

November 3, 2000

Mr. James A. Hutton  
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PECO Energy Company  
Nuclear Group Headquarters  
Correspondence Control  
P.O. Box 160  
Kennett Square, PA 19348

SUBJECT: PEACH BOTTOM ATOMIC POWER STATION, UNIT NOS. 2 AND 3 - ISSUANCE  
OF AMENDMENT RE: REVISION TO VENTILATION CHARCOAL ADSORBER  
TESTING PROGRAM (TAC NOS. MA7300 AND MA7301)

Dear Mr. Hutton:

The Commission has issued the enclosed Amendments Nos. 237 and 240 to Facility Operating License Nos. DPR-44 and DPR-56 for the Peach Bottom Atomic Power Station, Unit Nos. 2 and 3. These amendments consist of changes to the Technical Specifications (TSs) in response to your application dated November 17, 1999, as supplemented by letter dated June 15, 2000.

These amendments change TS 5.5.7.c, "Ventilation Filter Testing Program (VFTP)," to include the requirement for laboratory testing of Engineered Safety Feature Ventilation System charcoal samples per American Society for Testing and Materials D3803-1989 and the application of a safety factor of 2.0 to the charcoal filter efficiency assumed in the plant design-basis dose analyses.

A copy of the safety evaluation is also enclosed. Notice of Issuance will be included in the Commission's Biweekly *Federal Register* Notice.

Sincerely,

*IRA*

John P. Boska, Project Manager, Section 2  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-277 and 50-278

Enclosures: 1. Amendment No. 237 to DPR-44  
2. Amendment No. 240 to DPR-56  
3. Safety Evaluation

cc w/encls: See next page

Mr. James A. Hutton  
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PECO ENERGY COMPANY

PSEG NUCLEAR LLC

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

DOCKET NO. 50-277

PEACH BOTTOM ATOMIC POWER STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 237  
License No. DPR-44

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by PECO Energy Company, et al. (the licensee) dated November 17, 1999, as supplemented June 15, 2000, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I.
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. DPR-44 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 237, are hereby incorporated in the license. PECO shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

*IRA/*

James W. Clifford, Chief, Section 2  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: November 3, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 237

FACILITY OPERATING LICENSE NO. DPR-44

DOCKET NO. 50-277

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove

5.0-13

Insert

5.0-13

PECO ENERGY COMPANY

PSEG NUCLEAR LLC

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

DOCKET NO. 50-278

PEACH BOTTOM ATOMIC POWER STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 240  
License No. DPR-56

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by PECO Energy Company, et al. (the licensee) dated November 17, 1999, as supplemented June 15, 2000, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I.
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. DPR-56 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 240, are hereby incorporated in the license. PECO shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

*IRA/*

James W. Clifford, Chief, Section 2  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: November 3, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 240

FACILITY OPERATING LICENSE NO. DPR-56

DOCKET NO. 50-278

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove

5.0-13

Insert

5.0-13

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NOS. 237 AND 240 TO FACILITY OPERATING  
LICENSE NOS. DPR-44 and DPR-56  
PECO ENERGY COMPANY  
PSEG NUCLEAR LLC  
DELMARVA POWER AND LIGHT COMPANY  
ATLANTIC CITY ELECTRIC COMPANY  
PEACH BOTTOM ATOMIC POWER STATION, UNIT 2 AND 3  
DOCKET NOS. 50-277 AND 50-278

## 1.0 INTRODUCTION

By letter dated November 17, 1999, as supplemented June 15, 2000, the PECO Energy Company (the licensee) submitted a request for changes to the Peach Bottom Atomic Power Station (PBAPS), Unit Nos. 2 and 3, Technical Specifications (TSs). The requested changes would change TS 5.5.7.c, "Ventilation Filter Testing Program (VFTP)," to include the requirement for laboratory testing of Engineered Safety Feature Ventilation System charcoal samples per American Society for Testing and Materials (ASTM) D3803-1989 and the application of a safety factor of 2.0 to the charcoal filter efficiency assumed in the plant design-basis dose analyses. The June 15, 2000, letter provided clarifying information that did not change the initial proposed no significant hazards consideration determination or expand the application beyond the scope of the original *Federal Register* notice.

## 2.0 EVALUATION

The U.S. Nuclear Regulatory Commission (NRC) staff, with technical assistance from Brookhaven National Laboratory (BNL), has reviewed the licensee's submittals. In addition, the NRC staff has reviewed the attached BNL Technical Evaluation Report (TER) regarding the proposed TS changes for PBAPS, Units Nos. 2 and 3. Based on its review, the NRC staff adopts the TER. In view of the above, and because the NRC staff considers ASTM D3803-1989 to be the most accurate and most realistic protocol for testing charcoal in safety-related ventilation systems, the NRC staff finds the proposed TS changes acceptable.

