



Federal Emergency Management Agency

Washington, D.C. 20472

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MEMORANDUM FOR: Edward L. Jordan
Director
Division of Emergency Preparedness and
Engineering Response
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission

FROM: *Richard W. Krimm*
Richard W. Krimm
Assistant Associate Director
Office of Natural and Technological Hazards

SUBJECT: Exercise Report for the April 3, 1986, Exercise of
Offsite Radiological Emergency Preparedness Plans
for Limerick Generating Station

Attached is a copy of the exercise report for the April 3, 1986, exercise of the offsite radiological emergency preparedness plans for the Limerick Generating Station. This exercise report was prepared by the Region III staff of the Federal Emergency Management Agency.

There were no deficiencies identified during this exercise. However, there are several areas requiring corrective actions and several areas recommended for improvement. Attached is a copy of the schedule of corrective actions from the Pennsylvania Emergency Management Agency.

Based on the results of this exercise, the offsite radiological emergency plans and preparedness are adequate to provide reasonable assurance that appropriate measures can be taken to protect the health and safety of the public in the event of an accident at the Limerick Generating Station.

If you have any questions, please contact Robert S. Wilkerson, Chief, Technological Hazards Division, at 646-2860.

Attachments

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FEDERAL EMERGENCY MANAGEMENT AGENCY

AND

REGIONAL ASSISTANCE COMMITTEE

REGION III

EXERCISE EVALUATION REPORT

FACILITY: LIMERICK GENERATING STATION

OPERATOR: PHILADELPHIA ELECTRIC COMPANY

LOCATION: LIMERICK TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA

REPORT DATE: MAY 2, 1986

EXERCISE DATE: APRIL 3, 1986

PARTICIPATING
JURISDICTIONS: COMMONWEALTH OF PENNSYLVANIA
RISK COUNTIES OF MONTGOMERY, CHESTER AND BERKS
SUPPORT COUNTIES OF BUCKS AND LEHIGH
FORTY-THREE RISK MUNICIPALITIES
THIRTEEN RISK SCHOOL DISTRICTS

NON-PARTICIPATING
JURISDICTIONS: NONE

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EXERCISE SUMMARY

State EOC

The Pennsylvania Emergency Management Agency provided effective overall coordination of offsite emergency response activities. Both internal and external message-flow functioned well, with the exception that two of the risk counties were not given definitive information as to the purpose of sounding the sirens at Site Emergency.

PEMA Media Center

Public information activities were handled well and accomplished the goal of exercising the newly developed computer equipment and system. No inadequacies were identified.

Bureau of Radiation Protection

All activities were conducted in accordance with their plan. Plant status was correctly analyzed and dose assessment occurred in an accurate and timely manner. No inadequacies were identified.

Emergency Operations Facility

Activation and staffing were adequately demonstrated. Recommendations for protective measures were coordinated and discussed between the BRP and key utility representatives. Protective action recommendations were accurate and timely.

Agricultural Sampling Team

Sampling capabilities were demonstrated in a professional and competent manner. Team members expressed concern about their proficiency in utilizing appropriate radiological exposure control equipment.

Pennsylvania State Police

Troopers were thoroughly briefed by the staging area coordinator and then manned designated access and traffic control points.

Pottstown Memorial Medical Center

Overall, the staff was well-trained, although some improvements are warranted in the area of decontamination. The staff was both quick and responsive in dealing with the needs of the simulated injured/contaminated individual.

Red Cross

Interaction between PEMA and the Red Cross was extremely limited. The field headquarters was adequately staffed and in contact with the National Red Cross for unmet needs.

Berks County EOC

The overall response capabilities for Berks County were demonstrated in an adequate manner. The Coordinator was effectively in charge and staff members carried out their duties in a dedicated manner. Facilities and communications were excellent. Initial notification of some municipalities did not go as planned. EBS reception in several municipalities was very poor. Radiological exposure control and public information was well set-up.

Oley Valley High School - Reception Center

No evaluation of operations could take place as this location was not activated.

Fleetwood High School - Mass Care Center

The staff was knowledgeable and were prepared to perform their duties in a professional manner. Registration went smoothly, including radiological exposure control measures.

Boyertown Borough EOC

The EMC and staff were well-versed on their responsibilities. Communications and public alerting went well. Radiological exposure control was not demonstrated.

Amity Township EOC

Receipt of the Alert was delayed. Adequate facilities and communications are available. The EMC, government officials and EOC staff functioned effectively. Simulation was kept to a minimum.

Colebrookdale Township EOC

Initial notification did not go as planned and there was some pre-positioning. The EMC managed operations quite effectively. Facilities were adequate. The township was aware of the special needs of the hearing-impaired and non-ambulatory. Traffic control was not activated. Radiological exposure control equipment was not available.

Douglass Township EOC

A dedicated group of volunteers participated and performed well. Radiological exposure control procedures were not fully demonstrated. The exercise provided an excellent opportunity for the participants to review their plans and procedures.

Earl Township EOC

The emergency response team was well organized and reasonably well-equipped to handle emergencies. Activation and staffing, emergency management, communications, facilities and protective action implementation went well. Radiological exposure control equipment was not distributed to the township.

Union Township EOC

The township staff demonstrated their ability to respond to an accident at Limerick in a most professional manner. No dosimetry equipment was available. No inadequacies were identified.

Washington Township EOC

Activation of the staff went well with the exception that some telephone numbers were incorrect. Management of operations went well, except in some instances the PEMA observer was relied upon for assistance. Facilities and communications were adequate. Evacuation and access control procedures went well. Radiation exposure control was not completely demonstrated.

Boyertown Area School District

The Assistant Superintendent was effectively in charge of operations. Simulated evacuation procedures were demonstrated in a professional manner.

Daniel Boone Area School District

Emergency operations were managed in a very effective manner by the Daniel Boone Area School principal. The evacuation went well. Communications and host school facilities were adequate.

Chester County EOC

Activation and mobilization of the staff occurred promptly, although there were a few difficulties in notifying some municipalities. County operations were capably managed by the Director of Emergency Services, along with a knowledgeable, professional staff. EOC facilities and communications were adequate. Several potential problems were revealed concerning siren coverage. The capability to implement the evacuation was demonstrated in a convincing manner. The radiological staff was knowledgeable.

Stetson Middle School - Reception Center

The staff at this location performed very well. No inadequacies were identified.

Kennett High School - Mass Care Center

Monitoring and decontamination procedures were well-demonstrated. The mass care operations were not performed as the building was being used for another function.

East Pikeland Township EOC

The emergency management staff exhibited a high degree of enthusiasm and professionalism. Tasks were completed in a timely manner. Internal procedures, resources, communications, radiological exposure control equipment and facilities were more than adequate.

North Coventry Township EOC

Initial notification and activation of the EOC occurred smoothly. The EMC managed the EOC in an effective manner and each staff person was well-trained and knowledgeable. Facilities, communications and dosimetry were adequate. Notification of the hearing-impaired was not performed.

South Coventry Township EOC

The Coordinator was effectively in control, assisted by his able staff. Facilities were good and communications were generally adequate, although no ARES operator was on-hand. An important message (Site Emergency notification) was delayed getting to the EMC. Alerting of the hearing-impaired took place. Dosimetry/KI supplies are good; a knowledge of the maximum dose an emergency worker can receive without authorization was not apparent.

Schuylkill Township EOC

The EOC operated well and the staff performed as a team, although there is no completely defined second shift. Initial notification of the township revealed some problems. Siren coverage is a concern, especially as this may necessitate route alerting for two purposes. Further planning is needed for transit-dependent individuals. Radiological exposure control needs some more attention.

Uwchlan Township EOC

The township's emergency operations were effectively managed by the EMC. Facilities and communications were good. Traffic control points were addressed as was radiological exposure control, both in an adequate manner. No inadequacies were identified.

Upper Uwchlan Township EOC

The EOC operations were capably directed by the EMC, and staff members were well trained and prepared for their roles. All necessary actions were taken to notify hearing-impaired residents and to implement evacuation. Radiological exposure control went well. No inadequacies were identified.

Warwick Township EOC

Overall the operations were all managed by an enthusiastic staff of volunteers. Some difficulties were experienced in the area of communications. Facilities were adequate. Route alerting and activation of ACPs and TCPs proceeded well.

West Pikeland Township EOC

The EMC demonstrated, overall, effective management. The volunteer staff was enthusiastic, many participating for the first time. Facilities and communications were adequate. Further planning is needed for transit-dependent individuals. Route alerting was not activated for the hearing-impaired. Traffic control points and the radiological exposure control program was effectively implemented.

West Vincent Township EOC

Initial notification of the township did not occur according to plan. Activation of the staff proceeded smoothly. The EOC was fully staffed with the EMC effectively in charge. EOC facilities were adequate. An ARES operator never arrived. Adequate arrangements were made for the hearing and mobility-impaired. Radiological exposure control and the activation of TCPs were accomplished smoothly.

Phoenixville Borough EOC

The borough displayed an excellent capability to protect the health and safety of its citizens. Operations were efficient and leadership was good. Both the facilities and communications were adequate. Notification of the hearing-impaired, arrangements for transit-dependent individuals and radiological exposure control were all handled well.

Spring City Borough EOC

Initial notification occurred differently than established in the plan, as some staff were pre-positioned. The Coordinator demonstrated effective emergency management capability. EOC facilities and communication equipment were adequate. Route alerting of the hearing-impaired was not timely. Adequate dosimetry equipment was on hand and knowledge about its use was evident.

Charlestown Township EOC

EOC operations were effectively managed and the facilities were adequate to support operations. The staff worked well together.

East Coventry Township EOC

Emergency facilities were excellent for supporting operations. The EMC was effectively in charge; she and her staff displayed good knowledge of most phases of the plan. Route alerting was initiated, although it was not done in conjunction with the sounding of sirens during Site Emergency.

East Nantmeal Township EOC

The EMC handled all EOC operations effectively. The EOC and facilities were adequate to support operations. Individuals having special needs were contacted and plans made for their evacuation. The staff's thoroughness, demonstrated with a minimum of simulation, is commendable. No inadequacies were identified.

East Vincent Township EOC

EOC activation was prompt, although full staffing was not achieved and a second shift capability was not demonstrated. Staff members, in general, were not thoroughly familiar with their duties. EOC facilities and communications were adequate. Route alerting for the hearing-impaired was not activated after the siren sounding and there was no demonstrated capability to activate traffic control points. Sufficient equipment was available, but further training in its use is needed.

Owen J. Roberts School District

This was a professionally run operation, coordinated by an efficient staff. Communications generally functioned well.

Phoenixville Area School District

Activation and staffing was timely. General knowledge of the plan and its implementation was demonstrated by the staff. The Superintendent maintained adequate control and direction of the staff.

Downingtown Area School District

The assistant to the Superintendent was effectively in charge of operations. Overall, the school district personnel demonstrated good knowledge of their plan and sufficient capability to implement it. No inadequacies were identified.

Great Valley School District

The Superintendent promptly notified the one school in the EPZ of the emergency action levels and the need to take protective actions. Communications equipment functioned well. The district did not monitor the EBS station or make simulated arrangements to deal with traffic at the risk school.

Montgomery County EOC

Activation occurred in an efficient manner, although full staffing was not achieved. The staff functioned as a well-coordinated team, ably led by the Coordinator and his operations staff. The EOC facilities were spacious and well-equipped, including the communications network. Alert and notification procedures, were well coordinated and protective actions were accomplished in an effective manner. Radiological exposure control was a strong point. Adequate procedures and equipment are in place to handle public information concerns.

Willow Grove Industrial Park -Reception Center

There was adequate staffing, and personnel appeared highly trained and motivated. Leadership was excellent. No inadequacies were identified.

Upper Moreland High School - Mass Care Center

The center is a modern, well-equipped facility ready to accommodate approximately 380 evacuees. As above, personnel were highly motivated and excellent leadership was evident. No inadequacies were identified.

Douglass Township EOC

Staff in attendance were diligent and knowledgeable. One position was not filled by the designated individual, although his responsibilities were handled by others. The EMC displayed excellent leadership capabilities. Facilities and equipment are good. Further work is needed on route alert procedures. Traffic control can be quickly implemented. Radiological exposure control was very well demonstrated.

Limerick Township EOC

Full first shift staffing occurred and the EOC operations were effectively managed by the EMC. The EOC facilities and equipment, including communications, were adequate. Radiological exposure control was good. During the exercise, an actual emergency occurred, requiring response by volunteer fire units.

Lower Salford Township EOC

The EMC was professional and thorough in carrying out procedures. Staff members work effectively together. Facilities and communications functioned well. Procedures for dealing with individuals having special needs was handled smoothly.

New Hanover Township EOC

The staff was pre-positioned but generally performed their functions in an effective manner, including route alerting of the hearing-impaired. The EMC and his deputy were clearly in charge of operations. Some problems were experienced with the RACES equipment involving outgoing transmissions. Radiological exposure control was promptly demonstrated.

Upper Frederick Township EOC

The delayed arrival of the EMC caused some confusion in activating the EOC. Once he arrived the EOC functioned well, with the staff demonstrating knowledge and thoroughness in completing their assignments. Communications generally functioned well. Good procedures are in evidence for dealing with the hearing-impaired and transit-dependent. Confusion was evident over the proper use of KI.

Upper Pottsgrove Township EOC

Notification of the EMC did not go according to procedures established in the plan. The EOC staff were very professional and worked well as a team. The facilities and communications were adequate. The township did not notify the one hearing-impaired individual nor did they monitor EBS. Evacuation and traffic control were effectively managed. Radiological exposure control was outstanding.

Upper Providence Township EOC

The EOC was fully staffed, including participation by elected officials. The EMC was effectively in charge, handling all aspects of the response in a professional manner. The EOC was well equipped, including communications. Route alerting and traffic control was handled well. Radiological exposure control was adequate. No inadequacies were identified.

Upper Salford Township EOC

The EMC was feeling ill at the time of activation, so an elected official capably coordinated township operations. The facilities were adequate, as were communications. The hearing-impaired were notified at the appropriate times and arrangements were made for transit-dependent individuals. Radiological exposure control was exceptional. No inadequacies were identified.

West Pottsgrove Township EOC

The EOC was rapidly staffed, with the EMC displaying effective leadership. Facilities and communications were quite adequate. Public alerting for hearing-impaired and provisions for evacuating mobility-impaired individuals were especially well planned and executed. Knowledgeable and effective radiological exposure control was evident.

Pottstown Borough EOC

Rapid activation of the EOC took place. Twenty-four hour staffing was not demonstrated for two staff positions. The EMC effectively managed operations. The facility and communications capabilities were adequate. Route alerting was accomplished according to the plan. Training has yet to be accomplished for those individual assigned to man traffic control points. The plans needs to be revised to reflect the new information on hearing and mobility-impaired individuals. Radiological exposure control was good.

Collegeville Borough EOC

Activation of the EOC staff occurred without any real difficulty, the call-down list was not at the EOC, as it was being updated. Management of emergency operations was satisfactorily demonstrated. Facilities and communications were adequate. Route alerting, activation of traffic control points and provisions for dealing with the mobility-impaired and transit-dependent individuals were well demonstrated. Radiological exposure control activities went well.

Green Lane Borough/Marlborough Township EOC

EOC staff were adequately trained and the new EMC effectively managed emergency response operations. Elected officials were actively involved. Both the communications system and the facilities were adequate. Route alerting was effectively demonstrated, as were traffic control activities. The EOC staff was properly trained in radiological exposure control.

Royersford Borough EOC

Activation and staffing was somewhat delayed. Two designated staff members did not participate in the exercise. Overall emergency operations were effectively organized. The borough EOC was well equipped, including communications equipment. Proper arrangements were made to activate route alert teams and traffic control points and to deal with transit-dependent individuals. Proper radiological exposure control procedures were demonstrated.

Schwenksville Borough EOC

Activation and staffing went smoothly although two staff members did not participate throughout the entire exercise. EOC activities were managed effectively, with all staff knowledgeable about their responsibilities. Public alerting was promptly initiated and traffic control points were activated. Radiological exposure control was properly demonstrated.

Trappe Borough EOC

Activation and staffing was well coordinated, with the EMC effectively in charge of EOC operations. Facilities and communications were more than adequate. Procedures were in place to deal with the needs of various individuals. The proper use of radiological exposure control equipment was demonstrated. There were no inadequacies identified.

Lower Frederick Township EOC

The EMC and his staff managed operations quite effectively. Facilities and communications were adequate to support operations. Traffic control was effectively demonstrated at the appropriate time, although route alerting for the hearing-impaired was only initiated at General Emergency and not after the siren sounding. Radiological exposure control activities were properly implemented.

Lower Pottsgrove Township EOC

Initial activation of the EOC took place with some difficulty and one position was not manned. The EMC was effectively in charge. Facilities and communications were adequate, although RACES arrived prematurely. Demonstration of route alerting of the hearing-impaired did not take place. Radiological exposure control procedures were effectively implemented.

Lower Providence Township EOC

The staff was pre-positioned and one designated position was unmanned. The requirements of the RERP were efficiently handled by the EMC and his staff. Particular attention was given to the needs of the non-ambulatory and the hearing-impaired. EOC facilities and communications were adequate. Notification of the hearing-impaired occurred at General Emergency but not after the sirens were activated at Site Emergency. Evacuation and access control was effectively coordinated. Radiological exposure control was adequate.

Skippack Township EOC

The EOC was fully staffed and effectively managed by the EMC. The facilities and communications were adequate to support operations. Route alerting was effectively handled and procedures are in place to deal with transit-dependent individuals and to initiate traffic control. Improvement is needed in the radiological exposure control area. Further procedures are needed to deal with snow-covered roads.

Perkiomen Township EOC

Staffing occurred in a timely manner and EOC operations were very well managed. Facilities were excellent and communications were adequate. Route alerting was demonstrated although the township seemed unclear as to exactly what to do for the hearing-impaired. Arrangements were made to deal with those individuals requiring transportation. Radiological exposure control was, on the whole, excellent.

Pottstown School District

Activities were well coordinated and efficiently carried out at each emergency classification level. Facilities and communications were adequate. Appropriate arrangements were made for transportation of students. No inadequacies were identified.

Methacton School District

Activation went well and the Superintendent was knowledgeable and effectively in charge of operations. The EBS station was not monitored. The demonstration of protective actions was excellent.

Perkiomen Valley School District

Generally, the Superintendent was effectively in charge although communications flow to other staff members and school principals was limited. Facilities were adequate. Communications were significantly impaired as the RACES operator was not at the district office.

Souderton Area School District

The Superintendent managed the emergency response in an excellent manner. The simulated evacuation proceeded smoothly, with provisions being made for a disabled person. No inadequacies were identified.

Spring-Ford Area School District

The administration handled the staffing, communications and management very effectively. Communications functioned well and the evacuation proceeded smoothly. No inadequacies were identified.

Pottsgrove School District

The Director of Administration was effectively in charge. District facilities, including communications, were adequate. All activities were carried out in an orderly, professional manner. No inadequacies were identified.

Bucks County EOC

The staff of the EOC displayed a good knowledge of their responsibilities under their plan. The facilities, including communications, were adequate. The RADEF Officer was well-trained in radiological exposure control activities.

County Line Plaza - Reception Center

Procedures at this location were demonstrated in an adequate manner.

Penridge Upper High School - Mass Care Center

This is an excellent facility. Communications capabilities were also very good. No monitoring teams were available. Some difficulties were experienced registering some unplanned-for "evacuees."

