



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

May 8, 1989

Docket Nos. 50-277/278

Mr. George A. Hunger, Jr.
Director-Licensing
Philadelphia Electric Company
Correspondence Control Desk
P. O. Box 7520
Philadelphia, Pennsylvania 19101

Dear Mr. Hunger:

SUBJECT: TECHNICAL SPECIFICATIONS FOR CONTAINMENT PURGE AND VENTING - MPA
B-24, NUREG-0737 ITEM II.E.4.2
(TAC NOS. 55161/55162 AND 64083/64084)

RE: PEACH BOTTOM ATOMIC POWER STATION, UNIT NOS. 2 AND 3

The Commission has issued the enclosed Amendments Nos. 144 and 146 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 in response to your application dated July 31, 1979 as amended on June 4, 1984 and September 15, 1986.

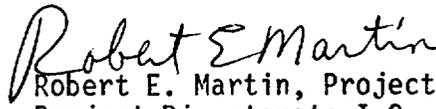
These amendments revise the Technical Specifications to incorporate a 90-hour purging restriction, definitions of conditions requiring no justification for purging, limitations on the use of the Standby Gas Treatment System (SGTS), operability requirements for the SGTS, additional TS for the containment purge and vent isolation valves and to correct certain valve and penetration numbers. As noted in the enclosed Safety Evaluation, the staff has found the proposal made in your letter of November 6, 1985 regarding additional TS surveillance requirements for the CADS nitrogen supplies to be acceptable. Accordingly, we request that the application for the TS changes to implement your proposal and commitment made in the November 6, 1985 letter be made at the earliest practical date, but, in any event, no later than six months following the date of this letter.

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PDR ADDCK 05000277
P PNU

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1/1 CP-1
cc

A copy of the Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's Bi-Weekly Federal Register Notice.

Sincerely,


Robert E. Martin, Project Manager
Project Directorate I-2
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 144 to DPR-44
2. Amendment No. 146 to DPR-56
3. Safety Evaluation

cc w/enclosures:
See next page

Mr. George A. Hunger, Jr.
Philadelphia Electric Company

Peach Bottom Atomic Power Station,
Units 2 and 3

cc:

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1747 Pennsylvania Avenue, N.W.
Washington, D.C. 20006

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Board of Supervisors
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Power Plant Research Program
Department of Natural Resources
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Annapolis, Maryland 21401

Mr. Roland Fletcher
Department of Environment
201 West Preston Street
Baltimore, Maryland 21201

A copy of the Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's Bi-Weekly Federal Register Notice.

Sincerely,

/s/

Robert E. Martin, Project Manager
Project Directorate I-2
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 144 to DPR-44
2. Amendment No. 146 to DPR-56
3. Safety Evaluation

cc w/enclosures:

See next page

DISTRIBUTION: w/enclosures

Docket File	ACRS(10)	Brent Clayton
NRC PDR	GPA/PA	EWenzinger
Local PDR	OGC	
PDI-2 Rdg.	RDiggs, ARM/LFMB	
GLainas	TMeek(8)	DFol
BBoger	EJordan	
WButler	DHagan	
REMartin(2)	Wanda Jones	
RClark	JWermiel	
MO'Brien(2)	EButcher	
BGrimes		

[HUNGER LTR]

PDI-2/D
WButler
5/18/89

PDI-2/PM
REMartin:tr
3/13/89

PSE
JWermiel
4/15/89

OGC
Bm Brandon/Wh
5/11/89

PDI-2/D
WButler
5/18/89



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

PHILADELPHIA ELECTRIC COMPANY
PUBLIC SERVICE ELECTRIC AND GAS COMPANY
DELMARVA POWER AND LIGHT COMPANY
ATLANTIC CITY ELECTRIC COMPANY

DOCKET NO. 50-277

PEACH BOTTOM ATOMIC POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 144
License No. DPR-44

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Philadelphia Electric Company, et al. (the licensee) dated July 31, 1979 as amended on June 4, 1984 and September 15, 1986, 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 or 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:

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PDR ADOCK 05000277
PNU

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 144, are hereby incorporated in the license. PECO shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective within 60 days of its date of issuance except that the inflatable seal program specified in Technical Specification 4.7.E.1 shall become effective during the first refueling outage commencing six months following issuance of this amendment.

