

Licensee/Facility:

CAROLINA POWER & LIGHT CO.
Brunswick
Southport, North Carolina
Dockets: 050-00325 050-00324
[1] GE-4, [2] GE-4

Notification:

MR Number: 2-2004-0011
Date: 07/29/2004
Call from Licensee

Subject: Plant Shutdown Required by Technical Specifications

Discussion:

This is an update to the 10 CFR 50.72 notification (EN 40905) made on July 29, 2004 by Brunswick Unit 2 for a plant shutdown required by Technical Specifications (TS) when Suppression Chamber-to-Drywell Vacuum Breaker 2-CAC-X18D (supplied by GPE Controls) failed to close during monthly testing. The licensee initiated a shutdown per TS, inspected all 10 vacuum breakers and found the X18D vacuum breaker in the full open position. The licensee's preliminary evaluation of the problem determined that there were two main contributors: binding of the testing actuator and pallet hinge/open limit switch retainer interference.

In the 1980's, the open limit switches were modified and adjustment retainers were added to the switch assemblies. For the X18D vacuum breaker, one retainer extended far enough below the limit switch housing that it contacted the vacuum breaker pallet hinge, impeding progress toward the open position. All 10 vacuum breakers on Unit 2 were inspected and only the X18D breaker had interference between the hinge and the retainer. All the breakers were cycled by hand through full travel and only the X18D breaker exhibited binding. The X18D breaker protruding retainer was subsequently made flush with the switch housing.

All testing actuators except the X18D actuator stroked fully. The X18D actuator needed to be pushed back manually to fully retract. The X18D actuator was replaced. The licensee inspected the X18D actuator cylinder assembly and noted corrosion products and wear on the interior of the cylinder. The wear was believed to be due to the side loading on the actuator by the pallet actuator arm caused by the binding of the pallet hinge with the limit switch retainer. The evaluation indicates that the pallet hinge/retainer interference likely contributed to the actuator binding.

Regional Action:

An assessment was performed which indicated that the risk associated with the X18D vacuum breaker failing to close for 20 hours was not sufficient to warrant a specific reactive inspection. The resident inspectors continue to monitor the licensee's investigation and associated corrective actions. This morning report includes information from the licensee's assessment of the failure which is still in process.

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