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FACIL:50-270 Oconee Nuclear Station, Unit 2, Duke Power Co. 05000270
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RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 91-004-00:on 911204,fire barrier discovered breached w/o compensatory actions being taken due unknown cause.Event to be reviewed by personnel performing maint or mods in areas requiring fire barriers.W/920110 ltr.

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TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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DUKE POWER

January 10, 1992

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

Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287
LER 270/91-04

Gentlemen:

Pursuant to 10 CFR 50.73 Sections (a)(1) and (d), attached is Licensee Event Report (LER) 270/91-04, concerning a breach of fire barrier.

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

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NRC FORM 366 (6-89)

U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH 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)	DOCKET NUMBER (2)	PAGE (3)
Oconee Nuclear Station, Unit 2	0 5 0 0 0 2 7 0	1 OF 0 5

TITLE (4) Breach of Fire Barrier due to Unknown Cause Results In Technical Specification Violation

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 5 0 0 0
1 2	0 4	9 1	9 1	— 0 0 4	— 0 0	0 1	1 0	9 2		0 5 0 0 0

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)	1 0 0	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 (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	X 50.73(a)(2)(i) (B)	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
S. G. Benesole, Safety Review Group	AREA CODE 8 0 3 — 8 8 5 - 3 5 1 8

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

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	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 December 4, 1991 at approximately 1940 hours, Operations personnel, on a routine plant tour, discovered that a fire barrier on Unit 2 had been breached without taking compensatory actions as required by Technical Specifications. The Unit was operating at 100% Full Power when this discovery was made. The breach was a hole approximately three quarters inch in diameter in the Cable Spreading Room wall at penetration number 2ME4. A fire barrier inspection was performed in August 1990 that documented operability of this penetration. It is unknown when the penetration became inoperable after that date. Cables had been pulled in the immediate area in preparation for Unit 2 outage work. Upon the discovery of this breach, compensatory measures were taken until the breach was resealed at approximately 0940 hours on December 5, 1991. The cause of this event is assigned Unknown since it could not be determined how or when the breach originated. Corrective actions will include a review of this event by personnel who perform maintenance or modifications in the areas requiring fire barriers.

BACKGROUND

A firewall [EIIS:KP] is a structure which is designed to impede the travel of smoke or flame. Firewalls are used to impede the spread of a fire to areas containing safety related equipment.

Oconee Technical Specification 3.17, "Fire Protection and Detection Systems", requires all fire barrier penetrations protecting safety related areas to be operable. If such a barrier is not operable, Technical Specifications further require that a determination of fire detection instrumentation operability for the affected area be made. If the instrumentation is operable, a fire watch, which consists of a physical inspection of an area or equipment to determine if a fire or threat of fire exists, shall be performed every hour. If fire detection instrumentation is not operable, then a continuous fire watch is required.

EVENT DESCRIPTION

During the first week of December, 1991, Maintenance technicians were performing pre-fabrication work in preparation for the Unit 2 outage, scheduled to begin in January 1992. Penetrations were being made through a firewall in the Unit 2 Cable Spreading Room in order to pull cables to perform Nuclear Station Modifications (NSMs) during the outage. The penetrations were to be resealed immediately following the work or compensatory measures performed.

On December 4, 1991 at approximately 1940 hours, while performing routine rounds, a Non-Licensed Operator (NLO A) discovered that the firewall in the Cable Spreading Room contained a hole approximately three quarters inch in diameter at penetration number 2ME4. He could not determine if the hole went all the way through the wall. This electrical penetration contains many cables. It is approximately eight feet from floor level and is obscured by cable trays. NLO A was specifically checking fire barrier penetrations, although it was not a required responsibility for his rounds. His finding was reported to the Operations Shift Supervisor. Fire detection instrumentation for this area was operable; therefore, an hourly fire watch was established. The Fire Protection Specialist was notified to determine if the hole constituted a breach of the firewall. He recommended that the hourly fire watch be continued and that operability of the fire barrier be determined the next morning after inspection of the hole. When the inspection was made the following morning, it was determined that a breach had occurred.

A work request (35737C) was issued and the hole was resealed by 0940 hours on December 5, 1991. The firewall was declared operable at this time and the hourly firewatch was discontinued.

A follow-up investigation was performed in which each of the maintenance personnel who were performing pre-fabrication work in the area of this

penetration were questioned. These persons stated that they did not breach this firewall.

