by the resin bed regardless of the current boron concentration.

placing the Control Rod Drive System in a condition incapable of rod withdrawal

BASES

3/4.4.1 REACTOR COOLANT LOOPS AND COOLANT CIRCULATION

Insert A

The plant is designed to operate with all reactor coolant loops in operation and maintain DNBR above 1.30 during all normal operations and anticipated transients. In MODES 1 and 2 with one reactor coolant loop not in operation, this specification requires that the plant be in at least HOT STANDBY within 6 hours.

In MODE 3, two reactor coolant loops provide sufficient heat removal capability for removing core decay heat even in the event of a bank withdrawal accident; however, a single reactor coolant loop provides sufficient heat removal capacity if a bank withdrawal accident can be prevented, i.e., by ~~opening the Reactor Trip System breakers~~. Single failure considerations require that two loops be OPERABLE at all times.

In MODE 4, and in MODE 5 with reactor coolant loops filled, a single reactor coolant loop or RHR loop provides sufficient heat removal capability for removing decay heat; but single failure considerations require that at least two loops (either RHR or RCS) be OPERABLE.

In MODE 5 with reactor coolant loops not filled, a single RHR loop provides sufficient heat removal capability for removing decay heat; but single failure considerations, and the unavailability of the steam generators as a heat removing component, require that at least two RHR loops be OPERABLE.

Insert B

The operation of one reactor coolant pump (RCP) or one RHR pump provides adequate flow to ensure mixing, prevent stratification and produce gradual reactivity changes during boron concentration reductions in the Reactor Coolant System. The reactivity change rate associated with boron reduction will, therefore, be within the capability of operator recognition and control.

The restrictions on starting an RCP in MODES 4 and 5 are provided to prevent RCS pressure transients, caused by energy additions from the Secondary Coolant System, which could exceed the limits of Appendix G to 10 CFR Part 50. The RCS will be protected against overpressure transients and will not exceed the limits of Appendix G by restricting starting of the RCPs to when the secondary water temperature of each steam generator is less than 50°F above each of the RCS cold-leg temperatures.

3/4.4.2 SAFETY VALVES

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 lbs 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 valves are OPERABLE, an operating RHR loop, connected to the RCS, provides overpressure relief capability and will prevent RCS overpressurization. In addition, the Overpressure Protection System provides a diverse means of protection against RCS overpressurization at low temperatures.

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Insert A, Page B 3/4 4-1

A reactor coolant loop is comprised of its associated steam generator and reactor coolant pump. An OPERABLE reactor coolant system loop consists of an OPERABLE reactor coolant pump and an OPERABLE steam generator in accordance with the Steam Generator Tube Surveillance Program.

Insert B, Page B 3/4 4-1

A Reactor Coolant "loops filled" condition is defined as follows: (1) Having pressurizer level greater than or equal to 50% if the pressurizer does not have a bubble, and greater than or equal to 17% when there is a bubble in the pressurizer. (2) Having the air and non-condensables evacuated from the Reactor Coolant System by either operating each reactor coolant pump for a short duration to sweep air from the Steam Generator U-tubes into the upper head area of the reactor vessel, or removing the air from the Reactor Coolant System via an RCS evacuation skid, and (3) Having vented the upper head area of the reactor vessel if the pressurizer does not have a bubble. (4) Having the Reactor Coolant System not vented, or if vented capable of isolating the vent paths within the time to boil.

3/4.4.7 ~~CHEMISTRY~~ (THIS SPECIFICATION NUMBER IS NOT USED.)

~~The limitations on Reactor Coolant System chemistry ensure that corrosion of the Reactor Coolant System is minimized and reduces the potential for Reactor Coolant System leakage or failure due to stress corrosion. Maintaining the chemistry within the Steady-State Limits provides adequate corrosion protection to ensure the structural integrity of the Reactor Coolant System over the life of the plant. The associated effects of exceeding the oxygen, chloride, and fluoride limits are time and temperature dependent. Corrosion studies show that operation may be continued with contaminant concentration levels in excess of the Steady-State Limits, up to the Transient Limits, for the specified limited time intervals without having a significant effect on the structural integrity of the Reactor Coolant System. The time interval permitting continued operation within the restrictions of the Transient Limits provides time for taking corrective actions to restore the contaminant concentrations to within the Steady-State Limits.~~

~~The Surveillance Requirements provide adequate assurance that concentrations in excess of the limits will be detected in sufficient time to take corrective action.~~

3/4.4.8 SPECIFIC ACTIVITY

The limitations on the specific activity of the reactor coolant ensure that the resulting 2-hour doses at the SITE BOUNDARY will not exceed an appropriately small fraction of 10 CFR Part 100 dose guideline values following a steam generator tube rupture accident in conjunction with an assumed steady-state reactor-to-secondary steam generator leakage rate of 1 gpm. The values for the limits on specific activity represent limits based upon a parametric evaluation by the NRC of typical site locations. These values are conservative in that specific site parameters of the Seabrook site, such as SITE BOUNDARY location and meteorological conditions, were not considered in this evaluation.

