

REPORT OF ABNORMAL OCCURRENCE AND/OR INCIDENT
NRC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
(TEMPORARY FORM)

CONTROL NO: 4006

FILE: INCIDENT REPORT FILE

FROM: Duke Power Company Charlotte, N.C. 28201 A.C. Thies		DATE OF DOC 4-10-75	DATE REC'D 4-12-75	LTR XX	TWX	RPT	OTHER
TO: Mr. Norman C. Moseley		ORIG 1 signed	CC 1	OTHER	SENT AEC PDR <u>XXX</u> SENT LOCAL PDR <u>XXX</u>		
CLASS	UNCLASS XX	PROP INFO	INPUT	NO CYS REC'D 1	DOCKET NO: 50-269		
DESCRIPTION: Ltr the following: ACKNOWLEDGED				ENCLOSURES: Abnormal Occurrence Report, No. A0-269/75-3 on 3-26-75 concerning defects in a fuel rod of Spent Fuel Assembly 1A10 1 copy enclosure rec'd			
PLANT NAME: Oconee Unit 1							

FOR ACTION/INFORMATION WTM 4-15-75

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5 - ACRS SENT TO LIC ASST		
** SEND ONLY TEN DAY REPORTS		

DUKE POWER COMPANY
POWER BUILDING
422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28201

A. C. THIES
SENIOR VICE PRESIDENT
PRODUCTION AND TRANSMISSION

P. O. Box 2178

April 10, 1975

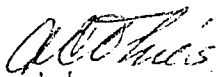
Mr. Norman C. Moseley, Director
U. S. Nuclear Regulatory Commission
Suite 818
230 Peachtree Street, Northwest
Atlanta, Georgia 30303

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 Abnormal Occurrence
Report AO-269/75-3.

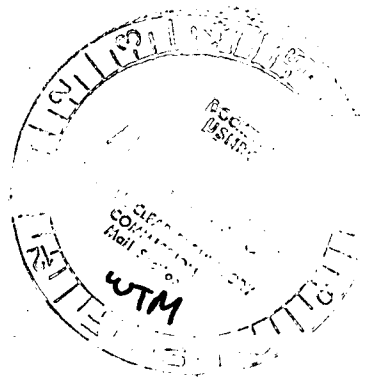
Very truly yours,



A. C. Thies

ACT:vr
Attachment

cc: Mr. Angelo Giambusso



DUKE POWER COMPANY
OCONEE UNIT 1

Report No.: AO-269/75-3

Report Date: April 10, 1975

Occurrence Date: March 26, 1975

Facility: Oconee Unit 1, Seneca, South Carolina

Identification of Occurrence: Defects in a fuel rod of Spent Fuel Assembly
1A10

Conditions Prior to Occurrence: Not applicable

Description of Occurrence:

On March 20, 1975, Duke Power Company was informed by Babcock & Wilcox Company of a possible defect in one fuel rod of a spent fuel assembly, observed initially on March 17, 1975, during the Post-Irradiation Examination of spent fuel assemblies (1- cycle burned). After it was confirmed on March 26, 1975, that this particular fuel rod had visible cladding perforations, Duke Power Company notified the NRC/OIE, Region II, on March 27, 1975, by telephone.

The defected fuel rod, a peripheral rod of Fuel Assembly 1A10, has two defects located between the fourth and fifth intermediate spacer grids (see Figure 1). One defect is in the form of a hole in the cladding (approximately $\frac{1}{2}$ " in diameter), and the other in the form of a small blister. The defected fuel rod did not show any gross outward bow, and no abnormalities were seen in any other fuel rods of the entire fuel assembly during visual examination. Visual examinations were not able to confirm the presence of fuel at the location of the main perforation.

Analysis of Occurrence:

Fuel Assembly 1A10 contained an in-core detector string as well as a control rod of Control Rod Group 1 (safety group), which was fully withdrawn throughout Cycle 1 power operation (see Figure 1). The in-core detector readings indicated that the power density of Fuel Assembly 1A10 was within normal operating limits during Cycle 1 operation and that there was no abnormal power condition that could have affected the integrity of the fuel rods in Fuel Assembly 1A10.

B&W's review of the quality assurance records for the fuel rod components (fuel pellets and cladding) concluded that all recorded parameters were within specification limits and that there were no identifiable factors which could have contributed to the defect.

