Nebraska Public Power District

COOPER NUCLEAR STATION
P.O. BOX 98, BROWNVILLE, NEBRASKA 68321
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CNSS820065

February 17, 1982

Mr. John T. Collins, Regional Administrator
U.S. Nuclear Regulatory Commission
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 January 26, 1982. A licensee event report form is also enclosed.

Report No.: 50-298-82-03
Report Date: February 17, 1982
Occurrence Date: January 26, 1982
Facility: Cooper Nuclear Station
Brownville, Nebraska 68321

Identification of Occurrence:
A condition which lead to operation in a degraded mode permitted by a limiting condition for operation established in Section 3.5.B.3 of the Technical Specifications.

Conditions Prior to Occurrence:
The reactor was at a steady state power level of approximately 99% of rated thermal power.

Description of Occurrence:
During performance of Surveillance Procedure 6.3.5.2, the control room received an overload alarm from valve RHR-MO-26B while the valve was closing. The valve indicated closed in the control room; it was checked locally and found to be closed. The overload contacts were tripped. When the overload contacts were reset, the alarm cleared.

Designation of Apparent Cause of Occurrence:
The apparent cause of the occurrence is failure of the brake coil in the motor operator.

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Analysis of Occurrence:

The subject valve, RHR-MO-26B, is a ten inch, 300 psig gate valve manufactured by Anchor Darling Valve Company. The motor operator is a Limitorque SMB Ø. RHR-MO-26B is the outboard isolation valve in the drywell spray line. This is a normally closed valve that receives a closure signal on ECCS initiation. The inboard isolation valve was operational as well as both isolation valves in the redundant RHR loop. The core spray system and both diesels were operable. This valve is required to be open only for drywell spray. Drywell spray can be performed during an ECCS initiation with reactor water level above 2/3 core height and 2 psig in the drywell. In the event this valve needed to open, it would have opened without receiving the overcurrent on the motor as demonstrated during previous steps of the subject surveillance procedure. This occurrence did not make the RHR pumps inoperable, nor would it have prevented the system from performing its function of low pressure coolant injection.

At this point, the operation of how the motor operator works should be explained. On the opening cycle the limit switch opens the power supply contacts to stop the motor. For this ECCS valve, the opening torque switch is jumpered out by design. On closing the valve, the limit switch gives position indication only, the closing torque switch opens the power supply contacts to stop the motor operator.

However, during the performance of this surveillance procedure with the brake engaged, the motor operator performed as follows. The motor operator opened the valve. The limit switch opened to stop the motor operator when it reached the open position. When the motor operator closed the valve, the motor again overcame the engaged brake. The valve went closed but the motor could not overcome the brake enough to activate the torque switch, so the motor tripped on overload.

This occurrence presented no adverse consequences from the standpoint of public health and safety.

Corrective Action:

The subject valve has had the same problem in the past (reference LER 81-03). At that time the problem was thought to be internal to the valve. However, on a subsequent internal inspection of the valve, nothing abnormal was found. During the investigation that followed this occurrence, the valve was repeatedly cycled and the technician present found the burned brake coil. The brake and motor were replaced and tested satisfactorily and returned to service.

Sincerely,

L. C. Lessor
Station Superintendent
Cooper Nuclear Station

LCL:cg
Attach.