FOR THE NUCLEAR REGULATORY COMMISSION

/s/

Walter R. Butler, Director
Project Directorate I-2
Division of Reactor Projects I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 8, 1989

RDI-2/AA
MJB
5/8/89

PDI-2/PM
REMartin:tr
3/31/89

OGC
B. B. B. B. B.
5/4/89

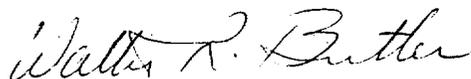
PDI-2/D
WButler
5/8/89 WB

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 144, are hereby incorporated in the license. PECO shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective within 60 days of its date of issuance except that the inflatable seal program specified in Technical Specification 4.7.E.1 shall become effective during the first refueling outage commencing six months following issuance of this amendment.

FOR THE NUCLEAR REGULATORY COMMISSION



Walter R. Butler, Director
Project Directorate I-2
Division of Reactor Projects I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 8, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 144

FACILITY OPERATING LICENSE NO. DPR-44

DOCKET NO. 50-277

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised areas are indicated by marginal lines.

<u>Remove</u>	<u>Insert</u>
175	175
177	177
178	178
-	178a
202	202

LIMITING CONDITIONS FOR OPERATIONSURVEILLANCE REQUIREMENTS3.7.B. Standby Gas Treatment System

1. Except as specified in 3.7.B.3 below, both filter trains of the Standby Gas Treatment System and at least two system fans shall be operable at all times when secondary containment integrity is required. Only one of the two Standby Gas Treatment System (SGTS) trains shall be used at a time for primary containment purge/vent operations using the large isolation valves. Both SGTS trains shall be operable as required by Specification 3.7.E.
- 2.a. The results of the in-place cold DOP and halogenated hydrocarbon tests at approximately 8000 CFM on HEPA filters and charcoal adsorber banks shall show $\geq 99\%$ DOP removal and $\geq 99\%$ halogenated hydrocarbon removal or that filter train shall not be considered operable.
- b. The results of Laboratory carbon sample analysis shall show $\geq 95\%$ radioactive methyl iodide removal at a velocity within 20% of system design, 0.5 to 1.5 mg/m³ inlet methyl iodide concentration, $\geq 70\%$ relative humidity and ≥ 190 degrees F or that filter train shall be considered inoperable.
- c. If gas flow capability of 8,000 CFM \pm 800 CFM can not be provided to a filter train by the fans, that filter train shall not be considered operable.

4.7.B. Standby Gas Treatment System

1. At least once per operating cycle, the following conditions shall be demonstrated.
 - a. Pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 8 inches of water at approximately 8,000 CFM.
 - b. Inlet heater is capable of providing at least 40 KW.
- 2.a. The test and sample analysis of Specification 3.7.B.2 shall be performed initially and at least once per year for standby service; or after every 720 hours of filter train operation; or following significant painting, fire or chemical release in any ventilation zone communicating with the system when it is in operation.
 - b. Cold DOP testing shall be performed after each complete or partial replacement of the HEPA filter bank or after any structural maintenance on the system housing.
 - c. Halogenated hydrocarbon refrigerant testing shall be performed after each complete or partial replacement of the charcoal adsorber bank or after any structural maintenance of the system housing.
 - d. Testing of gasket seals for housing doors downstream of the HEPA filters and charcoal adsorbers shall be performed at and in conformance with each test performed for compliance with Specification 4.7.B.2.a.

