PSNH PUBLIC SERVICE
Company of New Hampshire

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SBN-372
T.F. B7.1.2

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

Attention: Mr. George W. Knighton, Chief
Licensing Branch 3
Division of Licensing

References: (a) Construction Permits CPPR-135 and CPPR-136, Docket Nos. 50-443 and 50-444
(b) USNRC Letter, dated April 28, 1982, "Request for Additional Information - Procedures and Test Review Branch," F. J. Miraglia to W. C. Tallman
(c) PSNH Letter, dated November 10, 1982, "Response to 640 Series RAIs; (Procedures and Test Review Branch)," J. DeVincentis to G. W. Knighton

Subject: Response to RAI 640.4, 640.29, and 640.36; (Procedure and Test Review Branch)

Dear Sir:

We have enclosed responses to the subject Requests for Additional Information (RAIs) which were forwarded in Reference (b).

It was indicated in Reference (c) that the subject RAIs would be forwarded in the "near future."

The enclosed information will be included in OL Application Amendment 48.

Very truly yours,

YANKEE ATOMIC ELECTRIC COMPANY

David A. Mydrand for

J. DeVincentis
Project Manager

ALL/fsf

B001

cc: with enclosure

Mr. Walter Appley
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640.4 (1.8) Regulatory Guide 1.139, Guidance for Residual Heat Removal (page 1.8-53). Exception a. is not justified. The use of only safety-grade systems to bring the reactor to cold shutdown is required. The assumption of only off-site or on-site power availability and the most limiting failure implies all components and equipment that are not Seismic Category I and all systems or parts of systems that depend solely on off-site power sources would be inoperable. Therefore, shutdown and cooldown would depend on safety-grade systems with some limited operator actions outside the Control Room allowed. Modify your position on Regulatory Guide 1.139, accordingly.

RESPONSE: Recent design changes are presently being implemented which will provide Seabrook with the capability to achieve and maintain the cold shutdown condition through the use of only safety-grade equipment and systems. These systems/equipment will be operable with either only off-site or only on-site power available; will be Seismic Category I; will be designed for single-failure considerations; and will require only limited operator action outside the Control Room when considering single failures. Exemption a. to Regulatory Guide 1.139 on FSAR page 1.8-53 is no longer applicable and will be deleted.

640.29 The staff was unable to determine that sufficient preoperational testing of the Residual Heat Removal System is to be performed such that the operability requirements of Regulatory Guide 1.139 would be completely demonstrated. Modify the Residual Heat Removal System Test (PT 7), the Integrated Plant Cooldown From Hot Functional Test (PT 42), or provide additional test abstracts to ensure conformance with Regulatory Guide 1.139. Also, with regard to conformance to Regulatory Guide 1.68 (Revision 2), Item (5), specify the circumstances under which the demonstration of the capability of systems and components to remove residual or decay heat from the Reactor Coolant System will occur during the Preoperational Hot Functional Test, the Lower Power Tests, and/or the Power Ascension Test. Provide the appropriate abstract(s).

RESPONSE: Residual Heat Removal (RHR) System isolation valve operability and interlock circuits will be tested during the conduct of PT 7. Demonstration of the capability of the RHR System to remove residual heat from the Reactor Coolant System will be performed during the integrated plant cooldown from hot functional testing PT 42 (Table 14.2-3, Item 42). Comparison of Seabrook with the performance of previously tested plants of similar design will be performed. Dissimilarities will be identified and accompanied with a justification, which discusses how the differences effect the test requirements in Regulatory Guide 1.139. This comparison will be substituted for the following tests required by Regulatory Guide 1.139:

(a) That adequate mixing of borated water added prior to or during cooldown can be achieved under natural circulation conditions and permit estimation of the times required to achieve such mixing, and

(b) That the cooldown under natural circulation conditions can be achieved with the limits specified in the emergency operating procedures.

640.36 (14.2.7) (14.2.12) Conformance of Test Programs with Regulatory Guides. Regulatory Guide 1.79 (page 14.2-7). Your exceptions to Regulatory Guide 1.79, "Preoperational Testing of Emergency Core Cooling Systems for PWRs", Regulatory Positions C.1.b.(2) and C.1.c.(2), are not justified. Modify existing abstracts or provide additional technical justification for your exceptions.

RESPONSE: The ability of the accumulator isolation valves to open under maximum differential pressure conditions, as required by Regulatory Guide 1.79, Section C.1.c.(2), will be satisfactorily demonstrated using only the normal power supply, since the valve motor operators do not differentiate between normal and emergency power supplies to perform their design function. This is further justified in that the isolation valve motors draw less than 0.5% of the total emergency power supply loading (one diesel generator).

The recirculation test performed on one Unit 1 containment sump and its related equipment, per Regulatory Guide 1.79, Section C.1.b.(2), will confirm the pressure drop calculations by verifying the NPSHA at the pump suction. The containment sump/piping configuration, having the greatest calculated pressure drop, will be used for the recirculation test. All related piping will be flushed to assure an unblocked flow path. Details on the Alden Research Labs Model Testing, which verifies the non-formation of vortices under various combinations of flow direction and screen plugging in the containment recirculation sump, may be found in reports referenced in the response to RAI 440.44.