



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D. C. 20555

August 4, 1992

Docket No. 50-443

Mr. Ted C. Feigenbaum, Senior Vice President  
and Chief Nuclear Officer  
North Atlantic Energy Service Corporation  
Post Office Box 300  
Seabrook, New Hampshire 03874

Dear Mr. Feigenbaum:

SUBJECT: REQUEST FOR TEMPORARY WAIVER OF COMPLIANCE FROM TECHNICAL  
SPECIFICATION 4.3.1.1, TABLE 4.3-1, FUNCTIONAL UNIT 1 (MANUAL  
REACTOR TRIP) - SEABROOK

This letter confirms that on July 29, 1992, we orally granted your request to waive compliance with the subject Technical Specification as described in your July 30, 1992, letter. The waiver was requested to allow operation without performance of the Trip Actuating Device Operational Test until commencement of the refueling outage on September 7, 1992, or the next time the plant enters Mode 3 or lower, or until completion of our review of the associated interim change to the Technical Specifications, whichever occurs first. A copy of your request is enclosed for reference.

After careful consideration of your request, the NRC, with both NRR and Region I concurrence, determined that the one-time exception that delays performance of this testing requirement would have a minimal effect on plant safety. We noted that the only feature which has not been adequately tested is an independent test of the shunt trip circuitry from the main control board manual reactor trip switch and manual safety injection switch to the shunt trip coil. The ability of the reactor solid state protection system to initiate a reactor trip via the undervoltage coil and indirectly energize the shunt trip coil has properly been verified. In the unlikely event that a manual trip is required, the de-energization of the undervoltage relay would cause the reactor trip breakers to open.

I understand that this test will be performed during the refueling outage that is scheduled to begin no later than September 7, 1992, or the next time the plant enters Mode 3 or lower, whichever occurs first. Also, you have briefed each operating crew on the actions to take under your emergency procedures in the event that the reactor trip breakers do not open when demanded. Further,

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Mr. Ted C. Feigenbaum

- 2 -

August 4, 1992

you will revise procedure OX1410.04, Post Refueling Pre-Startup Reactor Trip Breaker Surveillance, to provide a full and independent test of the shunt trip coil circuitry associated with the reactor trip and safety injection manual switches.

Sincerely,

Original signed by  
Jose A. Calvo, Assistant Director  
for Region I Reactors  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Enclosure:  
Temporary Waiver Request

*JAC* \*See previous concurrence

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NAME	MRushbrook	GEdison:sk	GHolahan	VNerses		JCalvo
DATE	08/03/92	08/03/92	8/4/92	08/03/92	8/4/92	8/4/92

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Mr. Ted C. Feigenbaum

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Ted C. Feigenbaum  
Senior Vice President and  
Chief Nuclear Officer

NYN-92103

July 30, 1992

Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 19406

Attention: Mr. Thomas T. Martin

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

Subject: Request for Temporary Waiver of Compliance, Manual Reactor Trip TADOT

Gentlemen:

North Atlantic Energy Service Corporation (North Atlantic) requests a temporary waiver of compliance from the provisions of Seabrook Station Technical Specification Surveillance Requirement 4.3.1.1 as it pertains to the performance of the Trip Actuating Device Operational Test (TADOT) for the Manual Reactor Trip function (See Technical Specification Table 4.3-1, Functional Unit 1, Manual Reactor Trip). The North Atlantic Independent Safety Engineering Group (ISEG) made a preliminary determination on July 28, 1992, through its evaluation of an INPO Nuclear Network summary of an operational event at another facility, that the 18 month surveillance testing program for the Reactor Trip Breakers and Reactor Trip Bypass Breakers may not have adequately tested one aspect of these breakers trip circuitry pursuant to Surveillance Requirement 4.3.1.1. The ISEG notified plant management of this preliminary determination. Plant management initiated an extensive review of test procedures and related testing associated with the reactor trip breakers. On July 29, 1992, at 8:45 AM, it was determined that the 18 month surveillance testing program was inadequate. This testing program inadequacy notwithstanding, North Atlantic has determined that based on extensive surveillance and preoperational testing, and based on the diverse trip features (undervoltage and shunt trip attachment), the Reactor Trip Breakers and Reactor Trip Bypass Breakers are fully functional and capable of opening the breakers in response to a Main Control Board manual trip actuation or manual safety injection actuation.