Lehigh County EOC

Complete staffing was achieved and it was obvious they have a good understanding of their responsibilities and are enthusiastic about their jobs. Communications were good and radiological exposure control was implemented in an efficient manner.

Emmaus High School - Reception/Mass Care Center

Reception and monitoring went smoothly. The facilities are excellent and all functions were carried out in a well-planned, professional manner. Sufficient staff was on hand to deal with any problems.

BACKGROUND

Federal requirements dictate that periodic Radiological Emergency Response Preparedness exercises be conducted in support of nuclear power plants to evaluate major portions of emergency response capabilities. The exercises test the integrated capability and a major portion of the basic elements existing within emergency preparedness plans and organizations. The exercises simulate a coordinated response by State and local authorities, along with the utility, to include mobilization of personnel and resources adequate to verify the capability to deal with an accident scenario requiring responses up to, and including, evacuation. This was the second full participation exercise for the Limerick Generating Station and the various offsite organizations. The last full participation exercise was conducted on July 25, 1984.

The purpose of this report is to record the capabilities of State and local governments to respond to an accident at the Limerick Generating Station based upon actual demonstration or simulation of their abilities during the April 3, 1986 joint, full participation exercise. Areas Requiring Corrective Action will be identified from this exercise and corrective actions will be recommended which would help to improve preparedness and response capabilities. Areas Recommended for Improvement will also be identified which would enhance an organization's level of emergency preparedness.

The exercise was observed by a team made up of individuals from FEMA Region III, with support from FEMA Headquarters, Argonne National Laboratory (ANL), and the Center for Planning and Research (CPR), along with members of the Regional Assistance Committee.

PARTICIPATING JURISDICTIONS

State

Pennsylvania Emergency Management Agency
Bureau of Radiation Protection
Pennsylvania State Police

Plume EPZ Jurisdictions

Berks County

Boyertown Borough
Amity Township
Colebrookdale Township
Douglass Township
Earl Township
Union Township
Washington Township

School District

Boyertown Area
Daniel Boone Area

Chester County

Phoenixville Borough
Spring City Borough
Charlestown Township
East Coventry Township
East Nantmeal Township
East Pikeland Township
East Vincent Township
North Coventry Township
South Coventry Township
Schuylkill Township
Uwchlan Township
Upper Uwchlan Township
Warwick Township
West Pikeland Township
West Vincent Township

School Districts

Owen J. Roberts
Phoenixville Area
Downingtown Area
Great Valley

Montgomery County

Collegeville Borough
Green Lane Borough/Marlborough Township
Pottstown Borough
Royersford Borough

Schwenksville Borough
Trappe Borough
Douglass Township
Limerick Township
Lower Frederick Township
Lower Pottsgrove Township
Lower Providence Township
Lower Salford Township
New Hanover Township
Perkiomen Township
Skippack Township
Upper Frederick Township
Upper Pottsgrove Township
Upper Providence Township
Upper Salford Township
West Pottsgrove Township

School Districts

Pottstown
Methacton
Perkiomen Valley
Souderton Area
Spring-Ford Area
Pottsgrove
Upper Perkiomen

Support Counties

Bucks County
Lehigh County

NON-PARTICIPATING JURISDICTIONS

None

OBSERVER ASSIGNMENTS

RAC Chairman	James R. Asher (FEMA)
State EOC (PEMA)	Joe McCarey (FEMA), Team Leader
Media Center	Hugh Laine (FEMA)
Bureau of Radiation Protection	Bill Belanger (EPA)
Emergency Operations Facility	Craig Gordon (NRC)
Agricultural Sampling Team	Bob Conley (USDA)
Access and Traffic Control	Walt Adams (DOT)
Hospital	Fred Gill (PHS)
Berks County EOC	Jan Lamb (FEMA), Team Leader Judy Jones (FEMA) Walt Adams (DOT) - Reception/Mass Care
Boyertown Borough EOC	Margaret Singh (ANL)
Amity Township EOC	Sam Wilson (CPR)
Colebrookdale Township EOC	Roxanne Izzo (ANL)
Douglass Township EOC	George Barber (CPR)
Earl Township EOC	Conrad Tome (ANL)
Union Township EOC	Mark Bragen (ANL)
Washington Township EOC	Bruce Hamilton (ANL)
School Districts	
Boyertown Area	Roxanne Izzo (ANL)
Daniel Boone Area	Sam Wilson (CPR)
Chester County EOC	Steve Hopkins (FEMA), Team Leader Craig Pattani (FEMA) Dale Petranech (FEMA) - Reception/Mass Care
East Pikeland Township EOC	John Benn (FEMA)
North Coventry Township EOC	Steve Adukaitis (FEMA)
South Coventry Township EOC	Ken Rose (ANL)
Schuylkill Township EOC	Rick Bath (FEMA)
Uwchlan Township EOC	John Albright (FEMA)
Upper Uwchlan Township EOC	Rocco Tocci (FEMA)
Warwick Township EOC	Doug Canete (ANL)
West Pikeland Township EOC	Raj Sekar (ANL)
West Vincent Township EOC	Ross Hemphill (ANL)

Phoenixville Borough EOC

Francesca DiCosmo (FEMA),
Assistant Team Leader

Spring City Borough EOC
Charlestown Township EOC
East Coventry Township EOC
East Nantmeal Township EOC
East Vincent Township EOC

John Tatar (ANL)
Bob Linck (FEMA)
Don Jankowski (ANL)
Vern Wingert (FEMA)
Bill Knoerzer (ANL)

School Districts

Owen J. Roberts
Phoenixville Area
Downingtown Area
Great Valley

George Barber (CPR)
Bill Knoerzer (ANL)
Don Jankowski (ANL)
Ken Bertram (ANL)

Montgomery County EOC

Rick Kinard (FEMA), Project Leader
Marty Frengs (FEMA)
Bob Conley (USDA) - Reception/Mass Care

Douglass Township EOC
Limerick Township EOC
Lower Salford Township EOC
New Hanover Township EOC
Upper Frederick Township EOC
Upper Pottsgrove Township EOC
Upper Providence Township EOC
Upper Salford Township EOC
West Pottsgrove Township EOC

Bill Chambers (ANL)
Les Conley (ANL)
Karen Sagett (FEMA)
Ken Bertram (ANL)
Bob Larsen (ANL)
Al Henryson (FEMA)
Frank Ferenchak (FEMA)
Roman Helo (FEMA)
Guy Brackett (FEMA)

Pottstown Borough EOC

Karen Larson (FEMA)
Assistant Team Leader

Collegeville Borough EOC
Green Lane Borough/
Marlborough Township EOC
Royersford Borough EOC
Schwenksville Borough EOC
Trappe Borough EOC
Lower Frederick Township EOC
Lower Pottsgrove Township EOC
Lower Providence Township EOC
Skippack Township EOC
Perkiomen Township EOC

Barbara Gray (FEMA)
Mike Freeman (FEMA)
Al Hahn (FEMA)
Sam Nelson (ANL)
Karen Oakley (FEMA)
Larry Hill (ANL)
Dave Poyer (ANL)
Tom Majusiak (FEMA)
Bill Vinikour (ANL)
Phyllis Becherman (ANL)

School Districts

Pottstown
Methacton
Perkiomen Valley
Souderton Area
Spring-Ford Area
Pottsgrove

Dave Poyer (ANL)
Phyllis Becherman (ANL)
Bill Vinikour (ANL)
George Goforth (CPR)
Bill Chambers (ANL)
Les Conley (ANL)

Reception/Mass Care (Support Counties)

Bucks County
Lehigh County

George Goforth (CPR)
Jim Sutch (CPR)

American Red Cross

Dale Petranech (FEMA)

EVALUATION CRITERIA USED

The Commonwealth of Pennsylvania and local governments' response during this exercise was evaluated in relationship to the Commonwealth of Pennsylvania Disaster Operations Plan, Annex E - Fixed Nuclear Facilities, dated November 1981 and the Radiological Emergency Response Plans for Incidents at the Limerick Generating Station for Montgomery, Chester and Berks Counties, along with the various municipal Radiological Emergency Response Plans and school district plans. These plans were prepared under the authority of the Pennsylvania Emergency Management Services Act of 1978, P.L. 1332, and were developed in accordance with 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.

EXERCISE OBJECTIVES

1. To demonstrate the ability to activate State, county, and municipal EOCs in a timely manner.
2. To demonstrate the adequacy of the public Alert and Notification System. Public alert and notification for this exercise will be the sounding of sirens.
3. To demonstrate the adequacy of the decision making process by State, county, and municipal governments.
4. To demonstrate the adequacy of communication systems among, and within emergency response organizations and between all designated facilities and field activities.
5. To demonstrate that the State and county emergency management agencies have the capability to provide an alert signal and informational or instructional message to the public within 15 minutes. This demonstration will not, however, be tied to a protective action announcement. It will include notification of the risk counties, their subsequent notification of the respective municipalities, confirmation of municipal notification, activation of the sirens and broadcast of an EBS informational message. The ability to conduct route alerting, if necessary, will be demonstrated by the dispatch of one municipal route alert sector team in each of the three risk counties.
6. To demonstrate the internal message and information flow (collection, analysis, and dissemination) in the State, county and municipal EOCs.
7. To demonstrate the ability of the Department of Environmental Resources and the Department of Agriculture to take environmental samples and transport the samples to collection points.
8. To demonstrate the abilities of State, county, and municipal governments to provide traffic control and control of access to selected restricted areas and effectively perform a coordinated evacuation.
9. To demonstrate the operational knowledge and support from State, county, and municipal elected and appointed public officials regarding plan familiarity, operations process, and decision making.
10. To demonstrate the capabilities of State, county, and municipal governments to implement emergency response plans to protect the public's health and safety.
11. To demonstrate the existence and adequacy of emergency facilities and equipment to support the emergency response.

12. To demonstrate notification procedures to risk school districts. School districts will assess emergency procedures for alerting students and appropriate protective action (simulated). Unmet needs will be assessed and reported through the districts to the county emergency management coordinator (out-of-sequence).
13. To demonstrate accident assessment capabilities by the State and their decisions based on that assessment.
14. To demonstrate the ability to coordinate, communicate, and cooperate in the area of public information.
15. To demonstrate the procedures for the issuance of dosimetry and KI and associated record keeping.
16. To demonstrate the operation of one reception center and one mass care center in each of the support counties.
17. To demonstrate the Department of Corrections' guard notification procedures through the call-down system; support facilities notification; and transportation provider notification procedures.

EXERCISE SCENARIO

Unit One is operating at 85 percent power. At 1530, a fire is detected in the turbine enclosure along the west wall in the area of the condensate transfer, refueling water and condensate transfer jockey pumps. Offsite assistance is required due to the severity of the fire. An Unusual Event is declared.

Condensate pumps trip as a result of loss of power which results in the tripping of the feedwater pumps on low suction pressure. The reactor vessel water level begins to decrease with a reactor scram occurring. The turbine trips, stop valves close and steam bypass valves open fully. The reactor vessel pressure begins to increase after isolation of the main steam isolation valves. Drywell pressure and temperature begin to rise. An Alert is declared due to high drywell pressure alarm, low reactor water level, and reactor scram.

At 1730 the control room is notified that a contaminated injury has occurred in the radwaste enclosure. At 1830, the casing on a reactor recirculation pump breaks, causing reactor vessel level and pressure to drop with a sharp increase in drywell pressure and temperature. A Site Emergency is declared as a result of containment pressure greater than 10 psig.

With the loss of all low pressure injection, the vessel level falls rapidly. At 1850, the control room receives an indication that the drywell purge valve has backed off the fully closed position; drywell radiation levels are increasing. At 1920, releases from the north stack begin to increase, resulting from leakage through the purge line. Along with partial opening of the motor-operated purge valve, the air-operated purge line valve has developed a leak past the seat. By 2000, drywell radiation levels continue to increase, with increased releases through the north stack. Drywell radiation levels are indicative of fuel damage and a General Emergency is declared.

By 2050, a core spray pump is repaired and begins to inject water into the reactor vessel. Drywell temperature and pressure are reduced by 2130. Releases to the atmosphere are stopped at 2200 when the purge valve is closed.

The simulated events, radiation readings, and emergency classification levels (summarized above) provided by the Limerick Generating Station triggered offsite exercise actions. Because of Pennsylvania's policy of instituting protective actions, when necessary, within the entire plume EPZ, based upon a recommendation by the utility, and after an assessment by the Bureau of Radiation Protection and consultation with the Pennsylvania Emergency Management Agency, the Governor directed an evacuation of the entire 10-mile EPZ. The various State, county, municipal, school, and private organizations utilized their respective plans and procedures to produce a coordinated and timely emergency response.

SCENARIO CHRONOLOGY OF EVENTS

Projected Time		Actual Time
1530	Unusual Event	1545
1630	Alert	1635
1830	Site Emergency	1835
2000	General Emergency	2012
2000	Evacuation Decision	2012
2015	Evacuation Implemented	2013

DEMONSTRATION OF RESOURCES

- State, county, municipal and support county EOCs
- Communications systems and equipment
- Staffing of facilities
- Prompt notification system, including siren system and EBS
- Route alerting by various fire departments
- State and county Media Centers, including rumor control
- Field sampling team (agriculture) and equipment
- Risk school districts
- Designated reception and mass care centers
- Designated access control and traffic control points
- Self-reading dosimeters (both actual and simulated), dose records, and simulated TLDs and KI for emergency workers
- Designated receiving hospital

STATUS OF INADEQUACIES FROM PAST EXERCISES

The initial full-participation exercise held in conjunction with the Limerick Generating Station was conducted on July 25, 1984. A follow-up exercise involving offsite jurisdictions that did not participate in the initial exercise was held on November 20, 1984. As a result of this exercise, certain inadequacies in offsite preparedness were revealed. By and large, the necessary steps have been taken to resolve these issues. However, in several instances the April 3, 1986 exercise revealed that the items previously identified warrant further attention.

The following items (classified as Category "B" Deficiencies in the earlier reports) need to be emphasized at the next exercise:

Berks County #68 (7/25/84) - This item was not adequately addressed as the Oley Valley High School - Reception Center was not activated.

Colebrookdale Township #82, Washington Township #85 (7/25/84) and Douglass Township #1 (11/20/84) - These items could not be fully resolved as sample dosimetry kits were not distributed to the Berks County municipalities.

Chester County #39 and #40 (7/25/84) - No emergency worker decontamination station was established during this exercise.

EXERCISE OBJECTIVES STILL BE TO EFFECTIVELY ACHIEVED

Berks County did not demonstrate the procedures for the issuance of dosimetry and KI and associated record keeping to the risk municipalities (Objective #15).

The Oley Valley High School - Reception Center (Berks County) and the Kennett High School - Mass Care Center (Chester County) did not fully demonstrate their operational ability (Objective 16).

State EOC

PEMA's EOC was activated in a timely manner and according to plan. Staffing was not accomplished for all positions; the vacant positions were simulated, as full participation by State agencies was not an exercise objective. The EOC staff operated effectively under the direction of the Operations Officer and the Shift Leader. The flow of information between affected responsible participants was continual, information was analyzed utilizing available information, actions were then initiated to implement decisions based on current information. The PEMA Director provided guidance and direction during all phases of the exercise; the operational plan was referenced continually; the planning and operational functions interfaced effectively.

The operational, message center, and situation analysis functions coordinated effectively, information was recorded and available from a computer printout. Information from the message center was pertinent, and was provided throughout the exercise. A checklist was provided for each emergency action level phase; the list was displayed on a large computer screen; a similar screen was used to display site diagrams, evacuation routes and similar information vital to operations. The computers are interchangeable should a failure occur.

The dedicated line to Montgomery County was not ringing at the county level, communications were maintained through commercial phone, provisions to correct this condition were initiated immediately. Technicians were available for this function, also for any functions relating to the computer system. Siren failure reported from Chester County was not followed up as to status of route alerting of affected area. Additional siren sounding should also require follow up. Chester County's request for buses was provided after discussion between operations and situations analysis.

Alert status was received from facility at 1640, BRP verified message at 1647. Change of status from Site Emergency to General Emergency occurred at 2005. Notification to county was not initiated until 2012. The Red Cross had minimal participation in this exercise.

State EOC Inadequancies/Recommendations

See Summary of Inadequacies.

PEMA Media Center

The PEMA public information activities were played on a limited scale, as planned, for this exercise. Their main concern was to check out and exercise their computer operations in the development and exchange of information on a timely basis.

The PEMA PIO was assisted by two PIOs from other State agencies. Both had participated in prior exercises and were well qualified in all respects. A roster of twenty State agency PIOs is available for call to cover 24-hour staffing. Adequate and well-trained clerical help supported the media activities. They were well practiced in all phases of operations in the computer area. The EOC media center is well equipped for the PIO staff to work effectively.

Press briefings would be held in the Governor's Press Room which will accommodate up to 150 media representatives. The private space for the media to work is used on a day-to-day basis by the working press. It is adequate and well equipped with telephones, teletype, etc. Briefings for the media and the usual array of displays were not used in this exercise as no media representatives were present in the PEMA EOC.

Primary communications to the local EOCs is by teletype and by dedicated telephone to the EOF. Contact was maintained with both the EOF and the local EOCs. The media center was notified from 5 to 10 minutes following each plant status change. Releases were well coordinated and the EOC media center maintained contact with the State Liaison in the utility media center in Philadelphia and with the county EOCs.

Activation of the EBS is a function of operations rather than of public information; thus this media center would have no direct involvement in this process at the time of an emergency. The EBS is activated at the local level. That person, usually the county Director, then records the appropriate pre-planned message, contained in their plan, live for the station to broadcast following siren activation. Emergency public information instructions are disseminated by pamphlets and is in all the telephone books in the blue section.

The public information activities in this exercise were handled well and accomplished the stated goal of exercising the newly developed computer equipment and system. The new equipment greatly reduces the time required to prepare and transmit messages. It also enhances the ability of the media center to keep up-to-date on the changing activities and events.

PEMA Media Center Inadequacies/Recommendations

None identified.

Bureau of Radiation Protection

At BRP all activities were conducted in accordance with the plan. Staffing was complete at notification of Unusual Event because the notification came during the normal work day. The team dispatched to the EOF was ready to go but remained in Harrisburg until notified to test their ability to get to the EOF during rush hour traffic. Accident assessment was conducted on an IBM PC using the Nuclear Regulatory Commission's IRDAM model. Plant status was correctly analyzed by BRP and dose assessment was performed correctly and in a timely manner. With their nuclear engineering staff, BRP is well qualified to interpret plant status information. The presence of a representative from NRC Region I was also valuable since it allowed the agencies to collaborate on-scene.

Bureau of Radiation Protection Inadequacies/Recommendations

None identified.

Emergency Operations Facility

Activation and staffing of the EOF were adequately demonstrated. The State of Pennsylvania was represented at the EOF and Technical Support Center (TSC) by staff from the BRP who arrived at 1815. Initial notification of an emergency is provided from the Limerick control room to PEMA. Other State personnel, including BRP, are subsequently notified by PEMA. State personnel had access to the utility work area, including plant parameters, maps, and status boards. Sufficient space, equipment, and displays were available at the EOF to support emergency operations and functions by State personnel. The communication system included 2 individual dedicated telephone lines linking the TSC, EOF, and BRP (Harrisburg). One phone is used to coordinate technical and engineering data while the other is used to transmit radiological data and associated information which BRP uses to perform offsite dose assessment. Some of the data is transmitted directly from utility radiological assessment personnel in the EOF to BRP.

