

Duke Power Company
Oconee Nuclear Site
P.O. Box 1439
Seneca, SC 29679

J. W. HAMPTON
Vice President
(803)885-3499 Office
(803)885-3564 Fax



DUKE POWER

November 3, 1994

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

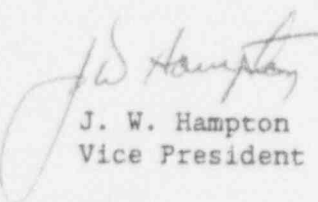
Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287
LER 269/94-05

Gentlemen:

Pursuant to 10 CFR 50.73 Sections (a)(1) and (d), attached is Licensee Event Report (LER) 269/94-05, concerning a technically inoperable 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

xc: Mr. S. D. Ebner
Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
101 Marietta St., NW, Suite 2900
Atlanta, Georgia 30323

Mr. L. A. Wiens
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

INPO Records Center
700 Galleria Parkway
Atlanta, GA 30339-5957

Mr. P. E. Harmon
NRC Resident Inspector
Oconee Nuclear Site

090033

9411100253 941103
PDR ADDCK 05000269
S PDR

Printed on recycled paper

1122
11

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 One

DOCKET NUMBER (2)

05000 269

PAGE (3)

1 OF 7

TITLE (4)

Containment Isolation Valve Technically Inoperable Due To Change Management

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	
10	05	94	94	05	00	11	03	94	FACILITY NAME	DOCKET NUMBER	
										05000	
OPERATING MODE (9)		N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)								
POWER LEVEL (10)		100	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
			20.405(a)(1)(iii)		X	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)(iii)			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

Lanny V. Wilkie, Safety Review Manager

TELEPHONE NUMBER (Include Area Code)

(803) 885-3299

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (if yes, complete EXPECTED SUBMISSION DATE)	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
X					

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

At 1745 hours on October 5, 1994, with Unit 1 at 100 % full power, it was discovered that Post Maintenance Testing (PMT) had not been performed following maintenance on containment isolation valve IRC-7, rendering the valve technically inoperable. Upon discovery, all compensatory actions required by the Technical Specifications were completed. The Work Order's cover sheet indicated that a stroke test and a leak rate test were required to be performed; however, another sheet, titled the PMT Plan, listed the required tests and they were marked Not Applicable (N/A) in the "completion/verified by" column. During the planning process the N/A's were entered to indicate that no signatures were required in the column. Maintenance personnel however, interpreted the N/As to mean that the tests were not required. As a result, the appropriate personnel were not notified to perform the PMT. The root cause of this event is Change Management (Risks and consequences associated with change not adequately assessed). Corrective actions included taking the appropriate compensatory actions per the Technical Specifications, changing the method of N/Aing, revising all previously planned work orders which contained similar misleading information, and communicating to all maintenance personnel that N/A's should be questioned.

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

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)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Oconee Nuclear Station, Unit One	05000 269	94	05	00	2 OF 7

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

BACKGROUND

Valve [EIIS:V] 1RC-7 is an Engineered Safeguards (ES) [EIIS:JE] valve that provides containment [EIIS:NH] isolation during an accident condition to prevent radioactive leakage to the environment. During normal operating conditions, this valve is used to obtain Pressurizer [EIIS:PZR] Steam/Water samples for routine surveillance of the chemical composition of Reactor Coolant [EIIS:AB] in the Pressurizer.

Technical Specification 3.6.3c states:

"A containment isolation valve, other than a Reactor Building Purge [EIIS:VA] isolation valve, may be inoperable provided either:

1. The inoperable valve is restored to an operable status within four hours.
2. The affected penetration is isolated within four hours by the use of a deactivated automatic valve secured and locked in the isolated position.
3. The affected penetration is isolated within four hours by the use of a closed manual valve or blind flange.
4. The reactor is in the hot shutdown condition within 12 hours and cold shutdown within 24 hours."

EVENT DESCRIPTION

On September 1, 1994, Mechanical Maintenance completed work on 1RC-7. The scope of work involved a repair of a suspected packing leak. Following the maintenance and Post Maintenance Testing (PMT), the valve continued to leak. As a result, a new Work Order (WO) was generated to investigate and repair a body to bonnet leak.

During the planning process of this WO, a Planner entered Not Applicable (N/A) and initials beside each required test under the "completion/verified by" column on the PMT sheet. The Planner also notified the Operations Test Scheduler (OTS) that maintenance would be performed on 1RC-7.

On October 5, 1994 at 0600 hours, the clearance to begin work section of the WO was signed off by Operations personnel.

