August 30, 1993

Docket Nos. 50-277
and 50-278

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

Dear Mr. Hunger:

SUBJECT: APPENDIX J EXEMPTION FOR PEACH BOTTOM ATOMIC POWER STATION, UNIT 3 (TAC NO. M86722)

The Commission has issued the enclosed Exemption from certain requirements of Appendix J to 10 CFR Part 50 for the Peach Bottom Atomic Power Station, Unit 3 in response to your letter dated June 11, 1993, and supplemented by letter dated July 26, 1993. The exemption permits a one-time 60-day extension of the test period for Type B and C tests for certain containment penetrations described in your letters. The bases for our findings are contained in the enclosed Safety Evaluation.

A copy of the exemption is being forwarded to the Office of the Federal Register for publication.

Sincerely,

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

Enclosures:
1. Exemption
2. Safety Evaluation

cc w/enclosures:
See next page

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

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See next page

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7590-01

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
PHILADELPHIA ELECTRIC COMPANY	)	
PUBLIC SERVICE ELECTRIC AND GAS COMPANY	)	Docket No. 50-278
DELMARVA POWER AND LIGHT COMPANY	)	
ATLANTIC CITY ELECTRIC COMPANY	)	
	)	
(Peach Bottom Atomic Power Station, Unit 3)		

EXEMPTION

I.

The Philadelphia Electric Company, et al. (PECo, the licensee), is the holder of Operating License No. DPR-56, which authorizes operation of the Peach Bottom Atomic Power Station, Unit 3, at steady state reactor core power levels not in excess of 3293 megawatts thermal. The license provides, among other things, that the licensee is subject to the rules, regulations and orders of the Commission now or hereafter in effect.

The plant is a boiling water reactor located at the licensee's site in York County, Pennsylvania.

II.

Section 50.54(o) of 10 CFR Part 50 requires that primary reactor containments for water cooled power reactors be subject to the requirements of Appendix J to 10 CFR Part 50. Appendix J contains the leakage test requirements, schedules, and acceptance criteria for tests of the leak tight integrity of the primary reactor containment and systems and components which penetrate the containment.

Section III.D.2(a) of Appendix J to 10 CFR Part 50 requires that Type B leak rate tests, except for air locks, be performed during reactor shutdown for refueling, or other convenient intervals, but in no case at intervals greater than 2 years. Type B tests are intended to detect local leaks and to measure leakage across each pressure-containing or leakage-limiting boundary for certain reactor containment penetrations.

Section III.D.3 of Appendix J to 10 CFR Part 50 requires that Type C leak rate tests be performed during each reactor shutdown for refueling but in no case at intervals greater than 2 years. Type C tests are intended to measure containment isolation valve leakage rates for certain containment isolation valves.

III.

By letter dated June 11, 1993, and supplemented by letter dated July 26, 1993, the licensee requested a one-time exemption from the requirements of Appendix J, Sections III.D.2(a) and III.D.3 for a period of 60 days for the isolation valves or leakage boundaries for 46 penetrations. In their request, the licensee provided a list of the affected penetrations and associated plant-specific leak test procedures, the date when the leak tests had last been performed and the date when the current leak test will expire.

The licensee has implemented a 24-month operating cycle schedule at the Peach Bottom facility. The last refueling outage for Unit 3, 3R08, commenced in September 1991 and ended in December 1991 and the next refueling outage, 3R09 is scheduled to commence no later than September 18, 1993. The leak tests for which the licensee has requested schedular exemption were last

conducted during refueling outage 3R08, based on the information provided in the licensee's application. The licensee has stated that the affected leak tests require either that safety systems be isolated or require access to the drywell, either of which would require the reactor to be shutdown.

The licensee has divided the affected leak tests into two categories: 1) those that require shutdown reactor conditions but fall due prior to the scheduled commencement of 3R09 on September 18, 1993, and 2) those that require reactor shutdown conditions and fall due after the scheduled commencement of 3R09. There are 11 leak test surveillance procedures affecting 12 penetrations in the first category. These tests and penetrations are listed in Table 1 of the licensee's June 11, 1993 request. The earliest of these tests falls due on September 15, 1993, 4 days prior to the scheduled shutdown. The licensee has requested an exemption for 60 days which will allow the unit to operate until the beginning of the planned outage without shutting down to perform leak tests and which will allow for flexibility in planning the leak tests during the outage.