The public information and rumor control functions are coordinated locally at the utility's media center and through PEMA at the State level. Although the dose assessment function is not performed by BRP staff at the EOF, changes in plant status, radiation releases, and meteorological information are promptly transmitted to the State via telephone by BRP personnel. Recommendations for protective measures were coordinated and discussed between the BRP representative and key utility representatives prior to transmittal to the State EOC. Protective action recommendations were observed to be accurate and timely.

Emergency Operations Facility Inadequacies/Recommendations

See Summary of Inadequacies.

Agricultural Sampling Team

The State Agricultural Sampling Team demonstrated sampling capabilities in a professional and competent manner. Team members were familiar with the local agriculture/dairy community and were able to visit three locations quickly and efficiently. Sample collection procedures were professionally demonstrated at the first location and simulated at two others. However, at all locations, teams members discussed at length, with the owners, their purpose and procedures.

Team members had all necessary supplies and equipment for effective sample collection in their vehicle to include:

Cooler	Dipper
Latex disposable gloves	Sanitizing fluids
Boots	Buckets
Hats	Brushes
Coveralls	Pens
Plastic containers	Sample collection forms

The plan provides for team members to be issued a dosimetry/KI kit and a PEMA-issued radio; however, during the exercise these items were simulated by use of a 5 x 7 card. Team members expressed concern about their proficiency in utilizing appropriate dosimetry equipment.

The vehicle used was adequate for their mission and was equipped with a CB radio. Team members were familiar with the use of KI and decontamination procedures. Samples collected were correctly labeled and logged on a Laboratory Analysis Form with sample location, time, date, name of farm/dairy for subsequent delivery to the DER Laboratory in Harrisburg.

Agricultural Sampling Team Inadequacies/Recommendations

See Summary of Inadequacies.

Pennsylvania State Police

The Pennsylvania State Police (PSP) played its portion of the plan out-of-sequence. At 1000 the Limerick Police Barricks staging area was activated and all PSP assigned to man TCPs and ACPs were assembled. The troopers signed in, were given TCP/ACP assignments, and were issued dosimetry equipment and KI pills. The assembled officers were then given a thorough briefing by the staging area coordinator that covered the following areas:

- Dosimetry
- KI Instructions
- TCP and ACP Responsibilities
- Radiation Precautions
- Communications
- Distribution of Summarized Instructions
- Evacuation Options and Readiness Levels
- Housing

The staging area coordinator did an excellent job of relating the responsibility of PSP during an emergency and the importance of the officers being as informed as possible of the contents of the emergency plan.

Pennsylvania State Police Inadequacies/Recommendations

See Summary of Inadequacies.

Pottstown Memorial Medical Center

The hospital was notified of the Site Emergency at 1840 and immediately initiated their radiation emergency plan. The call from the plant gave the hospital all necessary information except for the identity of the contaminant. Overall, the staff was well-trained on what to do, although improvements are warranted in the area of decontamination. Supplies, as needed, were either in the treatment room or were obtained from other areas. Medical personnel were properly outfitted and were prepared to receive the patient. Security was instituted in a professional manner. Health physicists were on hand to maintain a radiation control line. The medical staff took the appropriate action to stabilize the patient and treat the injury first, prior to initiating decontamination procedures. The communication system functioned quite well. Overall, the hospital staff was both quick and responsive in dealing with the needs of the simulated injured/contaminated individual.

The ambulance arrived at the hospital at 1920, the crew being outfitted in coveralls, boots and gloves. As it is apparently hospital policy to only take injured, contaminated individuals, it is recommended that hospital staff bring the patient into the hospital. This would lessen the opportunity for additional contamination to be brought into the hospital, especially in light of the fact that if the ambulance crew was contaminated it would not be treated at the hospital but would be sent to a decontamination station.

Pottstown Memorial Medical Center Inadequacies/Recommendations

See Summary of Inadequacies.

Red Cross Liaison

The Red Cross Liaison to PEMA reported that she was operating from the Red Cross Chapter in Harrisburg as there would be limited "play" at the State level. She advised she was not given a single call during the exercise. Even if mass care centers are not going to be activated, the State/ARC Agreement and PEMA Directive 69 indicates that communications and cooperation between these agencies is needed. This relationship did not exist during the exercise.

Red Cross Field Headquarters

The Red Cross Southeastern Pennsylvania Chapter Headquarters served as the field headquarters for support and direction of all Red Cross activities connected with the exercise. In future exercises a special operations center in Kensington will be used. The field headquarters was adequately staffed and in contact with the National Red Cross for unmet needs. No major problems were observed.

Red Cross Inadequacies/Recommendations

See Summary of Inadequacies.

Berks County EOC

The overall response capabilities for Berks County were demonstrated in an adequate manner. Initial notification to three municipalities did not proceed on schedule and the Transportation Officer for the county did not arrive in a timely manner. All other notifications occurred in a prompt, efficient manner. The Emergency Management Coordinator was effectively in charge and staff members carried out their duties in a dedicated manner. It is recommended that more formal procedures be established for message handling. The facilities in the Berks County EOC are outstanding, as are communications systems.

At 1930 the County Operations Officer received a call from PEMA advising them to sound the sirens at 1940. By 1937 the county had notified all municipal EOCs, and Berks County sirens were activated at 1940. An exercise message was aired over EBS at 1942. It should be noted that the county EMC queried the State EOC as to why the sirens were being sounded without any protective actions. They felt they needed that information to know which prescribed message to broadcast over EBS. They were told just to play the exercise message. Several municipalities and Berks County could not tune in the EBS station. Lack of reception of the EBS station is addressed further below.

The Radiological Officer has developed a well-organized, effective system for briefing and issuing equipment to emergency workers. Complete, well equipped kits of radiological exposure control equipment have been prepackaged and are ready for distribution to the municipalities. Delivery of the kits was simulated during the exercise. Since delivery of the kits was simulated, some municipalities had no dosimetry available to demonstrate their capabilities with radiological exposure control.

Although no media representatives arrived at the county, the PIO was prepared to brief them at each change in status during the incident. Public information and rumor control was adequately demonstrated.

Berks County EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Oley Valley High School - Reception Center

The reception center was located at Oley Valley High School. The center was not activated and was staffed by two radio operators who communicated with the county EOC with Z-Meter FM self-contained radios. These individuals were not aware of the responsibilities or operations of the reception center and were assigned strictly for their communicative expertise. The school building was an adequate facility to be used as a reception center, but the operation could not be evaluated since no demonstration of activation occurred.

Oley Valley High School - Reception Center Inadequacies/Recommendations

See Summary of Inadequacies.

Fleetwood High School - Mass Care Center

The mass care center, located at Fleetwood High School, was activated in a timely manner. Staff was comprised of representatives from the Red Cross, county and RACES. The staff was knowledgeable and were prepared to perform their duties in a professional manner. A 24-hour capability to accommodate 300 evacuees was demonstrated. With some additional efforts the center was confident that additional evacuees could be cared for.

Red Cross registration forms were used to register victims. Upon arrival, evacuees were checked for radiological contamination by a county supplied team and decontaminated in the school shower facilities, if necessary. The radiological team members were familiar with correct procedures and demonstrated proper processing, monitoring and handling of arriving evacuees.

The shelter is more than 5 miles beyond the EPZ and is initially prepared to handle 300 evacuees. The ability exists to expand this capability. Bedding, clothing and food were either available or nearby sources identified. In addition to available resources, provisions for backup supplies had been arranged. Being a one-story public high school, the shelter can handle the physically impaired relatively easily. The center could communicate by telephone and backup FM radios with the county EOC, Red Cross Field Headquarters and emergency medical facilities.

Fleetwood High School - Mass Care Center Inadequacies/Recommendations

None identified.

Boyertown Borough EOC

Initial notification of the EMC and his subsequent activation of the EOC and staff were accomplished in accordance with the plan. The EMC was clearly in charge, but other officers knew their responsibilities and generally accomplished them without direction from the EMC. There are some problems with their facilities which are discussed below. Communications appeared to be generally adequate as was public alerting. Other evacuation procedures seemed to be demonstrated in a successful manner. Without the dosimeters and instructions, little could be demonstrated with respect to radiological exposure control.

Boyertown Borough EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Amity Township EOC

Receipt of the Alert by the Amity Township EMC was delayed due to a communications procedural problem which needs to be resolved between the county and township. Some county EOC staff telephone numbers had been changed, but the township EOC did not have new numbers. The EOC is austere, but provides facilities, records, and communications essential to operations. Plans, supplemented by detailed SOPs, were complete and up-to-date. The EMC, township government and EOC staff functioned effectively. Worthy of special note are: 1) Complete, detailed and current maps, overlays, and records to support decision making and emergency operations under any eventuality; 2) the introduction into exercise play by the EMC of several events to provide added stimulus for EOC staff and emergency workers; 3) the actual execution of emergency actions in lieu of simulations and; 4) the active involvement of elected government officials.

Amity Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Colebrookdale Township EOC

Initial notification of the EMC was received from the Liberty Fire Chief, who received it from the Berks County Sheriff's Office at 1715. This is in conflict with the plan which calls for notification by the EMC to be received directly from the county. The EMC and the Transportation Officer were pre-positioned and staffing was complete by 1750. The EMC managed the EOC operations quite effectively. There was some confusion when a message was received from RACES that phone should not be used to communicate with the county EOC. A call to the county was placed to verify this message and the county responded "I don't know." The use of telephone communications for the remainder of the exercise to the county EOC was continued as the primary means of communications.

The EOC and facilities were adequate to support operations. Copies of the plan and procedural checklists were referred to frequently throughout the exercise. Messages were logged and posted and staff were informed on situation status. The township was aware of the special needs of the hearing-impaired and non-ambulatory. Alert teams were sent to notify the hearing-impaired and a request for buses and ambulance was made to the county. Traffic control points were activated and ample resources were demonstrated.

The Radiological Officer was aware of the need of dosimetry. Distribution was simulated by the county EOC. Overall the staff was very well informed and knowledgeable of their roles.

Colebrookdale Township EOC Inadequancies/Recommendations

See Summary of Inadequacies.

Douglass Township EOC

A dedicated group of volunteers participated and performed well at this township EOC. Mobilization took place following the receipt of Alert notification and was completed within 30 minutes. Approximately 15 people reported to the EOC throughout the exercise period including two of the Township Supervisors. Over double the staff called for in the plan were present. Also a three-person RACES team participated.

The inadequacy indicated for the previous exercise was not rectified because the radiological instruments were again not issued by the county. Their demonstration was not possible, although from conversations, it appears that the fire personnel are familiar with the equipment since some instruments are part of the normal equipment on the truck. The exercise provided an excellent opportunity for the participants to review their plans and procedures. They proceeded to carry out their assignments to the extent feasible under the exercise conditions (simulation or actual).

Douglass Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Earl Township EOC

The emergency response team of this township was well organized and reasonably well-equipped to handle the emergencies in this area. The individuals had a positive attitude about their job and their equipment. They knew what to do and where to go to get what they needed. It was evident a good deal of thought and planning went into choosing the people and setting up the response network.

The overall activation and staffing was done quickly and without difficulty. Management of information was smooth and well planned. The facilities were more than adequate. Communications were good with sufficient backup equipment. The method of distributing dosimeters and KI was adequate although the actual equipment was not available as it had not been provided by the county. The EMC had staff available to start public alerting with vehicles ready but they were not actually dispatched. One staff member and a vehicle was available to man the one traffic control point located in the township. The media would not be permitted in the EOC during emergencies.

Earl Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Union Township EOC

Activation of the EOC was completed at 1730 after the initial contact to the EMC at 1705. Double staffing was used to show corrective action of the previous deficiency of being unable to fully staff for 24 hours. Backup personnel or primary personnel without exercise experience performed as the primary staff with the exception of the EMC who has had previous experience. Initially, backup personnel appeared unsure of their specific duties and responsibilities. However, with guidance from the EMC and experienced personnel, the operations were carried out smoothly by the mid-point of the exercise. The EMC appeared well prepared and did a good job as coordinator. The EOC facilities were adequate to support operations. Using experienced staff members as supervisors/instructors for the inexperienced staff members during the exercise proved to be a valuable tool in their education.

The Radiological Officer was knowledgeable in the use of dosimetry equipment and equipment requirements. However, the county simulated the delivery of the dosimetry kit during the exercise.

Union Township EOC Inadequancies/Recommendations

None identified.

Washington Township EOC

The initial notification of the EMC, and his subsequent activation of the EOC were accomplished in accordance with the plan, with the exception that some notification list telephone numbers were incorrect. The EMC generally managed the EOC operations effectively, however, he did require assistance from the PEMA observer at a few critical points of the exercise. The EOC and facilities, including communications equipment, were adequate to support operations. According to the plan there was no need for public alerting by the local EOC. The EOC did a very good job in their handling of evacuation and access control procedures. The use of dosimetry and KI were simulated at the local level. Record keeping cards and dosimetry-KI lists were present, however, there was no one present with sufficient knowledge of dosimetry-KI or decontamination procedures.

Washington Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Boyertown Area School District

An Alert notice was called to the Assistant Superintendent's office at 0853 by county EMA and was verified by callback. The Assistant Superintendent was effectively in charge and immediately proceeded to call all of the schools in the district including private schools and the transportation provider. A dedicated phone line with pre-programmed phone numbers was used and worked quite effectively. A written list was also available as a backup. An "in-house" school phone system was utilized, but there was no radio system in place. Evacuation order was received at 1017. Evacuation of the Colebrookdale School began at 1030 and was completed at 1033. A bus was dispatched to the host school (Kutztown School District) at 1035 and arrived there at 1115. The Principal of the Colebrookdale School suggested a re-routing of the evacuation route to decrease the time of travel should be examined in the future.

Boyertown Area School District Inadequacies/Recommendations

See Summary of Inadequacies.

Daniel Boone Area School District

In the absence of the Superintendent, who was away on school business, exercise emergency operations were managed in a very effective manner by the Daniel Boone High School Principal, the designated first alternate. Receipt and subsequent dissemination of the Alert, and subsequent changes of incident class were efficiently carried out, on a timely basis, and in accordance with the district's plan, as approved by the School Board. This plan received input from and was coordinated with the Amity Township Board of Supervisors and EMC. Exercise emergency operations in the Superintendent's Office, Daniel Boone High School, the host school, and Amity Elementary School, the only risk area school in this district, were observed. Managers were all well informed, professional and effective. Faculty understand the plan and carried out those parts exercised in an efficient manner.

Bus drivers, through their spokesperson, the exercising driver, had two minor procedural questions which were quickly and fully answered prior to departure of the bus from the risk area school. The risk area school has a "fly away" bag containing a copy of each student's records, including names of persons authorized by parents to pick up each child. The school nurse had a bag of special medicines required by various students, together with doctors' orders on dosage, etc., packed and ready for immediate evacuation at all times.

Evacuation, demonstrated in this exercise by one empty bus, is by convoy of school buses dedicated to this district, escorted by the Amity Township Police Department. Convoy operations, particularly traffic control, were highly effective. Host school facilities are fully adequate to care for evacuees. Communications are adequate. Two-way radio for the bus fleet and as a backup to private line phones between schools would be a nice-to-have, but not essential, enhancement.

Daniel Boone Area School District Inadequancies/Recommendations

See Summary of Inadequacies.

Chester County EOC

Activation of the county EOC, and mobilization of the staff occurred promptly and in accordance with the plan procedures. Full staffing was achieved by 1735, during the Alert stage. Virtually all of the positions were double or triple staffed, thereby demonstrating capability for round-the-clock operations. EOC staff notifications were via RECALL (a computerized automatic dialing system using ten telephone lines), as were the initial notifications of the municipal EMCs. No problems concerning county staff notifications were noted, but reports from the municipalities indicate that more accurate information can be programmed into the system for some community officials.

The county's emergency operations were capably managed by the Director of Emergency Services. The well-trained, knowledgeable, and professional staff demonstrated very good internal and external coordination, supported by an effective system for distributing and computer-logging messages. The EOC received notification of major events as follows: Alert, 1647; Site Area Emergency, 1843; General Emergency, 2008; Governor's Evacuation Decision, 2013. At each stage, the staff very thoroughly performed the coordination activities appropriate to their duties and in a timely manner. County elected officials demonstrated good support with their participation throughout the exercise.

The EOC facilities were adequate, with excellent communications capability. Communications between the county and municipal EOCs has been significantly improved since the last full-participation exercise by the addition of a UHF radio, replacing commercial telephone as the primary link. The only communications-related problem noted was that amateur radio operators, dispatched by the county, arrived late or not at all at four municipal EOCs.

County officials and staff performed their alert and notification functions according to the plan. At PEMA's direction, the siren system was sounded twice - at 1940 (actual) and at 2015 (simulated). All appropriate actions were taken by the Public Information group to activate ERS in conjunction with the sirens at the 1940 sounding, and provide an appropriate message. The EBS station, WCAU, chose not to interrupt their regular program at that time, and delayed transmitting the ERS test message until 1956 (this delay resulted in the erroneous perception among some participants and observers at other locations that the EBS activation was faulty). Procedures for simulated EBS activation following the 2015 siren sounding were also satisfactorily demonstrated. The fire group activated appropriate fire departments to perform route alerting, after receiving a computer print-out identifying three siren failures. Officials in four municipalities reported areas of inadequate siren coverage, indicating that county-activated supplemental route alerting may be needed. These problems were not reported to the county during the exercise, and there was no demonstration of route alerting for this purpose.

The staff demonstrated their capability to implement the evacuation in a thorough and convincing manner, and with a minimum of simulation. Appropriate arrangements were made to evacuate health care facilities; identify, obtain and deploy the necessary bus and ambulance transportation; and fulfill municipal unmet needs.

All radiological exposure control equipment for the municipalities was predistributed, as provided for in the plans. The county's Agricultural Agent, as specified in the plan, was fully familiar with the responsibility and procedures for certifying farmers as emergency workers and providing them with dosimetry and KI. The radiological staff were knowledgeable concerning all appropriate aspects of radiological exposure control, and provided guidance and instructions to the municipal EOCs. The capability for informing the media, and establishing rumor control for the public were well demonstrated.

Chester County EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Stetson Middle School - Reception Center

The reception center was adequately staffed with knowledgeable personnel and sufficient equipment for them to perform their mission.

Stetson Middle School - Reception Center Inadequacies/Recommendations

None identified.

Kennett High School - Mass Care Center

The Kennett Square Fire Department demonstrated an excellent ability to perform their assigned tasks in accordance with the plan. The Fire Chief advised that in a real emergency his staff could not handle the volume of persons to be decontaminated or monitored and that he would need outside support. There is a plan for vehicle decontamination and storage of contaminated water.

The Red Cross had two people on the scene (with limited supplies) to answer questions. They had a general knowledge of the Red Cross programs and operations, but no site-specific information. They did not obtain admission to the mass care facility, staying outside in the parking lot because the school was having a play. However, this same group did demonstrate an actual operation when they sheltered over 400 people following a chemical spill earlier this year.

Kennett High School - Mass Care Center Inadequacies/Recommendations

See Summary of Inadequacies.

