



Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

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WPW Ltr.#456-73

Dresden Nuclear Power Station
R. R. #1
Morris, Illinois 60450
June 14, 1973



Mr. A. Giambusso
Deputy Director for Reactor Projects
Directorate of Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545

SUBJECT: LICENSE DPR-25, DRESDEN NUCLEAR POWER STATION, UNIT #3,
SECTION 6.6.C.1 OF THE TECHNICAL SPECIFICATIONS.

Reference: Letter dated May 4, 1973 from W. P. Worden to A. Giambusso
concerning the failure of low pressure coolant injection
valve 3-1501-22B.

Dear Mr. Giambusso:

This letter is to provide a followup report on the failure mode of motor operated valve 3-1501-22B and to report a subsequent failure of the valve which occurred on May 28, 1973. The failure on May 28 occurred before complete investigation into the cause of the failure could be ascertained. As was stated in the initial report, the inoperability of the valve was a result of a bent stem.

On May 28, 1973 at 2240 hours, a subsequent failure of M.O.3-1501-22B occurred. At this time, the reactor was in the startup mode and a reactor heatup was in progress. The valve was being cycled for diesel generator surveillance. After the valve was opened, it would not close. M.O.3-1501-22B was left open and M.O.3-1501-21B, a normally open valve in the injection line was closed. By opening M.O.3-1501-22B and using M.O.3-1501-21B as the isolation valve, the LPCI system remained in operation. On a LPCI initiation signal, both M.O.3-1501-22B and M.O.3-1501-21B receive an open signal. Therefore, the failure of this valve is not considered to present any hazard to the public health and safety since the LPCI system was not degraded.

Investigation into the problem revealed that the failure was a result of a badly worn brake. The valve in question is designed to operate via a logic network, manually, or remotely from the Control Room. It is a normally closed motor operated valve with a Limitorque operator. The closing operation of the valve is controlled by the closing torque limit switch after the initial closing signal has been received. When the valve reaches

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its closed position, the valve seats with a predetermined amount of torque, dependent on the closing torque setting. When this value is reached, the closing torque limit switch opens and valve movement ceases. At this point, a friction brake engages and holds the valve in position. It was found that the brake had been improperly adjusted by the vendor and was engaged at all times. This caused excessive wear to the point where the brake was no longer serving its purpose. With the inoperative brake, and due to the gearing ratio of the operator, the valve would open slightly, after some time. This would allow the torque detecting device, (the Belleville spring washers) to relax, thus closing the close torque limit switch causing the valve to drive hard closed. This repeated "hammer effect" caused the valve stem to bend.

This is the first failure on Unit 2 and 3 which can be attributed to a faulty friction brake adjustment.

CORRECTIVE ACTION

The brake assembly was replaced with a new unit and properly adjusted. The valve was tested satisfactorily and returned to service.

Sincerely,

Fred S. Morris
for W. P. Worden
Superintendent

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cc: File-AEC Corr./I