

DUKE POWER COMPANY

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HAL B. TUCKER  
VICE PRESIDENT  
NUCLEAR PRODUCTION

January 5, 1983

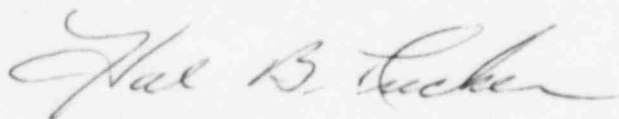
Mr. James P. O'Reilly, Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, Suite 3100  
Atlanta, Georgia 30303

Subject: Oconee Nuclear Station  
Docket No. 50-287

Dear Mr. O'Reilly:

Please find attached Reportable Occurrence Report RO-287/82-14. This report is submitted pursuant to Oconee Nuclear Station Technical Specification 6.6.2.1.a(3), which concerns an abnormal degradation of the reactor coolant pressure boundary. This report 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 December 31, 1982 addressed the delay in the 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

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

INPO Records Center  
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Mr. E. L. Conner, Jr.  
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U. S. Nuclear Regulatory Commission  
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Duke Power Company  
Oconee Nuclear Station

Report Number: RO-287/82-14

Report Date: January 5, 1983

Occurrence Date: December 11, 1982

Facility: Oconee Unit 3, Seneca, South Carolina

Identification of Occurrence: 3B steam generator tube leaks

Condition Prior to Occurrence: 100% FP

Description of Occurrence:

On December 11, 1982, a steam generator tube leak developed in the 3B steam generator, as indicated by an increase in the 3RIA-40 count rate. The tube leak was calculated at .208 gpm. The unit was shut down that day for leakage identification and repair. The nitrogen bubble test was performed on December 14, 1982; the eddy current differential test was run on December 15, 1982; and the eddy current 8 x 1 probe test was run on December 16, 1982. There were 417 tubes tested by the differential test and 165 tubes were tested by the 8 x 1 probe test. The results of these tests were that tube 77-9 was cracked (leaker) and tube 78-2 had a 62 percent through wall indication at the 15th Tube Support Plate. A fiber optic inspection was performed on tube 77-9 on December 15, 1982 and revealed a tight circumferential crack of about 45 degrees located near the bottom edge of the upper tube sheet.

Apparent Cause of Occurrence:

The apparent cause of the tube leak was a circumferential crack propagated by low stress high cycle fatigue which is typical of the type associated with the inspection lane degradation mechanism. Tube 77-9 is on the open lane (row 76) and is the outermost tube of a line that had been previously plugged (77-10 through 77-21).

Analysis of Occurrence:

The leakage of this tube during operation was .208 gpm which is well below the technical specification allowed limit of 1 gpm. Personnel and systems adequately controlled this event and the releases were well within technical specification limits. Thus, it is considered that the health and safety of the public were not affected by this event.

Corrective Action:

The reactor was shut down and the leaking tube was identified. Nitrogen bubble, eddy current, and visual inspections were performed on the 3B steam generator to define the problem. Tubes 77-9 and 78-2 were both stabilized from the top and explosively plugged from the bottom.