

SUPPLEMENTAL INFORMATION
FOR
LICENSEE EVENT REPORT 81-27, REVISION 1

1. Cause, Description, and Analysis

On November 15, 1981, with the unit at hot shutdown conditions, "A" Residual Heat Removal (RHR) pump was observed to have about a 4 GPM leak from around the pump shaft. This leak was discovered during the performance of Periodic Test PT-2.8B, and "A" RHR pump was declared inoperable at 2000 hours. This leakage rate exceeded the criteria of Technical Specification 4.4.3.a for leakage from the RHR System.

Investigation revealed that the leak resulted from a pump seal failure, caused by corrosion of the seal material. A visual inspection, by the pump seal manufacturer's technical representative, determined that the pump stationary seal was made of the wrong material for its application, which resulted in premature failure. Specifically, the stationary seal ring was made of nickel-carbon steel alloy instead of tungsten carbide which is acceptable for use in a Boric Acid System.

The usage of seals made of incorrect material was the result of a purchasing error. Replacement seals were requisitioned by Plant personnel in 1978 without specifying the seal material code. Subsequently, a material code was obtained from the vendor, and the purchase order was issued based on that information with proper technical review. This purchase order was an initial order to the pump seal manufacturer. Previous replacement seals were purchased from the pump supplier who insured the seals were made of the correct material.

As a result of this error, replacement seals were received with prior certification to the purchasing requirements (in error technically), inspected, and placed in stock as the proper replacement parts. Additionally, in 1979, an automatic re-order was initiated based on the incorrect information contained in the previous purchase order, and these replacements were also placed in stock.

In 1980, CP&L was contacted by a representative of the pump seal manufacturer questioning the material specification code on a third purchase order. The issue was raised by the fact that the manufacturer had recently revised their material specification codes. This purchase order was cancelled until the proper drawing and material specification codes could be verified. However, in the interim, the replacement seals in stock were used in the belief that they were the correct parts since they had the proper certifications.

As stated above, the error in seal material was verified by the vendor technical representative who was onsite for investigation and repair efforts. The replacement seals in stock at that time were removed from issue, and the proper seals were obtained for repair of the pump.

1. Cause, Description, and Analysis (Continued)

This event resulted in a degraded mode permitted by a Limiting Condition For Operation as specified by Technical Specification 3.3.1.3 which is reportable pursuant to 6.9.2.b.2. Due to difficulties in obtaining the proper repair parts and operational considerations, the maintenance period allowed by Technical Specification 3.3.1.3 was extended 24 hours pursuant to 3.3.7. "B" RHR pump was demonstrated operable so there was no threat to the public health and safety.

2. Corrective Action

"A" RHR pump was subsequently repaired with the proper seals, tested, and declared operable at 0300 hours on November 19, 1981. As stated earlier, the incorrect seals have been removed from the stockroom.

3. Corrective Action To Prevent Recurrence

The correct vendor drawing and material specification code has been obtained and placed in the plant drawing file. The current purchase order for RHR pump seals contains the correct specifications and material codes.

As previously stated, this event is attributed to the lack of proper review during the purchasing process. The current procedure for the procurement of plant material and equipment, SR-1, was reviewed during the investigation of this event. This procedure, with one revision to require a technical review for any change to the item description, part number, or specification, no matter why the change was made, is considered sufficient to prevent this type of event from recurring in the future. Based on good past experience with parts ordered under the old system, CP&L believes that the RHR pump seals were an isolated problem. Therefore, unless additional examples of problems in the area of Q-List procurement under the old system are identified, no further actions are considered necessary.