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BBS Ltr.#597-74

50-249

Dresden Nuclear Power Station  
R. R. #1  
Morris, Illinois 60450  
August 19, 1974



Mr. James G. Keppler, Regional Director  
Directorate of Regulatory Operations-Region III  
U. S. Atomic Energy Commission  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

SUBJECT: REPORT OF ABNORMAL OCCURRENCE PER SECTION 6.6.B OF THE TECHNICAL SPECIFICATIONS.  
TIP MACHINE BALL VALVE FAILURE TO CLOSE.

References: 1) Regulatory Guide 1.16 Rev.1 Appendix A

- 2) Notification of Region III of AEC Regulatory Operations  
Telephone: F. Maura, 1415 hours on August 8, 1974  
Telegram: J. Keppler, 1447 hours on August 8, 1974

Report Number: 50-249/1974-25

Report Date: August 19, 1974

Occurrence Date: August 7, 1974

Facility: Dresden Nuclear Power Station, Morris, Illinois

#### IDENTIFICATION OF OCCURRENCE

The ball isolation valve on the Unit 3 "B" transversing incore probe (TIP) machine failed to close as is normal following the retraction of the 3B TIP probe into its shield.

#### CONDITIONS PRIOR TO OCCURRENCE

The ball valve had been actuated open for the purpose of taking data with the TIP system approximately three hours prior to the observed failure. During these three hours, the valve remained open. No abnormal operation of the 3B TIP machine was noted during the data taking.

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Inquiry

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DESCRIPTION OF OCCURRENCE

Data from the Unit 3 TIP system was taken from approximately 1630 hours until 1900 hours on August 7, 1974. To begin the data taking, all TIP probes were driven out of their shields, and all isolation ball valves were actuated open. Data taking proceeded normally, with no TIP machine malfunctions noted, save a position tracing problem on two traces, which was attributed to dirty contacts.

The ball valve malfunction was noted at the TIP machine operating panel by means of an indication light, which illuminates when the ball valve is in the open position. The valve normally closes when the TIP probe is retracted into its shield, or can be manually actuated to close. Neither method was observed to work, and the ball valve was considered failed at 1910 hours on August 7, 1974.

Following the observed malfunction, a safety related work request (#7114) was issued at urgent priority. The 3B TIP machine was placed out of service, and while workers were in the TIP machine room, the entire TIP system for Unit 3 was placed out of service.

Repairs to the 3B TIP machine ball isolation valve were completed on August 9, 1974, and the TIP system was returned to service.

Subsequent operation of the TIP machines proceeded normally.

APPARENT CAUSE OF OCCURRENCE (Component Failure)

Examination of the failed ball valve identified a broken wire on the solenoid coil actuator as the cause of the failure.

ANALYSIS OF OCCURRENCE

The isolation ball valve is part of the primary containment, in series with the isolation shear valve. The latter actuates under emergency isolation conditions, and was checked and found operable at the time of the repair. Thus, emergency primary containment was not compromised by the ball valve failure, and no threat to plant or public health and safety existed.

The occurrence is directly attributed to the malfunction of the 3B TIP machine ball isolation valve and to no other cause.

CORRECTIVE ACTION

Repairs done to the 3B TIP machine ball isolation valve involved replacement of the top actuator portion of the valve with a new unit.

August 19, 1974


FAILURE DATA

On June 19, 1974, 3B TIP machine ball isolation valve failed to close, but was inspected and found closed and successfully cycled subsequent to the apparent failure. See deviation report no. D12-3-74-33, "Unit 3 TIP Ball Valve Apparent Failure".

EQUIPMENT IDENTIFICATION

580A56 Valve, Nuclear Instrumentation, General Electric Company NID.  
#112C2391P001, Ball, For Transversing In-Core Probe.

Sincerely,

  
B. B. Stephenson  
Superintendent

BBS:JGT:do