

LER 317/83-076

Event Description: Transient with the Motor-Driven AFW Pump Inoperable

Date of Event: December 30, 1983

Plant: Calvert Cliffs 1

Summary

On December 30, 1983, the 13 auxiliary feedwater (AFW) pump was removed from service to repair an oil leak on the outboard pump bearing. When an attempt was made to drain the oil from the bearings, the bearing drain was found plugged with metal filings. This indicated that bearing damage had occurred. The damage was attributed to improper lubrication caused by a portion of an o-ring left by the manufacturer in the oil return passage in the bearing housing. The o-ring was removed and the bearings were replaced. The pump was returned to service approximately 11 days after it was initially removed from service. A plant trip occurred on December 28, 1983, two days prior to the discovery of the faulty AFW pump.

This event was modeled as a transient with the motor-driven train of AFW assumed to be failed. The estimated conditional core damage probability is 7.7×10^{-6} . The dominant sequence involved a successful reactor trip, failure of AFW, failure of main feedwater (MFW), and failure of feed and bleed.