

Mr. George J. Beck
Manager-Licensing, MC 52A-5
Philadelphia Electric Company
Nuclear Group Headquarters
Correspondence Control Desk
P.O. Box No. 195
Wayne, Pennsylvania 19087-0195

Dear Mr. Beck:

SUBJECT: MAIN STEAM SAFETY AND RELIEF VALVE SURVEILLANCE REQUIREMENTS, PEACH
BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3 (TAC NOS. M83704 AND M83705)

The Commission has issued the enclosed Amendments Nos. 169 and 173 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 May 18, 1992 as supplemented by your letter dated July 9, 1992.

These amendments modify the requirements of Technical Specification Sections 4.6.D.1 and 4.6.D.2. The amended surveillance requirements specify that at least one safety valve and five relief valves shall be checked or replaced with a bench checked valve every 24 months and that at least one of the relief valves shall be disassembled and inspected every 24 months.

You are requested to notify the staff, in writing, when you have fully implemented this amendment.

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/

Joseph W. Shea, Acting Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 169 to DPR-44
2. Amendment No. 173 to DPR-56
3. Safety Evaluation

cc w/enclosures:

See next page

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

August 19, 1992

Docket Nos. 50-277
and 50-278

Mr. George J. Beck
Manager-Licensing, MC 52A-5
Philadelphia Electric Company
Nuclear Group Headquarters
Correspondence Control Desk
P.O. Box No. 195
Wayne, Pennsylvania 19087-0195

Dear Mr. Beck:

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These amendments modify the requirements of Technical Specification Sections 4.6.D.1 and 4.6.D.2. The amended surveillance requirements specify that at least one safety valve and five relief valves shall be checked or replaced with a bench checked valve every 24 months and that at least one of the relief valves shall be disassembled and inspected every 24 months.

You are requested to notify the staff, in writing, when you have fully implemented this amendment.

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,

A handwritten signature in black ink, appearing to read "Joseph W. Shea".

Joseph W. Shea, Acting Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 169 to DPR-44
2. Amendment No. 173 to DPR-56
3. Safety Evaluation

cc w/enclosures:
See next page

Mr. George J. Beck
Philadelphia Electric Company

Peach Bottom Atomic Power Station,
Units 2 and 3

cc:

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Board of Supervisors
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R. D. #1
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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. 169
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 May 18, 1992, as supplemented by letter dated July 9, 1992, 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. 169, 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.

FOR THE NUCLEAR REGULATORY COMMISSION



For

Charles L. Miller, Director
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 19, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 169

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.

Remove

Insert

147

147

PBAPS

LIMITING CONDITIONS FOR OPERATIONSURVEILLANCE REQUIREMENTS3.6.D. Safety and Relief Valves

1. During reactor power operating conditions and prior to reactor startup from a Cold Condition, or whenever reactor coolant pressure is greater than atmospheric and temperature greater than 212°F, both safety valves and the safety modes of all relief valves shall be operable, except as specified in 3.6.D.2.
2.
 - (a) From and after the date that the safety valve function of one relief valve is made or found to be inoperable, continued reactor operation is permissible only during the succeeding thirty days unless such valve function is sooner made operable.
 - (b) From and after the date that the safety valve function of two relief valves is made or found to be inoperable, continued reactor operation is permissible only during the succeeding seven days unless such valve function is sooner made operable.
3. If Specification 3.6.D.1 is not met, an orderly shutdown shall be initiated and the reactor coolant pressure shall be reduced to atmospheric within 24 hours.

4.6.D Safety and Relief Valves

1. At least one safety valve and 5 relief valves shall be checked or replaced with bench checked valves every 24 months. All valves will be tested every two cycles.

The set point of the safety valves shall be as specified in Specifications 2.2.
2. At least one of the relief valves shall be disassembled and inspected every 24 months.
3. The integrity of the relief safety valve bellows shall be continuously monitored. The switches shall be calibrated once per operating cycle. The accumulators and air piping shall be inspected for leakage using leak test fluid once per operating cycle.
4. With the reactor pressure \geq 100 psig, each relief valve shall be manually opened once per operating cycle. Verification that each relief valve has opened shall either be by observation of compensating turbine bypass valve closure or load reduction or change in measured steam flow depending on the operating configuration existing during the test.



