

Nebraska Public Power District

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

CNSS800058

January 21, 1980

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 January 3, 1980. A licensee event report form is also enclosed.

Report No.: 50-298-80-02
Report Date: January 21, 1980
Occurrence Date: January 3, 1980
Facility: Cooper Nuclear Station
Brownville, Nebraska 68321

Identification of Occurrence:

A condition which resulted in operation in a degraded mode permitted by the limiting condition for operation established in Section 3.5.C.2 of the Technical Specifications.

Conditions Prior to Occurrence:

The reactor was on a flow ramp at approximately 93% of rated thermal power.

Description of Occurrence:

During an operator's tour, the HPCI stop valve stem was found broken and separated from the actuator.

Designation of Apparent Cause of Occurrence:

Failure was due to the valve stem being overstressed in this area during the process of freeing the stop valve piston when it was stuck open on September 12, 1979, (reference LER 79-25).

A002
5/11

8002280 429

Mr. K. V. Seyfrit
January 21, 1980
Page 2.

Analysis of Occurrence:

The HPCI turbine stop valve is a vertically mounted inverted hydraulically operated piston type globe valve. The function of this valve is to close quickly and stop the flow of steam to the turbine when required for turbine protection.

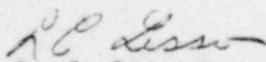
The valve stem and actuator are connected by a split coupling. On September 12, 1979, this coupling was found with the threads pulled out and the valve was jammed in the full open position. To free the stuck valve piston, a puller was made by putting a nut on the threaded section of the stem with washers between it and the valve body. A wrench was used on the flat section of the valve stem to keep the shaft from turning while the nut was tightened down to pull the stem. At one point in the process, the wrench used to keep the valve stem from rotating inadvertently bottomed out in the flat. This caused the pulling force to be concentrated between the nut and this wrench, overstressing this area. At that time no damage to the shaft was noted, however, now when the shaft was compared to the replacement valve stem, the stretching of this area was apparent.

Since the valve is pushed open by the actuator and the valve piston was free to operate, the valve would have opened if required and the HPCI System would have performed its intended safety function. At the time of the occurrence, the redundant system, Automatic Depressurization System, as well as all low pressure emergency core cooling systems were operable. This occurrence presented no adverse consequences from the standpoint of public health and safety.

Corrective Action:

The valve was disassembled and a new valve stem was installed. The valve internals were thoroughly inspected. A slight amount of deformation was noted around the top of the balance piston which was corrected. The valve was reassembled and stroked several times to check the valve operation, and the HPCI System was operationally tested by performance of S.P. 6.3.3.4 before the system was returned to service. This event was discussed with the personnel involved.

Sincerely,



L. C. Lessor
Station Superintendent
Cooper Nuclear Station

LCL:cg
Attach.