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July 8, 1988

Mr. Thomas E. Murley, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Dresden Station Units 2 and 3
Quad Cities Station Units 1 and 2
LPCI Swing Bus Breaker Coordination
NRC Docket Nos. 50-254 and 50-265

References (a): Letter from JA Silady to TE Murley dated February 19, 1988

(b): Conference Call on February 5, 1988 between CECo (N. Kalivianakis et. al.) and NRR (G. Holahan, et. al.) and Region III (M. Ring).

Dear Mr. Murley:

In Attachment D to the Reference (a) letter, Commonwealth Edison described several studies initiated with Sargent & Lundy Engineers in response to questions raised by your Staff in the Reference (b) conference call. Several of the questions concerned the degree of breaker coordination associated with the LPCI (RHR) Swing MCC. The responses to these questions are contained in the attachment and indicate that adequate coordination exists for this bus under fault currents of expected magnitudes.

Please contact this office should further information be required.

Very truly yours,

Irene M. Johnson
for J. A. Silady
Nuclear Licensing Administrator

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Attachment

cc: A.B. Davis - Regional Administrator, RIII
T.M. Ross - Quad Cities Project Manager, NRR
B.L. Siegel - Dresden Project Manager, NRR
NRC Resident Inspector - Quad Cities
NRC Resident Inspector - Dresden

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LPCI (RHR) SWING BUS

RESPONSES TO SPECIFIC QUESTIONS
ON FAULT COORDINATION

1. Question: Would a fault at the Swing MCC cause an overcurrent trip of the normal feed, then a routine transfer to the alternate feed, and finally a trip of the alternate feed.

   Answer: Yes, this would be the sequence of events. The failure of this safety-related bus would result in the loss of both LPCI loops. The operator would, therefore, rely upon the operation of the redundant core cooling equipment (i.e., HPCI, ADS and two Core Spray systems). This failure would be immediately detected via source breaker/contactor indicating lights and indicating lights on loads from the Swing MCC.

2. Question: Are the feed breakers to the RHR valves from the Swing MCC properly coordinated with the breakers feeding the MCC? That is, would a fault on one valve result in the loss of power to other valves?

   Answer: The very least that will occur, on a fault on one valve, is that the load breaker will trip isolating the fault. Due to the nature of the time current curves, it is possible that the normal supply breaker to the Swing MCC will also trip. If only the load breaker trips, the fault is isolated and no other valves lose power. If the supply breaker to the MCC also trips, the

power to all loads on this MCC would be momentarily interrupted until the back-up 480 Vac source reenergized the bus (automatic transfer). However, in this instance, the load breaker will have cleared the fault, the alternate feed to the MCC will remain closed and the power will be restored to the other RHR valves. Thus, a portion or both LPCI loops would be available. This failure would be immediately detected via source breaker/contactor indicating lights and indicating lights for the MCC loads.

3. Question: Are the feed breakers to these buses properly coordinated with their feeds? That is, would a fault on the Swing MCC result in the loss of the upstream bus?

Answer: The supply breaker to the upstream bus (480 V switchgear) does coordinate with the switchgear supply breaker to the Swing MCC for the magnitude of fault current expected (i.e., 12,000 A or less based on S&L Calculation #7923-36-19-1, Rev. 0) at or downstream from the Swing MCC. Therefore, the upstream 480 V switchgear will not be lost. The consequences of losing the Swing MCC and the means of detection are the same as for the answer to Question #1.