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. 173
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 May 18, 1992, as supplemented by letter dated July 9, 1992, 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. 173, 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.

FOR THE NUCLEAR REGULATORY COMMISSION

For James C. Stone
Charles L. Miller, Director
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 19, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 173

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.

Remove

147

Insert

147

PBAPS

LIMITING CONDITIONS FOR OPERATIONSURVEILLANCE REQUIREMENTS3.6.D. Safety and Relief Valves

1. During reactor power operating conditions and prior to reactor startup from a Cold Condition, or whenever reactor coolant pressure is greater than atmospheric and temperature greater than 212°F, both safety valves and the safety modes of all relief valves shall be operable, except as specified in 3.6.D.2.
2.
 - (a) From and after the date that the safety valve function of one relief valve is made or found to be inoperable, continued reactor operation is permissible only during the succeeding thirty days unless such valve function is sooner made operable.
 - (b) From and after the date that the safety valve function of two relief valves is made or found to be inoperable, continued reactor operation is permissible only during the succeeding seven days unless such valve function is sooner made operable.
3. If Specification 3.6.D.1 is not met, an orderly shutdown shall be initiated and the reactor coolant pressure shall be reduced to atmospheric within 24 hours.

4.6.D Safety and Relief Valves

1. At least one safety valve and 5 relief valves shall be checked or replaced with bench checked valves every 24 months. All valves will be tested every two cycles.

The set point of the safety valves shall be as specified in Specifications 2.2.
2. At least one of the relief valves shall be disassembled and inspected every 24 months.
3. The integrity of the relief safety valve bellows shall be continuously monitored. The switches shall be calibrated once per operating cycle. The accumulators and air piping shall be inspected for leakage using leak test fluid once per operating cycle.
4. With the reactor pressure ≥ 100 psig, each relief valve shall be manually opened once per operating cycle. Verification that each relief valve has opened shall either be by observation of compensating turbine bypass valve closure or load reduction or change in measured steam flow depending on the operating configuration existing during the test.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NOS. 169 AND 173 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 May 18, 1992, as supplemented by letter dated July 9, 1992, Philadelphia Electric Company, Public Service Electric and Gas Company, Delmarva Power and Light Company and Atlantic City Electric Company (the licensees) submitted a request for changes to the Peach Bottom Atomic Power Station (PBAPS), Unit Nos. 2 and 3, Technical Specifications (TS). The requested change would modify the surveillance requirements for the Main Steam Safety Valves and Relief Valves in Section 4.6.D.1 and 4.6.D.2 of the TS. Specifically, the requested change would modify the frequency at which the main steam safety and relief valves are checked or replaced with bench checked valves and the frequency at which one of the relief valves is disassembled and inspected from once-per-refueling cycle to once every 24 months. The proposed changes are part of an effort to modify the Peach Bottom TS to accommodate a 24-month fuel cycle. Guidance on TS changes to support a 24-month fuel cycle was provided in NRC Generic Letter 91-04, dated April 2, 1991. The letter dated July 9, 1992, did not change the substance of the original request and did not change the initial proposed no significant hazards consideration determination.

Background

As part of a program to accommodate a 24-month fuel cycle, the licensee has proposed to modify the TS that specify that one main steam safety valve and five main steam relief valves be checked or replaced with bench checked valves once-per-operating cycle. In addition, the licensee has proposed to change the TS that specify that at least one relief valve be disassembled and inspected each refueling outage. The licensee proposes to change the frequency for these activities to once every 24 months. The licensee's basis for extending the surveillance interval to 24 months is that the Safety and Relief valves installed at Peach Bottom do not experience a time based failure mechanism that would preclude such an extension.

