

October 25, 1988

The Honorable Barbara A. Mikulski  
United States Senate  
Washington, D. C. 20510

Dear Senator Mikulski:

I am responding to your letter of September 19, 1988, in which you requested that we respond to concerns raised by Ms. Paulette Hammond regarding the Peach Bottom Atomic Power Station. Ms. Hammond's letter expressed concerns related to (a) infant mortality and the incidence of cancer, (b) the Peach Bottom containment system, (c) neutron flux oscillations and (d) the adequacy of reform or assured proficiency.

The first three of Ms. Hammond's concerns are addressed in the enclosure to this letter. The fourth concern is the only one that appears to be related to the issues that led to the shutdown of the Peach Bottom plant. The licensee has submitted responses since the shutdown of the plant that identify the root causes for the shutdown issues and also propose comprehensive corrective actions. The licensee is continuing with its demonstration that these issues have been resolved in a manner to support the safe startup and operation of the plant. Our review of the licensee's plan and overall program for the licensee's proposed restart of the Peach Bottom plant will not be completed until we have adequate assurance that the Philadelphia Electric Company is ready and capable of resuming safe operation, and that the public health and safety is protected.

Ms. Hammond's letter did not provide a technical basis for her concerns. On the basis of my assessment of these issues, as discussed in this letter, I do not find that it is necessary to take the action suggested by Ms. Hammond, i.e., the permanent shutdown of the Peach Bottom plant, in order to ensure the protection of the public health and safety.

Sincerely,  
Original signed by  
Victor Stello

Victor Stello, Jr.  
Executive Director  
for Operations

Enclosure:  
Responses to Concerns

DISTRIBUTION

Docket File	NRC PDR/LPDR	VStello
EDO #0003973	EDO Reading	SECY/OGC
DMossburg, PMAS(EDO #0003973) w/cy of incoming		
PDI-2 Reading	VStello	WRutler
NSIC	TMurley/JSniezek	BClayton
DCrutchfield	SVarga/BBoger	RMartin
BGrimes	GPA/PA	MO'Brien
		CA
*Previously Concurred		WRussell, RI

PDI-/PM*	PDI-2/D*	AD:RI*	D:DRPI/II*	A/ADP*
RMartin:tr	WButler	BBoger	SVarga	DCrutchfield
10/12/88	10/12/88	10/12/88	10/12/88	10/12/88

DD:NRR*	D:NRR*	EDO
JSniezek	TMurley	VStello
10/14/88	10/16/88	10/24/88

*OCB*  
*10/25*

*JFOI*  
*1/1*

8811020007 881025  
PDR ADDCK 05000277  
PDC

## ENCLOSURE

### 1. Infant Mortality and Incidence of Cancer

Due to the general nature of the comment a specific response which focuses on any specific aspect of the Peach Bottom plant's operation cannot be prepared. However, the staff notes that in addition to its routine monitoring around all of the nuclear power plants in the Commonwealth of Pennsylvania, the Pennsylvania Department of Health, Division of Epidemiological Research is currently conducting a comprehensive health study in the vicinity of Peach Bottom. Among the items being evaluated are the rates of new cancers, stillbirths and birth defects. The study is expected to be completed in the near future.

The staff is not aware of any well founded studies which indicate a significant increase (or decrease) in infant mortality or the incidence of cancer related to the operation or the recent shutdown of the Peach Bottom plant.

The effects of radiation on living systems have been studied for decades by individual scientists as well as by select committees that have been formed to objectively and independently assess the risks from radiation. These studies were considered in the development of the public health and safety limits that apply to the Peach Bottom plant, as well as to other nuclear power plants. The studies have not detected a statistically significant increase in cancer for doses and dose rates normally encountered in the vicinity of nuclear power plants. However, as a prudent measure, the NRC staff assumes that there is a linear relation between cancer and low doses of radiation. NRC limits are selected so that the statistical probability of risk is extremely low.

### 2. Containment System

The concern is that the containment system is deficient.

The containment structure is designed to prevent the release of substantial quantities of radioactivity in the event of any one of a number of postulated accidents which are referred to as design basis accidents. Our safety research on reactor accidents has provided us with a number of insights. Among these are that the Mark I containment design provides a significant safety margin for accidents even worse than the design basis accidents, and that such severe accidents have a low probability of occurrence.

