



LICENSE AUTHORITY FILE 001

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555
September 15, 1980

DO NOT REMOVE

Dockets Nos. 50-277
and 50-278

Attached
to
SER 4
issued
5/23/79 —
Am - 53

Mr. Edward. G. Bauer, Jr.
Vice President and General Counsel
Philadelphia Electric Company
2301 Market Street
Philadelphia, Pennsylvania 19101

Dear Mr. Bauer:

Enclosed herein is Supplement No. 2 to the Safety Evaluation of the Peach Bottom Atomic Power Station Fire Protection Program. This document approves certain of your proposed modifications and resolves certain of the other issues identified in our May 23, 1979 evaluation.

The schedule for completing the modifications discussed in the enclosed Safety Evaluation is in accordance with that stipulated in Amendments Nos. 53 and 53 to DPR-44 and DPR-56 issued on May 23, 1979. You are advised, however, that this schedule may be superceded by the issuance of Appendix R to 10 CFR 50. This proposed rule was published in the FEDERAL REGISTER on May 29, 1980 (45 FR 36082).

Should you have any questions on the enclosed document, please contact us.

Sincerely,

Robert W. Reid
Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Licensing

Enclosure:
Supplement No. 2 to
Safety Evaluation

cc w/enclosure:
See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SUPPLEMENT NO. 2

TO THE

SAFETY EVALUATION OF THE PEACH BOTTOM ATOMIC POWER STATION

FIRE PROTECTION PROGRAM

PHILADELPHIA ELECTRIC COMPANY

DOCKETS NOS. 50-277 AND 50-278

I. INTRODUCTION

On May 23, 1979 we issued a Safety Evaluation Report (SER) of the Fire Protection Program at the Peach Bottom Atomic Power Station, Units Nos. 2 and 3. The report contained a number of items which required staff approval prior to implementation and a number of items which were still under staff review. By letter dated August 14, 1980 we issued Supplement No. 1 to the Safety Evaluation which resolved certain of the outstanding items. The purpose of this supplement is to report the staff's findings of additional issues based on submittals by the Philadelphia Electric Company (licensee).

The acceptability of the issues described herein is based on a review by the Brookhaven National Laboratory, under contract to the USNRC. We have reviewed their findings and concur with their basis for acceptance and conclusions as stated below. Each matter discussed in this supplement is identified by the same Section number as was used in the Safety Evaluation.

II. EVALUATION

1. Item 3.1.1.(6) - Fire Detectors, Cable Spreading Room

By letter dated February 21, 1980 the licensee included their attachment 1 which described the general criteria used in designing the detection systems and the specific factors considered for each area. The general criteria considered included: combustible loading, ventilation characteristics, room size/geometry and room congestion. For the cable spreading room, the licensee will provide 21 ionization type fire detectors in addition to the two existing ones. The cabling used for control and power circuits at Peach Bottom consists of cross-linked polyethylene insulation with a flame retardant neoprene jacket essentially equal to cable construction capable of passing IEEE-383-1974. Because of the inherent fire resistance of the cabling, it is expected that an electrically initiated fire in the cabling will not propagate and involve large quantities of adjacent cabling although an exposure fire involving transient combustible materials could.

The initial review of the licensee's submittal by the staff's contractor (see BNL letter dated June 20, 1980), recommended approval of the detector layout, but stated that the licensee's "selection of ionization type detectors is not fully acceptable". They felt that photoelectric detectors would be preferable due to their faster response to smokey cable fires as outlined in R. Bright's report NBS-NMAB-342, "The Detection of Fire Involving Electric Cable Materials", dated 1978. However, after reviewing

other fire protection data including other SERs, they have concluded (BNL letter dated July 15, 1980) that ionization detectors will also be satisfactory in the cable spreading room and recommended that they be accepted.

We have reviewed our contractor's findings and concur with their findings and conclusions. Accordingly, Item 3.1.1.(6) is resolved.

2. Item 3.1.5.(2) - Fire Doors, Condensate Pump Room

Item 3.1.5(2) of the Peach Bottom SER indicates the licensee's proposal to upgrade the existing fire doors leading to the condensate pump rooms.

By letter dated September 15, 1977 and again by letter dated February 21, 1980 the licensee provided information concerning this item. They indicated that the doors were upgraded by removing the existing louvers, filling the gap with kaowool insulation and mounting steel plates on both sides of the door over the openings for support. According to the licensee this modification was completed on August 17, 1977.

The licensee's implementation of this modification is similar to the method suggested by the review team and is acceptable.

