**U. S. NUCLEAR REGULATORY COMMISSION** NRC FORM 366 UPDATE REPORT - Previous Report Date 12-15-81 (7.77) LICENSEE EVENT REPORT CONTROL BLOCK: (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION) 0 0 0 0 0 0 -(2) 0 00 3 4 0 H B R 0 LICENSEE CODE CON'T 6 1 7 1 1 5 8 1 8 0 2 0 8 8 3 9 68 69 EVENT DATE 74 75 REPORT DATE 80 REPORT L (6) 0 5 0 0 0 0 1 SOURCE DOCKET NUMBER EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10) On November 15, 1981, at 2000 hours with the unit at hot shutdown conditions, "A" 0 2 Residual Heat Removal (RHR) pump was declared inoperable due to a 4 GPM leak result-0 3 ing from pump shaft seal failure. This event resulted in a degraded mode permitted | 0 4 by a Limiting Condition For Operation as specified by Technical Specification 3.3.1.3 0 5 which is reportable pursuant to 6.9.2.b.2. The 4 GPM leak rate also exceeded Techni-0 6 cal Specification 4.4.3.a. "B" RHR pump was demonstrated operable so there was no 7 threat to the public health and safety. 8 80 COMP SYSTEM CAUSE VALVE CAUSE SUBCODE COMPONENT CODE SUBCODE CIF B (15 A (12 U M P X X (14 (16) C (13) P REVISION OCCURRENCE SEQUENTIAL REPORT REPORT NO. CODE TYPE NO. EVENT YEAR LER/RO REPORT 17 X 1 NUMBER PRIME COMP. COMPONENT EFFECT ON PLANT SHUTDOWN ATTACHMENT SUBMITTED NPRD-4 ACTION FUTURE TAKEN ACTION HOURS (22) MANUFACTURER FORM SUB. SUPPLIER N (25 10 C 6 7 N (24) 0 0 10 Z (18) H CAUSE DESCRIPT ON AND CORRECTIVE ACTIONS (27 The seal failure was the result of a purchase order error in which the wrong seal 1 0 "A" RHR pump was material was ordered leading to premature failure of the seal. repaired with the correct seals, tested, and declared operable at 0300 hours on November 19, 1981. The corrective action identified as a result of the investigation is complete. 4 80 METHOD OF FACILITY DISCOVERY DESCRIPTION (32) OTHER STATUS % POWER DISCOVERY Operator Observation G (28) 0 0 0 N/A B 80 9 10 ACTIVITY CONTENT LOCATION OF RELEASE (36) AMOUNT OF ACTIVITY (35 RELEASED\_OF RELEASE Z (34) N/A Z (33) N/A 80 45 44 PERSONNEL EXPOSURES DESCRIPTION (39) TYPE N/A 0 0 0 (37) Z (38) 80 PERSONNEL INJUNES DESCRIPTION (41 NUMBER N/A 0 0 (40) 01 80 LOSS OF OR DAMAGE TO FACILITY (43) DESCRIPTION N/A Z (42) 8302150683 830208 PDR ADOCK 05000261 90 PUBLICITY NRC USE ONLY DESCRIPTION (45) PDR COUPD N (44) 69 80 . 5 (803)383-4524 Howard T. Cox NAME OF PREPARER \_\_\_\_ PHONE \_\_\_\_

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

## 1. Cause, Description, and Analysis

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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 tungsen 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 rechnical 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

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"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.