

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)
Oconee Nuclear Station - Unit 2DOCKET NUMBER (2)
0 5 0 0 0 2 7 0 1 OF 0 3TITLE (4)
Reactor Shutdown Because of Reactor Coolant System Leakage Greater Than 1 GPMEVENT DATE (5)
MONTH DAY YEAR
1 2 1 4 8 5 8 5
LER NUMBER (6)
YEAR SEQUENTIAL NUMBER REVISION NUMBER
0 0 8 0 0 0 1
REPORT DATE (7)
MONTH DAY YEAR
1 1 0 8 6
OTHER FACILITIES INVOLVED (8)
FACILITY NAMES
DOCKET NUMBER(S)
0 5 0 0 0 0
0 5 0 0 0 0OPERATING MODE (9)
POWER LEVEL (10)
1 0 0
THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)
20.402(b) 20.405(c) 50.73(a)(2)(iv) 73.71(b)
20.405(a)(1)(i) 50.36(c)(1) 50.73(a)(2)(v) 73.71(c)
20.405(a)(1)(ii) 50.36(c)(2) 50.73(a)(2)(vii) OTHER (Specify in Abstract below and in Text, NRC Form 366A)
20.405(a)(1)(iii) XX 50.73(a)(2)(i) 50.73(a)(2)(viii)(A)
20.405(a)(1)(iv) 50.73(a)(2)(ii) 50.73(a)(2)(viii)(B)
20.405(a)(1)(v) 50.73(a)(2)(iii) 50.73(a)(2)(ix)LICENSEE CONTACT FOR THIS LER (12)
NAME
Philip J. North, Licensing
TELEPHONE NUMBER
AREA CODE
7 0 4 3 1 7 3 - 7 4 5 6COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)
CAUSE SYSTEM COMPONENT MANUFACTURER REPORTABLE TO NRCDS
X A B R T V V 0 8 5 NOSUPPLEMENTAL REPORT EXPECTED (14)
YES (If yes, complete EXPECTED SUBMISSION DATE) X NO
EXPECTED SUBMISSION DATE (15)
MONTH DAY YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On December 14, 1985 at 1730 hours, the unit was placed in hot shutdown due to unidentified Reactor Coolant System (RCS) leakage greater than 1 GPM per Technical Specification 3.1.6.

The cause of the incident was determined to be instrument root valve packing gland failure. It is concluded that the leak occurred because of possible sealant compound shrinkage after the packing gland was injected on September 19, 1985.

Immediate corrective action was to place the unit in hot shutdown and to identify the leak source. Subsequent corrective actions were to isolate the affected flow transmitters, close the root valve, and inject the valve packing gland with sealant. Planned corrective action includes replacement of the valve.

During the time of the unidentified leak, the size of the leak was continuously monitored through the use of leakage calculations. If the packing had completely blown out of the valve, the subsequent RCS leakage would not uncover the core. All leakage was processed in accordance with approved waste processing methods. Therefore the health and safety of the public were not affected.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Oconee Nuclear Station, Unit 2	0 5 0 0 0 2 7 0	8 5	- 0 0 8	- 0 0	0 2	OF	0 3

TEXT (If more space is required, use additional NRC Form 366A's) (17)

Description of Occurrence:

On December 12, 1985, at 1900 hours, with Unit 2 operating at 100% full power, the Reactor Coolant System (RCS) calculated leakage was 0.96 GPM. Technical Specification 3.1.6 requires a reactor shutdown within 24 hours for unidentified RCS leakage greater than 1 GPM. On December 13, 1985, at 0200 hours, RCS leakage calculations indicated leakage to be greater than 1.0 GPM, procedures were initiated for Radioactive Leakage Source Location Determination, and Primary System Leak Identification. At 1255 hours, the first of three entries into the Reactor Building was started, in order to determine the leakage source.

Between December 13th at 0200 hours and December 14th at 1100 hours, the RCS leakage calculations were inconclusive as to a leak rate. The calculated leakage rate during this time varied from 0.62 GPM to 1.65 GPM. In addition, the Unit Vent Process Radiation Monitor levels were essentially unchanged, while Reactor Building Process Radiation Monitors indicated some leakage was possible within the Reactor Building.

Due to the inconsistency of RCS leakage calculations and constant Unit Vent radiation levels, operation at 100% full power continued until leakage calculations showed conclusive leakage greater than 1 GPM.

On December 14, 1985, at 1100 hours, the decision was made to place the unit in hot shutdown condition to identify the leakage source. Per Technical Specification 3.1.6.5 a safety evaluation was written for rate, and conditions for shutdown. At 1730 hours, the unit was placed in hot shutdown condition.

At 2042 hours, the leakage source was located in "A" cavity at a RCS flow transmitter root valve.

Cause of Occurrence:

Instrument root valve packing gland failure is the root cause of this event. This root valve is a 1" Velan Globe Valve that is located on the Once Through Steam Generator "hot leg" in the "A" cavity and supplies differential pressure to a RCS flow transmitter.

This valve had previously been repaired on September 19, 1985 when the packing gland leak was injected with sealant. It is concluded that the leak occurred because of possible sealant compound shrinkage after the packing gland was injected on September 19, 1985. Duke has concluded that the sealant injection process is a proven method because of the successful injection of many valves that have not leaked. A review of past incident reports dealing with packing gland leaks on Velan valves concludes that this is a recurring failure of low frequency.

Corrective Action:

The immediate corrective action was to place the unit in hot shutdown conditions and to identify the leak source. Subsequent corrective actions were to isolate the affected flow transmitters, close the instrument root valve, and inject the instrument root valve packing gland with sealant.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

Planned corrective action includes replacement of the instrument root valve at the next Unit 2 outage of sufficient duration.

Analysis of Occurrence:

The valve in question in this event is an instrument root valve on the "A" loop RCS flow transmitter. It is a one inch globe valve which does not have any redundant valves serving the same function.

During the time of the unidentified leak through this valve, the size of the leak was continuously monitored by Operations through the use of RCS leakage calculations. The calculations were performed approximately every hour.

If the packing in the valve had completely blown out of the valve, the subsequent RCS leakage is bounded by the analysis in Section 15.14.4.3 of the Oconee FSAR. In this analysis, it is shown that a small break LOCA of this size in this location will not uncover the core.

All leakage from the valve was processed in accordance with approved waste processing methods, therefore the health and safety of the public were not affected.

DUKE POWER COMPANY

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January 10, 1986

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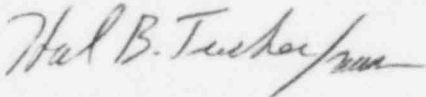
Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287
IER 270/85-08

Gentlemen:

Pursuant to 10 CFR 50.73 Sections (a)(1) and (d), attached is Licensee Event Report 270/85-08 concerning a reactor shutdown because of unidentified reactor coolant system leakage greater than 1 GPM.

This report is being submitted in accordance with 50.73(a)(2)(i). This event was considered to be of no significance with respect to public health and safety.

Very truly yours,



Hal B. Tucker

PJN/jgm

Attachment

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January 10, 1986
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