

DO NOT REMOVE

Dockets Nos. 50-277/278

POSTED
Amndt 139 to DPR-56

30

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

REMartin(2) Wanda Jones
RClark Tech Branch
MO'Brien(2) EButcher
BGrimes

Dear Mr. Hunger:

SUBJECT: DIESEL GENERATOR BUILDING CARBON DIOXIDE FIRE PROTECTION SYSTEM
(TAC NOS. 69294/69295)

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

The Commission has issued the enclosed Amendments Nos. 137 and 139 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 September 7, 1988.

These amendments reflect a modification to the diesel generator building carbon dioxide fire protection system (CARDOX) to correct design deficiencies by replacing the current CARDOX system controls and heat detectors with seismically qualified, safety related components.

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,

W. Butler for /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. 137 to DPR-44
2. Amendment No. 139 to DPR-56
3. Safety Evaluation

cc w/enclosures:
See next page

[GEORGE HUNGER LTR]

PDI-2/DA
MO'Brien
12/3/88

PDI-2/PM
REMartin:tr
12/13/88

OGC
12/16/88

PDI-2/D
WButler
12/28/88

WB



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

December 28, 1988

Dockets 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: DIESEL GENERATOR BUILDING CARBON DIOXIDE FIRE PROTECTION SYSTEM
(TAC NOS. 69294/69295)

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

The Commission has issued the enclosed Amendments Nos. 137 and 139 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 September 7, 1988.

These amendments reflect a modification to the diesel generator building carbon dioxide fire protection system (CARDOX) to correct design deficiencies by replacing the current CARDOX system controls and heat detectors with seismically qualified, safety related components.

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,

(fu)

A handwritten signature in cursive script, appearing to read "W R Butler".

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

Enclosures:

1. Amendment No. 137 to DPR-44
2. Amendment No. 139 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:

Troy B. Conner, Jr., Esq.
1747 Pennsylvania Avenue, N.W.
Washington, D.C. 20006

Philadelphia Electric Company
ATTN: Mr. D. M. Smith, Vice President
Peach Bottom Atomic Power Station
Route 1, Box 208
Delta, Pennsylvania 17314

H. Chris Schwemm
Vice President, Production
Atlantic Electric
P.O. Box 1500
1199 Black Horse Pike
Pleasantville, New Jersey 08232

Resident Inspector
U.S. Nuclear Regulatory Commission
Peach Bottom Atomic Power Station
P.O. Box 399
Delta, Pennsylvania 17314

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406

Mr. Bryan W. Gorman
Manager - External Affairs
Public Service Electric & Gas Company
P.O. Box 236, N28
Hancocks Bridge, New Jersey 08038

Mr. R. A. Heiss, Coordinator
Pennsylvania State Clearinghouse
Governor's Office of State Planning
and Development
P. O. Box 1323
Harrisburg, Pennsylvania 17120

Mr. Thomas M. Gerusky, Director
Bureau of Radiation Protection
Pennsylvania Department of
Environmental Resources
P. O. Box 2063
Harrisburg, Pennsylvania 17120

Mr. Albert R. Steel, Chairman
Board of Supervisors
Peach Bottom Township
R. D. #1
Delta, Pennsylvania 17314

Mr. Gary Mock
P. O. Box 09181
Columbus, Ohio 43209

Delmarva Power and Light Company
c/o Jack Urban
General Manager, Fuel Supply
800 King Street
P.O. Box 231
Wilmington, DE 19899

Mr. Tom Magette
Power Plant Research Program
Department of Natural Resources
B-3
Tawes State Office Building
Annapolis, Maryland 21401

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



UNITED STATES
CLEAR 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. 137
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 September 7, 1988, 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. 137, 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



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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 28, 1988

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 137, 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

/S/

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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 28, 1988

RDI-2/LA
M. Brien
12/15/88

PDI-2/PM
RE Martin:tr
12/13/88

OGC
12/16/88

PDI-2/D
WButler
12/28/88
WB

ATTACHMENT TO LICENSE AMENDMENT NO. 137

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>
240h	240h
240o	240o
240q	240q

LIMITING CONDITIONS FOR OPERATIONSURVEILLANCE REQUIREMENTS

3.14.B.3 (Cont'd)

- b. an operable flow path to each room and
- c. sixteen heat detectors in each diesel room, except that one detector or both detectors in one zone in each room may be inoperable for a period not to exceed seven days.

