

January 24, 2001

Mr. Oliver D. Kingsley
Chief Nuclear Officer
PECO Energy Company
1400 Opus Place
Downers Grove, IL 60515-5701

**SUBJECT: FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FINAL EXERCISE
REPORT FOR THE MAY 4, 2000 AND AUGUST 14-15, 2000, PEACH BOTTOM
ATOMIC POWER STATION PLUME EXPOSURE PATHWAY EXERCISE**

Dear Mr. Kingsley:

Enclosed is a letter from Ms. Rita A. Calvan, Director, FEMA Region III, dated November 20, 2000, transmitting the FEMA report for the subject exercise to Mr. Hubert J. Miller, Regional Administrator, NRC Region I.

There were no Deficiencies identified during the plume exposure pathway exercise. There were three Areas Requiring Corrective Action (ARCA's) identified. Please provide assistance to offsite officials as they address and resolve the identified items on a timely basis.

If you have any questions concerning this enclosure, please contact David Silk at (610) 337-5372.

Sincerely,

/RA/

Richard J. Conte, Chief
Operational Safety Branch
Division of Reactor Safety

Docket Nos: 05000277, 05000278
License Nos: DPR-44, DPR-56

Enclosure: FEMA Final Exercise Report for Peach Bottom Atomic Power Station

IE35

Mr. Oliver D. Kingsley

-2-

cc w/encl:

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Mr. & Mrs. Kip Adams
Commonwealth of Pennsylvania
State of Maryland
TMI - Alert (TMIA)

cc w/o encl:

R.A. Calvan, Regional Director, FEMA Region III

Mr. Oliver D. Kingsley

-3-

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Federal Emergency Management Agency

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Philadelphia, PA 19106-4404

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Mr. Hubert J. Miller
Regional Administrator
USNRC Region I
475 Allendale Road
King of Prussia, PA 19406

NOV 20 2000

Dear Mr. Miller:

Enclosed is a copy of the final report for the May 4, 2000 and August 14-15, 2000, plume exposure pathway exercise of the offsite radiological emergency response plans site-specific for the Peach Bottom Atomic Power Station (PBAPS). This report addresses the evaluation of the plans and preparedness for the 10-mile Emergency Planning Zone. The Commonwealth of Pennsylvania and risk counties of Lancaster and York were granted credit for their participation in the June 27, 2000, Beaver Valley Power Station Exercise and the September 14, 1999, Limerick Generating Station Exercise; however, the risk county of Chester and five risk municipalities from the three risk counties fully participated in the PBAPS exercise. The State of Maryland and risk counties of Cecil and Harford also participated in the PBAPS exercise.

No Deficiencies were identified during this exercise. However, three Areas Requiring Corrective Action were identified. FEMA Region III staff will monitor the status of the corrective actions.

Based on the results of the 2000 PBAPS exercises, FEMA finds that the offsite radiological emergency response plans and preparedness for the Commonwealth of Pennsylvania and the State of Maryland and the affected local jurisdictions are adequate to protect the public health and safety in the event of a radiological emergency at the site.

The final exercise report was prepared by the Federal Emergency Management Agency (FEMA), Region III staff. A copy of the report will also be provided to the Commonwealth of Pennsylvania and State of Maryland. If you have any questions, please contact Kevin Koob, Chairperson, Regional Assistance Committee, at (215) 931-5576.

Sincerely,

A handwritten signature in cursive script that reads "Rita A. Calvin". The signature is written in dark ink and is positioned above the typed name.

Rita A. Calvin
Regional Director

Enclosure



Final Exercise Report
Peach Bottom Atomic Power Station

Licensee: PECO Energy Company
Exercise Date: May 4 and August 14 and 15, 2000
Report Date: October 26, 2000

FEDERAL EMERGENCY MANAGEMENT AGENCY
ONE INDEPENDENCE MALL, 6TH FLOOR
615 CHESTNUT STREET
PHILADELPHIA, PENNSYLVANIA 19106-4404

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I. EXECUTIVE SUMMARY

On May 4 and August 14 and 15, 2000, the Federal Emergency Management Agency (FEMA), Region III, conducted an exercise in the plume exposure pathway emergency planning zone (EPZ) around the Peach Bottom Atomic Power Station (PBAPS). The purpose of the exercise was to assess the level of State and local preparedness in responding to a radiological emergency. This exercise was held in accordance with FEMA's policies and guidance concerning the exercise of State and local radiological emergency response plans (RERP) and procedures.

The most recent previous exercise at this site was conducted on November 17, 1998.

FEMA wishes to acknowledge the efforts of the many individuals who participated in this exercise. One risk county (Chester) and five risk municipalities in Chester, Lancaster, and York counties in the Commonwealth of Pennsylvania (represented by five Emergency Operations Centers [EOC]); the State of Maryland; and the risk counties of Cecil and Harford, Maryland, participated. The Commonwealth of Pennsylvania and two of the PBAPS risk counties (Lancaster and York) did not participate in this exercise.

The following out-of-sequence evaluation activities were conducted during the exercise. In the morning on May 4, 2000, FEMA evaluated five school districts in Pennsylvania, one school district in Maryland, and two reception centers in the Pennsylvania risk counties of Chester and York. In the afternoon on May 4, FEMA evaluated traffic and access control in Harford County, Maryland, and in the evening, traffic and access control (by Pennsylvania State Police) in the Pennsylvania risk counties (Chester, Lancaster, and York), evacuee and emergency worker monitoring/decontamination activities in Chester and York counties in Pennsylvania and Harford County in Maryland, and reception center activities in Lancaster County, Pennsylvania. On August 14 and 15, 2000, FEMA conducted out-of-sequence evaluations of a monitoring/decontamination/mass care facility and traffic/access control activities in Lancaster County, Pennsylvania, and a reception/mass care center in Cecil County, Maryland.

Unannounced off-hours evaluations were conducted in the evening on May 4, 2000, of the EOCs in the three risk counties in Pennsylvania and two in Maryland (Cecil and Harford) and the reception and emergency worker decontamination station and the mass care center in Harford County, Maryland.

Protecting the public health and safety is the full-time job of some of the exercise participants and an additional assigned responsibility for others. Still others have

willingly sought this responsibility by volunteering to provide vital emergency services to their communities. Cooperation and teamwork of all the participants were evident during this exercise.

This report contains the final evaluation of the biennial exercise and evaluations of the out-of-sequence activities conducted on May 4 and August 14 and 15, 2000.

The State and local organizations, except where noted in this report, demonstrated knowledge of their emergency response plans and procedures and adequately implemented them. No deficiencies and three Areas Requiring Corrective Action (ARCA) were identified as a result of this exercise. There were 32 prior issues evaluated during this exercise; 27 were resolved. There were 13 outstanding issues that were not scheduled for demonstration during this exercise. Two Planning Issues were identified during the exercise.

II. INTRODUCTION

On December 7, 1979, the President directed FEMA to assume the lead responsibility for all offsite nuclear planning and response. FEMA's activities are conducted pursuant to 44 Code of Federal Regulations (CFR) 350, 351, and 352. These regulations are a key element in the Radiological Emergency Preparedness (REP) Program that was established following the Three Mile Island Nuclear Power Station accident in March 1979.

The FEMA rule, 44 CFR 350, establishes the policies and procedures for FEMA's initial and continued approval of State and local governments' radiological emergency planning and preparedness for commercial nuclear power plants. This approval is contingent, in part, on State and local government participation in joint exercises with licensees.

FEMA's responsibilities in radiological emergency planning for fixed nuclear facilities include the following:

- Taking the lead in offsite emergency planning and in the review and evaluation of RERPs and procedures developed by State and local governments;
- Determining whether such plans and procedures can be implemented on the basis of observation and evaluation of exercises of the plans and procedures conducted by State and local governments;
- Responding to requests by the U.S. Nuclear Regulatory Commission (NRC) pursuant to the Memorandum of Understanding between the NRC and FEMA (Federal Register, Vol. 58, No. 176, September 14, 1993); and

- Coordinating the activities of Federal agencies with responsibilities in the radiological emergency planning process:
 - U.S. Department of Agriculture,
 - U.S. Department of Commerce,
 - U.S. Department of Energy,
 - U.S. Department of Health and Human Services,
 - U.S. Department of the Interior,
 - U.S. Department of Transportation,
 - U.S. Environmental Protection Agency,
 - U.S. Food and Drug Administration, and
 - U.S. Nuclear Regulatory Commission.

Representatives of these agencies serve on the FEMA Region III Regional Assistance Committee (RAC), which is chaired by FEMA.

The Commonwealth of Pennsylvania and State of Maryland and involved local jurisdictions have not formally submitted their RERPs to FEMA Region III for 44 CFR 350 approval.

On May 4 and August 15, 2000, FEMA Region III conducted a joint REP exercise to assess the capabilities of State and local offsite emergency preparedness organizations in implementing their RERPs and procedures to protect the public health and safety during a radiological emergency involving the PBAPS. The purpose of this report is to present the exercise results and findings on the performance of the offsite response organizations (ORO) during a simulated radiological emergency.

The findings presented in this report are based on the observations of the Federal evaluator team, with final determinations made by the FEMA Region III RAC Chairperson and approved by the Regional Director.

The criteria used in the FEMA evaluation process are contained in the following:

- NUREG-0654/FEMA-REP-1, Rev. 1, *Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants*, November 1980;
- FEMA-REP-14, *Radiological Emergency Preparedness Exercise Manual*, September 1991; and
- FEMA-REP-15, *Radiological Emergency Preparedness Exercise Evaluation Methodology*, September 1991.

Section III of this report, entitled "Exercise Overview," presents basic information and data relevant to the exercise. This section contains a description of the plume exposure pathway EPZ, a listing of all participating jurisdictions and functional entities evaluated, and a

tabular presentation of the times of occurrence of key exercise events and activities.

Section IV of this report, entitled "Exercise Evaluation and Results," presents detailed information on the demonstration of applicable exercise objectives at each jurisdiction or functional entity in a jurisdiction-based, issues-only format. This section also contains (1) descriptions of all Deficiencies and ARCAs assessed during this exercise, recommended corrective actions, and the State and local government responses; and (2) descriptions of unresolved ARCAs assessed during previous exercises and the status of the OROs' efforts to resolve them.

III. EXERCISE OVERVIEW

This section contains data and basic information relevant to the May 4 and August 14 and 15, 2000, exercise to test the off-site emergency response capabilities in the area surrounding the PBAPS. This section of the exercise report includes a description of the plume exposure pathway EPZ, a listing of all participating jurisdictions and functional entities evaluated, and a tabular presentation of the times of occurrence of key exercise events and activities.

A. Plume Emergency Planning Zone Description

The PECO Energy Company owns and operates the PBAPS. The station consists of one 40-megawatt (MW), high-temperature, gas-cooled reactor (Unit 1), decommissioned in October 1974, and two operating boiling water reactors (Units 2 and 3) rated at 1,065 MW per unit. The operating licenses for the facility were granted in October 1973 (Unit 1) and July 1974 (Unit 2); commercial operation began at the site in July 1974 (Unit 1) and December 1974 (Unit 2).

The coordinates of the plant site are 39°45'32" north (latitude) by 76°16'9" west (longitude). The site consists of 620 acres located on the west shore of Conowingo Pond, a reservoir formed by the backwater of the Conowingo Dam on the Susquehanna River. The site is primarily in Peach Bottom Township, York County, Pennsylvania; a small portion of the property lies in Lancaster County in southeastern Pennsylvania near the mouth of Rock Run Creek. The minimum exclusion distance (distance from the center point of the reactor vessel to the site area boundary) specified for the PBAPS is 2,700 feet. PECO owns all the land within the exclusion area; there are no private residences onsite.

The plant is located about 38 miles north-northeast of Baltimore, Maryland; 45 miles southeast of Harrisburg, Pennsylvania; and 20 miles south-southeast of Lancaster, Pennsylvania. The nearest communities are Delta, Pennsylvania, and Cardiff, Maryland, which are located

approximately 4 and 5 miles west-southwest of the site, respectively. There are 97 sirens providing coverage for the 10-mile EPZ; 65 are in Pennsylvania.

Soils of the Manor-Glenelg Association predominate in the site area. These soils, which are generally underlain by schist or phyllite, are shallow to moderately deep and are found on moderate to very steep slopes. The general topography of the site is hilly, with elevations ranging from 110 feet to over 460 feet above mean sea level (MSL); the plant is 116 feet above MSL. The site is characterized by broad ridgetops and steep hillsides along the river.

The climate in this area of York County is mild but humid. Prevailing winds are from the west. The average rainfall is approximately 40.5 inches, and the average annual temperature is 52.8° F.

The area in the immediate vicinity of the plant is mostly agricultural. There are no commercial airports within a 10-mile radius. The closest major airport is in Harrisburg, about 50 miles northwest of the site. A smaller airport servicing commuter and private aircraft is located in Lancaster, about 25 miles north of the site. No public highways pass through the plant, and no major arterial highways pass near it. Access to the plant is by two roads: one, from the nearby town of Delta, leads to the decommissioned Unit One area and Information Center; the other passes north of Delta and enters the plant area near Units 2 and 3.

The 10-mile EPZ for PBAPS covers the following jurisdictions:

- Chester County, Pennsylvania (total risk population of 2,683)
 - West Nottingham Township (2,683)
- Lancaster County, Pennsylvania (total risk population of 19,503)
 - Drumore Township (2,114)
 - East Drumore Township (3,225)
 - Fulton Township (2,688)
 - Little Britain Township (2,701)
 - Martic Township (3,490)
 - Providence Township (3,643)
 - Quarryville Borough (1,642)
- York County, Pennsylvania (total risk population of 9,323)
 - Delta Borough (761)
 - Peach Bottom Township (3,444)
 - Fawn Township (2,175)
 - Fawn Grove Borough (489)
 - Lower Chanceford Township (2,454)

- Cecil County, Maryland (total risk population of 7,283)
- Harford County, Maryland (total risk population of 18,026)

B. Exercise Participants

The following agencies, organizations, and units of government participated in the PBAPS exercise on May 4 and August 14 and 15, 2000.

COMMONWEALTH OF PENNSYLVANIA

RISK JURISDICTIONS

CHESTER COUNTY

Chester County Department of Emergency Services
 Chester County Geographical Information Systems
 Chester County HAZMAT Unit
 Chester County Health Department
 Chester County Sheriff's Department
 Civil Air Patrol, 31st Wing (Pennsylvania)
 Hazardous Materials Response Team
 Octorara High School
 Oxford Fire Company
 Pennsylvania Department of Transportation
 Pennsylvania Emergency Management Agency
 Pennsylvania State Police, Troop J
 Telecomm
 Union Fire Company

West Nottingham Township

Pennsylvania State Constable
 Union Fire Company #1 (Oxford)
 West Nottingham Township Emergency Management Agency
 West Nottingham Township Police
 West Nottingham Township Supervisor

LANCASTER COUNTY

Lampeter School
 Lancaster County Emergency Management Agency
 Lancaster County HAZMAT Team
 Manheim Township Emergency Management
 Pennsylvania State Police, Troop J
 Willow Street Fire Company

East Drumore

East Drumore Township Emergency Management Agency

Quarryville Borough

Quarryville Community Ambulance
Quarryville Emergency Mangement Agency
Quarryville Police

YORK COUNTY

Pennsylvania Emergency Management Agency
Pennsylvania State Police, Troop H
Southern Middle School
Susquehannock High School
York County Emergency Management Agency
York County HAZMAT Team

Fawn Grove Township/Fawn Borough

Fawn Borough Council
Fawn Grove Ambulance

SCHOOLS

CHESTER COUNTY

Oxford Area School District

LANCASTER COUNTY

Martic Elementary
Penn Manor School District
Solanco High School
Solanco School District

YORK COUNTY

Chanceford Elementary
Delta/Peach Bottom Elementary
Red Lion Area School District
Red Lion Bus Company
Southeastern School District

STATE OF MARYLAND

Maryland Department of Aging
Maryland Department of Agriculture
Maryland Department of Budget and Management
Maryland Department of Education
Maryland Department of Environment
Maryland Department of General Services
Maryland Department of Health and Mental Hygiene
Maryland Department of Housing and Community Development
Maryland Department of Human Resources
Maryland Department of Juvenile Justice
Maryland Department of Labor, Licensing and Regulations
Maryland Department of Natural Resources
Maryland Department of Planning

Maryland Department of Public Safety and Correctional Services
Maryland Department of Transportation
Maryland Division of Parole and Probation
Maryland Emergency Management Agency
Maryland General Services
Maryland Governor's Office
Maryland Institute for Emergency Medical Services System
Maryland Military Department/National Guard
Maryland Secretary of State
Maryland State Department of Education
Maryland State Fire Marshal
Maryland State Highway Administration
Maryland State Police
Office of the Attorney General
Office of the Comptroller of the Treasury
Pennsylvania Emergency Management Agency
U.S. Army Corps of Engineers
U.S. Coast Guard
U.S. Department of Agriculture

CECIL COUNTY

Cecil County Agricultural Extension Service
Cecil County Board of Commissioners
Cecil County Department of Health
Cecil County Emergency Management and Civil Defense Agency
Cecil County Emergency Medical Services
Cecil County Health Department
Cecil County Public Works Department
Cecil County Radiological Health Program
Cecil County Sheriff's Department
Cecil County Social Services
Cecil County Superintendent of Schools
Cecil County Transportation Department
Elkton Fire Department
Information Technology
Maryland Department of Agriculture
Maryland Department of Natural Resources
Maryland Department of the Environment
Maryland Emergency Management Agency
Maryland State Police
Military State Police
Office of the Secretary
Rising Sun Fire Department

HARFORD COUNTY

Bel Air Town Police
Harford County Department of Environmental Health
Harford County Department of Parks and Recreation
Harford County Department of Public Works
Harford County Department of Social Services
Harford County Division of Emergency Operations
Harford County Emergency Management

Harford County Fire and Emergency Medical Services
Harford County Human Resources
Harford County Sheriff's Department
Harford County Transportation
Harford County Water and Sewer Department
Harford Department of Community Services
Maryland Department of Natural Resources
Maryland Department of Transportation (State Highway
Administration)
Maryland State Police
Office of Public Information
U.S. Department of Agriculture

SCHOOLS

HARFORD COUNTY

North Harford Elementary School
North Harford Middle School
North Harford High School

PRIVATE/VOLUNTEER ORGANIZATIONS

The following private and volunteer organizations participated in the PBAPS exercise at many different locations throughout the area. We thank them and all those who volunteer their services to State, county, and municipal governments during emergencies.

