

# PHILADELPHIA ELECTRIC COMPANY

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ELECTRIC PRODUCTION DEPARTMENT

February 11, 1986

Docket Nos. 50-277  
50-278

Mr. Daniel R. Muller, Director  
BWR Project Directorate #2  
Division of BWR Licensing  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

SUBJECT: Request for Additional Information Concerning the  
Proposed Exceptions to the Staffing Goals  
for Emergencies

REFERENCE: Peach Bottom Atomic Power Station, Units 2 and 3

Dear Mr. Muller:

By letters dated April 3, 1981, February 2, 1983 and April 15, 1983, the Philadelphia Electric Company (PECO) requested exceptions to the staffing augmentation goals for emergencies (NUREG-0737, Supplement 1) for Peach Bottom, Units 2 and 3.

In your response dated December 20, 1985, you requested that PECO submit:

1. A current staffing proposal keyed to the goals in NUREG-0654/ FEMA-REP-1, Rev. 1, Table B-1, identifying any differences.
2. A survey of the expected elapsed time from the declaration of an emergency to arrival of emergency response personnel for each augmentation position identified in the current staffing proposal. This is simply adding the notification time and the commuting time for each person occupying those positions.
3. Where there are differences from Table B-1 goals for arrival times, provide an explanation of how the functions will be performed using on-shift resources.

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Our response to items 1 and 3 are presented in Attachment A (Staffing Goals Versus Current PBAPS Staffing and Proposed PBAPS Staffing) which provides a tabular comparison between Table B-1 and PBAPS staffing. Any differences are indicated in the third column of each of the major timing areas, i.e., on-shift, 30 minute augmentation, 60 minute augmentation. Attachment 1 also reflects the proposed addition of personnel to the emergency response organization which we intend to accomplish by the third quarter 1986.

A more detailed discussion of PBAPS current and proposed emergency response staffing is as follows:

1. Plant Operations and Assessment of Operational Aspects

PBAPS currently is consistent with the goals of Table B-1.

PBAPS presently has three (3) Auxiliary Operators on shift rather than the two (2) Auxiliary Operators proposed by Table B-1.

2. Emergency Direction and Control

PBAPS currently is consistent with the goals of Table B-1.

3. Notification/Communication

The goal in Table B-1 is to have one (1) person on-shift; and one communicator to arrive within 30 minutes and two within 60 minutes.

PBAPS currently has two (2) persons on-shift to perform communicators functions and two (2) within 60 minutes.

4. Radiological Accident Assessment and Support of Operational Accident Assessment.

a. Emergency Operations Facility (EOF) Director (Senior Manager)

PBAPS currently is consistent with the goals of Table B-1.

b. Off-Site Dose Assessment (Senior Health Physics Expertise)

The goal in Table B-1 is to have one person arrive within 30 minutes.

PBAPS currently adds this person within 60 minutes but will cover the 30 minute requirement by having a person on-shift who is trained in dose assessment at the same level as the senior health physics management personnel. This person will be trained in the new computerized dose assessment program which is expected to be installed by the third quarter of 1986. Senior Management with health physics expertise will be available within one hour.

Additionally, the new computer dose assessment system will provide guidance to shift personnel on protective action recommendations.

c. Off-site Surveys (health physics technicians)

The goal in Table B-1 is to have two (2) persons to arrive by 30 minutes and two (2) persons to arrive by 60 minutes.

PBAPS currently has four (4) persons available within 60 minutes.

PBAPS proposes to change staffing such that two (2) health physics technicians will be available within 30 minutes and two (2) additional health physics technicians will be available within 60 minutes.

d. On-site (out-of-plant) (health physics technicians)

The goal in Table B-1 is to have one (1) person to arrive by 30 minutes and one (1) person to arrive by 60 minutes.

PBAPS currently has one person on shift and one person arriving within 60 minutes.

e. In-plant surveys (health physics technicians)

The goal in Table B-1 is to have one person on-shift, one person to arrive within 30 minutes and one person to arrive within 60 minutes.

PBAPS currently has one (1) person on-shift and two (2) persons to arrive within 60 minutes.

PBAPS proposes to change staffing such that one (1) health physics technician will be available on-shift, one (1) health physics technician will be available within 30 minutes, and one health physics technician will be available within 60 minutes. 8

f. Chemistry/Radiochemistry (Rad/Chem Technicians)

PBAPS currently meets the goals of Table B-1.

