

# CATEGORY 1

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9901080050      DOC. DATE: 98/12/31      NOTARIZED: NO      DOCKET #  
 FACIL: 50-287 Oconee Nuclear Station, Unit 3, Duke Power Co.      05000287  
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 MCCOLLUM, W.R.      Duke Power Co.  
 RECIPIENT NAME      RECIPIENT AFFILIATION

SUBJECT: LER 98-001-00: on 981231, determined that LLRT had not been performed on fittings. Caused by inappropriate action of maint field planner & PMT scheduler. Counseled individuals involved & enhanced PMT guidance. With 981231 ltr.

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W. R. McCollum, Jr.  
Vice President

December 31, 1998

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

Subject: Oconee Nuclear Station  
Docket Nos. 50-269, -270, -287  
Licensee Event Report 287/98-01, Revision 0  
Problem Investigation Process No.: 0-098-5778

Gentlemen:

Pursuant to 10 CFR 50.73 Sections (a) (1) and (d), attached is Licensee Event Report 287/98-01, concerning a missed surveillance due to inappropriate actions.

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,

  
W. R. McCollum, Jr.

Attachment

9901080050 981231  
PDR ADOCK 05000287  
S PDR

11  
Jez

Document Control Desk  
Date: December 31, 1998  
Page 2

cc: Mr. Luis A. Reyes  
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Mr. M. A. Scott  
NRC Resident Inspector  
Oconee Nuclear Station

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.

# LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)  
Oconee Nuclear Station, Unit 3

DOCKET NUMBER (2)  
05000 287

PAGE (3)  
1 of 5

TITLE (4)  
Missed Surveillance Due to Inappropriate Actions

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER(S)
12	03	1998	1998	- 01	- 0	12	31	1998		05000

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (Check one or more of the following) (11)											
POWER LEVEL (10)	0	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.38(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.38(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		<input type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i) (B)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)		<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)		<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME		TELEPHONE NUMBER	
J.E. Burchfield, Regulatory Compliance Manager		AREA CODE (864)	885-3292

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 fifteen single-space typewritten lines) (16)

On December 3, 1998, Oconee Unit 3 was at cold shutdown and beginning heatup following a refueling outage. At 1256 hours, the Reactor Coolant System (RCS) temperature and pressure were increased above 200 F / 300 psig such that Containment integrity became required per Technical Specification (TS) 3.6. Four (4) reactor building (RB) pressure switch impulse line fittings had been replaced during the refueling outage. During a review of work orders associated with post maintenance testing (PMT), the PMT Coordinator determined that a local leak rate test (LLRT) had not been performed on the fittings. Unit 3 entered a Limiting Condition For Operation (LCO) at 1654 hours. On December 4, 1998, at 0215 hours, the test was satisfactorily completed and the LCO was exited.

The root cause of this event is inappropriate action on the part of the maintenance field planner and PMT Scheduler for not ensuring a retest task was created and performed. A contributing cause is a weakness in the station's formal post maintenance testing (PMT) process for non-routine mechanical equipment maintenance.

Corrective actions include counseling individuals for their inappropriate actions and enhancing the PMT guidance.

The health and safety of the public was not compromised by this event.

NRC FORM 366A		U.S. NUCLEAR REGULATORY COMMISSION(4-95)		APPROVED OMB NO. 3150-0104 EXPIRES:4/30/98		
<b>LICENSEE EVENT REPORT (LER) TEXT CONTINUATION</b>				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)
Oconee Nuclear Station, Unit 3		50-287	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 5
			1998	01	0	

**EVALUATION:**

**Background**

Containment integrity as defined by paragraph (e.) of Technical Specifications (TS) 1.7 states: "The containment leakage determined at the last testing interval satisfies Specification 4.4.1".