3/4.9.2 INSTRUMENTATION

Insert A

~~The OPERABILITY of the Source Range Neutron Flux Monitors ensures that redundant monitoring capability is available to detect changes in the reactivity condition of the core.~~

3/4.9.3 DECAY TIME

The minimum requirement for reactor subcriticality prior to movement of irradiated fuel assemblies in the reactor vessel ensures that sufficient time has elapsed to allow the radioactive decay of the short-lived fission products. This decay time is consistent with the assumptions used in the safety analyses.

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

The Limiting Condition for Operation (LCO) limits the consequences of a fuel handling accident in containment by limiting the potential escape paths for fission product radioactivity released within containment. The LCO requires any penetration providing direct access from the containment atmosphere to the outside atmosphere to be closed except for the OPERABLE containment purge and exhaust penetrations, the approved alternate closure methods and the containment personnel airlock.

For the approved alternate closure methods, the LCO requires that a designated individual must be available to close or direct the remote closure of the penetration in the event of a fuel handling accident. "Available" means stationed at the penetration or performing activities controlled by a procedure on equipment associated with the penetration.

For the personnel airlocks (containment or equipment hatch), the LCO ensures that the airlock can be closed after containment evacuation in the event of a fuel handling accident. The requirement that the airlock door is capable of being closed requires that the door can be closed and is not blocked by objects that cannot be easily and quickly removed. As an example, the use of removable protective covers for the door seals and sealing surfaces is permitted. The requirement for a designated individual located outside of the airlock area available to lose the door following evacuation of the containment will minimize the release of radioactive material.

The fuel handling accident analysis inside containment assumes both of the personnel airlock doors are open and an additional 12" diameter penetration (or equivalent area) is open. The analysis is bounded by these assumptions since all of the available activity is assumed to be released instantaneously from the containment to the atmosphere.

Amendment No.

Insert A, Page B 3/4 9-2a

BACKGROUND

The source range neutron flux monitors are used during refueling operations to monitor the core reactivity condition. The installed source range neutron flux monitors are part of the Nuclear Instrumentation System (NIS). These detectors are located external to the reactor vessel and detect neutrons leaking from the core.

The installed source range neutron flux monitors are BF3 detectors operating in the proportional region of the gas filled detector characteristic curve. The detectors monitor the neutron flux in counts per second. The instrument range covers six decades of neutron flux (1 E+6 cps) with an 11.5% instrument accuracy. The detectors also provide continuous visual indication in the control room and an audible count rate in the control room and containment to alert operators to a possible dilution accident. The source range circuitry provides a signal to the Shutdown Margin Monitor (SMM). The SMM provides an audible alarm in the control room to alert operators to a possible dilution accident. The NIS is designed in accordance with the criteria presented in Reference 1.

APPLICABLE SAFETY ANALYSES

Two OPERABLE source range neutron flux monitors are required to provide a signal to alert the operator to unexpected changes in core reactivity such as with a boron dilution accident (Reference 2) or an improperly loaded fuel assembly. The audible count rate from the source range neutron flux monitors provides prompt and definite indication of any boron dilution. The count rate increase is proportional to the subcritical multiplication factor and allows operators to promptly recognize the initiation of a boron dilution event. Prompt recognition of the initiation of a boron dilution event is consistent with the assumptions of the safety analyses and is necessary to assure sufficient time is available for isolation of the primary makeup water source before SHUTDOWN MARGIN is lost (Reference 2).

The source range neutron flux monitors satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LIMITING CONDITION FOR OPERATION

This LCO requires that two source range neutron flux monitors be OPERABLE to ensure that redundant monitoring capability is available to detect changes in core reactivity. To be OPERABLE, each monitor must provide visual indication in the control room. In addition, at least one of the two monitors must provide an OPERABLE audible count rate function to alert the operators to the initiation of a boron dilution event.