Amateur Radio Emergency Services (ARES)
American Red Cross (ARC)
ARC of the Susquehanna Valley
Southeastern Pennsylvania Chapter
York County Chapter
Baltimore County - Electronic Services
Boy Scouts of America
Thorndale Troop 125
Troop 146
Calvert Cliffs Nuclear Power Plant
Centerview Automotive
Chester County Radio Amateur Civil Emergency Service (RACES)
Citizens Volunteer Fire Company
Civil Air Patrol
Eureka Volunteer Fire Company
Fawn Borough Council
Fawn Grove Ambulance
Fawn Grove Volunteer Fire Company
Fawn Grove Volunteer Police
Glen Rock Ambulance
Glen Rock Hose and Ladder
Grangeville Hazardous Materials Response Team
John Hopkins Medical Center
Junior Volunteer Fire Fighters
Lampeter Volunteer Fire Department
Nandy Veterinarian Associates
Northrop Grumman Corporation

Quarryville Volunteer Fire Department
Radio Amateur Civil Emergency Service
Salvation Army
SSI Services
Tessco Technologies
United Container Machines
York Press (Newspaper)

C. Exercise Timeline

Table 1, on the following pages, presents the times at which key events and activities occurred during the PBAPS exercises held on May 4 and August 14 and 15, 2000. Also included are the times that notifications were made to the participating jurisdictions/functional entities.

TABLE 1. EXERCISE TIMELINE

DATE AND SITE: August 15, 2000, Peach Bottom Atomic Power Station

Emergency Classification Level	Time Utility Declared	Time That Notification Was Received or Action was Taken											
		PA - State Control Cell	Emergency Operations Facility	Emergency News Center (MEMA)	Chester County EOC	W. Nottingham Township EOC	East Drumore EOC	Quarryville Borough EOC	Fawn Grove/Fawn Township EOC	Maryland State EOC	Accident Assessment Center (MD)	Cecil County EOC	Harford County EOC
Unusual Event	0824/1720	N/a	N/A	0824	1722	N/A	N/A	N/A	N/A	0824	0835	0835	0834
Alert	0900/1805	0900/1805	1007	0900	0910/1810	1829	1822	1823	1816	0920	0912	0911	0911
Site Area Emergency	1035/1920	1035/1920	1106	-----	1045/1920	1931	1935	1936	1933	1054	1054	1048	1048
General Emergency	1132/2019	1132/2019	1132	1132	1141/2019	2025	2034	2029	2031	1141	1153	1154	1145
Simulated Radiation Release Started	1131	-----	1132	N/A	1130/2008	2010	2021	2010	2014	1132	1150	1138	1145
Simulated Radiation Release Terminated	-----	-----	N/A	N/A	-----	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Facility Declared Operational		-----	1033		0940	1845	1835	-----	1838	1047	0940	1005	0953
Declaration of State of Disaster Emergency			N/A	N/A	1122/1947	1947	1959	1955	2053	N/A	-----	N/A	1413
Exercise Terminated			1428		1406/2132	2104	2130	2130	2132	1453	1439	1425	1423
Early Precautionary Actions: Shelter animals and place on Stored feed and covered water (MD Sectors 1-5). Close boat ramps and restrict boating (MD only).				N/A	N/A	1950	N/A	N/A	N/A	1120	1157	1142	1101
1st A&N Decision				N/A	1111/1941	1950	2005	1951		1111		1111	1114
1st Siren Activation			1121	N/A	1226/1951	1950	-----	1951		1121		1121	1121
1st EAS or EBS Message			1124	N/A	1124/1954	1950	-----	1951		1124		1124	1124
2nd A&N Decision Shelter Zones: N/A Evacuate Zones: Sectors 1-5 (MD) 360° 10-miles (PA)			1226	N/A	1239/2026	2028	2046	2031		1227	1230	1226	1228
2nd Siren Activation			1236	N/A	1236/2036	2028	2036	2036	2036	1236		1236	1236
2nd EAS or EBS Message			1239	N/A	1248/2039	2028	2039	2039	2039	1239		1239	1237
Precautionary Actions: Extend livestock advisory from 10 miles to 50 (PA and Harford County, MD).				N/A	1310/1940	1950	1959	1959	N/A	N/A			
KI Administration Decision: Emergency Workers Advised <u>not</u> to Take				N/A					N/A	N/A			
KI Administration Decision: Emergency Workers Advised <u>to</u> Take			1157	N/A	1146/2012	2014	2018	2014	2023	1225	1157	1230	1230

LEGEND: S - Support Jurisdiction

D - Decision Making Jurisdiction

A - Activating Jurisdiction

N/A - Not Applicable

IV. EXERCISE EVALUATION AND RESULTS

Contained in this section are the results and findings of the evaluation of all jurisdictions and locations that participated in the May 4 and August 15, 2000, exercise to test the offsite emergency response capabilities of State and local governments in the 10-mile EPZ surrounding the PBAPS.

Each jurisdiction and functional entity was evaluated on the basis of its demonstration of criteria in the exercise objectives contained in FEMA-REP-14, *REP Exercise Manual*, September 1991. Detailed information on the exercise objectives and the extent-of-play agreement used in this exercise is found in Appendix 3 of this report.

A. Summary Results of Exercise Evaluation - Table 2

The matrix presented in Table 2, on the following pages, presents the status of all exercise objectives from FEMA-REP-14 that were scheduled for demonstration during this exercise at all participating jurisdictions and functional entities. Exercise objectives are listed by number, and the demonstration status is indicated by the use of the following letters:

- M - Met (No Deficiency or ARCAs assessed)
- D - Deficiency(ies) assessed
- A - ARCA(s) assessed (not affecting public health and safety)
- N - Not demonstrated as scheduled (reason explained in Section IV.B.)
- U - Unresolved ARCA(s) from prior exercise(s)
- Blank - Not scheduled for demonstration

TABLE 2. SUMMARY RESULTS OF 2000 PLUME EXERCISE EVALUATION

DATE AND SITE: *May 4 and August 14 and 15, 2000, Peach Bottom Atomic Power Station*

JURISDICTIONS/LOCATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	
YORK COUNTY (Cont'd)																																		
LOWER CHANCEFORD TOWNSHIP ('96 & [Route Alerting '98])			U												U																U			
STATE OF MARYLAND																																		
STATE EMERGENCY OPERATIONS CENTER ('98 & '00)	M	M	M	M					M	M		M	M	M																				
ACCIDENT ASSESSMENT CENTER (Dundalk)	M						M	M																										
STATE FIELD MONITORING TEAM 1				M	M	M		M							M																			
STATE FIELD MONITORING TEAM 2				M	M	M		M							M																			
RISK JURISDICTIONS																																		
CECIL COUNTY																																		
COUNTY EMERGENCY OPERATIONS CENTER ('98 & '00)	M	M	M	M	M					M	M	M	M	M	M	M	M															M	M	
RECEP./MASS CARE/EMER. WORKER DECON STATION (Perryville HS '98)																																		
RECEP./MASS CARE/EMER. WORKER DECON STATION (Rising Sun HS '96 & '00)					M														A	M			A											
TRAFFIC AND ACCESS CONTROL				M	M									M		M																		
HARFORD COUNTY																																		
COUNTY EMERGENCY OPERATIONS CENTER ('98 & '00)	M	M	M	M	M					M	M	A	U	M	M	M	M															M	M	
RECEP./EMER. WORKER DECON STATION (Fallston HS '98 & '00)					M													M					M											
RECEP./MASS CARE /EMER. WORKER DECON STATION (Harford College '96)																																		
MASS CARE CENTER (Joppatown High School '00)																																		
TRAFFIC AND ACCESS CONTROL				M	M										M		M																	
SCHOOL DISTRICTS																																		
COMMONWEALTH OF PENNSYLVANIA																																		

LEGEND: M = Met (No Deficiency or ARCA(s) assessed) A = ARCA(s) assessed (Not affecting health and safety of public) Blank = Not scheduled for demonstration
 D = Deficiency assessed N = Not demonstrated as scheduled (Reason explained in Section IV.B.) U = Unresolved ARCA(s) from prior exercises

TABLE 2. SUMMARY RESULTS OF 2000 PLUME EXERCISE EVALUATION

DATE AND SITE: *May 4 and August 14 and 15, 2000, Peach Bottom Atomic Power Station*

JURISDICTIONS/LOCATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33			
CHESTER COUNTY																																				
OXFORD AREA SCHOOL DISTRICT ('00)																	M																			
LANCASTER COUNTY																																				
PENN MANOR SCHOOL DISTRICT (Martie Elem. School '00)																	M																			
SOLANCO SCHOOL DISTRICT (Solanco High School '00)																	M																			
SOLANCO SCHOOL DISTRICT (Swift Middle School)																	M																			
SOLANCO SCHOOL DISTRICT (George A. Swift MS)																																				
SOLANCO SCHOOL DISTRICT (Clermont Elementary School)																																				
SOLANCO SCHOOL DISTRICT Little Britain Elementary)																																				
SOLANCO SCHOOL DISTRICT Quarryville Elementary)																																				
YORK COUNTY																																				
RED LION AREA SCHOOL DISTRICT (Chanceford Elem. School '00)																																				
S. EASTERN SCHOOL DISTRICT (Delta/Peach Bot. Elem. '96 & '00)																		M																		
S. EASTERN SCHOOL DISTRICT (Fawn Area Elementary)																		M																		
S. EASTERN SCHOOL DISTRICT (Kennard Dale High)																																				
S. EASTERN SCHOOL DISTRICT (South Eastern Middle School)																																				
STATE OF MARYLAND																																				
HARFORD COUNTY																																				
HARFORD COUNTY SCHOOL DISTRICT (N. Harford Schools '96 & '00)																																				
HARFORD COUNTY SCHOOL DISTRICT (Darlington Elem. '98)																																				
HARFORD COUNTY SCHOOL DISTRICT (Dublin Elem. '98)																																				

LEGEND: M = Met (No Deficiency or ARCA(s) assessed) A = ARCA(s) assessed (Not affecting health and safety of public) Blank = Not scheduled for demonstration
 D = Deficiency assessed N = Not demonstrated as scheduled (Reason explained in Section IV.B.) U = Unresolved ARCA(s) from prior exercises

B. Status of Jurisdictions Evaluated

This subsection provides information on the evaluation of each participating jurisdiction and functional entity in a jurisdiction-based, issues-only format. Presented below are definitions of the terms used in this subsection relative to objective demonstration status.

- **Met** - Listing of the demonstrated exercise objectives under which no Deficiencies or ARCAs were assessed during this exercise, and under which no ARCAs assessed during previous exercises remain unresolved.
- **Deficiency** - Listing of the demonstrated exercise objectives under which one or more Deficiencies were assessed during this exercise. Included are a description of each Deficiency and recommended corrective actions.
- **Area Requiring Corrective Actions** - Listing of the demonstrated exercise objectives under which one or more ARCAs were assessed during the current exercise or under which ARCAs assessed during previous exercises remain unresolved. Included is a description of the ARCAs assessed during this exercise and the recommended corrective action to be demonstrated before or during the next biennial exercise.
- **Not Demonstrated** - Listing of the exercise objectives that were not demonstrated as scheduled during this exercise and the reason they were not demonstrated.
- **Prior Issues - Resolved** - Descriptions of ARCAs assessed during previous exercises that were resolved in this exercise and the corrective actions demonstrated.
- **Prior Issues - Unresolved** - Descriptions of ARCAs assessed during previous exercises that were not resolved in this exercise. Included are the reason the ARCAs remain unresolved and recommended corrective actions to be demonstrated before or during the next biennial exercise.

The following are definitions of the two types of exercise issues discussed in this report.

- A **Deficiency** is defined in FEMA-REP-14 as "...an observed or identified inadequacy of organizational performance in an exercise that could cause a finding that offsite emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public living in the vicinity of a nuclear power plant."
- An **ARCA** is defined in FEMA-REP-14 as "...an observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety."

FEMA has developed a standardized system for numbering exercise issues (Deficiencies and ARCAs). This system is used to achieve consistency in numbering exercise issues among FEMA regions and site-specific exercise reports within each region. It is also used to expedite tracking of exercise issues on a nationwide basis.

The identifying numbers for Deficiencies and ARCAs include the following elements, each separated by a hyphen:

- **Plant Site Identifier** - A two-digit number corresponding to the Utility Billable Plant Site Codes.
- **Exercise Year** - The last two digits of the year the exercise was conducted.
- **Objective Number** - A two-digit number corresponding to the objective number in FEMA-REP-14.
- **Issue Classification Identifier** - (D = Deficiency, A = ARCA). Only Deficiencies and ARCAs are included in exercise reports.
- **Exercise Identification Number** - A two- or three-digit indexing number assigned to each issue identified in the exercise.

1. COMMONWEALTH OF PENNSYLVANIA

1.1 EMERGENCY NEWS CENTER (Maryland)

- a. MET: Objectives 1, 11, and 12
- b. DEFICIENCY: None
- c. AREAS REQUIRING CORRECTIVE ACTION: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: Objective 12

Issue No.: 46-98-12-A-01

Description: The Public Information Officer (PIO) from the Maryland Emergency Management Agency (MEMA), located at the Emergency News Center (ENC), did not clearly describe the protective action decisions (PAD) for Maryland in the fourth press briefing. He did not have complete information or descriptions of the zones to be sheltered-in-place and evacuated, and did not know where evacuees should seek shelter. (NUREG-0654, G.4.a.)

Corrective Action Demonstrated: The MEMA PIO who provided the media briefings in the ENC checked with the PIO at the Maryland EOC and read the latest MEMA news releases and memos to the Governor prior to conducting each of the three pre-briefings and three media briefings. The MEMA PIO was fully informed of all Maryland PADs, the zones being evacuated (entire 10-mile radius), and the two (one for Cecil and one for Harford) reception centers and shelters being established. The PIO knew the number of Maryland residents being evacuated from the 10-mile radius and referred members of the media to the information in the media display rack at the back of the room.

Issue No.: PBX94-06R

Description: No copies of Emergency Broadcast Service (EBS) messages were available to the staffs of either State at the Joint Public Information Center (JPIC). (Objective 12; NUREG-0654, E.5., E.7., and G.4.a.)

Corrective Action Demonstrated: The Maryland PIOs at the ENC received faxed copies from the PIO at the Maryland State EOC of all available MEMA news releases (5), memos to the Governor (4), Governor's Press Office press release (1), and Cecil and Harford County Emergency Alert System (EAS) messages (3). These were distributed within the ENC to PECO Energy Company, Pennsylvania Emergency Management Agency (PEMA), and the media. Maryland PIOs received copies of all EAS

messages and news releases from Chester County, PEMA, and PECO Energy Company; these were subsequently faxed back to the Maryland State EOC.

f. **PRIOR ISSUES - UNRESOLVED:** None

1.2 **EMERGENCY OPERATIONS FACILITY (BRP [PA] and RHP [MD])**

a. **MET:** Objectives 7 and 9

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ISSUES - RESOLVED:** Objective 9

Issue No.: 46-98-09-A-02

Description: Decision makers at the Emergency Operations Facility (EOF) did not utilize the staff of the State Accident Assessment Center (AAC) in arriving at a PAD. The State of Maryland and Utility personnel in the EOF failed to provide sufficient information to the AAC personnel to allow them to make accurate and timely dose projections - despite requests from the AAC to obtain this information. (NUREG-0654, J.9.)

Corrective Action Demonstrated: The information needed for dose assessment was provided by the Maryland Department of the Environment (MDE) staff at the EOF to the AAC. In fact, the meteorological data were sent in advance of the release to facilitate the anticipated dose assessment task. During the release, information available to the State in the EOF was forwarded to the AAC in a timely manner.

f. **PRIOR ISSUES - UNRESOLVED:** None

1.3 **STATE FIELD AIR MONITORING TEAM 1**

a. **MET:** Objectives 4, 5, 6 and 14

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** Objective 8

Issue No.: 46-00-08-A-01

Description: Pennsylvania field monitoring team (FMT) A did not purge the air sample media of noble gases in accordance with their procedures. The plan specifies that, when the air sample collection is completed, the particulate filter and radioiodine cartridge should be left in the sampling head for purging at the counting

location (Department of Environmental Protection [DEP], Bureau of Radiation Protection [BRP], Implementing Procedure [IP]-102, page 10, Rev. 8). (NUREG-0654, I.9.)

Recommendation: The field teams should follow their plans and procedures.

Schedule of Corrective Actions: All field monitoring teams will participate in remedial instruction prior to the November 2, 2000, Susquehanna exercise. The DEP South Central Field Team will demonstrate correct procedural application during the 2001 Limerick exercise.

- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: Objective 4

Issue No.: PBX94-03R

Description: Radio communications with an FMT were lost during the exercise. The FMT used a commercial telephone to contact the EOC. Apparently, their radios were new and were expected to work in all areas of the EPZ around PBAPS. (Objective 4; NUREG-0654, F.3.)

Corrective Action Demonstrated: The field team was equipped with cellular phones that served as a backup system. The radio system failed several times during the demonstration, and the cellular phones were used for communications. The backup system worked well, and the flow of communication was not affected.

- f. PRIOR ISSUES - UNRESOLVED: None

1.4 STATE FIELD AIR MONITORING TEAM 2

- a. MET: Objectives 4, 5, 6, 8, and 14
- b. DEFICIENCY: None
- c. AREAS REQUIRING CORRECTIVE ACTION: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: Objective 4

Issue No.: PBX94-03R

Description: Radio communications with an FMT were lost during the exercise. The FMT used a commercial telephone to contact the EOC. Apparently, their radios were new and were expected to work in all areas of the EPZ around PBAPS. (Objective 4; NUREG-0654,

F.3.)

Corrective Action Demonstrated: FMT A was equipped with operating radios and a cellular telephone. Although the terrain interfered with radio communications periodically, the cellular telephone was used to maintain communications with the Field Team Coordinator (FTC) in the State EOC at all times.

f. **PRIOR ISSUES - UNRESOLVED:** None

1.5 **STATE TRAFFIC/ACCESS CONTROL (State Police - Risk Counties)**

a. **MET:** Objectives 4, 5, 14, and 17

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ISSUES - RESOLVED:** Objective 5

Issue No.: 46-98-05-A-03

Description: The Pennsylvania State Police (PSP) trooper assigned to Traffic/Access Control Point (TCP/ACP) duties in Chester County was not issued a 0-20 Roentgen (R) direct-reading dosimeter (DRD), as required by the state plan. He was also not issued (actual or simulated) a non-self-reading dosimeter, as required in the extent-of-play agreement. (NUREG-0654, K.3.a. and N.1.a.)

Corrective Action Demonstrated: During the pre-deployment briefing of PSP troopers at the Troop J Lancaster Barracks, the troopers were issued both 0-20 R DRDs and non-self reading dosimeters (simulated, badge Personal Record Dosimeter).

