



- I. LER NUMBER: LER/RO 82-18/03L-0
- II. LICENSEE NAME: Commonwealth Edison Company  
Quad-Cities Nuclear Power Station
- III. FACILITY NAME: Unit Two
- IV. DOCKET NUMBER: 050-265
- V. EVENT DESCRIPTION:

On October 6, 1982, monthly preventative maintenance was performed on the Unit Two Emergency Diesel Generator. It was returned to service, and operability testing was begun at 10:45 a.m. At 10:55 a.m., the Diesel Generator tripped, and the "Hot Engine" alarm was displayed on the local annunciator panel. At the time of the occurrence, Unit Two was in the RUN mode at a power level of 2422 MWt, generating 766 MWe.

The "Hot Engine" alarm reset immediately; therefore, the Diesel Generator was restarted at 11:15 a.m. It tripped again at 11:25 a.m. displaying the "Hot Engine" alarm once again. The Diesel Generator was therefore declared inoperable.

Technical Specification 3.9.A.1 requires the Unit Two and the Shared 1/2 Emergency Diesel Generators to be operable when the Unit Two Reactor is in operation. As required by Technical Specification 3.9.E.1 the 1/2 Diesel Generator and its associated safety systems were immediately demonstrated to be operable.

VI. PROBABLE CONSEQUENCES OF THE OCCURRENCE:

The surveillances performed when the Unit Two Diesel Generator became inoperable demonstrated the 1/2 Diesel Generator and its associated safety systems to be operable. Also, power was available from all four off-site lines and the redundant Emergency Diesel Generator. Therefore, there was no significant affect on safe plant operation as a result of this occurrence.

VII. CAUSE:

The apparent cause of this occurrence was determined to be fouling of one of the two parallel Diesel Generator Cooling Water System heat exchangers. This degraded heat transfer sufficiently to cause the engine to overheat, upon loading of the Generator. The heat exchanger was manufactured by the Young Radiator Company, Model Number XF-1303-TC-2P-CNT and is designed to operate at 75 psig and 350°F. The secondary side of the heat exchanger utilizes Diesel Generator Cooling Water (river water) and the primary side consists of chemically treated demineralized water.

VIII. CORRECTIVE ACTION:

Western Engine, the Diesel Generator vendor, was contacted and a representative arrived on October 7, 1982, in order to ascertain the cause of the overheating. Observation of the 1/2 Diesel Generator operation led to the determination that at least one of the two heat exchangers was fouled. On Western Engine's recommendations, one of the cooling water heat exchangers for the engine was replaced with the spare heat exchanger. Inspection of the heat exchanger detected no gross blockage, but not all of the heat exchanger was visible. This opportunity was also taken to inspect the heat exchanger flow reversal valves; no abnormal wear or operation was detected.

On October 8, 1982, at 7:45 a.m., the Unit Two Diesel Generator was started and water pressure and temperature indications were observed to be normal. The Diesel Generator was operated until 9:38 a.m. without incident.

This was the first incident of type at the Station, involving an Emergency Diesel Generator trip as a result of a fouled cooling water heat exchanger. In order to preclude further occurrences of this type, the Diesel Generator Cooling Water heat exchanger will be placed on a preventative maintenance schedule for regular cleaning. In addition, differential temperatures across all the Diesel Generator's heat exchangers will be taken during the next monthly surveillance and analyzed for possible Diesel Generator heat exchanger fouling problems. If any action is deemed necessary, a supplemental report will be provided.