5. Plant System Engineering, Repair and Corrective Actions

a. Technical Support (Shift Technical Advisor)

PBAPS currently meets the goals of Table B-1.

b. Technical Support (Core/Thermal Hydraulics)

The goal in Table B-1 is to have one (1) person available within 30 minutes.

PBAPS currently has one person on-shift, i.e., the Shift Technical Advisor (STA) to fulfill this function which is part of the STA's primary responsibility. The Core/Thermal Hydraulics function and the function of the STA are synonymous. The STA is uniquely qualified to perform this function because the STA:

- o is part of the shift organization and rotates schedules with the shift.
- o has a four (4) year technical degree.
- o is trained in mitigation of core damage and transient analysis, heat transfer, fluid flow and thermodynamics.

In addition, PBAPS' shift organization (Shift Superintendent and the Shift Supervisor) has responsibility for performance of emergency operating procedures in the Control Room.

c. Technical Support (Electrical)

The goal in Table B-1 is to have one (1) person available within 60 minutes.

PBAPS currently is consistent with the goals of Table B-1.

d. Technical Support (Mechanical)

The goal in Table B-1 is to have one (1) person available within 60 minutes.

PBAPS currently is consistent with the goals of Table B-1.

e. Repair and corrective actions (Mechanical Maintenance)

The goal in Table B-1 is to have one (1) person available who may be assigned other functions and one (1) person within 60 minutes.

PBAPS currently is consistent with the goals of Table B-1.

PBAPS proposes to change staffing such that in addition to the one (1) person on-shift, one person would be available within 60 minutes.

f. Repair and Corrective Actions (Rad Waste Operator)

The goal in Table B-1 is to have one (1) person available who may be assigned other functions and one (1) person within 60 minutes.

PBAPS currently is consistent with the goals of Table B-1.

g. Repair and Corrective Actions (Electrical Maintenance)

The goal in Table B-1 is to have one (1) person available who may be assigned other functions and one person available within 30 minutes and one person available within 60 minutes.

PBAPS currently has one (1) person on-shift and two (2) persons with 60 minutes to fulfill this function.

h. Repair and Corrective Actions (Instrument and Control Technicians)

The goal in Table B-1 is to have one (1) person available within 30 minutes.

PBAPS currently has two people on-shift able to fulfill this function.

6. Protective Actions (In-Plant) (health physics technicians)

The goal in Table B-1 is to have two (2) health physics technicians on shift (who may be assigned other functions) and two (2) persons available within 30 minutes and two (2) persons available within 60 minutes.

PBAPS currently has two (2) persons on shift and four (4) persons within 60 minutes to fulfill this function.

PBAPS proposes to increase staffing such that in addition to the two (2) health physics technicians available on shift, one additional health physics technician and one (1) person for dosimetry would be available within 30 minutes. Two (2) health physics technicians will be available within 60 minutes.

7. Fire Fighting

PBAPS currently is consistent with the goals of Table B-1.

8. Rescue Operations and First Aid

PBAPS currently is consistent with the goals of Table B-1.

9. Site Access Control and Personnel Accountability

PBAPS currently is consistent with the goals of Table B-1.



Since we are proposing to change our emergency response augmentation organization, our response time survey (Attachment B) addresses this proposed organization as it will be effective third quarter 1986. This information results from four annual emergency response exercises observed by NRC inspection teams and numerous practice drills, all which require rapid staffing. Additionally, surveillance tests which test response times have been performed. The response time for those persons on the current organization are consistent with our emergency response organization as outlined in our letters dated April 3, 1981, February 2, 1983 and April 15, 1983.

We believe that the current shift complement and the proposed staffing organization:

- o adequately responds to the letter G. Gears, NRC to E. G. Sauer, Jr., PECO and Attachment 1 of same.
- o adequately addresses the goals of NUREG-0654/FEMA-REP-1, Rev. 1, Table B-1.
- o reflects response times for the demographics of a remote site as PBAPS.

Should you have any further questions or require further information, please do not hesitate to contact us.

