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CONTROL NO: 5066

FILE: INCIDENT REPORT 1112

FROM: Duke Power Company Charlotte N.C. 28201 A.C.Thies			DATE OF DOC 5-9-75	DATE REC'D 5-15-75	LTR XX	TWX	RPT	OTHER
TO: Norman C. Moseley			ORIG 1 signed	CC 1	OTHER	SENT AEC PDR XX SENT LOCAL PDR XX		
CLASS	UNCLASS	PROP INFO	INPUT	NO CYS REC'D 1		DOCKET NO: 50-270		
	XX							

DESCRIPTION:

Ltr trans the following:

ENCLOSURES:

Abnormal Occurrence Report
No. AO-270/75-10 on 4-25-75 concerns missing
guide pin from valve 2LP-12...

1 copy encl. rec'd

PLANT NAME: Oconee Unit 2

FOR ACTION/INFORMATION

WTM 5-16-75

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DUKE POWER COMPANY

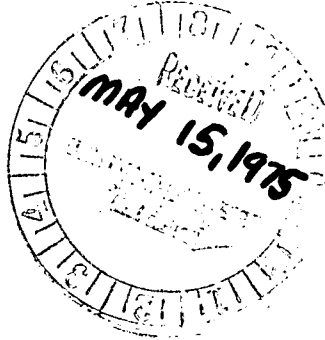
POWER BUILDING

422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28201

A. C. THIES
SENIOR VICE PRESIDENT
PRODUCTION AND TRANSMISSION

P. O. Box 2178

May 9, 1975



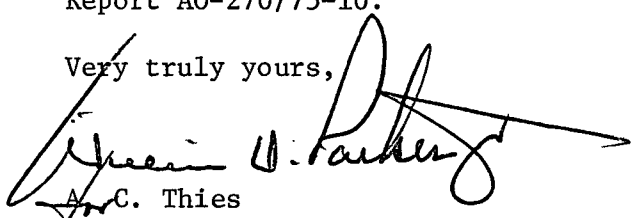
Mr. Norman C. Moseley, Director
U. S. Nuclear Regulatory Commission
Suite 818
230 Peachtree Street, Northwest
Atlanta, Georgia 30303

Re: Oconee Unit 2
Docket No. 50-270

Dear Mr. Moseley:

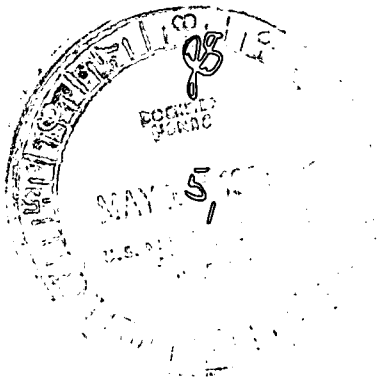
Pursuant to Sections 6.2 and 6.6.2 of the Oconee Nuclear Station
Technical Specifications, please find attached Abnormal Occurrence
Report AO-270/75-10.

Very truly yours,


A.C. Thies

ACT:vr
Attachment

cc: Mr. Angelo Giambusso



5066

DUKE POWER COMPANY
OCONEE UNIT 2

Report No.: AO-270/75-10

Report Date: May 9, 1975

Occurrence Date: April 25, 1975

Facility: Oconee Unit 2, Seneca, South Carolina

Identification of Occurrence: Missing guide pin from valve 2LP-12

Conditions Prior to Occurrence: Unit at power operation

Description of Occurrence:

On April 1, 1975, a station modification removing guide pins from Oconee Unit 2 valves 2LP-12 and 2LP-14 (outlet valves from low pressure injection coolers) was performed. In incidents described in reports UE-270/74-3 and AO-270/74-5, these pins have broken off due to cavitation damage when operating in the decay heat removal mode. Removal of the pins is an interim measure until replacement valves can be procured. When valve 2LP-12 was removed, it was discovered that the guide pin on the base of the valve disc was missing. Valve 2LP-12 had been repaired in July, 1974. The missing guide pin is made of 304 stainless steel with dimensions 3/4" x 4".

Designation of Apparent Cause of Occurrence:

The apparent cause for the failure of the guide pin in valve 2LP-12 is cavitation damage when operating in the decay heat removal mode. Consultation with the Crane Company, manufacturer of the valve, and Babcock & Wilcox revealed that operation at flow rates less than 3000 gpm could cause such cavitation to occur.

Analysis of Occurrence:

Valve 2LP-12 is located on the outlet of Decay Heat Cooler A. There are two check valves, 2LP-48 and 2CF-14, and one Engineered Safeguards (ES) valve, 2LP-17, between 2LP-12 and the reactor vessel.

The function of the Low Pressure Injection System upon an Engineered Safeguards (ES) signal is to supply borated water to the reactor core. This requires valves 2LP-48, 2CF-14, and 2LP-17 to open to provide one of two redundant paths for low pressure injection flow. Valve 2LP-12 does not receive an ES signal but is open during reactor operation. Dimensions of the missing part (3/4" x 4") are such that it could only prevent full opening or closing of the eight inch valves 2LP-45, 2CF-14, or 2LP-17 should it interfere. This would only reduce the flow of water through the one redundant path to the core.

In a previous incident of operating with a loose part in the reactor vessel, in January, 1974, detection with the loose parts monitoring equipment of an item of similar magnitude as the missing guide pin was possible. No such detection has been observed in this instance.

The worst possible safety-related situation for operating with a missing part is considered to be the lodging of the object within a fuel assembly. It would then be assumed that local fuel clad failure occurs due to either departure from nucleate boiling or mechanical wear. As a result of this, reactor coolant activity would increase; hence, activity would be a satisfactory parameter for judging the status of fuel clad integrity during operation. Only localized such fuel damage is postulated; therefore, the core would remain in a coolable geometry.

There is no indication that the missing valve guide pin is interfering with the operation of one of the redundant flow paths of the low pressure injection system, nor is there indication that the pin is loose in the reactor vessel. Consequently, Duke Power Company considers that the continued operation of Oconee 2 does not represent undue risk to the health and safety of the public.

Corrective Action:

A monitoring surveillance program is established to assure continued safe operation of Oconee Unit 2. To assure early detection of the part, the loose parts monitoring system provides an alarm whenever a preset limit is exceeded. The reactor coolant is being monitored for gross activity and isotopic content daily to detect fuel clad failure. This surveillance program will be continued until sufficient data has been accumulated to justify its termination or for a minimum of 30 days.

Additionally, a program will be initiated to locate the missing guide pin similar to that used in previous instances. All low points in the piping between valve 2LP-12 and the reactor vessel will be radiographed and flow orifice 2FT-5A will be checked for signs of the pin colliding with the orifice prior to using the A low pressure injection train for decay removal. Valves 2CF-14, 2LP-45, and 2LP-17 will be cycled to ensure operability.

To prevent future occurrences of this nature, the guide pins of valves 1LP-12, 1LP-14, 2LP-12, and 2LP-14 have been removed.

Failure Data:

2LP-12 - 10 inch, 300 lb., cast-alloy steel globe valve, Crane Company, Catalog No. 151½ LU.

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U.S. AIR FORCE
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 REGION II
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 MAY 12 12 32 PM '75