PSNH PUBLIC SERVICE
Company of New Hampshire

SEABROOK STATION
Engineering Office:
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May 15, 1981

SBN-160
T.F.J.10.1.6

U. S. Nuclear Regulatory Commission
Washingon, D. C. 20555

Attention: Mr. Robert L. Tedesco
Assistant Director for Licensing
Division of Licensing

Reference: (a) Construction Permits CPPR-135 and 136, Docket Nos. 50-443 and 50-444
(b) "Request for Additional Fire Protection Information - Seabrook Station, Units 1 and 2"; NRC letter dated March 16, 1981 (R. L. Tedesco to W. C. Tallman)

Subject: Additional Fire Protection Information
Seabrook Station, Units 1 and 2

Dear Sir:

In response to the referenced letter regarding fire protection at the Seabrook Station, PSNH is undertaking a comprehensive program to address the concerns identified in your letter.

This program will identify:

(a) All equipment required to achieve and maintain hot shutdown; redundant counterparts will also be identified.

(b) All equipment required to achieve and maintain cold shutdown; redundant counterparts will also be identified.

(c) The fire areas of the equipment identified in (a) and (b) above.

(d) The essential power, control and instrumentation cables required for equipment listed in (a) and (b) above.

(e) The cable routing from origin to destination by fire area, and any location where cables are separated by less than a three hour fire barrier, or equivalent.

We believe that associated circuits at Seabrook do not lend themselves to the concerns expressed in your letter for the following reasons: At Seabrook there are two redundant safety related Trains A and B, and four redundant safety related instrumentation Channels I, II, III and IV. These redundant trains and channels are grouped in four separation groups as indicated in Attachment 1. All non-Class 1E circuits are associated with either Train A or Train B

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The bulk of non-Class 1E power, control and instrument circuits are associated with Train A as indicated in Attachment I. Train B associated circuits are kept to a bare minimum. This unique separation method results in only four separation groups and eliminates the need for a separation group exclusively for non-safety related cables. Therefore, all associated cables at Seabrook are associated with the essential shutdown systems. It should be noted that our definition of "associated circuits" is consistent with that used in IEEE-384.

Within each of the separation groups we provide raceways which segregate the different voltage, current, and sensitivity levels; for example, the following segregation is maintained within each separation group: 15 kV Power, 5 kV Power, 600 V Heavy Power, 600 V Medium Power, 600 V Control, 300 V Instrumentation, and Low Level Instrumentation.

The cables of the associated circuits meet all the requirements placed on the Class 1E circuits with regard to separation criteria, protection from fire hazards, cable derating, environmental qualification, flame retardance, splicing restrictions, routing and raceway fill. The cables themselves are identical; only the jacket color is different. The jacket color differentiates not only the fact that the circuit is an associated circuit, but also the train with which it is associated.

Because of our unique method of treating associated circuits, the associated circuits are only susceptable to damage from the same fire hazard affecting the safety train with which the circuits are associated; there is no possibility of an associated circuit affecting both redundant trains.

Problem areas which may be identified as a result of the above-described program will be evaluated for modifications to Seabrook Station.

The results of the above-described program will be submitted to the NRC in accordance with a schedule to be determined by your Project Manager at the time of receipt for docketing of the Seabrook FSAR which is currently scheduled for submittal in late spring of this year. We currently plan to document the results of our investigation in the forthcoming Seabrook FSAR and a revision of a previously submitted report "Seabrook Station Fire Protection System Evaluation and Comparison to Branch Technical Position APSCB 9.5-1 Appendix A" submitted to the Nuclear Regulatory Commission on August 30, 1977.

Very truly yours,

John DeVincentis
Project Manager

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Attachment

ATTACHMENT 1

SEGREGATION OF ALLOWABLE CIRCUITS BY SEPARATION GROUP

Separation Group	Allowable Circuits
A	(a) Train A power, control and instrumentation
	(b) Channel I instrumentation
	(c) Train A associated power, control and instrumentation
B	(a) Train B power, control and instrumentation
	(b) Channel II instrumentation
	(c) Train B associated power, control and instrumentation
C	(a) Channel III instrumentation
D	(a) Channel IV instrumentation