East Pikeland Township EOC

From the initial notification of the Alert at 1747 through termination of the exercise, the emergency management staff exhibited a high degree of enthusiasm and professionalism in addressing and meeting all elements of the plan. A correspondingly high degree of coordination and personal initiative resulted in the timely completion of all tasks. The staff promptly arrived and immediately went about their assigned functions without the need for continual direction and oversight. They notified the homes of all identified hearing-impaired residents (thus negating the need for activating the route alerting teams, which had been placed on standby) and verified the needs of those requiring transportation, utilizing written lists. Also available were checklists, written resource staff notifications, and shift assignment lists. Internal procedures, resources, communications, radiological exposure control equipment, and facilities were more than adequate to respond to an actual radiological emergency; however, a recent change in the assignment for manning traffic control points should be reflected in the plan.

East Pikeland Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

North Coventry Township EOC

The initial notification of the EMC and his subsequent activation of the EOC were performed smoothly and in accordance with the plans. The EMC managed the EOC in an effective manner and each staff person was well-trained and knowledgeable. The EOC and supporting facilities used during this exercise were adequate; however, the EMC noted that a final decision on EOC location was still pending. Communications with the county EOC via ARES were excellent. Notification of the hearing-impaired was not performed. TCPs were staffed at the proper time. The Radiological Officer was well-versed in radiological exposure control, and dosimetry issuance and use.

North Coventry Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

South Coventry Township EOC

Activation and staffing was accomplished utilizing a written call list. The staff displayed adequate training and round-the-clock staffing capability was demonstrated by the presentation of a roster. The Emergency Management Coordinator was effectively in control. The staff was involved in decision making. Message handling was efficient in most cases, with the exception that an important message was not given to the EMC in a timely manner. Access to the EOC was controlled by the security person. The EOC contained sufficient facilities and backup power is available. Emergency classification levels were posted on a status board which was visible from different parts of the operations room.

Communications facilities were adequate, although no ARES operator was on-hand. The township played a role in public alerting for the hearing impaired, utilizing a prepared, written message. The supply of dosimetry equipment and KI was adequate and the Radiological Officer was generally aware of the proper procedures concerning their use; however, he was not familiar with the maximum dose an emergency worker can receive without authorization.

South Coventry Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Schuylkill Township EOC

The Schuylkill Township EOC operated well and the staff performed their tasks as a team. There was a problem with initial notification, as the initial notification of the EMC occurred by a method other than the RECALL system, and there is not a defined second shift. There were many new members to the EOC staff including the EMC; however, they had a good understanding of their assigned roles with the exception of the security/dosimetry individual. The EOC facility was small but adequate.

The available communications systems were as specified in the plan and performed adequately, but the EMC felt that additional telephone lines would be needed during an actual emergency. The township officials feel the siren system warrants backup route alerting, to be performed by county activated local fire companies. However, this procedure competes with the township requirement to notify the hearing-impaired, in that the same resources have been designated to perform both functions.

The exercise demonstrated that the plan should be further developed regarding the methods to collect transportation dependent residents, and the status of required (unmet) transportation needs. Additional training is needed for the designated staff member responsible for distributing the dosimetry equipment.

Schuylkill Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Uwchlan Township EOC

The Uwchlan Township EMC received the initiating call at 1707 from the county EOC and implemented the staff mobilization procedure. The township EOC was fully staffed by 1730, and capability for a second shift was demonstrated. The township's emergency operations were effectively managed by the EMC. The Communications Officer received, recorded and distributed messages which served to keep the staff informed. The EOC was adequately furnished, and provided adequate communications, life support, emergency power, maps, charts, and such other items needed for an incident of this nature.

Good communications capability was provided for by commercial telephone, two-way radio with police, public works, county government bands, and two-way amateur radio. No hearing-impaired persons live in the EPZ portion of the township. The county-activated sirens alerted the public and no failures were reported by the county, thus negating the need for route alerting. The township simulated activating traffic control points through the police and public works departments. County EOC instructions were received, and implemented, concerning the distribution and administration of dosimetry and KI.

Uwchlan Township EOC Inadequacies/Recommendations

None identified.

Upper Uwchlan Township EOC

Initial notification of the EMC occurred according to plan. Staff mobilization was prompt. One telephone number on the notification list was incorrect, but this was resolved quickly and without consequence. The EOC was fully staffed, and capability for a second shift was demonstrated. The EOC operations were capably directed by the EMC, and staff members were well trained and prepared for their roles. The EOC was served by outside toilet facilities, but the EMC reported that the township was seeking bids to upgrade this condition. The EOC was adequate in other respects.

The communications systems, including ARES, performed well. The EMC and staff demonstrated the capability to perform all designated actions necessary to notify hearing-impaired residents and to implement the evacuation. A recent plan change (dated 10/85) has relieved the township from the responsibility for manning traffic control points - this duty has been transferred to the State Police.

All required dosimeters, KI, TLDs, and record forms were on hand, and distributed to the staff. The Radiological Team Leader was well trained and provided appropriate instructions. Following the evacuation of the township's general population (simulated), the evacuation of the EOC and relocation to the alternate site outside the EPZ was simulated.

Upper Uwchlan Township EOC Inadequacies/Recommendations

None identified.

Warwick Township EOC

Following initial notification of the EMC (at 1720), full staffing and activation of the EOC were accomplished by 1803, in accordance with the plan. Both the acting EMC and his first shift staff were familiar with the EOC procedures and handled most situations efficiently. Three members of the second shift staff were in the process of being trained - including the EMC.

A malfunction of the UHF radio (the primary communications link to the county EOC according to the plan) resulted in late notification of the Site Area Emergency status. The staff quickly had the radio operating, and the 23 minute delay in implementing the Site Area Emergency actions did not have a negative consequence. However, the backup radio system, which could have prevented this delay, was not in place at the time, as the ARES operator arrived late. The facilities were adequate for performance of EOC functions. All necessary information and maps were posted and kept up-to-date. The capability for notifying schools, transient facilities, fire and ambulance services was demonstrated.

Prescribed messages for route alerting of hearing-impaired residents were available in the plan; all actions necessary to perform hearing-impaired route alerting were performed. Steps were taken to ensure that all ACPs and TCPs were adequately manned and evacuation routes were clear. Recent efforts to identify and classify mobility and hearing-impaired residents resulted in a listing of the location of these individuals for efficient notification and evacuation.

Radiological exposure control equipment and KI were available and managed by knowledgeable personnel, although no instruction concerning the use of these materials was provided to the ARES radio operator. All media and public inquiries were appropriately handled by referral to rumor control at the county EOC. Overall the operations were well managed by an enthusiastic staff of volunteers.

Warwick Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

West Pikeland Township EOC

The EMC was initially notified at 1728, and mobilized his staff according to the plan procedures. Full first shift staffing, and capability for a second shift, were demonstrated. The volunteer staff were enthusiastic, but many were participating in their first exercise. The EMC, by contrast, was very experienced and demonstrated effective emergency operations management. The EOC is located in the basement of the EMC's house, but had all the necessary facilities and was fully adequate. Also adequate were the available communications systems, even though the amateur radio operator arrived very late.

The problem identified in the previous exercise, a failure to assure that the county was providing unmet transportation resources, was specifically addressed and resolved by the EMC. However, the township plan should be further developed regarding the method to collect transit-dependent residents. Notification calls were made to special facilities, but there was no activation of route alerting teams to notify the identified hearing-impaired residents. The capability to activate and man the designated traffic control points was demonstrated and all aspects of radiological exposure control for township emergency workers were addressed.

West Pikeland Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

West Vincent Township EOC

The initial notification of the EMC did not occur via the RECALL system, apparently due to pre-positioning. However, the EMC's subsequent activation of the EOC and mobilization of the staff occurred according to the plan and in a smooth and expeditious manner. The EOC was fully staffed; those assigned to the second shift were also present during the exercise. The EMC was effectively in charge. Throughout the exercise the EMC communicated and consulted with the assistant EMC and other staff, as appropriate. The EOC facilities were sufficient to support operations; however, there were no maps showing evacuation routes.

An ARES operator never arrived to provide backup radio communications, despite several attempts by the township to obtain one. Upon sounding of the sirens, the EOC staff contacted the homes of all identified hearing-impaired residents via telephone, thus negating the need to perform route alerting. Special facilities were also telephoned.

Traffic control points were promptly activated and suitable information regarding mobility-impaired residents was available to permit appropriate transportation arrangements. The appropriate dosimetry and KI were available, as specified in the plan, but the radiological exposure control instructions provided to the staff should have been more thorough.

West Vincent Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Phoenixville Borough EOC

Phoenixville Borough displayed an excellent capability to protect the health and safety of its citizens during an accident at the Limerick Generating Station. Activation and staffing was timely, complete, and in accordance with approved plans. Emergency operations were efficient and leadership was good. Facilities were adequate and the volunteers were enthusiastic and interested. Communications (including backup) were excellent. Everyone demonstrated excellent capabilities and appeared well-trained.

The EOC Director displayed excellent awareness of emergency procedures in ordering route alert teams for the hearing-impaired after the sirens sounded at Site Area Emergency since he was expecting them to sound at General Emergency. Evacuation and access control was handled well; all necessary resources are available for borough use. Coordination of the transportation of mobility and hearing-impaired residents, as well as persons without transportation, was excellent. Radiological exposure control was handled adequately.

Phoenixville Borough EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Spring City Borough EOC

Initial notification of the Alert emergency status was not received via the RECALL system due in part to the fact that the EMC and some EOC staff were pre-positioned at the EOC. Once it was verified that the emergency status was at the Alert phase, activation and staffing of the EOC were accomplished in a timely manner. Double-staffing of the EOC demonstrated round-the-clock staffing capability. The individual in charge of the EOC was the Mayor, who demonstrated effective emergency management capability. The EOC facilities and communications equipment were sufficient for the scope of emergency operations. Alerting of hearing-impaired residents was not accomplished in a timely manner. Borough officials acknowledged that accurate lists of mobility and hearing-impaired persons were not available. All necessary dosimetry was available and the individuals in charge of dosimetry and KI were knowledgeable about their proper use.

Spring City Borough EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Charlestown Township EOC

The initial notification of the EMC, and his subsequent activation of the EOC and staff, were accomplished in accordance with the plan. The township has an elaborate call-down system as part of the Town Watch program. This system is used in activating the EOC staffing and in maintaining round-the-clock staffing. The EOC operations were effectively managed and the facilities were adequate to support operations. The staff worked well together and demonstrated very good esprit de corps.

Charlestown Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

East Coventry Township EOC

The East Coventry Township Emergency Operations Center (EOC) provides a large, well-equipped, room dedicated to emergency operations. The facilities are capable of supporting double-staffing, as demonstrated in the exercise. A kitchen is available for extended operations. The East Coventry EOC was activated and fully operational within one hour of receiving the Alert notification from the Chester County EOC.

The Emergency Management Coordinator (EMC) was effectively in control throughout the drill. She and her staff displayed good knowledge of most phases of the plan. The fire department ran route alerting and completed the assigned route within 25 minutes, although it was not initiated at the Site Area Emergency stage, in coordination with the sirens, as it should have been. Throughout the exercise, the East Coventry EOC personnel showed the ability to use information received and emergency plans in order to protect the public health and safety. This includes notification and aiding mobility and hearing-impaired individuals.

East Coventry Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

East Nantmeal Township EOC

The initial notification of the EMC and his subsequent activation of the EOC staff were accomplished in accordance with the plan and scenario events. The EMC handled all EOC operations effectively. The EOC and facilities were adequate to support operations. The EOC staff were forced to leave their EOC because Township Supervisors needed the space for a public meeting (not related to the exercise). A move to an alternate location was handled very smoothly, with no interruption in EOC management, emergency functions or communications.

During the Alert stage, the EOC staff contacted those residents identified as having special needs, such as for ambulances or transportation. Hearing-impaired households were also telephoned, to assure that someone was aware of the emergency. This also served to check the accuracy of the lists. After such persons were contacted and their special needs verified, EOC staff developed a plan for their evacuation. This included a map with color-coded pins (e.g., blue-needs ambulance) and individual cards with information to aid drivers in locating them, such as the best route to their homes. The implementing procedures were color-coded to the four emergency action levels, which made it easier for the emergency staff to use the procedures. The staff's thoroughness, demonstrated with a minimum of simulation, is commendable.

East Nantmeal Township EOC Inadequacies/Recommendations

None identified.

East Vincent Township EOC

EOC activation and staffing were prompt; however, full staffing, as designated in the plan, was not achieved, and capability for a second shift was not demonstrated. Staff mobilization procedures were demonstrated utilizing a written call list which contained some incorrect numbers. As the EMC has less than a year of experience in the position, elected officials exercised direction and control of the emergency operations. Checklists were available for each staff position, but the staff members, in general, were not thoroughly familiar with their duties, and implementation of some activities was not timely.

The EOC facilities were adequate, as were the communication systems (primarily UHF radio and telephones, with amateur radio backup), however, separation of the communications equipment from the operations area would reduce the ambient noise level. Township officials had a list of hearing-impaired individuals requiring notification by route alerting, but this activity was not activated at the appropriate time. There was also a list of residents with special needs and the staff demonstrated the capability to provide for those needs. There was no demonstrated capability to establish traffic control points.

The specified dosimetry and KI were available, but the Radiological Officer (RO) had not received sufficient training to provide the staff with effective radiological exposure control guidance.

East Vincent Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Owen J. Roberts School District

This was a professionally run operation. The Superintendent, two staff members, and two secretaries in support, did an excellent job and performed all tasks in accordance with the plan. Messages were well documented. All calls to the school principals, the county, and host schools were made in a timely manner. The actual movement of buses was simulated. The Governor's announcement of a "State of Disaster Emergency" was initially interpreted as being synonymous with the "General Emergency" condition. The mistake was realized 15 minutes later when the county's notification of General Emergency was received. However, protective action (evacuation) was directed and no problems resulted.

The district plan identified the need for 12 additional buses, which are to be provided by the county. The Superintendent expressed concern that the drivers for the bus contract firms from which the county plans to obtain the vehicles would be reluctant to enter the EPZ during an actual event. Previous FEMA plan reviews have identified the need for the county to effect written agreements with all identified bus companies, to provide reasonable assurance of resource availability.

Communications were generally adequate for the exercise, but problems could develop in a real event. The commercial telephone switchboard was overloaded on one occasion during the exercise, indicating that it could be seriously overloaded in a real event when parents get involved. The amateur radio support worked well and served to confirm messages received from the county.

Owen J. Roberts School District Inadequacies/Recommendations

See Summary of Inadequacies.

Phoenixville Area School District

Activation and staffing was completed in a timely manner. The staff shared responsibilities; including message taking, phoning district schools and keeping the transportation facility and host school informed of plant status and events. General knowledge of the plan and its implementation was demonstrated by the staff. The School District Superintendent maintained adequate control and direction of the staff. The status board was visible and updated promptly. District schools responded when completing (simulated) activities for each classification level through to evacuation. One school bus did travel the route to the host school. The trip to the host school took 27 minutes. The school monitored the incorrect EBS station for Chester County.

Phoenixville Area School District Inadequacies/Recommendations

See Summary of Inadequacies.

Downingtawn Area School District

The Downingtawn Area School District conducts emergency management operations from the school district office. The assistant to the Superintendent (who also has the title of Director of Special Projects) was effectively in control with assistance from the Supervisor of Maintenance. Four schools were contacted concerning plant status throughout the drill. These schools are located outside of the 10-mile EPZ and would not be evacuated. However, students attending these schools have homes inside the 10-mile EPZ and would be retained until picked-up by parents, in the event of an evacuation. Overall, the school district personnel demonstrated good knowledge of their plan and sufficient capability to implement it.

Downingtawn Area School District Inadequacies/Recommendations

None identified.

Great Valley School District

The School District Superintendent was notified promptly regarding the initial Alert status, and subsequent emergency action level changes. He, in turn, promptly notified the Charlestown Elementary School Principal of the emergency action levels and directed her to take protective actions including supervision of outdoor activities and sheltering (both simulated). He simulated notifying the other school principals. (The district has only one school directly affected by the EPZ; because it is located on the EPZ boundary, protective actions call for sheltering rather than evacuation.)

Communication equipment functioned well during the notifications. However, the Superintendent had only been instructed prior to the exercise concerning the above-mentioned activities and had not been advised that he would be expected to demonstrate other activities called for in his emergency plan, including monitoring a radio station for EBS messages or making arrangements for dealing with traffic at the school, resulting from parents attempting to pick up their children. Consequently, he did not demonstrate these activities.

Great Valley School District Inadequacies/Recommendations

See Summary of Inadequacies.

Montgomery County EOC

Activation of the county EOC was accomplished in an efficient manner at the time of the Alert. Complete staffing, as called for in the RERP, was achieved with the exception of the Transportation Officer and the Agriculture position; their responsibilities were assumed by other staff members. The staff functioned as a well-coordinated team, ably led by the EMC and his operations staff. Elected officials were not present and did not actively participate in decision making. The EOC facilities were spacious, well-equipped, and could easily support extended operations.

The commercial telephone was utilized to initially notify the municipal emergency management coordinators, with RACES serving as the primary means of communication once the EOCs became operational. A sophisticated communications network was available to all critical locations (State and risk county EOCs, EBS station, ambulance, fire, police, and public works personnel). During Site Emergency, sirens were sounded and EBS activated. This process was well-coordinated between the three risk counties, although the message from the State EOC initiating the process was awkwardly worded and caused some confusion over the purpose of activating the alert and notification (A&N) system. The A&N process was also simulated at the time of the evacuation, including the dispatch of route alert teams due to a simulated siren failure.

The protective actions of evacuation, access and traffic control were all accomplished in an efficient manner, including discussions of potential detours and procedures to keep evacuation routes clear. Consolidated municipal lists of impaired individuals are on hand at the EOC, if needed. The Radiological Officer presented a thorough briefing for all staff concerning the use of dosimetry, KI and record keeping forms.

All important information was provided to the Rumor Control Officer and the Public Information Officer (the latter individual is located at the county court house). Procedures and equipment are in place to handle all public information concerns.

Montgomery County EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Willow Grove Industrial Park - Reception Center

The reception center was located in a large parking area in the Willow Grove Industrial Park. It was staffed by fire, police, RACES and Second Alarmers (a service organization) of Upper Moreland Township. The fire and police arrived immediately upon receiving the General Emergency notification and the center was completely operational in approximately 20 minutes. Lighting was provided and signs posted directing evacuees to the proper location. The function of this reception center is to provide evacuees with a strip map directing them to the appropriate mass care center. There was adequate staffing and personnel appeared highly trained and motivated. Leadership was excellent.

Willow Grove Industrial Park - Reception Center Inadequacies/Recommendations

None identified.

Upper Moreland Middle School - Mass Care Center

This mass care center is a modern, large school located about 10 minutes from the reception center. It is completely equipped to accommodate approximately 380 evacuees. Overflow would be to an adjacent elementary school. The center was activated in approximately 40 minutes and staffed with trained and experienced personnel from the Upper Moreland Township Police, Fire, Second Alarmers (a service group), RACES and Emergency Management. The Red Cross also provided total service for the facility.

Procedures for evacuees included:

- Initial sign in
- Check for contamination
- Decontamination (showers)
- Clothing issue
- Complete registration by the Red Cross
- Feeding facilities
- Sleeping accommodations
- Rest rooms
- Medical treatment at a nursing station or transportation to a local hospital
- Vehicle decontamination, if needed

Emergency personnel appeared highly motivated. Excellent leadership was evident.

Upper Moreland Middle School - Mass Care Center Inadequacies/Recommendations

None identified.

