

# Nebraska Public Power District

COOPER NUCLEAR STATION  
P.O. BOX 98, BROWNVILLE, NEBRASKA 68321  
TELEPHONE (402) 825-3811

CNSS810146

March 13, 1981

Mr. K. V. Seyfrit, Director  
U.S. Nuclear Regulatory Commission  
Office of Inspection and Enforcement  
Region IV  
611 Ryan Plaza Drive  
Suite 1000  
Arlington, Texas 76011



Dear Sir:

This report is submitted in accordance with Section 6.7.2.B.2 of the Technical Specifications for Cooper Nuclear Station and discusses a reportable occurrence that was discovered on February 13, 1981. In accordance with the requirements of IE Bulletin No. 80-17, Mr. Dennis DuBois was notified on the same date. A licensee event report form is also enclosed.

Report No.: 50-298-81-02  
Report Date: March 13, 1981  
Occurrence Date: February 13, 1981  
Facility: Cooper Nuclear Station  
Brownville, Nebraska 68321

**Identification of Occurrence:**

Conditions leading to operation in a degraded mode permitted by a limiting condition for operation as delineated in Section 3.5.B.1 of the Technical Specifications.

**Conditions Prior to Occurrence:**

Steady state power operation at approximately 98% reactor power.

**Description of Occurrence:**

During routine preventative maintenance activities, brass filings were found in the lube oil sump for the outboard motor bearing of the "B" Residual Heat Removal Service Water Booster Pump.

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Designation of Apparent Cause of Occurrence:

The subject motor is a 1000 HP Type G Allis Chalmers Induction Motor. The motor has an inboard bearing and motor fan and an outboard bearing and motor fan. The motor was disassembled and the inboard motor fan was found free of the rotor shaft. Filings worn from the brass fan were blown in the outboard bearing. The subject fan is shrunk on the shaft and locked with a set screw. The set screw for this fan was not properly engaged, and the rotor shaft was undersized by 0.003" which would produce less than the recommended shrink fit. This caused the failure. This is a repetitive occurrence on this same motor which initially occurred in 1974. That occurrence was not reported to the NRC at that time.

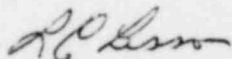
Analysis of Occurrence:

The RHR Service Water System provides cooling water to the RHR Heat Exchangers and provides emergency core flooding capability in the event the engineered safeguard systems are inoperative during a loss of coolant accident. The system consists of two independent loops with two pumps per loop, each capable of satisfying the design criteria. The redundant loop was operable as well as both diesel generators. This event presented no adverse consequences from the standpoint of public health and safety.

Corrective Action:

The motor fan was repaired and reinstalled on the rotor per the manufacturer's recommendations. An additional set screw was added which corresponds to the recent motor designs. The rotor was balanced and reinstalled. Upon successful completion of the repair, the pump was proven operable. The bearing sumps for the three other pumps were inspected and no abnormalities were found.

Sincerely,



L. C. Lessor  
Station Superintendent  
Cooper Nuclear Station

LCL:cg  
Attach.