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

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 (MNRB 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)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
Oconee Nuclear Station, Unit One	05000 269	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3 OF 7
		94	05	00	

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

On October 5, 1994, with Unit 1 at 100 % full power, Mechanical Maintenance Technicians (MMT) A and B were assigned to perform maintenance on 1RC-7. The scope of work was to investigate and repair a body to bonnet leak. At approximately 0830 hours, MMT A went to the Unit 1 Control Room to obtain clearance to begin work. MMT A discussed the scope of work with the Unit 1 Supervisor (US) and Unit 1 Control Room Senior Reactor Operator (CRSRO). The US and CRSRO questioned MMT A about the scope of work, and whether Post Maintenance Testing (PMT) was required. MMT A informed the US and CRSRO that no PMT was required. Permission was given to the MMT to perform work on 1RC-7. At this time, MMT A requested that Operations open 1RC-7 while they performed work on the valve. CRSRO asked the Control Room Operator (CRO) to open 1RC-7, and the CRO responded that the valve was already open due to Chemistry sampling. The CRO asked MMT A to notify him when the work was complete.

At approximately 1037 hours, MMT A notified the CRO that he had completed the maintenance required on 1RC-7. At this time, CRO closed 1RC-7. After the valve was closed, MMT A and B visually inspected for leakage, and none was observed.

At approximately 1047 hours, MMT B entered the Control Room and asked CRO to stroke 1RC-7. The valve was stroked and no problems were observed.

At approximately 1700 hours, the OTS called the MM Supervisor, because he had not been notified that maintenance had been performed on 1RC-7. The MM Supervisor informed him that the work on 1RC-7 was completed at approximately 1045 hours. The OTS immediately notified a Performance Technician (PT) that a valve stroke test on 1RC-7 was required to be performed. The PT entered the Unit 1 Control Room and informed the US and CRSRO that he needed to perform a valve stroke test on 1RC-7, due to maintenance. The US and CRSRO immediately questioned the operability of 1RC-7. The PT performed the valve stroke test on 1RC-7 and satisfactory results were obtained.

At approximately 1745 hours, System Engineering determined that 1RC-7 had been technically inoperable due to PMT not being performed to verify operability.

At approximately 1810 hours, Operations completed taking the appropriate compensatory actions as required by Technical Specifications 3.6.3. 1RC-5 and 1RC-6 were closed and electrically deactivated.

On October 6, 1994, an Engineering evaluation was performed. The evaluation concluded that a Leak Rate Test was not required on 1RC-7; however, a stroke test and a maintenance functional verification were required. During an interview with Operations Support personnel, a System

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

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 (ANBB 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)	DOCKET NUMBER (2)	LER NUMBER (8)			PAGE (3)
Oconee Nuclear Station, Unit One	05000 269	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	4 OF 7
		94	05	00	

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

Engineer discovered that the Maintenance functional verification was not performed under system pressure. Therefore, the functional verification was performed incorrectly. As a result of this finding, an acceptable functional verification test was performed and found to be acceptable.

On October 7, 1994, after reviewing the associated documentation, the System Engineer determined that the documentation was complete. The valve was returned to operable status.

Safety Review personnel performed a review of the work order (WO) and associated documentation. The work order had been signed off by Operations for clearance to begin work on October 5, 1994 at 0600 hours. The WO indicated on one sheet that a stroke test and a leak rate test were required; however, another sheet titled the PMT Plan listed those required tests and they were marked N/A in the "completion/verified by" column.

An interview was conducted with the MM Supervisor and both MMTs involved in this event. The MMTs stated that the PMT was N/A'd; therefore, they assumed that no PMT was required. They also stated that they did understand that the valve was related to the Technical Specifications.

An interview with the US and CRSRO was conducted and both stated that they did not review the WO. They questioned MMT A whether PMT was required and he stated that none was required. The assumption that no PMT was required influenced the US and CRSRO into the decision that the maintenance would not cause IRC-7 to be inoperable. The US and CRSRO stated that had they reviewed the WO, they may have questioned the fact that no PMT was required. The CRSRO was shown a copy of the WO and after reviewing it, he stated that the N/As on the PMT sheet implied that no PMT was required.

An interview with the Planners involved in the planning of this WO was conducted. They stated that the required tests would be documented on separate task sheets; therefore, N/A's were utilized to indicate that no signatures were required in the "completion/verified by" column. All Planners were involved in the decision to N/A this column. As a result, numerous WOs were sent to scheduling and to execution personnel. They assumed that this would help the Maintenance personnel understand that a signature was not required in this particular column. The planners did not communicate their justification for N/A'ing the blank to any other groups.