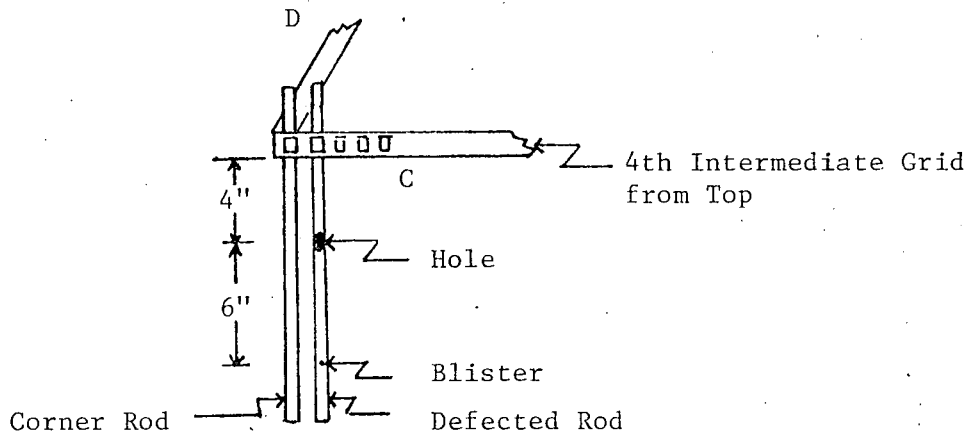
Safety Evaluation:

The primary coolant activity was monitored during initial startup and throughout Cycle 1 operation for indications of fuel rod failure. The average I-131 activity was approximately 0.1 $\mu\text{Ci/cc}$ during full power operation, although activity "spikes" as large as 0.42 $\mu\text{Ci/cc}$ were observed during power transients. The I-133 activity increased to a value of 0.8 $\mu\text{Ci/cc}$ at around 100 EFPD and then decreased to an end-of-Cycle 1 value of 0.1 $\mu\text{Ci/cc}$. The maximum total coolant activity was approximately 11.0 $\mu\text{Ci/cc}$ during full power operation, which is less than 3.0 percent of the Technical Specification limit. Preliminary evaluations indicate that the fission product activity in the primary coolant for Cycle 2 is less than 15 percent of that in Cycle 1 for the corresponding period. Additionally, the lack of any detectable amount of alpha-activity either in the primary coolant or in the spent fuel pool suggests that no significant amount of fuel was dispersed from the defected fuel rod. It should also be noted that of the 616 peripheral fuel rods in 11 fuel assemblies examined during the Post-Irradiation Examination, only one fuel rod was seen to be defected. From the foregoing evaluation, it was concluded that this incident did not constitute a hazard and that the safety and health of the public was not endangered.

FIGURE 1

DESCRIPTION OF FUEL ROD DEFECTS

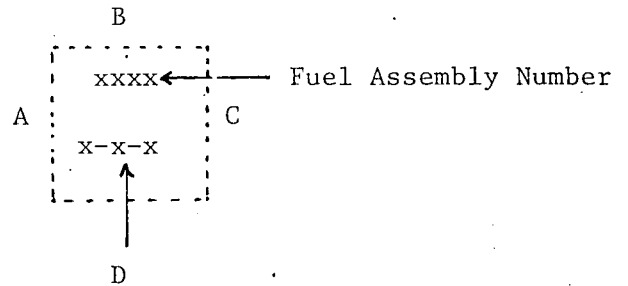
Location of Defects in Spent Fuel Assembly 1A10



Location of Fuel Assembly 1A10 in Cycle 1 Core

L	1A10	1A07	1A06
	7-4-3	ORA	3-3-7
M	1B40	1A10	1A17
	ORA	1-1-1	ORA
N	1B54	1B41	1A41
	8-8-8	ORA	2-2-2
	6	7	8

Groups: 1,2,3,4 = Safety Rods
 7 = Transient Rod
 8 = APSR
 ORA = Orifice Rod Assembly



Control Rod Grouping
 During 3 Patch Periods

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PRODUCTION AND TRANSMISSION

P. O. Box 2178

April 10, 1975

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

Re: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287

Dear Mr. Moseley:

On February 6, 1975, sediment samples were collected, as required by Oconee Technical Specification 4.11, and sent to an outside vendor for analysis. The results of the analysis, received on March 25, 1975, indicated that sample location 005.2, Highway 27 bridge on Lake Hartwell, exceeded the control location by a factor greater than four times. This report is submitted in accordance with Oconee Technical Specification 6.6.2.6.d.

In previous sediment samples, the sensitivity of the analysis method for Cobalt 60 was 0.2 pCi/gm. The sample and control locations were always in agreement since both were below the minimum detectable activity of this analysis method. Recently, a new analysis method has been utilized which has a sensitivity of .02 pCi/gm. The results received using this more sensitive technique are:

Control Location 006.2	Cobalt 60 activity $< 2 \times 10^{-2}$ pCi/gm
Sample Location 005.2	Cobalt 60 activity $1.89 \pm 0.53 \times 10^{-1}$ pCi/gm

Even though the sample location is greater than the control location, both sample and control results are less than the minimum detectable activity of the previous analytical method. It is possible that the Cobalt 60 activity seen in these most recent samples has been present before, due to variation of the natural background, but was not detected.

Very truly yours,



A. C. Thies

ACT:vr

Thies
40 (4)

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Letter to N. C. Moseley from Duke Power Company dated April 10, 1975.

DISTRIBUTION:

H. D. Thornburg, IE

IE:HQS (5)

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