



LICENSE AUTHORITY FILE CO.
UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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MAR 01 1983

Dockets Nos. 50-277
and 50-278

*Posted
Amndt. 89
to DPR-56*

Mr. Edward G. Bauer, Jr.
Vice President and General Counsel
Philadelphia Electric Company
2301 Market Street
Philadelphia, Pennsylvania 19101

Dear Mr. Bauer:

The Commission has issued the enclosed Amendment No. 89 to Facility Operating License No. DPR-44 and Amendment No. 89 to Facility Operating License No. DPR-56 for the Peach Bottom Atomic Power Station, Units Nos. 2 and 3. These amendments consist of changes to the Technical Specifications (TSS) in partial response to your application dated October 1, 1981.

The staff issued on February 9, 1982 amendments pertaining to three administrative items which were part of your October 1, 1981 application. We are undertaking an expedited schedule to try to complete, where possible, the remaining items on your October 1, 1981 application.

The changes to the TSS covered in this letter amend the Core Spray (CS) Sparger differential pressure (dp) alarm setpoint requirement from 5 ± 1.5 psid to 1 ± 1.5 psid. These changes are needed to meet the intent of the recommendations and guidance of IE Circular 79-24 for detection of CS Sparger pipe breaks within the reactor vessel annulus area.

Copies of the Safety Evaluation and a related Notice of Issuance are also enclosed.

Sincerely,

A handwritten signature in cursive script that reads "Gerald E. Gears".

Gerald E. Gears, Project Manager
Operating Reactors Branch #4
Division of Licensing

Enclosures:

1. Amendment No. 89 to DPR-44
2. Amendment No. 89 to DPR-56
3. Safety Evaluation
4. Notice

cc w/enclosures:

See next page

Philadelphia Electric Company

cc w/enclosure(s):

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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. 89
License No. DPR-44

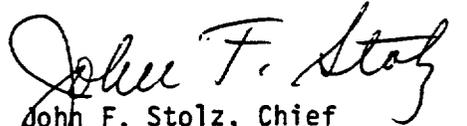
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Philadelphia Electric Company, et al. (the licensee) dated October 1, 1981, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-44 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 89, 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 the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: MAR 01 1983

ATTACHMENT TO LICENSE AMENDMENT NO. 89

FACILITY OPERATING LICENSE NO. DPR-44

DOCKET NO. 50-277

Replace the following page of the Appendix "A" Technical Specifications with the enclosed page. The revised page is identified by Amendment number and contains a vertical line indicating the area of change.

Remove

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Insert

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TABLE 3.2.8 (CONTINUED)

INSTRUMENTATION THAT INITIATES OR CONTROLS THE CORE AND CONTAINMENT
COOLING SYSTEMS

Minimum No. Of Operable Instrument Channels Per Trip System(1)	Trip Function	Trip Level Setting	Number of Instru- ment Channels Pro- vided by Design	Remarks
1	Core Spray Sparger to Reactor Pressure Vessel d/p	1 (± 1.5) psid	2 Inst. Channels	Alarm to detect core spray sparger pipe break.
2	Condensate Storage Tank Low Level	$\geq 5'$ above tank bottom	2 Inst. Channels	Provides interlock to HPCI pump suction. valves.
2	Suppression Chamber	$\leq 5'$ above normal water level	2 Inst. Channels	Transfers HPCI pump suction to suppression chamber.



UNITED STATES
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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. 89
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 October 1, 1981, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-56 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 89, 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 the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: MAR 01 1983

ATTACHMENT TO LICENSE AMENDMENT NO. 89

FACILITY OPERATING LICENSE NO. DPR-56

DOCKET NO. 50-273

Replace the following page of the Appendix "A" Technical Specifications with the enclosed page. The revised page is identified by Amendment number and contains a vertical line indicating the area of change.

