10 CFR 50.90

PECO NUCLEAR
A Unit of PECO Energy

PECO Energy Company
965 Chesterbrook Boulevard
Wayne, PA 19087-5691

June 15, 2000

Docket Nos. 50-277
50-278

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
License Change Application ECR 99-01744
Revision of Ventilation Filter Testing Program for GL 99-02

Dear Sir or Madam:

PECO Energy Company (PECO Energy) hereby resubmits License Change Application (LCA) ECR 99-01744, in accordance with 10 CFR 50.90, requesting changes to the Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3 Facility Operating Licenses. This letter supercedes the License Change Application letter dated November 17, 1999 from PECO Energy to the US NRC.

We have determined that this submittal does not alter the Information Supporting a Finding of No Significant Hazards Consideration or the Information Supporting an Environmental Impact Assessment in the 11/17/99 submittal.

The proposed changes will revise the Unit 2 and 3 Technical Specifications (TS) Section 5.5.7.c, Ventilation Filter Testing Program (VFTP) in accordance with Generic Letter (GL) 99-02, "Laboratory Testing of Nuclear-Grade Activated Charcoal."

Attachment 1 to this letter describes the proposed changes and provides justification for the changes including the basis for PECO Energy's determination that the proposed changes do not involve a significant hazards consideration. Attachments 2 and 3 to this letter provide the "marked-up" and "camera-ready" Technical Specifications pages, respectively. This information is being submitted under affirmation, and the required affidavit is enclosed.

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There is only one commitment contained within this letter: PECO Energy will test PBAPS Engineered Safety Feature (ESF) ventilation systems in accordance with ASTM D3803-1989.

We request that if approved, the changes become effective within 30 days of issuance.

If you have any questions concerning this matter, please do not hesitate to contact us.

Very truly yours,

James A. Hutton
Director - Licensing

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

cc: H. J. Miller, Administrator, Region I, USNRC, w/enc
A. C. McMurtray, USNRC Senior Resident Inspector, PBAPS, w/enc
R. R. Janati, Commonwealth of Pennsylvania w/enc

COMMONWEALTH OF PENNSYLVANIA:

: ss.

COUNTY OF CHESTER :

J. Langenbach, being first duly sworn, deposes and says:

That he is a Vice President of PECO Energy; the Applicant herein; that he has read the attached License Change Application ECR 99-01744, for Peach Bottom Atomic Power Station 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.

James W Langenbach
Vice President

Subscribed and sworn to
before me this 15th day
of June 2000.

Carol A. Walton
Notary Public

Notarial Seal
Carol A. Walton, Notary Public
Tredyffrin Twp., Chester County
My Commission Expires May 28, 2002
Member, Pennsylvania Association of Notaries

ATTACHMENT 1

PEACH BOTTOM ATOMIC POWER STATION
UNITS 2 AND 3

Docket Nos. 50-277
50-278

License Nos. DPR-44
DPR-56

LICENSE CHANGE APPLICATION
ECR 99-01744

"Revision of Ventilation Filter Testing Program
In Accordance With Generic Letter 99-02"

Supporting Information - 5 Pages

Docket Nos. 50-277
50-278

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Introduction

PECO Energy Company, Licensee under Facility Operating Licenses DPR-44 and DPR-56 for the Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3, requests that the Technical Specifications (TS) Section 5.5.7.c, Ventilation Filter Testing Program (VFTP) contained in Appendix A to the Operating Licenses be amended in accordance with Generic Letter (GL) 99-02, "Laboratory Testing of Nuclear-Grade Activated Charcoal." The marked-up pages indicating the proposed changes are provided in Attachment 2. There are two Engineered Safety Feature (ESF) ventilation systems that are affected by this change: Standby Gas Treatment (SGTS) System and Main Control Room Emergency Ventilation (MCREV) System. This License Change Application provides a discussion and description of the proposed changes, a safety assessment, information supporting a finding of No Significant Hazards Consideration, and information supporting an Environmental Assessment.

Discussion and Description of the Proposed Changes

GL 99-02 was issued by the NRC to alert addressees that the NRC has determined that testing nuclear-grade activated charcoal for safety related ventilation systems, 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 the current licensing basis as it relates to the dose limits of General Design Criterion (GDC) 19 of Appendix A of 10CFR Part 50 and subpart A of 10CFR Part 100. The GL requested that all addressees determine whether their Technical Specifications reference ASTM D3803-1989 for laboratory testing of charcoal and if not, either amend their TS to specify ASTM D3803-1989 or propose an alternate test protocol. The GL gave all addressees 180 days to initiate the appropriate TS changes.