Sincerely,

Original signed by  
M. J. COONEY

cc: Document Control Desk ✓  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

T. P. Johnson, Resident Site Inspector

MAJOR FUNCTIONAL AREA	MAJOR TASKS	POSITION/TITLE OR EXPERTISE (TABLE B-1)	NUREG 0654 TABLE B-1 ON SHIFT*	CURRENT PRAPS ON SHIFT*	DIFF. BET. TABLE B-1 AND CURRENT STAFFING	NUREG 0654 TABLE B-1 130 MINUTE ADDITIONS	CURRENT PRAPS 30 MINUTE ADDITIONS	DIFF. BET. TABLE B-1 AND CURRENT STAFFING	PROPOSED PRAPS 30 MINUTE ADDITIONS	NUREG 0654 TABLE B-1 60 MINUTE ADDITIONS	CURRENT PRAPS 60 MINUTE ADDITIONS	DIFF. BET. TABLE B-1 AND CURRENT STAFFING	PROPOSED PRAPS 60 MINUTE ADDITIONS
1. PLANT OPERATIONS AND ASSESSMENT OF OPERATIONAL ASPECTS.		SHIFT SUPERVISOR (SRO)	1	1	0	1							
		SHIFT FOREMAN (SRO)	1	1	0	1							
		CONTROL ROOM OPERATORS	2	2	0	2							
		AUX. OPERATORS	2	2	0	3							
2. EMERGENCY DICTION AND CONTROL (EMERGENCY COORDINATOR) ****		SHIFT TECHNICAL ADVISOR SHIFT SUPERVISOR OR DESIGNATED FACILITY MANAGER	1**	1**	0	1**							(1)
3. NOTIFICATION/ COMMUNICATION****		NOTIFY LICENSEE, STATE, LOCAL AND FEDERAL PERSONNEL AND MAINTAIN COMMUNICATION	1	2	+1	2	1	0	0	2	2	0	2
4. RADIOLOGICAL ACCIDENT ASSESSMENT AND SUPPORT OF OPERATIONAL ACCIDENT ASSESSMENT		SR. MANAGER EMERGENCY OPERATIONS FACILITY (EOF) DIRECTOR OFF-SITE DOSE SR. M.P. ASSESSMENT					1	0	-1	0	1	0	1
		OFF-SITE SURVEYS M.P. TECHS. ON-SITE/OUT OF PLANT	0	1	+1	1	2	0	-2	2	4	+2	(2)
		IN-PLANT SURVEYS	1	1	0	1	1	0	-1	1	2	+1	(1)
		CHEM/RADIO CHEM RAD/CHEM TECH.	1	1	0	1	1	0		1	1	0	1



## MINIMUM STAFFING REQUIREMENTS

FUNCTIONAL AREA	MAJOR TASKS	POSITION/TITLE OR EXPERTISE (TABLE B-1)	INREG 8654 TABLE B-1 ON SHIFT*	CURRENT PRAPS ON SHIFT*	DIFF. BET. TABLE B-1 AND CURRENT STAFFING	INREG 8654 TABLE B-1 30 MINUTE ADDITIONS	CURRENT PRAPS 30 MINUTE ADDITIONS	DIFF. BET. TABLE B-1 AND CURRENT STAFFING	INREG 8654 TABLE B-1 60 MINUTE ADDITIONS	CURRENT PRAPS 60 MINUTE ADDITIONS	DIFF. BET. TABLE B-1 AND CURRENT STAFFING	PROPOSED PRAPS 60 MINUTE ADDITIONS	
5. PLANT SYSTEM ENGINEERING, REPAIR AND CORRECTIVE ACTION	TECHNICAL SUPPORT	SHIFT TECHNICAL ADVISOR	1	1	0	1	0	+1	1	1	0	1	
		CORE/THERMAL HYDRAULICS ELECTRICAL MECHANICAL		1**	+1**		0	0	1	1	0	1	
	REPAIR AND CORRECTIVE ACTION	MECHANICAL MAINT./	1**	1	+1			0	1	1	0	1	
		RADIATION OPERATOR		1**	+1**			0	1	1	0	1	
	ELECTRICAL MAINT./ INSTRUMENT/CONTROL I&C TECHS.		1**	1	+1	1	0	0	0	1	2	+1	2
6. PROTECTIVE ACTIONS (IN PLANT)	RADIATION PROTECTION TECHNICIANS A-ACCESS ONTL B-HPIC COVERAGE FOR REPAIR & CORRECTIVE ACTIONS-SEARCH AND RESCUE- FIRST AID & FIRE FIGHTING C-PERSONNEL MONITORING D-DOSIMETRY	H. P.	2**	2**		2		+2	2	4		(2)	
7. FIRE FIGHTING		FIRE BRIGADE PER TECH. SPECS.											
		FIRE BRIGADE PER TECH. SPECS.**											

# MINIMUM STAFFING REQUIREMENTS

(PAGE 3 OF 3)

