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ACCESSION NBR: 9310130034 DOC. DATE: 93/10/04 NOTARIZED: NO DOCKET # 05000270
 FACIL: 59-270 Oconee Nuclear Station, Unit 2, Duke Power Co.
 AUTH. NAME AUTHOR AFFILIATION
 BENESOLE, S.G. Duke Power Co.
 HAMPTON, J.W. Duke Power Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 93-006-00: on 930902, containment isolation valve mispositioned. Cause unknown (possibly inappropriate action). Mgt emphasized position prohibiting practice of repositioning components w/o documentation. W/931004 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 7
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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DUKE POWER

October 4, 1993

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287
LER 270/93-06

Gentlemen:

Pursuant to 10 CFR 50.73 Sections (a)(1) and (d), attached is Licensee Event Report (LER) 270/93-06, concerning a mispositioned containment isolation valve.

This report is being submitted in accordance with 10 CFR 50.73 (a)(2)(i)(B). This event is considered to be of no significance with respect to the health and safety of the public.

Very truly yours,


J. W. Hampton
Vice President

/ftr

Attachment

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LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

Oconee Nuclear Station, Unit 2

DOCKET NUMBER (2)

05000 270

PAGE (3)

1 OF 6

TITLE (4)

Containment Isolation Valve Mispositioned Due To An Unknown Cause,
Possible Inappropriate Action

EVENT DATE (5)			LER NUMBER (6)			REPORT NUMBER (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
09	02	93	93	06	00	10	04	93	FACILITY NAME	DOCKET NUMBER 05000
									FACILITY NAME	DOCKET NUMBER 05000

OPERATING MODE (9)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)			
	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)	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
	20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	50.73(a)(2)(viii)(A)	(Specify in Abstract below and in Text, NRC Form 366A)
	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)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME: S. G. Benesole, Safety Review Manager
TELEPHONE NUMBER (Include Area Code): (803) 885-3518

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES
(If yes, complete EXPECTED SUBMISSION DATE)

NO

EXPECTED SUBMISSION DATE (15)

MONTH DAY YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On September 2, 1993 at 0200 hours, Unit 2 was operating at 100 % full power. Containment Isolation valve 2CF-41 (2B Core Flood Tank Pressure Gauge Isolation) was found open by a Non-Licensed Operator while adding borated water to the 2B Core Flood Tank. Upon discovery, the valve was closed as required by Technical Specification for containment integrity. Documentation revealed that the valve was placed in the closed position on May 26, 1993, after the performance of a leak rate test and it was verified closed prior to startup. The investigation did not reveal any evidence as to when the valve was subsequently opened. The root cause of this event is Unknown (possible inappropriate action). Corrective actions include management emphasizing their position prohibiting the practice of repositioning components without proper documentation.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

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		93	- 06	- 00	

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

BACKGROUND

The Core Flood System (CFS) [EIIS:BP] provides core protection continuity for intermediate to large Reactor Coolant System (RCS) [EIIS:AB] pipe failures. The CFS is a passive system which consists of two tanks containing borated water that floods the core when the RCS pressure drops below 600 psig during a Loss of Coolant Accident. Each core flood tank is provided with connections for the addition of borated water and nitrogen during power operation. 2CF-41 (2B CFT Pressure Gauge Isolation) is a one inch valve located outside the Reactor Building (RB) on the connection for 2B Core Flood Tank. Valve 2CF-44 (CFT 2B Inlet Check) is a one inch check valve located inside the RB. (See attachment #1)

Technical Specification 3.6.1 states that containment integrity shall be maintained whenever all of the following exists: RCS pressure is 300 psig or greater, Reactor Coolant temperature is 200 degrees F or greater, and Nuclear fuel is in the core. Containment Integrity is established such that, should the maximum hypothetical accident occur, the limits of 10 CFR 100 would not be exceeded.

PT/2/A/115/08 (Reactor Building Containment Isolation and Verification) is performed during startups in order to verify containment integrity exists prior to exceeding 200 degrees F and 300 psig in the Reactor Coolant System. This procedure requires that each containment isolation valve be independently verified to ensure proper alignment.

EVENT DESCRIPTION

On April 28, 1993, Unit 2 was shutdown for a refueling outage.

On May 26, 1993, PT/2/A/0151/39 (Penetration 39 Leak Rate Test) was performed. This procedure requires that 2CF-41 (2B CFT Pressure Gauge Isolation) be opened. The technicians performing the test procedure closed the valve and independently verified that the valve was closed.

On June 17, 1993 at 0200 hours, two Non-Licensed Operators (NLO) independently verified that 2CF-41 was closed and PT/2/A/115/08 (Reactor Building Containment Isolation and Verification) was completed. At 0319 hours, the Reactor Coolant System temperature and pressure were raised above 200 degrees F and 300 psig.

On June 19, 1993, Unit 2's 2A and 2B Core Flood Tanks (CFT) experienced problems with maintaining the required nitrogen pressure and an investigation was initiated. The investigation concluded that the CFT's manway seals were the probable leakage point.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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On June 21, 1993, the CFT manways were retorqued. The CFTs were returned to the required nitrogen pressure and observed leakage was within acceptable limits.

