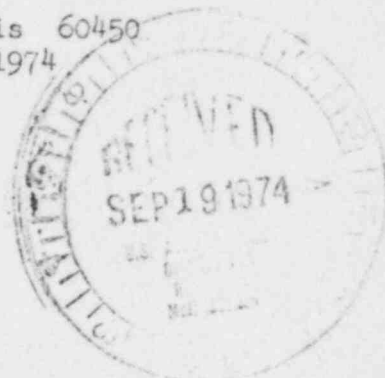




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BBS Ltr.#665-74

Dresden Nuclear Power Station
R. R. #1
Morris, Illinois 60450
September 16, 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, UNIT THREE.

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

- 2) Notification of Region III of AEC Regulatory Operations
Telephone: Mr. F. Maura, 1430 hours on September 9, 1974
Telegram: Mr. J. Keppler, 1430 hours on September 9, 1974

Report Number: 50-249/1974-28

Report Date: September 16, 1974

Occurrence Date: September 8, 1974

Facility: Dresden Nuclear Power Station, Morris, Illinois

IDENTIFICATION OF OCCURRENCE

TIP machine ball valve failure, unit three.

CONDITIONS PRIOR TO OCCURRENCE

Unit three was in the run mode, at a thermal power of 1459 MWt and an electrical load of 447 MWe, at the time of the occurrence.

DESCRIPTION OF OCCURRENCE

At about 2030 hours on September 8, 1974, transversing incore probe (TIP) scans of the unit three core were initiated. Following the scans, the probes were withdrawn into their shields as normal, and the ball isolation valves were given a signal to close.

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The ball isolation valve on 3E TIP machine failed to close, as indicated by a light on the TIP machine control panel.

DESIGNATION OF APPARENT CAUSE OF OCCURRENCE (Design Deficiency)

The valve apparently became stuck due to a weak closure spring, because a tap given to the casing caused the valve to spring closed. Weak closure springs are a known design deficiency in these valves (See Deviation Reports U-2-72-32, D-12-2-73-91, and D-12-3-74-33 plus supplement).

ANALYSIS OF OCCURRENCE

No abnormal reactor conditions resulted from the occurrence. The TIP ball valve is a part of the primary containment isolation, and as such, its failure to close represents a potential breach of primary containment, until the isolation shear valve in series with the ball valve is verified as operable.

As long as this backup system (shear valve) is operable, no safety threat exists to plant personnel or to the public by having a TIP ball valve fail open during operation.

If the shear valve is inoperable, accident conditions could pose a safety threat, due to possible blowdown through the TIP tube to a point outside the drywell.

CORRECTIVE ACTION

The ball valve casing was tapped on, causing the valve to snap closed. A work request (#8126) was issued on September 8, 1974 to determine the cause of the failure. The cause was verified to be insufficient tension on the closure spring, which was readjusted. Past failures of a similar nature (see above) have been attributed to design deficiencies in the ball valves. A new type of ball valve is presently available that eliminates these design deficiencies. A plant modification package, number M12-2-73-187, which is pending completion at this time, calls for the replacement of all of the TIP ball valves with this new type.

Until the completion of the modification, operating procedures are in effect which are intended to increase the reliability of the ball valves now in service. The ball valves are cycled weekly, to loosen them up and to demonstrate their operability. Also, during each refueling outage, the valves are completely overhauled.

FAILURE DATA

For similar failures in the past, see Deviation Reports U-2-72-32, D-12-2-73-91, D-12-3-74-33 and D-12-3-74-46.

Mr. James G. Kepler

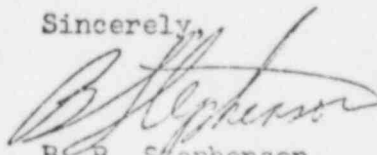
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September 16, 1974

EQUIPMENT IDENTIFICATION

580A56 valve, Nuclear Instrumentation, General Electric Company NID., Ball,
for Transversing Incore Probe.

Sincerely,



B. B. Stephenson
Superintendent

BBS:do