APPLICABILITY

In MODE 6, the source range neutron flux monitors must be OPERABLE to determine changes in core reactivity. There are no other direct means available to check core reactivity levels. In MODES 2, 3, 4, and 5, these same installed source range detectors and circuitry are also required to be OPERABLE by LCO 4.3.1.1, "Reactor Trip System Instrumentation."

Insert A, Page B 3/4 9-2a (continued)

ACTIONS

A

With only one source range neutron flux monitor OPERABLE, redundancy has been lost. Since these instruments are the only direct means of monitoring core reactivity conditions, CORE ALTERATIONS and any operation that would add positive reactivity must be suspended immediately. Suspending positive reactivity additions that could result in failure to meet the minimum boron concentration limit is required to assure continued safe operation. Introduction of coolant inventory must be from sources that have a boron concentration greater than what would be required in the RCS for minimum refueling boron concentration. This may result in an overall reduction in RCS boron concentration, but provides acceptable margin to maintaining subcritical operation. Performance of Required Action A shall not preclude completion of movement of a component to a safe position.

B

With no source range neutron flux monitor OPERABLE, action to restore a monitor to OPERABLE status shall be initiated immediately. Once initiated, action shall be continued until a source range neutron flux monitor is restored to OPERABLE status.

With no source range neutron flux monitor OPERABLE, there are no direct means of detecting changes in core reactivity. However, since CORE ALTERATIONS and positive reactivity additions are not to be made, the core reactivity condition is stabilized until the source range neutron flux monitors are OPERABLE. This stabilized condition is determined by performing SR 4.9.1.2 to ensure that the required boron concentration exists.

The Completion Time of once per 12 hours is sufficient to obtain and analyze a reactor coolant sample for boron concentration and ensures that unplanned changes in boron concentration would be identified. The 12 hour frequency is reasonable, considering the low probability of a change in core reactivity during this time period.

Insert A, Page B 3/4 9-2a (continued)

SURVEILLANCE REQUIREMENTS

SR 4.9.2.a

SR 4.9.2.a is the performance of a CHANNEL CHECK, which is a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that the two indication channels should be consistent with core conditions. Changes in fuel loading and core geometry can result in significant differences between source range channels, but each channel should be consistent with its local conditions.

The Frequency of 12 hours is consistent with the CHANNEL CHECK Frequency specified similarly for the same instruments in LCO 4.3.1.1.

SR 4.9.2.b

SR 4.9.2.b is the performance of a CHANNEL CALIBRATION every 18 months. This SR is modified by a Note stating that neutron detectors are excluded from the CHANNEL CALIBRATION. The CHANNEL CALIBRATION for the source range neutron flux monitors consists of obtaining the detector plateau or preamp discriminator curves, evaluating those curves, and comparing the curves to the manufacturer's data. The CHANNEL CALIBRATION also includes verification of the audible count rate function. The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage. Operating experience has shown these components usually pass the Surveillance when performed at the 18 month Frequency.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 13, GDC 26, GDC 28, and GDC 29.
2. FSAR, Section 15.4.6.

SECTION III

RETYPE OF PROPOSED CHANGES

Refer to the attached retype of the proposed changes to the Technical Specifications (TSs). The attached retype reflects the currently issued version of the TSs. Pending TS changes or TS changes issued subsequent to this submittal are not reflected in the enclosed retype. The enclosed retype should be checked for continuity with TSs prior to issuance.

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

3.0/4.0 BASES

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3/4.1.2 BORATION SYSTEMS

ISOLATION OF UNBORATED WATER SOURCES - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.7 Provisions to isolate the Reactor Coolant System from unborated water sources shall be OPERABLE with:

a. The Boron Thermal Regeneration System (BTRS) isolated from the Reactor Coolant System, and

b. The Reactor Makeup Systems inoperable except for the capability of delivering up to the capacity of one Reactor Makeup Water pump to the Reactor Coolant System.

APPLICABILITY: MODES 4, 5, and 6

ACTION:

With the requirements of the above specification not satisfied immediately suspend all operations involving CORE ALTERATIONS or positive reactivity changes and, if within 1 hour the required SHUTDOWN MARGIN is not verified, initiate and continue boration at greater than or equal to 30 gpm of a solution containing greater than or equal to 7000 ppm boron or equivalent until the required SHUTDOWN MARGIN is restored and the isolation provisions are restored to OPERABLE.