LIMITING CONDITIONS FOR OPERATIONSURVEILLANCE REQUIREMENTS3.7.D Primary Containment
Isolation Valves

1. During reactor power operating conditions, all isolation valves listed in Table 3.7.1 and all reactor instrument line excess flow check valves shall be operable except as specified in 3.7.D.2 and 3.7.D.3 below.
2. In the event any isolation valve specified in Table 3.7.1 becomes inoperable for isolation, maintain at least one isolation valve operable in the affected penetration that is open and within 4 hours either:
 - a. Restore the inoperable valve to operable status, or
 - b. Isolate the affected penetration by use of at least one deactivated automatic valve secured in the isolation position*, or
 - c. Isolate the affected penetration by use of at least one closed manual valve* or blind flange.
 - d. Otherwise be in at least Hot Shutdown within the next 12 hours and in Cold Shutdown within the following 24 hours.

*Isolation valves closed to satisfy these requirements may be reopened on an intermittent basis under administrative control.

4.7.D Primary Containment
Isolation Valves

1. The primary containment isolation valve surveillance shall be performed as follows:
 - a. At least once per operating cycle the operable isolation valves that are power operated and automatically initiated shall be tested for simulated automatic initiation and closure times.
 - b. At least once per quarter:
 - (1) All normally open power operated isolation valves (except for the main steam line power operated isolation valves) shall be fully closed and reopened.
 - (2) With the reactor power less than 75% trip main steam isolation valves individually and verify closure time.
 - c. At least once per week the main steam line power-operated isolation valves shall be exercised by partial closure and subsequent reopening.
2. a. Whenever an isolation valve listed in Table 3.7.1 is inoperable, the position of at least one other valve in each line having an inoperable valve shall be recorded daily.
- b. The isolation valves specified in Table 3.7.1 shall be demonstrated to be operable prior to returning to service after maintenance on or replacement of the valve, actuator, control or power circuit by performance of a cycling test, and verification of isolation time

LIMITING CONDITIONS FOR OPERATIONSURVEILLANCE REQUIREMENTS

3. If any reactor instrumentation line excess flow check valve is inoperable, within 4 hours either:
- Restore the inoperable excess flow check valve to operable status or,
 - Isolate the instrument line and declare the associated instrument inoperable.
 - Otherwise be in at least Hot Shutdown within the next 12 hours and in Cold Shutdown within the following 24 hours.

3.7.E Large Primary Containment Purge/Vent Isolation Valves

- The large primary containment purge/vent isolation valves (6 and 18 inches) shall be operated in accordance with specification 3.7.D and with specifications 3.7.E.2 and 3.7.E.3 below.
- When the reactor pressure is greater than 100 psig, and the reactor critical, and the reactor mode switch in the "Startup" or "Run" mode, primary containment purging or venting shall be subject to the following restrictions:
 - The large primary containment purge/vent isolation valves may be opened only for inerting, de-inerting, and pressure control.
 - The accumulated time a purge or vent flow path exists shall be limited to 90 hours per calendar year.

3. At least once per operating cycle the operability of the reactor coolant system instrument line flow check valves shall be verified.

4.7.E Large Primary Containment Purge/Vent Isolation Valves

- The inflatable seals for the large containment ventilation isolation valves shall be replaced at least once every third refueling outage.
- The LLRT leak rate for the large containment ventilation isolation valves shall be compared to the previously measured leak rate to detect excessive valve degradation.

PBAPS

LIMITING CONDITIONS FOR OPERATIONSURVEILLANCE REQUIREMENTS

- c. The flow paths subject to this specification are listed below:

<u>Penetration</u>	<u>Flow Path Valves</u>
N25	A0-2505 - A0-2520
	A0-2519 - A0-2520
N26	A0-2506 - A0-2507
N205B	A0-2521A - A0-2521B
	A0-2519 - A0-2521B
N219	A0-2511 - A0-2512

- d. Only one of two Standby Gas Treatment Systems (SGTS) trains shall be used for purging or venting at any time.

- e. Both SGTS trains shall be operable.

3. If the provisions of specification 3.7.E.2 cannot be satisfied, isolate the penetration within 4 hours or be in at least Hot Shutdown within the next 12 hours and in Cold Shutdown within the following 24 hours.

