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 HAMPTON, J.W. Duke Power Co.
 RECIP. NAME RECIPIENT AFFILIATION

DOCKET #
 05000270

SUBJECT: LER 92-001-01: on 920122, fire barrier discovered breached w/o compensatory action per TS.32 addl breaches discovered in 920206-21 insp. Caused by mgt deficiency & inadequate training. Breaches repaired & training revised. W/920319 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 7
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

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DUKE POWER

March 19, 1992

U. S. Nuclear Regulatory Commission
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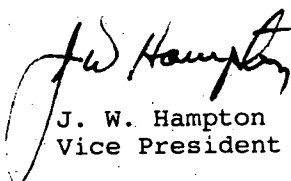
Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287
LER 270/92-01, Supplement

Gentlemen:

Pursuant to 10 CFR 50.73 Sections (a)(1) and (d), attached is a supplement to Licensee Event Report (LER) 270/92-01, concerning breaches of firewalls.

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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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-830), 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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|---|--------|--|----------------|---------------------|-----------------|--------------------|-----------------|-----------------|-----------------------|---|--|-------|------------------------|--|--|--|
| FACILITY NAME (1) Oconee Nuclear Station, Unit 2 | | | | | | | | | | DOCKET NUMBER (2) 0 5 0 0 0 2 7 0 | | | | PAGE (3) 1 OF 0 6 | | |
| TITLE (4) Breaches Of Firewalls Due To A Management Deficiency 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 1 | 2 2 | 9 2 | 9 2 | 0 0 1 | 0 1 | 0 3 | 1 9 | 9 2 | Oconee, Unit 1 | | | | 0 5 0 0 0 2 6 9 | | | |
| | | | | | | | | | 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) | | | | | | | | | | | | | | |
| POWER LEVEL (10) 0 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)(vi) | | | | OTHER (Specify in Abstract below and in Text, NRC Form 366A) | | |
| | | 20.405(a)(1)(iii) | | | | 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)(ix) | | | | | | | | |
| LICENSEE CONTACT FOR THIS LER (12) | | | | | | | | | | | | | | | | |
| NAME S. G. Benesole, Safety Review Group | | | | | | | | | | TELEPHONE NUMBER 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 | MANUFACTURER | REPORTABLE TO NPRDS | | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NPRDS | | | | | | |
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| SUPPLEMENTAL REPORT EXPECTED (14) | | | | | | | | | | EXPECTED SUBMISSION DATE (15) | | MONTH | DAY | YEAR | | |
| YES (If yes, complete EXPECTED SUBMISSION DATE) | | | | | | | | | | <input checked="" type="checkbox"/> NO | | | | | | |

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

ABSTRACT

On January 22, 1992 at approximately 1030 hours, a member of the Safety Review Group while conducting a review of Fire Barriers, discovered that a firewall had been breached at two locations without taking compensatory actions as required by Technical Specifications. Upon the discovery of this breach, compensatory measures were taken until the breached firewall was repaired at approximately 1600 hours on January 23, 1992. On February 6, 1992 at approximately 1010 hours, Operations personnel, on a routine plant tour discovered a firewall in Unit 3's Cable Room had been breached without taking compensatory actions as required by Technical Specifications. Also on this date, an inspection of all three unit's Cable and Equipment Rooms was initiated. The inspection was completed on February 21, 1992 and as a result thirty two additional breaches were discovered. During this period Units 1 and 3 were operating at 100% Full Power and Unit 2 was at Cold Shutdown for a Refueling Outage. The root cause of these events was determined to be Management Deficiency, less than adequate training given, because personnel interviewed did not understand that penetrating one side of a blockwall constituted a breached firewall.

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 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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TEXT (If more space is required, use additional NRC Form 308A's) (17)

BACKGROUND

A firewall [EIIS:KP] is a structure which is designed 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 a fire exists, shall be performed every hour. If the fire detection instrumentation is not operable, then a continuous fire watch is required.

EVENT DESCRIPTION

On January 22, 1992 at approximately 1030 hours, a member of the Safety Review Group was conducting a review of Fire Barriers associated with Unit 2. The review was being performed as a result of corrective action for LER 270/91-04 (Breach of Fire Barrier due to Unknown Cause Results in Technical Specification Violation). The Safety Review Group member discovered a breach, two and one half inch in diameter in the west wall of the Equipment Room. The breach was located approximately nine feet above the floor and obscured by cable trays. The breach was partially stuffed with cerafiber bulk material and did not appear to have a penetration number as required by MP/2/A/1705/018 (Fire Protection - Penetration - Fire Barrier - Inspection). Cerafiber bulk material is acceptable to firestop spare openings which are one inch or less in diameter by tightly packing cerafiber to a depth of ten inches into the opening. The member of the Safety Review Group immediately notified the Accountable Engineer in charge of fire barriers to determine if this penetration had an identification number assigned to it. Upon reviewing the associated drawings, it was discovered that the penetration was not documented. The Accountable Engineer immediately notified the Fire Protection Specialist who then notified the Operations Shift Supervisor. Fire detection instrumentation for the area was operable; therefore, an hourly fire watch was established at 1152 hours. Upon further investigation by the Safety Review member and the Accountable Engineer another breach was discovered approximately one and one half inch in diameter on the other side of the wall in the Auxiliary Building corridor. This breach was approximately eight feet above the floor and obscured by a ventilation duct.