On June 24, 1993, Unit 2's generator was placed on line following the refueling outage.

On August 4, 1993, Instrument and Electrical (I&E) technicians calibrated pressure gauge 2PG-189 (See attachment 1). Interviews with I&E technicians revealed that they did not have a need to manipulate 2CF-41. The pressure gauge was isolated utilizing 2CF-40 which is located between 2CF-41 and the pressure gauge.

On September 2, 1993 at approximately 0200 hours, while making up to CFT 2B, a NLO observed a local pressure gauge indicating pressure in the CFT fill line. Upon investigation, the NLO noticed that 2CF-41, which was clearly labeled as a containment isolation valve, was open. The NLO immediately notified the Control Room. The Control Room personnel told him that the required position of the valve is closed per procedure PT/2/A/115/08 (Reactor Building Containment Isolation and Verification). The Senior Reactor Operator (SRO) then authorized the NLO to close the valve. The NLO stated that it took seven turns to close the valve and the valve was easily operated. The SRO requested that the NLO check the 2A CFT line and also check the same lines on Unit 1 and 3 to ensure containment integrity. These valves were found to be properly aligned.

CONCLUSIONS

Investigation was unable to determine when 2CF-41 was opened. The root cause of this event is unknown, possible inappropriate action.

The available documentation indicated that the last time that 2CF-41 was opened was on May 26, 1993 during the performance of the leak rate test procedure. Independent verification was performed on that same day verifying that the valve was returned to the closed position. Another position verification was performed on June 17, 1993 during the performance of the Reactor Building Containment Isolation and Verification.

The valve was verified closed by four different individuals following the last documented time the valve was opened. Therefore, it is unlikely that the valve was in the open position following those verifications. The most probable time that this valve was opened was between June 19 and June 21, 1993 when the Core Flood Tanks were not maintaining the required nitrogen pressure. Another possible time the valve may have been opened was during the calibration of the pressure gauge. The valve may have been opened,

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either intentionally or inadvertently, during the investigation of the nitrogen leak or during the calibration of the pressure gauge. Accidental operation by someone bumping into the manual operator of the valve is not likely since the valve is located in an infrequently traveled area and was found almost fully open.

A review of events over the past two years revealed that two similar events had occurred which involved mispositioned containment isolation valves. Licensee Event Report 269/92-13 (Technical Specification Violation Due To Lack of Containment Integrity Resulting From A Defective Procedure) involved a containment isolation valve 1N-107, which was discovered open and the root cause was determined to be a defective procedure, (technical deficiency). Licensee Event Report 287/91-09 (Technical Specification Required Containment Integrity Valve Found Mispositioned During Forced Refueling Outage Due to Unknown Cause, Possible Inappropriate Action) involved containment isolation valve 3IA-91, which was discovered open and the root cause was determined to be Unknown, possible inappropriate action. Therefore, this event is recurring.

This event did not result in the release of any radioactive material, radiation overexposures or personnel injuries. There was no NPRDS reportable equipment failures associated with this event.

CORRECTIVE ACTIONS

Immediate

1. The valve was immediately closed upon discovery.
2. Unit's 1 and 3 valves were verified to be in the correct position.

Subsequent

None

Planned

1. Operations management will emphasize their position prohibiting the practice of repositioning components and operating equipment without proper documentation.

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2. Quality improvement teams are currently evaluating problems associated with inadequate work practices, including mispositioned components. Management will evaluate the teams recommendations and will implement those considered appropriate.

SAFETY ANALYSIS

The safety concern in this incident was a potential release of post-accident Reactor Building (RB) atmosphere into the environment. Worst case leakage path, as a result of 2CF-41 being open, would be approximately a one inch diameter hole, which would pass between fifty and one hundred times the leakage assumption in the FSAR. The Core Flood (CF) system is a closed system that is isolated from the Reactor Coolant System (RCS) by two swing check valves in series. Before any leakage could occur into CF system downstream of the portion of the piping which makes up the safety related penetration, these two check valves, or the CF system pipe boundary, would have to fail. Any in-leakage would first have to leak past 2CF-44, a containment isolation swing check valve located inside the RB, which is leak rate tested. The last leak test was performed on May 26, 1993. (Actual leak rate was 12.2 SCCM versus the acceptable limit of 295 SCCM.)

Another leakage path would be from the RB atmosphere through 2CF-45 (2B CFT Test inside RB) and into the CF header. However, an evaluation of the CF system design reveals in-leakage into the CF header is extremely unlikely because 2CF-45 was verified closed with a pipe cap installed during startup to ensure no leakage of the RB atmosphere into the CF system header. 2CF-45 is also leak tested (0 SCCM during the last test).

Even if leakage occurred through both boundaries of the penetration into the CF piping outside the RB, it would still be confined within the CF system piping, which is normally pressurized to higher pressures than the post-accident RB pressure. 2CF-41 is the isolation valve for a local pressure gauge (scale of 0 to 1000 psi) which would also have to fail before a leak path would exist.

Any leakage through 2CF-41 would still be filtered by the Penetration Room Ventilation System, an Engineered Safeguards post-accident filtration system.

There were no releases of radioactive material involved with this incident. Based on the above analysis, the health and safety of the public were not affected.

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ATTACHMENT 1

