



May 10, 1974

Mr. John F. O'Leary, Director  
Directorate of Licensing  
Office of Regulation  
U. S. Atomic Energy Commission  
Washington, D.C. 20545

50-250



Dear Mr. O'Leary:

ABNORMAL OCCURRENCE NO. 250-74-6

MAY 10, 1974

OCCURRENCE DATE: MAY 3, 1974

TURKEY POINT UNIT NO. 3

REDUCED PERFORMANCE OF SAFETY INJECTION SYSTEM PUMP  
DUE TO ENTRAPPED AIR

A. CONDITIONS PRIOR TO OCCURRENCE

The reactor was in routine power operation at 99% power.

B. DESCRIPTION OF OCCURRENCE

At approximately 9:27 a.m., the 3A safety injection system (SIS) pump was started in order to add water to the Unit 3 safety injection accumulators. The pump started but indicated abnormally low running current and low discharge pressure. The pump was immediately stopped and valve line-up was verified to be correct. With appropriate maintenance personnel present, the 3A SIS pump was restarted with similar results. The ensuing investigation revealed that the pump casing contained air. It was then vented and tested with satisfactory results. The remaining SIS pumps (3B, 4A and 4B) were also tested and performed satisfactorily.

C. CAUSE OF OCCURRENCE

The exact cause of the air in-leakage could not be determined. However, subsequent investigation revealed that the most likely cause of the in-leakage was from maintenance recently performed on the safety injection system. On March 25, 1974, a modification was performed on valve 3-860A which is the residual heat removal (RHR) pump suction stop valve from the

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containment post accident recirculation sump. The valve modification required draining of the line between 3-860A and 3-861A (see attachment). On April 10, 1974, valve 3-861A was cycled according to the Safety Injection System Periodic Test OP4104.1 which could have allowed the trapped air to enter the RHR system piping. Operating logs indicate that the 3A SIS pump was run periodically between April 10 and May 3, 1974, to add water to the accumulators. This could have drawn the trapped air in the RHR piping into the 3A SIS pump by way of the common suction piping.

D. ANALYSIS OF THE OCCURRENCE

To satisfy the requirements of the safety analyses, any two safety injection pumps must be operational. This requirement was satisfied in that the safety injection pumps 3B, 4A and 4B were all operational at the time the 3A SIS pump was experiencing reduced performance. Therefore, neither reactor safety nor the health and safety of the public were jeopardized by this occurrence.

E. CORRECTIVE ACTION

Immediate corrective action consisted of stopping the 3A SIS pump to prevent possible pump damage. The pump and associated piping were visually inspected for abnormalities; but, none were found. The Unit 3 safety injection system valve line-up was checked and verified to be correct. The 3A SIS pump was then vented via two installed casing vents which are normally blind flanged. A small amount of air was released from the vent at the suction end of the casing, and a larger volume of air was released from the vent at the discharge end of the pump casing. After the pump was vented, it was then tested satisfactorily.

The safety injection system (SIS) and residual heat removal (RHR) system piping and pumps were also vented to ensure that these systems were free from trapped air. Appropriate work documentation has been initiated for the installation of additional vent lines and valves in approved locations in the SIS and RHR systems.

F. FAILURE DATA

The 3A SIS pump failed to start on February 2, 1974, (Abnormal

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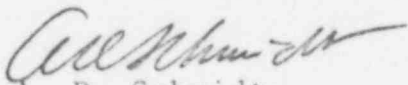
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Occurrence Report No. 3-74-2) due to a malfunction of the circuit breaker charging circuit.

This abnormal occurrence is the first of this type at the Turkey Point nuclear units.

Very truly yours,



A. D. Schmidt  
Director of Power Resources

DWR/kmw

cc: Mr. Norman C. Moseley  
Mr. Jack R. Newman

34 SIS pump

3-861A

valve 3-860A

Attachment 1 to  
AO 250/74-6

FSAR Fig. 6.2-1  
Rev. 33 3/30/73  
SUNSHINE INDUSTRIES

