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REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9103150259 DOC. DATE: 91/03/07 NOTARIZED: NO DOCKET # 05000270
 FACIL: 50-270 Oconee Nuclear Station, Unit 2, Duke Power Co.
 AUTH. NAME AUTHOR AFFILIATION
 LOWERY, H.R. Duke Power Co.
 BARRON, H.B. Duke Power Co.
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 91-001-00: on 910214, determined that from 880210-0411, fire detection sys surveillances not performed. Caused by inappropriate action by instrument & electrical supervisors. Work request instructions changed. W/910307 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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INTERNAL:	ACNW		2	2	ACRS		2	2
	AEOD/DOA		1	1	AEOD/DSP/TPAB		1	1
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EXTERNAL:	EG&G BRYCE, J.H		3	3	L ST LOBBY WARD		1	1
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Duke Power Company
Oconee Nuclear Station
P.O. Box 1439
Seneca, SC 29679

(803)885-3000



DUKE POWER

March 7, 1991

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

Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287
LER 270/91-01

Gentlemen:

Pursuant to 10 CFR 50.73 Sections (a)(1) and (d), attached is Licensee Event Report (LER) 270/91-01 concerning missed Technical Specification surveillance due to inappropriate action causes Fire Detection System to be technically inoperable.

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,

H. B. Barron
Station Manager

RSM/ftr

Attachment

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

INPO Records Center
Suite 1500
1100 Circle 75 Parkway
Atlanta, Georgia 30339

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

M&M Nuclear Consultants
1221 Avenue of the Americas
New York, NY 10020

Mr. P. H. Skinner
NRC Resident Inspector
Oconee Nuclear Station

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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, 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) 0500021710	PAGE (3) 1 OF 06
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TITLE (4) Missed Technical Specification Surveillance Due to Inappropriate Action Causes Fire Detection System to Be Technically Inoperable

EVENT DATE (6)			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)
02	10	88	91	001	00	03	07	91			05000

OPERATING MODE (9) N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)										
POWER LEVEL (10) 1100	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)							
	20.405(a)(1)(i)	50.38(e)(1)	50.73(a)(2)(v)	73.71(e)							
	20.405(a)(1)(ii)	50.38(e)(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)(ii)(b)	50.73(a)(2)(viii)(A)								
	20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(vii)(B)								
	20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(ix)								

LICENSEE CONTACT FOR THIS LER (12)

NAME Henry R. Lowery, Chairman Oconee Safety Review Group	TELEPHONE NUMBER 810381851-310314
--	--------------------------------------

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 February 14, 1991, at 0830 hours with Unit 2 at 100 percent Full Power, it was discovered that the Technical Specification requirement to perform surveillance at six month intervals on the Unit 2 Fire Detection System had been missed on three prior occasions. While preparing to perform IP/1&2/B/0250/05A (Fire Detection System Accessible Detector Functional Test and Sensitivity Checkout), an Instrument and Electrical (I&E) technician questioned applicability to Unit 2. An investigation into the past performance of this surveillance determined that on three occasions the Unit 2 surveillance had not been performed. It was determined that the system was technically inoperable during the time periods from 2/10/88 to 4/11/88 and from 2/10/90 to 8/19/90. This event is assigned the root cause of Inappropriate Action on the part of the two I&E Supervisors who marked the procedure steps for Unit 2 as "Not Applicable". Immediate corrective action was the verification of the operability of the Unit 2 Fire Detection System. To prevent future occurrence of this event, the work request instructions were changed to specifically state that this procedure is to be performed on both Unit 1 and Unit 2. Also, this event will be reviewed with I&E Supervisors and crews with emphasis on Station Directive 2.2.1, concerning when procedural steps may be declared "Not Applicable", and Technical Specification surveillance requirements.

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

ESTIMATED BUREAU PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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		9 1	- 0 0 1	- 0 0	0 2	OF 0 6

TEXT (If more space is required, use additional NRC Form 386A's) (17)

BACKGROUND

Technical Specification 4.19 requires Fire Detection [EII:IC] Systems to be operable to protect those systems and equipment required for safe shutdown of the reactor. In order to assure this operability, minimum fire detection instrumentation for each fire detection zone shall be operable. If this specification is not met within one hour, a fire watch patrol shall be established. The surveillance requirement to verify operability states that each of the fire detection instruments shall be tested at least once every six months by the performance of a channel functional test. The maximum allowable interval between surveillance for the Fire Detection System accessible detectors is 270 days.

Oconee Nuclear Station has a written interpretation of the Technical Specification's definition of "Operable", for the situation in which a Technical Specification required surveillance has not been performed by the latest date. This interpretation states that the system or component is considered "technically inoperable" until such time as the surveillance requirement is properly performed.