Douglass Township EOC

All staff in attendance during the exercise were diligent and knowledgeable about their part in the RERP process. The Public Works Officer was not present during the exercise but the abundance of other attendees would furnish an informed alternate. The EMC displayed excellent leadership capabilities. The facilities contain all the necessary equipment and would afford adequate space from which to coordinate the township's emergency response. Extraneous noise proved to be a hindrance to operations, at times. Communications facilities were good; RACES, telephones and portable two-way radios were available and utilized.

The EOC contained lists of impaired residents (hearing/mobility/medical). However, this information was not tabulated by area, for ease of route alerting. In addition, the township staff reported that some of the information contained on the lists is inaccurate. The police department was well prepared to implement traffic control points and the township's equipment inventory appeared to be sufficient to maintain traffic flow under all weather conditions. Radiological exposure control was an evident strong point. The staff was well-versed on all aspects of exposure control and sufficient equipment was on-hand in the event of a radiological emergency.

Douglass Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Limerick Township EOC

The Montgomery County EOC notified the Limerick Township EOC of an Alert status that required the township EOC to be activated. Full first-shift staffing was completed within a reasonable time frame by using a written call list maintained by township personnel. Round-the-clock staffing was demonstrated through the presentation of a roster. The EMC managed the EOC operations effectively, providing written procedures to each emergency worker at the EOC and direct instructions when appropriate. The EOC resources, including backup power, communications equipment, dosimetry equipment, and KI supply were adequate to support emergency operations. The State health official authorized the use of KI by emergency workers could be simulated. Thereafter, the Radiological Officer at the EOC instructed all emergency workers about the correct dosage of KI and the frequency of its use. Also, instructions about the frequency of dosimetry readings and allowable dose levels were given.

During exercise play, the Limerick Township emergency units were notified of an actual incident that required the dispatching of firefighting equipment and personnel that were actively engaged in route alerting. The Montgomery County EOC was advised of the event and assisted by assigning needed resources to the township for exercise play. Also the county EOC notified the township EOC that one siren in the area had failed. Verification of the siren's location revealed that map references did not agree between the county's map and the township's map.

Limerick Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Lower Salford Township EOC

Activation of the EOC proceeded smoothly. The EMC was professional and thorough in carrying out start-up (and subsequent) procedures. All staff were volunteers except the EMC (police chief). Staff members worked effectively together. Appropriate maps and status board were prominently displayed. Message handling was efficient. The facility was well equipped and sufficiently comfortable.

The operating procedures (which were color coded for each emergency action level and varied for each function) and the emergency response plan were comprehensive and easy to follow. Verification of persons needing special attention was handled smoothly (there were only three in the EPZ). Throughout the exercise, a number of discussions took place among the staff on "what would have been if . . ." These discussions were useful training tools for reinforcing procedures under varying conditions. At the end of the exercise the EMC did a superb job in soliciting and discussing suggestions for improving operations from the staff.

Lower Salford Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

New Hanover Township EOC

The EOC staff was already on duty when the exercise commenced, but all can be reached on a 24-hour basis with tone alerts, vehicle two-way radios or paging devices. The EOC Coordinator and his assistant were clearly in charge and held frequent briefings to update staff on information needed in decision making. The facilities and staffing were adequate for 24-hour operations and appropriate visual aids (maps, etc.) were available and displayed. EOC staff generally performed their functions effectively, including maintaining communication logs, notifications to special facilities on a timely basis, and dispatching of route alerting drivers for potentially defective sirens and the hearing-impaired.

Although mid-range dosimeters and record keeping forms were available, their use was simulated and only high-range dosimeters and TLDs were provided to route alerters. KI was properly simulated and instructions concerning its use, including authorization as to when to take it were known, as was the location for decontamination. There were some difficulties in RACES equipment concerning outgoing messages. Call-down lists were up-to-date and used effectively, as were copies of procedures and plans. One route alerting team required an hour to complete its run; the EMC is planning to add an extra vehicle and driver to shorten the time required for this sector.

New Hanover Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Upper Frederick Township EOC

Initial notification of the EMC was delayed; Township Supervisors began to set up the EOC in his place. Some confusion concerning procedures, and inability to locate keys to the filing cabinet containing EOC material and telephones, reduced initial operating effectiveness. The unfamiliarity of Township Supervisors resulted in referencing, and initial use of, out dated EOC plan and procedures. The EMC arrived at 1808 and effectively corrected procedural difficulties. After the EMC's arrival, the EOC performed very well, with participants demonstrating knowledge and thoroughness in their assignments, which were accomplished in a professional manner. One possible problem was a high level of noise in the EOC, occasionally making communications difficult. Communications were generally well handled, although the county fire radio frequency was often significantly faster than the RACES system. The telephones were used to verify information received by the county, request appropriate assistance from the county, and contact local institutions and personnel.

Transportation requirements were relayed to the county in a timely manner, including changes to the list of those needing assistance and the hearing-impaired. Good discussions between the EOC staff occurred concerning the need to provide additional transportation and manpower assistance. Confusion was evident over the proper use of KI.

Upper Frederick Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Upper Pottsgrove Township EOC

Activation and staffing was completed in an efficient and professional manner with the following exceptions: the Emergency Management Coordinator stated he did not receive the initiating call directly from the Montgomery County EOC. He was officially notified by the township EOC staff who were already in place and had received notification via the RACES personnel who also were already set up. The EOC staff conducted themselves in a very professional manner and worked extremely well as a team. Facilities were adequate to support the staff in responding to a radiological emergency. Although the telephones in place were identified as the primary means of communication between the county and township EOCs, the only method of communication used to receive instructions or status reports was the RACES system. This did not lessen the effective operation of the township EOC since the need to communicate with the county EOC was minimal.

The township EOC did not play a role in public alerting even though there is one hearing-impaired person in the township. In addition, the township EOC staff did not monitor the EBS message, as called for in their plan. It should be noted, however, that procedures were established in the township EOC to conduct public alerting, if needed, and sufficient personnel were available for this task.

Evacuation and traffic control was effectively managed. The transportation and police officials in the EOC were very well prepared for assisting individuals who need transportation, including the mobility-impaired.

Radiological exposure control was the best ever observed by the federal observer. Required supplies were on hand, properly accounted for and emergency workers clearly understood how to use the equipment.

Upper Pottsgrove Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Upper Providence Township EOC

The basic procedures for activation and staffing the Upper Providence Township EOC were accomplished in accordance with the plan. The EOC was fully staffed and of particular note the three Township Supervisors all took an active interest in the exercise play.

The Upper Providence Township EMC was effectively in charge and handled all aspects of the EOC operation with a strong degree of professionalism. The EMC conducted periodic briefings and kept the EOC staff actively involved in the decision making process.

The EOC was well equipped with proper display boards, maps, communications equipment, backup power, land lines, radio links, furniture, space and security. The basic communications system consisted of land lines with a two-way radio backup system and RACES; the communications system worked well.

Overall public alerting consisted of siren sounding. The Upper Providence Township EOC, however, did simulate route alerting for hearing-impaired individuals.

Traffic control points were activated and the EOC staff discussed the implication that bad weather would have on keeping the evacuation routes clear.

Dosimetry equipment was available in adequate supply. Several of the EOC staff demonstrated how to use the dosimetry along with an explanation of decontamination procedures. The EOC was also equipped with KI.

Upper Providence Township EOC Inadequacies/Recommendations

None identified.

Upper Salford Township EOC

The initial notification to the EMC from the county and his subsequent activation of the EOC and staff were accomplished in accordance with the response plan. The EMC was feeling ill at the time of activation; however, the Vice Chairman of the Board of Supervisors effectively took charge of the situation. He held periodic briefings for all staff members. The facilities were adequate to support operations. There was sufficient furniture, space, lighting, telephones and backup power available. An up-to-date status board was maintained along with the appropriate maps.

The EOC had adequate communications, including commercial telephone, a two-way radio system and a RACES operator. The township took the necessary measures to alert hearing-impaired individuals at the appropriate times. The EMC stated that activation of traffic control points was a county responsibility; however, this EOC had appropriate resources available to keep evacuation routes clear. Arrangements were made for transportation of persons with special needs/requirements along with mobility-impaired individuals. This information was available in written procedures.

The appropriate dosimetry was distributed as called for in their response plan. All personnel within the EOC were instructed in the proper use of this dosimetry. The Radiological Officer was aware of decontamination procedures in addition to what protective actions were necessary for personnel within the EOC to protect themselves against the plume. Exceptional performance should be noted in the area of radiological exposure control.

Upper Salford Township EOC Inadequacies/Recommendations

None identified.

West Pottsgrove Township EOC

The EOC was rapidly staffed with all primary functions manned and secondary staffing accomplished with reasonable rapidity. The EMC was in charge but consulted with staff during decision making situations. Facilities are quite adequate for this operations and security efforts are outstanding. Communications to the EOC were entirely by RACES from the county EOC. Attempts to contact the county EOC by telephone were blocked by busy lines. Public alerting for hearing-impaired and provisions for evacuating handicapped and elderly were especially well planned and executed. Knowledgeable and effective control was evident in provision and use of dosimetry and KI.

West Pottsgrove Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Pottstown Borough EOC

Activation and staffing of Pottstown Borough was rapidly accomplished since most EOC representatives are full-time employees at the Borough Hall. Twenty-four hour staffing was not demonstrated for two EOC positions. The EMC effectively managed EOC operations. Security to the EOC was excellently controlled, although discussion was held as to possible future use of badges by emergency operations personnel. The Borough Hall proved adequate as the response facility and communication capabilities were sufficient. Consideration should be given to relocate the posted borough map with designated traffic control points to the EMC's office. The RECALL system was not used as a means of notification as identified in the plan; notification was made instead by commercial telephone and radio communications. The borough police department did not receive complete written notice of information by way of the "Uniscope" communication system, a local hard-copy communications device.

Public alerting and instruction activities were accomplished in accordance with the plan; all sectors were actually run in order to determine times required to alert the areas (all were accomplished under 45 minutes). The manning of traffic control points by fire/police personnel was simulated. Training reportedly has yet to be provided to individuals responsible for this task. A recent poll indicated a total of special needs individuals widely different from those totals indicated in the plan. Proper and adequate numbers of dosimetry equipment were available; the RADEF Officer provided a detailed briefing in appropriate dosimetry use to all EOC staff. Total activity within the EOC was very slow throughout the exercise.

Pottstown Borough EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Collegetown Borough EOC

The county EOC staff reportedly could not immediately contact the borough EMC at her work location to notify this individual of the Alert emergency classification at Limerick. Initial notification of the Alert was therefore forwarded to the Deputy EMC who initiated contact with EOC staff and prepared the EOC for emergency operations, i.e., set up maps, distributed copies of plans, distributed nameplates, etc. However, the telephone contact list had reportedly been removed from the EOC for updating and a 1983 telephone directory was used instead to determine telephone numbers. The management of emergency operations was satisfactorily demonstrated and the facilities were generally adequate to support response activities, although a wall clock needs to be rehung. Communication capabilities were adequate, with RACES used as the primary means of receiving incoming information, while three telephones were available and used almost exclusively for transmitting outgoing information. Messages were promptly logged and transferred to the EMC for appropriate response.

Route alerting activities were adequately demonstrated following notification of the siren/EBS activation from the Montgomery County EOC at 1940. These activities included consideration of the redundant route alert tasks which would be initiated following siren failure as well as door-to-door notification to hearing-impaired individuals (simulated).

A radio was available in the EOC and was monitored, although no EBS message was heard aired. Activation of traffic control points was promptly ordered by the EOC staff in accordance with the borough plan. Lists of mobility and hearing-impaired individuals were available, and telephone numbers were updated, if necessary, as contact calls were completed.

Radiological exposure control activities were exercised in a professional manner, with prescribed forms completed, dosimeters zeroed and distributed to emergency workers, and instructions provided for use. Adequate numbers of equipment are reportedly available at the EOC. Five staff members have been fully trained in radiological exposure control activities.

Collegetown Borough EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Green Lane Borough/Marlborough Township EOC

EOC activation and staff mobilization was efficiently completed in accordance with procedures identified in the plan. EOC staff were adequately trained, with new personnel being trained to fill various positions during the exercise. The newly positioned EMC effectively managed emergency response operations; the plan should be revised to indicate this change in designated individual staffing. Message handling was extremely efficient. Elected officials were actively involved in decision making.

In general, the EOC provided ample furniture and telephones to support response operations; however, one large room was used to house all the EOC positions which resulted in significant noise in the operating area. Maps were available indicating the affected plume areas and access control points, but these maps were not posted. Communications systems capabilities were effectively demonstrated, with commercial telephone providing the primary communications means to local organizations, and police, fire and portable radio systems used as backup.

Route alerting was effectively simulated at 1948 following the activation of the sirens. Traffic control activities and concerns were adequately demonstrated; special needs individuals, i.e., hearing and mobility-impaired persons, have been identified and procedures have been set in place to assist this population segment. Dosimetry was available and EOC staff were trained in proper radiological exposure control procedures.

Green Lane Borough/Marlborough Township EOC Inadequancies/Recommendations

See Summary of Inadequacies.

Royersford Borough EOC

Notification and staffing of the EOC was somewhat delayed at the Royersford Borough EOC due to an apparent malfunction of the tone-alert radio system to be used to alert staff. Staffing of the EOC was effectively complete by 1720, although two staff members (Public Works and Police) were not present, elected officials were also not represented, and the RACES representatives were pre-positioned. Round-the-clock staffing was adequately demonstrated.

Overall emergency operations management was effectively organized; the EMC provided repeated explanations and guidance to backup staff, present to profit from an active staff training opportunity. The borough EOC is well equipped and all necessary plans and paperwork were current and in place. Communication capability was primarily demonstrated by way of commercial telephone and RACES. The borough deployed and timed four route alert teams following the siren activation, all completing their routes within 41 minutes. Activation of the traffic control posts were manned at the appropriate time. Information regarding hearing and mobility-impaired persons was available in written form, and transportation arrangements were made for these persons.

Adequate numbers of mid and high-range dosimeters, KI and TLDs are reportedly available for use by emergency workers. Emergency response personnel were provided dosimeters and KI and instructed in the appropriate use of the equipment.

The initial notification to the borough emergency management officials was not accomplished according to the borough plan. The EMC had been apprised by county officials that the fire band, tone alert radios would be activated at the start of the drill to alert participants. All of the EOC staff and other drill participants have these tone alert radios on their person and the EMC advised all participants to respond to the radio alert at the start of the drill. The EMC also directed that the borough police not notify the EOC staff after they received initial telephone alert, since it would not be necessary because of the tone radio alert. However, only some of the tone alert fire radios were activated by the county at the start of the exercise and therefore some EOC staff, including the EMC, did not arrive at the EOC until 1705, even though the EMC was at his place of employment just across the street.

Royersford Borough EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Schwenksville Borough EOC

The initial notification to the EMC, and his subsequent activation of the EOC and mobilization of staff were accomplished in accordance with the plan. Full first shift staffing was demonstrated, although two staff members did not participate throughout the entire exercise. All staff displayed adequate training and knowledge and at all times sufficient staff were available to perform the actions specified in the plan. EOC activities were managed effectively. EOC staff periodically discussed the emergency situation and how to proceed in the event further actions were required; written checklists were also available. Message handling was efficient and prompt and the EOC facilities and communications were adequate. Public alerting was begun promptly with a pre-arranged alternative to the route alerting as specified in the plan, using 3 vehicles instead of 2. Dosimetry equipment was sufficient and there was an individual aware of proper usage and procedures at the EOC.

A portion of the traffic control requirements were reportedly manned (unobserved); however, according to EOC staff, the police force manpower capabilities are not adequate to completely man the two traffic control points and would be manned by fire/police staff. Special needs of hearing and mobility-impaired were identified in writing at the EOC.

Schwenksville Borough EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Trappe Borough EOC

The activation and staffing of the Trappe Borough EOC was well coordinated, with staffing completed by 1715. All appropriate organizations were present, and round-the-clock staffing was demonstrated by way of a roster. The EMC was effectively in charge of EOC operations and he repeatedly briefed the staff on the current situation and referred to the staff when appropriate. Message handling was efficient, and written checklists were available for staff use. The facilities were more than adequate to support emergency operations, with appropriate maps and forms available. The EOC facility had adequate communications equipment, with commercial telephone lines, a two-way radio system and a RACES operator available.

The borough reportedly had appropriate resources to keep evacuation routes clear, with the capability to augment personnel and vehicles if needed. Written lists of special needs individuals were on hand.

Dosimetry equipment was on hand for use in the exercise and instructions were given as to the proper use of the equipment.

Trappe Borough EOC Inadequacies/Recommendations

None identified.

Lower Frederick Township EOC

The initial notification of the Alert occurred at 1635 over the RACES radio network. Telephone notification was relayed to the EMC at 1700. The Assistant EMC opened the EOC, and subsequent activation of the EOC was accomplished in accordance with the plan. Full first-shift staffing was accomplished and 24-hour snift capabilities were demonstrated. The EMC and his staff managed the EOC operations effectively. The plume EPZ, relocation center, and traffic control point maps were not available as they had reportedly been removed without the EMC's knowledge within the last three days. The EOC functioned effectively without them, and the evacuation route maps were available. The EOC facilities, including the communication equipment, were adequate to support operations. Message reproduction and distribution activities within the EOC were not necessary, as verbal briefings to staff provided adequate informational updates. Traffic control was effectively demonstrated at the appropriate time. The EOC staff had written lists of special needs individuals, their particular requirements and their locations. Although the one school in the area was not in session, the EMC nonetheless dispatched an officer to notify persons at that location.

The siren and EBS activation at approximately 1942 caused some confusion with EOC staff as to whether or not this indicated an escalation to a General Emergency. Route alerting for the handicapped was demonstrated at 2017 following notification of the actual General Emergency and the Evacuation order.

Radiological exposure control activities were appropriately enacted with adequate numbers of dosimetry, TLDS and KI available for emergency worker use.

Lower Frederick Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Lower Pottsgrove Township EOC

The initial activation of the EOC was completed with some difficulty, as there was some problem in contacting EOC staff, and neither the primary nor backup Medical Officers were available. Also, the RACES representative arrived at the EOC prematurely. The EMC completed all notification calls, and though many were simulated, the EMC should consider assigning additional staff to assist with this task.

The EMC was effectively in charge of emergency operations and held periodic briefings to update staff. The facility was adequate; personnel present were easily accommodated. The facility could not support extended operations, but the EOC staff could rotate shifts and return to their homes during off-hours. No maps (plume EPZ, evacuation routes, etc.) were posted. Communication between the local EOC and county EOC was well demonstrated, although internal message handling did not consistently include all appropriate EOC staff.

There was no demonstration of public alerting and instruction. The activation of traffic control points was simulated. The EOC staff was aware of the location of mobility and hearing-impaired individuals. Radiological exposure control actions were effectively demonstrated. There were sufficient numbers of dosimeters, KI and TLDs; instruction on their appropriate use was provided by the Fire Officer, and instructions in the use and side-effects of KI was provided by the EMC.

Lower Pottsgrove Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Lower Providence Township EOC

The EMC and practically the entire key EOC staff were already assembled at the EOC when the Alert notification was received at 1640; however, according to the EMC, most EOC staff persons are full-time township employees and therefore on-call at all times. The police dispatcher is manned 24-hours a day, but due to pre-assembly of staff, notification procedures and subsequent mobilization procedures were not observed. Staffing at the EOC was incomplete, as the Public Works position remained unmanned throughout the exercise.