MAJOR FUNCTIONAL AREA	MAJOR TASKS	POSITION/TITLE OR EXPERTISE (TABLE B-1)	IN REG 0654 (TABLE B-1) ON SHIFT*	CURRENT PRAPS ON SHIFT*	DIFF. BET. TABLE B-1 AND CURRENT PRAPS ON SHIFT*	IN REG 0654 (TABLE B-1) 130 MINUTE ADDITIONS	CURRENT PRAPS 30 MINUTE ADDITIONS	DIFF. BET. TABLE B-1 AND CURRENT STAFFING	PROPOSED PRAPS 30 MINUTE ADDITIONS	IN REG 0654 (TABLE B-1) 60 MINUTE ADDITIONS	CURRENT PRAPS 60 MINUTE ADDITIONS	DIFF. BET. TABLE B-1 AND CURRENT STAFFING	PROPOSED PRAPS 60 MINUTE ADDITIONS
8. RESCUE OPERATIONS AND FIRST AID	TECHNICAL		2**	2**		LOCAL SUPPORT	LOCAL SUPPORT		LOCAL SUPPORT	LOCAL SUPPORT			LOCAL SUPPORT
	SECURITY FIREFIGHTING COMMUNICATIONS PERSONNEL ACCOUNTABILITY	SECURITY PERSONNEL	PER SECURITY PLAN	PER SECURITY PLAN	PER SECURITY PLAN	PER SECURITY PLAN	PER SECURITY PLAN	PER SECURITY PLAN	PER SECURITY PLAN	PER SECURITY PLAN	PER SECURITY PLAN	PER SECURITY PLAN	PER SECURITY PLAN
9. SITE ACCESS CONTROL AND PERSONNEL ACCOUNTABILITY													

## NOTE:

\* FOR EACH UNAFFECTED NUCLEAR UNIT IN OPERATION, MAINTAIN AT LEAST ONE SHIFT FOREMAN, ONE CONTROL ROOM OPERATOR AND ONE AUXILIARY OPERATOR EXCEPT THAT UNITS SHARING A CONTROL ROOM MAY SHARE A SHIFT FOREMAN IF ALL FUNCTIONS ARE COVERED.

\*\* MAY BE PROVIDED BY SHIFT PERSONNEL ASSIGNED OTHER FUNCTIONS.

\*\*\* OVERALL DIRECTION OF FACILITY RESPONSE TO BE ASSURED BY EOP DIRECTOR WHEN ALL CENTERS ARE FULLY MANNED. DIRECTOR OF MINUTE-TO-MINUTE FACILITY OPERATIONS REMAINS WITH SENIOR MANAGER IN TECHNICAL SUPPORT CENTER OF CONTROL ROOM.

\*\*\*\* MAY BE PERFORMED BY ENGINEERING AIDE TO SHIFT SUPERVISOR.

1) CHANGE TO PRESENT PECO STAFFING

Attachment B

Response Times for the Proposed Emergency Augmentation Organization

<u>POSITION/REQUIREMENT</u>	<u>TIME TO REPORT (RANGE)</u>
<u>Communicators</u>	
1 within 30 minutes	On-Shift
2 within 60 minutes	15 to 60 minutes
<u>Senior EOF Manager</u>	
60 minutes	15 to 60 minutes
<u>Dose Assessment</u>	
30 minutes	On-Shift (Senior Management 15-60 minutes)
<u>Off-Site Surveys</u>	
2 within 30 minutes	On-Shift
2 within 60 minutes	15 to 60 minutes
<u>On-Site Surveys</u>	
1 within 30 minutes	On-Shift
1 within 60 minutes	15 to 60 minutes
<u>In-Plant Surveys</u>	
1 within 30 minutes	On-Shift
1 within 60 minutes	15 to 60 minutes
<u>Radio Chemistry Technicians</u>	
1 within 60 minutes	15 to 60 minutes

Attachment B

Core/Thermal Hydraulics

1 within 30 minutes

On-Shift plus 1 within 60 minutes

Electrical and Mechanical Technical Support

2 within 60 minutes

15 to 60 minutes

Mechanical Maintenance

1 within 60 minutes

15 to 60 minutes

Radwaste Operator

1 within 60 minutes

On-Shift

Electrical Maintenance

1 within 30 minutes  
2 within 60 minutes

On-Shift  
15 to 60 minutes

Instrument and Controls

1 within 30 minutes

On-Shift

Radiation Protection

2 within 30 minutes  
2 within 60 minutes

On-Shift  
15 to 60 minutes