SURVEILLANCE REQUIREMENTS

4.1.2.7 The provisions to isolate the Reactor Coolant System from unborated water sources shall be determined to be OPERABLE at least once per 31 days by:

a. Verifying that at least the BTRS outlet valve, CS-V-302, or the BTRS moderating heat exchanger outlet valve, CS-V-305, or the manual outlet isolation valve for each demineralizer* not saturated with boron, CS-V-284, CS-V-295, CS-V-288, CS-V-290, CS-V-291, is closed and locked closed, and

b. Verifying that power is removed from at least one of the Reactor Makeup Water pumps, RMW-P-16A or RMW-P-16B.

* A demineralizer may be unisolated to saturate a bed with boron provided the effluent is not directed back to the Reactor Coolant System.

REACTOR COOLANT SYSTEM

REACTOR COOLANT LOOPS AND COOLANT CIRCULATION

HOT STANDBY

LIMITING CONDITION FOR OPERATION

3.4.1.2 At least two reactor coolant loops shall be OPERABLE with two reactor coolant loops in operation when the Control Rod Drive System is capable of rod withdrawal and one reactor coolant loop in operation when the Control Rod Drive System is not capable of rod withdrawal.*

APPLICABILITY: MODE 3.

ACTION:

a. With less than two reactor coolant loops OPERABLE, restore the required loops to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.

b. With only one reactor coolant loop in operation and the Control Rod Drive System is capable of rod withdrawal, within 1 hour return the required reactor coolant loop to operation or place the Control Rod Drive System in a condition incapable of rod withdrawal.

c. With no reactor coolant loop in operation, place the Control Rod Drive System in a condition incapable of rod withdrawal, and suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required reactor coolant loop to operation.

*All reactor coolant pumps may be deenergized for up to 1 hour per 8 hour period provided: (1) no operations are permitted that would cause dilution of the Reactor Coolant System boron concentration, and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

REACTOR COOLANT SYSTEM

REACTOR COOLANT LOOPS AND COOLANT CIRCULATION

HOT STANDBY

SURVEILLANCE REQUIREMENTS

4.4.1.2.1 At least the above required reactor coolant pumps, if not in operation* shall be determined OPERABLE once per 7 days by verifying correct breaker alignments and indicated power availability.

4.4.1.2.2 The required steam generators shall be determined OPERABLE by verifying secondary side water level to be greater than or equal to 14% at least once per 12 hours.

4.4.1.2.3 The required reactor coolant loops shall be verified in operation and circulating reactor coolant at least once per 12 hours.

*Not required to be performed until 24 hours after a required pump is not in operation.

3/4.4.3 PRESSURIZER

LIMITING CONDITION FOR OPERATION

3.4.3 The pressurizer shall be OPERABLE with a water volume of less than or equal to 92% of pressurizer level (1656 cubic feet), and at least two groups of pressurizer heaters each having a capacity of at least 150 kW and capable of being powered from an emergency power supply.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

a. With only one group of pressurizer heaters OPERABLE, restore at least two groups to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

b. With the pressurizer otherwise inoperable, fully insert all rods, place the Control Rod Drive System in a condition incapable of rod withdrawal, and be in at least HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.4.3.1 The pressurizer water volume shall be determined to be within its limit at least once per 12 hours.

4.4.3.2 The capacity of each of the above required groups of pressurizer heaters shall be verified by energizing the heaters from the emergency power supply and measuring circuit current at least once each refueling interval.

3/4.4.7 (THIS SPECIFICATION NUMBER IS NOT USED)

TABLE 3.4-2

(THIS TABLE NUMBER IS NOT USED)

3/4.9.2 INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.9.2 As a minimum, two Source Range Neutron Flux Monitors shall be OPERABLE.

APPLICABILITY: MODE 6.

ACTION:

a. With one of the above required monitors inoperable or not operating, immediately suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

b. With both of the above required monitors inoperable or not operating, immediately initiate corrective action to restore one source range neutron flux monitor to OPERABLE status and determine the boron concentration of the Reactor Coolant System at least once per 12 hours.

SURVEILLANCE REQUIREMENTS

4.9.2 Each Source Range Neutron Flux Monitor shall be demonstrated OPERABLE by performance of:

a. A CHANNEL CHECK at least once per 12 hours,

b. A CHANNEL CALIBRATION* at least once per 18 months.

*Neutron detectors may be excluded from CHANNEL CALIBRATION.

BORATION CONTROL

3/4.1.1.3 MODERATOR TEMPERATURE COEFFICIENT (Continued)

The surveillance requirements for measurement of the MTC at the beginning and near the end of the fuel cycle are adequate to confirm that the MTC remains within its limits since this coefficient changes slowly due principally to the reduction in RCS boron concentration associated with fuel burnup.