Issue No.: 46-98-05-A-04

Description: PSP Procedure OM-7, Appendix O, does not adequately incorporate the procedures and requirements of the State plan, Appendix 5, Attachment B, pages E-5-30 to 49. OM-7 does not indicate that Category A standard issue equipment should be provided to law enforcement personnel. Other inconsistencies were noted in procedures regarding the frequency of dosimetry readings and recording and reporting readings. (NUREG-0654, K.3.a., K.3.b., and K.4.)

Corrective Action Demonstrated: The standard operating procedures (SOP) have been revised so that only a 0-20 R DRD is required. The emergency workers no longer use the 0-200 R DRD.

Issue No.: 46-98-05-A-05

Description: PSP trooper at the PSP Troop H Barrack, assigned to York County, was not issued an additional 0-200 R DRD, as required by the PSP Troop H Emergency Response Plan dated October 1997 (P. 27). The trooper was only issued one 0-20 R DRD. (NUREG-0654, K.3.a. and N.1.a.)

Corrective Action Demonstrated: Troopers were issued DCA 622 (0-20 R) dosimeters in accordance with the new Appendix O to the emergency response plan. There is no longer a requirement for the 0-200 R dosimeter.

f. **PRIOR ISSUES - UNRESOLVED:** None

2. **RISK JURISDICTIONS**

2.1 **CHESTER COUNTY**

2.1.1 **EMERGENCY OPERATIONS CENTER**

a. **MET:** Objectives 3, 10, 11, 12, 13, 30, 32, and 33

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ISSUES - RESOLVED:**

Issue No.: 35-99-11-A-07

Description: Press releases issued by staff at the Chester County EOC during the remedial exercise on December 7, 1999, referenced only the use of the telephone book's emergency information. The releases did not include prescribed information for transients containing a description (in terms of familiar landmarks) of the location of reception centers; what to leave and what to take when evacuating; and a description (again, in terms of familiar landmarks and boundaries) for the affected area(s). On the second EAS message, the PIO did not specify whether the Governor ordered or recommended evacuation of the public. (NUREG-0654, E.5. and E.7.)

Corrective Action Demonstrated: The Chester County PIO tailored prescribed EAS messages and Special News Broadcasts with incident-specific information and had

the messages approved by the Emergency Management Director (EMD), before disseminating them to the public. The messages contained all necessary information, including the status of the incident, protective action recommendations (PARs) (including the Governor's order to evacuate), the locations of reception centers for both residents and transients, information for transportation-dependent and special populations, what to leave and what to take when evacuating, and a description of the affected areas. The messages were clear and accurate.

f. PRIOR ISSUES - UNRESOLVED: None

2.1.2 RECEPTION CENTER (Octorara Middle School)

a. MET: Objectives 5 and 18

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTION: None

d. NOT DEMONSTRATED: None

e. PRIOR ISSUES - RESOLVED: None

f. PRIOR ISSUES - UNRESOLVED: None

2.1.3 MONITORING/DECONTAMINATION/MASS CARE CENTER (Octorara High School)

a. MET: Objectives 5, 18, and 19

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTION: None

d. NOT DEMONSTRATED: None

e. PRIOR ISSUES - RESOLVED: None

f. PRIOR ISSUES - UNRESOLVED: None

2.1.4 EMERGENCY WORKER MONITORING/DECONTAMINATION STATION (Penn's Grove Middle School)

a. MET: Objectives 5 and 22

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTION: None

d. NOT DEMONSTRATED: None

e. PRIOR ISSUES - RESOLVED: None

f. **PRIOR ISSUES - UNRESOLVED:** Objective 22

Issue No.: 46-96-22-A-10

Description: The following issues were identified during emergency worker monitoring and decontamination activities.

- Pomeroy Fire Department, Cochranville Fire Department, and emergency worker decontamination personnel were not aware of the maximum exposure limit (5 rem) for their mission. They were also uncertain of the difference between personal exposure limits and the radiation level required for an individual to be decontaminated.
- Although not required by the extent-of-play agreement, the Pomeroy Fire Company used two DRDs to monitor exposure. However, the dosimetry was placed in a precarious position where it could have been damaged. (NUREG-0654, K.3.b., K.4., and K.5.b.)

Corrective Action Demonstrated: This issue is withdrawn pending receipt of a letter stating that the Pomeroy and Cochranville Fire Departments are not scheduled to participate in future exercises. In reference to each of the ARCAs: 46-96-22-A-10; 46-96-22-A-11; 46-96-22-A-12, the letter from PEMA Director's to FEMA, dated September 25, 2000, indicates Chester County's ability to provide the necessary qualified personnel and thereby recommends removal of each of these ARCAs.

FEMA Response: This issue will remain as classified until it is re-demonstrated at the next biennial exercise.

Issue No.: 46-96-22-A-11

Description: No vehicle was decontaminated, as required by the extent-of-play agreement. The Cochranville Fire Department personnel did monitor one vehicle but stated that decontamination of the vehicle was not their task. They did not know what facilities were available for the decontamination of vehicles and indicated that this task was the responsibility of one of the three other fire departments that sent no players to the exercise. (NUREG-0654, N.1.a.)

Corrective Action Demonstrated: This issue is withdrawn pending receipt of a letter stating that the Pomeroy and Cochranville Fire Departments are not scheduled to participate in future exercises. In reference to each of the ARCAs: 46-96-22-A-10; 46-96-22-A-11; 46-96-22-A-12, the letter from PEMA Director's to FEMA, dated September 25, 2000, indicates Chester County's ability

to provide the necessary qualified personnel and thereby recommends removal of each of these ARCAs.

FEMA Response: This issue will remain as classified until it is re-demonstrated at the next biennial exercise.

Issue No.: 46-96-22-A-12

Description: The Pomeroy Fire Department personnel set up a facility to simulate the decontamination of one individual during the exercise. The following problems were identified during the demonstration:

- The route set aside for contaminated workers did not allow access to sinks, only to the shower, so an individual with contamination only on his/her hand would be required to go into a multiple shower area.
- There was no way a "clean" individual could have exited the shower after washing without crossing a contaminated area in bare feet.
- No proper storage equipment had been set up to receive contaminated clothing. The plan calls for plastic trash bags in a metal or plastic sealable garbage container. Plastic bags were on hand but no outer container was available.
- Sufficient towels and soap were not available for decontamination of emergency workers. The fire company had only two small towels and a travel bottle of shampoo. The workers indicated that there might be more supplies in their ambulance, which was not at the site.
- There were no articles of replacement clothing for workers whose clothing was contaminated.
- No mechanism was provided for decontamination of personal items that might be contaminated, such as purses, wallets, glasses, rings, or watches.
(NUREG-0654, K.5.a. and K.5.b.)

Corrective Action Demonstrated: This issue is withdrawn pending receipt of a letter stating that the Pomeroy and Cochranville Fire Departments are not scheduled to participate in future exercises. In reference to each of the ARCAs: 46-96-22-A-10; 46-96-22-A-11; 46-96-22-A-12, the letter from PEMA Director's to FEMA, dated September 25, 2000, indicates Chester County's ability to provide the necessary qualified personnel and thereby recommends removal of each of these ARCAs.

FEMA Response: This issue will remain as classified

until it is re-demonstrated at the next biennial exercise.

2.1.5 WEST NOTTINGHAM TOWNSHIP

- a. MET: Objectives 1, 2, 3, 4, 5, 10, 14, and 15
- b. DEFICIENCY: None
- c. AREAS REQUIRING CORRECTIVE ACTION: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

2.2 LANCASTER COUNTY

2.2.1 EMERGENCY OPERATIONS CENTER

- a. MET: Objectives 32 and 33
- b. DEFICIENCY: None
- c. AREAS REQUIRING CORRECTIVE ACTION: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

2.2.2 RECEPTION CENTER (Willow Street Vocational Technical School)

- a. MET: Objectives 5 and 18
- b. DEFICIENCY: None
- c. AREAS REQUIRING CORRECTIVE ACTION: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: Objectives 5 and 18

Issue No.: 46-98-18-A-06

Description: The extent-of-play for the Lancaster County Reception Center stated that a minimum of three volunteer evacuees will be processed, briefed, and issued the appropriate strip map; only one volunteer evacuee was processed. (NUREG-0654, N.1.a.)

Corrective Action Demonstrated: Three volunteer evacuees were processed, briefed, and issued the

appropriate strip map at the Lancaster County Reception Center in accordance with the extent-of-play agreement.

Issue No.: 46-96-05-A-14

Description: Under the Lancaster County Emergency Operations Plan (EOP), staff at the county reception center should have been issued thermoluminescent dosimeters (TLDs) because they met the definition of Category C emergency workers. However, staff had no dosimetry whatsoever, real or simulated. (NUREG-0654, H.10., K.3.a., and K.3.b.)

Corrective Action Demonstrated: Emergency workers at the Willow Street Vocational Technical School reception center were issued TLDs in accordance with the plan.

f. **PRIOR ISSUES - UNRESOLVED:** None

2.2.3 **EMERGENCY WORKER MONITORING/DECONTAMINATION STATION
(Lampeter-Strasburg High School)**

a. **MET:** Objectives 5, 18, 19, and 22

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ISSUES - RESOLVED:** Objectives 5 and 22

Issue No.: 46-96-05-A-15

Description: Emergency workers staffing the Lancaster County Emergency Worker Monitoring and Decontamination Station (EWM/DS) did not know the emergency worker exposure limits. (NUREG-0654, K.3.b. and K.4.)

Corrective Action Demonstrated: The Lampeter Volunteer Fire Department staff were aware of their turn-back value (5 R) and exposure limits.

Issue No.: 46-96-22-A-16

Description: The capability to prevent the spread of contamination at the EWM/DS was compromised as follows:

- The vehicle monitors at the Lancaster County EWM/DS did not follow the EOP (Attachment A to Appendix 13, pages E-13-18-19) and extent-of-play agreement. They did not monitor the interior of the vehicle in accordance with their procedures [Sections 7.f.(2),

7.f.(6), 7.f.(7), and 7.f.(8)] or discuss how the exterior of the vehicle would be decontaminated.

- The personnel monitors at the Lancaster County EWM/DS:
 - Placed a container with contaminated clothing next to the monitoring station (which could cause a buildup of background radiation),
 - Directed uncontaminated workers to step onto the contaminated path to the shower before entering the path to the exit (which could contaminate that path), and
 - Did not control movement from the exit so that uncontaminated or decontaminated persons would not cross the path of potentially contaminated workers entering the station. (NUREG-0654, K.5.b.)

Corrective Action Demonstrated: Staff at the EWM/DS took measures such as removing contaminated clothing and bagging equipment and waste to prevent buildup of background radiation at monitoring locations. The following other contamination control measures were also implemented: all monitors wore gloves, covered the probe of the survey meter with plastic, simulated the covering of walkways, and separated contaminated and uncontaminated individuals. Radiological monitoring of a vehicle, including the interior, was demonstrated, and the team simulated decontamination of a vehicle through discussion.

f. **PRIOR ISSUES - UNRESOLVED:** None

2.2.4 **EAST DRUMORE TOWNSHIP**

a. **MET:** Objectives 1, 2, 3, 4, 5, 10, 14, 15 and 30

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ISSUES - RESOLVED:** None

f. **PRIOR ISSUES - UNRESOLVED:** Objective 30

Issue No.: 46-96-30-A-18

Description: The East Drumore Township EOC did not perform a shift change, as required by the extent-of-play agreement. (NUREG-0654, A.4. and N.1.a.)

Reason ARCA Unresolved: The East Drumore Township EOC did not demonstrate a shift change. According to the Emergency Management Coordinator (EMC), no second shift staff members were available. The extent-of-play agreement (P.15), dated August 8, 2000, requires a shift change for all key EOC staff.

Recommendation: The East Drumore Township EOC should perform a shift change as required by the extent-of-play agreement.

Schedule of Corrective Actions: We concur with the recommendation and will comply during the next PBAPS exercise.

2.2.5 QUARRYVILLE BOROUGH (Route Alerting)

- a. **MET:** Objectives 1, 2, 3, 4, 5, 10, 14, 15, and 17
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ISSUES - RESOLVED:** Objective 5

Issue No.: 46-96-05-A-22

Description: A Quarryville Borough police officer involved in route alerting was not familiar with dosimetry and did not know his dose limit. (NUREG-0654, K.3.b. and K.4.)

Corrective Action Demonstrated: The Quarryville Borough firemen involved in route alerting for the hearing impaired were familiar with dosimetry and knew their dose limit of 5 rem.

- f. **PRIOR ISSUES - UNRESOLVED:** None

2.3 YORK COUNTY

2.3.1 EMERGENCY OPERATIONS CENTER

- a. **MET:** Objectives 31, 32, and 33
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None

- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

2.3.2 RECEPTION CENTER (Southern Middle School)

- a. MET: Objectives 5 and 18
- b. DEFICIENCY: None
- c. AREAS REQUIRING CORRECTIVE ACTION: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: Objectives 5 and 22

Issue No.: 46-98-05-A-10

Description: The radiological monitors at the monitoring/decontamination center at Southern Middle School did not know the maximum authorized mission exposure limit, as stated in the York County Plan, Attachment B, Appendix 13, page E-13-32 B. (NUREG-0654, K.4.)

Corrective Action Demonstrated: This issue is withdrawn because this building is being remodeled and will not be used for monitoring and decontamination of evacuees in the future.

Issue No.: 46-98-18-A-11

Description: The monitoring/decontamination center at Southern Middle School does not have shower facilities adequate to prevent cross-contamination of evacuees. The evacuees that required decontamination had to go outside to another building. Only one shower room was available, men and women could not shower separately. A total of 1,635 evacuees were expected to be monitored at this facility. (NUREG-0654, J.12.)

Corrective Action Demonstrated: This issue is withdrawn because this building is being remodeled and will not be used for monitoring and decontamination of evacuees in the future.

Issue No.: 46-98-18-A-12

Description: Monitoring personnel at the monitoring/decontamination center at Southern Middle

School were not adequately trained in radiation monitoring procedures:

- Monitoring of six evacuees required approximately 18 minutes - at this rate, the required number of evacuees (1,635) would not be monitored in a 12-hour period based on the plan's requirement for three monitoring positions.
- The monitor touched the vehicle several times with his glove and the plastic probe cover during monitoring.
- The monitoring personnel were not aware of the action level for decontamination. (NUREG-0654, J.12.)

Corrective Action Demonstrated: This issue is withdrawn because this building is being remodeled and will not be used for monitoring and decontamination of evacuees in the future.

f. PRIOR ISSUES - UNRESOLVED: None

2.3.3 MONITORING/DECONTAMINATION/MASS CARE CENTER
(Susquehannock High School)

- a. MET: Objectives 5, 18, and 19
- b. DEFICIENCY: None
- c. AREAS REQUIRING CORRECTIVE ACTION: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

2.3.4 EMERGENCY WORKER MONITORING/DECONTAMINATION STATION
(Eureka Fire Company)

- a. MET: Objectives 5 and 22
- b. DEFICIENCY: None
- c. AREAS REQUIRING CORRECTIVE ACTION: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

- 2.3.5 FAWN BOROUGH/FAWN GROVE TOWNSHIP
 - a. MET: Objectives 1, 2, 3, 4, 5, 10, 14, and 15
 - b. DEFICIENCY: None
 - c. AREAS REQUIRING CORRECTIVE ACTION: None
 - d. NOT DEMONSTRATED: None
 - e. PRIOR ISSUES - RESOLVED: None
 - f. PRIOR ISSUES - UNRESOLVED: None
- 3. SCHOOL DISTRICTS
 - 3.1 CHESTER COUNTY
 - 3.1.1 OXFORD AREA SCHOOL DISTRICT
 - a. MET: Objective 16
 - b. DEFICIENCY: None
 - c. AREAS REQUIRING CORRECTIVE ACTION: None
 - d. NOT DEMONSTRATED: None
 - e. PRIOR ISSUES - RESOLVED: None
 - f. PRIOR ISSUES - UNRESOLVED: None
 - 3.2 LANCASTER COUNTY
 - 3.2.1 PENN MANOR SCHOOL DISTRICT (Martic Elementary School)
 - a. MET: Objective 16
 - b. DEFICIENCY: None
 - c. AREAS REQUIRING CORRECTIVE ACTION: None
 - d. NOT DEMONSTRATED: None
 - e. PRIOR ISSUES - RESOLVED: None
 - f. PRIOR ISSUES - UNRESOLVED: None
 - 3.2.2 SOLANCO SCHOOL DISTRICT (Solanco High School)
 - a. MET: Objective 16
 - b. DEFICIENCY: None
 - c. AREAS REQUIRING CORRECTIVE ACTION: None

- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

3.3 YORK COUNTY

3.3.1 RED LION AREA SCHOOL DISTRICT (Chanceford Elementary School)

- a. MET: Objective 16
- b. DEFICIENCY: None
- c. AREAS REQUIRING CORRECTIVE ACTION: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

3.3.2 SOUTH EASTERN SCHOOL DISTRICT (Delta/Peach Bottom Elementary School)

- a. MET: None
- b. DEFICIENCY: None
- c. AREAS REQUIRING CORRECTIVE ACTION: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: Objective 16

Issue No.: 46-98-16-A-15

Description: The Assistant District School Superintendent did not complete several key actions required in Section III of the School District Plan: notifying key District officials, notifying all schools following the first Emergency Classification Level (ECL) announcement (as required in the extent-of-play), canceling school activities at the prescribed ECL, notifying the School Board President or the Intermediate Unit #12, and monitoring the EAS announcements on WSBA 910. (NUREG-0654, J.10.d. and N.1.a.)

Corrective Action Demonstrated: The Assistant District School Superintendent for the South Eastern School District completed all key actions described in Section III "Concept of Operations" (in session) of the school district plan (Rev.0)

Issue No.: 46-98-16-A-16

Description: The bus driver and transportation coordinator, who accompanied the bus driver, were totally unfamiliar with the evacuation route. (NUREG-0654, J.10.d. and J.10.g.)

Corrective Action Demonstrated: The bus driver and transportation coordinator knew the correct evacuation route. A copy of a map and written directions to the host school were available.

f. **PRIOR ISSUES - UNRESOLVED:** None

4. **STATE OF MARYLAND**

4.1 **EMERGENCY OPERATIONS CENTER**

a. **MET:** Objectives 1, 2, 3, 4, 9, 10, 12, 13, and 14

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ISSUES - RESOLVED:** Objective 13

Issue No.: 46-98-13-A-17

Description: The Emergency Information Operators responsible for rumor control misstated the PAD in response to callers, despite the fact that it was displayed. The available emergency public information for Harford County clearly showed the zone boundaries, but the operators did not refer to that information. The operators misinterpreted the PAD as being equivalent to, "evacuate the emergency planning zone in both counties to 10 miles, shelter beyond 10 miles," and told callers within the 10-mile EPZ in either county to evacuate. (NUREG-0654, G.4.b. and G.4.c.)

