

Walt - For your info - Dick PZ1 93102

From: Mary H. Miller (MHH)
To: Y:\MPO\GRP\NRR_KVIB.GRP
Date: Sunday, March 7, 1993 4:43 pm
Subject: Possible vendor concern--EDG snubbers

Stu Richards recommended I inform Vendor Branch of a possible issue with snubber valves installed in the emergency diesels here at Diablo. The attached file describes the failure. Call me or Brad Olson if you have questions. I will be at Region V on Monday, Tuesday, and Wednesday for a resident inspector meeting, and back at Diablo after that. Brad followed the details of the issue. He is assigned at Region V.

Thanks,

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Files: F:\SNUBVLVS

1993

Mary H. Miller 03/07 16:42

Possible vendor concern--EDG snubbers

Failure of Emergency Diesel Generator (EDG) Fuel Injector Snubber Valves

During testing between December 28, 1992, and December 30, 1992, the licensee experienced three separate failures of snubber valves in the fuel injection system of Emergency Diesel Generator (EDG) 2-3. The snubber valves are part of the fuel injection pumps and act as hydraulic shock absorbers by dampening pulsations caused by the fuel injection pumps and by the closing of the fuel injectors. The snubber valves also act as a pressure boundary for the fuel injection system. The snubber valves developed radial cracks which resulted in fuel leaks and degraded performance of affected cylinders, but the operation of the Unit 2 was not affected as EDG 2-3 was not electrically connected to plant systems.

The failed snubber valves were manufactured by Lucas Bryce. The licensee determined that nine similar snubber valves were installed in EDG 2-2. On

December 30, 1992, the licensee prepared a prompt operability assessment to evaluate the impact of the potentially defective snubber valves in EDG 2-2. Based on test data obtained from operation of EDG 2-3 with a failed snubber valve, the licensee concluded that EDG 2-2 could perform its safety function with the Lucas Bryce snubber valves installed. In addition, periodic testing of EDG 2-2 had revealed no indication of failed snubber valves. On January 7, 1993, the licensee replaced the nine Lucas Bryce snubber valves in EDG 2-2 with assemblies manufactured by American Bosch.

Nonconformance Report (NCR) DC2-92-EN-N033 was initiated as a result of the snubber valve failures. The licensee tested the failed snubber valves and found that the cracks appeared to have been a result of the heat treatment process used during manufacturing. In addition, the licensee learned from the diesel manufacturer, GE Locomotives, that similar failures of Lucas Bryce snubber valves had been recently observed.

The inspectors reviewed the licensee's prompt operability assessment for EDG 2-2 and NCR DC2-92-EN-N033. The inspectors observed that the licensee acted in a timely manner to address this issue and was continuing to evaluate the failure of the snubber valves. Also, the licensee was evaluating the potential effect on fuel oil inventory if a EDG had to operate with failed snubber valves. The licensee initiated an INPO Network entry to document the failures, but determined that this event was not reportable under 10 CFR Part 21.