TS 3.6.1 states that containment integrity shall be maintained whenever all three of the following conditions exist:

- a. Reactor coolant pressure is 300 psig or greater
- b. Reactor coolant temperature is 200 degrees or greater
- c. Nuclear fuel is in the core

TS 4.4.1.3 requires a local leak rate test (LLRT) after any major modification or replacement of components affecting the reactor building integrity.

Containment [EIIS:NH] pressure switches are used to provide initiation signals to Engineered Safeguard (ES) [EIIS:JE] Reactor Building Spray (BS) [EIIS:BE] pumps at  $\leq$  15 psig reactor building (RB) internal pressure. These pressure switches are connected to the RB by stainless steel tubing which contain fittings. The fittings have threaded connections for caps which are removed periodically to attach instruments used to calibrate the switches. Being open to the inside of the RB, this tubing forms part of the containment boundary and therefore can impact containment integrity.

**Description of Event**

LER 50-287/97-03 describes an event for which one of the causes was a leaking fitting on the reference leg of a level instrument for the Unit 3 letdown storage tank. As a result of this event, Oconee Maintenance undertook an enhanced program to identify and replace tubing fittings that have the potential to leak because of damaged threads or use of mixed fittings from different manufacturers.

On August 23, 1998, a maintenance field planner originated work orders to replace tubing fittings on 3BS PS-0020, 3BS PS-0021, 3BS PS-0022, and 3BS PS-0023 during the upcoming refueling outage. These pressure switches monitor the internal pressure of the reactor building (RB) and generate an engineered safeguard (ES) signal for the building spray (BS) pumps when containment pressure exceeds the setpoint. In making the planning determinations, the computer data base indicated on the work order that a performance retest and a maintenance functional test may be required based on the maintenance performed. The appropriate performance test was actually a local leak rate test (LLRT) required by TS 4.4.1.3. However, the maintenance field planner did not create a work order task to initiate the LLRT.

On August 24, 1998, the Post Maintenance Testing (PMT) Scheduler was notified the fittings would be replaced and recognized a retest would be required. He recognized that this work

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

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FACILITY NAME (1)  Oconee Nuclear Station, Unit 3	DOCKET NUMBER (2)  50-287	LER NUMBER (6)			PAGE (3)  3 OF 5
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
		1998	01	0	

did not have a standard performance test procedure. He requested the Mechanical Systems Engineering (MSE) Inservice Test (IST) Engineer to develop a temporary test (TT) procedure for the activity. This had been standard practice in the past.

On September 1, 1998, the IST Engineer discussed the TT procedure request with the MSE Supervisor. During the time period between August 1, 1998, and November 2, 1998, several discussions were held between the IST Engineer, MSE Supervisor, and the PMT Coordinator regarding the development of these TT procedures to be used for LLRT of containment boundaries.

On October 8, 1998, the Unit 3 refueling outage (3EOC-17) began. The Unit 3 BS tubing fittings were replaced on October 12, 1998.

On October 27, 1998, the PMT Scheduler was evaluating similar work for the next scheduled Unit 1 refueling outage. He again recognized that this work did not have a standard performance test procedure and submitted another request to the IST Engineer to develop a TT procedure. The IST Engineer again discussed the request with the MSE Supervisor. The MSE Supervisor assigned Engineer A to develop the TT procedure. While discussing details with I&C engineers and other mechanical systems engineers, Engineer A learned that there was a new instrument procedure (IP) written specifically to pressure test instrument tubing.

On November 4, 1998, Engineer A sent a response to the PMT Scheduler that an IP existed which eliminated the need to develop a TT procedure. The PMT Scheduler assumed that since the specified procedure was a new IP procedure, the maintenance I&C team would execute it. However, he did not verify that an appropriate task existed to perform the new IP. This decision, together with the maintenance field planner not having created a specific task for retest on the work order, resulted in the LLRT not being performed.

