

PRIORITY ATTENTION REQUIRED MORNING REPORT - REGION V OCTOBER 26, 1993

Licensee/Facility:

Arizona Public Service Co.
Palo Verde 1
Wintersburg, Arizona
O RV
Dockets: 50-528
PWR/CE80

Notification:

MR Number: 5-93-0075
Date: 10/26/93
RESIDENT INSPECTOR PHONE CALL T

Subject: SAFETY RELATED BREAKER FAILURE

Reportable Event Number: N/A

Discussion:

On October 23, 1993, the Unit 1 Low Pressure Safety Injection (LPSI) "A" pump motor circuit breaker failed to remain closed when operators attempted to start the pump. After the control room handswitch was taken to start, a red, breaker-closed indication was noted on the control board and was immediately followed by a green, breaker-open indication. The pump motor amps pegged high as expected during a normal start sequence and then decreased to zero concurrent with the green, breaker-open indication. The circuit breaker was immediately inspected, and no problems were noted. Additionally, there were no targets or flags set at the breaker. The licensee attempted to restart the pump from the control room, and the circuit breaker remained closed allowing the pump to start. The LPSI pump circuit breaker is a GE Magne-blast, vertical-lift, horizontal-drawout breaker with a rating of 1200 amperes and 4160 volts.

On October 24, 1993, the LPSI "A" circuit breaker was removed, and a spare breaker was installed. Initial troubleshooting of the removed circuit breaker revealed that the closing mechanism was not setting properly. The closing mechanism used on this circuit breaker includes a spring, called a "prop spring," which repositions the prop mechanism under the prop pin at the end of a closing operation and locks the circuit breaker in the closed position. The licensee found that when the circuit breaker was fast closed (using the closing springs) the circuit breaker would close, and the pin would rotate to the correct position. However, the pin would immediately slip off the prop and cause the circuit breaker to open. This would not happen when the circuit breaker was manually slow closed.

General Electric issued Service Advice Letter (SAL) 348.1, on December 7, 1990, which described potential problems with the prop springs in these types of circuit breakers. The licensee is aware of the potential problem with the prop springs and routinely changes the springs after 1,500 breaker cycles. The LPSI "A" breaker was manufactured in 1979 and was last overhauled in 1990 by GE. The breaker had been cycled 710 times and was successfully operated a few days before the event.

The licensee was forming a team to conduct a root cause of failure analysis of the event. At the time of the event, Unit 1 was in Mode 6 during a refueling outage, and Units 2 and 3 were in Mode 1 at 85% power.

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Regional Action:

The resident inspectors will follow the licensee's root cause of failure investigation.

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