

JUL 01 1985

Docket Nos. 50-277  
50-278

Philadelphia Electric Company  
ATTN: Mr. S. L. Daltroff  
Vice President  
Electric Production  
2301 Market Street  
Philadelphia, Pennsylvania 19101

Gentlemen:

This letter transmits the exercise evaluation report from the Federal Emergency Management Agency, Region III, dated May 6, 1985, for the Peach Bottom remedial exercise of April 10, 1985. The remedial exercise was conducted to correct two Category A deficiencies cited at the October 17, 1984 Peach Bottom exercise.

FEMA found that the April 10, 1985 remedial exercise demonstrated that the Category A deficiencies cited during the October 17, 1984 exercise had been corrected and, based on these results, offsite radiological emergency preparedness is adequate to protect the health and safety of the public in the event of an accident at the Peach Bottom Power Station.

If you have any questions concerning this matter please contact me at (215) 337-5208.

Sincerely,

Original Signed By:

Terry L. Harpster, Chief  
Emergency Preparedness Section  
Division of Radiation Safety  
and Safeguards

Attachments: As Stated

cc w/encl:

R. S. Fleischmann, Station Superintendent  
John S. Kemper, Vice President, Engineering and Research  
A. J. Pietrofitta, General Manager, Power Production Engineering,  
Atlantic Electric  
Troy B. Conner, Jr., Esquire  
Eugene J. Bradley, Esquire, Assistant General Counsel  
Raymond L. Hovis, Esquire  
Thomas Magette, Power Plant Siting, Nuclear Evaluations  
Public Document Room (PDR)  
Local Public Document Room (LPDR)  
Nuclear Safety Information Center (NSIC)  
NRC Resident Inspector  
Commonwealth of Pennsylvania

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PDR ADOCK 05000277  
F PDR

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bcc w/encl:  
Region I Docket Room (with concurrences)  
DRP Section Chief  
D. Vito, RI  
J. Hawxhurst, RI  
FEMA Region III

RI: ~~6/27~~ S  
Harpster  
6/27/85

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FEDERAL EMERGENCY MANAGEMENT AGENCY

REGION III

EXERCISE EVALUATION REPORT

FACILITY:	Peach Bottom Atomic Power Station
OPERATOR:	Philadelphia Electric Company
LOCATION:	Peach Bottom Township, York County, Pennsylvania
REPORT DATE:	May 6, 1985
EXERCISE DATE:	April 10, 1985
PARTICIPATING JURISDICTIONS:	Lancaster and York Counties Drumore Township, Little Britain Township Fawn Grove Township and Fawn Grove Borough

~~Date  
8506120041~~

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EXERCISE SUMMARY

The remedial exercise held on April 10, 1985 involved the participation of two Lancaster County municipalities and two York County municipalities. The two Lancaster County municipalities, Drumore and Little Britain Townships, did not allow Federal observation of their operations during the October 17, 1984 Peach Bottom Exercise, and thus were considered non-participating. The two York County municipalities, Fawn Grove Borough and Fawn Grove Township, which have a joint radiological emergency response plan and operate a joint EOC, demonstrated a number of deficiencies which cummulatively led to the conclusion that emergency preparedness was not adequate to provide a reasonable assurance that appropriate protective measures can be taken to protect the health and safety of the public living in the vicinity of the Peach Bottom Atomic Power Station in the event of a radiological emergency.

Drumore and Little Britain Townships implemented their REP plans quite satisfactorily. Fawn Grove Borough/Fawn Grove Township also implemented their joint REP plan satisfactorily, thus eliminating most of the deficiencies brought to light in the October 1984 exercise.

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OBSERVER ASSIGNMENTS

Lancaster County EOC  
Drumore Township

Janet Lamb

Lancaster County EOC  
Little Britain Township

James Asher

York County EOC  
Fawn Grove Township/Fawn Grove Borough  
and Stewartstown Decontamination Center

Joseph Gavin

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## EVALUATION CRITERIA USED

The local government's response capabilities during this remedial exercise were evaluated in relationship to the draft Radiological Emergency Response Plans for each municipality. These plans were developed in accordance with NUREG 0654/FEMA-REP-1, Rev. 1, "Criteria for Preparedness and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plans," November 1980.

## OBJECTIVES OF THE EXERCISE

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1. To demonstrate the capability of municipal governments to implement emergency response plans to protect the health and safety of people located within the Emergency Planning Zone (EPZ).
2. To demonstrate the adequacy of communications systems.
3. To demonstrate the operational knowledge and support from elected or appointed public officials.
4. To demonstrate the capability to alert and mobilize people and resources in a timely manner.
5. To demonstrate adequacy of facilities to provide sufficient space and accessibility for response team staff and communications equipment.



