NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

LICENSEE EVENT REPORT (LER)

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

TITLE (4) Violation Of Technical Specifications Due To Missed Inservice Testing Of Valves Resulting From Personnel Error

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 2	0 8	8 8	8 8	— 0 0 2	— 0 0	0 3	1 0	8 8	Oconee, Unit 2	0 5 0 0 0 2 7 0
									Oconee, Unit 3	0 5 0 0 0 2 8 7

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
N		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)
1 0 0		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		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	TELEPHONE NUMBER
	AREA CODE
Philip J. North, Licensing	7 0 4 3 7 3 - 7 4 5 6

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

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

On February 9, 1988, it was discovered that valves DA-3, DA-8, DA-13 and DA-18 (Diesel Air Start System), had not been included into the In-service Valve Testing (IST) Program. The omission of these valves was in violation of Technical Specification 4.0.4 and Proposed Technical Specification 4.20.1. This incident was discovered during a review prompted by a similar finding at McGuire Nuclear Station.

The DA valves were verified operable during a Performance test completed on February 12. Units 1 and 3 were at 100% full power and Unit 2 shutdown at the time this incident was discovered.

The root cause of this incident is classified as a Personnel Error, because the four DA valves were omitted from the IST Program and therefore not tested after they were placed into service.

IE22
1/1

U.S.GPO:1984-0-454-481/18759

Background:

The Diesel Generator Air Start System (DA) [EIIS:LC] provides fast start capability for the Diesel Engines by using high pressure air to roll the engine until it starts. The Diesel Generator supplies electrical loads to the Standby Shutdown Facility (SSF) in the event of fire, flood or sabotage.

The source of air for the DA system is supplied by two compressors [EIIS:CMP] and is stored in four air receiver tanks [EIIS:TK]. Valves DA-3, DA-8, DA-13 and DA-18 are check valves [EIIS:V] that prevent reverse flow from the air receiver tanks to the atmosphere in the event of a line break between the air compressors and the check valves.

Valves DA-3, DA-8, DA-13 and DA-18 are ASME Code Class 3 valves. Technical Specification 4.0.4 and Proposed Technical Specification 4.20.1 both require inservice testing of ASME Code Class 1, 2, and 3 valves. This testing program shall be performed in accordance with Section XI of the ASME Code and applicable addenda as required by 10 CFR 50.55a (g)(4). Subsection IWV of Section XI states that "Valves that are normally open during plant operation and whose function is to prevent reverse flow shall be tested in a manner that proves that the disk travels to the seat promptly on cessation or reversal of flow." Subsection IWV 3521 requires the check valves to be exercised at least once every 3 months. If it is determined that compliance with these requirements is impractical, a request for relief from testing may be submitted to the NRC.

Sequence of Events:

1980-1982

- The Inservice Valve Testing (IST) Program for SSF valves was established.
- Diesel Air Valves DA-3, DA-8, DA-13 and DA-18 were omitted from Oconee's IST Program.

December 8, 1987

- NRC inspection personnel found four valves at McGuire that were not included in their IST Program. This incident was reported to the NRC in LER 369/87-33.

February 4, 1988

- A General Office (GO) Performance Engineer discovered that four similar valves at Oconee were not in Oconee's IST Program.
- Several NRC inspectors granted McGuire an extension on their valve's operability verification.
- The extension included Oconee's valves also.

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

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

February 5

appr. 1400 — The GO Performance Engineer contacted Oconee's Test Engineer and informed him of a possible problem with valves DA-3, DA-8, DA-13 and DA-18.

appr. 1500 — It was verified that the four Diesel Air valves were not in Oconee's IST Program.

1500 — The SSF was declared inoperable.

— NRC grace period allowed Oconee Management to declare the DA valves operable.

1730 — The SSF was declared operable.

February 12 — Valves DA-3, DA-8, DA-13 and DA-18 were verified operable by a pressure test.

Description of Incident:

During a December 1987 inspection, NRC Analysis and Evaluation of Operational Data (AEOD) personnel discovered four valves at McGuire Nuclear Station that were not included in their IST Program. As a result of this finding, a review was conducted by General Office Performance Personnel on similar valves at Oconee Nuclear Station (ONS). This review revealed four DA valves that should be in Oconee's IST Program. Since they were not in the ONS IST Program, they were not inspected as required by Technical Specification 4.0.4. Thus, this incident is reportable per 10CFR 50.73(a)(2)(i)(B).

On February 4, 1988, several NRC inspectors, including an AEOD inspector, a Region II inspector and a Nuclear Reactor Regulation (NRR) inspector granted McGuire, Oconee and Catawba an extension of operability for any check valves found that were not in an IST Program. This extension was contingent on the fact that there should be no evidence of inoperability of the valves omitted.

On February 5, a GO Performance Engineer contacted Oconee's Test Engineer to inform him of a possible problem with the four DA valves (DA-3, DA-8, DA-13, DA-18). The Test Engineer verified the valves were not in Oconee's IST program. At 1500, the SSF was declared inoperable because the DA System was declared inoperable. However, in conversation with a GO Performance Engineer, Oconee's Performance Engineer became aware of the extension granted by the NRC on February 4. Since the extension applied for Oconee also, he informed Station Compliance and Management of it for further evaluation. Based on this extension, the SSF was declared operable at 1730 the same day.

On February 12, Performance verified DA-3, DA-8, DA-13 and DA-18 were operable by successfully completing the Diesel Air Check Valve Operability Test.