There are 28 leak test surveillance procedures affecting 36 penetrations in the second category described previously. These tests are listed in Table 2 of the licensee's June 11, 1993, submittal, and supplemented by the July 26, 1993, letter. The licensee has requested an exemption of 60 days to allow for flexibility in planning these leak tests during the outage. The licensee stated that all of the affected penetrations will be leak tested prior to restart from 3R09.

IV.

The licensee presented information in support of their request for a 60-day extension of the Type B and C test intervals. The maximum allowable leakage rate for maintaining primary containment (L_a - minimum pathway leakage) is 125,417 cc/min. The as-found total Type B and C minimum pathway leakage rate observed during Unit 3 refueling outage 3R08 during the fall of 1991 was 35,197 cc/min. The as-left leak rate for that same outage was 24,453 cc/min.

PECo stated that an extension of the leak test interval to allow for 4 days of operation is not likely to decrease the margin between as-found leak rates and L_a.

PECo also stated that the remainder of the total 60-day extension, requested for outage planning flexibility, will have minimal safety significance since the unit will be in cold shutdown. Primary containment integrity is not required during cold shutdown.

V.

Based on the above, the staff finds there is reasonable assurance that the containment leakage-limiting function will be maintained and that a forced outage to perform Type B and C tests is not necessary. Therefore, the staff finds the requested temporary exemption, to allow the Type B and C test intervals for the penetrations listed in the licensee's June 11, 1993 request, and supplemented by letter dated July 26, 1993, to be extended for 60 days from their current expiration date, to be acceptable. The exemption request has been evaluated in a safety evaluation dated August 30, 1993 .

Accordingly, the Commission has determined that, pursuant to 10 CFR Part 50.12(a), the requested exemption is authorized by law, will not present an undue risk to public health and safety, and is consistent with the common defense and security. The Commission finds that the special circumstances as required by 10 CFR Part 50.12(a)(2) are present. As specified in 50.12(a)(2)(ii), special circumstances are present whenever the application of the regulation in the particular circumstance would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule. The underlying purpose of the rule is to ensure that the components comprising the primary containment boundary are maintained and leak tested at periodic and appropriate intervals. The 24-month maximum interval was originally expected to bound the typical operating cycle, including a limited amount of mid-cycle outage time. The advent of advanced fuel types has made it possible to operate the facility for 24-months with minimal, if any, mid-cycle outage time. Strict adherence to the 24-month maximum interval is not necessary to meet the underlying purpose of the rule in that, taking into consideration the sixty day extension, the components that comprise the primary containment boundary will still be tested at a frequency that is appropriate to those components and their application. In addition, the 60-day extension represents a minimal increase in the existing 24-month interval required by the rule. Therefore, the staff finds the requested temporary exemption, to allow the Type B and C test intervals for penetrations described in the licensee's June 11, 1993 and July 26, 1993 letters, to be extended for 60 days, to be acceptable.

An exemption is hereby granted from the requirements of Sections III.D.2(a) and III.D.3 of Appendix J to 10 CFR Part 50, which requires that Type B and C tests be performed during each reactor shutdown for refueling but in no case at intervals greater than 2 years, for a period of 60 days from the expiration of the current leak test for the affected penetrations.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this Exemption will have no significant impact on the quality of the human environment (58 FR 45536).

This exemption is effective upon issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by:
Steven A. Varga, Director
Division of Reactor Projects - I/II
Office of Nuclear reactor Regulation

Dated at Rockville, Maryland
this 30th day of August, 1993

*Previously Concurred

PDI-2/LA	PDI-2:PM	SCSB/BC*	OGC	PDI-2:AD	ADRI	D:DRPE
MO'Brien	JShea:avl	RBarrett	C Marco	MBoyle	JCalvo	JVarga
8/11/93	8/11/93	07/23/93	8/12/93	8/26/93	8/24/93	8/30/93

An exemption is hereby granted from the requirements of Sections III.D.2(a) and III.D.3 of Appendix J to 10 CFR Part 50, which requires that Type B and C tests be performed during each reactor shutdown for refueling but in no case at intervals greater than 2 years, for a period of 60 days from the expiration of the current leak test for the affected penetrations.

