

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

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 FACIL: 50-287 OCONEE NUCLEAR STATION, UNIT 3, DUKE POWER CO.  
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 REGION 2, ATLANTA, OFFICE OF THE DIRECTOR

DOCKET #  
 05000287

SUBJECT: LER 79-010/03L-0 ON 790423:RB GASEOUS RADIATION MONITORS  
 MADE INOPERABLE WHEN CONTAINMENT ISOLATION VALVE ON MONITOR  
 INLET LINE FAILED, CAUSED BY RUPTURED OPERATOR DIAPHRAGM.  
 CONSIDERING PROGRAM TO CHECK DIAPHRAGM WEAR.

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DUKE POWER COMPANY  
OCONEE UNIT 3

Report Number: RO-287/79-10

Report Date: May 23, 1979

Occurrence Date: April 23, 1979

Facility: Oconee Unit 3, Seneca, South Carolina

Identification of Occurrence: Reactor Building Gaseous Radiation Monitors  
Inoperable

Conditions Prior to Occurrence: 100% Full Power

Description of Occurrence:

At 1523 on April 23, 1979, valve PR-8, the containment isolation valve outside the Reactor Building (RB) for the RB gaseous radiation monitor inlet line, failed closed, rendering the RB particulate, iodine, and gaseous activity monitors inoperable. Routine testing of Engineered Safety (ES) valves was being conducted, and valve PR-8 had been successfully tested at 1503. At 1523 problems were encountered in testing two other ES valves operated by the power supply which also provides power to valve PR-8, so an attempt was made to cycle valve PR-8 to verify that the power supply was functioning properly. However, valve PR-8 failed to reopen after closing, and its failure was not discovered until approximately 2100. The delay in discovery was primarily due to concern for testing the other two valves, coupled with the fact that the monitor line flow alarm had previously been actuated as a result of maintenance being performed on one of the monitors. The two block valves downstream from valve PR-8 and the redundant ES valve for the inlet line inside the Reactor Building were closed in order to assure containment isolation while the valve was being repaired. The valve was repaired, tested, and declared operable by 0015 on April 25, returning the RB radiation monitors to operability.

Apparent Cause of Occurrence:

The RB activity monitors were rendered inoperable when one of the containment isolation valves for the monitors' inlet line failed closed. Examination of the valve revealed that its operator diaphragm had ruptured, causing the failure. Further investigation indicated that the diaphragm was approaching the end of its expected service life.

Analysis of Occurrence:

The RB activity monitors provide a radiation-sensitive means for detecting reactor coolant system (RCS) leakage. Oconee Nuclear Station Technical Specification 3.1.6.8 permits the monitors to be removed from service for up to 48 hours provided that at least two other leak detection systems are operable. The monitors were returned to operability well within the required time, and during the time they were out of

service RB normal sump level and RCS inventory volume measurements were available to detect any leakage. In addition, valve PR-8 failed in the closed position, so its failure did not affect the ability to achieve containment isolation. Therefore, although the inoperability of the monitors constituted operation of the unit in a degraded mode permitted by a limiting condition for operation, and must therefore be reported pursuant to Technical Specification 6.6.2.1.b(2), this incident was of no significance with respect to safe operation of the unit. Therefore, the health and safety of the public were not endangered.

Corrective Action:

The block valves and redundant ES valve were closed to ensure isolation of the RB gaseous monitor inlet line prior to initiating repair of valve PR-8. Disassembly of the valve revealed that a ruptured operator diaphragm had caused its failure. In addition to the diaphragm, all valve parts subject to wear were replaced. The valve was tested and determined to be functioning properly prior to being declared operable. Consideration is being given to adding to the preventive maintenance program a review of valve diaphragms to determine which are in need of replacement.

# LICENSEE EVENT REPORT

EXHIBIT A

CONTROL BLOCK: 1										(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)									
01		S C N E I E 3 2 0 0 0 0 0 0 0 0 0 0 3 4 1 1 1 1 1 1 4 5										5							
7 8		LICENSEE CODE 14 15 LICENSE NUMBER 25 26 LICENSE TYPE 30 31 CAT 52										53							
01		REPORT SOURCE L 6 0 5 0 0 0 2 8 7 7 0 4 2 3 7 9 8 0 5 2 3 7 9 9										9							
7 8		DOCKET NUMBER 50 51 EVENT DATE 74 75 REPORT DATE 80										81							
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02		The RB gaseous radiation monitors were rendered inoperable when a containment										11							
03		isolation valve on the monitors' inlet line failed closed. The valve was										12							
04		repaired and the monitors were returned to operability well within the time										13							
05		allowed by Technical Specification 3.1.6.8. In addition, two other means for										14							
06		detecting RCS leakage were available. Therefore, this incident was of no										15							
07		significance with respect to safe operation of the unit, and the health and										16							
08		safety of the public were not endangered.										17							
7 8 9												80							
09		SYSTEM CODE 11 CAUSE CODE 12 CAUSE SUBCODE 13 COMPONENT CODE 14 COMP. SUBCODE 15 VALVE SUBCODE 16										17							
7 8		B B E F V A L V E X D D										17							
7 8		EVENT YEAR 21 22 SEQUENTIAL REPORT NO. 24 25 OCCURRENCE CODE 27 28 REPORT TYPE 30 31 REVISION NO. 32										17							
7 8		7 9 0 1 0 0 3 L 0										17							
7 8		ACTION TAKEN 33 34 FUTURE ACTION 35 EFFECT ON PLANT 36 SHUTDOWN METHOD 37 HOURS 38 ATTACHMENT SUBMITTED 40 41 NPRO-4 FORM SUB. 42 PRIME COMP. SUPPLIER 43 COMPONENT MANUFACTURER 44 45										17							
7 8		A X Z Z 0 0 0 0 Y Y L I 2 0 7										17							
CAUSE DESCRIPTION AND CORRECTIVE ACTIONS 27																			
10		The valve failed due to a ruptured operator diaphragm. The diaphragm was										11							
11		approaching the end of its expected service life. The diaphragm and all other										12							
12		valve parts subject to wear were replaced, and the valve was tested and declar-										13							
13		ed operable. Consideration is being given to a program for reviewing valve										14							
14		diaphragms to identify those in need of replacement.										15							
7 8 9												80							
15		FACILITY STATUS 28 % POWER 29 OTHER STATUS 30 METHOD OF DISCOVERY 31 DISCOVERY DESCRIPTION 32										15							
7 8		E 1 0 0 0 NA A Operator Observation										15							
7 8		ACTIVITY CONTENT 33 34 AMOUNT OF ACTIVITY 35 LOCATION OF RELEASE 36										15							
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7 8		ISSUED DESCRIPTION 49 50										15							
7 8		N										15							
7 8		NAME OF PREPARER S. R. Lewis										15							
7 8		PHONE (704) 373-8285										15							