The cycle specific upper MTC limit in the COLR is determined during the design of each cycle. The upper MTC limit provides assurance of compliance with the ATWS Rule and the basis for the Rule by limiting core damage frequency from an ATWS event below the target of 1.0×10^{-5} per reactor year established in SECY-83-293. The COLR limit will also assure that the core will have an MTC less positive than -8 PCM/DEG F for at least 95% of the cycle time at full power.

Prior to initial operation above 5% RATED THERMAL POWER after each fuel loading, the MTC is measured as required by Surveillance Requirement 4.1.1.3.a. A measurement bias is derived from the difference between test measurement and test prediction. All predicted values of MTC for the cycle are conservatively corrected based on measurement bais. The corrected predications are then compared to the maximum upper limit of Technical Specification 3.1.1.3. Control rod withdrawal limits are established, if required, to assure all corrected values of predicted MTC will be less positive than the limit specified in the COLR, and the maximum upper limit required by Technical Specification 3.1.1.3.

3/4.1.1.4 MINIMUM TEMPERATURE FOR CRITICALITY

This specification ensures that the reactor will not be made critical with the Reactor Coolant System average temperature less than 551° F. This limitation is required to ensure: (1) the moderator temperature coefficient is within its analyzed temperature range, (2) the trip instrumentation is within its normal operating range, (3) the pressurizer is capable of being in an OPERABLE status with a steam bubble, and (4) the reactor vessel is above its minimum RT_{NDT} temperature.

3/4.1.2 BORATION SYSTEMS

The limitations on OPERABILITY of isolation provisions for the Boron Thermal Regeneration System and the Reactor Water Makeup System in Modes 4, 5, and 6 ensure that the boron dilution flow rates cannot exceed the value assumed in the transient analysis.

A resin bed is considered saturated with boron when the effluent boron concentration is within 5% or 5 ppm, whichever is greater, of the Reactor Coolant System boron concentration at the time the resin bed was saturated. Saturation ensures that no further boron may be removed by the resin bed regardless of the current boron concentration.

3/4.4.1 REACTOR COOLANT LOOPS AND COOLANT CIRCULATION

A reactor coolant loop is comprised of its associated steam generator and reactor coolant pump. An OPERABLE reactor coolant system loop consists of an OPERABLE reactor coolant pump and an OPERABLE steam generator in accordance with the Steam Generator Tube Surveillance Program.

The plant is designed to operate with all reactor coolant loops in operation and maintain DNBR above 1.30 during all normal operations and anticipated transients. In MODES 1 and 2 with one reactor coolant loop not in operation, this specification requires that the plant be in at least HOT STANDBY within 6 hours.

In MODE 3, two reactor coolant loops provide sufficient heat removal capability for removing core decay heat even in the event of a bank withdrawal accident; however, a single reactor coolant loop provides sufficient heat removal capacity if a bank withdrawal accident can be prevented, i.e., by placing the Control Rod Drive System in a condition incapable of rod withdrawal. Single failure considerations require that two loops be OPERABLE at all times.

In MODE 4, and in MODE 5 with reactor coolant loops filled, a single reactor coolant loop or RHR loop provides sufficient heat removal capability for removing decay heat; but single failure considerations require that at least two loops (either RHR or RCS) be OPERABLE.

In MODE 5 with reactor coolant loops not filled, a single RHR loop provides sufficient heat removal capability for removing decay heat; but single failure considerations, and the unavailability of the steam generators as a heat removing component, require that at least two RHR loops be OPERABLE.

A Reactor Coolant "loops filled" condition is defined as follows: (1) Having pressurizer level greater than or equal to 50% if the pressurizer does not have a bubble, and greater than or equal to 17% when there is a bubble in the pressurizer. (2) Having the air and non-condensables evacuated from the Reactor Coolant System by either operating each reactor coolant pump for a short duration to sweep air from the Steam Generator U-tubes into the upper head area of the reactor vessel, or removing the air from the Reactor Coolant System via an RCS evacuation skid, and (3) Having vented the upper head area of the reactor vessel if the pressurizer does not have a bubble. (4) Having the Reactor Coolant System not vented, or if vented capable of isolating the vent paths within the time to boil.

The operation of one reactor coolant pump (RCP) or one RHR pump provides adequate flow to ensure mixing, prevent stratification and produce gradual reactivity changes during boron concentration reductions in the Reactor Coolant System. The reactivity change rate associated with boron reduction will, therefore, be within the capability of operator recognition and control.

