Docket Nos.: 50-443
and 50-444

APR 22 1985

Mr. Robert J. Harrison
President & Chief Executive Officer
Public Service Company of New Hampshire
Post Office Box 330
Manchester, New Hampshire 03105

Dear Mr. Harrison:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING POST-FIRE SAFE SHUTDOWN CAPABILITY

We have completed our review of your revised submittal, "Fire Protection of Safe Shutdown Capability" dated September 14, 1984 concerning the ability of the plant to achieve and maintain a safe shutdown condition following a fire. As a result of this review, the enclosed request for additional information has been prepared. These questions have previously been discussed with Mr. R. Sweeney of your staff.

Questions or additional information regarding this matter should be directed to the Seabrook Project Manager. Mr. V. Nerses (301-492-7238).

Sincerely,

/s/

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

Enclosure:
As stated

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SEABROOK STATION UNITS 1 AND 2
REQUEST FOR ADDITIONAL INFORMATION
CONCERNING POST-FIRE SAFE SHUTDOWN
AUXILIARY SYSTEMS BRANCH

410.57 A recent plant inspection at another facility revealed that for a fire in the control room, isolation transfer switches for certain hot shutdown systems/components had to be switched to the alternate or isolated position prior to damage occurring to these circuits. If this were not accomplished in time, fuses would have to be replaced in order to make safe shutdown system/component operable. This situation existed because the transfer switches did not place new/redundant fuses into the control power circuit, but left the existing (assumed blown) set of fuses in the circuit. For most of the transfer switches, the situation did not cause a problem since the desired effect after isolation was the deenergization of power. In other instances where the system/component had to be operable or where operation might be required to override a spurious actuation (such as a motor operated valve) replacement of fuses would be required if blown.

Although the present isolation switches at Seabrook do isolate the required equipment or component from the control room, it has not been demonstrated that it is unnecessary to replace fuses in order to place the equipment/component in the desired mode of operation or position. In order for us to conduct a review to determine if fuse replacement is necessary for the operation of a safety system after a control room fire, please provide the following:

a. The results of your review of electrical design drawings for the existing isolation transfer switches to determine where and if this situation exists.

b. If the Seabrook design necessitates the changing of fuses to achieve and maintain hot shutdown after a control room fire, provide modifications to existing switches and/or install new isolation switches where necessary to provide redundant fusing such that a blown fuse will not require replacement to achieve and maintain hot shutdown.

410.58 We have a concern regarding the potential for multi-high impedance faults in AC power circuits which could result in the loss of power to safe shutdown equipment. Figure 1 contains a sketch of circuit designs which could result in the loss of needed power to safe shutdown equipment. As can be seen in Figure 1, redundant divisions of safe shutdown cables are properly separated in accordance with Appendix R criteria. However, a fire in fire area A would result in loss of Division A safe shutdown equipment and cause damage to nonsafe shutdown cables associated with the Division B bus. Further, the individual fault current resulting from the fire damage in the nonsafe shutdown cables may not be enough to trip the individual breakers (B_1 and B_2), but the sum of the faults may be sufficient to trip the main breaker, B_3. If this were to occur, the Division B bus and the corresponding redundant Division B safe shutdown would be lost. You must show that multi-high impedance faults in AC power circuits resulting from a single fire cannot result in the loss of function of any safety-related system as outlined above.

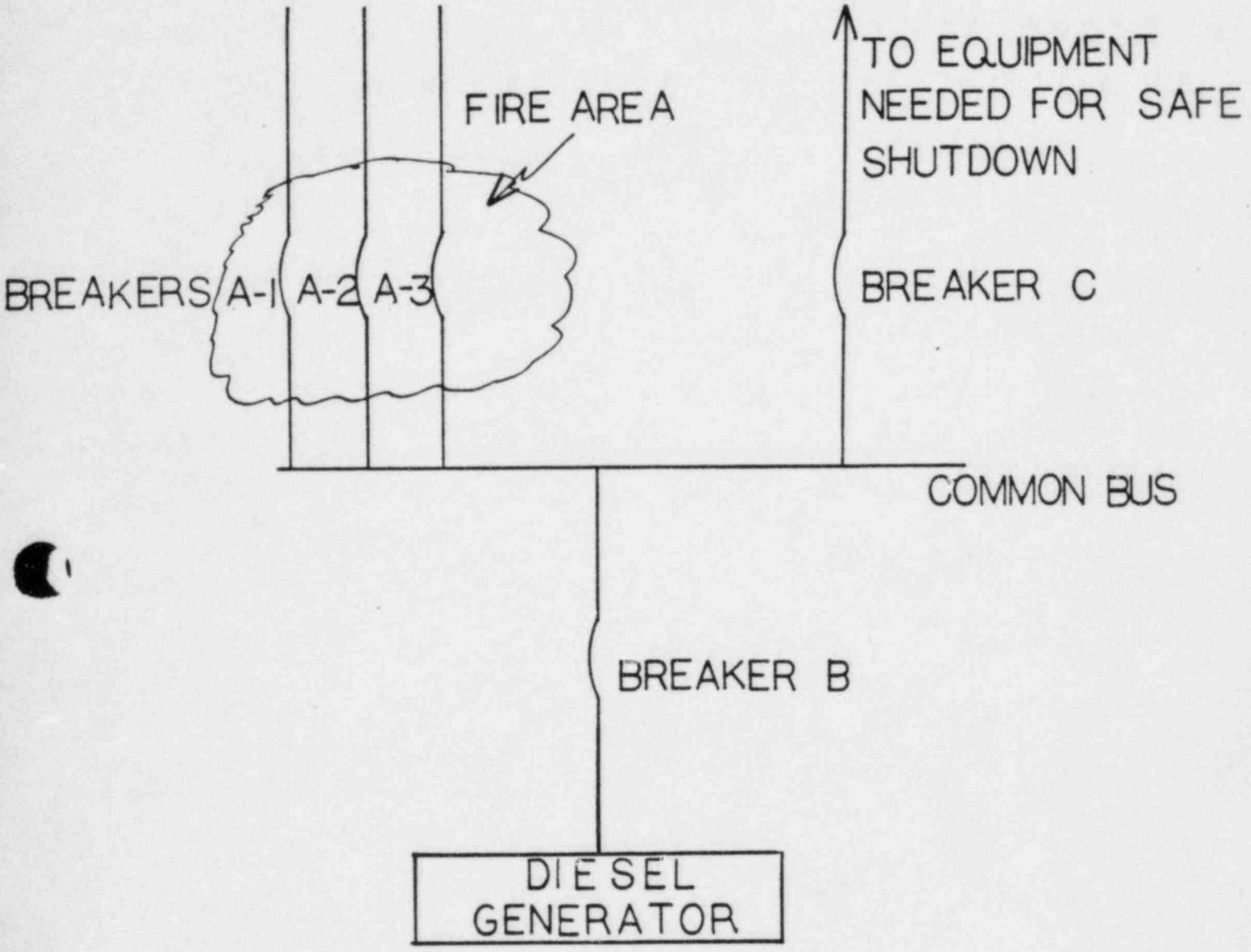

FIGURE 1: MULTIPLE HIGH IMPEDENCE FAULTS