Corrective Action Demonstrated: The rumor control staff were knowledgeable about the PADs and provided accurate information to callers regarding the emergency situation.

Issue No.: 46-98-13-A-18

Description: The State EOC, Harford County, and Cecil County did not receive a sufficient number of rumor calls. The extent-of-play agreement requires demonstration for 3¼ hours with each location receiving 39 calls. The State EOC received 24 calls,

Harford County 33, and Cecil County 26. (NUREG-0654, N.1.a.)

Corrective Action Demonstrated: During the exercise, 49 rumor calls were processed at the Maryland State EOC by three individuals. The calls were received between 1005 and 0150. The number of calls received at this location exceeds the minimum number (16) specified in the extent-of-play agreement.

f. **PRIOR ISSUES - UNRESOLVED:** None

4.2 **ACCIDENT ASSESSMENT CENTER (Dundalk)**

a. **MET:** Objectives 1, 7, and 9

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ISSUES - RESOLVED:** None

f. **PRIOR ISSUES - UNRESOLVED:** None

4.3 **FIELD AIR MONITORING TEAM A**

a. **MET:** Objectives 4, 5, 6, 8, and 14

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

d. **PRIOR ISSUES - RESOLVED:**

Issue No.: 11-99-08-A-04

Description: The air sampling pump was not checked by FMT-A for proper operation prior to deployment in accordance with Section III.B.4.a. of their procedures. (NUREG-0654, H.10.)

Corrective Action Demonstrated: The air sampling pump was checked by FMT 1 prior to deployment to the field.

f. **PRIOR ISSUES - UNRESOLVED:** None

4.4 FIELD AIR MONITORING TEAM B

- a. MET: Objectives 4, 5, 6, 8, and 14
- b. DEFICIENCY: None
- c. AREAS REQUIRING CORRECTIVE ACTION: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED:

Issue No.: 11-99-06-A-05

Description: The FMT B did not keep the detector probes enclosed in plastic as a protective measure as required by FEMA-REP-14. (NUREG-0654, I.7.)

Corrective Action Demonstrated: Thin plastic bags were wrapped around probes and instruments during measurements.

Issue No.: 11-99-08-A-06

Description: FMT B did not check the MS-2/SPA-3 counting system or air pump prior to deployment. A source check was not performed in accordance with the procedures (Emergency Procedure 302, Revision 6, Section B and Attachment 8). In addition, the FMT did not follow their procedures (EP-302 revision 6, section E) for collecting an air sample. The team collected a two-minute air sample, drawing only four cubic feet of air through the sample media. In addition, reproducible geometry was not used when radiiodine and particulate measurements were made. (NUREG-0654, H.10. and I.9.)

Corrective Action Demonstrated: FMT B checked the MS-2/SPA-3 counting system and air pump prior to deployment and completed a source check of the instrument. When asked to take an air sample, the team collected a 2.8-minute air sample drawing 10 cubic feet. Reproducible geometry was used when radiiodine and particulate measurements were made.

- f. PRIOR ISSUES - UNRESOLVED: None

5. RISK JURISDICTIONS

5.1 CECIL COUNTY

5.1.1 EMERGENCY OPERATIONS CENTER

- a. MET: Objectives 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 17, 32, and 33

- b. DEFICIENCY: None
- c. AREAS REQUIRING CORRECTIVE ACTION: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: Objective 11

Issue No.: 46-98-11-A-22

Description: EAS messages and press releases did not include the current ECL or a description of the current emergency condition at PBAPS. The information was not printed on official county stationary and did not contain the words "This is a test exercise message." (NUREG-0654, E.7.)

Corrective Action Demonstrated: EAS messages and press releases included the current ECL or a description of the current emergency condition at PBAPS. The information was also printed on official county stationary, and the words "This Is a Drill" were printed across the bottom of each message.

- f. PRIOR ISSUES - UNRESOLVED: None

5.1.2 RECEPTION/MASS CARE CENTER AND EMERGENCY WORKER MONITORING/DECONTAMINATION STATION (Rising Sun High School)

- a. MET: Objective 5
- b. DEFICIENCY: None
- c. AREAS REQUIRING CORRECTIVE ACTION: Objectives 18 and 22

Issue No.: 46-00-18/22-A-02

Description: The background radiation level at the Cecil County monitoring/decontamination center at Rising Sun High School was erroneously read as 0.3 milliRoentgens per hour (mR/h) instead of 0.03 mR/h. All personnel, except one, accepted and used this inflated value, which would have masked the contamination action level of 0.1 mR/h. (NUREG-0654, J.12.)

Recommendation: Additional training should be provided to monitoring personnel on the proper technique for reading the survey instruments so that they understand the range of background radiation and are aware that the action level for contamination is several times that of background radiation.

Schedule of Corrective Actions: Additional training will be conducted to ensure monitoring personnel are aware of the appropriate background radiation levels.

- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

5.1.3 TRAFFIC AND ACCESS CONTROL

- a. MET: Objectives 4, 14, and 17
- b. DEFICIENCY: None
- c. AREAS REQUIRING CORRECTIVE ACTION: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

5.2 HARFORD COUNTY

5.2.1 EMERGENCY OPERATIONS CENTER

- a. MET: Objectives 1, 2, 3, 4, 5, 9, 10, 12, 13, 14, 15, 17, 32, and 33
- b. DEFICIENCY: None
- c. AREAS REQUIRING CORRECTIVE ACTION: Objective 11

Issue No.: 46-00-11-A-03

Description: News releases prepared at the EOC were inconsistent with those provided during the press conference. News Release #5, developed at the EOC, stated that the ECL was at the Site Area Emergency (SAE) level; the corresponding message distributed at the press conference referred to both General Emergency (GE) and Alert ECLs, rather than to the SAE.

Message #6 also contained inaccurate information. The message referred to the ECL at both the Alert and GE levels. (NUREG-0654, E.7. and N.1.a.)

Recommendation: Messages should be read for accuracy before dissemination, and verbal contact should be made with the PIO at the near-site media center to verify message content.

Schedule of Corrective Actions: The accelerated nature of the exercise scenario resulted in PIO personnel expediting news releases. This may have contributed to some of the inaccuracies listed. PIO personnel will be instructed to edit all material more carefully to ensure that accurate information is contained in the news release.

d. **NOT DEMONSTRATED:** None

e. **PRIOR ISSUES - RESOLVED:** Objectives 1 and 12

Issue No.: 46-98-01-A-26

Description: Prepositioning of EOC staff occurred, which was not in accordance with the extent-of-play agreement. Upon arrival at the EOC at 0809, the following EOC positions were already staffed: Department of Public Works (2), Message Center (2), Maryland State Police (2), and the American Red Cross volunteer. (NUREG-0654, N.1.a.)

Corrective Action Demonstrated: There was no prepositioning of EOC staff during the exercise.

f. **PRIOR ISSUES - UNRESOLVED:** Objective 12

Issue No.: 46-98-12-A-27

Description: The Harford County PIO did not coordinate with, or provide information to the ENC. The Harford County Plan (Annex H, Page H-7, Section E.2.g.) stipulates that the Harford County PIO "Coordinates information releases among the EOC, the media center, the near-site media center, the Joint Information Center, the State PIO, and any facility PIO or Public Affairs Officer personnel." (NUREG-0654, G.4.b. and G.4.c.)

Reason ARCA Unresolved: The Harford County PIO did not coordinate with or send messages to the ENC. The PIO followed the Harford County Radiological EOP Appendix I, Fixed Nuclear Facility (FNF) RERP, which states (on page 1-H-4) that "The PIO will coordinate with other risk county PIOs and MEMA prior to releasing any official information, if time permits." However, Annex H (page H-7, Section E.2.g.) of the basic Hartford EOP requires that the PIO coordinate with or provide information to the ENC.

Recommendation: The basic EOP and the FNF RERP should be reviewed and the appropriate sections amended so that the plans present the same directives to the PIO staff.

Schedule of Corrective Actions: The Harford EOP, Annex

H, page H-7, section E.2.g. will be revised to eliminate the requirement for the PIO to coordinate or provide information to the ENC in Coatesville. Information will be sent to the MEMA PIO at the State EOC to respond to inquiries regarding Harford County developments.

**5.2.2 RECEPTION AND EMERGENCY WORKER MONITORING/
DECONTAMINATION STATION (Fallston High School)**

- a. MET: Objectives 5, 18, and 22
- b. DEFICIENCY: None
- c. AREAS REQUIRING CORRECTIVE ACTION: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

5.2.3 MASS CARE CENTER (Joppatown High School)

- a. MET: Objective 19
- b. DEFICIENCY: None
- c. AREAS REQUIRING CORRECTIVE ACTION: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

5.2.4 TRAFFIC AND ACCESS CONTROL

- a. MET: Objectives 4, 5, 14, and 17
- b. DEFICIENCY: None
- c. AREAS REQUIRING CORRECTIVE ACTION: None
- d. NOT DEMONSTRATED: None
- e. PRIOR ISSUES - RESOLVED: None
- f. PRIOR ISSUES - UNRESOLVED: None

6. SCHOOL DISTRICTS

6.1 HARFORD COUNTY

6.1.1 HARFORD COUNTY PUBLIC SCHOOL DISTRICT (North Harford Elementary, North Harford Middle School, and North

Harford High School)

a. MET: Objective 16

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTION: None

d. NOT DEMONSTRATED: None

e. PRIOR ISSUES - RESOLVED: None

f. PRIOR ISSUES - UNRESOLVED: None

APPENDICES

APPENDIX 1

ACRONYMS AND ABBREVIATIONS

A&N	Alert and Notification
AAC	Accident Assessment Center
ACP	Access Control Point
ANL	Argonne National Laboratory
ARC	American Red Cross
ARES	Amateur Radio Emergency Services
ARCA	Areas Requiring Corrective Action
BRP	Bureau of Radiation Protection
CFR	Code of Federal Regulations
CRD	control rod drive
DEP	Department of Environmental Protection
DRD	Direct-Reading Dosimeter
EAS	Emergency Alert System
EAL	Emergency Action Levels
EBS	Emergency Broadcast System
ECL	Emergency Classification Level
EMC	Emergency Management Coordinator
EMD	Emergency Management Director
ENC	Emergency News Center
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EOP	Emergency Operations Plan
EPA	U.S. Environmental Protection Agency
EPZ	Emergency Planning Zone
EWM/DS	Emergency Worker Monitoring/Decontamination Station
FEMA	Federal Emergency Management Agency
FMT	Field Monitoring Team
FNF	fixed nuclear facility
FTC	Field Team Coordinator
GE	General Emergency
HPSW	high-pressure service water
IP	Implementing Procedure
KI	potassium iodide
KLT	K.L. Travis and Associates
MDE	Maryland Department of the Environment
MEMA	Maryland Emergency Management Agency
mR/h	milliRoentgen per hour
MSIV	main steam isolation valves
MSL	mean sea level
MW	megawatt

ACRONYMS AND ABBREVIATIONS (Cont.)

NRC	U.S. Nuclear Regulatory Commission
NTHMC	Natural and Technological Hazards Management Consulting, Inc
NUREG-0654	NUREG-0654/FEMA-REP-1, Rev. 1 <i>"Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants,"</i> November 1980
ORO	Offsite Response Organization
OSC	Operations Support Center
PAD	Protective Action Decision
PAR	Protective Action Recommendation
PBAPS	Peach Bottom Atomic Power Station
PEMA	Pennsylvania Emergency Management Agency
PIO	Public Information Officer
PSP	Pennsylvania State Police
R	Roentgen
RAC	Regional Assistance Committee
RACES	Radio Amateur Civil Emergency Service
RCIC	reactor core isolation cooling
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan
RHP	Radiation Health Protection
RHR	residual heat removal
RPS	reactor protection system
RPV	reactor pressure vessel
SAE	Site Area Emergency
SOP	standard operating procedures
SRTF	State Response Task Force
TCP	Traffic Control Point
TLD	thermoluminescent dosimeter
TSC	Technical Support Center

APPENDIX 2

EXERCISE EVALUATORS AND TEAM LEADERS

The following is a list of the personnel who evaluated the PBAPS exercise on May 4 and August 15, 2000. Evaluator Team Leaders are indicated by the single asterisk (*) after their organization's name. The organization each evaluator represents is indicated by the following abbreviations:

EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
NRC	U.S. Nuclear Regulatory Commission
ANL	Argonne National Laboratory
KLT	K.L. Travis and Associates
NTHMC	Natural and Technological Hazards Management Consulting, Inc.

	<u>NAME</u>	<u>ORGANIZATION</u>
RAC Chairperson	K. Koob	FEMA
Project Officer	J. Price	FEMA

1. Biennial Plume Exercise - August 15, 2000 (0830-1400)

STATE OF MARYLAND

Emergency Operations Center	A. Hough	FEMA *
	S. Curtis	ANL
	C. Bebrich	ANL
Accident Assessment Center (Dundalk)	M. Geer	KLT
State Field Air Monitoring Team A	F. Bold	ANL
State Field Air Monitoring Team B	M. Williams	ANL
EOF (RHP - Maryland)	B. Belanger	EPA
	B. Bores	NRC

CECIL COUNTY

Emergency Operations Center	A. Lookabaugh	ANL*
	L. Lacher	ANL
	R. Smith	ANL
Traffic and Access Control	M. Willis	ANL

HARFORD COUNTY

Emergency Operations Center	Y. Porter	FEMA*
	S. Bailey	ANL
	R. Kowieski	NTHMC

COMMONWEALTH OF PENNSYLVANIA

Emergency News Center (Maryland)	B. Metz	ANL
State Field Monitoring Team 1	D. Blunt	ANL
State Field Monitoring Team 2	E. Wojnas	ANL

<u>EVALUATION SITE</u>	<u>EVALUATOR</u>	<u>ORGANIZATION</u>
CHESTER COUNTY PA		
Chester County EOC	R. Helo R. Thomson	FEMA * ANL
2. Biennial Plume Exercise - August 15, 2000 (1800-2300)		
CHESTER COUNTY PA		
Chester County EOC	R. Helo	FEMA *
West Nottingham Township EOC	B. Lueders	ANL
Route Alerting	D. Poyer	ANL
LANCASTER COUNTY PA		
Lancaster County EOC	A. Henryson	FEMA *
East Drumore Township EOC	A. Teotia	ANL
Quarryville Borough EOC	M. Ward	ANL
Route Alerting	D. Cray	ANL
YORK COUNTY PA		
York County EOC	H. Skoczalek	FEMA *
Fawn Borough/Township EOC	G. Robinson	ANL
Route Alerting	J. Jackson	ANL
3. Out-of-Sequence Activities - August 15, 2000 (1900-2130)		
LANCASTER COUNTY PA		
Monitoring/Decontamination/Mass Care Center (Lampeter Strasburg Complex)	G. Goforth	ANL
Quarryville Borough (TCP/ACP Only)	R. Rospenda	ANL
4. Out-of-Sequence Activities - August 14, 2000 (0930-1200)		
CECIL COUNTY MD		
Reception/Mass Care Center and Emergency Worker Decontamination Station (Rising Sun High School)	H. Harrison	ANL
5. Out-of-Sequence Activities - May 4, 2000 (0900-1130)		
CHESTER COUNTY		
Oxford Area School District	H. Harrison	ANL
LANCASTER COUNTY		
Penn Manor School District (Martic Elementary)	H. Skoczalek	FEMA
Solanco School District (Solanco High School)	E. Wojnas	ANL

<u>EVALUATION SITE</u>	<u>EVALUATOR</u>	<u>ORGANIZATION</u>
YORK COUNTY		
Red Lion Area School District (Chanceford Elementary)	A. Henryson	FEMA
South Eastern School District (Delta/Peach Bottom Elementary)	R. Helo	FEMA
HARFORD COUNTY MD		
Harford County Public School District (North Harford Elementary School)	D. Newsom	ANL
(North Harford Middle School)	G. Goforth	ANL
(North Harford High School)	B. Lueders	ANL
CHESTER COUNTY PA		
Reception Center (Octorara Middle School)	H. Harrison	ANL
YORK COUNTY PA		
Reception Center (Southern Middle School)	G. Jacobson	ANL
6. Out-of-Sequence Activities - May 4, 2000 (1330-1530)		
STATE OF MARYLAND		
State Traffic/Access Control Harford County	R. Rospenda	ANL
7. Out-of-Sequence Unannounced Activities - May 4, 2000 (1830 PA & 1930 MD)		
COMMONWEALTH OF PENNSYLVANIA		
Chester County EOC	R. Helo	FEMA
Lancaster County EOC	A. Henryson	FEMA
York County EOC	H. Skoczalek	FEMA
STATE OF MARYLAND		
Cecil County EOC	L. Poch	FEMA
Harford County EOC	D. Newsom	FEMA
8. Out-of-Sequence Unannounced Activities - May 4, 2000 (1830-2100)		
HARFORD COUNTY		
Reception and Emergency Worker Decontamination Station (Fallston High School)	G. Goforth	ANL
Mass Care Center (Joppatown High School)	B. Lueders	ANL

9. Out-of-Sequence Activities - May 4, 2000 (1900-2100)

COMMONWEALTH OF PENNSYLVANIA

State Traffic/Access Control

(State Police - Risk Counties)

Chester County (Troop J)	R. Rospenda	ANL
Lancaster County (Troop J)	K. Flynn	ANL
York County (Troop H)	W. Waddell	ANL

10. Out-of-Sequence Activities - May 4, 2000 (1900-2130)

CHESTER COUNTY

Monitoring/Decontamination/Mass Care Center (Octorara High School)	E. Wojnas	ANL
Emergency Worker Monitoring/Decon. Station (Penn's Grove Middle School)	T. Green	ANL

LANCASTER COUNTY

Reception Center (Willow Street Vo-Tech)	J. Price	FEMA
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YORK COUNTY

Monitoring/Decontamination/Mass Care Center (Susquehannock High School)	G. Jacobson	ANL
Emergency Worker Monitoring/ Decontamination Station (Eureka Fire Co.)	J. Staroba	ANL

APPENDIX 3

EXERCISE OBJECTIVES AND EXTENT-OF-PLAY AGREEMENT

This appendix contains descriptions of the exercise objectives scheduled for demonstration in the PBAPS exercise on May 4 and August 15, 2000, and the extent-of-play agreement approved by FEMA Region III by July 27, 2000.

