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V. S. BOYER
SR. VICE PRESIDENT
NUCLEAR POWER

May 2, 1983

Docket Nos. 50-277
50-278

Mr. Darrell G. Eisenhut
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

SUBJECT: Peach Bottom Atomic Power Station
Implementation Status of Fire Protection
Requirements (10CFR 50, Appendix R)

Dear Mr. Eisenhut:

This letter describes our plans for completing fire protection modifications at the Peach Bottom Atomic Power Station as required by 10CFR 50, Appendix R. These plans were outlined in our March 24, 1983 letter (J. S. Kemper to D. G. Eisenhut) and at an April 5, 1983 meeting in Bethesda, Md. with the NRC staff. Additionally, this letter requests exemptions for schedule relief to permit completion of the modifications by certain dates and provides justification for continued operation of the facility during the exemption period.

The modifications proposed to be completed relate to Sections III.F, III.G, III.J, and III.M of Appendix R and are discussed below.

I. Early Warning Fire Detection (Section III.F)

In response to our commitments approved in Supplement No. 1 of the Safety Evaluation Report dated August 14, 1980, and the requirements of Section III.F of Appendix R, we

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installed more than two hundred fire detectors in thirty areas of the plant. A recent review of our Appendix R compliance identified seven areas in the turbine and radwaste buildings that contain safety related cables and fixed combustibles but lack fire detectors. An eighth area, space above the main control room ceiling containing electrical cables and fixed combustibles, was originally accepted in Supplement No. 2 of the SER, Item 3.2.3(1)(b) as not requiring fire detectors based on the presence of only non-safety related cable with a flame retardant insulation or coating in cable trays. Since then, safety related cables within conduit have been added to this area and detectors must be reconsidered.

We propose the following schedule to bring these remaining eight areas in compliance with Section III.F of Appendix R:

1. Complete the necessary modifications by July 1, 1983.
2. Modifications not completed by July 1, 1983 will be completed within two months following delivery of all the essential equipment, provided additional administrative controls are implemented to preclude the presence of transient combustibles in the area, including administrative controls which utilize either periodic inspections or locked doors under the control of plant supervision.

We believe it will be helpful to review the background of our actions to meet the requirements of Section III.F. Philadelphia Electric's design criteria, as stated in our letter to the NRC of March 20, 1981, was that "fire detection will be installed in all areas which present an exposure fire hazard to safety related equipment or components."

To implement this criteria, we proceeded on the following basis. We first identified those areas of the plant that contained safety related equipment including cables routed within conduit. We interpreted safety related equipment to include cables, even those routed within conduit. These areas were then examined for combustible loadings and fire detectors were installed in those areas containing fixed combustibles. Cables in trays were considered to contribute to fixed combustibles; cables in conduit were

not. Prior to the March, 1977 submittal (Fire Protection Program Report), Peach Bottom Units 2 and 3 were surveyed to identify the location, nature, and extent of transient combustibles. Subsequent to this survey, administrative procedures were placed in effect to provide for better housekeeping of outage type combustible materials and for strict control and storage of recurring transient combustibles such as demineralizer resins. Since the additional procedures would tend to preclude placement of outage type combustibles and recurring transient combustibles in these areas and the safety related cables are present in conduit with no fixed combustibles, it was determined that fire detectors were not necessary in these areas.

Since the areas originally determined to require fire detectors had been identified in Attachment 1 to our letter of February 21, 1980 and installations in these areas were completed by the end of January, 1982 no further action was considered necessary until after our March 9, 1983 meeting with the staff. As a result of technical discussions with the staff, we have reanalyzed our fire detector placement criteria. Prior to this meeting, emphasis had been placed on the survey of safe shutdown and safety related equipment areas and the associated cables leading thereto. Seven of eight newly identified areas were cable routings outside of the reactor building or readily apparent safe shutdown and/or safety related equipment areas and were not identified in the original survey. A final list of smoke detector areas reflecting our discussions with the staff including our review of the transient combustibles question will be provided in our May 27, 1983 letter per the schedule given in our March 24, 1983 letter.

II. Safe Shutdown Capability (Section III.G)

There are two aspects of our program to implement the safe shutdown provisions of Appendix R. The first deals with modifications to provide separation between redundant safe shutdown systems in accordance with Section III.G.2; and the other involves our commitment described in the March 24, 1983 letter (J. S. Kemper, PECO. to D. G. Eisenhut, NRC) to install an alternative shutdown system in

accordance with Section III.G.3. Modifications to provide the separation features are described in attachment I of the March 24, 1983 letter.