- 4. If the requirements of 3.14.B.1, 2, or 3 cannot be met,
 - a. establish a continuous fire watch with back-up fire suppression equipment for the unprotected area (HPCI, Cable Spreading, Computer, Diesel Generator) within 1 hour
 - b. restore the system to an operable status within 14 days, or in lieu of any other report required by Specification 6.9.2, submit a Special Report to the Commission pursuant to Specification 6.9.3 within 31 days outlining the cause of the malfunction and the plans for restoring the system to an operable status. Reactor startup and/or continued reactor operation is permissible.

Location	Detector Type/ Designation (1)	Minimum Detectors Operable
Core Spray Pump Rooms	S133, S134, S135, S136	4
Vac. Breaker Area- Room 160, 161	S158, S159, S160	3
RHR Rooms		
Room 156	S120, S121	2
Room 157	S122, S123, S124	3
Room 158	S125, S126, S127	3
Room 159	S128, S129, S130	3
Torus Area	S150, S151, S152, S153 S154, S155, S156, S157	7
M-G Set Lube Oil Room (Rm 162)	S161, S162, S163 S164, S165	4
Recirc. Pump MG Set Room	S111, S112, S113 S114, S116, S117	5
Emerg. Switchgear Rooms	S107, S108, S109 S110	4
Battery Rooms		
Room 266	S147, S148	2
Room 268	S145, S146	2
13KV Switchgear Area (116')	S75, S76, S77	3
HPSW Pump Room	S391	1
<u>COMMON</u>		
Control Room	S21, S22, S23, S24	4
Control Room Offices	S137, S138, S139 S140, S141, S142	6
Cable Spreading Room	S4, S7, S9, S10 S47 through S67 (total: 25)	23
Computer Room	S5, S6	2
Diesel Generator Rooms	H550A, B thru H557A, B and H796A, B thru H819A, B (16 in each room)	(See 3.14.B.3.c)
D-G Bldg. Cardox Room	S540, S541, S542	3

3.14 BASES

The water and CO₂ Fire Protection Systems provide fire suppression capabilities in those areas of the plant where protection of plant equipment is deemed necessary.

A. Water Fire Protection System

Two fire pumps supply water to sprinklers, manual hose stations, and hydrants in or surrounding the plant. One electrically driven pump is powered from an emergency power bus; the other pump is diesel driven. The capacity of each pump is in excess of the system design load.

In the event that both fire pumps become inoperable, immediate corrective measures are taken since this system is a major portion of the fire suppression capability of the plant. The requirement for a twenty-four hour report to the Commission provides for prompt evaluation of the acceptability of the corrective measures to provide adequate fire suppression capability for the continued protection of the plant.

B. CO₂ Fire Protection Systems

The CO₂ Fire Protection Systems provide fire suppression capability for the Cable Spreading Room, Computer Room, Control Room, HPCI Rooms, and the Diesel Generator Rooms. The specified minimum quantities of CO₂ provide the capability to flood the Cable Spreading Room and Computer Room simultaneously, a HPCI room, or a Diesel Generator Room with sufficient CO₂ to meet concentration objectives.

In the event that portions of the CO₂ Fire Protection System are inoperable, alternate backup fire fighting equipment is required to be made available in the affected areas until the affected fire suppression equipment can be returned to service.

C. Fire Detection

Operability of the fire detectors ensures that adequate warning is available for the prompt detection of fires. This capability is required in order to detect and locate fires in their early stages. Prompt detection of fires will reduce the potential for damage to plant equipment and is an integral element in the overall plant fire protection program. Table 3.14.C.1 specifies the minimum number of operable detectors in each room.