The exercise objectives, contained in FEMA-REP-15, *Radiological Emergency Preparedness Exercise Evaluation Methodology*, September 1991, represent a functional translation of the planning standards and evaluation criteria of NUREG-0654/FEMA-REP-1, Rev. 1, *Criteria for the Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants*, November 1980.

Because the exercise objectives are intended for use at all nuclear power plant sites, and because of variations among offsite plans and procedures, an extent-of-play agreement is prepared by the State and approved by FEMA to provide evaluators with guidance on expected actual demonstration of specific objectives.

COMMONWEALTH OF PENNSYLVANIA

GROUP A OBJECTIVES

OBJECTIVE 1: MOBILIZATION OF EMERGENCY PERSONNEL

Demonstrate the capability to alert and fully mobilize personnel for both emergency facilities and field operations. Demonstrate the capability to activate and staff emergency facilities for emergency operations.

Expected Demonstration:

The risk municipalities will demonstrate mobilization in accordance with the procedures and on the dates outlined in the objective expected demonstrations in this document.

RISK COUNTIES	DEMONSTRATION OF EOC MOBILIZATION FOR COUNTIES	
	DATE	TIME
Chester	Week of 13 August 2000	As per Exercise Scenario
Lancaster	Exempted. Evaluated in 1999 with TMI	(2001 with TMI)
York	Exempted. Evaluated in 1999 with TMI	(2001 with TMI)

All municipalities will be activated per their county plans.

Risk Counties	Demonstration Of EOC Mobilization for Evaluated Municipalities - Week Of 13 August 2000	
Chester	West Nottingham Township	
Lancaster	Providence Township	East Drumore Township
York	Fawn Borough and Fawn Township	

Above offsite response organizations will activate their EOCs in accordance with their plans and SOPs.

Additionally, notification of selected personnel for the monitoring/ decontamination centers and stations, reception centers and mass care centers will be accomplished. However, mobilization of personnel will be accomplished only to the extent necessary to demonstrate the following:

- a. One reception center in each risk county.

Chester	Octorara Middle School	May 4th, 2000
Lancaster	Willow Street Vo - Tech School	May 4th, 2000
York	Southern School Complex (Middle School)	May 4th, 2000

- b. One mass care center and monitoring/decontamination center in each risk county will be evaluated.

Chester	Octorara High School	May 4th, 2000
Lancaster	Lampeter Strasburg School Complex	August 15, 2000
York	Southern School Complex (Susquehannock High School)	May 4th, 2000

One mass care and monitoring/decontamination center with the required monitoring/ decontamination teams will be demonstrated during the out of sequence window on May 4th, 2000.

- c. EMERGENCY WORKER monitoring and decontamination station for each Risk County.

Reception Centers, Mass Care and Monitoring/decontamination Centers and Emergency Worker monitoring and decontamination Stations are shown with Objective 5.

Chester	Penn's Grove Middle School	May 4th, 2000
Lancaster	Lampeter Strasburg School Complex (Field House)	August 15, 2000
York	Eureka Fire Company	May 4th, 2000

d. One Hearing Impaired Notification demonstration by one municipality in each risk county.

Chester	West Nottingham Township	August 15, 2000
Lancaster	Providence or East Drumore Township	August 15, 2000
York	Fawn Borough and Fawn Township (Fawn Zone EOC)	August 15, 2000

e. Bureau of Radiation Protection teams will be pre-positioned.

PREVIOUS ISSUES:

46-96-01-A-24 (Delta Borough / Peach Bottom Township)
46-96-01-A-26 (Harford County, MD)

OBJECTIVE 2: FACILITIES - EQUIPMENT, DISPLAYS, AND WORK ENVIRONMENT

Demonstrate the adequacy of facilities, equipment, displays, and other materials to support emergency operations.

Expected Demonstration:

County and municipal EOCs will show the facility, work environment, communications, maps and displays sufficient to support emergency operations that procedures are followed and that access to the facility is controlled. This includes demonstration of the availability of maps and displays showing the plume pathway emergency planning zone (EPZ); evacuation routes; reception centers, special facilities (schools, nursing homes, and hospitals); weather information; emergency classification levels. Maps should identify familiar landmarks and boundaries. These data may be displayed through the use of map overlays, computer graphics or other means. Each facility used for emergency operations should have available a status board or some means for visual display of information that can be used to record and maintain display of key events and related protective actions.

PREVIOUS ISSUES:

16-98-02-A-08 (Little Britain - Lancaster)

OBJECTIVE 3: DIRECTION AND CONTROL

Demonstrate the capability to direct and control emergency operations.

Expected Demonstration: Full demonstration in accordance with respective plans by risk counties and municipalities.

PREVIOUS ISSUES:

- 46-96-03-A-03 (BRP-State EOC)
- 46-96-03-A-19 (Providence Township, Lancaster County)
- 46-98-03-A-13 (Lower Chanceford Township, York County)

OBJECTIVE 4: COMMUNICATIONS

Demonstrate the capability to communicate with all appropriate emergency personnel at facilities and in the field.

Expected Demonstration: Full demonstration in accordance with respective plans. More than one communications system should be used in the exercise with one independent of the commercial telephone system.

PREVIOUS ISSUES:

None

OBJECTIVE 5: EMERGENCY WORKER EXPOSURE CONTROL

Demonstrate the capability to continuously monitor and control radiation exposure to emergency workers.

Expected Demonstration: According to their plans, Chester County pre-distributes DRDs, CD V-750s, PRDs, KI and appropriate forms to the risk municipalities. For this exercise, the following will be accomplished:

- a. All counties and municipalities verify quantities (using inventory sheets of dosimetry, PRDs and KI at storage locations. KI expiration dates will be recorded on inventory sheets.
- b. DRDs/PRDs and KI will not be moved from storage locations; boxes will be labeled but not opened. Inventory sheets for KI will be posted on the sealed boxes including expiration date for KI.
- c. A record of an annual inspection will be available at the risk county for all direct-reading dosimeters reading in roentgens.

Emergency workers who would be issued dosimetry are expected to know radiation exposure limits. Further, they should be knowledgeable regarding the reading of direct-reading dosimeters. Players may refer to any documents or aids available to clarify radiological information.

Radiological briefings will be conducted at each risk County and risk Municipal EOCs (If the EOC is not in the EPZ, briefings may be conducted for general information). The briefings may be pre-recorded. A staff member will be prepared to provide clarification or be knowledgeable on the required information. During the exercise, players may ask other players to clarify radiological information.

Proper use of an Area/Demonstration Kit will be demonstrated in all risk counties and its components will be used for the radiological briefing. All risk counties and risk municipalities will demonstrate and brief dosimetry in accordance with their plan (individual issue of DRDs and PRDs) using one demonstration kit consisting of 6 operational DRDs, 1 CD V-750, 8 simulated PRD, 6 "representative samples" of "Exercise use only" KI and 7 Dosimetry/KI Report Forms. Simulated control PRDs and forms will be packaged for simulated pickup per the county plan. Actual pickup of the control PRDs will not be demonstrated; however appropriate forms will be completed.

Route Alert notification personnel and traffic and access control point personnel will have operational DRDs, numbered simulated PRDs, and "Exercise use only" KI from demonstration kits. Each route alert staff and traffic and access control point personnel will be briefed regarding the use of their dosimetry, exposure limits, and recording requirements. (If the departure location of the notification teams is other than from the municipal EOC, the evaluator may listen to a telephonic briefing). Hearing Impaired notification staff and one traffic or access control point person will demonstrate DRD usage prior to dispatch. All will be fully knowledgeable of the procedures for their use.

Monitors at monitoring/decontamination centers and the emergency worker monitoring/ decontamination stations will be prepared to demonstrate monitoring and decontamination procedures using CD V-700s. Simulated PRDs will be provided to monitors. For this exercise maximum of eight simulated PRDs will be available at each location. Monitoring/ decontamination centers and station personnel are not issued DRDs/KI since the centers/stations are outside the plume EPZ. See Objective 18.

The FEMA evaluator will select a risk county team leader, coordinator or other emergency worker and ask that person about emergency worker exposure limits and the related decision process regarding the replacement of an emergency worker who is approaching an exposure limit.

N.B. Exercise demonstration locations are listed as part of Objective 1.

PREVIOUS ISSUES:

46-96-05-A-05 (PSP - PA)
46-96-05-A-07 (PSP - PA)
46-98-05-A-03 (PSP - PA)
46-96-05-A-09 (Reception/Mass Care/Mon/Decon Center - Chester County)
46-96-22-A-10 (Emergency Worker Mon/Decon Station - Chester County)
46-96-22-A-11 (Emergency Worker Mon/Decon Station - Chester County)
46-96-22-A-12 (Emergency Worker Mon/Decon Station - Chester County)
46-96-05-A-15 (Emergency Worker Mon/Decon Station - Lancaster County)
46-98-05-A-09 (Little Britain Township - Lancaster County)
46-96-05-A-20 (Providence Township, Route Alert - Lancaster County)
46-96-05-A-22 (Quarryville Borough - Lancaster County)
46-98-05-A-10 (Reception/Mass Care/Mon/Decon Center - York County)
46-98-05-A-20 (PSP - MD)
46-98-05-A-21 (PSP - MD)
46-96-05-A-25 (TCP/ACP - Cecil County, MD)

OBJECTIVE 6: FIELD RADIATION MONITORING - AMBIENT RADIATION MONITORING

Demonstrate the appropriate use of equipment and procedures for determining field radiation measurements.

Expected Demonstration: Measurements will be made by Department of Environmental Protection (DEP), Bureau of Radiation Protection (BRP), in accordance with the State Annex E, Appendix 6, and BRP Standard Implementing Procedures (SIPs). Two mobile air sampling teams from BRP (South Central Region Office) will demonstrate ambient radiation monitoring. Field teams will be equipped with appropriate dosimetry and KI. Both teams will be evaluated by FEMA. Each team will perform three actual measurements at predetermined monitoring points. Three additional measurements will be simulated and forwarded for inclusion in the play of the exercise by each team. Evaluators will meet the South Central Region Field Teams at Muddy Run Park at 9:30 a.m. the day of the exercise.

PREVIOUS ISSUES:

None

OBJECTIVE 7: PLUME DOSE PROJECTION

Demonstrate the capability to develop dose projections and protective action recommendations (PAR) regarding evacuation and sheltering.

Expected Demonstration: Demonstrated during the Beaver Valley Power Station Exercise 2000.

PREVIOUS ISSUES:

46-96-07-A-04 (BRP - State EOC, PA)

OBJECTIVE 8: FIELD RADIATION MONITORING - AIRBORNE RADIOIODINE AND PARTICULATE ACTIVITY MONITORING

Demonstrate the appropriate use of equipment and procedures for the measurement of airborne radioiodine concentrations as low as 10^{-7} (0.0000001) microcuries per cubic centimeter in the presence of noble gases and obtain samples of particulate activity in the airborne plume.

Expected Demonstration: Measurements will be made by BRP personnel in accordance with the State Annex E, Appendix 6, and BRP Standard Implementing Procedures (SIPs). Two mobile air sampling teams from BRP (South Central Region Office) will demonstrate use of equipment and procedures for radio iodine and particulate activity sampling and analysis. The results of this testing will be forwarded to the State EOC. Field teams will be deployed during the exercise to a minimum of two predetermined sampling locations. An actual air sample will be taken at the first predetermined location. Teams will then take additional simulated air samples, as directed, at additional locations, if conditions are appropriate for radio iodine sampling. In place of silver zeolite cartridges, charcoal cartridges will be used for the exercise. Evaluators will meet the field teams as discussed in Objective 6

PREVIOUS ISSUES:

None

OBJECTIVE 9: PLUME PROTECTIVE ACTION DECISION-MAKING

Demonstrate the capability to make timely and appropriate protective action decisions (PAD).

Expected Demonstration: Demonstrated during the Beaver Valley Power Station Exercise 2000.

PREVIOUS ISSUES:

46-98-09-A-02 (EOF - MD)

OBJECTIVE 10: ALERT AND NOTIFICATION

Demonstrate the capability to promptly alert and notify the public within the 10-mile plume pathway EPZ and disseminate instructional messages to the public on the basis of decisions by appropriate State or local officials.

Expected Demonstration: This demonstration will be tied to an emergency information/ protective action recommendation or order message. The 15-minute time frame begins when the Pennsylvania

Senior State Official reaches a decision after coordinating with Maryland Senior State Officials resulting in the need to activate the Alert and Notification System. Actual activation of the sirens and the EAS system will not be required for this exercise.

Administrative procedures will be demonstrated to include: the decision process, notification to the risk counties and subsequent notification to the all risk municipalities, EAS announcement preparation or selection. Media Advisories will be prepared to supplement the basic EAS message advisory. If more than one activation of the Alert and Notification System is required, the entire sequence will be exercised each time and siren and EAS activation will continue to be simulated.

During the exercise, PEMA will inform the risk counties when to simulate activation of the sirens. Risk counties will FAX a copy of any previously uncoordinated EAS messages to the State EOC and the utility Emergency News Center following each simulated EAS broadcast. Backup route alerting for any siren failures will be explained at the risk county EOC; however, route alert teams will not be dispatched.

Notification of the hearing impaired will be demonstrated with the actual dispatching of hearing impaired notification staff required for only one pre-selected risk municipality in each risk county. Each county will select a municipality that has a hearing impaired person(s), provided there is at least one within the EPZ area. Municipalities selected by each county are listed in Expected Demonstration, Objective 1. The following procedures will be used:

1. Select one route that includes the residence of one or more hearing impaired persons.
2. The hearing impaired notification staff will be briefed and provided the route information and a pre-scripted message to provide the residents with appropriate information i.e. Turn on radio or television and Monitor EAS and take the proper protective action. (If the departure location of the notification staff is other than from the municipal EOC, the evaluator may listen to a telephonic briefing).

Hearing Impaired Notification staff will have two-way communications capability.

3. An evaluator will accompany the staff making the Hearing Impaired notification and will travel with the staff.
4. When the Federal evaluator has arrived at the Hearing Impaired notification staff's location, the staff will notify the risk municipal EMC that they are ready for the demonstration.

Remaining risk municipalities are required to demonstrate all Hearing-Impaired notification related activities up to and including a pre-dispatch briefing, but the staff will not be dispatched.

PREVIOUS ISSUES:

None

OBJECTIVE 11: PUBLIC INSTRUCTIONS AND EMERGENCY INFORMATION

Demonstrate the capability to coordinate the formulation and dissemination of accurate information and instructions to the public.

Expected Demonstration: Whenever siren activation is simulated, appropriate prepared or pre-scripted EAS announcements for information or action will be selected and Media Advisories will be prepared to supplement the basic EAS message, as necessary. The EAS broadcast will be simulated. Each risk county will demonstrate contact with its EAS station or simulate self activation of EAS broadcast. Supplemental media advisories following the EAS messages will include information of use to local residents and transient persons reminding of the information available in the telephone directory emergency pages.

PREVIOUS ISSUES:

PBX94-06R (State ENC - PA)
46-96-11-A-08 (Chester County EOC - PA)
46-96-11-A-23 (York County EOC - PA)
46-96-11-A-28 (State Public Information Activities - MD)
46-98-11-A-22 (Cecil County EOC - MD)

OBJECTIVE 12: EMERGENCY INFORMATION - MEDIA

Demonstrate the capability to coordinate the development and dissemination of clear, accurate, and timely information to the news media.

Expected Demonstration: Only Chester County EOC will demonstrate **this objective**. Arrangements for the regular exchange of information between organizations' spokespersons will be made during an emergency. Coordinated press releases will be issued by the utility's media center.

Risk counties will prepare news releases; the news releases will be coordinated with PEMA Control Cell and appropriate counties prior to release if information in the news release has more than originating county impact and deviates from information already coordinated in planning documents. Copies of news releases will be furnished to the Commonwealth Control Cell, utility, and to other risk counties for exchange of information purposes.

The press briefing will be an actual demonstration and will be executed regardless of audience size. Municipalities may refer press inquiries to the county.

PREVIOUS ISSUES:

46-96-12-A-02 (State ENC - PA)
46-98-12-A-22 (State EOC - MD)
46-98-12-A-27 (Harford County EOC - MD)

OBJECTIVE 13: EMERGENCY INFORMATION - RUMOR CONTROL

Demonstrate the capability to establish and operate rumor control in a coordinated and timely manner.

Expected Demonstration: **Only Chester county EOC will demonstrate this objective.**

Chester County will have their rumor control cell activated. Rumor control must notify the Supervisor or the EMC as soon as the trend is identified. Each participating county will handle a minimum of 16 calls to analyze and identify any rumor trends. Participating risk counties will staff the rumor control cell with a minimum of 2 persons.

PREVIOUS ISSUES:

46-96-13-A-01 (State Public Information Center = PA)
46-98-13-A-17 (State EOC - MD)
46-96-13-A-27 (Public Information Center - MD)

GROUP B OBJECTIVES

OBJECTIVE 14: IMPLEMENTATION OF PROTECTIVE ACTIONS - USE OF KI FOR EMERGENCY WORKERS, INSTITUTIONALIZED INDIVIDUALS, AND THE GENERAL PUBLIC

Demonstrate the capability and resources to implement KI protective actions for emergency workers, institutionalized individuals, and, if the State plan specifies, the general public.

Expected Demonstration: A recommendation for risk counties will be made by BRP based on the scenario and an advisory shall be issued by the Secretary, Department of Health, as to whether emergency workers should or should not take KI. If the risk counties receive the message to not take KI from the state EOC, the EMC may decide whether or not to disseminate the message to the risk municipalities. If the decision is made to take KI, EOCs will demonstrate the ability to fill out the appropriate form used in recording the taking of KI.

PREVIOUS ISSUES:

46-96-14-A-21 (Providence Township Route Alerting Team, Lancaster County - PA)

OBJECTIVE 15: IMPLEMENTATION OF PROTECTIVE ACTIONS - SPECIAL POPULATIONS

Demonstrate the capability and resources necessary to implement appropriate protective actions for special populations.

Expected Demonstration: Lists of people with special needs are maintained at municipal level and copies are available at the risk counties. Emergency information distributed to the plume EPZ population contain telephone numbers for use by persons with special needs. Procedures for updating the special needs lists will be explained to the evaluator upon request. Special Needs lists may be reviewed by the evaluator. Copies of the lists are confidential in nature and will not be provided to the evaluator.

The risk counties will make calls to hospitals and nursing homes for patient census. Once this has been completed, subsequent calls may be simulated. Record keeping requirements are the same as for transportation providers.

Contact will be made by risk county EOCs to providers of buses, ambulances and other vehicles to determine availability (vehicles will not be dispatched). Actual contact calls must be made to each type of service provider until all resource needs have been met. For example, if 50 buses are required, the separate providers must actually be contacted until commitments for 50 buses have been obtained. Once this has been completed, subsequent calls may be simulated. A record of the availability (outcome, name and provider) will be provided to FEMA, state and the county Emergency Management Agency upon request.

