



SBN- 648
T.F.B7.1.2

Public Service of New Hampshire

April 16, 1984

Director of Nuclear Reactor Regulation
Attention: Mr. George W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing
United States Nuclear Regulatory Commission
Washington, D. C. 20555

References: (a) Construction Permits CPPR-135 and CPPR-136,
Docket Nos. 50-443 and 50-444.

Subject: NUREG-0737 ITEM II.B.3 "Post-Accident Sampling Capability"

Dear Mr. Knighton:

Public Service Company of New Hampshire (PSNH) recently initiated a series of telephone conversations with Mr. Paul Wu and Mr. Vic Nerses of your staff for the purpose of obtaining NRC clarifications on post-accident sampling requirements stated in NUREG-0737, Item II.B.3. Specifically, we were seeking further NRC guidance on Criterion (4) with regards to dissolved hydrogen and oxygen monitoring of the reactor coolant and on Criterion (5) with regards to pH measurement of the reactor coolant. The purpose of this letter is to document the clarifications PSNH received from your staff and to describe our methodology for compliance.

NRC Criterion (4) Clarification

The determination of dissolved oxygen can be satisfied by analyzing a post-accident gas sample from the reactor coolant system for dissolved hydrogen. If the reactor coolant dissolved hydrogen concentration is greater than 10 cc/kg, the NRC considers the dissolved oxygen level to be less than 100 ppb. If the post-accident dissolved hydrogen level is less than 10 cc/kg, the NRC will require PSNH to provide justification that no damage to plant systems has occurred prior to plant startup, but considers the analysis requirement for oxygen satisfied.

PSNH Response

The amount of dissolved gases in the reactor coolant will be determined by extracting a gaseous sample from the post-accident sampling panel using a shielded syringe if necessary. This sample will be analyzed for hydrogen and gamma spectrum only.

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NRC Criterion (5) Clarification

The licensee shall have developed procedures to obtain pH and chloride analysis data on the undiluted sample after thirty days decay. The sample can be analyzed on-site or shipped off-site for analysis. This analysis for pH on the undiluted sample satisfies pH requirements, and there is no need to install in-line instrumentation for pH measurement.

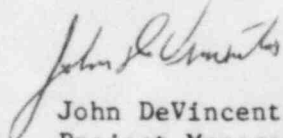
PSNH Response

The post-accident sampling system (PASS) will provide for the capability of taking a single undiluted sample consistent with ALARA principles. This undiluted sample will be retained for analysis within thirty days. Procedures for drawing the undiluted sample and for the analysis of the undiluted sample for chloride and pH are under development and will be available six months prior to fuel load. A dose assessment of the undiluted sample has been performed and, using the assumptions employed in the design basis of the PASS panel, pH and chloride analysis can be performed on the undiluted sample consistent with the criteria in GDC 19.

Please contact my staff if your understanding of the conversations differs from ours, or if you require further information concerning our responses.

Very truly yours,

YANKEE ATOMIC ELECTRIC COMPANY



John DeVincentis
Project Manager

JD/SDF:dh

cc: Atomic Safety and Licensing
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