

DUKE POWER COMPANY
OCONEE NUCLEAR STATION - UNIT 1
ABNORMAL OCCURRENCE REPORT AO-269/73-5
CONTROL ROD WITHDRAWAL LIMITS

Introduction

As a limiting condition for operation, control rods must be maintained within the withdrawal limits specified in Figure 3.5.2-1 of the Oconee Nuclear Station Technical Specifications. On October 5, 1973, it was determined that Oconee Unit 1 control rods were operated such that these withdrawal limits were exceeded. Regulatory Operations, Region II, was verbally notified of the incident on October 5, 1973.

Description of the Incident

Shortly after midnight on October 5, 1973, Oconee Unit 1 was at 95 percent full power and control rods were moving out of the core to compensate for transient xenon. At this time, it was determined that the control rod withdrawal limits contained in Technical Specification 3.5.2 had been exceeded. Control group 5 was fully withdrawn; control group 6 was 81 percent withdrawn and group 7 was 10 percent withdrawn. The rod index for the configuration was 191. The minimum rod index permitted at 95 percent power is 195.

Corrective Action

As soon as it was determined that rod withdrawal limits had been exceeded, power was reduced until the rod configuration was within the permissible operating range. This was completed in less than 15 minutes after it had been determined that the withdrawal limits had been exceeded.

The reactor was operated at reduced power for approximately 3.5 hours while the soluble poison concentration was adjusted. The reactor was then returned to 95 percent full power keeping the control rods within the permissible operating region.

Analyses are presently being performed to determine if operation outside the rod withdrawal limits for a short period of time is permissible provided

action is taken immediately to return the control rods within the limits specified by Technical Specification 3.5.2. If this is permissible, a request to change this technical specification will be submitted to the Atomic Energy Commission.

Safety Analysis

The control rod position limits defined in Specification 3.5.2.5c, in conjunction with the quadrant power tilt limits set forth in Specification 3.5.2.4, ensure that design peak heat rate criteria are not exceeded during normal operation when including the effects of potential fuel densification. Since quadrant tilt was well within the allowable limits, and since there was no sustained steady-state operation outside the withdrawal limits, it can be concluded that this incident had no adverse affect on the safe operation of the unit.