

BEFORE THE

UNITED STATES NUCLEAR REGULATORY COMMISSION

In the Matter of :
PHILADELPHIA ELECTRIC COMPANY : Docket Nos. 50-277
: 50-278

APPLICATION FOR AMENDMENT
OF
FACILITY OPERATING LICENSES
DPR-44 & DPR-56

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Philadelphia Electric Company, Licensee under Facility Operating License DPR-55 and DPR-56 for Peach Bottom Units 2 and 3, respectively, hereby requests that the Technical Specifications contained in Appendix A of the Operating License be amended by revising certain sections as indicated by a vertical bar in the margin of the attached pages 240i, 240j(1), 240j(2), 240m, 240n, 240o, 240p(1), and 240r. New page 240p(2) is added to accommodate a redistribution of material.

The changes to the Technical Specification are being requested to: (1) identify the addition of new smoke detector installations required by 10 CFR 50, Appendix R, Section III.F, and (2) modify the fire barrier surveillance requirements to reflect the guidance provided by the Standard Technical Specifications.

1) Fire Detectors

New fire detectors have been installed in safety-related areas of the plant to conform with the requirements of 10 CFR 50, Appendix R, Section III.F. These modifications were described in correspondence dated May 27, 1983, and September 16, 1983 (V. S. Boyer, Philadelphia Electric Company, to D. G. Eisenhut, NRC).

The modifications involve the installation of smoke detectors, associated control panels, and automatic code transmitters in the fire zones containing safety-related equipment and cables. In addition, a thermal heat detection cable system was installed in all cable trays located above the control room ceiling as described in the May 27, 1983 correspondence referenced above.

Accordingly, Licensee requests additions to Table 3.14.C.1 as shown on attached pages 240m, 240n, 240o, and 240p(1) to reflect the installation of new fire detectors. The table includes the detector locations, types and designations, as well as the minimum operability requirements.

Additionally, Licensee requests the addition of surveillance requirements to page 240i to identify testing based on guidance provided by the National Fire Protection Association (NFPA) for a new heat detection system located in the cable tray area above the control room ceiling. The new system utilizes a thermal heat detection cable routed in the cable trays located in this area.

Further, reference to Specification 6.9.2 has been deleted in the proposal from Specification 3.14.C.2.b (page 240i). Specification 6.9.2 describes the reportable occurrences that were in effect prior to the issuance of a new Rule (10 CFR 50.73, Licensee Event Report System). Since these reporting requirements have been superseded by the new Rule, Generic Letter No. 83-43, dated December 19, 1983 (D. G. Eisenhut, NRC, to All Licensees), recommends the deletion of Specification 6.9.2. A license amendment application that implements the recommendation of the Generic Letter No. 83-43 was submitted to the NRC on January 4, 1985. Consequently, reference to Specification 6.9.2 should be deleted from Specification 3.14.C.2.b.

2) Fire Barriers

A program to upgrade the fire barriers separating redundant systems required to meet the safe shutdown criteria of 10 CFR 50, Appendix R, Section III.G, is nearing completion at Peach Bottom. This effort has been described in numerous submittals to the NRC staff. The improvements include the

replacement of cable penetration seals and fire dampers with qualified designs, and the encapsulation of electrical cable trays and conduit with 3-hour barriers.

The proposed changes to pages 240j(1) and 240j(2) of the Technical Specifications would redefine the operability and surveillance requirements for fire barriers to specifically include electrical cable enclosures (encapsulations), fire walls, ceilings, and floors. Additionally, the proposed changes bring the Peach Bottom Technical Specifications regarding fire barrier surveillance into agreement with the Standard Technical Specifications (STS), General Electric Boiling Water Reactors, except as described below:

- a) The footnote to proposed Specification 4.14.D would recognize the possible inaccessibility of some fire barriers due to high radiation during power operations, and, therefore, permits the inspection during the next refueling outage or plant shutdown initially expected to be of at least 30-day duration. The proposal does not reduce plant safety since it maintains the average inspection frequency at 18 months and is justified by its conformance to the ALARA concept. For the same reasons, a similar footnote is requested to proposed Specification 4.14.D.2 regarding fire doors that may be inaccessible due to high radiation.

b) The STS requires a visual inspection of exposed surfaces of each fire barrier wall, floor, ceiling, and electrical cable enclosure every 18 months. Licensee's proposed Specification 4.14.D.1.a would exclude difficult to view barriers by limiting the inspection to exposed surfaces that can be viewed by the inspector from the floor. The bases for this exception are as follows:

- (1) At least one-half of the approximately 340 fire barriers include areas that cannot be viewed without the use of ladders, erection of scaffolding, or climbing on cable trays and other plant equipment. The installation of ladders and scaffolding, and the methods needed to reach difficult to view areas of the fire barriers, subject vital plant instrumentation, electrical cables, and other equipment to possible physical damage, and consequently represents a significant hazard to safety-related equipment. The hazard is further compounded by the inability to readily inspect for and detect physical equipment damage that may result from the fire barrier inspection program in remote, inaccessible regions of the plant.