The restrictions on starting an RCP in MODES 4 and 5 are provided to prevent RCS pressure transients, caused by energy additions from the Secondary Coolant System, which could exceed the limits of Appendix G to 10 CFR Part 50. The RCS will be protected against overpressure transients and will not exceed the limits of Appendix G by restricting starting of the RCPs to when the secondary water temperature of each steam generator is less than 50°F above each of the RCS cold-leg temperatures.

3/4.4.2 SAFETY VALVES

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 lbs 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 valves are OPERABLE, an operating RHR loop, connected to the RCS, provides overpressure relief capability and will prevent RCS overpressurization. In addition, the Overpressure Protection System provides a diverse means of protection against RCS overpressurization at low temperatures.

3/4.4.7 (THIS SPECIFICATION NUMBER IS NOT USED)

3/4.4.8 SPECIFIC ACTIVITY

The limitations on the specific activity of the reactor coolant ensure that the resulting 2-hour doses at the SITE BOUNDARY will not exceed an appropriately small fraction of 10 CFR Part 100 dose guideline values following a steam generator tube rupture accident in conjunction with an assumed steady-state reactor-to-secondary steam generator leakage rate of 1 gpm. The values for the limits on specific activity represent limits based upon a parametric evaluation by the NRC of typical site locations. These values are conservative in that specific site parameters of the Seabrook site, such as SITE BOUNDARY location and meteorological conditions, were not considered in this evaluation.

3/4.9.2 INSTRUMENTATION

BACKGROUND

The source range neutron flux monitors are used during refueling operations to monitor the core reactivity condition. The installed source range neutron flux monitors are part of the Nuclear Instrumentation System (NIS). These detectors are located external to the reactor vessel and detect neutrons leaking from the core.

The installed source range neutron flux monitors are BF3 detectors operating in the proportional region of the gas filled detector characteristic curve. The detectors monitor the neutron flux in counts per second. The instrument range covers six decades of neutron flux (1 E+6 cps) with an 11.5% instrument accuracy. The detectors also provide continuous visual indication in the control room and an audible count rate in the control room and containment to alert operators to a possible dilution accident. The source range circuitry provides a signal to the Shutdown Margin Monitor (SMM). The SMM provides an audible alarm in the control room to alert operators to a possible dilution accident. The NIS is designed in accordance with the criteria presented in Reference 1.

APPLICABLE SAFETY ANALYSES

Two OPERABLE source range neutron flux monitors are required to provide a signal to alert the operator to unexpected changes in core reactivity such as with a boron dilution accident (Reference 2) or an improperly loaded fuel assembly. The audible count rate from the source range neutron flux monitors provides prompt and definite indication of any boron dilution. The count rate increase is proportional to the subcritical multiplication factor and allows operators to promptly recognize the initiation of a boron dilution event. Prompt recognition of the initiation of a boron dilution event is consistent with the assumptions of the safety analyses and is necessary to assure sufficient time is available for isolation of the primary makeup water source before SHUTDOWN MARGIN is lost (Reference 2).

The source range neutron flux monitors satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LIMITING CONDITION FOR OPERATION

This LCO requires that two source range neutron flux monitors be OPERABLE to ensure that redundant monitoring capability is available to detect changes in core reactivity. To be OPERABLE, each monitor must provide visual indication in the control room. In addition, at least one of the two monitors must provide an OPERABLE audible count function to alert the operators to the initiation of a boron dilution event.

3/4.9.2 INSTRUMENTATION (Continued)

APPLICABILITY

In MODE 6, the source range neutron flux monitors must be OPERABLE to determine changes in core reactivity. There are no other direct means available to check core reactivity levels. In MODES 2, 3, 4, and 5, these same installed source range detectors and circuitry are also required to be OPERABLE by LCO 4.3.1.1, "Reactor Trip System Instrumentation."

ACTIONS

A

With only one source range neutron flux monitor OPERABLE, redundancy has been lost. Since these instruments are the only direct means of monitoring core reactivity conditions, CORE ALTERATIONS and any operation that would add positive reactivity must be suspended immediately. Suspending positive reactivity additions that could result in failure to meet the minimum boron concentration limit is required to assure continued safe operation. Introduction of coolant inventory must be from sources that have a boron concentration greater than what would be required in the RCS for minimum refueling boron concentration. This may result in an overall reduction in RCS boron concentration, but provides acceptable margin to maintaining subcritical operation. Performance of Required Action A shall not preclude completion of movement of a component to a safe position.