## SCENARIO

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Unit 1 at the Peach Bottom Atomic Power Station is operating at 100% power. Two operators were contaminated this morning at 0800. While working in the refueling area of the reactor building, one of the operators fell into the spent fuel pool. The second operator, who was helping the first, slipped, fell, and cut his neck. An unusual event was declared - radioactivity was not released.

At 1300 a fire was reported in the control room at the Peach Bottom Atomic Power Station. The fire was fueled by leaking fuel oil. The CO2 fire extinguishing system malfunctioned requiring offsite assistance due to the severity of the fire. An unusual event continues - radioactivity was not released.

At 1500 a discharge pipe on a condensate pump ruptured and water from the rupture sprayed on the other condensate pumps, tripping the pumps. The loss of the condensate pumps resulted in a reactor scram, an unplanned shutdown resulted - unusual event continues.

Security forces are investigating the possibility of sabotage. Facility engineers, NRC, and BRP are attempting to manually open relief valves to depressurize the reactor vessel. PEMA is monitoring the situation and will keep all agencies abreast of any changes in systems which could jeopardize the public health and safety.

At 1700 an alert was declared at Unit 1 due to release of radioactive gases within the reactor building. There has not been a radioactive release from the plant but the reactor building had to be evacuated.

## CHRONOLOGY OF EVENTS

Alert	1700
Site Area Emergency	1800
General Emergency	1900
Evacuation Ordered	1940
Termination of Exercise	2000 (Approx.)

## DEFICIENCIES NOTED IN PAST EXERCISE

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This remedial exercise was necessitated by the following Category "A" deficiencies reported in the October 17, 1984 exercise report.

### Drumore Township and Little Britain Township (Lancaster County)

#### Deficiency

1. Because no federal observation was permitted, FEMA is unable to find that emergency preparedness was adequate to provide reasonable assurance that appropriate protective measures can be taken to protect the health and safety of residents in the event of a radiological emergency at Peach Bottom Atomic Power Station.

#### Disposition

In this exercise Drumore and Little Britain Townships demonstrated a level of preparedness sufficient to provide reasonable assurance that appropriate protective measures can be taken to protect the health and safety of residents in the event of a radiological emergency at Peach Bottom Atomic Power Station.

### Fawn Grove Borough/Fawn Grove Township

#### Deficiency

2. Fawn Grove Borough/Fawn Grove Township did not demonstrate an overall level of emergency preparedness sufficient to provide reasonable assurance that appropriate protective measures can be taken to protect the health and safety of borough and township residents in the event of a radiological emergency at Peach Bottom.

#### Disposition

In this exercise the borough/township demonstrated a sufficient level of emergency preparedness. The following Category "B" deficiencies were reported for Fawn Grove Borough/Fawn Grove Township in the October 1984 exercise and, taken together, resulted in the Category "A" deficiency noted above.

#### Deficiency

25. Future exercises should demonstrate staffing of the EOC to include active involvement by elected officials during critical periods of activity and greater control and direction of emergency response activities demonstrated by the EMC.

#### Disposition

This deficiency is corrected. Staffing of the EOC was adequate during the exercise. There was active involvement on the part of elected officials and sufficient direction and control was demonstrated by the EMC.

26. Twenty-four hour staffing of all EOC positions should be established, and the RERP updated accordingly.
- This deficiency has been corrected. Twenty-four hour staffing was demonstrated by double staffing for this exercise.
27. Additional training should be provided to response personnel with regard to the provisions of the RERP, especially concerning evacuation and relocation of EOC activities and use of KI.
- The provisions of the RERP regarding the use of KI were not demonstrated during this exercise. No direction concerning its use was received from the York County EOC. Arrangements have been made for the relocation of the EOC out of the 10-mile EPZ.
28. The communications systems used at the EOC should be critically reviewed and reorganized. The revised system should enable timely notification to the EMC and EOC staff regarding changes in plant status and protective action recommendations. Specifically, RACES network operations, and training with regard to the recently provided scanner should be provided.
- This deficiency has been corrected. Communications between the County EOC and the Fawn Grove Borough/Fawn Grove Township regarding plant status and protective action recommendations were timely. RACES operations were efficient.
29. The borough and township's plan for the utilization of route alerting is unclear; route alerting was conducted at inappropriate times. Clarification is needed with regard to the timing of the dispatching of route alerting teams. Initiating route alerting with the sounding of Maryland's sirens is not indicated in the RERP, and could cause coordination difficulties with Pennsylvania EBS announcements. Responsibility for completing route alerting in Maryland (as alluded to by the Fire personnel) should be clarified and incorporated in the RERP, if appropriate.
- This deficiency has been satisfactorily addressed pending the next Pennsylvania-Maryland Peach Bottom exercise. The RERP has been clarified to the effect that the joint EOC is not responsible for route alerting in Maryland.
30. Route alerting took an excessive amount of time. Route alert sectors should be reviewed and restructured as necessary in order to provide for a more timely completion of routes.
- At least one route alerting team completed its route well within 45 minutes as called for by the existing RERP. Additional restructuring of sectors is underway and can be expected to result in timely completion of routes.