(2) The possibility of future degradation of fire barrier walls, floors, ceilings, and electrical cable enclosures is minimal, and therefore does not justify the risk of the physical damage described above. The reasons for this conclusion are as follows. As part of the recent penetration seal upgrade program, a final 100 percent inspection of all fire barrier surfaces was completed to verify the integrity of each safe shutdown fire barrier. A program to permanently label penetrations on both sides of the barriers has been instituted. The presence of these labels will identify each fire barrier to personnel who perform maintenance or modifications to fire barrier components. Modifications and maintenance of fire barriers will be controlled through the use of Engineering and Research Department Procedures, and Peach Bottom Administrative procedures. The likelihood of an uninformed individual violating a fire barrier during performance of work duties is negligible.

(3) The proposed specification requires that an inspection be performed on fire barrier components following modification or

maintenance to the barrier component. The STS does not require that such an inspection be performed. An inspection after maintenance or modification will provide verification that fire barrier components have been properly repaired or installed. All work involving fire barriers will be reviewed and approved through the use of the Maintenance Request Form. Consequently, a potential element which may contribute to an uncontrolled violation of fire barrier integrity is eliminated.

(4) Proposed specification 4.14.D.1.c would require inspection of difficult-to-view fire barriers that are rendered accessible by the penetration seal inspection program. Consequently, these difficult-to-view fire barriers would be inspected at least once every 15 years and provides another compensatory measure justifying exception to the STS.

c) The STS requires an inspection of all fire dampers every 18 months. Licensee's proposed specification 4.14.D.1.b would subject the fire dampers to a staggered inspection program involving 10 percent of the dampers during each 18-month inspection

interval. The bases for this flexibility are as follows:

- (1) The fire dampers are internally located within the ventilation duct, at duct locations, that in most cases, are not readily accessible. The location of dampers in this protected environment minimizes the possibility of tampering and abuse.
- (2) An extensive upgrade program is in progress on the fire dampers. An inspection of safe shutdown fire barriers was performed to verify the existence of fire dampers. The administrative controls previously described for fire barriers also apply to fire dampers. This includes the labeling of duct work penetrations so that personnel will be aware of procedural requirements concerning maintenance and modifications. Additionally, the proposed specification requires that an inspection be performed on fire dampers following modification or maintenance on the dampers. The provisions provide adequate compensatory measures and minimize the possibility of future degradations.

(3) The inspection of ventilation duct fire dampers requires removal of an access port to visually observe the damper. Considering the large number of dampers (approximately 175), inspection of all fire dampers every 18 months does not represent effective utilization of manpower.

(4) The proposed specification requires additional inspections of fire dampers if degradations are found in the first sample. This provides a compensatory measure justifying the exception to the STS.

d) The STS requires an inspection of at least 10 percent of each type of penetration seal every 18 months. Licensee's proposed specification 4.14.D.1.c would apply to 10 percent of all penetration seals every 18 months, with the provision that the 15-year inspection program shall be preplanned so as to maximize the representativeness of different types of penetration seals during each inspection. The bases for the requested flexibility are as follows:

(1) There are approximately 340 fire barriers including over 9,000 penetration seals subject

to these inspection requirements at Peach Bottom. The penetration seal design involves different configurations, involving silicone foam, grout, ceramic fiber and several seal designs. The different designs are not associated with any one barrier but are instead widely dispersed throughout the many plant barriers. Requiring inspection of 10 percent of each type will require the erection of ladders and scaffolding on more than 10% of the approximately 340 fire barriers every 18 months, due to the inaccessibility and dispersed location of the various penetration seal types. As previously discussed in Section b.1 above, the methods required to reach difficult-to-view penetrations, subject vital plant instrumentation, electrical cable, and other equipment to possible physical damage, and consequently represents a significant hazard to safety-related equipment. The hazard is further compounded by the inability to readily inspect for and detect physical equipment damage in remote, inaccessible regions of the plant.