Large Primary Containment Purge/Vent isolation Valves

The large containment purge/vent isolation valves are subject to the restrictions of Specification 3.7.E.2 to limit the total time that a flow path exists through certain containment penetrations. Consequently, the impact on plant risks resulting from a LOCA while purging and the potential for failure of the Standby Gas Treatment System contribute little to the likelihood of an uncontrolled radioactive release.

Additionally, containment purging is permitted only for inerting, de-inerting, and pressure control of the containment environment. Included within the scope of de-inerting is the need to purge containment to ensure personnel safety during the performance of inspections beneficial to nuclear safety; e.g., inspection of primary coolant integrity during plant startups and shutdowns. Adjustments in primary containment pressure to perform tests such as the drywell-to-torus bypass leakage test are included within the scope of pressure control purging. Purging for humidity and temperature control using the large valves is excluded by the specification.

The T-ring inflatable seal in the valves assures very low rates of leakage. Following valve closure, the seal chamber is automatically pressurized, establishing a tight seal against the periphery of the closed butterfly disc. The seal is subject to some compression set over a period of time due to radiation and temperature effects. This phenomena will not be a problem for the Peach Bottom valves because the inflatable T-ring seal maintains a constant and uniform sealing compression. However, as a preventive maintenance measure, the seals will be replaced every third refueling outage, which approximates the manufacturer's recommendations of every four years.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

PHILADELPHIA ELECTRIC COMPANY
PUBLIC SERVICE ELECTRIC AND GAS COMPANY
DELMARVA POWER AND LIGHT COMPANY
ATLANTIC CITY ELECTRIC COMPANY

DOCKET NO. 50-278

PEACH BOTTOM ATOMIC POWER STATION, UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 146
License No. DPR-56

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Philadelphia Electric Company, et al. (the licensee) dated July 31, 1979 as amended on June 4, 1984 and September 15, 1986, 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 or 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. 146, are hereby incorporated in the license. PECO shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective within 60 days of its date of issuance except that the inflatable seal program specified in Technical Specification 4.7.E.1 shall become effective during the first refueling outage commencing six months following issuance of this amendment.

FOR THE NUCLEAR REGULATORY COMMISSION

/s/
Walter R. Butler, Director
Project Directorate I-2
Division of Reactor Projects I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 8, 1989

PDI-2/LA
MOLBrien
5/8/89

PDI-2/PM
REMartin:tr
3/31/89

OGC
B. Brundage
5/14/89

PDI-2/D
WButler
5/8/89

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 146, are hereby incorporated in the license. PECO shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective within 60 days of its date of issuance except that the inflatable seal program specified in Technical Specification 4.7.E.1 shall become effective during the first refueling outage commencing six months following issuance of this amendment.

FOR THE NUCLEAR REGULATORY COMMISSION



Walter R. Butler, Director
Project Directorate I-2
Division of Reactor Projects I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 8, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 146

FACILITY OPERATING LICENSE NO. DPR-56

DOCKET NO. 50-278

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised areas are indicated by marginal lines.

<u>Remove</u>	<u>Insert</u>
175	175
177	177
178	178
-	178a
202	202

LIMITING CONDITIONS FOR OPERATIONSURVEILLANCE REQUIREMENTS3.7.B. Standby Gas Treatment System

1. Except as specified in 3.7.B.3 below, both filter trains of the Standby Gas Treatment System and at least two system fans shall be operable at all times when secondary containment integrity is required. Only one of the two Standby Gas Treatment System (SGTS) trains shall be used at a time for primary containment purge/vent operations using the large isolation valves. Both SGTS trains shall be operable as required by Specification 3.7.E.
- 2.a. The results of the in-place cold DOP and halogenated hydrocarbon tests at approximately 8000 CFM on HEPA filters and charcoal adsorber banks shall show $\geq 99\%$ DOP removal and $\geq 99\%$ halogenated hydrocarbon removal or that filter train shall not be considered operable.
- b. The results of Laboratory carbon sample analysis shall show $\geq 95\%$ radioactive methyl iodide removal at a velocity within 20% of system design, 0.5 to 1.5 mg/m³ inlet methyl iodide concentration, $\geq 70\%$ relative humidity and ≥ 190 degrees F or that filter train shall be considered inoperable.
- c. If gas flow capability of 8,000 CFM ± 800 CFM can not be provided to a filter train by the fans, that filter train shall not be considered operable.