PREVIOUS ISSUES:

46-96-15-A-25 (Lower Chanceford EOC, York County - PA)

OBJECTIVE 16: IMPLEMENTATION OF PROTECTIVE ACTIONS - SCHOOLS

Demonstrate the capability and resources necessary to implement protective actions for schoolchildren within the plume pathway EPZ.

Expected Demonstration: The demonstration for all school districts will be performed out of sequence on May 4th, 2000, 9:00 a.m. to 11:30 a.m.

The scenario will provide for demonstrating this objective during normal school hours and therefore out of sequence with the remainder of the exercise. The demonstration time period may be extended so that the school districts will be able to fully benefit from the activity.

Risk School Districts with schools in the EPZ and those districts outside the EPZ but with students living within the EPZ will participate and will be evaluated by FEMA. These include (all schools within EPZ):

COUNTY	SCHOOL DISTRICT	SCHOOLS
Chester	Oxford School District	None in the EPZ.
Lancaster	Penn Manor School District	Martic Elementary
	Solanco School District	Solanco High School
York	Red Lion School District	Chanceford Elementary School
	South Eastern School District	Delta - Peach Bottom Elementary School

Risk county EOCs will be appropriately staffed for this demonstration to receive school scenario messages and disseminate them to the participating school districts.

The district superintendent or other appropriate official will meet with the FEMA evaluator to discuss the district plans. In addition, in the risk school districts and the school districts which have students who reside in the EPZ, the FEMA evaluator will also meet with the principal or other appropriate official of one school per district.

The initial ECL announcement will be transmitted from the State EOC to the risk county EOC via dedicated phone line (Blue Phone). The risk county EOC will notify each of their risk school districts and school districts which have students residing in the EPZ. The risk school districts and the school districts with students who reside in the EPZ will notify all their risk schools and those schools which have students who reside in the EPZ.

Subsequent ECL, evacuation and other exercise announcements will be transmitted by the State EOC to the risk county EOC via dedicated phone line (Blue Phone). The risk county EOC will, in accordance with its plans, notify the risk school districts and school districts which have students who reside in the EPZ. The school districts, however, will only be required to notify the one designated school per district of the subsequent ECL, evacuation and other announcements related to the exercise. The demonstration will include movement of one vehicle (not necessarily a bus) by a driver per risk school district over an evacuation route to the host school, but will not require actual student involvement. The vehicle used will be equipped with two way communication capabilities, if that is a normal procedure for school buses in that school district. Chester County has no schools within the EPZ.

School districts outside the EPZ but with students living within the EPZ will not demonstrate evacuation. The district superintendent or other appropriate official as well as the transportation supervisor will be prepared to discuss the dispatch of the buses, pick up points, loading procedures for the students/staff and the destinations. School districts outside the

EPZ but with students living within the EPZ will discuss procedures for handling affected students.

PREVIOUS ISSUES:

46-98-16-A-15 (South Eastern Area School District,
Delta Peach Bottom Elementary School -
York County)

OBJECTIVE 17: TRAFFIC AND ACCESS CONTROL

Demonstrate the organizational capability and resources necessary to control evacuation traffic flow and to control access to evacuated and sheltered areas.

Expected Demonstration: Requirements for establishing traffic and access control points for the evacuated area will be addressed administratively at the State, county, and municipal EOCs, in accordance with the plans. Actual field demonstrations will be:

- a. One PSP Traffic Control Point (TCP) per risk county.
- b. One PSP Access Control Point (ACP) per risk county. (TCP and ACP locations may be the same, if so listed in the plan)
- c. exit 3 and PSP Lancaster Barracks, located on U.S. 30 (3.6 miles east of U.S. 222).
- d. The PSP TCP/ACP demonstrations will be performed out of sequence in a demonstration window at 7:00 p.m. to 9:00 p.m. on May 4th, 2000.

These (TCP and ACP) are as follows:

RISK COUNTY	TCP LOCATIONS	ACP LOCATIONS
Chester	TCP # 1 - Route 272 & U. S. 1, West Nottingham Township	ACP #100 - U.S. 1 and PA 472, Lower Oxford Township
Lancaster	Post 42 at intersection of SR 324 & SR 3019 (Red Hill Road), Martic Township	Post 42 at intersection of SR 324 & SR 3019 (Red Hill Road), Martic Township
York	TCP Post 15/ ACP Post 31, intersection of SR 2071 (Good Road) & SR 74, Chanceford Township (Colinville)	TCP Post 15/ ACP Post 31, intersection of SR 2071 (Good Road) & SR 74, Chanceford Township (Colinville)

Each municipal/regional police force with a TCP assigned in its plan will demonstrate all preparation duties including TCP responsibilities, and radiological briefing. Dispatch of persons to the TCP site will not occur during the exercise.

- a. Municipal and county staffs will be prepared to brief the FEMA evaluator on actions to be taken should there be an

impediment to evacuation on a designated route. This will be demonstrated between 7:00pm - 9:00pm on the night of the exercise.

These municipal/regional police forces are:

RISK COUNTIES		
Chester	Lancaster	York
N/A	Quarryville	N/A

PREVIOUS ISSUES:

None

OBJECTIVE 18: RECEPTION CENTER - MONITORING, DECONTAMINATION, AND REGISTRATION

Demonstrate the adequacy of procedures, facilities, equipment, and personnel for the radiological monitoring, decontamination, and registration of evacuees.

Expected Demonstration: In Pennsylvania, most counties provide monitoring/ decontamination at centers located with mass care centers rather than at reception centers. Each risk county will demonstrate one reception center during the out-of-sequence window operated by one manager and at least one assistant.

The Reception Center locations are:

County	Reception Center Location	Date	Time
Chester	Octorara Middle School	May 4th, 2000	9:00 a.m. to 11:30 a.m.
Lancaster	Willow Street Vocational- Technical School	May 4th, 2000	9:00 a.m. to 11:30 a.m.
York	Southern Middle School	May 4th, 2000	9:00 a.m. to 11:30 a.m.

(NOTE: Monitoring does not take place at Reception Centers.)

At each reception center, a minimum of three volunteer evacuees will be processed, briefed, issued the appropriate strip map, and instructed to proceed to a mass care center designated for demonstration of monitoring, decontamination, and registration. A minimum of 50 strip maps will be made available for the demonstration. Attempts will be made to solicit volunteers who are not personally involved in the REP program.

One mass care center and one monitoring/decontamination center per risk county will be demonstrated during the out-of-sequence window. All monitoring and decontamination teams will demonstrate monitoring, decontamination and registration procedures at one mass care center per county. The risk counties will provide space at designated mass care centers for operation of monitoring/decontamination centers. Schematics of these monitoring/ decontamination centers will be available to show

organization within the facility and space management for monitoring and for decontamination of the evacuating public. Procedures will be demonstrated to show minimizing contamination of the facility(ies) and separation of contaminated and non-contaminated (clean) individuals.

Each team, consisting of a minimum of two persons (monitor and recorder), will monitor a minimum of six (6) volunteer evacuees or 3 volunteer evacuees twice, complete the Monitoring/Decontamination Report Form (either by demonstration or explanation), and instruct the evacuees to proceed to the mass care registration points for further processing. The teams will demonstrate: radiological monitoring of at least one vehicle and the simulated decontamination of at least two evacuees, one unable to be decontaminated based on controller inject data. Discussions concerning processing of contaminated personnel will include capabilities and written procedures for showering females separate from males. Transporting of the contaminated person will be explained but not demonstrated. A CD V-700, or other survey meter, will be issued to each team. PRDs will be simulated.

Radiation contamination data for the evacuees and vehicle will be provided by the controller and must be included in the scenario package. Set-up of the facility will be performed the same as for an actual emergency with all route markings and contamination control measures in place including step-off pads; with the exception of long runs of plastic covered with paper which will not be demonstrated, but the materials will be available and explained. Positioning of a fire apparatus on-site may be simulated if otherwise required.

Mass care center locations are collocated with monitoring/decontamination centers as listed below:

County	Mass Care, Monitoring/Decon. Center Location	Number of Teams	Date	Time
Chester	Octorara High School	10	May 4th, 2000	7:00 p.m. to 9:30 p.m.
Lancaster	Lampeter Strasburg School Complex	10	August 15, 2000	7:00 p.m. to 9:30 p.m.
York	Southern School Complex (Susquehannock)	4	May 4th, 2000	7:00 p.m. to 9:30 p.m.

PREVIOUS ISSUES

- 46-98-18-A-06 (Reception Center - Lancaster County, PA)
- 46-98-18-A-07 (Monitoring/Decontamination/Mass Care Center - Lancaster County, PA)
- 46-98-18-A-11 (Rec/Mon/Decontamination/Mass Care Center - York County, PA)
- 46-98-18-A-12 (Rec/Mon/Decontamination/Mass Care Center - York County, PA)

OBJECTIVE 19: CONGREGATE CARE

Demonstrate the adequacy of facilities, equipment, supplies, personnel, and procedures for congregate care of evacuees.

Expected Demonstration: The risk counties will demonstrate the operation of one mass care center each during the out-of-sequence window. Floor plans with flow diagrams of the mass care centers will be available to show organization within the facility and space management during a real emergency. Mass care center locations are collocated with monitoring/decontamination centers as listed below:

COUNTY	MASS CARE CENTER LOCATION	DATE	TIME
Chester	Octorara High School	May 4th, 2000	7:00 p.m. - 9:30 p.m.
Lancaster	Lampeter Strasburg School Complex	August 15, 2000	7:00 p.m. - 9:30 p.m.
York	Susquehannock High School	May 4th, 2000	7:00 p.m. - 9:30 p.m.

Personnel, at a minimum, will consist of one manager and one assistant for each mass care center opened during the out-of-sequence window. The responsible American Red Cross chapter will show the source and quantities by job functional description to be provided to mass care centers to support the 24-hour operation. The responsible Red Cross Chapter (s) will be prepared to provide information regarding the 24-hour operation to the FEMA Evaluator. Schematics of these mass care centers will be available to show organization within the facility and space allocation for registration and sheltering the evacuating public. Necessary signs, directional arrows and forms will be available and used to demonstrate registration, at a minimum, of one evacuee needing housing. Evacuees will be shown the location where they would be housed in an actual situation. Bedding, cots, food, etc. normally associated with mass care will not be moved to the site, but the sources of those items should be explained to FEMA evaluators. This out-of-sequence demonstration window will be on May 4th, 2000 between 7:00 p.m. and 9:30 p.m.

ARC chapters and points of contact are as follows:

York County
York County Chapter
724 South George Street
York, PA 17403
Sheryl Dierdorf (717) 845-2751

Lancaster County
ARC of the Susquehanna Valley
P.O. Box 5740
Harrisburg, PA 17110
Ed Robertson (717) 234-3101

Chester County
Southeastern Pennsylvania Chapter
23rd and Chestnut Streets
Philadelphia, PA 19103
Jim Blumenstock (215) 299-4899

PREVIOUS ISSUES:

None

OBJECTIVE 20: MEDICAL SERVICES - TRANSPORTATION

Demonstrate the adequacy of vehicles, equipment, procedures, and personnel for transporting contaminated, injured, or exposed individuals.

Expected Demonstration: This objective was demonstrated on May 3, 2000, at the York Hospital.

OBJECTIVE 21: MEDICAL SERVICES - FACILITIES

Demonstrate the adequacy of the equipment, procedures, supplies, and personnel of medical facilities responsible for treatment of contaminated, injured or exposed individuals.

Expected Demonstration: Demonstrated on the date and at the place shown for Objective 20.

OBJECTIVE 22: EMERGENCY WORKERS, EQUIPMENT, AND VEHICLES - MONITORING AND DECONTAMINATION

Demonstrate the adequacy of procedures for the monitoring and decontamination of emergency workers, equipment, and vehicles.

Expected Demonstration: Each risk county will designate one monitoring/decontamination station for emergency workers to demonstrate the monitoring and simulated decontamination of one volunteer emergency worker and one vehicle.

Emergency worker station personnel will consist of a minimum of one monitor and one recorder and sufficient personnel to demonstrate monitoring of at least one vehicle. Schematics of these monitoring/decontamination stations will be available to show organization and space management within the facility. The evaluator will request that decontamination procedures be explained after the vehicle which has simulated contamination has been monitored. One CD V-700, or other survey meter, will be issued to each monitoring/decontamination team. One vehicle and/or piece of equipment will not be able to be decontaminated. Simulated radiation contamination data will be included in the scenario package, and injected by a controller. Set-up of the facility will be performed as closely as possible to that for an actual emergency with all route markings in place including step-off pads; with the exception of long runs of plastic covered with paper which will not be demonstrated, but the materials will be available and explained. This demonstration will be conducted out-of-sequence during a window May 4th 2000, 7:00 p.m. to 9:30 p.m..

Emergency Worker monitoring and decontamination station locations for each Risk County are:

County	Emergency Workers Monitoring and Decontamination Stations	Date	Time
Chester	Penn's Grove Middle School Garfield Street; Oxford, PA	May 4th, 2000	7:00 p.m. to 9:30 p.m.
Lancaster	Lampeter Strasburg School Complex	August 15, 2000	7:00 p.m. to 9:30 p.m.
York	Stewartstown Fire Company	May 4th, 2000	7:00 p.m. to 9:30 p.m.

PREVIOUS ISSUES:

None

OBJECTIVE 23: SUPPLEMENTARY ASSISTANCE (FEDERAL/OTHER)

Demonstrate the capability to identify the need for external assistance and to request such assistance from Federal or other support organizations.

Expected Demonstration: Not applicable.

GROUP C OBJECTIVES

OBJECTIVE 24: POST-EMERGENCY SAMPLING

Demonstrate the use of equipment and procedures for the collection and transportation of samples from areas that received deposition from the airborne plume.

Expected Demonstration: Not applicable.

OBJECTIVE 25: LABORATORY OPERATIONS

Demonstrate laboratory operations and procedures for measuring and analyzing samples.

Expected Demonstration: Not applicable.

OBJECTIVE 26: INGESTION EXPOSURE PATHWAY - DOSE PROJECTION AND PROTECTIVE ACTION DECISION MAKING

Demonstrate the capability to project dose to the public for the ingestion exposure pathway and to recommend protective actions.

Expected Demonstration: Not applicable.

OBJECTIVE 27: INGESTION EXPOSURE PATHWAY - PROTECTIVE ACTION IMPLEMENTATION

Demonstrate the capability to implement protective actions for the ingestion exposure pathway.

Expected Demonstration: Not applicable.

OBJECTIVE 28: RELOCATION, RE-ENTRY, AND RETURN - DECISION MAKING

Demonstrate the capability to develop decisions on relocation, re-entry, and return.

Expected Demonstration: Not applicable.

OBJECTIVE 29: RELOCATION, RE-ENTRY, AND RETURN - IMPLEMENTATION

Demonstrate the capability to implement relocation, re-entry, and return.

Expected Demonstration: Not applicable.

OBJECTIVE 30: CONTINUOUS, 24-HOUR STAFFING

Demonstrate the capability to maintain staffing on a continuous, 24-hour basis through an actual shift change.

Expected Demonstration: The following specified locations will demonstrate a shift change. The remainder of the locations are not required to perform a shift change demonstration for this exercise.

LOCATION	DEMONSTRATION	POSITIONS
Chester County EOC	Shift Change	Penn Dot
Lancaster County-East Drumore Township	Shift Change	

All other participating locations will not be required to perform a shift change. A full briefing will be provided during the shift change for each position. Either a complete one-time shift change or a position-by-position change shall be accomplished throughout the evening. Off-shift personnel are permitted to be present in the EOC; however, they are not to interact with staff members who are being evaluated.

PREVIOUS ISSUES:

- 46-96-30-A-17 (Drumore Township - Lancaster County, PA)
- 46-96-30-A-18 (East Drumore Township - Lancaster County, PA)
- 46-96-30-A-26 (Lower Chanceford Township - York County, PA)

OBJECTIVE 31: OFFSITE SUPPORT FOR THE EVACUATION OF ONSITE PERSONNEL

Demonstrate the capability to provide offsite support for the evacuation of onsite personnel.

Expected Demonstration: York County will demonstrate the offsite support request for evacuation of onsite personnel.

PREVIOUS ISSUES:

None

OBJECTIVE 32: UNANNOUNCED EXERCISE OR DRILL

Demonstrate the capability to carry out emergency response functions in an unannounced drill or exercise.

Expected Demonstration:

A mobilization/communications drill will be conducted within a seven-day window, April 30 - May 6, 2000 with the exact date unannounced to responsible off-site response organizations. This unannounced and off-hours drill will consist of a demonstration of the notification of risk county, risk municipalities, and support counties in accordance with procedures. At least one key staff member must report to the risk and support county EOCs after receiving notification of an alert ECL. Risk municipalities will first record notification of all staff and then report when an operational status (capable of accepting mission assignments at an indicated location with partial staff and resources) could be achieved. Recording will be accomplished by completing item (b), page 32-4 of Objective 32. This form will be forwarded to the risk county EOC within three working days. Evaluators will be at the Chester, Lancaster and York County EOCs to observe how this notification and confirmation process takes place. There will be no evaluators at municipal EOCs.

PREVIOUS ISSUES:

None

OBJECTIVE 33: OFF-HOURS EXERCISE OR DRILL

Demonstrate the capability to carry out emergency response functions during an off-hours exercise or drill.

Expected Demonstration: All risk Counties and Municipalities will participate

Off-Hour demonstrations will be conducted during out of sequence and in accordance with their plans An off-hours drill will be conducted within a seven day window, April 30 - May 6, 2000 with the exact date unannounced to responsible off-site response organizations. The ALERT ECL should be declared to allow for communication to key counties and municipalities after 1800 hours

and before 0400 hours or on weekends. This will be demonstrated in conjunction with Objective 32.

PREVIOUS ISSUES:

None

STATE OF MARYLAND

GROUP A OBJECTIVES

OBJECTIVE 1: MOBILIZATION OF EMERGENCY PERSONNEL

Demonstrate the capability to alert and fully mobilize personnel for both emergency facilities and field operations. Demonstrate the capability to activate and staff emergency facilities for emergency operations.

Expected Demonstration: **State** - The State EOC, Accident Assessment Center (AAC) and Media Center will be staffed in accordance with plans.

Cecil and Harford Counties - In accordance with plans.

Other facilities, such as County reception centers, mass care centers or, emergency worker decontamination stations, and field activities (FMTs, TCP/ACPs), will be staffed with the number of activated personnel specified under associated objectives. Some facilities were staffed as part of the out-of-sequence activities.

