JUN 18 1985

Docket No.: 50-412

Mr. John J. Carey
Vice President, Nuclear
Duquesne Light Company
Robinson Plaza Building, No. 2, Suite 10
PA Route 60
Pittsburgh, Pennsylvania 15205

Dear Mr. Carey:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION (RAI) REGARDING PREVENTIVE MAINTENANCE PROGRAM FOR REACTOR TRIP BREAKERS/MAINTENANCE AND TRENDING - BEAVER VALLEY, UNIT 2

Enclosed please find RAI for the review of items 4.1, 4.2.1 and 4.2.2 in Generic Letter 83-28. These items are also referred to as Reactor Trip System Reliability and Preventive Maintenance Program for Reactor Trip Breakers/Maintenance and Trending. Based on the review of your initial submittal, this RAI has been prepared. Your prompt response will be appreciated.

Should you have any questions please contact the Project Manager, B. K. Singh at (301) 492-8423.

Sincerely,

/S/

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

Enclosure:
As stated

cc: See next page

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Enclosure

BEAVER VALLEY POWER STATION, UNIT 2
REQUEST FOR ADDITIONAL INFORMATION
CONCERNING POST-FIRE SAFE SHUTDOWN
AUXILIARY SYSTEMS BRANCH

1. 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 Beaver Valley Unit 2 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 Beaver Valley Unit 2 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.

2. 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 A 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 - Revision 1