4.7.B. Standby Gas Treatment System

1. At least once per operating cycle, the following conditions shall be demonstrated.
 - a. Pressure drop across the combined HEPA filters and charcoal absorber banks is less than 8 inches of water at approximately 8,000 CFM.
 - b. Inlet heater is capable of providing at least 40 KW.
- 2.a. The test and sample analysis of Specification 3.7.B.2 shall be performed initially and at least once per year for standby service; or after every 720 hours of filter train operation; or following significant painting, fire or chemical release in any ventilation zone communicating with the system when it is in operation.
- b. Cold DOP testing shall be performed after each complete or partial replacement of the HEPA filter bank after any structural maintenance on the system housing.
- c. Halogenated hydrocarbon refrigerant testing shall be performed after each complete or partial replacement of the charcoal adsorber bank or after any structural maintenance of the system housing.
- d. Testing of gasket seals for housing doors downstream of the HEPA filters and charcoal adsorbers shall be performed at and in conformance with each test performed for compliance with Specification 4.7.B.2.a.

LIMITING CONDITIONS FOR OPERATIONSURVEILLANCE REQUIREMENTS3.7.D Primary Containment
Isolation Valves

1. During reactor power operating conditions, all isolation valves listed in Table 3.7.1 and all reactor instrument line excess flow check valves shall be operable except as specified in 3.7.D.2 and 3.7.D.3 below.
2. In the event any isolation valve specified in Table 3.7.1 becomes inoperable for isolation, maintain at least one isolation valve operable in the affected penetration that is open and within 4 hours either:
 - a. Restore the inoperable valve to operable status, or
 - b. Isolate the affected penetration by use of at least one deactivated automatic valve secured in the isolation position*, or
 - c. Isolate the affected penetration by use of at least one closed manual valve* or blind flange.
 - d. Otherwise be in at least Hot Shutdown within the next 12 hours and in Cold Shutdown within the following 24 hours.

*Isolation valves closed to satisfy these requirements may be reopened on an intermittent basis under administrative control.

4.7.D Primary Containment
Isolation Valves

1. The primary containment isolation valve surveillance shall be performed as follows:
 - a. At least once per operating cycle the operable isolation valves that are power operated and automatically initiated shall be tested for simulated automatic initiation and closure times.
 - b. At least once per quarter:
 - (1) All normally open power operated isolation valves (except for the main steam line power operated isolation valves) shall be fully closed and reopened.
 - (2) With the reactor power less than 75% trip main steam isolation valves individually and verify closure time.
 - c. At least once per week the main steam line power-operated isolation valves shall be exercised by partial closure and subsequent reopening.
2. a. Whenever an isolation valve listed in Table 3.7.1 is inoperable, the position of at least one other valve in each line having an inoperable valve shall be recorded daily.
- b. The isolation valves specified in Table 3.7.1 shall be demonstrated to be operable prior to returning to service after maintenance on or replacement of the valve, actuator, control or power circuit by performance of a cycling test, and verification of isolation tim

LIMITING CONDITIONS FOR OPERATIONSURVEILLANCE REQUIREMENTS

3. If any reactor instrumentation line excess flow check valve is inoperable, within 4 hours either:
- Restore the inoperable excess flow check valve to operable status or,
 - Isolate the instrument line and declare the associated instrument inoperable.
 - Otherwise be in at least Hot Shutdown within the next 12 hours and in Cold Shutdown within the following 24 hours.

