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Regulatory File

Commonwealth Edison Company

72 WEST ADAMS STREET ★ CHICAGO, ILLINOIS

Address Reply to:
POST OFFICE BOX 767 ★ CHICAGO, ILLINOIS 60690

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

December 11, 1970

Dr. Peter A. Morris, Director
Division of Reactor Licensing
U.S.Atomic Energy Commission
Washington, D.C. 20545

SUBJECT: LICENSE DPR-19, DRESDEN NUCLEAR POWER STATION UNIT 2, SECTION 6.6.B.3 OF THE TECHNICAL SPECIFICATIONS

Dear Dr. Morris:

This is to report on abnormal occurance in which four main steam line isolation valves 1D, 2A, 2B and 2C failed to close during the biweekly surveillance testing as required by section 4.7.D.1.C of the Technical Specifications and the supplementary full-closure testing commitment initiated as a result of earlier MSIV problems.

Problems, Investigation and Corrective Action:

The biweekly surveillance test on the main steam line isolation valves was performed on December 4, 1970, between 1 a.m. and 2 a.m. During the test, main steam isolation valves 1D, 2A, 2B and 2C failed to close using the manual operating switch although the partial closure operation using the test push button was normal on all valves.

The condition of the main steam isolation valves as found would have prevented automatic closure of the above noted valves although automatic closure would have occured on one valve in each line if an isolation signal had been initiated. The previous full closure test was conducted satisfactorily on November 29, 1970.

Valve 2A operated normally after exercising with the operating switch. Valves 1D, 2B and 2C could not be closed properly until after several operations with the operating switch during subsequent system cooldown. The unit was operating at 299 MWe (962 MWt) at the time of the test.

Additional timing tests were conducted on the operable valves which showed that the valve closure times on valves 1A and 2D were 5.7 to 5.8 seconds which exceeds the 5.0 second maximum closure time of section 3.7.D.1 of the Technical Specifications.

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The high temperatures of the inboard pilot valves of 150 to 200°F observed at the time of the MSIV failures to close were found to be erroneous and due to the recorder indexing mechanism being out-of-step. Previous data showed the inboard temperatures to be less than 150°F. The recorder has been repaired.

As required by the Technical Specifications section 3.7.D.3, an orderly shutdown was initiated at 2:04 a.m. on December 4, 1970. The reactor was subcritical at 7:44 a.m. and in "cold shutdown" at 2:05 p.m.

The subsequent investigation revealed a thin film on the pilot valves which is considered to have caused the failure. All the pilot valves were thoroughly cleaned and the air supply lines and accumulators were blown down to remove any particulate material in the system. However, no significant particulate material was found. An investigation is in progress to consider the installation of additional filters which would serve to remove any particulate contamination from the air supply to the system.

Following the repair work, the main steam isolation valves were cycled and timed in the cold condition. Functional checks were performed in the cold condition and following startup at 300 psig operating pressure, and at approximately 400 MWe. In addition to the normal biweekly surveillance checks a procedure has been established to cycle the pilot valves on the "A" and "B" main steam lines an additional number of times in order to evaluate any effect of increased pilot valve exercising.

A review of the situation has been made by the Station Review Board. The SRB concurred that the Technical Specification requirements were met and that the corrective action was appropriate.

H. K. Hoyt
Superintendent

HKH:LDB:dmc