The requirements of the RERP were efficiently handled by the EMC and his staff. All phases of the RERP plan were managed systematically and effectively without delay. Particular attention was directed to the requirements of the non-ambulatory and the hearing-impaired populations. The EOC staff had recently updated both of the above lists and had documented a significant reduction in the total persons listed under each category. The EOC facilities and communication capabilities were adequate and all instructions received from the county were promptly and correctly followed.

The township has assembled a private citizen volunteer group which would relieve the police and fire representatives from some duties, i.e., route alerting, to allow these organizations to remain available to respond to other problems which may arise. This volunteer citizen group did participate in alerting the non-ambulatory and hearing-impaired and contacted all of the above groups within 25 minutes of the Evacuation notice. However, notification to these groups should have been initiated with the activation of the Alert and Notification Systems at 1940, according to the township plan. Activities regarding backup route alerting for siren failures were simulated. Evacuation and access control activities were effectively coordinated. Adequate numbers of dosimetry equipment were available at the EOC, and individuals were knowledgeable considering its use.

A previous problem experienced by EOC staff in prior exercises was the positioning of the RACES operator in the same room as the EMC and his staff which resulted in a subsequent noise problem. For this exercise the RACES representative was located in a separate room, thereby better controlling the noise within the EOC.

Lower Providence Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Skippack Township EOC

Activation and staffing of the EOC was accomplished in accordance with the plan. The EOC was fully staffed and 24-hour staffing was adequately demonstrated by roster or double-staffing, with several second-shift staff in attendance so that they could gain exercise experience. The EMC managed the EOC effectively, but seemed to take on much of the responsibilities that could have been shared by other staff. For example, the EMC made all calls to council members and institutions, even though extra phones were available and several staff members were idle. The EOC and facilities, including the communications equipment, were adequate to support operations, although noise was often excessive due to RACES, staff phones, and other radios all being located in one open area of the EOC. The EOC's responsibilities in public alerting (simulated) were effectively handled and followed procedures laid out in the plan. Updated lists are maintained of hearing-impaired citizens that would need to be alerted via route alerting; lists are also maintained for ambulance-dependent and transportation-dependent evacuees.

Evacuation and traffic control (as required) could reportedly be handled by local resources under all conditions but heavy snow. Adequate supplies of dosimetry equipment/KI are maintained at the EOC and issuance of this equipment was simulated; EOC staff however, were not aware of how often to read dosimeters or the maximum dose allowed without authorization.

Skippack Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Perkiomen Township EOC

The initial notification of the EMC, subsequent notification of the staff and activation of the EOC were accomplished in a timely manner. The EMC was unable to verify his notification with the county EOC due to busy telephone lines at the county EOC. Emergency operations were very well managed by the EMC; however, no periodic briefings to update the staff on the situation were held. The EOC was notified of changes in the emergency classification level and took appropriate actions to coordinate emergency activities. Facilities were excellent and could support extended emergency operations; however, the status board was not kept up-to-date on significant events until two hours after the start of the exercise (after the declaration of Site Area Emergency).

Communications with the county are by emergency telephone, RACES and CB radio. The township could not get through to the county EOC on the emergency telephone due to a busy telephone line at the county. However, communications with the county via RACES was very successful. Public alerting and instruction were well demonstrated by teams who went to the homes of handicapped and hearing-impaired residents after the sirens sounded and again after the order to evacuate was received, although the township was unclear as to exactly what to do for the hearing-impaired.

While the county is responsible for most aspects of evacuation and access control, the township demonstrated its capabilities by identifying persons with special evacuation problems and requesting county assistance for their transport.

Procedures for emergency worker radiological exposure control were excellent, although there was one area which could be improved. The maximum dose allowed without authorization was incorrectly identified as 40 rem (instead of 25 rem). Dosimeters and KI were issued to everyone at the EOC (which is in the 10-mile EPZ) with appropriate instructions. At the proper time, workers were directed to take KI.

Perkiomen Township EOC Inadequacies/Recommendations

See Summary of Inadequacies.

Pottstown School District

The overall performance of response activities at the Pottstown School District were well coordinated. Communications between the Pottstown School District Administration Building and the at-risk schools was handled by the School Superintendent and his Business Administrator. The division of responsibility was well established, with the School Superintendent interfacing primarily with the county EOC and public school principals, and the Business Administrator interfacing with transportation facilities, and private and parochial school principals. At each of the emergency notification levels, the School Superintendent calmly carried out the designated activities as specified in the RERP. Some confusion arose between the meaning of the Governor's Proclamation of a State of Disaster Emergency and the General Emergency classification level, but this question was quickly clarified.

The facilities at the District Administration Building were adequate to support the emergency response activities. Commercial telephone, with RACES as backup, was used to communicate with appropriate organizations. Buses were promptly ordered, and transportation arrangements were made for special education students.

Pottstown School District Inadequacies/Recommendations

None identified.

Methacton School District

Initial notification of the RACES operator at the Methacton School District Administration Building, his notification of the District Superintendent, and the Superintendent's notification to the principals of all schools, were accomplished in a timely manner. The Superintendent was knowledgeable, in charge, and was in constant contact with the principals, keeping them apprised of the situation. Facilities at the District Administration Building were adequate with sufficient telephones.

The Superintendent successfully called each school principal several times throughout the exercise, on their private telephones; however, there is no backup system for contacting the schools. The school district did not have a role in public alerting and instruction, and did not monitor the EBS station.

While the Superintendent advised the county of a shortage in buses and bus drivers at 0918, he had not received a response as of 1010 (when the federal observer left to go to the school being evacuated). The demonstration of protective actions was excellent; one school successfully demonstrated sheltering, and evacuation was demonstrated by a bus driver actually driving a school bus to the host school.

Methacton School District Inadequacies/Recommendations

See Summary of Inadequacies.

Perkiomen Valley School District

The school district staff consisted of the Superintendent and the Transportation Planner (Director of Operations). Both are full-time employees of the school district. Generally, the Superintendent was effectively in charge, but seemed uncertain as to when the fire drill (as called for in the exercise) should have been conducted; this confusion stemmed mainly from the fact that the school district was not notified to evacuate, as the RACES operator never arrived. Principals were instructed to follow the district plan without receiving any additional comments by the Superintendent. Facilities at the district office, including telephones, were, in general, adequate. The Superintendent made and received all calls himself, rather than obtaining assistance from the secretary. Little communication was completed between the Superintendent and the Director of Operations. Thus, the Superintendent could not be certain that all responsibilities delegated to the Director of Operations were accomplished. Communication between the district office and county was significantly impaired as a RACES operator was not present. District bus needs are sufficiently met and sheltering/evacuation procedures (as set forth in the plan) are generally well established, but due to communications problems, these procedures were not totally effective.

Perkiomen Valley School District Inadequacies/Recommendations

See Summary of Inadequacies.

Souderton Area School District

The Superintendent managed the school district in accordance with the plan and in an excellent manner. During the Alert, phone calls were completed to the affected schools on the special phone line; the line to one school was found to be dead and the conventional phone line to that school was used. The Alert and Site Area Emergency calls were received by phone, and the General Emergency was received by RACES. The Salford Elementary School in the Souderton Area School District participated in a simulated evacuation; the school was evacuated at 1028 and a bus arrived at 1038 which was loaded with one classroom of students. The operation went, in general, very smoothly and provisions for a disabled person in the school were considered.

Souderton Area School District Inadequacies/Recommendations

None identified.

Spring-Ford Area School District

The administration for the Spring-Ford Area School District handled the staffing, communications and management very effectively during the exercise. Although the Superintendent was not in the office, the District Business Manager, acting as EMC, was competent and knowledgeable about all aspects of the plan and no time was lost in communicating status reports and/or directives to the participating schools. Attendance was confirmed and, through bus company contact, the county EOC was requested to send more buses than referenced in the plan (due to a shortfall of qualified drivers, not buses). The school evacuation was handled smoothly and the county supplied bus arrived in a timely manner, with map and instructions to the host location, after driving from the staging area. The RACES operator functioned well, maintaining contact with the county and monitoring the frequency constantly.

Spring-Ford Area School District Inadequacies/Recommendations

None identified.

Pottsgrove School District

The Pottsgrove School District received notification from the Montgomery County EOC concerning the Alert. The Director of Administration, the designated backup to the Superintendent, was effectively in charge. The task of further notifications to schools, including non-profit, within the district was handled by office personnel at the district. All other emergency operations personnel were contacted by the Director of Administration. District facilities, including RACES capabilities, were adequate to support emergency operations. In order to address the one-lift policy that is in effect, the Director asked for, and received, additional transportation resources. All activities were carried out in an orderly, professional manner.

Pottsgrove School District Inadequacies/Recommendations

None identified.

Bucks County EOC

Information regarding the activation, staffing and operation of the Bucks County EOC was obtained from the Emergency Management Coordinator (EMC) at the EOC prior to the Site Emergency. The Alert was received at 1635, whereupon activation of the EOC was initiated. After the Site Emergency notification the EOC was to be manned by a skeleton staff (this activity was not observed since the observer relocated to the reception and mass care centers). The existing staff at the EOC prior to the Site Emergency displayed an adequate knowledge of the operations of the EOC and RADEF capability. The communications at this support county EOC are adequate, with telephone, teletype, police radio and RACES available.

No radiological monitoring teams were at the mass care center since PEMA had reportedly given directions not to have teams at the center. The RADEF officer at the county EOC demonstrated the availability of stored monitoring kits, dosimeters, TLDs and KI at the EOC in sufficient numbers. The RADEF officer was well trained, but did indicate some difficulty in financially supporting the training of monitors for the county within the police and fire departments (as overtime was requested for this training).

County Line Plaza - Reception Center

Upon notification of Site Emergency, the Bucks County EMC notified the Sheriff's Office and RACES to set up the reception center at the County Line Plaza (shopping mall). The reception center was in operation within 30 minutes and maps were available providing directions to the mass care center. The individuals present seemed adequate to minimally staff the facility and were familiar with their emergency functions. Additional personnel would be required for a large number of evacuees. Traffic control was provided by the Sheriff's Department officers with three police cars.

Pennridge Upper High School - Mass Care Center

The Pennridge Upper High School was used as the Bucks County mass care center. This facility provides excellent accommodations to support mass care activities and additional buildings are available nearby should shelter capacity be exceeded. The Red Cross shelter manager arrived at the facility at 1955. Eight unsolicited, unplanned for "evacuees" were already within the building at that time, indicating that they were "sick" and "contaminated," and requested that they be monitored and decontaminated. The shelter manager placed several calls to the local Red Cross Chapter to determine appropriate means for responding to the "evacuees." A table was set up at 2040 at the center entrance in order to register these individuals; registration cards were available, but not used for this activity.

No monitoring teams were available, and therefore no activities were demonstrated regarding monitoring and decontamination. Congregate care would be provided at this location, with sufficient supplies reportedly available upon request to meet the needs of the evacuees. A nursing station was not established, although Red Cross personnel indicated that their chapter had sufficient nurses.

Communication capabilities were provided by commercial telephone and RACES. The RACES representative provided excellent coverage to the Bucks County EOC.

Bucks County Inadequacies/Recommendations

See Summary of Inadequacies.

Lehigh County EOC

Upon notification of the Alert status at Limerick, the Lehigh County EMC advised his staff that they may be needed if the situation at the plant continued to degrade. Because of this informational message, the staff notification went smoothly when Site Emergency was declared. Complete staffing of all positions was accomplished by 1926. The actions of the Lehigh County emergency staff revealed a dedicated group who know their plan, understand how to carry it out, and are enthusiastic about their jobs. A good communication network, consisting of commercial telephone, teletype, and radio links (including RACES), was established with all critical locations - PEMA (Eastern Area), risk county (Montgomery), EBS, hospitals, ambulance services, and the reception/mass care center at Emmaus High School.

Individuals assigned to the radiological exposure control area were well-trained and competent personnel who were thoroughly familiar with their emergency plan. Radiological exposure control equipment was available for use, in accordance with the plan.

Emmaus High School Reception/Mass Care Center

The reception and monitoring phases at this location proceeded smoothly. Traffic check points and large signs directed evacuees to the well-lighted reception parking lot. Here they were met by local workers and given strip maps to their assigned mass care locations. From this point they went to the adjacent high school and were processed through the decontamination area. This process followed the plan in every detail. Evacuees were monitored as per plan instructions. Those found to be contaminated were separated and processed through decontamination procedures after which they were rechecked and, if clean, rejoined the group.

Following monitoring and/or decontamination the evacuees proceeded to the Red Cross operated registration and mass care facility. Here too, planning, training and preparation were evident. There were adequate staff on hand to deal with about 250 evacuees. As this facility has a capacity of 750, additional staff would be called up after the operation began. The evacuees were registered using the standard Red Cross Registration Form. Following this, evacuees were checked for medical problems, clothing needs or other concerns and were then assigned sleeping space. At this center there was an aid station with three RNs assigned. There were also facilities for those with special medical problems.

Following the use of stockpiled Red Cross food supplied in the early stages, additional food and equipment would be brought to the facility for use, as required.

This facility carried out all the functions called for in the emergency plan in a well-planned and professional manner. There was sufficient staff with experience on hand to deal with unexpected problems that might arise.

Lehigh County Inadequacies/Recommendations

None identified.

EXPLANATION OF INADEQUACIES

Areas Requiring Corrective Action - Demonstrated and observed inadequacies of State and local government performance, and although their correction is required during the next scheduled biennial exercise, they are not considered, by themselves, to adversely impact public health and safety.

Areas Recommended for Improvement - Problem areas observed during an exercise that are not considered to adversely impact public health and safety. While not required, correction of these would enhance an organization's level of emergency preparedness.

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>State EOC</u>				
1. When sirens were sounded and EBS activated at Site Emergency, the initiating message from the State EOC was awkwardly phrased. The counties were not informed about the specific purpose for sounding the sirens, information that would be a critical part of the EBS broadcast to the public. A return call to the State from Montgomery and Berks Counties simply instructed them to have the agreed-upon EBS test message broadcast. Appropriate individuals should investigate this breakdown in communications and institute the proper remedial actions.	E.5.			
<u>Agricultural Sampling Team</u>				
2. Team members expressed concern about their proficiency in utilizing appropriate dosimetry equipment during an actual radiological emergency. The simulated issuance of dosimetry equipment to team members does not afford them the opportunity to become proficient in reading the equipment and posting of the simulated readings at specified intervals on the Dosimetry-KI Report Form. It is recommended that during future exercises, team members be actually issued dosimetry in order to provide a more complete learning and training experience.	K.3.a., K.3.b.			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>Berks County EOC</u>				
3. Initial notification from Berks County did not proceed on schedule in Colebrookdale Township, Amity Township and Washington Township. The reason for the delays in notification appears to be that the Emergency Management Coordinators at these municipalities were not at their homes or offices when the county EOC staff were trying to notify them of the Alert. Berks County and the municipal Emergency Management Coordinators should discuss this problem to ensure that all parties are aware of the specific procedures to be used for notification of an incident, either day or night.	E.1.			
4. The Transportation Officer did not arrive at the county EOC until 1930. Every attempt should be made to ensure that critical staff members are present early in an accident.	E.2.			
5. Several municipalities (Amity and Washington Townships) and Berks County could not receive the EBS station. The County Coordinator has arranged for other radio stations to monitor WHUM and rebroadcast messages during an actual emergency.	E.5.			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<p>The problem with reception occurred during the last exercise. Since important information on protective actions for the public and instructions to farmers is broadcast over the EBS station, this element needs to be adequately demonstrated at the next full scale exercise.</p>				
<p>6. Delivery of the radiological exposure control equipment was simulated during this exercise. This was not in accordance with the procedures that had been agreed to at the exercise planning meeting, wherein at least a sample dosimetry kit would be available at all jurisdictions. In order to fully evaluate the municipal capabilities in the area of radiological exposure control, the county needs to actually deliver the kits, or pre-position the kits, to each jurisdiction for the next exercise.</p>	K.3.a.			
<p><u>Oley Valley High School - Reception Center</u></p>				
<p>7. This reception center was not activated as called for in the scenario package. At the next exercise all critical activities, such as reception centers, should demonstrate their capabilities as part of the coordinated response process.</p>	N.1.b.			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
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Boyertown Borough EOC

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| <p>8. There was confusion over the number of buses needed for residents of Boyertown without transportation. The number requested and the number indicated in the plan as needed were different. This clearly needs to be clarified. Further, while the county was requested to send buses, it was not clear that a specific method had been determined regarding how to get these people without cars to the buses. This should be added to the plan.</p> | <p>J.10.d.,
J.10.g.</p> | | | |
| <p>9. The EMC believes that the notification regarding an Alert, etc. from Berks County would be through the phone lines to the Boyertown EOC. He thought that he would be informed by his Communications Officer (a communications person is in the Borough Hall on a 24-hour basis) of the call. However, the Berks County plan indicates the county will contact the EMC directly at home or at the office. If notification during non-business hours will continue to be routed through the Borough Hall there may be a problem as the phone line from the Berks County EOC is not in the communications room; it may be difficult for the borough staff to hear the phone ring. This needs to be clarified between the two bodies.</p> | <p>E.1.</p> | | | |

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
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Amity Township EOC

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|--|--------|--|--|--|
| <p>10. Because the township EMC is frequently not immediately available by telephone but does carry with him at all times a radio pager, he reportedly has asked the county to initially alert Amity Township via the county radio dispatcher. The Township Supervisors support this request. In this exercise the county did not utilize this revised approach, resulting in a protracted delay in receiving the initial Alert. Had the emergency been real, the first indication the township would have had was the arrival at about 1730 of the RACES team dispatched by the county, followed at 1737 by the Police Chief being advised of the Alert by the county dispatcher. Negotiated resolution of the best method to be employed in alerting Amity Township, agreeable to both parties, is needed.</p> | E.1 | | | |
| <p>11. Township EOC staff officers found that telephone numbers in their SOPs and the Amity Township copy of the county plan listed for their counterparts in the county EOC had been changed. This caused delay and some irritation in seeking guidance and</p> | F.1.b. | | | |

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<p>resolving exercise problems. Instances noted by the federal observer were medical, agriculture, and transportation. Smoother emergency operations would be fostered by immediate notification of other EOCs normally interfaced of new or changed telephone numbers.</p>				
<p><u>Colebrookdale Township EOC</u></p>				
12.		In order to fully demonstrate activation of the EOC, staff participants should not be pre-positioned in future exercises.	E.2.	
13.		Notification of the EMC did not take place as called for in the plan. In future exercises notification of the township should be accomplished in accordance with established procedures.	E.1.	
<p><u>Douglass Township EOC</u></p>				
14.		Procedures have not been developed for providing additional transportation staff assistants to guide the drivers of vehicles sent by the county to augment local resources for evacuating individuals requiring transportation assistance. It would be difficult for drivers not familiar with the area to find the scattered locations, particularly at night. The township staff feels these procedures are warranted. They should be implemented as soon as possible.	J.10.d. J.10.g.	

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
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Washington Township EOC

15. The EOC staff notification list was not up-to-date and the EMC found that telephone numbers for two staff members were incorrect. The correct numbers were eventually obtained from other members of the EOC staff. If not already accomplished, the revised telephone numbers should be incorporated into the RERP and Implementing Procedures.

E.2.

16. The PEMA observer was very active in the EOC operation at this site. The township plan does not reflect inclusion of this position in its organization, the municipal RERP should be revised to include the designated PEMA observer within the organizational chart; otherwise the PEMA observer should act solely as an observer at future exercises, as training of the staff should have been conducted prior to the exercise.