PECO Energy has reviewed the details specified in GL 99-02 and concurs that ASTM D3803-1989 is a better methodology for the performance of laboratory testing of charcoal samples for TS compliance. There are two Engineered Safety Feature (ESF) ventilation systems that are affected by this change: Standby Gas Treatment (SGT) System and Main Control Room Emergency Ventilation (MCREV) System. At this point, the next scheduled test date for a SGTS train is 01/01/01 and for a MCREVS train is 01/01/01.

The following are proposed changes to TS Section 5.5.7.c, Ventilation Filter Testing Program (VFTP) for PBAPS, Units 2 and 3:

1. The laboratory testing for methyl iodide penetration will be specified to be done in accordance with ASTM D3803-1989.

2. The acceptable methyl iodide removal rate will be expressed as maximum methyl iodide penetration rate. The acceptable penetration limit for the MCREV system will be changed from 10% to 5%.

3. The methyl iodide test concentrations for MCREV and SGT will be deleted from the TS. These testing parameters will be as specified by the ASTM testing standard.

4. The face velocity for MCREV and SGT will be specified in the TS per GL 99-02. GL 99-02 required systems that have face velocities greater than 110% of 40 fpm to designate the face velocity within TS.

The current design basis at PBAPS is to maintain the incoming air stream to the SGT filter system at a relative humidity not to exceed 70%. The MCREV system does not have humidity control and therefore is tested at 95% relative humidity. These design features will still be maintained with the proposed changes and the ASTM D3803-1989 testing will be performed at

70% and 95% relative humidity, for SGT and MCREV, respectively. Note that all testing tolerances and instrumentation accuracy will be in accordance with ASTM D3803-1989.

Safety Assessment

Safety-related air cleaning units used in the ESF ventilation systems of nuclear power plants reduce the potential onsite and off-site consequences of a radiological accident by adsorbing radioiodine. To ensure that the charcoal filters used in these systems perform in a manner that is consistent with the licensing basis, requirements have been established in the Technical Specifications to periodically test (in a laboratory) samples of charcoal taken from the air cleaning units.

The existing Peach Bottom Technical Specifications for SGTS and MCREVS charcoal filter testing, contained within Section 5.5.7.c, Ventilation Filter Testing Program, require that the representative charcoal samples be obtained per Regulatory Guide (RG) 1.52 (Design, Testing, and Maintenance Criteria For ESF Air Filtration and Adsorption Units), Rev. 2, dated March 1978. Further testing of the representative sample is currently performed referencing RG 1.52, and utilizes specific testing conditions and acceptance criteria contained within the Technical Specification 5.5.7.c, (e.g. higher test bed temperature). RG 1.52 refers to ANSI N509-1976, which utilizes RDT Standard M 16-1T, for developing actual testing methodologies. Meeting this laboratory testing methodology with the conditions and acceptance criteria assigned by the Technical Specifications is necessary in order to maintain the assigned decontamination filter efficiency credited in the licensed accident analyses.

The NRC's and the nuclear industry's understanding of the appropriate laboratory tests for nuclear-grade charcoal has evolved over the years since the issuance of RG 1.52 (last revised 21 years ago). It was initially assumed that the high temperature (80°C) testing would achieve the most conservative results. However, later testing has made it clear that the most conservative test results are achieved when testing is performed at a lower temperature. The NRC has now concluded that the use of inappropriate test conditions (i.e., high temperature) can lead to an overestimation of the charcoal's ability to adsorb radioiodine following an accident.

This position is further supported by a study performed by the ASME Committee on Nuclear Air and Gas Treatment (CONAGT) in the late 1980's in which they indicated that testing of charcoal at temperatures greater than 30°C, almost always resulted in the charcoal meeting the allowable methyl iodide penetration acceptance criteria, even when the charcoal was deficient. CONAGT further stated that it is their position that the 1989 version of ASTM D3803 is the only acceptable test method for assuring Technical Specifications compliance.

Based on the results of the CONAGT study and their own investigation, the NRC has concluded that charcoal sample testing at elevated temperatures as allowed by RG 1.52, results in an overestimation of the actual iodine removal capability of the charcoal, and that testing at a lower temperature as specified in ASTM D3803-1989, gives results that represent a more realistic assessment of the charcoal capability. As a result, the NRC has determined that ASTM D3803-1989 is the only acceptable method for performing laboratory analysis of charcoal samples and satisfying Technical Specifications requirements and should now be used by the nuclear industry for new and used charcoal. The NRC further stated that they do not have confidence that the results from RG 1.52 or ANSI N509-1976 meet the intent of existing Technical Specifications, which is to ensure that the doses are within the required limits.

