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WPW Ltr #704-73

Dresden Nuclear Power Station
R. R. #1
Morris, Illinois 60450
September 21, 1973

Regulatory File Cy.

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

SUBJECT: LICENSE DPR-19, DRESDEN NUCLEAR POWER STATION, UNIT #2, SECTION 6.6.C.1 OF THE TECHNICAL SPECIFICATIONS. LPCI VALVE 2-1501-3A FAILED TO OPEN

Reference: P & I D Drawing No. M-29

Dear Mr. Giambusso:

This letter is to report a condition relating to the operation of Unit 2 at 1900 hours on September 4, 1973. At this time, LPCI valve 2-1501-3A failed to open.

PROBLEM

During surveillance prior to removing 2A containment cooling service water pump from service for repacking, LPCI valve 2-1501-3A failed to open. At the time of the failure the unit was in the "Run" mode with thermal power at 2200 megawatts. The unit was running at steady state with electrical load at 747 megawatts.

To immediately correct the problem, an operator was sent to manually free the valve. During this operation, it was discovered that the valve was not stuck as originally thought, but that the control circuitry appeared to be malfunctioning.

INVESTIGATION

An investigation revealed that the slide wire on the feedback potentiometer had shifted. The slide wire was found to have worked itself off the operating cam in such a way that it opened the feedback loop. With the feedback loop open the valve received a signal which indicated that it was in its proper position, and which therefore prevented the valve from opening.

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It is believed that the failure of the slide wire to remain on the cam was due to poor design by the manufacturer.

CORRECTIVE ACTION

The immediate corrective action taken was to manually open the valve. Additional corrective action taken was to make a temporary modification to the slide wire potentiometer. The change added a fiberglass disc to the operator cam which will prevent the slide wire from riding off. This, however, is only an interim "fix" until further evaluation can be made. Possible alternate solutions are to replace the present potentiometer with a sturdier model or to replace it with a new type of potentiometer.

EVALUATION

During the failure of the 2-1501-3A valve the safety of the plant and public was not in jeopardy. Since the 3A valve is the service water outlet of the LPCI heat exchanger, the cooling capability of the LPCI system would have been degraded. However, the closure of the valve would not effect the capability of the LPCI system to inject during an accident. Also, at the time of the failure, all other emergency systems were operational. Continued operation was considered to be safe because the redundant containment cooling water system was operational and this valve could be opened manually.

W. P. Worden
Superintendent
Dresden Nuclear Power Station

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cc: File - AEC Corr.

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