CONCLUSIONS

The root cause of this event is determined to be Change Management, Risk and consequences associated with change not adequately assessed. During the planning process of the work order, the Planners entered a "Not

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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 (MN88 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)	DOCKET NUMBER (2)	LER NUMBER (8)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Oconee Nuclear Station, Unit One	05000 269	94	05	00	5 OF 7

TEXT (If more space is required, use additional copies of NRC Form 365A) (17)

Applicable" (N/A) statement on the Post Maintenance Testing (PMT) Sheet. The Planners and their immediate Supervision decided to make this change and N/A the statement on the PMT Sheet. They did not communicate the reasons for entering the N/As to the affected groups and they did not assess the possible consequences of the change. The use of N/As is a recognized method for identifying that an activity or procedure step is not required for the completion of the task. The Maintenance personnel interpreted this to imply that the PMT was not required. In turn, the Maintenance personnel conveyed to the Operations personnel that no PMT was required; therefore, Operations assumed that 1RC-7 was operable upon completion of the maintenance. Finally, the Maintenance personnel did not notify the appropriate personnel to complete the required PMT. It is concluded that if the N/Aing had not occurred, this event may have been prevented.

Another problem occurred during this event. The functional verification test following maintenance was performed incorrectly due to pertinent information not transmitted. The Mechanical Maintenance Technicians (MMT) failed to properly communicate to Operations Personnel that system pressure is required during the functional verification test.

A review of previous events for the last two years indicated that this is not a recurring event.

This event did not involve equipment failure and is not NPRDS reportable. There were no radiological overexposures, radioactive releases, or personnel injuries associated with this event.

CORRECTIVE ACTIONS**Immediate**

1. 1RC-5 and 6 were closed and electrically deactivated.

Subsequent

1. For new work orders (WO) planned after October 12, 1994, the work practice of N/Aing the signature blank for retest requirements on the hard copy of the controlling WO was changed to a cross reference statement that links the controlling task to the supporting tasks that will perform each retest.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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)	DOCKET NUMBER (2)	LER NUMBER (8)			PAGE (3)
Oconee Nuclear Station, Unit One	05000 269	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	6 OF 7
		94	05	00	

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

2. For previous work orders planned but not scheduled, the N/As were struck through on the Work Management System Post Maintenance Test Sheet and a cross reference statement was inserted.
3. All maintenance personnel were informed that N/As on the Post Maintenance Test Sheet does not indicate that the test is not required.
4. The Mechanical Maintenance Team involved in this event was counseled to ensure that future functional tests are performed as required.

Planned

1. Develop a communications package defining the Post Maintenance Testing roles and responsibilities of personnel involved in planning, scheduling, and execution supervision. The package will be distributed to Job Supervisors, Schedulers, Planners, and Technical Review Personnel.
2. Review the Work Control process to ensure that necessary guidance for identifying functional verification is given. This guidance should require that the conditions be identified prior to performing the maintenance task. Make the appropriate changes.

SAFETY ANALYSIS

The safety concern of this incident is described as the potential release of post-accident atmosphere into the environment. The potential escape route would be from the Reactor Coolant System (RCS) and/or Reactor Building [EIIS:NH] atmosphere into the Pressurizer (PZR), out through RCS/PZR sample line into the penetration [EIIS:PEN] room through valve leakage.

Had an accident such as Loss Of Coolant Accident (LOCA) occurred during this incident, it can be assumed that valve 1RC-7 would have closed as designed upon receipt of an Engineered Safeguards (ES) signal, providing adequate containment isolation. 1RC-7's operator is a spring close pneumatic, and fails closed. In order for the valve not to operate, the valve stem would have to bind severely. This assumption is supported by

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

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)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Oconee Nuclear Station, Unit One	05000 269	94	05	00	7 OF 7

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

the fact that a stroke test performed on October 5, 1994 demonstrated adequate valve stroke time.

However, if valve 1RC-7 failed to close upon request, then two other ES operated valves located upstream of this valve should have ensured containment integrity. These valves are 1RC-5 and 1RC-6, which are both activated by ES Channel 1. Both valves should stop any flow from the Pressurizer steam and water space, respectively. It should be noted that all three valves can be manually closed from the control room by Control Room Operators.

In the unlikely case of leakage past the seat of 1RC-5 and 1RC-6 with 1RC-7 failed open, some radioactivity could leak into the chemical sampling system and possibly escape into the environment. 1RC-5 and 1RC-6 are leak rate tested. The last leak test was performed on June 2, 1994. (Actual leak rate was 20 SCCM for each valve versus the acceptable limit of 111 SCCM.)

There were no releases of radioactive material involved with this incident. The health and safety of the public were not affected.