10 CFR 50.90

PHILADELPHIA ELECTRIC COMPANY

NUCLEAR GROUP HEADQUARTERS
955-65 CHESTERBROOK BLVD.
WAYNE, PA 19087-5691
(215) 640-6000

December 17, 1990

Docket Nos. 50-277
50-278
License Nos. DPR-44
DPR-56

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

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

Dear Sir:

Philadelphia Electric Company hereby submits Technical Specifications Change Request No. 90-11, in accordance with 10 CFR 50.90, requesting an amendment to the Technical Specifications (Appendix A) of the Peach Bottom Facility Operating Licenses. These changes are necessary to account for a new fuel type being used in Cycle 9 operation of Units 2 and 3. Cycle 9 of Unit 2 is scheduled to begin first on March 19, 1991. Miscellaneous administrative changes are also proposed.

Attachment 1 to this letter describes the proposed changes, and provides justification for the changes. The fuel related changes were selected in accordance with NRC-approved methods. Attachment 2 contains the revised Technical Specifications pages.

If you have any questions, please do not hesitate to contact Mr. Frank Lear of my staff at (215) 640-6786.

Very truly yours,

James A Beckwith /for

G. J. Beck
Manager-Licensing Section
Nuclear Engineering & Services

Enclosure: Affidavit
Attachments 1, 2

cc: T. T. Martin, Administrator, Region I, USNRC
J. J. Lyash, USNRC Senior Resident Inspector
T. M. Gerusky, Commonwealth of Pennsylvania

A001

COMMONWEALTH OF PENNSYLVANIA :

: ss.

COUNTY OF CHESTER :

D. R. Helwig, 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 request (number 90-11) for changes to 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.

D R Helwig

Vice President

Subscribed and sworn to
before me this 17th day
of December 1990.

Catherine A. Mendez

Notary Public

NOTARIAL SEAL
CATHERINE A. MENDEZ, Notary Public
Tredyffrin Twp., Chester County
My Commission Expires Sept. 4, 1993

ATTACHMENT 1

PEACH BOTTOM ATOMIC POWER STATION

UNITS 2 AND 3

Docket Nos. 50-277
50-278

License Nos. DPR-44
DPR-56

TECHNICAL SPECIFICATIONS CHANGE REQUEST
No. 90-11

"Minimum Critical Power Ratio Safety Limits"

Docket Nos. 50-277
50-278

License Nos. DPR-44
DPR-56

INTRODUCTION

Cycle 9 operation of Peach Bottom Atomic Power Station (PBAPS) Units 2 and 3 necessitates revision of the Technical Specifications (TS) Minimum Critical Power Ratio (MCPR) Safety Limits since the cores will be reloaded with a new fuel type, GE8X8NB (commonly referred to as GE9B fuel). Unit 2 Cycle 9 is scheduled to begin on March 19, 1991 and Unit 3 Cycle 9 is scheduled to begin on November 19, 1991.

PECo hereby requests that, once approved, these changes be "effective upon start-up in Cycle 9" for each Unit.

DESCRIPTION OF CHANGES

Technical Changes:

The current Unit 2 TS MCPR Safety Limits are 1.07 for two-recirculation loop operation and 1.08 for single recirculation loop operation (page 9 of TS). The current Unit 3 TS MCPR Safety Limits are 1.04 for two-recirculation loop operation and 1.05 for single recirculation loop operation (page 9 of TS). However, use of GE9B fuel in Unit 2 and Unit 3 during Cycle 9 requires MCPR Safety Limits not less than 1.06 for two-loop operation and 1.07 for single loop operation.

Since the Cycle 9 cores of both units will be a reload of GE9B fuel, revision of the MCPR Safety Limits to 1.06 for two-loop operation and 1.07 for single loop operation is requested for both Units.

These changes are in accordance with Revision 9 of "General Electric Standard Application for Reactor Fuel", NEDE-24011-P-A-9, September 1988 (GESTAR), which was approved by the NRC in the letter from Ashok C. Thadani (NRC) to J. S. Charnley (GE) dated May 12, 1988. GESTAR specifies a MCPR Safety Limit of 1.06 for D-Lattice reactors in two-loop operation. Units 2 and 3 are D-Lattice reactors. The Limits for two-loop operation are determined by using NRC-approved "General Electric BWR Thermal Analysis Basis (GETAB): Data, Correlation and Design Application," NEDO-10958-A, January 1977. The Limit is increased by 0.01 for single loop operation as described in "Peach Bottom Atomic Power Station, Units 2 and 3 Single-Loop Operation", NEDO-24229-1, May 1980, which was submitted to the NRC on January 9, 1981 to support license amendment for single recirculation loop operation at PBAPS (amendments subsequently approved, No. 78 for Unit 2 and No. 77 for Unit 3). The reload fuel for Cycle 9 operation of both Units will be GE9B, with the exception of twelve or less qualification fuel bundles (QFBs) in Unit 2.

However, these QFBs will be loaded in non-limiting locations such that the QFBs will not have a significant impact on the core-wide MCPR Safety Limits. This was the subject of PECo's November 21, 1990 letter to the NRC.

Administrative Changes:

On June 15, 1990 the NRC issued a Safety Evaluation Report approving PECo Report No. PECo-FMS-0006, "Methods for Performing BWR Reload Safety Evaluations." PECo requests that this report be referenced on the following pages of the Unit 2 and Unit 3 TS: 17, 24, 140a, 140b, 140c and 256a.