3.7.E Large Primary Containment Purge/Vent Isolation Valves

- The large primary containment purge/vent isolation valves (6 and 18 inches) shall be operated in accordance with specification 3.7.D and with specifications 3.7.E.2 and 3.7.E.3 below.
- When the reactor pressure is greater than 100 psig, and the reactor critical, and the reactor mode switch in the "Startup" or "Run" mode, primary containment purging or venting shall be subject to the following restrictions:
 - The large primary containment purge/vent isolation valves may be opened only for inerting, de-inerting, and pressure control.
 - The accumulated time a purge or vent flow path exists shall be limited to 90 hours per calendar year.

3. At least once per operating cycle the operability of the reactor coolant system instrument line flow check valves shall be verified.

4.7.E Large Primary Containment Purge/Vent Isolation Valves

- The inflatable seals for the large containment ventilation isolation valves shall be replaced at least once every third refueling outage.
- The LLRT leak rate for the large containment ventilation isolation valves shall be compared to the previously measured leak rate to detect excessive valve degradation.

PBAPS

LIMITING CONDITIONS FOR OPERATIONSURVEILLANCE REQUIREMENTS

- c. The flow paths subject to this specification are listed below:

<u>Penetration</u>	<u>Flow Path Valves</u>
N25	A0-3505 - A0-3520 A0-3519 - A0-3520
N26	A0-3506 - A0-3507
N205B	A0-3521A - A0-3521B A0-3519 - A0-3521B
N219	A0-3511 - A0-3512

- d. Only one of two Standby Gas Treatment Systems (SGTS) trains shall be used for purging or venting at any time.
- e. Both SGTS trains shall be operable.
3. If the provisions of specification 3.7.E.2 cannot be satisfied, isolate the penetration within 4 hours or be in at least Hot Shutdown within the next 12 hours and in Cold Shutdown within the following 24 hours.

Large Primary Containment Purge/Vent isolation Valves

The large containment purge/vent isolation valves are subject to the restrictions of Specification 3.7.E.2 to limit the total time that a flow path exists through certain containment penetrations. Consequently, the impact on plant risks resulting from a LOCA while purging and the potential for failure of the Standby Gas Treatment System contribute little to the likelihood of an uncontrolled radioactive release.

Additionally, containment purging is permitted only for inerting, de-inerting, and pressure control of the containment environment. Included within the scope of de-inerting is the need to purge containment to ensure personnel safety during the performance of inspections beneficial to nuclear safety; e.g., inspection of primary coolant integrity during plant startups and shutdowns. Adjustments in primary containment pressure to perform tests such as the drywell-to-torus bypass leakage test are included within the scope of pressure control purging. Purging for humidity and temperature control using the large valves is excluded by the specification.

The T-ring inflatable seal in the valves assures very low rates of leakage. Following valve closure, the seal chamber is automatically pressurized, establishing a tight seal against the periphery of the closed butterfly disc. The seal is subject to some compression set over a period of time due to radiation and temperature effects. This phenomena will not be a problem for the Peach Bottom valves because the inflatable T-ring seal maintains a constant and uniform sealing compression. However, as a preventive maintenance measure, the seals will be replaced every third refueling outage, which approximates the manufacturer's recommendations of every four years.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION SUPPORTING

AMENDMENT NOS. 144 AND 146 TO FACILITY OPERATING

LICENSE NOS. DPR-44 and DPR-56

PHILADELPHIA ELECTRIC COMPANY
PUBLIC SERVICE ELECTRIC AND GAS COMPANY
DELMARVA POWER AND LIGHT COMPANY
ATLANTIC CITY ELECTRIC COMPANY

PEACH BOTTOM ATOMIC POWER STATION, UNIT NOS. 2 AND 3

DOCKET NOS. 50-277 AND 50-278

1.0 INTRODUCTION

By letter dated July 31, 1979 as amended on June 4, 1984 and September 15, 1986, Philadelphia Electric Company requested an amendment to Facility Operating License Nos. DPR-44 and DPR-56 for Peach Bottom Atomic Power Station, Unit Nos. 2 and 3. These amendments would revise the Technical Specifications to incorporate a 90-hour purging restriction, definitions of conditions requiring no justification for purging, limitations on the use of the Standby Gas Treatment System (SGTS), operability requirements for the SGTS, additional TS for the containment purge and vent isolation valves and to correct certain valve and penetration numbers.

