Nebraska Public Power District

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

CNSS79Ø514

October 9, 1979

Mr. K. V. Seyfrit
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region IV
611 Ryan Plaza
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 September 12, 1979. A licensee event report form is also enclosed.

Report No.: 50-298-79-26
Report Date: October 9, 1979
Occurrence Date: September 12, 1979
Facility: Cooper Nuclear Station
Brownville, Nebraska 68321

Identification of Occurrence:
A condition which may have lead to operation in a degraded mode permitted by the limiting condition for operation defined in Section 3.6.C of the Technical Specifications.

Conditions Prior to Occurrence:
The reactor was at a steady state power level of 98% of rated thermal power.

Description of Occurrence:
During plant operation the unidentified drywell leak rate may have exceeded the 5 gpm limiting condition for operation specified in Section 3.6.C.1 of the Technical Specifications.

Designation of Apparent Cause of Occurrence:
The potential increased drywell leakage has been attributed to the failure of the "B" Reactor Recirculation (RR) pump seal.

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Analysis of Occurrence:

The reactor recirculation system consists of two independent loops, each with a variable speed recirculation pump. The recirculation pumps provide a means of varying the coolant flow rate through the jet pumps and thus vary the reactor recirculation flow rate. The RR pumps are Byron Jackson Type DVSS vertical one stage pumps. These pumps utilize Byron Jackson two stage cartridge type mechanical shaft seals. On September 12, 1979 at 0915 hours, the "B" RR pump seal staging flow Hi/Lo flow alarm actuated and the outboard seal cavity pressure indicated 0 psig. This indicated possible failure of the outboard seal. At 1309 hours, the high drywell pressure alarm actuated. Plant power was reduced and the "B" RR pump was isolated at 1331 hours. During the 22 minutes between receipt of the high drywell pressure alarm and the isolation of the "B" RR pump, the unidentified drywell leak rate may have exceeded the Technical Specification limit of 5 gpm. The maximum calculated leak rate that could have occurred during the time was less than 15 gpm. The identified leak rate showed no increase over previously determined leak rates.

The plant was shutdown and the "B" RR pump seal replaced. The "B" RR pump seal had been in service since initial startup in 1974. Inspection of the spent seal by a Byron Jackson service representative indicated the seal had failed and the failure was the result of extended service. No abnormal wear characteristics were found. This occurrence had no adverse affect on the public health and safety.

Corrective Action:

The "B" RR pump seal was replaced with an identical seal. The "A" RR pump seal was replaced in the Spring 1979 refueling outage and is performing satisfactorily. The unit was returned to service on September 15, 1979. The drywell leak rates since startup are in compliance with the Radiological Technical Specifications.

Sincerely,

L. C. Lessor
Station Superintendent
Cooper Nuclear Station

LCL:cg
Attach.