Since 1982, Standing Work Requests (SWRs), giving instructions to work crews to perform various maintenance activities, have been scheduled by the Planning and Scheduling Section of the Maintenance Department using a computer program. The unit designation in the top left corner of the SWR has only one field for entry. This field for the unit designation will only accept a "0", "1", "2" or "3". It has been a common practice to designate unit "1" in this block for the performance of procedures intended for both Unit 1 and Unit 2. A "zero" is used to indicate that the work is common to all three units.

The SWR for the performance of the six month surveillance of the Fire Detection System accessible detectors is also set up under this computer program and is stamped "Tech Spec Requirement" in accordance with the Station Directive for issuance of work requests. The Planning and Scheduling Section periodically runs an "overdue report" to ensure that all SWR that are Technical Specification related are completed by the due date.

The Oconee Nuclear Station Directive states that procedure step(s) may be declared "Not Applicable" if:

- (A) The required action(s) are covered by another station procedure, or
- (B) Omission of the step(s) does not alter the acceptance criteria of the procedure and does not alter the intended method of performing the work, or
- (C) Omission of the step(s) is a condition or branch specifically allowed by the procedure.

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

Oconee Nuclear Station Maintenance Directive states that the Instrument and Electrical (I&E) Maintenance General Supervisors and Supervisors are responsible for ensuring that all Technical Specifications applicable to I&E procedures are satisfied prior to, during and after the performance of the procedures.

EVENT DESCRIPTION

On February 10, 1991, Standing Work Request (SWR) 55021A was issued to perform procedure IP/1&2/B/0250/05A (Fire Detection System Accessible Detector Functional Test and Sensitivity Checkout). This SWR is issued on a six month frequency utilizing the computer program that tracks when these jobs are due.

On February 13, 1991, when SWR 55021A reached the Instrument and Electrical (I&E) crew that was assigned to perform the job, the crew members discussed whether the procedure should be performed only on Unit 1 or on both Unit 1 and Unit 2. One of the I&E technicians, who had been on another crew until recently, remembered having completed this procedure on both Unit 1 and Unit 2. The I&E technician called the I&E planner and asked if this SWR was for both Units. The I&E planner confirmed that SWR 55021A was issued for both Units 1 and 2. The I&E planner and I&E technician discussed past performances of this procedure and decided that further investigation was necessary.

On February 14, 1991, at 0830 hours, the I&E planner and I&E technician completed researching the records of this SWR since 1982, and found that on three occasions IP/1&2/B/0250/05A had been performed for Unit 1 only. The dates found in which the surveillance for the Fire Detection Systems accessible detectors for Unit 2 had been missed, were 10/18/87, 10/17/89 and 3/12/90. This procedure had been performed on both Unit 1 and Unit 2 on 8/19/90, therefore current operability was not a question. On the first occasion, on 10/18/87, steps for performance of Unit 2 had been designated as "Not Applicable" by I&E Supervisor A. On the following occasions, on 10/17/89 and 3/12/90, steps for performance of Unit 2 had been designated as "Not Applicable" by I&E Supervisor B.

When questioned about the incident on 10/18/87 and shown a copy of the completed SWR and procedure, I&E Supervisor A stated that, to the best of his memory, the reason that he determined the steps for Unit 2 on IP/1&2/B/0250/05A to be "Not Applicable" was because, in the top left corner of the SWR the designated unit was "1". He stated that he would have expected a SWR to be issued from the Planning and Scheduling Section with the unit designation as "2" for the functional test to be performed on Unit 2.

When I&E Supervisor B, was questioned concerning the two consecutive incidents on 10/17/89 and 03/12/90 in which the Unit 2 steps on IP/1&2/B/0250/05A were designated as "Not Applicable", he stated that he also believed the SWR was intended for Unit 1 only, because of the unit designation specified in the top left corner of the SWR.

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

I&E Supervisor B had completed this SWR and procedure four times previously in which Unit 2 had been performed as required. The dates performed were 8/14/86, 4/11/88, 8/16/88, and 1/29/89. He could not explain why the work was performed correctly on these four occasions, since the SWR unit designation was stated no differently than when the steps were marked "Not Applicable" on the other two more recent occasions.

To ensure that this surveillance is not missed again, I&E revised the SWR to specifically state that this procedure is to be performed on both Unit 1 and Unit 2.

To prevent this type of event from occurring on other systems, all other SWRs for the performance of maintenance activities that are Technical Specification surveillance related will be reviewed to determine if the unit designation on the SWR could be misleading to the work crews in the field. If other such SWRs exist they will be revised to clearly state the Unit(s) on which the procedure is to be performed.

Also, as another planned corrective action, this Licensee Event Report will be reviewed with all I&E Supervisors and crew members with special emphasis on Station Directive 2.2.1 concerning when procedural steps may be declared "Not Applicable" and Technical Specification surveillance requirements.