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FOR THE NUCLEAR REGULATORY COMMISSION

Steven A. Varga, Director
Division of Reactor Projects - I/II
Office of Nuclear reactor Regulation

Dated at Rockville, Maryland
this 30th day of August, 1993

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION SUPPORTING

AN EXEMPTION FROM 10 CFR PART 50, APPENDIX J REQUIREMENTS FOR

CONTAINMENT LEAK RATE TESTING

PHILADELPHIA ELECTRIC COMPANY

PUBLIC SERVICE ELECTRIC AND GAS COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

PEACH BOTTOM ATOMIC POWER STATION, UNIT 3

DOCKET NO. 50-278

1.0 INTRODUCTION

By letter dated June 11, 1993, and supplemented by letter dated July 26, 1993, Philadelphia Electric Company (PECo, the licensee) requested a one-time schedular exemption from the requirements of 10 CFR Part 50, Appendix J, Sections III.D.2(a) and III.D.3. The temporary schedular exemption would extend the interval for Type B and C local leak rate tests (LLRT) for certain Peach Bottom Atomic Power Station, Unit 3 (Unit 3) containment penetrations for 60 days beyond the requirements of 10 CFR Part 50, Appendix J. The affected penetrations and valves or boundaries are listed in Table 1 and Table 2.

Appendix J requires that these tests be performed at every refueling outage, but with the interval not to exceed 2 years. PECo performed LLRTs on the affected penetrations between September 15, 1991 and October 27, 1991 during refueling outage 3R08. The Peach Bottom Atomic Power Station units are currently operating on a 24-month refueling outage schedule; the next Unit 3 refueling outage, 3R09, is scheduled to commence no later than September 18, 1993.

The licensee divided the affected penetrations into two groups: 1) those that require shutdown reactor conditions but fall due prior to the scheduled commencement of 3R09 on September 18, 1993 (see attached Table 1), and 2) those that require reactor shutdown conditions and fall due after the scheduled commencement of 3R09 (see attached Table 2). The licensee presented information to justify an LLRT extension for these two groups. The staff's evaluation of the licensee's justification is provided below.

2.0 EVALUATION

2.1 Need For Extending The Test Interval By 60 Days

The licensee has stated that those components in Table 1 cannot be tested at power for two reasons. Many of the Table 1 penetrations require access to the drywell in order to conduct the tests. The drywell is inaccessible during power operations. Certain penetrations of those listed in Table 1 require safety systems to be isolated which is unadvisable during power operation. Therefore, a shutdown would be required in order to completely test all of the affected penetrations.

The licensee presented a description of the special circumstances that would result in hardship or other costs significantly in excess of those contemplated when Appendix J was adopted. The licensee has adopted improved technology reactor fuel which allows operation on a 24-month operating cycle. Performance of the affected penetration leak tests within the strict 24-month requirements of Appendix J would require an extended or early plant shutdown. Granting of the exemption would allow operation for the 4 remaining days in the planned operating cycle. In addition, the requested 60-day exemption would allow flexibility when scheduling the performance of the affected LLRT (both Table 1 and Table 2 penetrations) during the outage. PECo stated that little or no safety benefit would result from an early extended shutdown for the purpose of performing the affected LLRTs.

2.2 Leak Rate Test Performance History

The licensee presented information in support of their request for a 60-day extension of the Type B and C test intervals. The maximum allowable leakage rate for maintaining primary containment (L_a - minimum pathway leakage) is 125,417 cc/min for Unit 3. The as-found total Type B and C minimum pathway leakage rate observed during Unit 3 refueling outage 3R08 during the fall of 1991 was 35,197 cc/min. The as-left leak rate for that same outage was 24,453 cc/min. The licensee stated that an extension of the leak test interval to allow for 4 days of operation is not likely to decrease the margin between as-found leak rates and L_a.

PECo also stated that the remainder of the total 60-day extension, requested for outage planning flexibility, will have minimal safety significance since the unit will be in cold shutdown. Primary containment integrity is not required during cold shutdown.

The staff reviewed the leak rate information presented by the licensee and concurs that an additional 4 days of operation at power will not significantly decrease the margin between the expected as-found leak rates and the maximum allowable total leak rate L_a. The balance of the requested 60-day exemption provides reasonable flexibility for test planning under condition in which primary containment integrity will not be required.