2.0 EVALUATION

The NRC staff's letter of December 12, 1983 requested the Philadelphia Electric Company (PECo) to revise its Technical Specifications (TSs) submittal for the Peach Bottom purge/vent valves. PECo submitted a revised TS amendment application dated January 4, 1984 in response. The staff reviewed that submittal, discussed its concerns with PECo, and by letter dated November 21, 1984 documented ten concerns. As noted in the letter, three of these prior concerns were found to be resolved. Although these three concerns and the fourth concern do not explicitly impact the TS changes proposed in the licensee's September 15, 1986 application they are included here since they are components of the overall purge/vent isolation valve issue and their inclusion enables the establishment of a complete record of the disposition of the issues in the staff's November 21, 1984 letter. The fourth issue is reviewed herein and requires additional implementing actions by the licensee. A statement of the issue is quoted from the staff's letter of November 4, 1984. These concerns and their resolution are as follows:

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- (1) "The first issue is that the phrase "other safety related reason" in specification 3.7.E.3 is unacceptable. It is an NRC position that safety related reasons for purging/venting shall be specifically stated in the TS. Inerting, deinerting, and pressure control are the three safety related reasons for purging/venting in the STS which require no justification from the licensee."

The licensee has changed the TS such that the now proposed 3.7.E.2.a reads as follows: "The large primary containment purge/vent isolation valves may be opened only for inerting, deinerting, and pressure control." This meets the concern of the issue and is acceptable.

- (2) "The second issue is that the NRC position does not permit carry-over of purge/vent time from year to year. This provision must be removed from specification 3.7.E.2.a."

The currently stated TS 3.7.E.2.b has been revised to delete the carry over provision. This meets the concern of the issue and is acceptable.

- (3) "The third issue is that the NRC position does not permit sharing of purge/vent time between units. Each unit should be permitted 90 hours per year of purging/venting through the SGTS."

The revised TS are specific to each unit and do not reflect any provisions for shared purge/vent time between units. This meets the concern of the issue and is acceptable.

- (4) "The fourth issue is that the NRC position requires a specification for the leak tight integrity of the safety grade seal air supply system. Normally the periodic testing consists of pressurizing the region between two closed and sealed valves and observing the rate of leakage past the seals. This testing demonstrates that there is no seal deterioration. With the Peach Bottom arrangement this type of periodic testing is not required. Since the seals are continuously pressurized seal integrity is demonstrated, however, we still require that it be demonstrated with a leakage test that there be no seal deterioration associated with the safety grade seal air supply system. For this reason we require PEC to include a specification for the safety grade seal air supply system in their TS."

The licensee has addressed this issue by letter dated November 6, 1985. In lieu of proposing leakage testing requirements for a safety grade seal air supply system, which relies on backup bottled nitrogen supplies, the licensee proposes to modify the system to connect the seal air supply system for these valves to the existing Containment Atmospheric Dilution System (CADS) 6000 gallon liquid nitrogen storage tank.

The licensee states that a leak rate test of the system is then not deemed to be necessary since all portions of the supply system are pressurized continuously by either the normal instrument air system or the backup CADS supply when required. The licensee states that all but minor leaks would be evident by observation or loss of CADS nitrogen inventory and to this purpose the licensee developed a preliminary surveillance requirement as follows: "The valve operator and inflatable seal safety-grade pneumatic supply system shall be demonstrated operable for the CACS and CADS isolation valves by:

1. Verifying at least once per day that the backup nitrogen supply inventory is adequate for maintaining the operability of the valves.
2. Once per operating cycle, conduct a functional test that demonstrates the operability of the backup nitrogen supply system upon loss of the normal supply system."