A.2.c.

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>Chester County EOC</u>				
<p>17. In accordance with the plan, the RECALL system was the primary means for performing the initial notification of the municipal EMCs. However, three municipalities (Schuylkill Township, Spring City Borough, and West Vincent Township) received the initial notification by a secondary means. While several of these instances appear to be due to pre-positioning of the EMCs at their EOCs, there is some indication that the RECALL system was not properly programmed. It is recommended that county officials investigate to determine if more accurate information for these EMCs can be programmed into the system.</p>	E.1.			
<p>18. Amateur radio operators (RACES/ARES) were dispatched by Chester County to the municipal EOCs, to provide a secondary communications capability. The operators never arrived at South Coventry Township, West Pikeland Township and West Vincent Township, and were late at Warwick Township. County officials, in conjunction with their respective amateur radio organizations, should review the assignment procedures to ensure that operators are dispatched to, and are provided accurate directions to, all municipal EOCs.</p>	F.1.a.			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<p>19. The report from Spring City Borough indicates that the lists of mobility-impaired and hearing-impaired people contain some inaccuracies as to the municipality in which some are listed as residing. The problem apparently results from the lists being sorted according to the residents' zip codes. As the postal zones do not correspond to municipal boundaries, some special-needs residents are not on the correct community list. County officials, in coordination with the municipalities, should ensure that accurate lists of hearing-impaired residents are compiled.</p>	J.10.d.			
<u>Kennett High School - Mass Care Center</u>				
<p>20. Objective 16 called for the demonstration of the operation of one reception center and one mass care center in each of the support counties. This was not accomplished in a successful manner in this case. Mass care operations in Chester County need to be demonstrated at the next exercise, with simulation kept to a minimum.</p>	J.12			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
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East Pikeland Township EOC

21. The manning of traffic control points (TCPs) was simulated. According to the police chief, a recent change in State law resulted in the abolishment of the township's auxiliary police force, which were to perform this duty. The chief reported that his nine member force, augmented by the fire police, would be adequate to cover the five TCPs. This responsibility should be reassigned and the plan should be changed accordingly.

A.2.a.

North Coventry Township

22. North Coventry Township officials failed to dispatch route alert teams to notify the hearing-impaired, as required by the plan. Township officials should review the plan procedures for performing this function; the capability to perform this activity should be demonstrated in future exercises.

E.6.

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
23. The North Coventry Township EOC staff were not aware that the plans provide for the activation of the primary alert and notification system (which includes route alerting of the hearing-impaired) at a time prior to the General Emergency phase. Appropriate township officials should review the plan to assure themselves that this action can be taken as early as the Alert stage.	E.6.			
<u>South Coventry Township EOC</u>				
24. The Radiological Officer was not aware of the maximum dose one can receive without authorization. Further training in this area is warranted.	K.4. O.1.			
25. No one person was given the task to monitor the radio transmissions; therefore, an important message (notification of Site Area Emergency) was missed because the person was in the next room instead of the radio room. Procedures relative to the Site Area Emergency were delayed by one-half hour. In the future, a specific individual should be responsible for monitoring communications traffic at all times.	E.2.			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>Schuylkill Township EOC</u>				
26. The initial notification of the EMC occurred by a method other than the RECALL system (a township police officer was contacted by police radio, located the EMC at the township EOC, and advised the EMC to contact the county EOC). As a result, the EMC felt that the system was not accurately programmed. This is addressed further under the Chester County section of this report	E.1.			
27. The capability to establish a full second shift was not adequately demonstrated, as there was no defined second shift roster. Additional personnel should be recruited and trained, if necessary; the staffing lists contained in the plan should be amended accordingly; and the capability to provide round-the-clock manning of all positions should be demonstrated in future exercises.	A.2.a., A.4.			
28. Township officials acknowledged that, after arrival of the county-provided transportation resources at the township EOC, there were no prepared plans regarding how the vehicles would be dispatched. The plan should be further developed regarding the procedure for collecting transit-dependent residents.	J.10.d., J.10.g.			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<p>29. The Radiological Officer distributed self-reading dosimeters and KI, but a sample TLD, record form and instructions were not provided to the EOC staff, and a system for monitoring emergency worker exposure was not evident. The Radiological Officer should receive additional training.</p>	<p>K.3.a., K.3.b.</p>			
<p><u>Warwick Township EOC</u></p>				
<p>30. Instructions concerning the use of dosimeters and KI had reportedly been provided to EOC, fire and ambulance personnel prior to the exercise, and were not demonstrated by the Radiological Officer. The ARES volunteer, who had not been included in the earlier briefings, was provided both dosimetry and KI without instruction. Procedures should be implemented for the RO to review the use of radiological exposure control materials with all personnel to whom it is provided, regardless of whether or not they have been previously instructed.</p>	<p>K.3.b.</p>			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>West Pikeland Township EOC</u>				
31. According to the plan, transportation resources dispatched by the county are to report to a staging area within the township. The township officials did not have prepared plans regarding the procedure by which the intended passengers would be picked up. The plan should be further developed to address the procedure for collecting transit-dependent residents.	J.10.d. J.10.g.			
32. Although the EMC was aware of the possible need to mobilize route alert teams in the event of siren failures (actually a county responsibility), he did not activate route alerting for the purpose of notifying hearing-impaired residents, as required in the plan. Appropriate township officials should review the plans concerning this function; additional resources should be identified to perform this activity, if necessary, and the capability to perform route alerting for the hearing-impaired residents should be demonstrated in future exercises.	E.6.			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
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West Vincent Township EOC

<p>33. The EMC arrived at the EOC prior to the Alert declaration, and first learned of the emergency at 1640, when he intercepted a Montgomery County fire radio message. Because he was at the EOC, rather than at home or work (the numbers for which are programmed into the system), the EMC did not receive the RECALL notification. However, the EMC reported, after checking with his family, that the RECALL notification was never received at his home, either. This matter is further addressed within the Chester County EOC section of this report.</p>	<p>E.1.</p>			
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West Vincent Township EOC

<p>34. The radiological exposure control instructions provided to the emergency workers at the time the dosimetry and KI were distributed, did not address the significance of dosimeter readings and allowable exposure levels. Township officials should assure that such information is provided to emergency workers whenever there is a need to distribute dosimetry equipment.</p>	<p>K.3.b., K.4.</p>			
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AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>Spring City Borough EOC</u>				
35. Due to pre-positioning of the EMC at the EOC, initial notification did not occur as specified in the plan. The EMC was under the misimpression that the EOC phone was also programmed into the county RECALL system. The Mayor initiated a call to the county EOC upon learning, via a scanner, that the Limerick Fire Department had received an Alert message. Thus initial notification of the borough was not accomplished until 50 minutes after the Alert was declared. Township officials should avoid pre-positioning in future exercises.	E.1.			
36. Route alerting of the borough's hearing-impaired residents was not performed at the specified time. The fire chief stated shortly after the sirens were sounded that he believed route alerting for the hearing-impaired should have been activated at that time. He was over-ruled by the EMC, who determined that they should wait for the county to notify them to perform route alerting. As a result, it was not until a call was received from East Vincent Township requesting route alerting assistance that borough officials realized their mistake and implemented	E.6.			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<p>route alerting for the hearing-impaired. This did not occur until 70 minutes after the sirens had sounded. Borough officials should review the plan, which charges them with responsibility to implement route alerting for the hearing-impaired residents; the capability to perform this action in a timely manner should be demonstrated in future exercises.</p>				
37.	<p>A list of mobility-impaired and hearing-impaired residents of Spring City Borough was not shown to the observer, and borough officials acknowledged that the list they had received from the county was not accurate. The list had reportedly been sorted on the basis of residents' zip codes. As the postal zones do not correspond to jurisdictional boundaries, the Spring City list included people who were not actually borough residents. Borough officials, in coordination with the county, should ensure that accurate lists of hearing-impaired and mobility-impaired residents are compiled. The lists should be maintained at the borough EOC, and made available to the observer at future exercises.</p>	<p>E.6., J.10.d.</p>		

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>East Coventry Township EOC</u>				
38. The township officials did not initiate route alerting for notification of hearing-impaired when the sirens sounded at Site Area Emergency, as they should have. Rather, they waited until receiving the General Emergency declaration to activate this function. The appropriate officials should review the plan, and demonstrate the proper activation of route alerting for the hearing-impaired during future exercises.	E.6.			
<u>East Vincent Township EOC</u>				
39. Full EOC staffing, as specified in the plan, did not occur as the position responsible for performing the Fire Services and Radiological functions was not manned. These functions were assigned (one apiece) to two other staff members who already had two functions to perform. Furthermore, the township did not have the capability for a second shift. Additional staff members should be recruited, as necessary, and trained; a full first shift and capability for a full second shift should be demonstrated in future exercises.	A.2.a., A.4.			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
40. Several incorrect telephone numbers were noted on the staff notification list. The EMC should ensure that this list is checked periodically and kept current.	E.2.			
41. Staff members, particularly the EMC and acting RO, were unfamiliar with their respective tasks. The EOC staff should receive further training.	O.1.			
42. Township officials did not activate route alerting for the hearing-impaired residents following the initial siren activation (during Site Area Emergency) as the plans specify. Rather, they incorrectly delayed this action until the second (simulated) siren activation during the General Emergency. Appropriate township officials should review the plan procedures for implementing route alerting for the hearing-impaired. The capability to correctly activate this function should be demonstrated in future exercises.	E.6.			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<p>43. Township officials did not demonstrate or simulate the activation of the five traffic control points identified in the plan. Officials reported that they did not have sufficient personnel or equipment to perform this task. The township should obtain the resources necessary to establish the traffic control points for which it has responsibility. Proper activation of this capability should be demonstrated in future exercises.</p>	<p>J.10.g., J.10.k.</p>			
<p><u>Great Valley School District</u></p>				
<p>44. There was no demonstration (or simulation) by Great Valley School District of the capability for dealing with traffic caused by parents attempting to pick up their children. In future exercises school district officials should perform all functions required by the emergency plan, including arrangements to establish traffic control.</p>	<p>J.9.</p>			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>Montgomery County EOC</u>				
45. The Transportation and Agriculture positions were not represented by the individuals designated to fill those positions, although other individuals were assigned to assume these responsibilities. In the case of the former, in discussions with the EMC, the federal observer was informed that the Transportation Officer participated out-of-sequence during the school exercise. FEMA was expecting this function to take place during the evening exercise and was not informed differently prior to the exercise. Thus, the function of this critical position could not be observed. All primary staff, or their designated backup, should participate in future exercises.	A.4.			
46. Some RACES operators were at the municipal EOCs prior to the Alert, and thus prior to the time municipal EOCs would be activated. Future exercises should avoid the pre-positioning of EOC staff.	E.2.			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>Douglass Township EOC</u>				
47. The Public Works Officer did not participate in this exercise. Although his responsibilities were assumed by other individuals, full staff capability, as designated in the plan, should be demonstrated at the next exercise.	A.2.a.			
48. Lists of impaired residents are available at the EOC. This data has not been tabulated for ease of route alerting, and some information is reported by the staff to be inaccurate. Steps should be taken to organize the materials for route alerting teams, especially concerning hearing-impaired individuals. Also, if there is a concern over the accuracy of the lists, the township should meet with other appropriate individuals to resolve the problem as soon as possible.	E.6.			
<u>Lower Salford Township EOC</u>				
49. The township EOC heard status changes over the police band but did not receive notification authentication until RACES messages were received (about a 5-6 minute delay). Thus, the township EOC was not the official, first point-of-contact for	E.1.			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<p>the county EOC. The emergency response plan states that "incident classification and protective action information will normally be provided by the county via RACES and confirmed by a county-initiated telephone call." This was not the case. An attempt should be made to closely coincide messages being broadcast over different communication networks.</p>				
50.		The list of EOC staff members in the township's emergency response plan was not current, i.e., did not match up one for one with the list the EMC used for activation.		
	A.2.a.			
<p><u>New Hanover Township EOC</u></p>				
51.		The RACES equipment presented some communications difficulties. Outgoing message traffic was difficult to receive at other locations. Appropriate steps should be taken to resolve this problem.		
	F.1.b.			
52.		The EOC staff was pre-positioned at the start of the exercise. Future exercises should demonstrate realistic activation procedures, as called for in the RERP.		
	E.2.			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
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Upper Frederick Township EOC

53. The delayed arrival of the EMC highlighted several potential problem areas. A backup or second shift EMC did not respond, leaving persons unfamiliar with up-to-the-minute changes and details in charge for over 1-1/2 hours. Although sufficient information on proper procedures and lists of hearing-impaired and persons requiring evacuation assistance was available at the EOC, no one knew where this information was. The most current plan and detailed instructions for other key responders were not labelled, and therefore were not found and used. Better organization and labelling of this documentation would be an appropriate and prudent way to correct this confusion. Also, a key to the filing cabinet where this information and the telephones were stored should be clearly identified and be available in the township office above the EOC. These procedures are especially important due to the EMC's job being located in Philadelphia, a considerable distance away.

J.9.

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>Upper Frederick Township EOC</u>				
54. EOC personnel exhibited some confusion concerning the proper use of KI, both in appropriate doses and when KI should be taken. Instructions were given for the route alert personnel to take KI immediately after its dispersal, not waiting for the Health Secretary's instruction.	J.10.e.			
<u>Upper Pottsgrove Township EOC</u>				
55. Individuals should not be pre-positioned at the EOC. This prevented a realistic notification process to the township EMC from being accomplished, including the activation of the EOC staff.	E.1., E.2.			
56. Although the township EOC staff felt that the one hearing-impaired individual would be notified of an emergency at Limerick by a relative with which she resides, the township should take an active role in ensuring the individual is notified as the relatives may not be home at all times. The ERS station should be monitored as called for in the township's plan.	E.6.			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>West Pottsgrove Township EOC</u>				
57. There needs to be a clarification both in the West Pottsgrove Township plan and in the minds of the EOC staff about the communications system. Prior to the exercise it was thought that the primary means of communication would be the telephone and that RACES would provide backup. During the exercise it became apparent that the RACES was primary and that land line was backup. It is recommended that all appropriate plans be revised to simply reflect the available communications systems. Prioritization of the system is not a necessity. This gives emergency responders the flexibility of utilizing the equipment as they see fit.	F.1.a., F.1.b.			
<u>Pottstown Borough EOC</u>				
58. A borough police Sergeant was designated as the EOC communications representatives for this exercise. A backup individual, however, was not assigned for this position nor for the Emergency Management Coordinator's position. Twenty-four hour coverage for all EOC responsibilities should be established.	A.2.a., A.4.			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
59. According to the borough Police Chief, twenty-hour fire/police representatives are available to man the 17 identified traffic control points. However, training has yet to be provided to this staff resource as the borough plan had not been approved until recently. Training concerning traffic control point responsibilities, reception center location and personal protective actions should be provided to these persons.	0.1.			
60. The mailing poll recently conducted within the borough indicates a total of 5 hearing-impaired persons and 15 mobility-impaired individuals. These numbers are significantly different from those sited in the plan. The plan should be updated to reflect the current number of special needs persons.	J.10.d.			
<u>Collegetown Borough EOC</u>				
61. EOC staff contact lists were not available at the EOC as they were reportedly being updated at an EOC staff person's home. A 1983 telephone directory was used instead in order to obtain telephone numbers for EOC staff. Measures should be taken to ensure that a call-down list is available at the EOC at all times.	E.2.			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>Green Lane Borough/Marlborough Township EOC</u>				
62. The individual newly positioned as the EMC had been active in this role for approximately one month at the time of the exercise. The local plans should be revised to identify this individual as the designated EMC.	A.2.a.			
<u>Royersford Borough EOC</u>				
63. Confusion over the accepted method of notification to Royersford Borough from the county led to a delayed activation of the EOC. If the tone alert radios are to be used for EOC staff mobilization, the cause of the non-activation of all appropriate radios should be determined and corrected, and this means of staff notification should be incorporated within the plan. If notification was to be accomplished by some other method, the appropriate officials at the borough and county levels should discuss how this problem can be resolved.	E.1.			
64. The Public Works and Police Chief were not represented at the EOC. Full representation of all EOC positions should be demonstrated during exercise activities.	A.2.a.			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>Schwenksville Borough EOC</u>				
65. Two of the EOC staff did not participate through the entire exercise. The Public Works Officer arrived at approximately 1900, and the Transportation Officer arrived at about 1700 and left by 1730. Although the Deputy EMC was at the EOC the entire exercise and assumed these responsibilities, future exercises should demonstrate full staffing throughout the exercise.	A.2.a.			
66. The police department is responsible for manning 2 traffic control points using 5 staff persons in the plan. However, they currently have only 2 police officers and have to rely on the fire/police to fill the outstanding staff requirements. This staff resource for TCPs should be identified in the plan.	A.2.a.			
67. A predetermined reorganization of the route alert sectors (using 3 vehicles instead of 2, as identified in the plan) was utilized during this exercise. This change in procedure should be incorporated within the municipal plan.	E.6.			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>Lower Frederick Township EOC</u>				
68. Door-to-door notification to the hearing-impaired was not initiated in coordination with the activation of the sirens as indicated in the township plan. Further exercises should demonstrate the notification of the total general public upon decision to activate the Emergency Broadcast System.	E.6.			
<u>Lower Pottsgrove Township EOC</u>				
69. In demonstrating EOC activation and staffing activation, the call list did not appear to be up-to-date. There was some problem in staffing the EOC; the primary Medical Officer was involved in an actual emergency and the backup Medical Officer could not be located. Measures should be taken to ensure the manning of all positions at the EOC at the appropriate time during the next exercise.	A.2.a., E.2.			
70. There was no plume EPZ map posted. A plume EPZ map should be acquired by the township and posted within the EOC for reference purposes during future exercises.	J.10.a.			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
71. No activities were demonstrated concerning route alerting of the hearing-impaired. These activities should be simulated at a minimum in future exercises, to include the notification of appropriate staff who would be assigned these functions.	E.6.			
<u>Lower Providence Township EOC</u>				
72. The Emergency Management Coordinator and the EOC staff were pre-positioned and notification and mobilization procedures were therefore not observed. However, the police dispatch center is manned 24-hours a day which potentially provides for the rapid notification of staff. Mobilization procedures should be demonstrated in future exercises.	E.2.			
73. Due to township financial concerns, the Public Works position for this exercise was not manned. Future exercises should provide for the staffing of all EOC positions.	A.2.a.			
74. Notification of hearing and mobility-impaired individuals was initiated following the evacuation order, received at 2014. The township plan, however, calls for the dispatch of route alert	E.6.			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
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teams to notify the hearing-impaired if the public alert system is activated. In this exercise, the alert and notification system was activated during Site Emergency at 1940. Additional training should be provided to township EOC staff to ensure timely and appropriate contact with identified hearing-impaired individuals.

Skippack Township EOC

75. The EOC staff, in objectively discussing available local resources, indicated that all roads could not be kept open should an evacuation occur during a heavy snow storm. To overcome this, the Public Works Officer intends to canvas the township for volunteers with snow plow attachments on their vehicles. Assistance would also be requested of PennDOT. When procedures are finalized they should be incorporated in the plan, including provisions for providing any volunteers with the necessary radiological exposure control equipment.

J.10.k.