CONCLUSIONS

Since 1982, when the performance of this procedure was placed under the Standing Work Request (SWR) Program, this procedure has been performed a total of 20 times. Each of the three times that the procedure was performed incorrectly, an Instrument and Electrical (I&E) Supervisor decided that the steps to perform the surveillance for Unit 2 were "Not Applicable". Both of the I&E Supervisors stated that they believed that the SWR was issued only for Unit 1 and that another SWR would be issued for Unit 2. However, the two I&E Supervisors did not question the validity of their assumption. On each of the three occasions, there was ample time for the I&E Supervisor to seek answers concerning Unit 2 applicability before the surveillance interval was exceeded. The goal of the procedure was to perform tests on Unit 1 and Unit 2. The actions of the two I&E Supervisors were inappropriate in that the action taken was directed toward the wrong goal, that of performing the test on Unit 1 only. In each case when the steps were marked "Not Applicable", the goal of the procedure was not reached.

A contributing factor which caused the inappropriate action in each case was that the SWR did not give clear instructions to perform the procedure on both Unit 1 and Unit 2. However, the SWR was stamped "TECH SPEC REQUIREMENT" and the Maintenance Directive states that the I&E Supervisors are responsible for ensuring that all Technical Specifications applicable to I&E procedures are satisfied. This event is therefore assigned the root cause of Inappropriate Action, action taken was directed toward wrong goal.

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TEXT (If more space is required, use additional NRC Form 386A's) (17)

After the first missed surveillance on 10/18/87, the functional test that followed on 4/11/88, indicated that the test was properly performed and confirmed operability of the Fire Detection System accessible detectors for Unit 2. The two missed occurrences on 10/17/89 and 3/12/90 were consecutive six month surveillance periods. Following these two occurrences, the completion of the functional test on 8/19/90 indicated that the test was properly performed and confirmed operability. Even though the Fire Detection System was determined to be operable following these occurrences, this event is reportable in accordance with 10 CFR 50.73 (a)(2)(b), because Technical Specification 3.17.1 (1) requirements to establish a fire watch had not been met while the Fire Detection System was "technically inoperable" due to the missed surveillance.

A review of previous events shows that this event is not recurring.

This event did not involve a component failure or malfunction, therefore it is not NPRDS reportable. In addition, this event did not result in the release of any radioactive materials, any radiation exposures or personnel injuries.

CORRECTIVE ACTIONS

Immediate

- 1) I&E verified current operability of the Unit 2 Fire Detection System accessible detectors by verifying that the current test, performed on 8/19/90, was performed properly.

Subsequent

- 1) Standing Work Request 55021A was revised to state that the functional test would be performed on both Unit 1 and Unit 2 Fire Detection System accessible detectors.
- 2) I&E Supervisor A and I&E Supervisor B will be counseled concerning their Inappropriate Action.

Planned

- 1) Other Maintenance Standing Work Request which are Technical Specification related will be reviewed to determine if a similar situation exists in which a single Unit is implied by the SWR, but the procedure is actually to be performed on more than one Unit.
- 2) If other similar SWR are identified, they will be revised to clarify the Unit(s) on which work is to be performed.
- 3) An evaluation will be made to determine if past operating problems have existed on other surveillance items based on the results obtained from Planned Corrective Action #1.

**LICENSEE EVENT REPORT (LER)
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TEXT (If more space is required, use additional NRC Form 388A's) (17)

- 4) This Licensee Event Report will be reviewed with all I&E Supervisors and crews with emphasis on Station Directive 2.2.1 concerning when procedural steps may be declared "Not Applicable" and Technical Specification surveillance requirements.

SAFETY ANALYSIS

In order to assure the safe, reliable and efficient operation of Oconee Nuclear Station, a comprehensive Fire Protection Program has been established on a defense-in-depth principle. The Fire Protection Program encompasses design, construction, administrative controls, quality assurance, acceptance testing, operation, surveillance testing, maintenance, procurement, modifications, emergency planning, fire fighting tactics, training, and automatic features actuation. Surveillance testing of the accessible fire detectors is but one of the many aspects of the Fire Protection Program. There are other defensive measures that are available to support the safe shutdown of the affected Unit in the event of a fire. (e. g. fire barriers and automatic spray systems.) The Fire Detection System is relied upon for early detection of fires, however the accessible areas are toured by plant personnel and it is reasonable to assume that a fire of significant concern would be detected in the early stages.

The first period of "technical inoperability" of the Unit 2 accessible detectors began on 2/10/88, when the 270 day surveillance interval expired, and ended on 4/11/88, when the functional test verified operability. The next two missed occurrences on 10/17/89 and 3/12/90 were consecutive six month surveillance periods. Therefore, the second period of "technical inoperability" occurred from 2/10/90, when the 270 day surveillance interval expired, and ended on 8/19/90 when the functional test verified operability. Based on the tests following the periods of "technical inoperability", the Fire Detection System accessible detectors for Unit 2 are considered to have been operable and would have been expected to function properly if a fire had occurred.

This event did not cause any release of radioactive materials, radiation exposures, or personnel injuries. The health and safety of the public were not compromised by this event.