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. 122
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 January 22, 1987, as supplemented by letter dated March 30, 1987, 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:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 122 , are hereby incorporated in the license. PECO shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective for Unit 2 prior to startup in Cycle 8.

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: June 2, 1987

PDI-2/LA
MVirgilio
6/1/87

PDI-2/PM
RClark:ca
05/19/87

OGC
5/28/87

PDI-2/D
WButler
6/2/87

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 122 , are hereby incorporated in the license. PECO shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective for Unit 2 prior to startup in Cycle 8.

FOR THE NUCLEAR REGULATORY COMMISSION

Walter R. Butler

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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 2, 1987

ATTACHMENT TO LICENSE AMENDMENT NO. 122

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.

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LIST OF FIGURES

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.4 STANDBY LIQUID CONTROL SYSTEM	4.4 STANDBY LIQUID CONTROL SYSTEM
Applicability:	Applicability:
Applies to the operating status of the Standby Liquid Control System.	Applies to the surveillance requirements of the Standby Liquid Control System.
Objective:	Objective:
To assure the availability of a system with the capability to shutdown the reactor and maintain the shutdown condition without the use of control rods.	To verify the operability of the Standby Liquid Control System.
Specification:	Specification:
A. Normal System Availability	A. Normal System Availability
During periods when fuel is in the reactor and prior to startup from a Cold Condition, the Standby Liquid Control System shall be operable, except as specified by 3.4.C. This system need not be operable when the reactor is in the Cold Condition and Specification 3.3.A is met.	The operability of the Standby Liquid Control System is verified by the performance of the following tests: At least once during each operating cycle: 1. Check that the setting of the system relief valves is 1400 <P <1680 psig.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.4 STANDBY LIQUID CONTROL SYSTEM (Cont'd.)	4.4 STANDBY LIQUID CONTROL SYSTEM (Cont'd.)
	2. Manually initiate one of the Standby Liquid Control System Pumps and pump demineralized water into the reactor vessel from the test tank. This test checks explosion of the charge associated with the tested loop, proper operation of the explosive valves, and pump operability. The replacement charges to be installed will be selected from the same manufactured batch as the tested charge.
	3. Both systems, including both explosive valves, shall be tested in the course of two operating cycles.
B. Normal System Requirements At all times when the Standby Liquid Control System is required to be operable, the following conditions shall be met:	B. Normal System Requirements
1. At least 162.7 lbm Boron-10 must be stored in the Standby Liquid Control Solution Tank and be available for injection.	1. Boron-10 Quantity: At least once per month calculate and record the quantity of Boron-10 stored in the Standby Liquid Control Solution Tank.
2. The sodium pentaborate solution concentration must be equal to or less than 9.82% weight.	2. Concentration: At least once per month check and record. Also, check concentration anytime water or boron is added to the solution.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.4 STANDBY LIQUID CONTROL SYSTEM (Cont'd.)	4.4 STANDBY LIQUID CONTROL SYSTEM (Cont'd.)
3. The Standby Liquid Control System conditions must satisfy the following equation: $\left(\frac{C}{13\% \text{ wt.}}\right)\left(\frac{Q}{86 \text{ gpm}}\right)\left(\frac{E}{19.8\% \text{ atom}}\right) \geq 1$ where,	
C = Sodium Pentaborate Solution Concentration (% weight)	
Q = Pump Flow Rate (gpm) against a system head of 1225 psig.	3. Pump Flow Rate: At least once per month each pump loop shall be functionally tested by pumping boron solution to the test tank. At least once per quarter check and record pump flow rate against a system head of 1225 psig.
E = Boron-10 Enrichment (% atom Boron-10)	4. Enrichment: Following each addition of boron to the solution tank, calculate enrichment within 8 hours. Verify results by analysis within 30 days.
	5. Solution Volume: At least once per day check and record.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.4 STANDBY LIQUID CONTROL SYSTEM (Cont'd.)	4.4 STANDBY LIQUID CONTROL SYSTEM (Cont'd.)

C. Operation with Inoperable Components

From and after the date that a redundant component is made or found to be inoperable, Specification 3.4.A shall be considered fulfilled and continued operation shall be permitted provided that the component is returned to to an operable condition within seven days. If this Specification cannot be met, the reactor shall be in Hot Shutdown within 12 hours and a Cold Shutdown Condition within the following 24 hours.

D. If Specification 3.4.A and 3.4.B cannot be met, the system shall be restored to an operable status within 8 hours or the reactor shall be placed in Hot Shutdown within the following 12 hours and in a Cold Shutdown Condition with all operable control rods fully inserted within the following 24 hours.