3. Item 3.2.3.(1)(b) - Fire Detection System - Control Room Ceiling

Our initial SER required the licensee to evaluate the need for early warning detectors above the ceiling of the control room.

By letter dated February 16, 1979, the licensee indicated that the area above the control room suspended ceiling contains 26 cable trays, none of which is safety related. It also indicates that of the 26 cable trays, 23 contain only cable that is of flame retardant construction. The remaining 3 cable trays contain only instrumentation cable consisting of polyethylene and PVC insulation and jacketing. Based on this, the licensee has indicated that the 3 cable trays containing non-fire retardant cabling will be covered with a fire retardant coating. The licensee has also **indicated** that there is no need for the installation of early warning fire detectors in the space above the suspended ceiling of the control room.

The licensee's submittal on this item is considered acceptable based on the fact that the cables located in this area above the control room ceiling are not safety related, and that the cable insulation is of a fire retardant type or will be covered with a fire retardant coating. The installation of early warning fire detectors, therefore, in this area is not considered necessary.

4. Item 3.2.4 - Water Suppression Systems

In the Peach Bottom Fire Protection SER, we required the licensee to evaluate the adequacy of protection in: (1) Recombiner Building, and (3) Recombiner Building for the ventilation system filters. (Item (2) was previously evaluated in Supplement No. 1 dated August 14, 1980.)

By letter dated February 16, 1979, the licensee provided the results of their evaluation captioned as response to Staff Position PF-42 Fire Hazards Analysis. They state that the likelihood of an explosion in the Recombiner Building has been

addressed in their response to IE Bulletin 78-03. In addition, they state that NUREG-0442 indicates that an explosion in the off-gas system would not result in an unacceptable release of radiation. The probability of an external fire affecting the Recombiner Building charcoal filters and exhaust ventilation fans is remote. The equipment is enclosed in a masonry and concrete room with no combustibles present. Ducts passing through the walls are provided with fire dampers and the charcoal filters are protected by automatic deluge water suppression systems. Hose stations and portable extinguishers are also provided in the area. Excessive radiation conditions will initiate an alarm in the control room which will be immediately investigated. Based on this, the licensee has concluded that no additional fire protection provisions in the Recombiner Building is necessary.

In our opinion, the licensee's response to Item 3.2.4(1) and (3) is acceptable. This is based on their statement that an explosion in the Recombiner Building would not result in an unacceptable release of radiation as per NUREG-0442. As required by Appendix A, the charcoal filters are protected by automatic deluge water fire suppression systems and manual hose stations and portable extinguishers are provided.

5. Item 3.2.8.(1) - Penetration Seals - Separation of Zones 4B and 4C From 12B and 12C

Our initial SER requested that the licensee investigate its practicality of sealing the open pipe penetrations separating zones 4B from 12B and 4C from 12C.

In their submittal dated February 16, 1979 the licensee stated that the open pipe penetrations will be sealed with a watertight three hour fire rated sealant. We find the licensee's commitment satisfactory to resolve this item.

6. Item 3.2.14 - Emergency Lighting

Item 3.2.14 of the Peach Bottom SER states that the licensee will evaluate the need to provide fixed emergency lighting consisting of fixed sealed beam units with individual battery power supplies for access to and egress from the control room, the cable spreading room, the emergency switchgear and battery rooms, and the ground floor below via stairway No. 9.

In their submittal dated February 16, 1979, the licensee responded to this item referenced as response to Staff Position PF-32. In their submittal, the licensee describes the existing 3 lighting systems consisting of normal lighting system, emergency AC lighting system and emergency DC lighting system. It also discusses the lighting systems serving the control room, cable spreading room, switchgear rooms, battery rooms and stairway No. 9.

As stated in the submittal, all of the above areas are provided with emergency AC lighting, emergency DC lighting or both, in addition to the normal lighting system. The licensee concludes that the existing emergency lighting provisions are adequate in these areas and additional battery powered emergency lights are not needed.

The licensee's submittal is considered satisfactory and is acceptable.

7. Item 3.2.15 - Hydrant Fittings

The captioned SER item states that the licensee will evaluate the need to provide two double female adaptors for use by a fire department pumper in pumping fire water directly from the inlet pond to a hydrant. These fittings should be stored in a central location.

The licensee's letter dated July 3, 1979 indicated his agreement to obtain and store this equipment in a central location at the Peach Bottom facility. We find that this commitment satisfies our concerns and is adequate for resolution of this item.

Dated: September 15, 1980