Section 4.4.2 of the PBAPS Updated Final Safety Analysis Report (UFSAR) describes the design bases of the nuclear system pressure relief system. The safety and relief valves prevent overpressurization of the nuclear system thus preventing failure of the nuclear system process barrier. ASME Boiler and Pressure Vessel Code, Section III, requires that a vessel be protected from pressure in excess of design pressure. The Code allowable peak pressure is 110% of vessel design pressure. The Code further requires that the lowest safety valve setpoint be at or below design pressure and that the highest safety valve setpoint be below 105% of design pressure. Section 4.4.6 of the UFSAR describes the pressure relieving capacity analysis of the installed safety and relief valves for Peach Bottom. The analysis concludes that for a Main Steam Isolation Valve closing event followed by an indirect reactor scram on high neutron flux, the reactor vessel bottom pressure will reach 1260 psig assuming all of the safety and relief valves are operable and actuating at +1% of their nominal setpoints. The peak pressure of 1260 psig represents a 115 psig margin to the Code limit of 110% of design pressure (1375 psig). Design pressure for the nuclear system is 1250 psig.

The safety/relief valves (SRV) (eleven per unit) installed at Peach Bottom are three-stage pilot-actuated valves manufactured by the Target Rock Company. In the pressure relief or safety mode, the valves operate by steam overpressure causing a pilot valve to actuate which allows steam to actuate a second stage valve which, in turn, allows system pressure to open the main valve disc. The relief valves can also be operated remotely from the control room by application of pneumatic pressure to a mechanical push rod which actuates the second stage disc.

The safety valves at Peach Bottom (two per unit) are spring safety valves. The valve actuates when the force on the disc from system pressure exceeds the opposing spring force.

2.0 EVALUATION

Information submitted in the July 9, 1992 supplement indicated that since 1987, the licensee has experienced ten safety/relief valve tests where the as found lift setpoint was outside of the 1% deviation allowed by the Technical Specifications. Similarly, the licensee experienced two safety valve tests where the as found lift setpoints exceeded the 1% TS allowed deviation.

The licensee submitted an analysis that described the significance of these failures. The licensee used the worst case as-found conditions as the basis of their analysis. Of the 11 safety/relief valves tested during the Unit 3, 1989 outage, 3 SRVs had setpoints that were out of tolerance high (from 2.0 to 4.5% high). Of the remaining eight SRVs, five had setpoints that were within tolerance and three were either not testable or had missing test data. The two safety valves tested during the same Unit 3, 1989 refueling outage had as-found setpoints that were out of tolerance low (from 2.1 to 4.6% low). The licensee concluded that sufficient margin to 110% design pressure existed in the UFSAR analysis to accommodate the observed out-of-tolerance setpoints. Additionally, the licensee described the results of a recent overpressure

analysis that evaluated increased delay time during safety/relief valve actuation. The licensee's results showed that for an increase in delay time from 0.4 to 0.6 seconds, which the licensee correlated to a 2-3% setpoint increase, peak pressure increased by 19 psig for the MSIV closure with high neutron flux scram event. This revised peak pressure was still well below the 1375 psig maximum allowable pressure.

An April 1992 study by the NRC staff, "AEOD/S92-02, Safety and Safety/Relief Valve Reliability," indicated that three stage safety/relief valves have not experienced the significant number of problems that two-stage pilot-operated valves have experienced. The study was based on a review of Licensee Event Reports and industry data. No time based setpoint drift mechanisms have been identified for the three-stage pilot-operated valves. Thus the number or magnitude of observed setpoint drift events would not be expected to increase significantly by extending the surveillance interval to 24 months.

Based on the licensee's analysis which demonstrated that the setpoint drifts observed for Peach Bottom's safety and safety/relief valves did not have a significant impact on the ability of the nuclear system pressure relief system to maintain reactor coolant pressure boundary integrity and on the fact that three-stage pilot-operated safety relief valves and spring safety valves have not experienced a significant time based setpoint drift mechanism, the staff finds the licensee's proposal to extend the surveillance interval on safety and safety/relief valves to 24 months acceptable.

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 surveillance requirements. 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 (57 FR 28205). 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.

Principal Contributor: J. Shea

Date: August 19, 1992