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December 14, 1984

Mr. James P. O'Reilly, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Re: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287

Dear Mr. O'Reilly:

Please find attached a special report on non-functional fire barriers. This report is submitted pursuant to Oconee Nuclear Station Technical Specification 3.17.6.3 which concerns fire barrier penetrations that can not be restored to functional status within seven days, and describes an incident which is considered to be of no significance with respect to its effect on the health and safety of the public.

Very truly yours,

Hal B. Tucker

MAH:slb

Attachment

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

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Duke Power Company
Oconee Nuclear Station
Special Report on Non-functional
Fire Barriers

On November 9, 1984 at 1530 hours with Unit 2 at 100% power and Unit 1 and 3 in cold shutdown, a large number of fire barriers were determined not to meet surveillance inspection acceptance criteria and were declared inoperable. The incident was due to a variety of causes such as construction/installation deficiency, component failure/malfunction and other unknown causes. Corrective actions were taken to establish and maintain a fire watch on Unit 2 until its fire barriers can be returned to an operable status.

The problem was first discovered during a routine implementation of Firestop Preventive Maintenance Procedure for Unit 3. A significant number of problems were discovered on the first wall inspected. Based on the inspection procedure acceptance criteria, these penetrations were declared inoperable. This determination was based primarily on the firestops not meeting the 10 inch minimum thickness requirement, cracks in excess of 1/16" or flashing not being installed.

During the time these penetrations were being repaired, Maintenance personnel made a spot inspection of Unit 2's (the only operating unit) firestops and discovered similar problems to the ones discovered on Unit 3. Similar problems were also noted on Unit 1. At this point, a fire watch was established on Unit 2.

A complete inspection of Unit 2 firestops was begun on November 12, 1984. After 1 week of inspection, there have been approximately 70 work requests written on Unit 2 firestops. A review of these work requests indicated 3 basic categories of problems:

a) Improper installation of fire barriers

b) Fire barriers loose or missing

c) Fire barriers cracked or crumbling

Approximately 65% of these non-functional fire barriers, although in good structural condition, were improperly installed. The majority of them did not have the required thickness of firestop or the flashing, which would protect the firestop from being chipped or cracked, was missing from around the penetrations. These penetrations were inspected for the first time during July and August of 1983 and were not noted as being defective, possibly because the inspection performed may not have been as thorough as it should have been.

Approximately 25% of the firestops were either loose or missing. These penetrations were either missed on the original inspection or were created by maintenance and construction activity since that time. Also included in this category were penetrations apparently damaged by Nuclear Station Modification cable pulling activities. Approximately 10% of the penetrations had gaps and cracks which are attributed to a failure of the Firewall 50 compound (a compound used as firestop to seal the penetrations) itself since there were no evidence of outside physical forces.

There have been recurring problems with fire barriers in the past, though not of this magnitude. A review of the NPRDS Data Base did not indicate any similar incidents involving Firewall 50 at other sites.

As an immediate corrective action, a fire watch was established on Unit 2. This action was adequate to ensure that should a fire occur, sufficient time was available to extinguish it prior to it causing significant damage to safety related systems or structures. The subsequent action taken was to initiate an inspection on Unit 2 and repair the firestops as they are discovered. Prior to the restart of Units 1 and 3, fire watches will be established in accordance with the Technical Specifications. Unit 1 and 3 will be inspected upon completion of the Unit 2 inspection. For all remaining Firewall 50 penetrations a six month inspection frequency will be established and an evaluation will be performed to determine the need for a program to replace the remaining Firewall 50 penetrations. The installation procedures have been reviewed and upgraded to assure proper installation in the future. Also, the appropriate personnel will review this event to assure that they are fully aware of the need to perform a thorough inspection.

A safety analysis was performed to evaluate the impact of this incident. No equipment or systems were affected by this incident. The chance of a fire in any of these areas is remote. The use of high heat, such as welding or burning on a job in these areas, is restricted and requires a burning permit and fire watch.

There are smoke detectors located in the general areas of concern, along with a manually activated spray system in the cable and equipment rooms. In addition, the Control Room is manned continuously and the cable and equipment rooms are toured during shifts. An hourly fire watch tour was established when the penetrations were identified as non-functional. Based on the above, the possibility of a fire spreading was very low. The health and safety of the public were not affected by this incident.