Remove

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Insert

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TABLE 3.2.8 (CONTINUED)

INSTRUMENTATION THAT INITIATES OR CONTROLS THE CORE AND CONTAINMENT COOLING SYSTEMS

Minimum No. Of Operable Instrument Channels Per Trip System(1)	Trip Function	Trip Level Setting	Number of Instrument Channels Provided by Design	Remarks
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NOS. 89 AND 89 TO FACILITY OPERATING LICENSES NOS. DPR-44 & 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, UNITS NOS. 2 AND 3

DOCKETS NOS. 50-277 AND 50-278

INTRODUCTION

By letter dated October 1, 1981, the Philadelphia Electric Company (the licensee) proposed an amendment to the Technical Specifications (TSs) appended to Facility Operating Licenses Nos. DPR-44 and DPR-56 for the Peach Bottom Atomic Power Station, Units Nos. 2 and 3 (Reference 1). The proposed amendment would reduce the Core Spray (CS) Sparger reactor pressure vessel differential pressure (dp) trip setpoint from 5 to 1 psid.

BACKGROUND

The CS Sparger dp alarm is designed to detect CS pipe breaks occurring in the annulus area of the reactor vessel (i.e., located outside the core shroud but inside the reactor vessel). Between 1976 and 1979 BWR operators, the General Electric Company (GE), and the NRC reviewed and established guidelines for correction of operating deficiencies for this instrument.

The CS Sparger dp instrument was found to be subject to installation and calibration errors which could prevent alarm annunciation on an actual CS line break. When installed and calibrated per the original GE design, the instrument was calibrated for an alarm setpoint of 5 psid increasing at cold shutdown conditions. The high pressure side of the dp instrument sensed above core plate pressure and the low pressure side sensed the pressure within the CS piping outside the reactor vessel but inside the drywell. With a CS piping break in the annulus area, the instrument would sense the pressure drop across the steam separators (about 7 psid) and the steam dryers (about 2.0 psid). However, because the calibration was performed in cold shutdown conditions, the instruments indicated down-scale (less than 0 psid) at hot, normal operating conditions, inducing a total of about -3.5 psid error due to heating.

Combining this negative 3.5 psid error with the positive 5 psid alarm setpoint requires a total 8.5 psid to trip the CS pipe break alarm. Since the total dp available across the separators and dryers is only about 7.2 psid, the alarm would not be tripped by an actual break.

In response to the above experience, GE issued Reference 2 recommending that instrument sensing line connections be interchanged and the instrument recalibrated to a recommended alarm setpoint (on increasing dp) of $0.5 + 0.25$ psid and recommended a TS setpoint limit of greater than 0 psid. An alternative, extended range dp instrumentation replacing the original equipment, was also recommended.

On November 26, 1979, NRC issued IE Circular 79-24 (Reference 3) to provide the above information to all BWR owners and recommend corrective action including proposed TS changes and interim compensatory actions. In response to Reference 3, the licensee proposed to reduce the CS Sparger dp alarm setpoint TS requirement from $5 + 1.5$ psid to $1 + 1.5$ psid (Reference 1).

On July 29, 1982, NRC Region I personnel conducted an announced inspection at the licensee's corporate headquarters (Reference 4) to review the licensee's technical basis for the proposed change. The inspection included review of substantiating licensee documents, discussions with the cognizant licensee engineer, and independent verification of the licensee's conclusions.

EVALUATION

Peach Bottom Units 2 and 3 have CS Sparger dp instruments which read only positive values. Instrument reference leg heatup from cold shutdown to operating conditions causes a negative dp and instrument deflection of about 3.5 psid as described in Reference 3. The current TS setpoint of $5 + 1.5$ psid requires an induced differential pressure of $8.5 + 1.5$ psid to actuate the alarm, in excess of the 7.2 psid actually induced by the CS pipe break of interest.

As documented in Reference 4, the licensee has reviewed the system configuration at Peach Bottom Units 2 and 3 and has incorporated the recommendations of Reference 2. However, due to the licensee's corporate preference to have an on-scale alarm setpoint, the licensee maintained the original configuration and proposed a new TS setpoint limit of $1 + 1.5$ psid for the alarm setpoint. This will result in alarm actuation at $4.5 + 1.5$ psid and is adequate to detect a CS Sparger pipe break induced dp of about 7 psid.