The testing inadequacy for the Manual Reactor Trip function TADOT was discussed by North Atlantic representatives (Messrs. DiProffio, Harpster, Drawbridge, et. al.) with NRC Region I and NRC Office of Nuclear Reactor Regulation representatives (Messrs. Linville, Lazarus, Dudley, Calvo, Nerses, et. al.) on July 29, 1992 in a conference call from the Resident Inspectors office. During this conference call, North Atlantic requested verbal authorization for a temporary waiver of compliance from Technical Specification Surveillance Requirement 4.3.1.1, Table 4.3-1, Functional Unit 1 as it pertains to the Manual Reactor Trip Function TADOT. The NRC was informed that the Manual Reactor Trip function had been declared inoperable as of 8:45 AM EDT, accordingly Technical Specification 3.0.3 had been

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entered and preparations for a shutdown had commenced. The NRC authorized the temporary waiver of compliance at 9:42 AM EDT and directed that the written request be submitted by July 31, 1992.

Description of Conditions:

Seabrook Station Technical Specification Surveillance Requirement 4.3.1.1, Table 4.3-1, Functional Unit 1 (Manual Reactor Trip) requires a TADOT on the Manual Reactor Trip function which is to be performed each refueling outage. The Manual Reactor Trip TADOT is subject to Table Notation 13 which requires the following:

"The TRIP ACTUATING DEVICE OPERATIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip circuits for the Manual Reactor Trip Function. The test shall also verify the OPERABILITY of the Bypass Breaker trip circuits."

The current surveillance procedure utilized by North Atlantic for the Manual Reactor Trip function TADOT (Procedure Number OX1410.04 Post Refueling Pre-Startup Reactor Trip Breaker Surveillance) does not adequately verify that the Reactor Trip Breakers and Reactor Trip Bypass Breakers have electric continuity between the shunt trip coil and manual reactor trip switches located on the Main Control Board. Procedure OX1410.04 requires verification that the proper voltage is applied to the shunt trip coils when the Main Control Board manual reactor trip and manual safety injection switches are actuated, however the procedure does not consider that the proper voltage may be present due to the existence of a voltage path thru the Main Control Board indicating lights to the shunt trip coil. North Atlantic will revise Procedure OX1410.04 to require removal of the indicating lights during performance of the shunt trip coil voltage measurement to ensure a proper test of the shunt trip circuit.

Request for Temporary Waiver of Compliance:

North Atlantic is providing the justification below which demonstrates that continued operation during the duration of the requested waiver is consistent with protecting the health and safety of the public.

1) Requirements for Which a Waiver is Requested:

North Atlantic requests a waiver from the requirements of Technical Specification Surveillance Requirement 4.3.1.1, Table 4.3-1 Functional Unit 1, Manual Reactor Trip, Table Notation 13. As discussed above, North Atlantic has not tested one aspect of the Manual Reactor Trip function during its 18 month surveillance testing program for the Reactor Trip Breakers and Reactor Trip Bypass Breakers and therefore has not fully complied with the intent of Table Notation 13. In particular, the TADOT for the Manual Reactor Trip function does not adequately test the shunt trip circuit continuity from the Main Control Board manual reactor trip switches to the shunt trip coil.

2) Circumstances of the Situation and Need for Prompt Action:

On July 28, 1992 the North Atlantic Independent Safety Engineering Group identified a potential testing inadequacy for the reactor trip breakers and reactor trip bypass breakers. This potential testing inadequacy was discovered as a result of a evaluation of an INPO Nuclear Network summary of an operational event at another facility. Station management was apprised of the issue and directed that a thorough review of reactor trip breaker procedures be conducted expediently. On July 29, 1992 at 8:45 AM it was concluded that the trip breaker testing was not performed in compliance with all aspects of the Technical Specifications. North Atlantic has evaluated the potential to perform the proper testing of the shunt trip circuit. Due to the complexity of the testing involved, North Atlantic feels that it would be imprudent to conduct such a complex test procedure with its attendant trip potential.