There are sixteen heat detectors in each diesel generator room, two detectors located in close proximity to each other at each of eight locations (each constituting a "zone"). Actuation of both detectors in any zone will initiate Cardox discharge in the room and a trip signal to the diesel generator in the room. One detector or both detectors in one zone of each diesel generator room may be inoperable for a period not to exceed seven days without compensatory measures being taken.



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. 139
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 September 7, 1988, 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. 139, 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



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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 28, 1988

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 139, 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

/S/

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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 28, 1988

PDI-2/DA
M. G. G. G.
12/15/88

PDI-2/PM
R. Martin:tr
12/13/88

OGC
12/16/88

PDI-2/D
W. Butler
12/28/88

WB

ATTACHMENT TO LICENSE AMENDMENT NO. 139

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

240h
240o
240q

Insert

240h
240o
240q

LIMITING CONDITIONS FOR OPERATIONSURVEILLANCE REQUIREMENTS

3.14.B.3 (Cont'd)

- b. an operable flow path to each room and
 - c. sixteen heat detectors in each diesel room, except that one detector or both detectors in one zone in each room may be inoperable for a period not to exceed seven days.
4. If the requirements of 3.14.B.1, 2, or 3 cannot be met,
- a. establish a continuous fire watch with back-up fire suppression equipment for the unprotected area (HPCI, Cable Spreading, Computer, Diesel Generator) within 1 hour
 - b. restore the system to an operable status within 14 days, or in lieu of any other report required by Specification 6.9.2, submit a Special Report to the Commission pursuant to Specification 6.9.3 within 31 days outlining the cause of the malfunction and the plans for restoring the system to an operable status. Reactor startup and/or continued reactor operation is permissible.

Location	Detector Type/ Designation (1)	Minimum Detectors Operable
Core Spray Pump Rooms	S133, S134, S135, S136	4
Vac. Breaker Area- Room 160, 161	S158, S159, S160	3
RHR Rooms		
Room 156	S120, S121	2
Room 157	S122, S123, S124	3
Room 158	S125, S126, S127	3
Room 159	S128, S129, S130	3
Torus Area	S150, S151, S152, S153 S154, S155, S156, S157	7
M-G Set Lube Oil Room (Rm 162)	S161, S162, S163 S164, S165	4
Recirc. Pump MG Set Room	S111, S112, S113 S114, S116, S117	5
Emerg. Switchgear Rooms	S107, S108, S109 S110	4
Battery Rooms		
Room 266	S147, S148	2
Room 268	S145, S146	2
13KV Switchgear Area (116')	S75, S76, S77	3
HPSW Pump Room	S391	1
<u>COMMON</u>		
Control Room	S21, S22, S23, S24	4
Control Room Offices	S137, S138, S139 S140, S141, S142	6
Cable Spreading Room	S4, S7, S9, S10 S47 through S67 (total: 25)	23
Computer Room	S5, S6	2
Diesel Generator Rooms	H550A, B thru H557A, B and H796A, B thru H819A, B (16 in each room)	(See 3.14.B.3.c)
D-G Bldg. Cardox Room	S540, S541, S542	3

3.14 BASES

The water and CO₂ Fire Protection Systems provide fire suppression capabilities in those areas of the plant where protection of plant equipment is deemed necessary.

A. Water Fire Protection System

Two fire pumps supply water to sprinklers, manual hose stations, and hydrants in or surrounding the plant. One electrically driven pump is powered from an emergency power bus; the other pump is diesel driven. The capacity of each pump is in excess of the system design load.

In the event that both fire pumps become inoperable, immediate corrective measures are taken since this system is a major portion of the fire suppression capability of the plant. The requirement for a twenty-four hour report to the Commission provides for prompt evaluation of the acceptability of the corrective measures to provide adequate fire suppression capability for the continued protection of the plant.

