

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

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 FACIL: 50-269 Oconee Nuclear Station, Unit 1, Duke Power Co.      05000269  
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SUBJECT: LER 87-001-01: on 870119, failure to comply with inservice insp program on PALS sys R

W/8      ltr.

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Oconee Nuclear Station, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 2 6 9 1	PAGE (3) 1 OF 0 4
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TITLE (4)  
Failure To Comply With ISI Program On PALS System

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 NAMES		DOCKET NUMBER(S)		
0	1	19	8	7	0	0	1	0	3	3	1	Oconee, Unit 2	0 5 0 0 0 2 7 1 0
												Oconee, Unit 3	0 5 0 0 0 2 8 7

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

OPERATING MODE (9) N	20.402(b)	20.405(e)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10) 0 9 5	20.406(a)(1)(i)	50.38(e)(1)	50.73(a)(2)(v)	73.71(e)
	20.406(a)(1)(ii)	50.38(e)(2)	50.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
	20.406(a)(1)(iii)	X 50.73(a)(2)(ii)	50.73(a)(2)(viii)(A)	
	20.406(a)(1)(iv)	50.73(a)(2)(iii)	50.73(a)(2)(viii)(B)	
	20.406(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME Philip J. North - Licensing	TELEPHONE NUMBER 7 0 4 3 7 3 - 1 7 4 5 6
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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)

ABSTRACT:

On January 19, 1987, non-compliance with the Inservice Inspection (ISI) Program was identified by Chemistry personnel. The missed ISI surveillance involved "stroke tests" on several valves which are in the Post Accident Liquid Sampling (PALS) System. Units 1 and 2 were at 95% and 97% respectively and Unit 3 was in a refueling outage when the incident was identified, but unit status was not a factor associated with this incident. This incident was determined to be reportable per the requirements of 10 CFR 50.73(a)(2)(i)(B) on February 24, 1987.

The root cause of the missed surveillance was inadequate turnover of the ISI program requirements/responsibilities.

There have been no radiation releases from this system to the environment. Therefore, the health and safety of the public was not affected by this incident.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)  Oconee Nuclear Station, Unit 1	DOCKET NUMBER (2)  0 5   0 0   0 2   6 9	LER NUMBER (6)			PAGE (3)	
		YEAR 8 7	SEQUENTIAL NUMBER - 0 0   1 -	REVISION NUMBER 0   1	0   2	OF

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

Background:

The Post Accident Sampling System (PASS) is a post-TMI mitigation requirement. This NRC requirement was issued as NUREG-0737, Section II.B.3. The PASS is designed to allow the remote sampling of reactor coolant through the Post Accident Liquid Sample (PALS) System and containment atmosphere through the Post Accident Gas Sample (PAGS) System.

During testing, the PASS was determined to have some deficiencies. Due to the problems with the system, enhancement modifications were made.

The PALS part of the PASS contains several valves that are within the ASME Section XI criteria for Inservice Inspection (ISI) Program. The valves fall under this program because they are part of a system to be used after an accident when RCS chemistry is in question. These valves are identified in the Duke Power Company, Oconee Nuclear Station, Nuclear Production Department, Inservice Inspection Program Manual. The ISI Manual gives directions and identifies valves to be tested, type of test to be performed, frequency of test, and group responsible for testing.

Description of Incident:

The design of the PALS System was implemented in response to NUREG-0737. After the installation of the system, the responsibility for operating and testing was given to the Chemistry Section and the system was turned over to the Operations Group in 1982. At this time, it was not determined that ASME Section XI testing requirements were required for the PALS valves.

There was no formal functional test documented, although system operability testing was performed. During the testing period, several discrepancies were identified which inhibited the system from performing its intended function. One of these deficiencies was on the Reactor Building Normal Sump (RBNS) sample system. Due to inadequate design, the sample lines would become clogged with debris from the Reactor Building Normal Sump. This clogged line would prevent operation of the RBNS Sample system.

On March 18, 1983 Duke received a Confirmatory Order from the NRC. In part, this order established the dates for PASS to comply with the requirements of NUREG-0737. These dates were Unit 1-9/83, Unit 2-12/83, and Unit 3-7/84. In response to this order on August 15, 1983, Duke informed the NRC of problems with several valves required to be environmentally qualified and requested a change to the system completion dates.

The NRC reviewed information furnished by Duke in 1982 and 1983, and concurred that the PASS met ten of the eleven criteria associated with Item II.B.3. At that time, the NRC considered NUREG-0737 Item II.B.3 complete for ONS. However, on February 2, 1984 system testing determined that the RBNS screen was ineffective in preventing blockage of sample lines by loose material.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

On April 23, 1985, Performance Section documented turnover of the valve portion of the Inservice Inspection (ISI) Program on PALS to the Chemistry Section. The Chemistry Section had not had the responsibility for any ISI testing in the past and were not fully aware of the parameters of such a program. At this time they understood there were four valves that they would test every 90 days. The Chemistry Section did not receive any training and only sketchy instructions on how to set up the ISI program. The program used by Chemistry was inadequate and resulted in missed surveillance many times.

