

SSINS No.: 6870  
Accession No.:  
8002280667

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT  
WASHINGTON, DC 20555

April 29, 1980

IE Information Notice No. 80-16

SHAFT SEAL PACKING CAUSES BINDING IN MAIN STEAM SWING DISC CHECK AND ISOLATION VALVES

Description of Circumstances:

Recently two instances of binding of swing check valves have occurred. During disassembly of the main steam isolation valves at Indian Point 2, it was observed that all four reverse flow check valves were stuck at or near fully open. These 28" valves are manufactured by Atwood & Morrill Co.

Investigation revealed that this condition was apparently caused by excessively tight shaft packing which did not allow free movement of the valve disc.

This condition was reported on January 31, 1980. An evaluation determined that with the existence of the reported condition in event of a main steam line break upstream of a main steam isolation valve together with coincident single failure of a main steam isolation valve to close in another loop, the potential existed for blowdown of the contents of two steam generators.

Main steam line break analyses applicable to Indian Point 2 have been performed assuming blowdown of the contents of one steam generator and have not considered multiple steam generator blowdown. Therefore, it is possible that the reported condition could have contributed to the exceeding of a safety limit as defined in the Unit 2 Technical Specifications if a main steam line break had occurred.

The reported condition was corrected by adjusting the packing of these valves in all four loops and verifying that valve disc movement is not restricted.

During testing in the hot standby mode at the Trojan Nuclear Plant on April 15, 1980, three of the four main steam line isolation valves failed to close when manually actuated. The cause of the occurrence was binding in the shaft packing. The valve is air opened and is closed by gravity, steam flow and a small spring force; the valves were manufactured by Atwood & Morrill Co. The licensee believes that the valves would have closed during actual operations with steam flow in the line. The valves were repaired and tested satisfactorily. Modifications to the valves to install air operators to help close the valves are being investigated by the licensee.

This Information Notice is provided as notification of a possible significant matter. It is expected that the recipients will review the information for possible applicability to their facilities and appropriate corrective action taken.

No written response to this IE Information Notice is required.

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Enclosure

RECENTLY ISSUED  
IE INFORMATION NOTICES

Information Notice No.	Subject	Date Issued	Issued To
80-15	Axial (Longitudinal) Oriented Cracking In Piping	4/21/80	All light water reactor facilities holding power reactor OLs or CPs
80-14	Safety Suggestions From Employees	4/2/80	All power reactor facilities with an OL or CP
80-13	General Electric Type SBM Control Switches - Defective Cam Followers	4/2/80	All light water reactor facilities holding power reactor OLs or CPs
80-12	Instrument Failure Causes Opening of PORV and Block Valve	3/31/80	All holders of power reactor OLs and CPs
80-11	General Problems with ASCO Valves in Nuclear Application Including Fire Protection Systems	3/14/80	All holders of Reactor OL, CP, fuel fabrication and processing facilities
80-10	Partial Loss of Non-Nuclear Instrument System Power Supply During Operation	3/7/80	All power reactor facilities holding OLs and CPs
80-09	Possible Occupational Health Hazard Associated with Closed Cooling Systems	3/7/80	All holders of power reactor OLs and near term CPs
80-08	The States Company Sliding Link Electrical Terminal Block	3/7/80	All power reactor facilities with an OL or a CP
80-07	Pump Shaft Fatigue Cracking	2/29/80	All Light Water Reactor Facilities holder power reactor OLs and CPs
80-06	Notification of Significant Events	2/27/80	All holders of Reactor OLs and to near term OL applicants