A work request (53503L) was issued and the breach was repaired on January 23, 1992 at approximately 1600 hours. The firewall was declared operable at this time and the hourly firewatch was discontinued.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 60.0 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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EXT (If more space is required, use additional NRC Form 386A's) (17)

A follow-up investigation was performed to determine when the breaches were core drilled through the firewall. This investigation consisted of reviewing work requests which referenced MP/0/A/1800/044 (Core Drilling - Concrete - Safety Related). No work requests were found to allow these holes to be drilled. Personnel who are involved in the core drilling and the Nuclear Station Modification implementation process were questioned. These persons stated they did not breach this firewall.

On February 6, 1992 at approximately 1010 hours, while performing routine plant rounds, a Non-Licensed Operator (NLO A) discovered a fire wall in Unit 3's Cable Room containing two holes approximately three quarter inches in diameter in a block wall. NLO A notified Operations Shift Supervisor. Fire detection instrumentation for the area was operable; therefore, an hourly fire watch was established. The Fire Protection Specialist was notified to determine if the holes constituted a breach of firewall. At that time it was determined that a breach had occurred.

As a result of these findings, an inspection of all three unit's Cable and Equipment Rooms was initiated on February 6, 1992. The inspection was completed on February 21, 1992, using Maintenance Procedure MP/0/A/1705/18, "Fire Protection - Penetration - Fire Barrier - Inspection." During this inspection a total of thirty two additional breaches were discovered. These breaches consisted of:

Fourteen breaches were three quarter inches in diameter or less and through only one face of the block wall.

Fifteen breaches were damaged penetrations which had a gouge one half inch or larger on one side of the penetrations.

Two breaches consisted of mortar missing from the mortar joint and only penetrated through only one face of the block.

One breach was a gap that existed around a piece of conduit that was greater than one eighth of an inch.

All of the breaches discovered as a result of this inspection were investigated to determine if they were produced as a result of a Nuclear Station Modification or routine maintenance. Only one of the breaches could be traced. Work Request 71669B was written February 16, 1984, which required the removal of all mounted ash trays from Unit's 1,2, and 3 Auxiliary Buildings. No procedures were referenced on the work request.

Personnel from Maintenance, Instrument and Electrical, Engineering and personnel who perform the 18 month inspections were interviewed to see if they understood that breaching one side of the block wall constituted a breached firewall.

EXPIRES: 4/30/92

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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CONCLUSIONS

The root cause of these events is a Management Deficiency, less than adequate training. Interviews of personnel who normally perform Nuclear Station Modifications, or routine maintenance activities, was conducted and the results indicated a lack of knowledge that breaching one face of the block on a firewall was unacceptable.

Problems with control of fire barriers 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 fire doors 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.

Licensee Event Report LER 270/91-04 "Breach of Fire Barrier due to Unknown Cause Resulting in Technical Specification Violation." On December 4, 1991 a breached fire barrier was discovered, and no compensatory measures were taken.

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

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

Corrective actions for that event include a review of that event by appropriate personnel and review of activities which may impact the fire barrier protection. As a result of this review the breaches identified in this Licensee Event Report were discovered.

The corrective actions taken in the previous events were not effective in preventing this event. Further inspections of all firewalls were performed by maintenance personnel and thirty three (33) breaches were discovered. The breaches discovered during this inspection did not penetrate all the way through the firewall, they only partially penetrated the firewall or affected one side of a penetration.

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. Both sides of all firewalls were labeled "CONTROLLED FIRE BARRIERS" by the use of a sign or painting.
2. All breaches were repaired as required.

Planned

1. Revise Training and Qualification Guide MM - OT - 6247 "Inspection of Fire Barrier Penetration" to include the significance of penetrating one face of a firewall.
2. Revise the General Employee Training to include information concerning the labels stating "CONTROLLED FIRE BARRIER". Also, include instructions that any damage done to a penetration needs to be reported to the Fire Protection Specialist, including the penetration of one face of a firewall.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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TEXT (If more space is required, use additional NRC Form 368A's) (17)

3. Revise Maintenance Procedure MP/O/A/1705/18 (Fire Protection - Penetration - Fire Barrier - Inspection) to include assurance that the entire surface of the firewall be properly inspected.
4. A letter will be issued to all Engineering Sections by the Engineering Manager emphasizing the noted discrepancies in this report when issuing Nuclear Station Modifications which could possibly affect firewalls.

SAFETY ANALYSIS

Each Equipment and Cable Rooms contain redundant safety related equipment required for the safe shutdown of one unit. The integrity of the firewall that were found inoperable in this event is necessary to provide separation between the Equipment and Cable Rooms and the Auxiliary Building. The consequences of a fire in the Equipment Room could render components/systems inoperable. However, the Standby Shutdown Facility provides for the redundant operation of necessary equipment to bring the unit to hot shutdown. A fire in the Equipment or Cable Room would not prevent the safe shutdown of the unit.

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

The size of the openings were small.

The holes were located where there is little or no combustible material within close proximity of either side of the openings.

The Equipment and Cable Rooms and the Auxiliary Building Corridor 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 Equipment and Cable Rooms a minimum of twice per day during their daily rounds, providing an opportunity for early fire detection and mitigation. The Auxiliary Building Corridor is a high traffic area.

Therefore, since the probability of the propagation of a fire through the openings 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.