3) Compensatory Action:

North Atlantic Operations Department management will brief each operating crew prior to their coming on shift. The briefing will discuss the testing inadequacy and actions to take in the event that a manual reactor trip actuation or manual safety injection actuation is necessary and does not initiate the reactor trip. North Atlantic emergency operating procedures provide for the following actions in the event that the reactor trip breakers do not open when demanded:

1. manual inserting rod insertion,
2. initiation of an emergency boration, and
3. local opening of the reactor trip breakers and de-energization of the motor generator sets.

4) Additional Actions

The current surveillance procedure utilized by North Atlantic for the Manual Reactor Trip function TADOT (Procedure Number OX1410.04 Post Refueling Pre-Startup Reactor Trip Breaker Surveillance) is inadequate with respect to the testing of the shunt trip circuit from the Main Control Board manual reactor trip switch and manual safety injection switch to the shunt trip coil. Procedure OX1410.04 does however fully and independently test the undervoltage trip feature of the Reactor Trip Breakers and Reactor Trip Bypass Breakers from the Main Control Board manual reactor trip switches. Procedure OX1410.04 that independently tests the shunt trip feature of the Reactor Trip Breakers and Reactor Trip Bypass Breakers will be revised to ensure a full test of the shunt trip circuit from the Main Control Board manual reactor trip switch and manual safety injection switch to the shunt trip coil.



North Atlantic notes that Technical Specification Surveillance Requirement 4.3.1.1, Table 4.3-1, Functional Unit 17, Safety Injection Input From ESF, does not require independent verification of OPERABILITY of the shunt trip and undervoltage trip circuitry. However, procedure OX1410.04 will be revised to provide a full and independent test of the shunt trip and undervoltage trip circuitry associated with the manual safety injection switch.

5) Evaluation of the Safety Significance:

This testing program inadequacy notwithstanding, North Atlantic has determined that based on extensive surveillance and preoperational testing, and based on the diverse trip features (undervoltage and shunt trip attachment), the Reactor Trip Breakers and Reactor Trip Bypass Breakers are fully functional and capable of opening the breakers in response to a Main Control Board manual trip actuation or manual safety injection actuation. An evaluation of the safety significance of the shunt trip circuit testing inadequacy is provided in Enclosure 1.

6) Duration of Requested Waiver:

The duration of the requested waiver is until second refueling outage, which is currently scheduled to begin on September 7, 1992. During the upcoming refueling outage, the applicable provisions of Technical Specification Surveillance Requirement 4.3.1.1 will be fully performed, including the Manual Reactor Trip TADOT. Should Seabrook Station experience a planned or unplanned shutdown requiring an entry into MODE 3 or lower prior to the refueling outage, the Manual Reactor Trip TADOT will be completed prior to plant restart.

7) Basis for No Significant Hazards:

This testing program inadequacy notwithstanding, North Atlantic has determined that based on extensive surveillance and preoperational testing, and based on the diverse trip features (undervoltage and shunt trip attachment), the Reactor Trip Breakers and Reactor Trip Bypass Breakers are fully functional and capable of opening the breakers in response to a Main Control Board manual trip actuation or manual safety injection actuation.

A No Significant Hazards Consideration Determination for the requested waiver is provided in Enclosure 1.

8) Environmental Consequences:

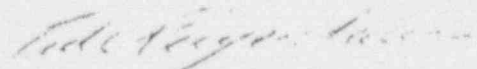
The requested waiver involves no environmental consequences. The Reactor Trip Breakers and Reactor Trip Bypass Breakers are fully functional and capable of opening the breakers in response to a Main Control Board manual trip actuation or manual safety injection actuation. Therefore the testing inadequacy does not impact accident analyses or the associated radiological consequences nor does it impact systems associated with the control of radiological or non-radiological effluents.

United States Nuclear Regulatory Commission  
Attention: Mr. Thomas T. Martin

July 30, 1992  
Page five

Should you have any further questions regarding this request for a temporary waiver of compliance, please contact Mr. Terry L. Harpster, Director of Licensing Services at (603) 474-9521 extension 2765.