31. Lists of mobility-impaired individuals should be developed and maintained at the EOC.

Lists of mobility-impaired individuals are in the process of development. The borough and township expect to have up-to-date lists during 1985.

32. The RERP should be revised to reference all mutual support agreements.

RERP revisions are underway to reference mutual support agreements.

33. The borough/township EMC should confer with the County in order to establish an appropriate location outside of the 10-mile EPZ for the monitoring and decontamination of Delta Borough evacuated emergency workers.

The borough/township EMC has obtained approval for removal of the EOC to Stewartstown as necessary. A decontamination center has been established outside the 10-mile EPZ in Stewartstown and its operation was successfully demonstrated in this exercise.

34. The EMC should investigate the cause for the apparent lack of notification to administer KI, and ensure the completion of corrective actions as necessary.

The use of KI was not addressed in this exercise. There was no notice from the County EOC of possible plume exposure in the Fawn Grove area.

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## Drumore Township EOC

The Emergency Management Coordinator received a call at her home from Lancaster County EOC at 1806 informing her of a Site Area Emergency at the Peach Bottom Power Station. The call was verified at 1820 when the EMC arrived at the Drumore Township EOC. She had notified two of her staff members before leaving home and they arrived at the EOC shortly after she did. She instructed them to notify the rest of the staff. The EOC was completely manned at 1855. The following staff members were present in the EOC:

- Emergency Management Coordinator
- Communications Officer
- Transportation Officer
- Public Works Officer
- Fire and Rescue
- Radiological Officer
- Route Alert Team Members

The deputies were called and placed on standby, several deputies came into the EOC and watched the procedures. Round-the-clock staffing capabilities were adequately demonstrated by double staffing.

The Drumore Township Emergency Management Coordinator demonstrated a good knowledge of the township emergency response plan and was effectively in control of the emergency operations in the EOC. However, other staff members should be more actively involved in briefings and the decision making process. Copies of the township plan and written procedures were available and used throughout the exercise. The EMC kept a message log and messages were distributed appropriately. The EMC should appoint another staff member to keep the log so that she is free for the many other responsibilities associated with her position. Access to the EOC was controlled.

The EOC was notified of Site Area Emergency at 1806, General Emergency at 1905 and at 1935 were instructed that the siren system would be activated at 1945 with EBS announcements and evacuation to follow immediately. Township supervisors were present in the EOC and actively involved.

The Drumore Township EOC is more than adequate for emergency response functions with adequate space, furniture and lighting. There were two telephones available in the EOC, one was wall-mounted and the other was a desk instrument. The township should rearrange the layout of the EOC to allow the accessibility to the telephone instruments from the desk area.

Status boards were available and posted. Again, these boards should be moved so that they are closer to the communications room and the staff responsible for posting them.



All appropriate maps, evacuation routes and relocation centers were available in the township plan. They were not posted. It is suggested that all these items be posted on the walls so that they are readily available to all staff members.

The township EOC demonstrated adequate communications with the County EOC. As stated, two telephones were available and the county radio net was available. Both systems were used extensively. The County EOC dispatched a RACES operator to the township; however, he never arrived at the Township EOC.

At 1935 the Township EOC was informed that sirens would sound at 1945 and route alerting, if necessary, should begin in conjunction with siren activation. The township sent out 4 route alert teams at 1945 with instructions to the public to tune to their EB's stations for further information. The routes took approximately 41 minutes to complete.

The traffic control points in Drumore Township are manned by State Police. The Emergency Management Coordinator verified through Lancaster County EOC that the traffic control points were manned.

There are three mobility-impaired individuals in the township. Each person was contacted to verify the need for ambulances and the transportation officer informed the county of ambulance requirements. The ambulances arrived at the township at 1943.

Mid-range dosimeters have been predistributed to Drumore Township. High and low-range dosimetry is not available but will be maintained in the Township EOC when it is available. Appropriate instructions were issued along with dosimetry. All staff members have received training in radiological exposure control. They were aware of maximum doses allowed without authorization and where to go for monitoring and decontamination.

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Little Britain Township EOC

Members of Little Britain Township assembled at the EOC at 1830, after the Emergency Management Coordinator had received a call at home from the Lancaster County EOC declaring a Site Emergency.

The EOC was staffed and operating by 1830. Dosimetry was distributed to all occupants in the EOC.

The RACES operator arrived and established a communication contact by RACES radio. There were three telephones available.