B. CO₂ Fire Protection Systems

The CO₂ Fire Protection Systems provide fire suppression capability for the Cable Spreading Room, Computer Room, Control Room, HPCI Rooms, and the Diesel Generator Rooms. The specified minimum quantities of CO₂ provide the capability to flood the Cable Spreading Room and Computer Room simultaneously, a HPCI room, or a Diesel Generator Room with sufficient CO₂ to meet concentration objectives.

In the event that portions of the CO₂ Fire Protection System are inoperable, alternate backup fire fighting equipment is required to be made available in the affected areas until the affected fire suppression equipment can be returned to service.

C. Fire Detection

Operability of the fire detectors ensures that adequate warning is available for the prompt detection of fires. This capability is required in order to detect and locate fires in their early stages. Prompt detection of fires will reduce the potential for damage to plant equipment and is an integral element in the overall plant fire protection program. Table 3.14.C.1 specifies the minimum number of operable detectors in each room.

There are sixteen heat detectors in each diesel generator room, two detectors located in close proximity to each other at each of eight locations (each constituting a "zone"). Actuation of both detectors in any zone will initiate Cardox discharge in the room and a trip signal to the diesel generator in the room. One detector or both detectors in one zone of each diesel generator room may be inoperable for a period not to exceed seven days without compensatory measures being taken.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION SUPPORTING

AMENDMENT NOS. 137 AND 139 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 September 7, 1988, 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. The amendments would reflect a modification to the Carbon Dioxide (CO₂) fire suppression systems for the emergency diesel-generator building. These CO₂ systems (one for each of the four diesel-generators that are shared by the two units) are actuated by fire detection systems located in each diesel room. Each detection system consists of four fixed temperature/rate-of-temperature-rise thermal detectors. The original design intended that actuation of an individual CO₂ system would require actuation of at least two of the four detectors in the room. However, as installed, actuation of only one detector in a diesel room will actuate that CO₂ system. The individual detectors are not Class I devices and are, therefore, subject to failure (i.e. alarm when no fire exists) during seismic activity. Thus detectors in all four diesel rooms are subject to false actuation in the event of a seismic shock. Because the diesel engines aspirate their combustion air from inside the room, actuation of the individual detector system in a room trips that diesel engine in addition to actuating the CO₂ suppression system for that room. The diesels are tripped under this condition to prevent them from drawing CO₂ out of the room and into the diesel which would inhibit extinguishing a fire and would also suffocate the diesel. Therefore, any seismic activity coincident with (or leading to) loss-of-off-site-power could cause detectors in each room to alarm and trip all four emergency diesel generators. The licensee proposes to replace the existing detectors with new seismically qualified rate-compensated detectors, so arranged that at least one pair of detectors (two of 16) in each room must actuate in order to initiate CO₂ discharge.

2.0 EVALUATION

The NRC staff agrees with the licensee's appraisal of the potential problems with the existing arrangement of the detection system and with

their proposed modifications. The proposed changes, in addition to satisfying the original design intention for operation of these automatic CO₂ systems, will also be consistent with the guidance and intent of Standard Review Plan BTP 9.5-1 and NFPA 12, Standard on Carbon Dioxide Extinguishing Systems and NFPA 72D, Standard for the Installation, Maintenance and Use of Proprietary Protective Signaling Systems, published by the National Fire Protection Association. Therefore, the staff concludes that the modifications proposed by the licensee to the automatic thermal fire detection systems which initiate actuation of the automatic CO₂ fire suppression systems in the emergency diesel-generator building are acceptable and are hereby approved. The corresponding changes to the Technical Specifications, to permit the proposed equipment and component changes are also approved. The proposed Technical Specification changes are contained in revised pages 240h, 240o and 240q as part of the September 7, 1988 submittal.

3.0 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. 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 (53 FR 40994) on October 19, 1988 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.

Principal Contributor: D.P. Notley

Dated: December 28, 1988