OBJECTIVE 2: FACILITIES EQUIPMENT, DISPLAYS, AND WORK ENVIRONMENT

Demonstrate the adequacy of facilities, equipment, displays, and other materials to support emergency operations.

Expected Demonstration: **State** - In accordance with plans.

Cecil and Harford Counties - In accordance with plans.

OBJECTIVE 3: DIRECTION AND CONTROL

Demonstrative the capability to direct and control emergency operations.

Expected Demonstration: **State** - In accordance to plans.

Cecil and Harford Counties - In accordance to plans.

OBJECTIVE 4: COMMUNICATIONS

Demonstrate the capability to communicate with all appropriate emergency personnel at facilities and in the field.

Expected Demonstration: **State** - In accordance to plans.

Cecil and Harford Counties - In accordance to plans.

OBJECTIVE 5: EMERGENCY WORKER EXPOSURE CONTROL

Demonstrate the capability to continuously monitor and control radiation exposure to emergency workers.

Expected Demonstration: **State** - In accordance with the plan.
Cecil and Harford Counties - Exercise kits will be staged at field locations. Actual dosimetry will be available for inspection at storage locations.

Direct reading dosimeters (DRDs) and simulated non-self-reading TLDs will be distributed to a representative number of emergency workers who are required to have them at each location. Electrical leakage test records are retained with the annual letter of certification documents and will not be inspected during the exercise. Radiation exposure limits and/or turn-back values may be obtained through interviews with the Health Officer and Emergency workers. Procedures to monitor and record dosimeter readings and manage radiological exposures will be demonstrated by emergency workers in accordance with appropriate plans.

OBJECTIVE 6: FIELD RADIATION MONITORING - AMBIENT RADIATION MONITORING

Demonstrate the appropriate use of equipment and procedures for determining field radiation measurements.

Expected Demonstration: **State** - The State will demonstrate two Field Monitoring Teams (FMTs) for air sampling and monitoring. Samples will be collected in the field. At least six monitoring points for each Field Monitoring Team will be demonstrated. Equipment and inventory lists of equipment will be available for evaluation. In accordance with letters of agreement, peak measurements in the plume are monitored by the licensee and will not be demonstrated by State teams.
Cecil and Harford Counties - N/A

OBJECTIVE 7: PLUME DOSE PROJECTION

Demonstrate the capability to develop dose projections and PARs regarding evacuation and sheltering.

Expected Demonstration: **State** - This objective will be demonstrated by the AAC in accordance with the plan.
Cecil and Harford Counties - N/A

OBJECTIVE 8: FIELD RADIOLOGICAL MONITORING AIRBORNE RADIOIODINE AND PARTICULATE ACTIVITY MONITORING

Demonstrate the appropriate use of equipment and procedures for the measurement of airborne radioiodine concentrations as low as 10^{-7} (0.0000001) microcuries per cubic centimeter in the presence of noble gases and obtain samples of particulate activity in the airborne plume.

Expected Demonstration: State - The State will demonstrate two field teams for air sampling and monitoring. At least one sample per team will be collected in the field in areas of the plume that exhibit above ambient background radiation readings or as determined by the Field Sample Team Leader. Field measurements will be demonstrated in a low background area to determine radioiodine activity and gross particulate activity. Samples will be delivered to a fixed laboratory for isotopic analysis. Delivery will be by courier. Actual laboratory analysis will not be demonstrated. Sample teams that do not encounter above background ambient readings will demonstrate sampling activities for evaluation purposes.

Cecil and Harford Counties - N/A

OBJECTIVE 9: PLUME PROTECTIVE ACTION DECISION MAKING

Demonstrate the capability to make timely PADs.

Expected Demonstration: State - The AAC will make protective action recommendations (PARs) to the Secretary of the Environment. The Secretary of the Environment (or designated alternate) will make a PAD after conferring with the State and County EOCs. The State EOC will coordinate the PAD with PEMA. Both States maintain the responsibility to independently determine protective actions for their portions of the EPZ. County officials have the authority to expand the Secretary's PAD.

Cecil and Harford Counties - In accordance with the plan

OBJECTIVE 10: ALERT AND NOTIFICATION

Demonstrate the capability to promptly alert and notify the public within the 10-mile plume pathway EPZ and disseminate instructional messages to the public on the basis of decisions by appropriate State or local officials.

Expected Demonstration: State - The 15-minute capability will be evaluated during the initial sequence when it becomes necessary to inform the public. The 15-minute clock will begin when the State and Counties agree on a Protective Action and the Secretary, Maryland Department of the Environment issues a Protective Action Order. Preparation of an appropriate EAS message, with information pertinent to the scenario events will be demonstrated. Siren and EAS activation will be simulated, but procedures will be demonstrated up to the point of siren and EAS activation. Contact with EAS stations will be demonstrated. Receipt of at least one EAS message will be verified. At least two Alert and Notification sequences will be demonstrated. Back-up route alerting procedures will be described to the evaluator. The State EOC will not demonstrate siren or EAS activation.

Cecil and Harford Counties - In accordance with the plans as stated in the above extent of play.

OBJECTIVE 11: PUBLIC INSTRUCTION AND EMERGENCY INFORMATION

Demonstrate the capability to coordinate the formulation and dissemination of accurate information and instructions to the public.

Expected Demonstration: **State** - N/A

Cecil and Harford Counties - EAS messages that contain appropriate information and instructions will be prepared to inform the public of protective actions, including updates.

OBJECTIVE 12: EMERGENCY INFORMATION - MEDIA

Demonstrate the capability to coordinate the development and dissemination of clear, accurate, and timely information to the news media.

Expected Demonstration: **State** - Media briefings will be conducted at the Emergency News Center in Coatesville, Pa. Press releases will be generated at the EOC.

Cecil County - This activity will be demonstrated at a designated Media Center in the County office building.

Harford County - This activity will be demonstrated at the designated Media Center in the Harford Community College Cafeteria.

OBJECTIVE 13: EMERGENCY INFORMATION - RUMOR CONTROL

Demonstrate the capability to establish and operate rumor control in a coordinated and timely manner.

Expected Demonstration: **State** - Rumor control will be conducted at the EOC by at least two persons. A minimum of sixteen calls will be received during the emergency phase (Site and General emergency). Equipment for monitoring news broadcast will be available but will not be operated during the exercise.

Cecil and Harford Counties - Rumor control will be conducted at the EOC by at least two persons. A minimum of sixteen calls will be received during the emergency phase (Site and General emergency). Equipment for monitoring news broadcast will be available but will not be operated during the exercise.

GROUP B OBJECTIVES

OBJECTIVE 14: IMPLEMENTATION OF PROTECTIVE ACTIONS - USE OF KI FOR EMERGENCY WORKERS, INSTITUTIONALIZED INDIVIDUALS, AND THE GENERAL PUBLIC

Demonstrate the capability and resources to implement KI protective actions for emergency workers, institutionalized individuals, and, if the State plan specifies, the general public.

Expected Demonstration: Appropriate State or County health officials may decide to authorize the use of KI by emergency workers. Distribution of KI will be demonstrated with simulated KI. There are no institutionalized persons in the Maryland

portion of the Peach Bottom EPZ. Supplies of KI may be inspected before or after the exercise at the storage locations. Sealed boxes will not be opened. Inventory lists will be available. The Maryland Plan does not call for the distribution of KI to the general public.

State - In accordance with the plan and previous expected demonstration.

Cecil and Harford Counties - In accordance with the plan and the previous expected demonstration.

OBJECTIVE 15: IMPLEMENTATION OF PROTECTIVE ACTIONS - SPECIAL POPULATIONS

Demonstrate the capability and resources necessary to implement appropriate protective actions for special populations.

Expected Demonstration: **State** - N/A

Cecil and Harford Counties - Lists of special populations will be available. Procedures will be described to demonstrate movement of special populations. Calls to transportation providers will be made until sufficient resources are met. Actual vehicles will not be dispatched.

OBJECTIVE 16: IMPLEMENTATION OF PROTECTIVE ACTIONS -SCHOOLS

Demonstrate the capability and resources necessary to implement protective actions for schoolchildren within the plume pathway EPZ.

Expected Demonstration: **State** - N/A

Cecil County - N/A Conowingo Elementary demonstrated this objective during PEACHBEX '98. This is the only risk school in the EPZ.

Harford County - Completed as an out of sequence activity. The North Harford complex, Elementary, Middle and High Schools will implement protective actions in accordance with the County plan. One bus driver from each school will demonstrate movement of students from the risk school however actual movement of students will not take place. Simulated movement of students may be by use of any passenger vehicle.

OBJECTIVE 17: TRAFFIC AND ACCESS CONTROL

Demonstrate the organizational capability and resources necessary to control evacuation traffic flow and to control access to evacuated and sheltered areas.

Expected Demonstration: **Cecil County** - The requirement for establishing all traffic and access controls for the evacuated or sheltered area will be discussed administratively at the EOC and, personnel will be dispatched to establish one access control point. Actual barricades will not be established.

Harford County - Completed as an out of sequence activity. The requirement for establishing traffic an access control for the evacuated or sheltered area will be discussed administratively at the EOC. Personnel will be dispatched to establish one access

control point during the out of sequence demonstration. Actual barricades will not be set up.

OBJECTIVE 18: RECEPTION CENTER - MONITORING, DECONTAMINATION, AND REGISTRATION

Demonstrate the adequacy of procedures, facilities, equipment, and personnel for the radiological monitoring, decontamination, and registration of evacuees.

Expected Demonstration: **State** - N/A

Objective 18 will be demonstrated out-of-sequence from scheduled exercise activities by Cecil County.

State - N/A

Cecil County - Monitoring and decontamination will be demonstrated at Rising Sun High School. Facilities will be set up at the initial monitoring point and decontamination area. Complete set up of the facility will be described to the evaluator. Coverings in hallways will not be installed. Flowcharts or diagrams of the facility will be available for review. Facilities will be staffed by at two of the five required monitoring and decontamination teams. A team consists of two persons. At least six evacuees will be monitored. One person will be contaminated above screening limits. Decontamination will be demonstrated by interviews with appropriate individuals. Interviews should include actions involved if the contaminated person cannot be successfully decontaminated at the facility. Registration will be demonstrated at the mass care center.

Harford County - Monitoring and decontamination will be demonstrated at Fallston High School (Reception center). Facilities will be set up at the initial monitoring point and decontamination area. Complete set up of the facility will be described to the evaluator. Coverings in hallways will not be installed. Flowcharts or diagrams of the facility will be available for review. Facilities will be staffed by at least three of the required eight monitoring and decontamination teams. A team consists of two persons. At least six evacuees will be monitored. One person will be contaminated above screening limits. Decontamination will be demonstrated by interviews with appropriate individuals. Interviews should include actions involved if the contaminated person cannot be successfully decontaminated at the facility. Registration will be demonstrated at the mass care center.

OBJECTIVE 19: CONGREGATE CARE

Demonstrate the adequacy of facilities, equipment, supplies, personnel, and procedures for congregate care of evacuees.

Expected Demonstration: **State** - N/A

Cecil County - One mass care center (Rising Sun High School) will be demonstrated in accordance with the plan.

Harford County - One mass care center (Joppatown High School) will be demonstrated at in accordance with the plan. Flowcharts and diagrams of the additional centers will be available.

OBJECTIVE 20: MEDICAL SERVICES - TRANSPORTATION

Demonstrate the adequacy of vehicles, equipment, procedures, and personnel for transporting contaminated, injured, or exposed individuals.

Expected Demonstration: This objective will be demonstrated out of sequence at date to be determined.

Cecil and Harford Counties - N/A

OBJECTIVE 21: MEDICAL SERVICES - FACILITIES

Demonstrate the adequacy of the equipment, procedures, supplies, and personnel of medical facilities responsible for treatment of contaminated, injured or exposed individuals.

Expected Demonstration: This objective will be demonstrated out of sequence at date to be determined.

Cecil and Harford Counties - N/A

OBJECTIVE 22: EMERGENCY WORKERS, EQUIPMENT, AND VEHICLES - MONITORING AND DECONTAMINATION

Demonstrate the adequacy of procedures for monitoring and decontamination of emergency workers, equipment, and vehicles.

Expected Demonstration: **State** - State emergency workers will be aware of the county locations for worker and equipment monitoring and decontamination.

Cecil County - Emergency worker, equipment, and vehicle monitoring and decontamination is co-located with the reception center and the evacuee monitoring and decontamination center. Staffing includes a manager and a monitoring and decontamination team. At least one vehicle will be simulated contaminated. Decontamination of the vehicle will be demonstrated through interviews with the appropriate personnel.

Harford County - Completed as an out of sequence activity. Emergency worker, equipment, and vehicles monitoring and decontamination will be demonstrated at the reception center. Staffing includes a manager and a monitoring and decontamination team. At least one vehicle will be simulated contaminated. Decontamination of the vehicle will be demonstrated through interviews with the appropriate personnel.

OBJECTIVE 23: SUPPLEMENTARY ASSISTANCE (FEDERAL/OTHER)

Demonstrate the capability to identify the need for external assistance and to request such assistance from Federal or other support organizations.

Expected Demonstration: **State and Cecil and Harford Counties:**
Not applicable.

Group C Objectives

OBJECTIVE 24: POST-EMERGENCY SAMPLING

Demonstrate the use of equipment and procedures for the collection and transportation of samples from areas that received deposition from the airborne plume.

Expected Demonstration: State and Cecil and Harford Counties:
Not applicable.

OBJECTIVE 25: LABORATORY OPERATIONS

Demonstrate laboratory operations and procedures for measuring and analyzing samples.

Expected Demonstration: State and Cecil and Harford Counties:
Not applicable.

OBJECTIVE 26: INGESTION EXPOSURE PATHWAY - DOSE PROJECTION AND PROTECTIVE ACTION DECISION MAKING

Demonstrate the capability to project dose to the public for the ingestion exposure pathway and to recommend protective actions.

Expected Demonstration: State and Cecil and Harford Counties:
Not applicable.

OBJECTIVE 27: INGESTION EXPOSURE PATHWAY - PROTECTIVE ACTION IMPLEMENTATION

Demonstrate the capability to implement protective actions for the ingestion exposure pathway.

Expected Demonstration: State and Cecil and Harford Counties:
Not applicable.

OBJECTIVE 28: RELOCATION, RE-ENTRY, AND RETURN - DECISION MAKING

Demonstrate the capability to develop decisions on relocation, re-entry, and return.

Expected Demonstration: State and Cecil and Harford Counties:
Not applicable.

OBJECTIVE 29: RELOCATION, RE-ENTRY, AND RETURN - IMPLEMENTATION

Demonstrate the capability to implement relocation, re-entry, and return.

Expected Demonstration: State and Cecil and Harford Counties:
Not applicable.

OBJECTIVE: 30 CONTINUOUS, 24-HOUR STAFFING

Demonstrate the capability to maintain staffing on a continuous, 24-hour basis through an actual shift change.

Expected Demonstration: **State and Cecil and Harford Counties:**
Not applicable.

OBJECTIVE 31: OFFSITE SUPPORT FOR THE EVACUATION OF ONSITE PERSONNEL

Demonstrate the capability to provide offsite support for the evacuation of onsite personnel.

Expected Demonstration: **State and Cecil and Harford Counties:**
Not applicable.

OBJECTIVE 32: UNANNOUNCED DRILL OR EXERCISE

Demonstrate the capability to carry out emergency response functions in an unannounced drill or exercise.

Expected Demonstration: **State - N/A - Completed during CALVEX '99.**

Cecil and Harford Counties - This objective will be demonstrated out of sequence by Harford and Cecil Counties. Each County will conduct an unannounced recall during a predetermined week. The window for the recall demonstration is the week of April 30 through May 6, 2000. Contact with appropriate agencies will be made. The local jurisdictions will activate appropriate emergency centers on the predetermined date in accordance with procedures for the given scenario. The objective is satisfied when the appropriate agency contacts the EOC and supplies an estimated time of arrival (ETA).

OBJECTIVE 33: OFF-HOURS EXERCISE OR DRILL

Demonstrate the capability to carry out emergency response functions during an off-hours exercise or drill.

Expected Demonstration: **State - N/A - Completed during CALVEX 97.**

Cecil and Harford Counties - This objective will be demonstrated out of sequence by Harford and Cecil Counties. Each County will conduct an after hours recall during a predetermined week. The window for the recall demonstration is the week of April 30 through May 6, 2000. Contact with appropriate agencies will be made. The local jurisdictions will activate appropriate emergency centers on the predetermined date in accordance with procedures for the given scenario. The objective is satisfied when the appropriate agency contacts the EOC and supplies an estimated time of arrival (ETA).

APPENDIX 4

EXERCISE SCENARIO

This appendix contains a summary of the simulated sequence of events - Exercise Scenario - that was used as the basis for invoking emergency response actions by OROs during the PBAPS exercise on May 4 and August 15, 2000.

The Commonwealth of Pennsylvania, the State of Maryland, and PECO Energy Company submitted this exercise scenario. FEMA Region III granted approval by August 2, 2000.

During the exercise, controllers from the Commonwealth of Pennsylvania, State of Maryland, and PECO Energy Company gave "inject messages," containing scenario events or simulated data, to those persons who would normally receive notification of such events, in order to invoke response actions by OROs.

The summary presented in this appendix is a compilation of exercise scenario materials submitted by the Commonwealth of Pennsylvania, State of Maryland, and PECO Energy Company. Events at the plant site that are not pertinent to the ORO response have been omitted.

SCENARIO SUMMARY

Initial Conditions

UNIT 2

Unit is operating at 100% power, the 225th day of the current full-power cycle run.

"B" Loop Residual Heat Removal (RHR) injection valve (MO-2-10-25B) is blocked out for valve yoke repair.

ST-0-011-301-2 Standby Liquid Control Pump Functional Test is in progress (initiated during previous shift).

2B Control Rod Drive (CRD) Pump is tagged Out of Service for motor repairs. Parts should arrive tomorrow.

UNIT 3

Unit is operating at 100% power, the 168th day of the current full-power cycle run.

3C Reactor Building Supply Fan is Out of Service for routine maintenance.

3C RHR Heat Exchanger is isolated and investigation is proceeding to determine if an RHR to High-Pressure Service Water (HPSW) leak is present.

Weather Forecast

Mostly sunny skies are forecast today. The high will be in the low to mid 80s. Light winds are expected, and will be to the east-southeast at 5 to 10 mph. Partly cloudy skies tonight and tomorrow. The low tonight will be around 63 degrees. The high tomorrow is also expected to reach the low to mid 80s range.

At 0805, a bomb threat against the PBAPS is received by the Shift Sergeant at the Guard House (Event 1). The caller states that he has left a bomb on the first floor of the Modification Building.