The NRC believes that the BWR Mark I plants, including the Peach Bottom Mark I containment, are safe and that they pose no undue public health risk. Nevertheless, the NRC is pursuing a vigorous program to reduce even further the already very low likelihood of occurrence of a severe accident and to improve the capability of plants to mitigate the consequences of such accidents. This program includes an integrated plan that coordinates various severe accident efforts, including containment performance improvement, to ensure fulfillment of the NRC's Severe Accident Policy Statement. This plan was discussed in a meeting of the Commission on June 2, 1988, and a copy of the plan entitled "Integration Plan for

Closure of Severe Accident Issues," SECY-88-147, dated May 25, 1988, may be found in the Commission's public document room. The NRC continued its consideration of the Mark I issue in a meeting on July 22, 1988. A copy of that plan entitled "Status of Mark I Containment Performance Evaluation," SECY-88-206, dated July 15, 1988, also may be found in the Commission's public document room. This paper presented the status of the staff's evaluation of the Mark I containment including a summary of the background; a discussion of the staff's balanced approach involving accident prevention, accident management, and accident mitigation; a summary of industry efforts; a discussion of potential enhancements; and future staff actions. A final report with recommendations by the NRC staff is expected in the near future.

### 3. Neutron Flux Oscillations

This concern apparently relates to the recent event at the LaSalle plant involving the loss of recirculation pump operation and subsequent power oscillations.

This event has received detailed technical review by the NRC Augmented Inspection Team, as described in the AIT Report 50-373/88008 and 50-374/88008, dated May 16, 1988. A review by the NRC staff is continuing, and has resulted in an NRC Information Notice dated June 15, 1988 and NRC Bulletin 88-07 dated June 15, 1988. The Information Notice was provided to alert addressees to the potential problems associated with the event while the Bulletin requested addressees to take specific actions and to confirm by letter that those actions had been completed and implemented. Oscillations to the degree experienced at LaSalle have not previously occurred in a domestic reactor and were unexpected at LaSalle. Nevertheless, they have been accounted for in most U.S. reactors' design basis licensing analyses, including those for the Peach Bottom plant. The Peach Bottom Technical Specifications provide surveillance and action statements for monitoring and suppressing, if necessary, core thermal hydraulic instabilities. The specifications reflect the conclusions of the NRC Generic Letters 86-02 and 86-09, issued in 1986, which were based on stability experience and recommendations of the reactor vendor, General Electric (GE) in their service information letter SIL-380, Revised. The plant has procedures to implement the technical specification requirements and the operators have demonstrated knowledge of the procedures. Inspection Reports 277/86-09; 278/86-12 and 277/86-16; 278/86-17, issued in 1986, discuss recirculation pump trip events at Peach Bottom. Operator response and procedures were adequate in these events. Furthermore, the NRC is requiring that these procedures and related instrumentation be reviewed and upgraded, if needed. The licensee's response to the previously mentioned NRC Bulletin was submitted on September 15, 1988 and is under review.



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

**ACTION**

EDO Principal Correspondence Control

FROM:

DUE: 10/07/88 <sup>+ lwh</sup>

EDO CONTROL: 0003973  
DOC DT: 09/19/88  
FINAL REPLY:

SEN. BARBARA A. MIKULSKI

TO:

DCA

FOR SIGNATURE OF:

\*\* GRN \*\*

CRC NO: 88-0849

EXECUTIVE DIRECTOR

DESC:

ROUTING:

ENCL. LETTER FM PAULETTE G. HAMMOND RE PEACH  
BOTTOM

RUSSELL, RI

DATE: 09/23/88

ASSIGNED TO:

CONTACT:

NRR

MURLEY

SPECIAL INSTRUCTIONS OR REMARKS:

NRR RECEIVED: SEPTEMBER 26, 1988

ACTION: DRPR:YARGA

NRR ROUTING: MURLEY/SNIEZEK  
MIRAGLIA  
CRUTCHFIELD  
GILLESPIE  
MOSSBURG

ACTION  
DUE TO NRR DIRECTOR'S OFFICE  
BY ~~lwh~~ October 4, 1988

OFFICE OF THE SECRETARY  
CORRESPONDENCE CONTROL TICKET

PAPER NUMBER: CRC-88-0849 LOGGING DATE: Sep 22 88  
ACTION OFFICE: EDO  
AUTHOR: B.A. Mikulski--Const Ref  
AFFILIATION: UNITED STATES SENATE  
LETTER DATE: Sep 19 88 FILE CODE: ID&R-5 Peach Bottom  
SUBJECT: Concerns regarding the Peach Bottom nuclear power  
plant  
ACTION: Direct Reply  
DISTRIBUTION: OCA to Ack, Docket  
SPECIAL HANDLING: None  
NOTES: P Hammond  
DATE DUE: Oct 6 88  
SIGNATURE: . DATE SIGNED:  
AFFILIATION:

Rec'd Off. EDO  
Date 9-23-88  
Time 9:00 a.m.