Further, the licensee states that minor leaks are not a safety concern since the CADS storage tank is accessible during a severe accident and can be recharged from liquid nitrogen trucks.

The licensee has proceeded to implement this connection of the CADS supply to these inflatable seal isolation valves by implementing Modification No. 1316. The licensee plans to fully implement this modification for Unit 2 by the third quarter of 1990 and for Unit 3 by late 1989.

The licensee proposed an alternate approach in its November 6, 1985 proposal to any contemplated at the time of the statement of the ten problem areas in the staff's letter of November 21, 1984. Therefore, pending receipt of the staff's response to the licensee's November 6, 1985 proposal for the CADS tie in, the licensee did not address this issue in its September 15, 1986 proposed TS amendment. However, the staff has reviewed the licensee's response to this concern and on the basis of the larger capacity of the CADS system, the ability to replenish the CADS storage tank and the proposed surveillance requirements which the licensee has committed to implement, the staff finds the response to be acceptable. Complete implementation of the licensee's response will require the licensee to submit the proposed surveillance TS and to complete Modification 1316 on both units.

- (5) "The fifth issue is a typographical error..." The licensee has corrected this by adding the words "previously measured" into TS 4.7.E.2.

- (6) "The sixth issue is the valve and penetration numbers in the proposed specification 3.7.E.2.b. These numbers are correct for PB2, but not for PB3. PEC should submit a separate specification for PB3."

The licensee has now included the valve and penetration numbers for Unit 2 on its version of TS page 178a and for Unit 3 on its version of page 178a; thus resolving this concern.

- (7/8) The seventh and eighth issues were resolved as stated in the staff's letter of November 21, 1984.

- (9) "The ninth issue is that specification 3.7.D is incomplete. Specification 3.7.D.1 states that all isolation valves and instrument line flow check valves listed in Table 3.7.1 shall be operable. This statement is followed by an action statement for the isolation valves, but no action statement is given for the check valves. An action statement for the check valves should be included in this specification. Specification 3.7.D.2 is the action statement for the isolation valves. It provides a procedure if one of a pair of isolation valves fails, but gives no indication of what should be done if both valves fail. We suggest that PECO compare their proposed TS with the STS to see an acceptable approach to this concern. Specification 3.7.D is not part of our review and we are not requesting PECO to take action on it at this time. This issue is included here simply because it was raised on the telecon."

Even though this issue was not within the original scope of review of the proposed license amendment the licensee has added an action statement for the excess flow check valves as TS 3.7.D.3. The licensee has also added a standard action statement addressing inoperability of the isolation valves that is consistent with the STS. These actions meet the concerns of this issue and are acceptable.

- (10) "The tenth issue was resolved as stated in the staff's letter of November 21, 1984."

The licensee also made changes to TS 3.7.B.1 to implement the operability restraints on the Standby Gas Treatment System that were requested in the staff's letter of December 12, 1983. The proposed change is responsive to the request and is acceptable.

3.0 SUMMARY

As noted above the staff concludes that an acceptable technical resolution has been proposed for all of the ten issues identified in the staff's letter of November 21, 1984. The staff also concludes that the TS proposed in the licensee's application dated September 15, 1986 are

acceptable for the Peach Bottom station. As noted above, the licensee must take certain actions to implement the resolution of issues raised in the staff's letters of December 12, 1983 and November 21, 1984 and the licensee's letter of November 6, 1985 on the primary containment purge and vent isolation valves.

4.0 ENVIRONMENTAL CONSIDERATIONS

These amendments involve a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes to the surveillance requirements. The 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. 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 nor environmental assessment need be prepared in connection with the issuance of the amendments.

4.0 CONCLUSION

The Commission made a proposed determination that the amendments involve no significant hazards consideration which was published in the Federal Register (51 FR 41864) on November 19, 1986 and consulted with the State of Pennsylvania. No public comments were received and the State of Pennsylvania did not have any comments.

The staff 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, and
(2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

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Dated: May 8, 1989