Generic Letter 99-02 was issued by the NRC to mandate that the nuclear industry use ASTM D3803-1989 as the acceptable method for laboratory analysis of charcoal samples.

PECO Energy analyses of design-basis accidents assume a particular ESF charcoal filter

adsorption efficiency when calculating off-site and onsite doses. PECO Energy then tests charcoal filter samples to determine whether the filter adsorber efficiency is greater than that assumed in the design-basis accident analysis. The laboratory test acceptance criteria contains a safety factor to ensure that the efficiency assumed in the accident analysis is valid at the end of the operating cycle. Because ASTM D3803-1989 is a more accurate and demanding test than those specified by RG 1.52, the NRC allows the use of a safety factor as low as 2 for determining a revised acceptance criteria for systems with or without humidity control.

The methyl iodide assigned decontamination efficiency credited in the licensed accident analysis, the methyl iodide penetration acceptance criteria, and the associated safety factor currently (prior to this TS change) being utilized for laboratory testing for the affected systems are as follows:

SYSTEM	ASSUMED EFF.%	ACCEPT. CRITERIA	SAFETY FACTOR
SGTS	90 %	<5.0%	2.0
MCREVS	90 %	<10%	1.0

Safety Factor = (1-Accident Analysis Efficiency)/Acceptance Criteria

Based on the NRC's acceptance of a safety factor of at least 2, a new acceptance criteria for methyl iodide penetration has been calculated and is included in the Technical Specification changes being made. Since the safety factor of 2 is already utilized for SGTS, the acceptance criteria does not change. The new acceptance criteria required for compliance with GL 99-02 for methyl iodide penetration for MCREVS is as follows:

SYSTEM	ASSUMED EFF.%	ACCEPT. CRITERIA	SAFETY FACTOR
MCREVS	90 %	<5%	2.0

Acceptance Criteria = (1-Accident Analysis Efficiency)/ Safety Factor

Thus, laboratory testing of the charcoal samples to the requirements of ASTM D3803-1989 and to the revised acceptance criteria provides improved assurance that the assumed charcoal efficiencies in the accident analysis are maintained, and result in compliance with GL 99-02.

Information Supporting a Finding of No Significant Hazards Consideration

We have concluded that the proposed changes to the PBAPS, Units 2 and 3 TS do not involve a Significant Hazards Consideration. In support of this determination, an evaluation of each of the three (3) standards set forth in 10 CFR 50.92 is provided below:

1. The proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

   Changing the methodology for the performance of the laboratory testing of nuclear grade activated charcoal samples from RG 1.52 to ASTM D3803-1989 and the establishment of new methyl iodide penetration acceptance criteria and test temperature in accordance with Generic Letter 99-02, do not involve any changes or modifications to the function or operation of any safety related structure, system, or component. The new testing methodology enables a more accurate and conservative charcoal decontamination efficiency to be determined which better assures that the assumed

charcoal efficiency credited in the licensed accident analysis is being adequately maintained. Implementing this change only involves revisions to existing procedures.

The SGTS and MCREVS are standby systems that are designed to mitigate the consequences of the analyzed accidents. No analyzed accident initiating events are impacted, no new accident initiators or new failure modes are created and the credited charcoal efficiency for each system in the licensed accident analyses is not changing. The change in laboratory testing methodology does not degrade the ability of these systems to perform all of their safety related mitigation functions as designed.

Therefore, the proposed changes described above do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

Changing the methodology for the performance of the laboratory testing of nuclear grade activated charcoal in accordance with Generic Letter 99-02 and establishing new methyl iodide penetration acceptance criteria is not an accident initiator, does not create any new failure modes, nor does it result in the occurrence of an accident. This change does not result in any physical plant modification and does not affect the safety related function, charcoal efficiency, or operation of the SGTS or MCREVS. This change only involves revisions to existing procedures to comply with NRC guidance from GL 99-02.

Therefore, the possibility of a new or different kind of accident than previously evaluated is not created.

3. The proposed changes do not involve a significant reduction in a margin of safety.

The safety related air cleaning units used in ESF ventilation systems reduce the potential onsite and offsite consequences of a radiological accident by absorbing radioiodine. Changing the methodology for the performance of the laboratory testing of nuclear-grade activated charcoal samples from RG 1.52 to ASTM D3803-1989 in accordance with Generic Letter 99-02, and the establishment of new methyl iodide penetration acceptance criteria does not increase the dose rates above what is currently calculated in the accident analyses.

Therefore, the above change does not involve a significant reduction in a margin of safety.