2.3 Intent of Appendix J

The staff notes that the 2-year interval requirement for Type B and C components is intended to be often enough to prevent significant deterioration from occurring and long enough to permit the tests to be performed during plant outages. Leak rate testing of the penetrations during plant shutdown is preferable because of the lower radiation exposures to the plant personnel. Moreover, as noted before, some penetrations cannot be tested at power. For penetrations that cannot be tested during power operation, or for which testing at power is inadvisable as discussed above, the increase in confidence in containment integrity following a successful test is not significant enough to justify a plant shutdown specifically to perform the tests so close to the end of the 2-year time period.

3.0 CONCLUSION

Based on the above evaluation, the staff finds that the requested temporary exemption, to allow the Type B and C tests intervals for those penetrations listed in Table 1 and Table 2 to be extended 60 days from their current expiration date, to be acceptable.

Principal Contributor:
J. Shea

Date: August 30, 1993

TABLE 1

LEAK TESTS EXPIRING PRIOR TO SEPTEMBER 18, 1993

PENETRATION NUMBERS	EXPIRATION OF CURRENT LEAK RATE TEST	AFFECTED VALVE NUMBERS
N-22	9/14/93	"A" INST TO D/W AO 3969A, CHK333202A
N-102B, D	9/14/93	D/W Breathing Air HV E5476, HV E5007
N-7C	9/16/93	MSIV AO 80C, AO 86C
N-38	9/16/93	Control Rod Drive System CV 32A, 32B, 35A, 35B CV 33, 36
N-210A, 211A	9/16/93	Torus Cooling and Spray MO 34B, 38B, 39B
N-39A	9/16/93	RHR System MO 31B
N-8	9/17/93	Main Steam Drain MO 74, 77
N-57	9/17/93	Main Steam Sample AO 316, 317
N-41	9/17/93	Recirculation Sample AO 39, 40
N-4	9/17/93	Drywell Head Access

TABLE 2

LEAK TESTS EXPIRING ON OR AFTER SEPTEMBER 18, 1993

PENETRATION NUMBERS	EXPIRATION OF CURRENT LEAK RATE TEST	AFFECTED VALVE NUMBERS
N-110 A-H	9/18/93	RPV STABILIZER MANWAYS
N-25	9/18/93	Drywell Purge Supplies AO 3505, 3519, 3520 AO 3521A, 3521B
N-25	9/18/93	"O"-Rings AO 3519, 3505, 3520
N-205B	9/18/93	"O"-Rings AO 3521A, 3521B
N-13A	9/18/93	RHR System MO-25B, AO-46B, AO-163B
N-217B	9/18/93	RCIC Vacuum Relief MO-5244
N-206A, B	9/18/93	Torus Level Indication
N-17	9/19/93	Head Spray Blank Flange MO-32, MO-33
N-225	9/19/93	RCIC Suction MO-13-39, MO-13-41
N-218A	9/19/93	"B" Instrument Nitrogen to Drywell and Torus Vacuum Bkr
N-18	9/19/93	Drywell Floor Drain Sump AO-82, SO-83
N-23, 24	9/19/93	RBCCW Drywell Isolation MO 2374, MO 2373
N-21	9/19/93	Drywell Service Air Manifold HV 30165, 30163
N-225	9/20/93	Torus Clean Up MO-71, MO-70
N-19	9/20/93	Drywell Floor Drain Sump AO-94, AO-95

TABLE 2 (cont.)

LEAK TESTS EXPIRING ON OR AFTER SEPTEMBER 18, 1993

PENETRATION NUMBERS	EXPIRATION OF CURRENT LEAK RATE TEST	AFFECTED VALVE NUMBERS
N-227	9/20/93	HPCI MO-23-57, MO-23-58
N-214	9/20/93	HPCI Stop Check "O"-Ring CHK-12
N-11,12,13A, N-14,16A,17	9/21/93	Expansion Joints
N-7 A-D, N-9A, N-9B	9/23/93	Expansion Joints
N-12	10/26/93	Shutdown Cooling MO-10-17, 10-18
N-16A	10/10/93	Core Spray HV-14-14, CHK-1413B AO-14-15B, MO-14-12B
N-39A	10/04/93	Containment Spray MO-26B, MO-31B
N-9A	9/26/93	Feedwater System MO-29A, 6-28A 6-96A, MO-38A MO-2319
N-9B	9/25/93, 9/26/93	Feedwater System MO-29B, 6-28B MO-38B MO-1321, MO-1268
N-52F	9/19/93	"B" Instrument N_2 to DW AO-3969B, HV-33310, CHK-33202B, CHK-33312