Cause of Occurrence:

The root cause of this incident was a personnel error due to the failure of the Performance IST Coordinator to include the four DA valves into the valve testing program. The Performance IST Coordinator is no longer employed by Duke Power Company and could not be interviewed. However, interviews with other personnel revealed that he was responsible for identifying and including the DA valves in the IST Program.

Another contributing cause to this incident was the lack of formal turnover of station modification to the operating group. The "Transfer of Completed or Partially Completed Modifications" Form for the turnover of the diesel air system to the station operating group did not include a review for the Performance Section. The omission of the Performance Section from this turnover form, allowed an opportunity to catch the diesel air valves to go unnoticed.

Article IWV-1000 of the ASME Boiler and Pressure Vessel Code requires that these normally open check valves must be exercised in their closed position to verify they prevent flow reversal. This must be done on a three month interval. The Diesel Air System is operated monthly during the startup of the Diesel Generator. The monthly runs of the Diesel Generator proves flow passes in the proper direction to start the Generator. However, it cannot be determined from this monthly run if the check valves were functioning properly. A separate test has been developed and scheduled to ensure the operability of the subject DA check valves. Furthermore, the valves have been successfully verified to shut, as required, whenever the air compressors are off.

The decision to declare the SSF operable by Station Management was based on an extension granted by the NRC on February 4. Since the subject DA valves had shown no evidence of inoperability, the DA valves were no longer declared inoperable, thereby returning the SSF to service. Based on the evidence that supported the operability of the DA valves, the decision to declare the SSF operable was correct.

A review of past Oconee Licensee Event Reports found three reports involving discrepancies in the Inservice Valve Testing Program. LER 269/87-01 involved the failure to inspect several valves covered under the IST Program. However, this incident was caused by a Management Deficiency. LER 269/87-06 and the supplement to 269/87-06 involved valves that were not inspected in compliance with post maintenance VT-2 inservice inspection. These were also caused by a Management Deficiency. Based on the above, missed inservice valve testing is considered non-recurring, but similar to other incidents that have happened over the past three years.

This incident is not NPRDS reportable. There were no personnel injuries, radiation exposure, or releases of radioactive material as a result of this incident.

Corrective Actions:

The immediate corrective action was to declare the SSF inoperable, at 1500 on February 5, 1988, however due to the grace period offered by the NRC on February 4, Station Management declared the SSF operable at 1730 on February 5, 1988.

Subsequent corrective actions were to:

- o Write the Diesel Air Check Valve Operability Test procedure to verify the operability of DA-3, DA-8, DA-13 and DA-18;
- o Perform the Diesel Air Check Valve Operability Test. All four DA valves were found to be operable;
- o Review all the support systems that make up the SSF. The review explored all check valves contained within those systems. No other safety related check valves were found which were not included in Oconee's IST Program;
- o Change the Transfer of Completed or Partially Completed Modifications Form to include all sections in the station. Furthermore, the Nuclear Station Modification Support Leader is now required to prepare a modification information package to be utilized by the sections affected to prepare/revise procedures, and inform appropriate personnel.

Planned corrective actions are for:

- o Performance, Design Engineering and Operations to evaluate all ONS safety related check valves to ensure they meet the standards of Section XI of the ASME Code for Inservice Valve Testing (IST);
- o All check valves that do not meet the standards of Section XI of the ASME Code to be tested immediately, or a letter requesting exemption will be sent to the NRC in accordance with 10 CFR 50.55a (g)(5);
- o The valves identified in the above planned corrective actions to be included in Oconee's IST Program.

Analysis of Occurrence:

Valves DA-3, DA-8, DA-13 and DA-18 prevent air flow reversal from each of the four air receiver tanks. This prevents the air pressure in the air receiver tank from decreasing to the point that an emergency start of the Diesel Generator is impossible in the event of a loss of power or a air line break between the air compressors and the check valves.

The two air compressors feed two independent trains of the air start system. With all four air receiver tanks fully charged (150-190 psig), there are five charges of air capable of starting the Diesel Generator before the Diesel Air system is depressurized to the point it cannot start the engine.

In order for the Diesel Generator to fail to start because of a failed Diesel Air valve, there would have to be several concurrent failures. First, there would have to be a failure in the station such that the SSF would be needed (fire, flood or sabotage). Second, there would have to be a loss of power to the air compressors. Third, there would have to be a failure of the piping between the air compressor and the check valves or back flow through the air compressor. And finally, there would have to be a failure of the check valves to prevent reverse flow. Furthermore, the leakage of air out of the air receiver tank would have to be fast enough to decrease the tank's pressure to the point where a Diesel start could not be performed.

There was no evidence of inoperability of valves DA-3, DA-8, DA-13 and DA-18 found during the operability test. These valves were capable of performing their intended function. Also, there have been no incidents in which the SSF was needed. Based on the above, the health and safety of the public was not affected by this incident.

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HAL B. TUCKER
VICE PRESIDENT
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March 10, 1988

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

Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287
LER 269/88-02

Gentlemen:

Pursuant to 10CFR 50.73 Sections (a) (1) and (d), attached is Licensee Event Report (LER) 269/88-02 concerning a violation of Technical Specifications due to a missed ASME Section XI stroke test.

This report is submitted in accordance with Part 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

Hal B. Tucker

PJN/303/jgc/sbn

Attachment

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