On January 14, 1986, the Chemistry section, still encountering problems with collecting representative samples and inconsistencies in analysis, advised appropriate personnel that the PALS system did not meet acceptance criteria consistently. The Reactor Building Normal Sump portion of PALS would not perform its intended function due to a design error that allows debris to clog the lines. Several work requests were written to unclog the line and repair the pump, but no functional tests were performed and the ISI test continued to not be performed. During a review of procedures, Chemistry personnel discovered the missed ISI surveillance on January 19, 1987. This incident was determined to be reportable per the requirements of 10 CFR 50.73(a)(2)(i)(B) on February 24, 1987.

During the early part of 1984, after all three nuclear plant PALS systems were experiencing similar problems, a Duke multi-departmental task force was formed to resolve these problems. During 1985 the Task Force recommended a PALS enhancement modification. During functional testing of the enhancement modification, problems arose that required changing the system completion dates several times.

Early in 1986, the task force completed its study of the three plants' PALS Systems and recommended that a new system be installed at ONS to improve reliability. The Chemistry Section is to continue to test the existing system.

By letter dated January 2, 1987, Duke informed the NRC that ONS plans a new design of PALS. This new design will be installed on Unit 3 by June 1, 1988. Procedures will be written, and functional testing and training will be performed on the new system by December 1, 1988. The schedule for implementation on the remaining units will be published by January 1, 1989.

CAUSE OF OCCURRENCE:

The root cause of this incident was the inadequate turnover of the ISI responsibility. The Chemistry section accepted the responsibility of ISI of the valves associated with the PALS system without any formal training or instructions on how the ISI program would apply. Chemistry personnel were not fully aware of the implications and requirements that followed the transfer of responsibility. A contributing cause to this incident is the inability of the PALS System to consistently meet acceptance criteria and the inability of the Reactor Building Normal Sump portion of PALS to perform its intended function. Had the PALS system proven more reliable, chemistry personnel likely would have fulfilled ISI requirements.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)  Oconee Nuclear Station, Unit 1	DOCKET NUMBER (2)  0 5 0 0 0 2 6 9	LER NUMBER (6)			PAGE (3)	
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		8 7	- 0 0 1	- 0 1	0 4	OF 0 4

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

The Chemistry section utilizes the Preventative Maintenance Report (PMRPT) to track the required PALS operability testing and the ISI testing. The implementation of this program does not appear to be performing its intended function.

CORRECTIVE ACTIONS:

The following corrective actions will be pursued as a result of this incident.

- o Chemistry section will continue to be responsible for ISI surveillance on the PALS system and will evaluate their procedures to insure compliance with the ISI Program.
- o Performance will review the Chemistry procedure that contains ISI surveillance parameters.
- o Performance will provide Chemistry with specific training on the ISI Program.
- o A relief request from the ISI requirements on the RBNS valves was submitted to the NRC for review and approval on April 13, 1987.
- o Chemistry section will evaluate and update their PMRPT Program to ensure completeness.

ANALYSIS OF OCCURRENCE:

The intent of the PALS system is to ensure the capability to obtain reactor coolant and containment atmosphere samples under accident conditions, such that estimates of core damage can be made. In the event that the Reactor Building Normal Sump sample point is unavailable, core damage can be estimated based on containment air samples. Rough estimates may be made by use of area monitors in the containment building, and hydrogen concentration in containment atmosphere. Other liquid sample locations are available, but with increased risk of high personnel dose.

There has never been an accident at Oconee requiring use of the PALS System. In addition, there have been no releases of radiation to the environment associated with testing of PALS. Therefore, the health and safety of the public was not affected by this event.

**DUKE POWER COMPANY**

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March 31, 1988

U. S. Nuclear Regulatory Commission  
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Washington, D. C. 20555

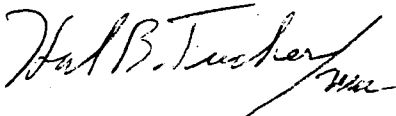
Subject: Oconee Nuclear Station  
Docket Nos. 50-269, -270, -287  
LER 269/87-01, Revision 1

Gentlemen:

Pursuant to 10 CFR 50.73 Sections (a) (1) and (d), attached is Revision 1 to Licensee Event Report (LER) 269/87-01 concerning the failure to comply with the Inservice Inspection Program on Post Accident Liquid Sampling System valves. Changes included within this revision are indicated by a vertical line in the right margin.

This report is submitted in accordance with §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,



Hal B. Tucker

PJN/11012/sbn

Attachment

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