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Regulatory File Cy.

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WPW Ltr.#600-73

Dresden Nuclear Power Station
R. R. #1
Morris, Illinois 60450
August 22, 1973

Mr. A. Giambusso
Deputy Director for Reactor Projects
Directorate 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. UNIT #2 CONTAINMENT COOLING SERVICE WATER VALVE 2-1501-3A FAILED TO OPEN.

References: 1) Notification of Region III of AEC Regulatory Operations Telephone: G. Fiorelli, 1430 hours, on 7/24/73

2) Dwgs. P&ID M-29

Dear Mr. Giambusso:

This letter is to report a condition relating to the operation of Unit 2 at about 0430 hours, July 24, 1973. While running surveillance on the 2A and 2B containment cooling service water pumps per Technical Specification 4.5.B, no flow was observed and no open indication for valve 2-1501-3A was present.

PROBLEM

Dresden Unit #2 was operating at 1387 MWt (441 MWe) steady state conditions. At 0430 hours on July 24, 1973, the shift was in the process of performing the quarterly pump and valve operability surveillance on the containment cooling service water system. No flow was observed in the system as well as no open indication for valve 2-1501-3A.

INVESTIGATION

The subject valve is in the outlet of the service water side of the 2A-1503 heat exchanger and is used to control the differential pressure between the service water side of the heat exchanger and the low pressure coolant injection (LPCI) water side. The valve is normally closed when both service water pumps are shutdown. It is throttled to maintain the

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service water pressure 20 psig above LPCI system pressure whenever a service water pump is running. The valve throttling is controlled by a position modulator which receives inputs from a differential pressure transmitter and valve position sensor. The position modulator compares the differential pressure signal with the valve position signal and actuates a relay in the valve opening and closing control circuit to maintain 20 psig differential pressure.

The valve position signal is generated by a slide wire assembly (270° potentiometer) located on the valve. The center top of the slide wire is rotated by a geared shaft on the valve operator. The slide wire is held in position by a lock nut securing it to a mounting bracket.

An attempt was made to operate the valve from the local control center with no results. The valve was operated manually and flow through the system was obtained. At this time the "B" containment cooling system tested satisfactorily.

It was found that a wire had vibrated off of the valve brake on the limitorque allowing the valve to close too far. This moves the center top of the slide wire off its contact surface and position indication is lost. This prevents valve operation electrically.

CORRECTIVE ACTION

The wire was reconnected and the valve was exercised locally and from the control room. Operation was satisfactory and the system was again considered operable. The probable cause is vibration from frequent system operation for torus cooling and for system surveillance.

A similar failure occurred on the same valve on February 23, 1973, reported in our letter dated March 23, 1973, and on March 30, 1973, reported in our letter dated April 14, 1973.

As a result of our evaluation, a modification has been proposed to replace the existing 270° positioning potentiometer with a slide type potentiometer in the valve position feedback system. (M12-2-73-145 & M12-3-73-147).

EVALUATION

The failure of this valve to open would cause a partial loss of cooling to the LPCI water, but would have no effect on the injection of low pressure coolant into the vessel. Failing closed would have no effect on the LPCI side and would insure high pressure on the service water side.

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Since the valve was manually operable and the required backup systems were available, the failure was not considered to present any increased hazard to the public safety.

Sincerely,

W. P. Worden AR

W. P. Worden
Superintendent

WPW:do

cc: File-AEC Corr.

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