Commonwealth Edison
Quad-Cities Nuclear Power Station
Post Office Box 216
Cordova, Illinois 61242
Telephone 309/654-2241

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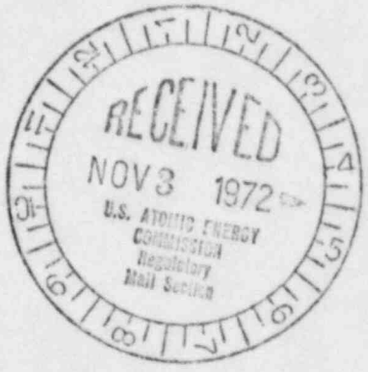
FAP-72-197

October 31, 1972



Mr. A. Giambusso
Deputy Director for Reactor Projects
Directorate of Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545

Reference: Quad-Cities Nuclear Power Station Unit 1
License DPR-29, Appendix A,
Sections 1.0.A.2, 3.5.A.1, and 6.6.B.3

Dear Mr. Giambusso:

The purpose of this letter is to report a condition relating to the operation of the station in which the 1B Core Spray Pump failed to start during an operability test. This abnormal occurrence was reported to you by telegram on October 21, 1972.

DESCRIPTION OF INCIDENT

On October 19, 1972 the No. 1/2 Diesel Generator was made inoperable for modification work in the Condensate Pump Room. Prior to removing the diesel from service low pressure core cooling systems, containment cooling systems, and the unit diesel generators were tested and proven operable on Units 1 and 2. During a subsequent daily operability test at 2159 on October 21, 1972 the 1B Core Spray Pump failed to start. A weekend load reduction from 90% power which had been started at 2000 was continued while the core spray problem was investigated.

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INVESTIGATION AND REPAIR

The initial investigation revealed that the pump breaker was not closing. The closing spring was discharged and could not be charged with the breaker in the operate position. The breaker was then racked to the test position and it operated satisfactorily. When the breaker was racked back in to the

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operate position, however, it still would not close. A spare breaker was then substituted with similar results. With the problem apparently in the breaker housing, station maintenance personnel were called in.

The switchgear involved is a General Electric MC-4.76 Horizontal Drawout type. In order to move the breaker from one position to another a sliding shutter must first be pushed aside to insert the crank handle. This shutter is part of the interlock mechanism and it cannot be moved unless the breaker is open. When the shutter is open the mechanism holds the breaker in the tripped position. Linkage also actuates a limit switch and lowers a roller nut to engage an interlock cam in the breaker housing. The limit switch opens contacts which prevent energizing the breaker closing coil or the spring charging motor. The roller nut rides under the interlock cam as the breaker is racked in or out. If the breaker is stopped in an intermediate position, the nut is held down by the cam and through the linkage the sliding shutter is held open and thus the breaker held tripped.

During the original installation of these breakers the interlock cam must be positioned and cut to allow the roller nut to come up when the breaker has reached the full in or operate position. In this case maintenance personnel suspected that the cam was not allowing the interlock mechanism to reset when the breaker was full in and they filed the edge of the cam for insurance that the roller nut was not hanging up. The breaker was then racked in and it operated satisfactorily. The B Core Spray system was declared operational at 0115 on October 21, 1972.

CONCLUSIONS

Since the breaker spring could not be charged on either the original or the spare breaker, it is apparent that the interlock cam in the housing prevented closure of the limit switch actuated by the shutter slide. It is theorized that the limit switch was close to its opening point when the pump was last started and that the breaker action jarred the interlock mechanism and the roller nut hung up just far enough out of its engaged position to keep the limit switch open.

The problem with the breaker housing was corrected by filing the cam. While this type of problem had been encountered during construction, this is the first occurrence during

plant operation. Any reoccurrence of the problem would be readily detected by normal surveillance.

Very truly yours,

COMMONWEALTH EDISON COMPANY
QUAD-CITIES NUCLEAR POWER STATION

F. A. Palmer
Superintendent

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