The Emergency Coordinator discussed all messages with his staff and all important events were listed on the status board. The staff frequently referred to its plans and all decisions were instantly conveyed to the staff for action.

The RADEF Officer supplied the people in the EOC with dosimetry and explained its use, then periodically reminded each one to read the instrument.

The General Emergency message was received at 1900, at which time sirens and EBS messages were activated.

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## Fawn Grove Borough/Fawn Grove Township EOC

The Emergency Management Coordinator (EMC) for the borough and township received a call at home from the York County Emergency Operations Center (EOC) at approximately 1700, notifying him of an alert declaration at Peach Bottom. The EMC notified the deputy coordinator and proceeded to the Joint Borough/Township EOC in the Citizens' Fire Hall in Fawn Grove where he arrived at 1720. The EMC and deputy notified the remaining EOC staff, all of whom reported by 1830. Each position was double staffed for training purposes. The following positions were filled:

- Medical/Ambulance
- Public Works
- Transportation
- Fire/Rescue/Radiology
- Communications
- Police/Security

Elected officials from both the borough and the township were present for the exercise. A RACES team dispatched by the County EOC established radio communications by 1829.

Sufficient furniture, space, lighting and telephones were present. Some awkwardness was evident in the use of telephones with the coordinator and other EOC staff having to move across the room to receive various phone calls on one or another of the three phones available.

Status boards were clearly visible and kept up-to-date on significant events. Evacuation routes, relocation centers, etc. were available but not posted.

Communications with the County EOC were demonstrated satisfactorily via phone and radio. Additionally, the County police/fire radio network was monitored in the EOC. The local EBS station was also monitored.

The coordinator was effectively in charge of operations. Messages were satisfactorily handled. Plans, checklists and SOPs were available and utilized and a message log kept. Access to the EOC was satisfactorily controlled.

The EOC was notified of Site Emergency status at 1832 and of General Emergency at 1914. Route alerting teams were dispatched, at county request, at 1900 in conjunction with a simulated siren sounding and EBS activation. The message conveyed by the route alerting teams was that residents should monitor their EBS stations.

The route alerting team covering Sector One completed its route in approximately 30 minutes. Return of the other two teams to the EOC was not observed by the FEMA observer, although they may have returned within 45 or 50 minutes of their dispatch. It is understood that a revision of the



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sector configuration is underway and that an increase in the number of sectors is anticipated. In light of the large size of Sectors Two and Three, such a revision would seem warranted,

Word of the Governor's declaration of Disaster Emergency was received at 1856. The evacuation order was received at 1945. Appropriate messages were conveyed to and from the decontamination center established in Stewartstown.

EOC staff were aware of the location of most mobility-impaired residents and spent time during the exercise compiling a list of same. The staff expects to obtain a complete list through a utility mailing that is scheduled for later this year and will request that mobility-impaired residents complete a form that will be forwarded to the borough/township indicating the particular needs of such residents.

An adequate supply of mid-range dosimetry is permanently stored at the EOC and was distributed during the exercise. Dosimeters were charged and appropriate record forms distributed.

Arrangements have been made to relocate the joint EOC to the Stewartstown Borough office, should it become necessary. A letter from the president of the Stewartstown Borough Council on file in the Fawn Grove EOC assures the availability of the alternate location.

A decontamination center was activated at the Eureka Fire Company in Stewartstown. The facility was set up to handle anyone in need of monitoring and decontamination. The capacity of the center was estimated by the fire company chief to be several hundred persons.

Procedures for monitoring and decontamination of persons was demonstrated. A CDV-700 dosimeter was used correctly. Proper procedures were demonstrated for handling contaminated clothing, etc.

## SUMMARY LIST OF CATEGORY "B" DEFICIENCIES AND RECOMMENDATIONS

### Deficiencies

#### Drumore Township

1. The RACES operator never arrived at the EOC. The township, in conjunction with the Lancaster County Emergency Management Coordinator, should determine the source of this problem and take steps to avoid its reoccurrence.

### Recommendations

#### Drumore Township

1. The EOC staff should be used more by the Coordinator and should be involved more in the decision making process. Appointment of a specific individual as message runner and logger would free the EMC for supervision of all aspects of the response.
2. Reorganization of the EOC layout should be considered to ensure convenient access to message logs, status boards, etc. and to provide easier access to the telephone by the Coordinator. Various maps and other graphics would be more useful if mounted on the walls.

#### Fawn Grove Borough/Fawn Grove Borough

3. Consideration should be given to the repositioning of telephones within the EOC. The layout of tables and telephones in this exercise necessitated the Coordinator getting up and walking across the room to answer phone calls.
4. Restructuring of route alerting sectors should be continued in order to ensure completion of routes within acceptable times.