PECo proposes to add parentheses around the abbreviation "MCPR" on page 9 of both Units' TS (Specification No. 1.1.A), and to change "NEDO-24011-P-A" to "NEDE-24011-P-A" on page 140c of both Units' TS (Reference No. 7). These changes correct typographical errors.

PECo proposes to add to the list of references on page 24 of both Units' TS "NEDE-24011-P-A" (GESTAR), which is currently "spelled out" in the text on page 17 of both Units' TS. On Page 17 the document can now be referred to by its reference number (on page 24 as revised). This change is in the interest of convenience and consistency.

INFORMATION SUPPORTING A FINDING OF NO SIGNIFICANT HAZARDS

Technical Changes:

The MCPR Safety Limits are set such that no fuel damage is calculated to occur if the limit is not violated. Since the parameters which result in fuel damage are not directly observable during reactor operation, the thermal hydraulic conditions resulting in a departure from nucleate boiling have been used to mark the beginning of the region where fuel damage could occur. Although it is recognized that a departure from nucleate boiling would not necessarily result in damage to BWR fuel rods, the critical power at which boiling transition is calculated to occur has been adopted as a convenient limit. However, the uncertainties in monitoring the core operating state and in the procedure used to calculate the critical power result in an uncertainty in the value of critical power. Therefore, the MCPR Safety Limit is defined as the critical power ratio for which more than 99.9% of the fuel rods in the core are expected to avoid boiling transition during the most severe moderate frequency transient event, considering the power distribution within the core and all uncertainties.

As discussed previously, the proposed MCPR Safety Limits have been established in accordance with NRC-approved methods. In addition, conservative MCPR operating limits will also be established using NRC-approved methods in accordance with TS 6.9.1.e(1) and (2) and will be published in the Core Operating Limits Report (COLR) for Cycle 9. The COLR will be submitted to the NRC upon issuance in accordance with TS 6.9.1.e(4).

The accidents previously evaluated which are potentially impacted by this change are the limiting Anticipated Operational Occurrences (AOOs) specifically analyzed for each operating cycle. These AOOs are Rod Withdrawal Error, Loss of 100°F Feedwater Heating, Generator Load Rejection Without Bypass, Feedwater Controller Failure, Fuel Loading Error, and Rotated Bundle Error. These events are described in the United States supplement to GESTAR.

PECo proposes that the changes to the MCPR Safety Limits do not involve significant hazards considerations for the following reasons.

i) The proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated. Because the MCPR Safety Limits are operational thresholds analytically selected using proven methods, they cannot, themselves, initiate an accident. The probability of occurrence of transients is determined by the frequency of operator errors and equipment failures, not by the adequacy of the MCPR Safety Limits selected. Because the proposed MCPR Safety Limits have been selected such that no fuel damage is calculated to occur during the most severe moderate frequency transient events, they will ensure that the consequences of these events are not increased. The response of the plant to transients will be within the bounds of the discussion in Chapter 14 and Appendix G of the Updated Final Safety Analysis Report since the proposed MCPR Safety Limits will accomplish the same objectives as the previous limits.

ii) The proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated because the proposed MCPR Safety Limits have been selected such that the design basis is satisfied. The MCPR Safety Limits are operational threshholds analytically selected using proven methods; therefore, they cannot, themselves, initiate an accident. An improperly selected limit could result in fuel damage, which is a consequence of previously evaluated accidents. Thus, no new or different type of accident could be created by revising the limits.

iii) The proposed changes do not involve a significant reduction in a margin of safety because the proposed MCPR Safety Limits have been selected such that the design basis is satisfied and such that the conservatisms described in the Bases for the Fuel Cladding Integrity Safety Limit TS are maintained. Thus, margins of safety with the proposed MCPR Safety Limits are the same as with the previous limits.

Administrative Changes:

The NRC has provided guidance concerning the application of the standards for determining whether license amendments involve no significant hazards considerations by providing examples (51 Federal Register 7751). An example of a change that involves no significant hazards considerations is "a purely administrative change to technical specifications: for example, a change to achieve consistency throughout the technical specifications, correction of an error, or a change in nomenclature". The proposed administrative changes clearly conform to this NRC example, and PECo proposes that these administrative changes do not involve significant hazards considerations for the following reasons.

i) The proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated because they do not affect operation, equipment, or any safety-related activity. Thus, these administrative changes cannot affect the probability or consequences of any accident.

ii) The proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated because these changes are purely administrative and do not affect the plant. Therefore, these changes cannot create the possibility of any accident.

iii) The proposed changes do not involve a significant reduction in a margin of safety because the changes do not affect any safety related activity or equipment. These changes are purely administrative in nature and increase the probability that the Technical Specifications are correctly interpreted by adding appropriate references and correcting errors. Thus, these changes cannot reduce any margin of safety

ENVIRONMENTAL IMPACT

An environmental assessment is not required for the changes requested by this Application because the requested changes conform to the criteria for "actions eligible for categorical exclusion" as specified in 10 CFR 51.22(c)(9). The requested changes have been shown by this Application not to adversely affect the systems and equipment that prevent the uncontrolled release of radioactive material to the environment. The Application involves no significant hazards considerations as demonstrated in the preceding sections. The Application involves no significant change in the types or significant increase in the amounts of any effluents that may be released offsite, and there will be no significant increase in individual or cumulative occupational radiation exposure.

CONCLUSION

The Plant Operations Review Committee and the Nuclear Review Board have reviewed these proposed changes to the Technical Specifications and determined that they do not involve an Unreviewed Safety Question and will not endanger the health and safety of the public.