Information Supporting an Environmental Assessment

An environmental assessment is not required for the changes proposed by this License Change Application because the changes conform to the criteria for "actions eligible for categorical exclusion," as specified in 10 CFR 51.22(c)(9). The proposed changes will have no impact on the environment. The proposed changes do not involve a significant hazards consideration as discussed in the preceding section. The proposed changes do not involve a significant change in the types or significant increase in the amounts of any effluents that may be released offsite. In addition, the proposed changes do not involve a significant increase in individual or cumulative occupational radiation exposure.

Conclusion

The Plant Operations Review Committee and the Nuclear Review Board have reviewed the proposed changes and have concluded that the changes do not involve an unreviewed safety question and will not endanger the public health and safety.

ATTACHMENT 2

PEACH BOTTOM ATOMIC POWER STATION
UNITS 2 AND 3

Docket Nos. 50-277
50-278

License Nos. DPR-44
DPR-56

LICENSE CHANGE APPLICATION
ECR 99-01744

List of Attached Marked Up Pages

Unit 2	Unit 3
5.0-13	5.0-13

5.5 Programs and Manuals

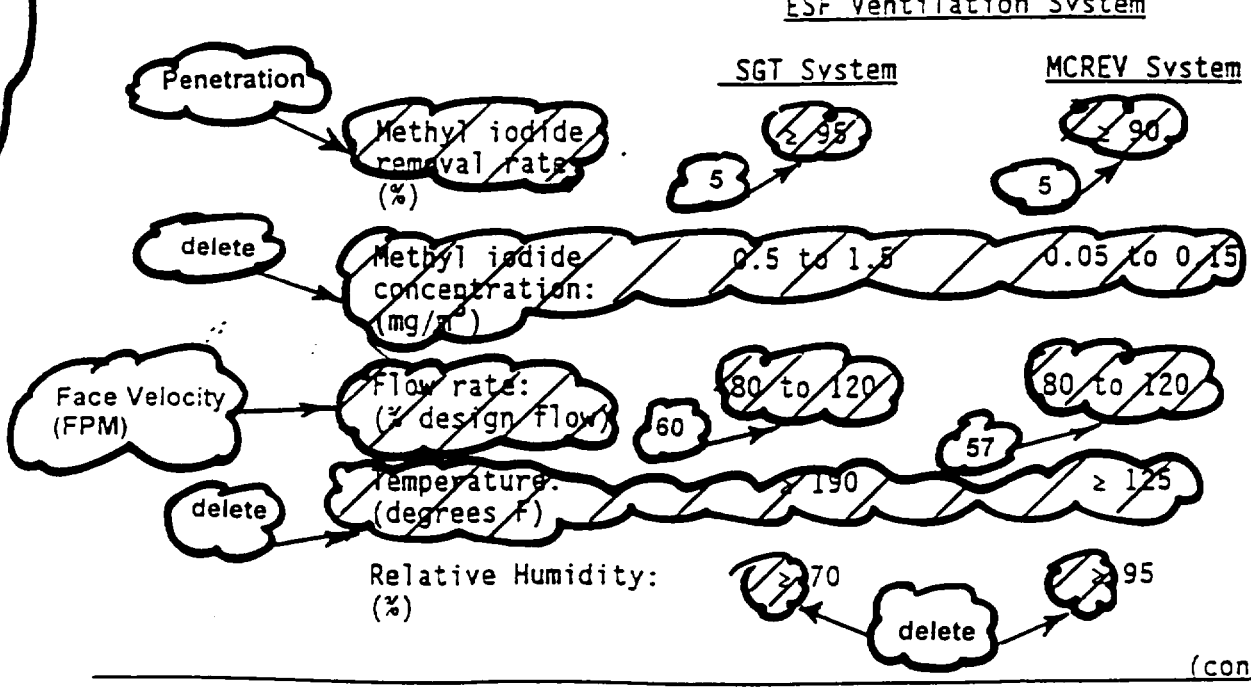
5.5.7 Ventilation Filter Testing Program (VFTP) (continued)

b. Demonstrate for each of the ESF systems that an inplace test of the charcoal adsorber shows a penetration and system bypass < 1.0% when tested in accordance with Regulatory Guide 1.52, Revision 2, Section 5d, and ASME N510-1989, Sections 6 (SGT System only) and 11, at the system flowrate specified below.

