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September 10, 1982

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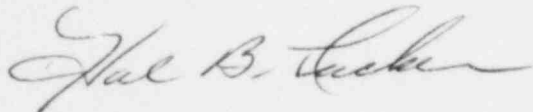
Mr. James P. O'Reilly, Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, Suite 3100  
Atlanta, Georgia 30303

Re: Oconee Nuclear Station  
Docket No. 287

Dear Mr. O'Reilly:

Please find attached Reportable Occurrence Report RO-287/82-09. This report is submitted pursuant to Oconee Nuclear Station Technical Specification 6.6.2.1.a(9), and describes an incident which is considered to be of no significance with respect to its effect on the health and safety of the public. My letter of September 1, 1982 addressed the delay in preparation of this report.

Very truly yours,



Hal B. Tucker

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Attachment

cc: Document Control Desk  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Records Center  
Institute of Nuclear Power Operations  
1820 Water Place  
Atlanta, Georgia 30339

Mr. W. T. Orders  
NRC Resident Inspector  
Oconee Nuclear Station

Mr. Philip C. Wagner  
Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

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DUKE POWER COMPANY  
OCONEE NUCLEAR STATION

Report Number: RO-287/82-09

Report Date: September 10, 1982

Occurrence Date: August 4, 1982

Facility: Oconee Unit 3, Seneca, South Carolina

Identification of Occurrence: Five Reactor Coolant Pump studs were determined to be degraded in size below acceptable limits.

Conditions Prior to Occurrence: Refueling Shutdown

Description of Occurrence: Babcock and Wilcox established the minimum acceptable diameter for Unit 2 and 3 Reactor Coolant Pump (RCP) closure studs to be 3.250 inches. From this a procedure was written to inspect RCP closure studs at each refueling outage. On July 30, 1982, this procedure was followed and micrometer readings were taken for stud diameter on Unit 3's RCPs 3A1, 3A2, 3B1, and 3B2. The data indicated discrepancies from data taken one year ago, and the accountable engineer asked for new reading on the closure stud diameters. At 1000 on August 4, 1982, a second micrometer reading was taken and it was determined that five studs, two on 3A1 and three on 3A2 had been degraded in size below the minimum acceptable diameter.

Apparent Cause of Occurrence: The degraded closure studs were made from ASTM A-193 Grade B7 (AISI 4140) material which is a low alloy carbon steel. Crud, rust, boron, etc. were present in the motor stand opening. The apparent boric acid corrosion wastage had been occurring due to closure gasket leakage.

Analysis of Occurrence: Because of problems at other operating plants Oconee had initiated a program to inspect RCP closure studs at each refueling outage. From this latest refueling inspection, since only two studs (nos. 7 and 8) on 3A1 and three studs (nos. 18, 19 and 20) on 3A2 were found degraded and the average stud diameter on each pump was greater than 3.6", the health and safety of the public were not endangered.

Corrective Action: The five studs were removed and replaced within the time frame of August 20 - 31. The degraded studs were replaced using new studs of ASME SA 540 Grade B23, AISI 4340 which has 1.8% nickel not found in the AISI 4140 stud. This new stud's composition should be more apt to resist boric acid corrosion. It is the same material used in the new stud installed in 3A1 RCP in 1981 and has shown no noticeable sign of degradation in 14 months of use. Two studs were shipped offsite to be coated with a petroleum based material which meets the requirement for a Class 1 material in the Power Chemistry Material Guide Manual. Because Unit 3 was at cold shutdown at the time of discovery of this incident, no immediate corrective action was required to lessen the consequences of the incident or to stabilize the unit.

The closure stud inspection procedure, MP/2&3/A/1310/22, will be reviewed to determine if it needs to be revised to specify at what position on the stud the diameter is to be measured.