

50-269

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FILE NUMBER  
INCIDENT REPORT

TO: Mr Moseley

FROM: Duke Power Company  
Charlotte, NC  
W O Parker Jr

DATE OF DOCUMENT  
12-22-76

DATE RECEIVED 1-14-77

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DESCRIPTION

Ltr trans the following:

PLANT NAME: Oconee #1

ENCLOSURE

Licensee Event Report (RO# 76-19) on 12-8-76 concerning primary-to-secondary system leakage in "2B" once-through steam generators..... due to leaking tube #109 row 114.....

ACKNOWLEDGED

DO NOT REMOVE

NOTE: IF PERSONNEL EXPOSURE IS INVOLVED  
SEND DIRECTLY TO KREGER/J. COLLINS

FOR ACTION/INFORMATION

1-18-77 ehf

BRANCH CHIEF:

*Schwencer*

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*Sheppard*

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*As CAT B 1-18-77*

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EXTERNAL DISTRIBUTION

CONTROL NUMBER

LPDR: *Waltham, SC*

TIC:

NSIC:

468  
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DUKE POWER COMPANY

POWER BUILDING

422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28242

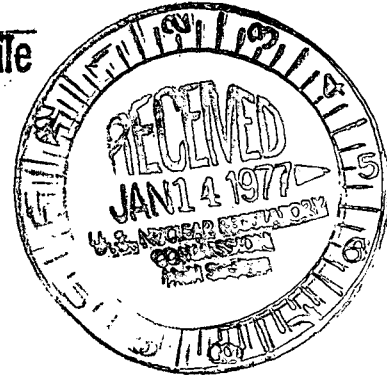
WILLIAM O. PARKER, JR.  
VICE PRESIDENT  
STEAM PRODUCTION

December 22, 1976

TELEPHONE: AREA 704  
373-4083

Regulatory Docket File

Mr. Norman C. Moseley, Director  
U. S. Nuclear Regulatory Commission  
Suite 818  
230 Peachtree Street, Northwest  
Atlanta, Georgia 30303

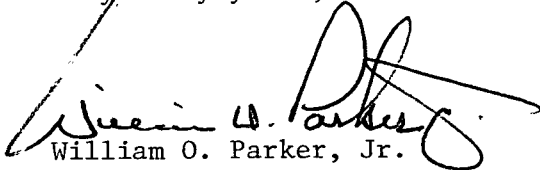


Re: Oconee Unit 1  
Docket No. 50-269

Dear Mr. Moseley:

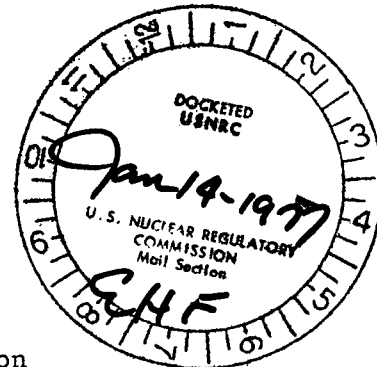
Pursuant to Sections 6.2 and 6.6.2 of the Oconee Nuclear Station  
Technical Specifications, please find attached Reportable Occur-  
rence Report RO-269/76-19.

Very truly yours,

  
William O. Parker, Jr.

EDB:ge  
Attachment

cc: Director, Office of Management Information  
and Program Control



DUKE POWER COMPANY  
OCONEE UNIT 2

Report No.: RO-269/76-19

Report Date: December 22, 1976

Occurrence Date: December 8, 1976

Facility: Oconee Unit 1, Seneca, South Carolina

Identification of Occurrence: Primary-to-Secondary System Leakage in "2B"  
Once-Through Steam Generators

Conditions Prior to Occurrence: Unit at 90% full power

Description of Occurrence:

On December 8, 1976, an increase in radiation levels as registered by air ejector monitor RIA 40 indicated a possible primary-to-secondary system leak. Sampling of the steam lines and portable instrument readings confirmed that primary-to-secondary leakage was occurring in the "1B" once-through-steam-generator (OTSG). Within approximately 8 hours from the time that high level readings were observed on RIA 40, a reactor shutdown was initiated. Within two hours, reactor shutdown was completed and preparations were made to drain the Reactor Coolant System and investigate for the source of the steam generator leakage.

The Reactor Coolant System was cooled and drained within 5 days following the initial high radiation indication and an internal inspection of the "1B" OTSG was initiated.

Apparent Cause of Occurrence:

Eddy current testing was performed and revealed one leaking tube, identified as tube number 109 in row 114. The tube defect location was determined to be near the interface of the tube with the second support plate from the upper tube sheet. Because of the inability to extend a fiber optics probe to this depth, the exact nature of the tube defect could not be determined.

Eddy current and fiber optics examinations of adjacent tubes revealed no additional tube leaks. Indications of possible tube defects, however, did necessitate plugging both ends of two other tubes. These tubes were located in rows 113, and 75. The cause of the damage to the leaking defective tube and the other tubes is undetermined.

Analysis of Occurrence:

Primary-to-secondary system leakage, resulting from this occurrence, was approximately 4 gallons per minute and was detected by installed radiation monitoring equipment. The leakage was within the operational limits of Oconee Technical Specification 3.1.6.1 and a reactor shutdown was initiated within 8 hours after the initial leakage indication, following extensive sampling and monitoring of components and systems during this period.

The calculated gaseous activity released to the environment via the air ejectors was 7.3 curies. This amount is considered insignificant in comparison to the station's annual release limit.

This report describes the fourth occurrence of steam generator tube leakage experienced on the three Oconee units. Defective tubes were previously reported in Reportable Occurrence Reports RO-287/76-10, RO-269/76-17, and RO-270/76-15 submitted by our letters of August 5, 1976; November 15, 1976; and December 20, 1976, respectively. In the three previous occurrences, the defective tubes were confined to an open tube lane (a radial row with no tubes, used for inspection purposes). In this instance, the leaking defective tube was angularly located approximately 150° from the locations of the other defective tubes and was not adjacent to open tube lane.

In view of the above, it is concluded that this incident did not affect the health and safety of the public.

Corrective Action:

The leaking defective tube and two of the other tubes identified to have probable tube damage, were explosive plugged in the bottom of the tube and plugged from the top by insertion of a metal rod in accordance with a vendor modification package. This method of plugging, previously unused on Oconee units, increases the tube's stability during unit operation.

As stated in RO-270/76-15 submitted by my letter of December 20, 1976, the OTSG vendor, Babcock and Wilcox, is currently involved in a program to further evaluate the cause of the tube failures.

DEC 27 10 53 AM '76  
REGULATORY OPERATIONS  
REGION II  
ATLANTA, GA