The NRC received a letter from ASTM in response to a March 8, 2000, *Federal Register* Notice (65 FR 12286) related to revising testing standards in accordance with ASTM D3803-1989 for laboratory testing of activated charcoal in response to GL 99-02. ASTM notified the NRC that the 1989 standard is out of date and should be replaced by

D3803-1991(1998). The staff acknowledges that the most current version of ASTM D3803 is ASTM D3803-1991 (reaffirmed in 1998). However, it was decided by the NRC, for consistency purposes, to have all of the nuclear reactors test to the same standard (ASTM D3803-1989) because, prior to GL 99-02 being issued, approximately one third of the nuclear reactors had TSs that referenced ASTM D3803-1989 and there are no substantive changes between the 1989 and 1998 versions.

### 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Pennsylvania State official was notified of the proposed issuance of the amendments. The State official had no comments.

### 4.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (65 FR 4288). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

### 5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Attachment: Technical Evaluation Report, Brookhaven National Laboratory, dated August 24, 2000.

Principal Contributors: J. Boska  
J. Segala

Date: November 3, 2000

TECHNICAL EVALUATION REPORT  
BROOKHAVEN NATIONAL LABORATORY  
FOR THE OFFICE OF NUCLEAR REACTOR REGULATION  
DIVISION OF SYSTEMS SAFETY AND ANALYSIS  
PLANT SYSTEMS BRANCH  
RELATED TO AMENDMENT TO FACILITY OPERATING  
LICENSES NO. DPR-44 AND DPR-56  
PECO ENERGY COMPANY  
PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3  
DOCKET NOS. 50-277 AND 50-278

## 1.0 INTRODUCTION

By letter dated November 17, 1999, PECO Energy Company submitted its response to the actions requested in Generic Letter (GL) 99-02, "Laboratory Testing of Nuclear-Grade Activated Charcoal," dated June 3, 1999, for the Peach Bottom Atomic Power Station, Units 2 and 3 (PBAPS). By another letter dated November 17, 1999 (ECR 99-01744), PECO Energy Company requested changes to the Technical Specifications (TS) Section 5.5.7.c, "Ventilation Filter Testing Program (VFTP)," for the PBAPS. By letter dated June 15, 2000, PECO Energy Company resubmitted its earlier response to GL 99-02 and revised the total residence time per bed depth for the standby gas treatment system (SGTS) from 0.25 sec to 0.15 sec. for the PBAPS. By another letter, also dated June 15, 2000 for License Change Application ECR 99-01744, PECO Energy Company resubmitted its requested changes to the Technical Specifications (TS) Section 5.5.7.c, "Ventilation Filter Testing Program (VFTP)," for the PBAPS. The proposed changes would revise the TS surveillance testing of the safety related ventilation system charcoal to meet the requested actions of GL 99-02.

## 2.0 BACKGROUND

Safety-related air-cleaning units used in the engineered safety features (ESF) ventilation systems of nuclear power plants reduce the potential onsite and offsite consequences of a radiological accident by filtering radioiodine. Analyses of design basis accidents assume particular safety related charcoal adsorption efficiencies when calculating offsite and control room operator doses. To ensure that the charcoal filters used in these systems will perform in a manner that is consistent with the licensing basis of a facility, licensees have requirements in their TS to periodically perform a laboratory test (in accordance with a test standard) of charcoal samples taken from these ventilation systems.

In GL 99-02, the staff alerted licensees that testing nuclear-grade activated charcoal to standards other than American Society for Testing and Materials (ASTM) D3803-1989, "Standard Test Method for Nuclear-Grade Activated Carbon," does not provide assurance for complying with their current licensing bases with respect to the dose limits of General Design Criterion (GDC) 19 of Appendix A to Part 50 of Title 10 of the Code of Federal Regulations (10 CFR) and Subpart A of 10 CFR Part 100.

GL 99-02 requested that all licensees determine whether their TS reference ASTM D3803-1989 for charcoal filter laboratory testing. Licensees whose TS do not reference ASTM D3803-1989

were requested to either amend their TS to reference ASTM D3803-1989 or propose an alternative test protocol.

### **3.0 EVALUATION**

#### **3.1 Laboratory Charcoal Sample Testing Surveillance Requirements**

The current and proposed laboratory charcoal sample testing TS surveillance requirements for the Standby Gas Treatment System (SGTS) and Main Control Room Emergency Ventilation System (MCREVS) are shown in Table 1 and Table 2, respectively.