On December 3, 1998, at 1256 hours, Unit 3 RCS temperature was heated above 200 F. With RCS pressure greater than 300 psig and nuclear fuel in the core, these conditions were not in compliance with TS 3.6.1 and 4.4.1.3. The PMT Coordinator, who had just returned from leave, was reviewing work orders when he realized the required LLRT for the tube fittings had not been performed. He contacted Operations and a 48 hour limiting condition for operation (LCO) was entered at 1654 hours, on December 3, 1998, per TS 3.6.6.2 based on failure to perform required performance tests following maintenance on RB pressure transmitter impulse lines. Actions to perform the required tests were begun immediately. On December 4, 1998, at 0215 hours, the testing was successfully completed. The fittings had no leaks when tested at full design pressure and the LCO was exited.

**Conclusion**

The root cause of this event is inappropriate action on the part of the maintenance field planner and the PMT Scheduler. Since the maintenance field planner had failed to create a task in the work order for retest, a test activity was not included in the outage schedule when the work orders were planned. After receiving an engineering recommendation to use the IP procedure, the PMT Scheduler inappropriately allowed the outage schedule to proceed

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
Oconee Nuclear Station, Unit 3	50-287	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	4 OF 5
		1998	01	0	

without first verifying that an adequate containment LLRT for the replaced fittings was in the schedule.

A contributing cause of this event is the lack of a formal post modification testing program for non-routine mechanical equipment. The present PMT program addresses only pumps and valves. For non-routine equipment, such as these pressure switches, Oconee has relied on the experience of the personnel and informal processes.

Based on recent events, as well as a recent three Duke Nuclear Sites internal assessment on surveillance testing, PMT deficiencies were recognized and documented in mid 1997. At that time, corrective actions were initiated to remedy the deficiencies by expanding the PMT matrix to include non-pump and valve components. The necessary work scope was identified and a schedule developed to begin work on January 1, 1999, and be completed by the fourth quarter of 1999. Compensatory measures were put in place to ensure PMTs were performed as required. Although the necessary programmatic corrective actions were clearly identified and understood, the compensatory measures in place did not prevent this missed surveillance.

A review of the last two years LERs revealed six events where TS required surveillance were missed. LER 50-287/97-04 was caused by deficient written communications, and LER 50-270/98-04 was caused by a weak process to control changes. The root causes of these two LERs are unrelated to the event being reported. The other four LERs were attributed to inappropriate personnel actions. Therefore, missed TS surveillance due to inappropriate action is considered recurring. Details of these four LERs are described in:

- LER 50-269/97-06
- LER 50-269/98-01
- LER 50-269/98-14
- LER 50-269/98-17

Although corrective actions from these previous LERs were not completed prior to this event, compensatory measures were in place that should have prevented this missed surveillance. The individuals involved in this event understood these measures, but failed to execute them effectively.

There were no equipment failures associated with this event.

No personnel injuries, radiation exposures, or releases of radioactive materials occurred with this event.

#### CORRECTIVE ACTION:

##### Immediate:

1. The PMT Coordinator notified Operations of the missed surveillance and Oconee Unit 3 entered a 48 hour LCO per TS 3.6.6.2 at 1654 hours, on December 3, 1998. At 0215 hours, on December 4, 1998, the testing was successfully completed and the LCO was exited.

## 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)
Oconee Nuclear Station, Unit 3	50-287	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	5 OF 5
		1998	01	0	

**Subsequent:**

1. A Root Cause Investigation was initiated.

**Planned:**

1. Personnel involved will be counseled for their inappropriate actions.
2. The PMT Program guidance will be enhanced to provide more specific guidance on maintaining continuity of required testing.

Planned corrective action number 2 is considered to be a NRC commitment. This is the only commitment contained in this LER.

**SAFETY ANALYSIS:**

The replaced fittings are part of instrument tubing used as impulse lines for pressure switches that monitor containment pressure. As such, the fittings are part of the containment boundary and are a potential source of offsite dose in the event of a nuclear accident. The fittings were immediately tested when the missed LLRT was identified and there were no leaks. The reactor was not operated during this event and the RCS was not heated to full temperature and pressure. Therefore, the public health and safety was not affected by this event.