DUKE POWER COMPANY
POWER BUILDING
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WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

TELEPHONE: AREA 704
373-4083

September 17, 1981

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

Re: Oconee Nuclear Station
Docket No. 50-269

Dear Mr. O'Reilly:

Please find attached Reportable Occurrence Report RO-269/81-16. This report is submitted pursuant to Oconee Nuclear Station Technical Specification 6.6.2.1.a(3). which concerns potential degradation of the reactor coolant pressure boundary, 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.

Very truly yours,

William O. Parker, Jr.

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Attachment

cc: Director
Office of Management & Program Analysis
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Mr. F. Jape
Resident Inspector-NRC
Oconee Nuclear Station

Mr. Bill Lavallee
Nuclear Safety Analysis Center
P. O. Box 10412
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DUKE POWER COMPANY

OCONEE UNIT 1

REPORT NUMBER: 269/81-16

REPORT DATE: September 17, 1981

OCCURRENCE DATE: September 3, 1981

FACILITY: Oconee Unit 1, Seneca, South Carolina

IDENTIFICATION OF OCCURRENCE: Linear crack indications on 1A2 RCP #1 seal housing bolts.

CONDITIONS PRIOR TO OCCURRENCE: Cold Shutdown.

DESCRIPTION OF OCCURRENCE: During Magnetic Particle Testing (MT) of the #1 seal housing bolts on the 1A2 RCP, linear indications were observed on 11 of the 12 bolts tested. The linear indications are circumferential in the shank to head transition area of the bolt. Subsequent testing of the 1A1 and 1B1 RCP bolts were completed with 4 of 12 bolts on the 1A1 RCP having linear indications. No indications were found on the 1B1 RCP bolts. Testing of the 1B2 bolts has not been completed.

It is felt that this occurrence involves potential degradation of reactor coolant system pressure boundary and is thus reportable pursuant to Technical Specification 6.6.2.1.a(3).

APPARENT CAUSE OF OCCURRENCE: The cause of the linear indication on the bolts has not been determined.

ANALYSIS OF OCCURRENCE: The number 1 seal housing is attached to the RCP main flange utilizing 12 2" x 8" socket head cap screws. The bolts involved are AISI 4140 alloy steel and are plated. The bolts on the 1A1 and 1A2 seal housings are chromium plated, and the bolts on the 1B1 and 1B2 pumps are magnesium phosphate plated.

The linear indications were discussed using a "wet" magnetic particle inspection technique (MT). The indications vary in length from 1/16" to 2" circumferentially where the bolt head joins the shank portion of the bolt. No indications were found using ultrasonic testing methods (UT).

The Oconee Units 2 and 3 RCP's are Bingham-Williamette and have a different seal configuration; therefore this event is of no concern with respect to Units 2 and 3.

Since the linear indications are small and appear to be confined to the surface of the bolts it is considered that any failure of the bolts would be indicated by increased reactor coolant leakage which would be detected by routine leakage calculations. Ample time would be available for a controlled unit shutdown. Thus, it is considered that this event is of no consequence with respect to safe operation of the unit and that the health and safety of the public were not affected.

CORRECTIVE ACTION: Since Oconee Unit 1 was at cold shutdown at the time of the discovery of this event, no immediate corrective action was required. The 1B2 seal housing bolts will be inspected prior to unit startup. Bolts with rejectable indications will be replaced for all Unit 1 RCP's. Additional testing will be conducted to determine the nature and extent of the defects to determine the cause of the bolt crack indications.