A program for the design, review, and preparation of the submittal for the Alternative Shutdown System has been developed to provide sufficient detailed design information for your review by September 16, 1983. An engineering task force utilizing both Philadelphia Electric engineering personnel and a consultant (EPM) Engineering Planning and Management, Inc. are currently working to provide a proposal that meets the requirements of Section III.G. The staff will be consulted periodically during the next several months to assure compliance with NRC criteria prior to the final submittal. We will implement the alternative shutdown system during the first refueling outage commencing after January 1, 1984. In accordance with our current projection, this translates to the Fall of 1984 for Unit 3, and the Spring of 1985 for Unit 2.

Accordingly, Philadelphia Electric Company hereby requests, pursuant to Section 50.12 of the Commission's regulations, an implementation schedule of the first refueling outage commencing after January 1, 1984 to complete modification necessary to meet the requirements of 10CFR50, Appendix R, paragraph III.G.

III. Emergency Lighting (Section III.J)

Eight hour battery powered emergency lighting units will be installed in the fifth bay of the Diesel Generator Building. There will no longer be any question of an exemption for this area.

IV. Fire Barrier Penetration Seals (Section III.M)

Field work has intensified in support of our overall program to upgrade more than 3,000 penetrations on Units 2 and 3 on fire barriers identified in fire walls protecting redundant safe shutdown equipment.

Presently, approximately 650 seals are planned to be completed by the end of the current No. 3 Unit refueling outage. The contractor and installer, Brand Industrial Services, is installing approved 3 hour fire barrier material in all outage designated penetrations (high radiation or inaccessible areas) with the exception of approximately 73 control room floor penetrations; this number will be closer to 300 for Unit No. 2. These penetrations have cables running from the cable spreading area into control room panels and are sealed with 12 inches of polyurethane. In addition to the polyurethane seals, another grouping of seal details being considered for exemption requests and discussed at the April 5, 1983 meeting with your staff, are welded annular anchors, capped open-ended or spare conduit, abandoned pipe, and continuous conduit.

A program has been initiated with an approved fire test laboratory, Factory Mutual, Inc. We plan to test the aforementioned details plus several variations to determine their fire resistance and qualification capability in accordance with ASTM Standard E-814. Information developed from this test program will be used in conjunction with combustible loadings and the nature of the safety equipment in the area, if appropriate, to support in detail any penetration seal exemption requests. Further information is being developed in the interest of obtaining agreement with the staff on this issue.

By letter of February 4, 1982, the NRC accepted a completion date of March 1, 1984 for penetration seal upgrade program. We expect to meet this date, including all interim outage designated work.

Summary

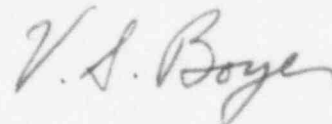
The existing fire protection features and program provides sufficient defenses-in-depth protection to justify continued operation of the facility. The many levels of protection include the limited presence of combustibles, suppression systems and fire detection systems in the areas with the highest risk for fire damage, and a trained fire brigade.

Additionally, existing administrative controls over ignition sources and transient combustibles further minimizes the possibility of fires. These controls include pre-work review by supervision to determine the necessary fire protection measures in accordance with the maintenance request forms, designation of acceptable storage and disposal areas for combustibles, instructions regarding the method for handling and storing combustibles, inspection of work areas by the job foreman, assignment of a dedicated fire watch to areas where a potential fire hazard exists, periodic inspections of plant areas by shift supervision, and a formal system for reporting and correcting significant fire hazards. Specifically, the risk to safe shutdown capability in those areas for which smoke detectors remain to be installed is extremely low due to the following design features:

1. The combustible loading in one area is less than 35 minutes, and less than 20 minutes in the remaining areas. This information has been provided in our March, 1977 Fire Protection Program Report.
2. The safety related cable meets the flame test requirements of IEEE 383.
3. Additional administrative controls will be established and will be described in our May 27, 1983 letter.

The low level of combustibles in safe shutdown areas, the design of the electrical cables as previously described, the variety of emergency as well as conventional shutdown methods and the separation features between redundant shutdown methods as described in the Peach Bottom Safe Shutdown Analysis, dated March 1977 (supplemented July 3, 1979), all support the conclusion that the current risk to safe shutdown is extremely low and continued operation of the facility is therefore justified. For these reasons, the exemptions requested in this letter and the current status of the Peach Bottom fire protection design do not endanger the health and safety of the public.

Sincerely,



cc: A. R. Blough
Site Inspector