A direct reading analog dp instrument equipped with a remote alarm is used to measure CS Sparger dp. The minimum uncertainty attainable with this equipment is about $+ 1.5$ psid based upon operating experience and is identical to that of the existing TS. Because of this expected uncertainty, the licensee elected to retain the $+ 1.5$ psid tolerance in the current proposal instead of using the tolerance of $+ 0.25$ psid recommended by Reference 2, thereby avoiding the potential for spurious alarms and unnecessary recalibration due to expected and tolerable instrument drift. This results in a worst case margin of 1.2 psid between the maximum error alarm setpoint and the expected pipe break dp (4.5 psid $+ 1.5$ psid error = 6 psid setpoint versus an expected pipe break dp of 7.2 psid). The setpoint selected is also consistent with the recommended value of Reference 3.

The CS Sparger dp alarm aids the operator to detect a CS Sparger pipe break. The information gathered from the CS Sparger dp sensors is not used in any other safety functions. Based on the information submitted by the licensee and inspection of supporting documents, we conclude that:

1. The proposed TS results in a worst case margin of 1.2 psid available to prevent spurious alarms while assuring that a pipe break induced dp of 7.2 psid will actuate the alarm;
2. The setpoint tolerance of ± 1.5 psid is the minimum achievable for the equipment; and
3. The proposed TS meets the intent of the recommendations and guidance of Reference 3.

ENVIRONMENTAL CONSIDERATION

We have determined that the amendments do not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendments involve an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of these amendments.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendments do not involve a significant increase in the probability or consequences of an accident previously evaluated, do not create the possibility of an accident of a type different from any evaluated previously, and do not involve a significant reduction in a margin of safety, the amendments do not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Dated: MAR 01 1983

The following NRC personnel have contributed to this Safety Evaluation:
Dr. P. K. Eapen, Region I.

REFERENCES

1. PECO letter from E. J. Bradley to H. R. Denton (NRC) dated October 1, 1981, Subject: Technical Specification Amendment Request.
2. General Electric Nuclear Service Information Letter (SIL) No. 300 dated September 1979, Subject: Instrumentation for Core Spray Sparger Line Break Detection.
3. Inspection and Enforcement Circular (IEC) No. 79-24 dated November 26, 1979, Subject: Proper Installation and Calibration of Core Spray Pipe Break Detection Equipment on BWRs.
4. NRC Region I Combined Inspection Report 50-277/82-18; 50-278/82-17.

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKETS NOS. 50-277 AND 50-278PHILADELPHIA ELECTRIC COMPANY, ET ALNOTICE OF ISSUANCE OF AMENDMENTS TO FACILITY
OPERATING LICENSES

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendments Nos. 89 and 89 to Facility Operating Licenses Nos. DPR-44 and DPR-56, issued to Philadelphia Electric Company, Public Service Electric and Gas Company, Delmarva Power and Light Company, and Atlantic City Electric Company, which revised Technical Specifications (TSs) for operation of the Peach Bottom Atomic Power Station, Units Nos. 2 and 3 (the facility) located in York County, Pennsylvania. The amendments are effective as of the date of issuance.

The changes to the TSs reduce the Reactor Vessel Differential Pressure Alarm setpoint to permit proper alarm operation for detection of Core Spray Sparger pipe breaks within the reactor vessel annulus area.

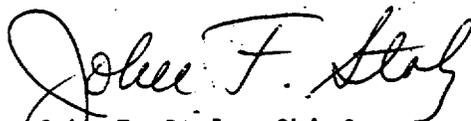
The application for the amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendments. Prior public notice of these amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has determined that the issuance of these amendments will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of these amendments.

For further details with respect to this action, see (1) the application for amendments dated October 1, 1981, (2) Amendment No. 89 to License No. DPR-44 and Amendment No. 89 to License No. DPR-56 and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C., and at the Government Publications Section, State Library of Pennsylvania, Education Building, Commonwealth and Walnut Streets, Harrisburg, Pennsylvania. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 1st day of March 1983.

FOR THE NUCLEAR REGULATORY COMMISSION



John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing