

PHILADELPHIA ELECTRIC COMPANY

NUCLEAR GROUP HEADQUARTERS 10 CFR 50.90
955-65 CHESTERBROOK BLVD.
WAYNE, PA 19087-5691

(215) 640-6000

February 5, 1993

Docket Nos. 50-277
50-278

NUCLEAR SERVICES DEPARTMENT

License Nos. DPR-44
DPR-56

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

SUBJECT: Peach Bottom Atomic Power Station, Units 2
and 3 Technical Specification Change Request

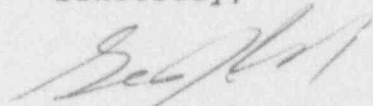
Dear Sir:

Philadelphia Electric Company (PECo) hereby submits Technical Specification Change Request (TSCR) 92-21, in accordance with 10 CFR 50.90, requesting a change to Appendix A of the Peach Bottom Atomic Power Station (PBAPS) Operating Licenses. The proposed change concerns fuel storage criticality, specifically the conversion from demonstrating compliance to $k_{\text{eff}} \leq 0.95$ using the enrichment method to the k-infinity method.

Attachment 1 to this letter describes the proposed changes. Attachment 2 contains the revised Technical Specification pages and Attachment 3 provides the General Electric Company's "Spent Fuel Storage k-infinity Conversion Analyses supporting the proposed Technical Specification change.

If you have any questions concerning this submittal, please contact us.

Sincerely,



G. J. Beck, Manager
Licensing Section

Enclosures: Affidavit, Attachment 1, Attachment 2, Attachment 3

cc: T. T. Martin, Administrator, Region I, USNRC
J. J. Lyash, USNRC Senior Resident Inspector, PBAPS
W. P. Dornsife, Commonwealth of Pennsylvania

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COMMONWEALTH OF PENNSYLVANIA:

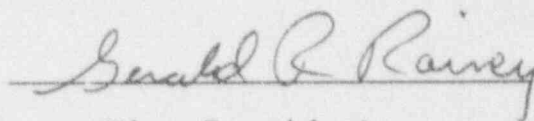
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COUNTY OF CHESTER

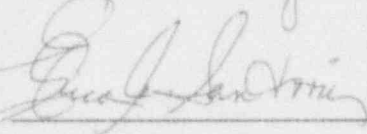
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G. R. Rainey, being first duly sworn, deposes and says:

That he is Vice President of Philadelphia Electric Company; the applicant herein; that he has read the attached Technical Specification Change Request (TSCR 92-21) for changes to the Peach Bottom Facility Operating Licenses DPR-44 and DPR-56, 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.


Vice President

Subscribed and sworn to
before me this ^{5th} day
of February 1993.



Notary Public

Notarial Seal
Erica A. Santon, Notary Public
Tredyffrin Twp., Chester County
My Commission Expires July 10, 1995

ATTACHMENT 1

PEACH BOTTOM ATOMIC POWER STATION
UNITS 2 AND 3

Docket Nos. 50-277
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TECHNICAL SPECIFICATION CHANGE REQUEST
92-21

"FUEL STORAGE CRITICALITY"

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DPR-56

Philadelphia Electric Company (PECo), Licensee under Facility Operating Licenses DPR-44 and DPR-56 for the Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3 respectively, requests that the Technical Specifications contained in Appendix A to the Operating Licenses be amended. Proposed changes to the Technical Specifications are indicated by vertical bars in the margins of the pages contained in Attachment 2 and listed here: 242.

The proposed change concerns the Fuel Storage (5.5.D) section of the Technical Specifications.

Licensee proposes that the change be effective on or before May 31, 1993, to support receipt of GE11 reload fuel for PBAPS Unit 3, Reload 9.

Description of Changes

Licensee proposes the following change:

- (1) Delete existing Fuel Storage Major Design Feature 5.5.D.
- (2) Insert proposed Fuel Storage Major Design Feature 5.5.D on page 242 which states:

"The spent fuel storage racks are designed and shall be maintained with fuel assemblies having a maximum K-infinity of 1.362 in the nominal core configuration at cold conditions."

Safety Discussion

The change request is proposed to replace the existing fuel storage criticality criterion in the Technical Specifications. Currently Technical Specification section 5.5.D, "Fuel Storage" requires that the average fuel assembly loading shall not exceed 17.3 grams U-235 per axial centimeter of total active fuel height of the assembly. This requirement demonstrates compliance to the fuel storage k-effective criteria ($k_{\text{eff}} \leq 0.95$) using a 7X7 design basis fuel bundle with a uniform rod enrichment of 3.5 wt. % Uranium 235 and no credit for burnable poisons.

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Due to the evolution of new fuel designs and longer operating cycles, the current Technical Specification limit has become obsolete. The longer operating cycles require fuel designs with higher bundle average enrichments, more burnable poison (gadolinia), and new design features such as partial length rods and shorter active fuel lengths.

PECo has concluded that the maximum infinite lattice k-infinity is a more appropriate parameter than the current Technical Specification method of demonstrating compliance to the fuel storage k-effective criteria. The fuel lattice k-infinity method was selected as the appropriate fuel storage criteria parameter since it accounts for all major fuel parameters, including geometry, enrichment, enrichment distribution, exposure, burnable poisons, water rods, fuel density, etc.

The maximum infinite lattice k-infinity method is consistent with fuel storage industry standards. The attached General Electric Spent Fuel Storage k-infinity Conversion Analysis supports this conclusion.

The Staff has previously approved similar Technical Specification change requests submitted by other Licensees and has concluded that the method change was acceptable.

No Significant Hazards Consideration

Licensee proposes that this application does not involve significant hazards consideration for the following reasons:

- i) The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed change replaces the method of assuring the compliance with the storage reactivity criterion. The existing fuel enrichment criteria is converted to a k-infinity criteria by computing the in-core k-infinity of the exact same lattice type used by the rack supplier in the original fuel storage criticality analysis. Since the proposed change does not affect operations, equipment, or any safety related activity, current accident precursors are unaffected.

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Therefore, there is no increase in the probability or consequences of an accident previously evaluated.

- ii) The proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

The proposed change does not make any physical changes to the plant or changes to operating procedures. Therefore, implementation of the proposed change will not affect the design function or configuration of any component or introduce any new operating scenarios or failure modes or accident initiation.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

- iii) The proposed change does not involve a significant reduction in a margin of safety.

Replacing the method by which the fuel storage criticality is assured does not affect any safety related equipment activity or equipment.

Therefore, the proposed change does not reduce any margin of safety.

Environmental Impact Assessment

An environmental impact assessment is not required for the change proposed by this Application because the change conforms to the criteria for "actions eligible for categorical exclusion" as specified in 10 CFR 50.22(c)(9). The proposed change does not involve any systems or equipment that have a direct relationship with the environment. The change replaces the method of assuring compliance with the storage reactivity criterion as discussed in the previous section.

The Application involves no significant change in the types or significant increase in the amounts of any effluent that may be released offsite and there will be no significant increase in individual or cumulative occupational radiation exposure.

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Conclusion

The Plant Operations Review Committee and the Nuclear Review board have reviewed the proposed change and have concluded that it does not involve an unreviewed safety question and that it is not a threat to the health and safety of the public.