The proposed use of ASTM D3803-1989 is acceptable because it provides accurate and reproducible test results. The proposed test temperature of 30°C for both systems is acceptable because it is consistent with ASTM D3803-1989. The proposed test relative humidity of 95% for MCREVS is acceptable because it is consistent with ASTM D3803-1989. The proposed test relative humidity (RH) of 70 percent for SGTS is also acceptable, because the incoming air stream to the SGTS is maintained at a RH of less than or equal to 70 percent during accident conditions. This is consistent with the actions requested in GL 99-02.

The credited removal efficiency for radioactive organic iodine for both systems is 90%. The proposed test penetration for radioactive methyl iodide for both systems is less than 5%. The proposed safety factor of 2 for both systems is acceptable because it ensures that the efficiency credited in the accident analysis is still valid at the end of the surveillance interval. This is consistent with the minimum safety factor of 2 specified in GL 99-02.

In the June 15, 2000 letter concerning License Change Application ECR 99-01744, PECO Energy Company proposed changes to the Ventilation Filter Testing Program to indicate that the actual and test face velocities for the SGTS and MCREVS are 60 fpm and 57 fpm, respectively. Since these face velocities are greater than 110% of 40 fpm, the test face velocities for these systems are specified in the proposed TS surveillance requirements and are consistent with the actual face velocities during accident conditions for those systems. This is acceptable because it ensures that the testing will be consistent with the operation of the ventilation system during accident conditions and is consistent with the August 23, 1999 errata to GL 99-02.

### **4.0 CONCLUSION**

On the basis of its evaluation, BNL recommends that the NRC staff consider the proposed TS changes to be acceptable.

Principal Contributor: Mano Subudhi, BNL  
Date: August 24, 2000

**PEACH BOTTOM ATOMIC POWER STATION UNITS 2 AND 3**

<b>TABLE 1 - CURRENT TS REQUIREMENTS</b>											
<b>System Description</b>					<b>Current TS Requirements</b>						
TS Section	System	Bed Thickness (inches)	Actual Charcoal		Credited Efficiency (% Methyl Iodide)	Test Penetration (% Methyl Iodide)	Safety Factor	Test Standard ***	Test Temp (° C)	Test RH (%)	Test Face Velocity (fpm) ****
			Res. Time (sec)	Face Velocity (fpm)							
5.5.7.c	Standby Gas Treatment System (SGTS)	2	0.167*	60**	90	<5	2	Reg. Guide 1.52, Rev. 2	≥88 (190°F)	≥70	66.7
5.5.7.c	Main Control Room Emergency Ventilation System (MCREVS)	2	0.175*	57**	90	<10	1	Reg. Guide 1.52, Rev. 2	≥52 (125°F)	≥95	40

\* Residence time as calculated based on the face velocity and the bed thickness.

\*\* Actual face velocity is per proposed TS changes in the June 15, 2000 letter concerning License Change Application ECR 99-01744.

\*\*\* Regulatory Guide 1.52, Revision 2, March 1978 refers to ANSI N509-1976 and RDT Std M16-1T, October 1973.

\*\*\*\* Test face velocity is calculated based on residence times of 0.15 sec and 0.25 sec for the SGTS and MCREVS, respectively, as per the June 15, 2000 response to GL 99-02.

**PEACH BOTTOM ATOMIC POWER STATION UNITS 2 AND 3**

<b>TABLE 2 - PROPOSED TS REQUIREMENTS</b>											
<b>System Description</b>					<b>Proposed TS Requirements</b>						
TS Section	System	Bed Thickness (inches)	Actual Charcoal		Credited Efficiency (% Methyl iodide)	Test Penetration (% Methyl iodide)	Safety Factor	Test Standard	Test Temp (° C)	Test RH (%)	Test Face Velocity (fpm)
			Res. Time (sec)	Face Velocity (fpm)							
5.5.7.c	Standby Gas Treatment System (SGTS)	2	0.167*	60**	90	<5	2	ASTM D3803-1989	30	70	60
5.5.7.c	Main Control Room Emergency Ventilation System (MCREVS)	2	0.175*	57**	90	<5	2	ASTM D3803-1989	30	95	57

\* Residence time as calculated based on the face velocity and the bed thickness.

\*\* Actual face velocity is per proposed TS changes in the June 15, 2000 letter concerning License Change Application ECR 99-01744.

Peach Bottom Atomic Power Station,  
Units 2 and 3

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