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

July 9, 1973

Mr. John F. O'Leary, Director
Directorate of Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. O'Leary:

SUBJECT: Quad-Cities Nuclear Power Station
Units 1 and 2, Docket #50-254 and 50-265,
DPR-29 and 30, Appendix A, Sections 1.0.A.4
and 6.6.B.1

The purpose of this letter is to inform you of the details concerning an abnormal occurrance which took place on July 1, 1973 whereby the shared diesel generator was inoperable due to a loss of control power. This occurrance was reported to you by telegram on July 2.

PROBLEM AND INVESTIGATION

About 3:30 p.m. on July 1, 1973, Unit 1 was at a steady power level of 780 MWe and Unit 2 was operating at 460 MWe. At that time, the control room operators were changing shifts. The Unit 1 operator observed that the green STOP light at the control switch for Standby Diesel-Generator 1/2 on panel 901-8 was not illuminated. A burned out light bulb was immediately suspected, but after replacing the bulb, the situation was not corrected. Attempts were made to start the diesel from both the control room and from the local engine panel without success. Both Unit 1 and 2 diesel generators were operable at that time.

An immediate investigation at the local engine control station for Diesel Generator 1/2 revealed that fuse F24 in the engine starting and fuel control circuitry was blown. This resulted in an open circuit and prevented the diesel from starting either manually or automatically. The blown fuse was replaced; however, the immediate cause of the overload was not known.

At 5:00 p.m. on July 1, the 1/2 diesel was declared operable. The diesel generator was started, loaded, and run for one hour. No deficiencies or abnormalities were observed during this time.

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EVALUATIONS AND CORRECTIVE ACTIONS

A. SAFETY IMPLICATIONS

The exact duration of time which Diesel Generator 1/2 was not operable is unknown. However, the diesel operated satisfactory on June 29 for one hour. Monthly maintenance checks were performed later that day on the fuel, coolant, lubrication, and starting air systems. Unit 1 diesel was also run on June 29 and Unit 2 diesel was operated on June 30.

During the time when the diesel was inoperable, both Unit 1 and 2 diesels were completely operable. All 345 KV lines and reserve auxiliary power transformers T12 and T22 were always available.

The overall safe operation of the plant was thus not affected during the time which the 1/2 diesel was inoperable.

B. DETERMINATION OF CAUSE

At 8:00 a.m. on July 2, electrical maintenance personnel began an investigation of the exact cause of the blown fuse at the engine control cabinet. The indicating bulb which was removed from panel 901-8 on July 1 was found to have the filament intact, but the contact point at the tip was charred and burned out.

The bulb socket assembly was removed and the entire inside threaded area was charred. The contact at the base of the socket was noticeably burned and blackened. Pieces of this contact were lying at the bottom of the socket.

It is postulated that a loose bulb or loose contacts in the socket caused an arcing effect in the socket. This resulted in a carbon buildup, short circuit, and a subsequent blown fuse.

The defective socket assembly was replaced. There have been no previous occurrances of a simular nature which have caused blown fuses or essential equipment to become inoperable.

C. CORRECTIVE ACTIONS

The indicating lamp sockets and bulbs for the Unit 1 and 2 diesel generators have been checked satisfactory. Control Room Operators have been cautioned as to the proper replacement of indicating bulbs on all lights in the control room.

A modification is being considered which would provide a control room annunciator for a power failure in the control circuitry. This will indicate a blown fuse or short circuit in the engine start and fuel control wiring for each diesel generator, and

will give immediate indication of diesel inoperability in these cases.

D. EVALUATION OF CUMULATIVE EXPERIENCE FOR SAFETY IMPLICATIONS

Based on cumulative experiences, similar failures have not occurred on any diesel generator or on other systems in the plant. Therefore, continued safe operation is not affected by this incident.

Respectfully,

B. B. Stephenson
Station Superintendent

BBS:LG/dp
BBS-73-142

cc: Regional Director
Directorate of Regulatory Operations - Region III