B

With no source range neutron flux monitor OPERABLE, action to restore a monitor to OPERABLE status shall be initiated immediately. Once initiated, action shall be continued until a source range neutron flux monitor is restored to OPERABLE status.

With no source range neutron flux monitor OPERABLE, there are no direct means of detecting changes in core reactivity. However, since CORE ALTERATIONS and positive reactivity additions are not to be made, the core reactivity condition is stabilized until the source range neutron flux monitors are OPERABLE. This stabilized condition is determined by performing SR 4.9.1.2 to ensure that the required boron concentration exists.

The Completion Time of once per 12 hours is sufficient to obtain and analyze a reactor coolant sample for boron concentration and ensures that unplanned changes in boron concentration would be identified. The 12 hour Frequency is reasonable, considering the low probability of a change in core reactivity during this time period.

3/4.9.2 INSTRUMENTATION (Continued)

SURVEILLANCE REQUIREMENTS

SR 4.9.2.a

SR 4.9.2.a is the performance of a CHANNEL CHECK, which is a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that the two indication channels should be consistent with core conditions. Changes in fuel loading and core geometry can result in significant differences between source range channels, but each channel should be consistent with its local conditions.

The Frequency of 12 hours is consistent with the CHANNEL CHECK Frequency specified similarly for the same instruments in LCO 4.3.1.1.

SR4.9.2.b

SR 4.9.2.b is the performance of a CHANNEL CALIBRATION every 18 months. This SR is modified by a Note stating that neutron detectors are excluded from the CHANNEL CALIBRATION. The CHANNEL CALIBRATION for the source range neutron flux monitors consists of obtaining the detector plateau or preamp discriminator curves, evaluating those curves, and comparing the curves to the manufacturer's data. The CHANNEL CALIBRATION also includes verification of the audible count rate function. The 18 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage. Operating experience has shown these components usually pass the Surveillance when performed at the 18 month Frequency.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 13, GDCP 26, GDC 28, and GDC 29.

2. FSAR, Section 15.4.6.

3/4.9.3 DECAY TIME

The minimum requirement for reactor subcriticality prior to movement of irradiated fuel assemblies in the reactor vessel ensures that sufficient time has elapsed to allow the radioactive decay of the short-lived fission products. This decay time is consistent with the assumptions used in the safety analyses.

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

The Limiting Condition for Operation (LCO) limits the consequences of a fuel handling accident in containment by limiting the potential escape paths for fission product radioactivity released within containment. The LCO requires any penetration providing direct access from the containment atmosphere to the outside atmosphere to be closed except for the OPERABLE containment purge and exhaust penetrations, the approved alternate closure methods and the containment personnel airlock.

For the approved alternate closure methods, the LCO requires that a designated individual must be available to close or direct the remote closure of the penetration in the event of a fuel handling accident. "Available" means stationed at the penetration or performing activities controlled by a procedure on equipment associated with the penetration.

For the personnel airlocks (containment or equipment hatch), the LCO ensures that the airlock can be closed after containment evacuation in the event of a fuel handling accident. The requirement that the airlock door is capable of being closed requires that the door can be closed and is not blocked by objects that cannot be easily and quickly removed. As an example, the use of removable protective covers for the door seals and sealing surfaces is permitted. The requirement for a designated individual located outside of the airlock area available to lose the door following evacuation of the containment will minimize the release of radioactive material.

The fuel handling accident analysis inside containment assumes both of the personnel airlock doors are open and an additional 12" diameter penetration (or equivalent area) is open. The analysis is bounded by these assumptions since all of the available activity is assumed to be released instantaneously from the containment to the atmosphere.

SECTION IV

DETERMINATION OF SIGNIFICANT HAZARDS FOR PROPOSED CHANGES

IV. DETERMINATION OF SIGNIFICANT HAZARDS FOR PROPOSED CHANGES

North Atlantic Energy Service Corporation (North Atlantic) proposes changes that would: (1) relocate Technical Specifications (TSs) 3.1.2.1, "Reactivity Control Systems--Boration Systems--Flow Paths--Shutdown;" 3.1.2.2, "Reactivity Control Systems--Boration Systems--Flow Paths--Operating;" 3.1.2.3, "Reactivity Control Systems--Boration Systems--Charging Pump--Shutdown;" 3.1.2.4, "Reactivity Control Systems--Boration Systems--Charging Pumps--Operating;" 3.1.2.5, "Reactivity Control Systems--Boration Systems--Borated Water Sources--Shutdown;" 3.1.2.6, "Reactivity Control Systems--Boration Systems--Borated Water Sources--Operating;" and 3.4.7, "Reactor Coolant System--Chemistry;" and (2) modify TSs 3.1.2.7, "Reactivity Control Systems--Boration Systems--Isolation of Unborated Water Sources--Shutdown;" 3.4.1.2, "Reactor Coolant System--Reactor Coolant Loops and Coolant Recirculation--Hot Standby;" 3.4.3, "Reactor Coolant System--Pressurizer;" 3.4.7, "Reactor Coolant System--Chemistry;" 3.9.2, "Refueling Operations—Instrumentation." The Index and the associated Bases for these Technical Specifications will be modified as a result of the proposed changes.