3.4 BASES

STANDBY LIQUID CONTROL SYSTEM

A. The conditions under which the Standby Liquid Control System must provide shutdown capability are identified in the Plant Nuclear Safety Operational Analysis (UFSAR Appendix G). If no more than one operable control rod is withdrawn, the basic shutdown reactivity requirement for the core is satisfied and the Standby Liquid Control System is not required. Thus, the basic reactivity requirement for the core is the primary determinant of when the Standby Liquid Control System is required.

The purpose of the Standby Liquid Control System is to provide the capability of bringing the reactor from full power to a cold, xenon-free shutdown condition assuming that none of the withdrawn control rods can be inserted. To meet this objective, the Standby Liquid Control System is designed to inject a sufficient quantity of Boron-10 (the boron isotope with the high neutron cross-section) to bring the reactor from full power to a subcritical condition, considering the hot to cold reactivity difference, xenon poisoning, etc.

The minimum limitation on the relief valve setting is intended to prevent the recycling of boron solution via the lifting of a relief valve at too low a pressure. The upper limit on the relief valve setting provides system protection from overpressure.

The only practical time to fully test the Standby Liquid Control System is during a refueling outage. Various components of the system are individually tested periodically, thus making more frequent testing of the entire system unnecessary.

B. In order to satisfy the purpose of the Standby Liquid Control System, a sufficient quantity of Boron-10 must be stored and be available for injection into the reactor vessel. The quantity of Boron-10 required to be stored is sufficient to bring the concentration of Boron-10 in the reactor to the point where the reactor will be shutdown and to provide an additional 25 percent margin beyond the amount needed to shutdown the reactor to allow for possible imperfect mixing of the chemical solution in the reactor water.

By limiting the sodium pentaborate solution concentration to equal to or less than 9.82% weight, the solution saturation temperature is limited to below 53 degrees F (including a 10 degrees F margin). Since the ambient temperature is anticipated to always be greater than 53 degrees F, the system pump tests can be conducted by recirculating solution from the Standby Liquid Control Solution Tank without concern over the solution precipitating in the piping, pumps, and valves.

3.4 BASES

STANDBY LIQUID CONTROL SYSTEM

The Standby Liquid Control System is also required to meet 10 CFR 50.62 (Requirements for reduction of risk from anticipated transients without scram (ATWS) events for light-water-cooled nuclear power plants). The Standby Liquid Control System must have the equivalent control capacity of an 86 gpm system of 13% weight natural sodium pentaborate in order to satisfy 10 CFR 50.62 requirements. This equivalency requirement is fulfilled by having a system which satisfies the equation given in 3.4.B.3. Each parameter (sodium pentaborate solution concentration, pump flow rate, and Boron-10 enrichment) is tested at an interval consistent with the potential for that parameter to vary and also to assure proper equipment performance. Boron-10 enrichment testing is only required when chemical addition occurs since change cannot occur by any process other than the addition of new chemicals to the Standby Liquid Control Solution Tank.

The enriched sodium pentaborate solution is made by combining natural borax and Boron-10 enriched boric acid in stoichiometric quantities in demineralized water. Since both the borax and Boron-10 enriched boric acid have known Boron-10 enrichments, the resulting Boron-10 enriched sodium pentaborate also has a known Boron-10 enrichment. This process is adequate for use in determining immediate compliance with 3.4.B.3 following chemical addition. The solution Boron-10 enrichment shall be subsequently verified by analysis to be acceptable.

The volume of solution stored is checked at a frequency to assure high reliability of the system. Solution level is indicated and alarmed in the control room.

C. Only one of the two Standby Liquid Control pumping loops is needed for operating the system. One inoperable pumping circuit does not immediately threaten shutdown capability, and reactor operation can continue while the circuit is being repaired.

4.4 BASES

STANDBY LIQUID CONTROL SYSTEM

The bases for the surveillance requirements and the details of the various tests are given in Subsection 3.8.5 of the Updated Final Safety Analysis Report.

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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. 126
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 January 22, 1987, as supplemented by letter dated March 30, 1987, 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 Sp fications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 126, are hereby incorporated in the license. PECO shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective for Unit 3 prior to startup in Cycle 8.

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: June 7, 1987

PDI-2/LA	PDI-2/PM	OGC	PDI-2/D
MO'Brien	RClark:caf		WButler
6/1/87	05/19/87	5/26/87	6/2/87

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 126, are hereby incorporated in the license. PECO shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective for Unit 3 prior to startup in Cycle 8.

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: June 2, 1987

ATTACHMENT TO LICENSE AMENDMENT NO. 126

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.

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LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.4 STANDBY LIQUID CONTROL SYSTEM (Cont'd.)	4.4 STANDBY LIQUID CONTROL SYSTEM (Cont'd.)
	2. Manually initiate one of the Standby Liquid Control System Pumps and pump demineralized water into the reactor vessel from the test tank. This test checks explosion of the charge associated with the tested loop, proper operation of the explosive valves, and pump operability. The replacement charges to be installed will be selected from the same manufactured batch as the tested charge.
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