This penetration is inspected on an 18 month frequency using Maintenance Procedure MP/2/1705/018 "Fire Protection - Penetration - Fire Barrier - Inspection." This procedure was last completed on August 27, 1990. At that time, the penetration was documented as being operable.

CONCLUSIONS

The root cause of this event is Unknown, possible inappropriate action, although it is unknown who performed the action. It appeared that a cable had been removed at some previous time leaving the hole open. This would have been an inappropriate action on the part of the person removing the cable. Each person who was working in the area on the pre-fabrication work was questioned. This investigation has not revealed why the hole was left open in the firewall without taking proper compensatory actions. Records were researched concerning work that had taken place in the area of this penetration in the Cable Spreading Room since the inspection of August 1990. Of the records reviewed, a connection could not be made to the fire barrier that was breached.

This event is considered to be recurring due to the following reports:

Problem Investigation Report 4-090-0027 "Inappropriate Action Results in Failure to Post Fire Watch While Fire Protection Pump Room Fire Doors Were Impaired." On February 21, 1990, an insulation crew blocked open fire boundary doors to the High Pressure Service Water System [EIIS:KP] pump house without taking the required compensatory actions. The root cause was Inappropriate Action in which the need to establish a fire watch was not recognized. Corrective actions included discussions with the supervisor and crew involved and Mechanical Maintenance employees concerning the administrative controls for fire barriers and the importance of reading and obeying signs.

Licensee Event Report LER 287/91-04 "Inappropriate Action, Failure to Follow Procedure, During Nuclear Station Modification Implementation Results in a Degraded Fire Barrier". On February 8, 1991 a breach was made through a firewall, in which the penetration was not sealed nor were the required compensatory actions taken. The temporary supervisor assumed that the wall was not a fire barrier and the inappropriate action was due to failure to follow procedure. One of the corrective actions for that event was that a training package was issued to station personnel involved in Nuclear Station Modification work which emphasized the importance of administrative controls of fire protection

systems. That corrective action was completed on July 22, 1991.

Licensee Event Report LER 269/91-08 "Inappropriate Actions Cause Breach of Fire Barriers Resulting In Technical Specification Violations". That report, issued July 1991, involves three occasions in which a fire door had been left opened without taking compensatory measures. Corrective actions for those events include personnel counseling and training to all site personnel emphasizing the importance of fire protection systems. Corrective actions for that event are still in progress.

The corrective actions taken were not effective in preventing this event, but it is possible that the breach that was discovered on December 4, 1991 occurred prior to those corrective actions.

This event is not NPRDS reportable. There was no release of radioactive material or exposure to radiation involved. This event did not involve any personnel injuries.

CORRECTIVE ACTIONS

Immediate

1. Upon discovery of the breached firewall, proper compensatory measures were taken per Technical Specifications.

Subsequent

1. Safety personnel and Operations Shift Supervisor were notified of the fire barrier degradation.

2. The breach in penetration number 2ME4 was repaired per work request 35737C.

Planned

1. Personnel who perform maintenance or modifications in the areas requiring fire barriers will review this report. The importance of fire barrier controls will be emphasized.

2. An inplant review will be performed during the upcoming Unit 2 refueling outage of activities which may impact the fire barrier protection program.

SAFETY ANALYSIS

Each Cable Spreading Room contains redundant safety related cables required for the safe shutdown of one unit. Some safety related equipment for the respective unit is also located in each of these areas. The integrity of the firewall that was found inoperable in this event is necessary to provide separation between the Cable Spreading Rooms and the Turbine Building. The consequences of a fire in the Cable Spreading Room could render components/systems inoperable. However, the Safe Shutdown Facility provides for the redundant operation of necessary equipment to bring the unit to hot shutdown. A fire in the Cable Spreading Room would not prevent the safe shutdown of the unit.

The probability of a fire propagating through the hole into the Cable Spreading Room is reduced due to the following:

The size of the opening is very small.

The hole is located where there is little or no combustible material within close proximity of either side of the opening.

The Cable Spreading Room contains fire detection devices which would provide early warning of any fire, thereby allowing for the initiation of fire fighting activities.

Operations and Security personnel each access the Cable Spreading Room a minimum of twice per day during their daily rounds, providing an opportunity for early fire detection and mitigation.

Therefore, since the probability of the propagation of a fire through the opening is low, the likelihood of the early detection of a fire is high, and the fact that no fire occurred during the time that the fire barrier was degraded, the health and safety of the public were not compromised as a result of this event.