ESF Ventilation System	Flowrate (cfm)
SGT System	7200 to 8800
MCREV System	2700 to 3300

c. Demonstrate for each of the ESF systems that a laboratory test of a sample of the charcoal adsorber, when obtained as described in Regulatory Guide 1.52, Revision 2, Section 6b, shows the methyl iodide penetration less than the value specified below when tested at the conditions specified below.

in accordance with the laboratory testing criteria of ASTM D3803-1989 at a temperature of 30 degrees C [86 degrees F], face velocity, and the relative humidity



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5.5 Programs and Manuals

5.5.7 Ventilation Filter Testing Program (VFTP) (continued)

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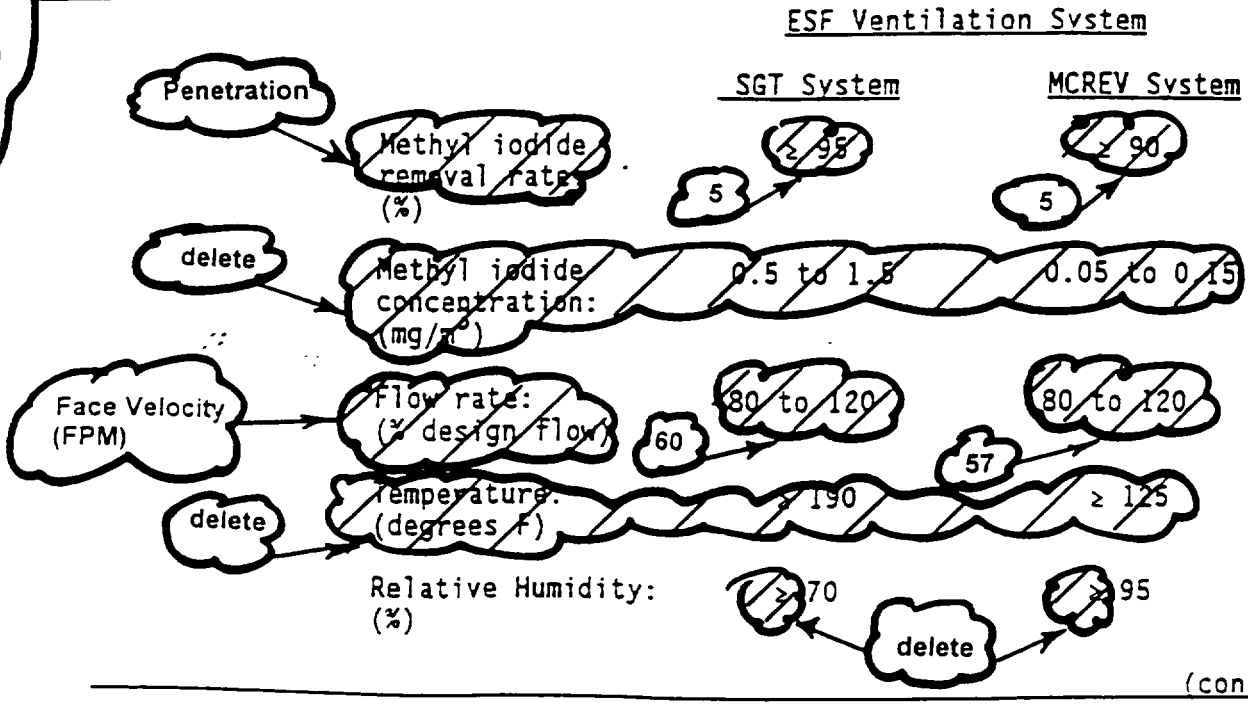

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ATTACHMENT 3

PEACH BOTTOM ATOMIC POWER STATION
UNITS 2 AND 3

Docket Nos. 50-277
50-278

License Nos. DPR-44
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LICENSE CHANGE APPLICATION
ECR 99-01744

List of Camera Ready Pages

Unit 2	Unit 3
5.0-13	5.0-13

5.5 Programs and Manuals

5.5.7 Ventilation Filter Testing Program (VFTP) (continued)

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	ESF Ventilation System	
	SGT System	MCREV System
Penetration (%)	5	5
Face Velocity (FPM)	60	57
Relative Humidity: (%)	70	95

(continued)

5.5 Programs and Manuals

5.5.7 Ventilation Filter Testing Program (VFTP) (continued)

b. Demonstrate for each of the ESF systems that an inplace test of the charcoal adsorber shows a penetration and system bypass < 1.0% when tested in accordance with Regulatory Guide 1.52, Revision 2, Section 5d, and ASME N510-1989, Sections 6 (SGT System only) and 11, at the system flowrate specified below.

ESF Ventilation System	Flowrate (cfm)
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Penetration (%)	5	5
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Relative Humidity: (%)	70	95

(continued)