

**Licensee/Facility:**

SOUTHERN NUCLEAR OPERATING CO., INC.  
Vogtle  
Waynesboro, Georgia  
Dockets: 050-00425  
[2] W-4-LP

**Notification:**

MR Number: 2-2004-0012  
Date: 07/30/2004

**Subject:** NEUTRON ABSORBER ROD ISSUE

**Discussion:**

On July 30, 2004, Vogtle Unit 2 reduced power to about 90 percent to remove a heater drain pump from service. On July 31, with the reactor stable at approximately 90 percent power, the Unit 2 reactor coolant system experienced an unexpected decrease in average temperature. Further investigation showed an unexpected negative reactivity insertion had occurred in the core. Soon after the condition was identified, the Quadrant Power Tilt Ratio (QPTR) was noted to have increased. Reactor power was reduced to comply with Technical Specifications (TS), and QPTR was restored to within the TS limit.

The licensee's investigation subsequently concluded that the behavior of the reactor was consistent with one or two Rod Cluster Control Assembly (RCCA) neutron absorber rods being fully inserted in the core. The licensee promptly verified that the RCCAs were operable through rod movement, Shutdown Margin was within limits, and core power distribution was within limits.

Vogtle Unit 2 entered the Rod Group Alignment Limits TS under the Action statement condition that one rod (RCCA) was not within alignment limits. The TS required Actions consisted of verifying the Shutdown Margin limits were met, reducing power to less than 75 percent, verifying core power distribution was within limits, and reevaluating the safety analysis to confirm that the results remain valid. The licensee's reevaluation concluded that continued full power operation of Vogtle Unit 2 through the remainder of the operating cycle was acceptable. The licensee is planning on replacing RCCAs during the next refueling outage.

Additionally, in order to verify that all RCCAs were trippable, on August 6, the licensee shutdown Unit 2 to Hot Standby. All rods were inserted and it was verified that they would move unobstructed into the reactor. Vogtle Unit 2 returned to power operation on August 7.

Regional Action: The resident inspectors monitored and evaluated the licensee's actions in response to this issue. Regional and headquarters staff were also involved in the discussions with licensee management and will review the licensee's evaluation.

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