

- I. LER NUMBER: LER/RO 83-1/03L-0
- II. LICENSEE NAME: Commonwealth Edison Company
Quad-Cities Nuclear Power Station
- III. FACILITY NAME: Unit One
- IV. DOCKET NUMBER: 050-254
- V. EVENT DESCRIPTION:

On January 4, 1983, Unit One was in the RUN mode at 815 MWe and Unit Two was in the RUN mode at 773 MWe. As part of the Monthly Diesel Generator Operability Surveillance, QOS 6600-1, the 1/2 Diesel Generator was started. After running for less than one minute, it tripped and the High Crankcase Pressure alarm annunciated. The 1/2 Diesel Generator was declared inoperable and surveillances were immediately performed on the other two Diesel Generators and their associated safety systems, as required by Technical Specification 4.9.E. All of the systems were demonstrated to be operable. On February 2, 1983, while performing operability testing in preparation for monthly preventative maintenance, the 1/2 Diesel Generator again tripped on a high crankcase pressure signal. An immediate attempt to restart the 1/2 Diesel Generator was successful and the operability surveillance was completed without further incident. A Work Request was written to investigate the cause of the trip.

VI. PROBABLE CONSEQUENCES OF THE OCCURRENCE:

Each of the three Diesel Generators is sized to carry the necessary unit loads during a loss of off-site power. Unavailability of one Diesel Generator would have little effect on the plant. The other two Diesel Generators and all four of the off-site lines were available during this occurrence.

In addition, the High Crankcase Pressure trip is one of several trips defeated when a Diesel Generator automatically starts. Therefore, Diesel Generator 1/2 would have been available on a loss of off-site power.

VII. CAUSE:

The cause of the initial 1/2 Diesel Generator trip was attributed to the oil viscosity being high enough to cause the relief valve inside the engine to open. It was concluded that the oil discharged from the valve sprayed sufficiently on the disc of the crankcase pressure sensor to cause the Diesel Generator to trip from a pseudo-high crankcase pressure signal. This was the first occurrence of this type at this Station and was considered to be an isolated occurrence. Extensive investigations were conducted at this time to determine the root cause of failure but were unsuccessful.

VII. CAUSE: (Continued)

After the trip, on February 2, 1983, further investigations led to the replacement of the pressure sensor. The Diesel Generator was test run and crankcase pressure was measured with a manometer. This test showed a high crankcase pressure condition did not exist; therefore, a failed sensor was determined to be the cause of the trip. The root cause of the faulty sensor could not be determined.

VIII. CORRECTIVE ACTION:

At 1540 hours, on January 4, 1983, the Diesel Generator was restored and the Diesel Generator Operability Test, QOS 6600-1, was successfully completed. Two other starts on January 5, 1983, were performed without incident.

This was considered to be an isolated incident. However, on February 2, 1983, when the Diesel Generator tripped again on a High Crankcase Pressure signal, investigations led to the replacement of the pressure sensor. This was a like-for-like replacement with parts from a spare Diesel Generator. The new sensor was tested and performed in accordance with the manufacturer's recommended limits. Operability of the Diesel was successfully performed.