The proposed specification permits the selection of a sufficient number of fire

barriers containing approximately 10 percent of all plant penetration seals. Scaffolding and ladders will be erected to accommodate inspection of all penetration seals on the selected fire barriers. Consequently, these penetrations would be subject to potential damage only once in the 15-year inspection interval.

- (2) The proposed specification requires that this selection process be conducted in a manner so as to maximize the representativeness of various types of penetrations during each inspection. A computer program will be utilized to assist in selecting a sample of barriers so that the desirable mix of different penetration seal types is obtained. The program will also ensure that all penetration seals are inspected within the 15-year period. Through the use of this computer program, a representative sampling of different penetration seal types will be inspected every 18 months, and therefore complies with the intent of the STS.
- (3) An extensive upgrade program is nearing completion on the penetration seals. The administrative controls described above in

Section b.2 also apply to penetration seals, including the labeling of penetrations and inspections following modification or maintenance.

- e) The proposed specification 4.14.D.1.c would omit the internal conduit seals from the surveillance requirements since these seals are installed at junction boxes and unions, greatly restricting accessibility. The installation of new seals in the past has shown that instrumentation and control cables are sensitive to any movement. Additionally, de-energization of high voltage power cables for the protection of plant personnel is required to accommodate the inspection of internal conduit seals. Consequently, the inspection of internal conduit seals would disrupt plant operations, and increases the risks of a system transients. As new seals are installed, and existing seals are disassembled to perform modifications and resealed, plant construction installs qualified seal designs and the installation is inspected by Quality Control. The same material that is used for the internal seals is used for many types of external seals. If the external seals of a similar material exhibit any unusual deterioration, a quantity of internal seals will be reviewed as part of the additional 10% criteria.

- f) Reference to fire doors with an automatic hold-open feature is not addressed in proposed Specification 4.14.D.2 since this feature is not utilized at Peach Bottom.

- g) The STS requires a visual inspection of an additional 10% of penetration seals of the same type upon detection of abnormal degradations. Since the cause of the degradations may be unrelated to the penetration seal type, proposed Specification 4.14.D.1 would permit the selection of additional penetration seals for inspection to be based on an evaluation of the cause. For example, the degradations may be caused by improper maintenance practices, or external physical or environmental abuse, in which case the selection of additional penetration seals should be based on factors other than design type.

- h) The STS recommends monthly functional testing of the electrical supervision on each fire door. Proposed Specification 4.14.D.2 recommends a quarterly interval for performing a functional test of the electrical supervision. Functional testing at a frequency of once per month is generally limited to vital automatic shutdown control systems, such as the Reactor Protection System. Considering the reduced significance of this surveillance instrumentation when compared to vital automatic reactor shutdown systems, once per month appears to be excessive, and further expands an already

enormous surveillance program. Additionally, the reliability of the electrical surveillance system has been enhanced by the use of high quality enclosed magnetic switches to monitor door position.

Additionally, Licensee requests that the specification (currently 3.14.D.1) and associated footnotes, that are no longer in effect after September 15, 1984 on Unit 2 and after the return to power following the Unit 2 refueling outage commencing in 1984, be deleted from the Technical Specifications. Further, Licensee requests that implementation of new surveillance requirements with inspection intervals of one month or less take effect three months after issuances of the amendment to accommodate the writing and approval of surveillance procedures.

Further, Licensee requests that the surveillance requirements of fire doors, as proposed in Specification 4.14.D.2 (page 240j(2)), supersede the commitment approved in Supplement No. 1 to the Safety Evaluation of the Peach Bottom Atomic Power Station Fire Protection Program, dated August 14, 1980 (Robert W. Reid, NRC, to E. G. Bauer, Jr., PECO). Item 3.2.6, Fire Doors, in Supplement No. 1 approved a commitment to provide electrical supervision on all fire doors except for twenty-nine specific doors. Future fire protection analyses for Peach Bottom may increase the scope of areas requiring fire door protection. Rather than be restricted to the commitment to install electrical supervision on these doors, we request the flexibility to

consider the other options (daily and weekly inspections) identified in the STS, as endorsed in proposed Specification 4.14.D.2.

Finally, Licensee requests that the License Amendment be issued prior to September, 1985, to permit its implementation during the next fire barrier inspection program. Accordingly, Licensee requests revisions to the fire barrier surveillance requirements as shown on attached pages 240j(1), 240j(2) and 240r of the Technical Specifications.