Very truly yours,

  
Ted C. Feigenbaum

TCF:ALL/act

Enclosure

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North Atlantic  
July 30, 1992

ENCLOSURE ONE TO NYN-92103

EVALUATION OF SAFETY SIGNIFICANCE AND  
NO SIGNIFICANT HAZARDS CONSIDERATION FOR  
REQUESTED WAIVER OF COMPLIANCE

EVALUATION OF SAFETY SIGNIFICANCE

North Atlantic has determined that there is no significant safety impact associated with the temporary waiver of compliance from the requirements of Technical Specification Surveillance Requirement 4.3.1.1, Table 4.3-1, Functional Unit 1, Manual Reactor Trip. Although the surveillance test did not adequately test one aspect of the manual reactor trip function, there is no reason to believe that any element of the manual trip function is not functional. North Atlantic believes that based on the preoperational and surveillance testing performed, that the manual reactor trip function is fully functional and capable of performing its design function if called upon to do so.

The reactor trip system possesses several diverse and independent features which enable it to shutdown the reactor on demand. The operation of any of these features demonstrates that the reactor protection system is capable of performing its safety function. Therefore, given that surveillance tests performed on the reactor trip system did not adequately test one aspect of the system, the reactor protection system still possesses sufficient diverse and independent features to enable it to perform its design function.

The surveillance testing performed on the reactor trip breakers and the reactor trip bypass breakers was inadequate in that the capability of the manual reactor trip switches, located on the main control board, to actuate the shunt trip coil was not positively verified. However, the procedure does verify the capability of the manual reactor trip switches to trip the reactor via actuation of the undervoltage relay. The procedure also verifies that the shunt trip coil will actuate to trip the reactor trip breakers and the reactor trip bypass breakers.

It is important to note that the only feature which has not been adequately tested is the capability to initiate a manual reactor trip via the shunt trip coil. The ability of the Reactor Solid State Protection System (SSPS) to initiate a reactor trip via the undervoltage coil and indirectly energize the shunt trip coil has been verified. Should a reactor trip be required this is the portion of the reactor trip system which would likely function to open the reactor trip breakers. It is unlikely that a manual reactor trip would be required. In the unlikely event that the operator was required to initiate a manual reactor trip and the signal did not reach the shunt trip coil, the de-energization of the undervoltage relay would cause the reactor trip breakers to open. Additionally, when the undervoltage relay is de-energized, the shunt trip B coil is also de-energized. This action closes a contact which will energize the shunt trip coil and open the reactor trip breakers.

Therefore, the reactor trip system will continue to function as designed with no adverse impact as a result of the delay in performing the TADOT on the reactor trip breakers. Since the response of the plant is unchanged there is no significant safety impact resulting from the delay in performing the TADOT.

## DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

1. The proposed temporary waiver of compliance does not involve a significant increase in the probability or consequences of an accident previously evaluated.

Although the surveillance test did not adequately test one aspect of the manual reactor trip function, there is no reason to believe that based on the preoperational and surveillance testing performed, that any element of the manual trip function is not functional. If for some reason manual actuation of the sbunt trip failed to operate, the diversity and redundancy of the reactor protection system would still enable it to perform its design function. Therefore, since the response of the plant to an accident is unchanged there is no significant increase in either the probability or consequences of an accident previously evaluated as a result of this temporary waiver of compliance.

2. The proposed temporary waiver of compliance will not create the possibility of a new or different kind of accident from any previously evaluated.

The proposed temporary waiver of compliance does not affect the operation or response of any plant equipment or introduce any new failure mechanisms. Therefore, the previous accident analyses are unchanged and bound all expected plant transients and there are no new or different accident scenarios introduced.

3. The proposed temporary waiver of compliance will not involve a significant reduction in a margin of safety.

The proposed temporary waiver of compliance will not reduce the margin of safety defined in the BASES of any Technical Specification. The BASES of Technical Specification 3.3-1, Reactor Trip System Instrumentation states in part that OPERABILITY of the reactor trip system ensures that a reactor trip will occur when needed. The reactor trip system possesses several diverse and independent features which enable it to shutdown the reactor on demand. The operation of any of these features demonstrates that the reactor protection system is capable of performing its safety function. Therefore, the assumptions in the BASES of Technical Specifications are not affected and the proposed temporary waiver of compliance will not result in a significant reduction in the margin of safety.