The above proposed TS changes will relocate the boration subsystem and chemistry limits requirements to a licensee-controlled document; modify the requirement to isolate unborated water sources in MODE 4, 5 and 6; modify the reactor coolant system hot standby requirements, modify the reactor coolant system pressurizer requirements; modify the refueling operations instrumentation requirements; and provide numerous minor enhancements to the current requirements.

An evaluation of the proposed changes has been performed in accordance with 10CFR50.91(a)(1) regarding no significant hazards considerations using the criteria in 10CFR50.92(c). A discussion of these criteria as they relate to this amendment request follows:

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

   The TS changes propose the relocation of the boration subsystem and chemistry requirements to a licensee-controlled document. The relocation of these requirements will not cause an accident to occur and will not result in any change in the operation of the associated accident mitigation equipment. Therefore, the proposed changes will not increase the probability or consequences of an accident previously evaluated.

   The TS changes propose the modification of the TS for "Isolation of Unborated Water Sources – Shutdown." Only the demineralizers that are intended to deborate the Reactor Coolant System will need to be isolated in MODE 4, 5, or 6. Administrative controls, currently in use for the operation of the Boron Thermal Regeneration System and replenishment of demineralizer resin in the Chemical Volume and Control System, will be used to minimize the affects of an inadvertent dilution due to operation of the demineralizers. The Seabrook Station Updated Final Safety Analysis currently includes a boron dilution event analysis for each MODE of operation. Use of these administrative controls will ensure that the operation of the BTRS is bounded by the boron dilution analysis. Therefore, the modification of the TS requirement will not increase the probability or consequences of an accident previously evaluated.

The TS changes propose to change the source range flux monitor requirements in MODE 6. The proposed change does not significantly affect the operability of the associated equipment. The source range neutron flux monitors are components not assumed to be initiators of analyzed events. Therefore, the change in the TS requirement for the source range instrumentation in MODE 6 will not increase the probability or consequences of an accident previously evaluated.

The additional proposed changes to the TS that will standardize terminology, relocate information to the Bases, remove extraneous information, modify the requirements to prevent rod withdrawal for operational flexibility, and make minor format changes will not result in any technical changes to the current requirements. Therefore, these additional proposed changes will not increase the probability or consequences of an accident 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 to the TSs do not impact any system or component that could cause an accident, nor will it alter the plant configuration or require any unusual operator actions, nor will it alter the way any structure, system, or component functions. Therefore, the proposed changes will not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

The proposed TS changes associated with the relocation of the boration subsystem and chemistry requirements to a licensee-controlled document will not result in a significant reduction in a margin of safety.

The proposed TS changes associated with the modification of the TS for "Isolation of Unborated Water Sources – Shutdown." are consistent with the requirements contained in the Seabrook Station Updated Final Safety Analysis which currently includes a boron dilution event analysis for each MODE of operation. The changes result in operation within the parameters specified by the analysis. Therefore, the modification of the TS requirement will not result in a significant reduction in a margin of safety.

The proposed TS changes associated with the source range flux monitor do not significantly affect the operability of the associated equipment. Therefore, the change in the TS requirement for the source range instrumentation will not result in a significant reduction in a margin of safety.

The additional proposed changes to the TSs that will standardize terminology, relocate information to the Bases, remove extraneous information, modify requirements to prevent rod withdrawal for operational flexibility, and make minor format changes will not result in any technical changes to the current requirements. Therefore, these additional changes will not result in a significant reduction in a margin of safety.

Therefore, based upon the evaluation presented above and the previous discussion of the amendment request, North Atlantic concludes that the proposed revisions to the Technical Specifications do not constitute a significant hazard as defined by the criteria in 10CFR50.92(c).

SECTIONS V AND VI

PROPOSED SCHEDULE FOR LICENSE AMENDMENT ISSUANCE AND EFFECTIVENESS

AND

ENVIRONMENTAL IMPACT ASSESSMENT