PSNH PUBLIC SERVICE
Company of New Hampshire

SEABROOK STATION
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December 21, 1982

SBN-408
T.F. B7.1.2

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

Attention: Mr. George W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing

References: (a) Construction Permits CPPR-135 and CPPR-136, Docket Nos. 50-443 and 50-444
(b) PSNH Letter, dated December 8, 1982, "Open Item Response; (SRP 4.2; Containment Systems Branch)," J. DeVincentis to G. W. Knighton

Subject: Revised Open Item Response; (SRP 4.2; Core Performance Branch)

Dear Sir:

In response to an open item identified by Mr. Dale Powers of the NRC Core Performance Branch, we submitted, in Reference (b), a revised FSAR Section 4.2.2.3.a.

We have again revised FSAR Section 4.2.2.3.a as delineated on the attached annotated page (P4.2-14).

The enclosed revision to FSAR Section 4.2.2.3.a will be included in OL Application Amendment 48.

Very truly yours,

YANKEE ATOMIC ELECTRIC COMPANY

J. DeVincentis

J. DeVincentis
Project Manager

ALL/fsf
cc: Atomic Safety Licensing Board

B001

a. Fuel depletion and fission product buildup.

b. Cold to hot, zero power reactivity change.

c. Reactivity change produced by intermediate term fission products such as xenon and samarium.

d. Burnable poison depletion.

The chemical and volume control system is discussed in Chapter 9.

The rod cluster control assemblies provide reactivity control for:

a. Shutdown.

b. Reactivity changes resulting from coolant temperature changes in the power range.

c. Reactivity changes associated with the power coefficient of reactivity.

d. Reactivity changes resulting from void formation.

Figure 4.2-8 illustrates the rod cluster control and control rod drive mechanism assembly, in addition to the arrangement of these components in the reactor relative to the interfacing fuel assembly and guide tubes. In the following paragraphs, each reactivity control component is described in detail. The control rod drive mechanism assembly is described in Subsection 3.9(N).4.

The neutron source assemblies provide a means of monitoring the core during periods of low neutron level. The thimble plug assemblies limit bypass flow through those fuel assembly thimbles which do not contain control rods, burnable poison rods, or neutron source rods.

a. Rod Cluster Control Assembly

The rod cluster control assemblies are divided into two categories: control and shutdown. The control groups compensate for reactivity changes associated with variations in operating conditions of the reactor, i.e., power and temperature variations. Two nuclear design criteria have been employed for selection of the control group. First the total reactivity worth must be adequate to meet the nuclear requirements of the reactor. Second, in view of the fact that these rods may be partially inserted at power operation, the total power peaking factor should be low enough to ensure that the power capability is met. The control and shutdown group provides adequate shutdown margin

as verified by performing rod worth measurements at the first restart after each refueling.