Significant Hazards Consideration Determination

The proposed revisions involving fire detection systems do not reduce the requirements of the current Technical Specifications. The revisions subject additional automatic fire detection systems to Limiting Conditions of Operation and surveillance requirement to reflect plant modifications performed in accordance with the requirements of 10 CFR 50, Appendix R, Section III.F. The modifications, and the proposed Technical Specifications, enhance the level of fire protection in areas containing safety-related equipment, and consequently enhances the plant's margin of safety.

The proposal revisions regarding fire barriers include additional operability and surveillance requirements for electrical cable enclosures, fire doors, and fire walls, ceilings, and floors. The additions reflect plant modifications

performed in accordance with the requirements of 10 CFR 50, Appendix R, and enhance the level of fire protection and safe shutdown capability of the plant.

Additionally, the proposed changes bring the Peach Bottom Technical Specifications regarding fire barrier surveillance into close agreement with NRC guidance provided in the Standard Technical Specifications. The exceptions to the STS would reduce the exposure of equipment in the vicinity of each fire barrier to potential physical damage due to the inspection program to once per 15 years. Strict compliance with the STS would increase the exposure to damage considering the extent of ladders and scaffolding needed to reach difficult to view barriers every 18 months. The proposed specification will ensure that a representative sample of various types of fire barrier penetrations are inspected every 18 months, culminating in the inspection of all penetrations at least once every 15 years. Broad protection of all penetrations is provided by the specification that triggers additional inspections in the event penetration seal degradations are found. Considering the hazards to plant equipment associated with inspection of difficult to reach areas, the passive nature of fire barriers, the compensatory measures provided by the administrative controls described in this application, the location of fire barriers in protective environments, and the recently completed penetration seal upgrade program, the safety benefits afforded by a more

limited and flexible inspection schedule justify the proposed exceptions to the STS.

The Commission has provided guidance for the application of the standards for determining whether a significant hazards consideration exists by providing examples of amendments that are considered not likely to involve significant hazards consideration (48 FR 14870). One such example (ii) of an action involving no significant hazards consideration is a change that constitutes an additional limitation, restriction, or control not presently included in the Technical Specification. The proposed revisions regarding additional operability and surveillance requirements for automatic fire detectors, electrical cable enclosures, fire doors, and fire walls, ceilings, and floors are similar to this example. Another example (vii) of an action not involving a significant hazards consideration is a change which may result in some reduction in a safety margin, but where the results of the change are clearly within all acceptable criteria. The changes involving a more limited and flexible inspection schedule for fire barriers are similar to this example since the benefits to equipment safety, ALARA, and compensatory measures previously described, offset any potential reduction in safety margin. For these reasons, Licensee has concluded, in accordance with Section 50.92 of the Commission's regulations, that these changes do not involve a significant hazards consideration since they do not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated,

or (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety.

The Plant Operations and Review Committee and the Nuclear Review Board (off-site safety review committee) has reviewed the proposed changes to the Technical Specification and have concluded that they do not involve an unreviewed safety question or significant hazard consideration, and will not endanger the health or safety of the public.

Respectfully submitted,
PHILADELPHIA ELECTRIC COMPANY



Senior Vice President

COMMONWEALTH OF PENNSYLVANIA :

: SS.

COUNTY OF PHILADELPHIA :

V. S. Boyer, being first duly sworn, deposes and says:

That he is Senior Vice President of Philadelphia Electric Company, the Applicant herein; that he has read the foregoing Application for Amendment of Facility Operating Licenses and knows the contents thereof; and that the statements and matters set forth therein are true and correct to the best of his knowledge, information and belief.

V. S. Boyer

Subscribed and sworn to

before me this 21st day

of February 1985

Patricia D. Scholl

Notary Public

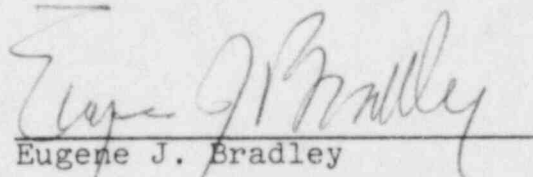
PATRICIA D. SCHOLL

Notary Public, Philadelphia, Philadelphia Co.

My Commission Expires February 10, 1986

CERTIFICATE OF SERVICE

I certify that service of the foregoing Application for Amendment was made upon the Commonwealth of Pennsylvania, by mailing a copy thereof, via first-class mail, to Thomas R. Gerusky, Director, Bureau of Radiological Protection, P.O. Box 2063, Harrisburg, PA 17120; all this 21st day of February, 1985.

A handwritten signature in cursive script, appearing to read "Eugene J. Bradley", is written over a horizontal line.

Eugene J. Bradley

Attorney for
Philadelphia Electric Company