At 0820, the Shift Manager declares an Unusual Event based on the credibility of the bomb threat and Emergency Action Level (EAL) 8.1.1 (credible sabotage or bomb threat within the protected areas).

At 0845, the individual suspected of calling in the bomb threat is apprehended by security.

At 0900, security finds an explosive device in the Modification Building, and takes the necessary precautions for removing it from the plant.

At 0920, the Emergency Director declares an Alert based on EAL 8.1.2 (confirmed bomb, sabotage or sabotage device discovered in the Protected Areas).

The Operations Support Center (OSC), the Technical Support Center (TSC), and the ENC are activated, and the EOF begins staffing.

At 1005, the 2A CRD pump trips on an over-current condition and the CRD charging header slowly depressurizes. Maintenance is dispatched to troubleshoot.

At 1025, when charging header pressure drops below 940 pounds per square inch gauge for more than 20 minutes with two or more accumulator trouble alarms, the operating crew attempts to SCRAM the reactor. A failure to SCRAM occurs as a result of leakage past the SCRAM outlet valves into the SCRAM Discharge Volume that went undetected because of a blockage upstream of the instrument volume (Event 2).

At 1030, the Emergency Director declares a Site Area Emergency based on present plant conditions and EAL 2.2.3 (Reactor Protection System [RPS] SCRAM should occur when the RPS setpoint is exceeded and attempts to reduce reactor power <4% by means of the automatic RPS, alternate rod insertion, and manual SCRAM have failed).

At 1035, partial insertion of the control rods caused by the hydraulic anticipated transient without SCRAM results in fuel damage. The amount of fuel damage slowly increases over the next 50 minutes.

At 1105, the main turbine experiences increasing levels of vibration and an increase in conductivity and bearing temperatures (Event 3).

At 1115, before the crew can manually trip the turbine, the Unit 2 turbine blading fails and causes a turbine trip. The failure causes turbine blading to be ejected through the turbine and condenser casing and the turbine building wall, causing extensive damage. The automatic start of reactor core isolation cooling (RCIC) on low reactor water level fails (Event 4), and attempts to start RCIC manually to maintain reactor pressure vessel (RPV) level are unsuccessful as the loss of oil results in an over-speed trip. Maintenance crews are dispatched to investigate/make repairs.

Attempts to reduce power using the standby liquid control pumps are unsuccessful (Event 5). Either pump will start and run, but will not inject because the suction valve from the tank is not restored during the performance of a surveillance test and is jammed closed. The pumps trip on over current and is damaged as a result of running without a suction supply of water. The OSC is requested to investigate the problem.

Main condenser vacuum decreases due to air leaks caused by the turbine failure, resulting in all but the #2 bypass valve failing closed. Safety/relief valves lift, requiring the maintenance crew to lower the RPV level in order to lower reactor power.

When the main steam isolation valves (MSIV) receive an isolation signal as a result of high temperatures, the "A" inboard and outboard MSIVs fail to isolate (Event 6); this creates a release path from the reactor into the damaged turbine/condenser and out through the turbine building hole and the vent stack. The OSC is directed to dispatch personnel to attempt to close the MSIVs.

Radioactivity from the damaged fuel is transported down the open main steam line, through the open bypass valve, and into the damaged turbine/condenser area. Releases to the environment take place via the damaged turbine building wall and the vent stack (Event 7).

In response to increasing Torus temperatures, the operating crew lowers the reactor vessel level to lower power.

At 1125, attempts to re-SCRAM the reactor are successful.

At 1130, the Emergency Director declares a GE based on EAL 3.1.4 (loss of any two barriers and potential loss of third barrier.).

The Emergency Response Manager makes the following PARs to evacuate the 2-mile radius, evacuate affected sector(s) plus 1 sector on each side of affected sectors for 2-5 miles.

At 1135, the explosive device found in the Modification Building is removed from the site by the Explosive Ordinance Disposal Team.

At 1210, an operator exhibiting aberrant behavior is observed staggering around in the PIRL Building (Event 8). Emergency medical technicians respond and provide aid upon assessing vital signs and determining the diabetic condition of the individual.

At 1400, the exercise is terminated onsite, and if all necessary objectives have been demonstrated offsite, those activities also conclude.

APPENDIX 5

PLANNING ISSUES

This appendix contains the Planning Issues assessed during the May 4 and August 15, 2000, exercise at PBAPS. Planning Issues are issues identified in an exercise or drill that do not involve participant performance, but rather involve inadequacies in the plan or procedures. Planning Issues are required to be corrected through the revision and update of the appropriate State and local RERPs and/or procedures in accordance with the following schedule:

- Within 120 days of the date of the exercise/drill when the Planning Issue is directly related to protection of the public health and safety.
- During the annual plan review and update (reported in the Annual Letter of Certification) when the Planning Issue does not directly affect the public health and safety. However, when the date for the annual plan review and update is imminent and the responsible organization does not have sufficient time to make the necessary revisions in the plans and/or procedures, the revised portion of the plans and/or procedures should be submitted in the subsequent annual plan review and update and reported in the Annual Letter of Certification.

Any requirement for additional training of responders to radiological emergencies necessitated by the revision and update of the plans and/or procedures must be completed within the timeframes described above in order for the Planning Issue to be considered resolved.

Maryland Accident Assessment Center

Issue No.: 46-00-07-P-01

Description: Staff in the AAC did not coordinate MDE field monitoring team locations and data with those of other jurisdictions. (NUREG-0654, I.8., I.10., and I.11.)

Recommendation: Procedure EP-302, Revision 6, July 1999, should be revised to include specific instructions on the coordination of field monitoring teams with those of other jurisdictions and the licensee.

Schedule of Corrective Actions: MDE Procedure EP-302 will be reviewed and revised as necessary.

Maryland Accident Assessment Center and Maryland Field Monitoring Teams

Issue No.: 46-00-06/07/08/09-P-02

Description: A number of MDE procedures do not adequately address the use of the attachments/forms and their dissemination. For

example: (1) in EP-302 Ambient Radiation Monitoring and Air Sampling, the use of Attachment 7, Gamma Exposure Rate Monitoring Form, is not clearly described to ensure it is used consistently as intended. (2) EP-304 Protective Action Recommendations for Plume Phase, Step III.A.2., states that Attachment 1 or Attachment 2 should be completed to document protective action orders; however, it is not always practical for these forms to be completed at the location of the decision maker and disseminated to appropriate emergency response centers.

Recommendation: Procedures should be reviewed and modified to ensure that the forms are consistently utilized as intended. Relative to EP-304, a mechanism needs to be developed and implemented to ensure that protective action orders are documented and disseminated to appropriate emergency response centers.

Schedule of Corrective Actions: MDE Procedures, including EP-302 and EP-304, will be reviewed and revised as necessary.

APPENDIX 6

ADDITIONAL PRIOR ISSUES

This appendix contains the descriptions and status ARCAs that were assessed during prior exercises at the PBAPS. They were assessed at either jurisdictions or functional entities exempt from demonstration at this exercise, or for ingestion exposure pathway objectives not scheduled for demonstration at the May 4 and August 15, 2000, exercise.

PRIOR ISSUES AT FUNCTIONAL ENTITIES NOT SCHEDULED TO BE DEMONSTRATED

Pennsylvania State EOC

Issue No.: 46-96-13-A-01

Description: Information did not flow from the Rumor Control Center, located in another State building, to the State Media Center in the EOC. The staff in the media center had no knowledge of the types of inquiries received in the Rumor Control Center. There was no system to notify media center personnel of significant issues or developing trends. This could impede efforts to control the spread of rumors that could have an adverse effect on the public. (NUREG-0654, G.4.a. and G.4.c.)

Reason ARCA Unresolved: The State was not scheduled to participate in this exercise because it was fully activated during the Beaver Valley exercise on June 27, 2000.

Recommendation: The State should fully participate in the next biennial exercise.

Emergency News Center (PA)

Issue No.: 46-96-12-A-02

Description: The Commonwealth of Pennsylvania public information staff at the ENC did not maintain a log of information provided to the media at the ENC. Because events developed rapidly during the exercise, the staff was unaware that at least two Commonwealth news releases had not been received or distributed through the ENC. (NUREG-0654, E.7. and G.4.b.)

Reason ARCA Unresolved: The State was not scheduled to participate in this exercise because it was fully activated during the Beaver Valley exercise on June 27, 2000.

Recommendation: The State should fully participate in the next biennial exercise.

Issue No.: PBX94-06R

Description: No copies of EBS messages were available to the staffs of either State at the Joint Public Information Center. (Objective 12; NUREG-0654, E.5., E.7., and G.4.a.)

Reason ARCA Unresolved: The State was not scheduled to participate in this exercise because it was fully activated during the Beaver Valley exercise on June 27, 2000.

Recommendation: The State should fully participate in the next biennial exercise.

Accident Assessment Center (BRP)

Issue No.: 46-96-03-A-03

Description: There were several problems with the information flow between the Bureau of Radiological Protection - Emergency Operations Center (BRP-EOC) and the BRP-EOF. The problem is partially associated with the distance between the BRP-EOC and the BRP-EOF. (NUREG-0654, A.1.d. and A.2.a.)

Reason ARCA Unresolved: The State was not scheduled to participate in this exercise because it was fully activated during the Beaver Valley exercise on June 27, 2000.

Recommendation: The State should fully participate in the next biennial exercise.

Issue No.: 46-96-07-A-04

Description: AAC personnel did not recognize the release data on faxes received from either the BRP-EOF or Emergency Management Coordination (EMC). (NUREG-0654, I.10.)

Reason ARCA Unresolved: The State was not scheduled to participate in this exercise because it was fully activated during the Beaver Valley exercise on June 27, 2000.

Recommendation: The State should fully participate in the next biennial exercise.

Lancaster County Monitoring/Decontamination/Mass Care Center (Penn Manor Senior High School)

Issue No.: 46-98-18-A-07

Description: The Lancaster County Monitoring/Decontamination/Mass Care Center at Penn Manor Senior High School did not have any trained female monitoring personnel. (NUREG-0654, J.12.)

Reason ARCA Unresolved: The Penn Manor Senior High School was not scheduled to participate in the August 15, 2000, exercise.

Recommendation: The Penn Manor Senior High School should fully participate in the next biennial exercise.

Drumore Township EOC

Issue No.: 46-96-30-A-17

Description: The Drumore Township EOC did not demonstrate a shift change to ensure that they could maintain staffing on a continuous 24-hour basis, as required by the extent-of-play agreement. The Drumore Township EMC stated that an agreement with the Lancaster County EMC permitted him to operate only one shift because of the lack of volunteer personnel to staff a second shift. The extent-of-play agreement states that Lancaster County municipalities will demonstrate this objective and provides no exception for Drumore Township. (NUREG-0654, A.4. and N.1.a.)

Reason ARCA Unresolved: The Drumore Township EOC was not scheduled to participate in the August 15, 2000, exercise.

Recommendation: The Drumore Township EOC should fully participate in the next biennial exercise.

Little Britain Township EOC

Issue No.: 46-98-02-A-08

Description: The status board was not posted with weather conditions and protective actions for animals and evacuation information, as required. The status board also was posted with the incorrect time for declaration of the GE - 2037 rather than 2027. (NUREG-0654, J.10.a. and J.10.b.)

Reason ARCA Unresolved: The Little Britain Township EOC was not scheduled to participate in the August 15, 2000, exercise.

Recommendation: The Little Britain Township EOC should participate in the next biennial exercise.

Issue No.: 46-98-05-A-09

Description: The Radiological Officer was not sure how to complete the Dosimetry/KI forms and the Acknowledgement of Receipt by Emergency Workers for Dosimetry/KI and Survey Meters (Individual Issue) forms. (NUREG-0654, K.4.)

Reason ARCA Unresolved: The Little Britain Township EOC was not scheduled to participate in the August 15, 2000, exercise.

Recommendation: The Little Britain Township EOC should participate in the next biennial exercise.

Providence Township EOC

Issue No.: 46-96-03-A-19

Description: All necessary information was not recorded on some message forms and message logs at the Providence Township EOC. For example, some message forms did not show the time at which messages were received, others did not list individuals who should receive the message, some did not record the agency represented. (NUREG-0654, A.1.d. and A.2.a.)

Reason ARCA Unresolved: The Providence Township EOC was not scheduled to participate in the August 15, 2000, exercise.

Recommendation: The Providence Township EOC should participate in the next biennial exercise.

Issue No.: 46-96-05-A-20

Description: The Providence Township Route Alerting Team did not have dosimeters or record-keeping forms during route alerting. These Category A emergency workers are required to have one TLD, one DRD, and one unit of KI per responder along with appropriate forms. (NUREG-0654, K.3.a. and K.3.b.)

Reason ARCA Unresolved: The Providence Township EOC was not scheduled to participate in the August 15, 2000, exercise.

Recommendation: The Providence Township EOC should participate in the next biennial exercise.

Issue No.: 46-96-14-A-21

Description: The Providence Township Route Alerting Team did not have simulated KI or appropriate record-keeping forms. (NUREG-0654, J.10.e. and J.10.f.)

Reason ARCA Unresolved: The Providence Township EOC was not scheduled to participate in the August 15, 2000, exercise.

Recommendation: The Providence Township EOC should participate in the next biennial exercise.

Delta Township/Peach Bottom Township EOC

Issue No.: 46-96-01-A-24 -

Description: The roster of personnel for the Delta Township/Peach Bottom Township EOC shows the radiological officer as a "Key Staff" member (Township Plan Appendix A). The radiological officer could not be contacted when the Alert ECL was issued and his deputy was at work and not available. Consequently, the EMC had to assume the duties of the radiological officer and train another individual. This activity detracted from his other duties. (NUREG-0654, A.4. and E.2.)

Reason ARCA Unresolved: The Delta Township/Peach Bottom Township

EOC was not scheduled to participate in this exercise.

Recommendation: The Delta Township/Peach Bottom Township EOC should participate in the next biennial exercise.

Lower Chanceford Township EOC

Issue No.: 46-98-03-A-13

Description: The Medical Officer failed to notify special-population residents at the Alert ECL. The second shift EMC did not coordinate his staff to ensure that the hearing-impaired residents had been notified at the Alert ECL (Lower Chanceford Township Implementing Procedures for the Emergency Management Coordinator, A-12, T. 2). The EMC stated that it was not his responsibility to ensure that his staff followed plans and procedures. However, his job is the coordination of all services to protect public health and safety (Lower Chanceford Township Implementing Procedures for Emergency Management Coordinator, A-10, F and G; A-11, M.7.; and T.2.3.). (NUREG-0654, A.2.a. and J.10.d.)

Reason ARCA Unresolved: The Lower Chanceford Township EOC was not scheduled to participate in the August 15, 2000, exercise.

Recommendation: The Lower Chanceford Township EOC should participate in the next biennial exercise.

Issue No.: 46-98-15-A-14

Description: No notification was made to the hearing impaired or the Amish at the Alert ECL. (NUREG-0654, J.10.c. and J.10.d.)

Reason ARCA Unresolved: The Lower Chanceford Township EOC was not scheduled to participate in the August 15, 2000, exercise.

Recommendation: The Lower Chanceford Township EOC should participate in the next biennial exercise.

Issue No.: 46-96-30-A-26

Description: Continuous 24-hour staffing was not adequately demonstrated. The first-shift personnel, who remained in the Lower Chanceford Township EOC, provided assistance and, in some cases, continued to perform the duties of the second-shift personnel. It was not possible to determine whether the incoming shift possessed adequate knowledge of their roles and functions. (NUREG-0654, A.4. and N.1.a.)

Reason ARCA Unresolved: The Lower Chanceford Township EOC was not scheduled to participate in the August 15, 2000, exercise.

Recommendation: The Lower Chanceford Township EOC should participate in the next biennial exercise.

PRIOR ISSUES FOR INGESTION EXPOSURE PATHWAY OBJECTIVES

State EOC (Pennsylvania)

Issue No.: 46-98-29-A-01

Description: A representative from the Department of Public Welfare did not participate in the State Response Task Force (SRTF). Consequently, issues concerning short- and long-term psychological impacts of the incident, and individual and family counseling for stress and other evacuation-related emotional or psychological problems, were not adequately addressed. (NUREG-0654, N.1.a.)

Reason ARCA Unresolved: The August 15, 2000, exercise was not an ingestion exercise.

Recommendation: The State, including all members of the SRTF, should fully participate in the next ingestion exercise.

Chester County EOC

Issue No.: 46-98-27-A-02

Description: Chester County officials did not simulate contacting the Chester Water Authority to close off, or coordinate the closing of, county's water intake (#123004), which is in the Susquehanna River in Lancaster County near the PBAPS. This surface water intake was located in Zone A (i.e., the Restricted Zone defined by the Commonwealth of Pennsylvania). (NUREG-0654, J.9. and J.11.)

Reason ARCA Unresolved: The Chester County officials were not required to demonstrate the capability to close any water intakes, especially because this was a plume exposure pathway exercise.

Recommendation: The scenario for the next ingestion exposure pathway exercise should provide information that will require decision-makers to consider and/or implement closure of water intakes.

Lancaster County EOC

Issue No.: 46-98-29-A-03

Description: The press release did not describe the procedures according to the Lancaster County plans, Appendix 16, Annex E.VI.C, 19, a.5., for the return of evacuees. Also, it failed to identify known landmarks and geographical boundaries or to identify protective action measures for milk and other food products. (NUREG-0654, M.1., M.3., and N.1.a.)

Reason ARCA Unresolved: The Lancaster County officials were not required to demonstrate the capability to develop press releases

for returning evacuees and protective action recommendations (PARs) for milk and other food products, especially because this was a plume exposure pathway exercise.

Recommendation: The Lancaster County officials should demonstrate the development of press releases for returning evacuees and PARs for milk and other food products during the next ingestion exposure pathway exercise.

York County EOC

Issue No.: 46-98-27-A-04

Description: The lead-in scenario for the Ingestion Pathway Exercise, Day 2, indicated that milk and agricultural products within the "footprint" in Area E were unsuitable for consumption. However, the media map advisory, which was prepared and released by York County, stated that "Print D represents the area in which agricultural products, including milk and crops, are unsuitable for consumption or market sale." Because Area D is smaller than Area E, the media and public would assume that the foods in a large area between the limits of Areas D and E were safe, whereas they actually were unsafe. (NUREG-0654, E.5., E.7., J.9., and J.11.)

Reason ARCA Unresolved: The York County officials were not required to demonstrate their capability to ensure that press releases to the public are consistent with the State's PADs, especially because this was a plume exposure pathway exercise.

Recommendation: The York County officials should demonstrate their capability to ensure that press releases to the public are consistent with the State's PADs at the next ingestion exposure pathway exercise.