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<p>76. The EOC staff believed that dosimeters were to be read only before and following a field mission. Similarly, the staff was not aware of maximum allowable exposure without authority. This information is set forth in the major portion of the plan, but not in the procedural portion of the plan. The EMC agreed that this was a potential oversight and indicated an intention to revise the plan. This would involve incorporating this information in the procedural section or referring to the plan page number. A card could be placed in the dosimeter boxes reminding workers of dose limits and how often to read their dosimeters. Once the determined actions have been decided, the accepted revisions should be incorporated into the township activities. Also, additional training should be provided to EOC staff to ensure awareness of this information.</p>	<p>K.3.a., K.4.</p>			

Perkiomen Township EOC

<p>77. The township has not received instructions in what to do for the hearing-impaired beyond going to their residences. It is recommended that further instructions be given to the staff in this area.</p>	<p>E.6.</p>			
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AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
78. The maximum dose allowed without authorization was incorrectly identified as 40 rem (rather than 25 rem as listed in the plan). It is recommended that exposure limits be reviewed by staff.	K.4.			
<u>Perkiomen Valley School District</u>				
79. The absence of a RACES operator at the school district office resulted in significant impact to response operations. Since the order to evacuate was distributed over RACES, the Superintendent was not advised that an evacuation was in effect. (Follow up conversation with county staff indicated that the RACES operator assigned to the district office went instead to a district school and, therefore, never arrived at the district office.) The Superintendent did not communicate by telephone with the county as to the status of sending an operator when it was apparent that no RACES representative had arrived, nor were communications initiated with the county to receive updates in status of the situation. The Superintendent should confer with the county in order to determine the cause for the mislocation of the RACES operator, and take the necessary measures to ensure that this does not occur in future exercises.	E.1., J.9.			

AREAS REQUIRING CORRECTIVE ACTION

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>Bucks County</u>				
80. The county had reportedly been directed by the State not to man the mass care center with monitoring/decontamination teams. Future exercises should demonstrate full activation of the mass care center to include monitoring and decontamination actions.	J.12.			
81. Although "evacuees" were available at the mass care center, a registration table was not established for approximately one hour following center activation, and inappropriate procedures were used to register these persons. Registration procedures should be demonstrated at future exercises.	J.12.			

AREAS RECOMMENDED FOR IMPROVEMENT

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
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State EOC

1. Critical information that has been verified should be disseminated immediately to other appropriate jurisdictions, e.g., change from Site Emergency to General Emergency, as quickly as possible.
2. Information concerning other primary jurisdictions' response procedures should be available for immediate reference, if necessary.
3. An activity checklist similar to the alert checklist would ensure follow up to messages which indicate function has not been resolved, e.g., the siren failure in Chester County.
4. It is suggested that hard copy of the activity list and message log be periodically prepared for reference in the event a computer failure should occur. If not already developed, procedures should be considered for computer loss and/or simultaneous emergencies which could place an undue burden on the existing system.

AREAS RECOMMENDED FOR IMPROVEMENT

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
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5. Except for those activities required by plan to be completed following each escalation of emergency classification, activity at many of the municipal EOCs was very slow. It is recommended that future exercises provide for the incorporation of controller-inserted situations to maintain a high level of staff response and scenario reality.

Emergency Operations Facility

6. Utility representatives were required to delay the scenario in order to provide additional time for offsite authorities and local emergency response personnel to demonstrate necessary objectives. Future scenarios should allow events to be coordinated with offsite response times so that all emergency personnel (including all levels of utility, State and local responders) are able to exercise a smooth transition between each emergency classification.

AREAS RECOMMENDED FOR IMPROVEMENT

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Pennsylvania State Police

7. Most of the assigned officers were not aware of the locations of the closest reception centers to their TCP and/or ACP. The addition of a discussion of the purpose and location of reception centers at the staging area briefing would rectify this situation.

Pottstown Memorial Medical Center

8. To control the spread of radiation, floors were covered and control lines were established. However, ventilation was not shut off, return air ducts were not sealed and door handles/light switches were not covered with plastic.
9. Background radiation levels were not determined prior to receiving the patient.
10. The probe of the monitoring instrument was not covered.

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11. Swabs were taken of the wound area. Swabs of the eyes, nostrils and mouth were also taken, however, not until after the decontamination procedures had been completed. In addition, the process was completed in such a rapid manner that it was difficult for the swabs to be properly labeled. After each contamination procedure, the entire body should be monitored for contamination, not just areas originally contaminated.				
12. No waterproof material was utilized for covering the wound to protect against contamination. Washing patients was done with cold water. Warm water should be used so as not to close the pores or chill the patient.				
13. It is recommended that hospital personnel bring injured/contaminated individuals into the hospital to lessen the possibility of hospital areas being exposed to unnecessary levels of contamination.				

Red Cross Liaison

14. PEMA should be aware of the location of the Red Cross Field Headquarters in advance so they can include it as an action point in future exercises.

AREAS RECOMMENDED FOR IMPROVEMENT

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<u>Berks County EOC</u>				
15. Specific procedures should be developed for copying, logging, routing and answering messages. Training should be provided to all agencies responding to the EOC in an emergency, once these procedures have been established.				
<u>Boyertown Borough EOC</u>				
16. The lack of backup power could be a problem. According to the EMC, if their power goes, all their communications systems along with air conditioning, etc. will be out.				
17. The RACES operator had great difficulty finding the antenna to hook up with. They indicated that they had asked last year that the antenna be left in a place easy to find.				
18. The noise volume in the EOC at times interfered with the effective operation of the EOC. Steps should be taken to rectify this situation.				
<u>Douglass Township EOC</u>				
19. It is suggested that Berks County EOC attempt to keep the municipal EOCs continuously updated concerning "what is going on." At times the township EOC was kept better informed by their use of a scanner to monitor a range of frequencies,				

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particularly in neighboring Montgomery County where continual activity seemed to be occurring.

Earl Township EOC

- 20. The EOC building had a high level of background noise which made it difficult to conduct response operations at times. An attempt should be made to keep noise to a manageable level.

Boyertown Area School District

- 21. Consideration should be given to having a backup system in place in the event of telephone system failure.
- 22. Because there is only one road that accesses the Colebrookdale School as well as most of the other schools in the district, plans to handle potential traffic problems should be re-examined.
- 23. A school calendar of all schools in the district, including private, should be made available to the Superintendent. Numerous calls were placed to the Pine Forge Academy and Pine Forge SDA Elementary with no answer. This was reported to the county and they speculated that the schools were on spring break. Advance knowledge of vacations and holidays would eliminate this confusion.

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Daniel Boone Area School District

24. An attempt should be made to establish radio communications as a backup to telephone lines between the school administration building and the Amity Elementary School as a direct link to buses.

Chester County EOC

25. Officials in four municipalities (East Coventry Township, Phoenixville Borough, Schuylkill Township, and Upper Uwchlan Township) reported that there were areas within their jurisdiction where the sirens were not audible. This indicates that supplemental route alerting, if necessary, may be needed in those areas, as provided for in the plans. As it is a county responsibility to ensure the dispatch of appropriate route alerting teams for such instances, county officials, in coordination with municipal officials and the utility, should identify those areas that are in need of supplemental route alerting, and develop suitable plans to automatically implement route alerting whenever the siren system is activated. Such plans should ensure that adequate resources exist to alert all required routes simultaneously, while maintaining reserve resources to perform route alerting in the event of siren failure.

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Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<p>26. Officials in at least two municipalities (East Pikeland Township and Schuylkill Township) were concerned that there may be insufficient route alerting resources to meet the needs of both municipalities and the county simultaneously. They were concerned that county-activated route alerting (for siren failures and areas of inadequate siren coverage) would usurp the route alerting resources which the municipalities had planned to use for alerting the hearing-impaired. The county should coordinate this activity with the municipalities and provide assurance that sufficient resources exist to perform all necessary route alerting simultaneously. Any additional resources that are assigned to perform this duty should be trained and identified in the plans.</p>				

East Pikeland Township EOC

27. Although six route alerting teams were activated and standing by, they were not dispatched, as all hearing-impaired households were notified via phone, thus negating the need for route alerting. Two route alerting teams were dispatched by the county to cover malfunctioning siren #130 (Route Alert Areas 61C and 61D). Township officials expressed

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concerns that this double use of fire personnel and resources could result in a problem if the needs for alerting hearing-impaired residents and covering siren failures occurred simultaneously. A procedure for coordinating this activity between the county and township should be established. Additional personnel that are assigned to perform this duty should be trained, as necessary, and identified in the plans.

Schuylkill Township EOC

28. Township officials reported that the siren system does not produce adequate sound levels, thus necessitating route alerting, as provided for in the plans. Activation of such route alerting is a county responsibility, and this matter is addressed further under the Chester County section of the report. A related situation is the township's responsibility to perform route alerting to notify hearing-impaired residents, 22 of which have been identified. The county and township plans call for the same fire department to perform both types of route alerting simultaneously. Township officials report that the fire department resources are not sufficient. In coordination with the county, Schuylkill Township officials should assure that sufficient personnel and vehicles are

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available to perform the township's hearing-impaired notification. Any additional resources that are assigned to perform this duty should be trained and identified in the plans.

Warwick Township EOC

- 29. Prescribed messages for notifying hearing-impaired residents were available in the plan, but they should be typed out on cards in order to be available for immediate distribution by route alerting teams.

Phoenixville Borough EOC

- 30. Noise could have been controlled somewhat better and could have contributed to the fact that no one heard the EBS tone and message despite the fact that the radio was on. If the noise factor is a given, then possibly the radio could be moved into the communications room where it is more quiet. One of the communications people could then monitor it.
- 31. Staff briefings were infrequent, and some messages were not posted. (Regarding the message board, the EOC Director reported that the person who previously posted the messages

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had retired recently and that a replacement had not been found.) In order to keep the staff informed of emergency developments, it is recommended that frequent briefings be conducted and all important messages be posted.

Charlestown Township EOC

32. The EOC is located in the Charlestown Elementary School. The EMC reported that he has not been provided with a key to the EOC and was told by the school district that he will not be given one. He was told that in the event of an emergency he is to gain access to the EOC by whatever means he is able (e.g., breaking down the door if necessary). It is recommended that the Charlestown Township EOC be established in a location which provides ready access in the event of an emergency.

East Vincent Township EOC

33. The communications equipment was located in the operations area, resulting in a higher noise level than necessary. It is recommended that the communications equipment be acoustically isolated from operations in order to minimize interference.

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<u>Owen J. Roberts School District</u>				
34. The Superintendent reported a need for hand-held radios (anticipated to be supplied by the utility) for him and his school principals, who now must stay at their desks in order to maintain communication (by telephone). According to the Superintendent, it is highly desirable that the principals remain mobile around their school facilities in order to deal with problems. The radios would also provide a backup to the commercial telephone links. It is recommended that such radios be acquired for use by the school district.				
35. The Superintendent reported that the existing two lane evacuation route has areas that are frequently blocked during inclement weather conditions and/or by accidents. This could seriously hamper or prevent timely evacuation of the pupils. School district officials should discuss their concerns with the county and appropriate municipalities.				

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Great Valley School District

36. The EBS station was not monitored. It is realized that EBS was actually activated later on in the day. However, the school district should be prepared to monitor the EBS station, as called for in the plan.

Phoenixville Area School District

37. School district officials monitored the EBS station for Montgomery County (KYW), rather than the Chester County station (WCAU). Staff members should review the emergency plan, and monitor the Chester County EBS station listed therein.

Montgomery County EOC

38. Elected officials did not participate in the exercise. Active involvement by these individuals should be encouraged in future exercises.

Douglass Township EOC

39. The noise in the EOC at times became disruptive in nature. An attempt should be made to reduce the noise level as much as possible.

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Limerick Township EOC

40. Map references to a siren location differ between the county and township map. Steps should be taken to determine the difference and make the appropriate changes.

New Hanover Township EOC

41. It is suggested that emergency workers consider using simplified index card-sized records when in the field. The Radiological Officer could then use the simplified cards to prepare the PEMA forms for worker signatures, upon their return.

42. One of the route alert sectors took an hour to complete. The Coordinator's plan to add another vehicle and driver to this route should be encouraged.

Upper Frederick Township EOC

43. The noise levels in the EOC could be a problem in a real emergency; some effort to isolate the communications personnel from the overall operations area would be desirable.

AREAS RECOMMENDED FOR IMPROVEMENT

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<u>Pottstown Borough EOC</u>				
44. The borough map which provides information concerning designated traffic control points is currently posted in a side room which was used to house the RACES operator. The map should be relocated to the EMC's office to assist with briefings when the staff is convened for response updates.				
<u>Collegeville Borough EOC</u>				
45. A wall clock was available at the EOC but was not wall-mounted. This clock should be re-hung to assist operational staff in maintaining a sense of time sequence in response actions.				
46. Although a radio was available at the EOC and was monitored following siren activation in order to observe the airing of the EBS message, no message was heard by the EOC staff. The EMC should investigate the reason that the EBS message was not heard, and take the necessary measures to ensure that the EBS message is monitored during the next exercise.				

AREAS RECOMMENDED FOR IMPROVEMENT

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Green Lane Borough/Marlborough Township EOC

47. All EOC activities, to include communications, were located in one large room within this facility. As a result, the noise level, at times, during the response operation was extremely high. Consideration should be given to separate the communications activities from other internal EOC operations.

Royersford Borough EOC

48. Elected officials did not participate in the exercise. They should be encouraged to be actively involved with future emergency response exercises.

Lower Frederick Township EOC

49. The maps which indicated the plume EPZ, relocation center and traffic control points had been reportedly removed from the EOC within the last several days. It is recommended that these maps be returned to the EOC to facilitate the briefing of response staff.

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Lower Frederick Township EOC

50. The EOC staff exhibited some confusion upon activation of the public alert system, i.e., sirens, during the Site Emergency. It was unclear to the EOC staff whether or not this activation reflected an escalation to General Emergency, although activities outlined under General Emergency were not initiated until the township was officially notified by the county. It is recommended that additional briefings be provided to municipal staff to ensure complete understanding in the potential use of the public alert and notification systems.

Lower Pottsgrove Township EOC

51. Message handling within the EOC was not well coordinated in that the flow of messages was primarily between the EMC and RACES operator, and did not, in general, include distribution to the rest of the EOC staff. Messages of relevance to the Police/Medical Officer were not copied and distributed. The EMC should review the existing message distribution system and make the necessary revisions to ensure message distribution to appropriate staff.

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<p>52. The EMC completed all of the notification calls; in this particular exercise many of the calls were simulated and therefore the completion of this activity was not grossly time consuming. However, in an actual emergency, notification to all designated organizations could prove to be a demanding task. The EMC should consider allocating this task to additional personnel to ensure rapid information transmittal.</p>				
<u>Skippack Township EOC</u>				
<p>53. Noise levels at the EOC were often excessive, especially when RACES messages were coming in concerning changes in plant status. The EOC is housed within a rather large building and noise could be more effectively controlled if RACES were set up in one of the offices of the building.</p>				
<p>54. The EMC completed all calls to council members and institutions, although other EOC staff were available. The EMC should consider allocating the task of notifying the various contact points to available staff.</p>				

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Perkiomen Township EOC

- 55. Periodic briefings of the staff were not held. It is recommended that briefings be held to keep the staff informed and involved and create a situation when people can discuss and coordinate their activities.

- 56. The status board was not kept up-to-date until two hours after the exercise began. It is recommended that the status board be kept up-to-date at all times.

- 57. The emergency telephone at the county EOC was continually busy. It is recommended that the township discuss the problem with the county to determine the cause in order to develop ideas to resolve the situation.

Methacton School District

- 58. There is no backup system (to the telephone) for communicating with the individual schools. It is suggested that a backup system be developed such as sending a RACES operator to each school.

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59. The EBS station was not monitored. It is realized that EBS was actually activated later on in the day. However, it is suggested that someone at the school district be prepared to monitor the EBS station at any time, as called for in the RERP.

60. Although the Superintendent advised the county of unmet needs for buses and bus drivers at 0918, he had not received a response from the county as of 1010 (when the federal observer left to go to the school being evacuated). If the school district does not receive a response from the county in a reasonable amount of time, it is recommended that the Superintendent follow-up his request to the county until he receives the necessary information.

Perkiomen Valley School District

61. The Superintendent engaged in little discussion with the Director of Operations or with the school principals in order to determine the status of emergency operations throughout the school district. In order to maintain overall perspective of the

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district's response, and to rapidly and efficiently respond to identified problems or unmet needs at the various schools, it is recommended that the Superintendent maintain expanded communication with the school principals and request updates concerning individual school response activities.

62. The Superintendent assumed the task of notifying all school principals concerning upgrades in emergency classification levels. It is recommended that this activity be shared with the Superintendent's secretary or Assistant Superintendent to speed the transmission of the information and to free the Superintendent to maintain open communication with other action locations.

Bucks County

63. The training of police and fire department personnel in the use of monitoring equipment and practices is essential to the proper monitoring and decontamination of evacuees. Questions regarding the financial support to provide this training should be approached and resolved by the appropriate individuals in order to ensure the availability of an effective, well-trained workforce at the mass care center.

LIMERICK
4-3-86
Recommendation

Reference
NUREG-0654
Part II

Correction

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State EOC

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| <p>1. When sirens were sounded and EBS activated at Site Emergency, the initiating message from the State EOC was awkwardly phrased. The counties were not informed about the specific purpose for sounding the sirens, information that would be a critical part of the EBS broadcast to the public. A return call to the State from Montgomery and Berks Counties simply instructed them to have the agreed-upon EBS test message broadcast. Appropriate individuals should investigate this breakdown in communications and institute the proper remedial actions.</p> | <p>E.5.</p> | <p>Prepared EBS messages will be made available to risk counties and PEMA areas. These messages will only require initial identification and proper completion of blanks prior to broadcasting by county and EBS stations.</p> | <p>Oct. '86</p> |
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Agricultural Sampling Team

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| <p>2. Team members expressed concern about their proficiency in utilizing appropriate dosimetry equipment during an actual radiological emergency. The simulated issuance of dosimetry equipment to team members does not afford them the opportunity to become proficient in reading the equipment and posting of the simulated readings at specified intervals on the Dosimetry-K1 Report Form. It is recommended that during future exercises, team members be actually issued dosimetry in order to provide a more complete learning and training experience.</p> | <p>K.3.a.,
K.3.b.</p> | <p>Agriculture sampling team members will be provided training in the use of dosimetry equipment.</p> | <p>Sep. 30, '86</p> |
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Berks County EOC

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| <p>3. Initial notification from Berks County did not proceed on schedule in Colebrookdale Township, Amity Township and Washington Township. The reason for the delays in notification appears to be that the Emergency Management Coordinators at these municipalities were not at their homes or offices when the county EOC staff were trying to notify them of the Alert. Berks County and the municipal Emergency Management Coordinators should discuss this problem to ensure that all parties are aware of the specific procedures to be used for notification of an incident, either day or night.</p> | <p>E.1.</p> | <p>Procedures will be established to contact the emergency management coordinator or designated alternate during an exercise or actual emergency. Township officials will be contacted if the coordinator cannot be notified within a reasonable period of time.</p> | <p>Apr. '88</p> |
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Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
4. The Transportation Officer did not arrive at the county EOC until 1930. Every attempt should be made to ensure that critical staff members are present early in an accident.	E.2.	An attempt will be made to insure that all EOC positions are staffed during future exercises with the primary member or designated alternate.	Apr. '88	
5. Several municipalities (Amity and Washington Townships) and Berks County could not receive the EBS station. The County Coordinator has arranged for other radio stations to monitor WHUM and rebroadcast messages during an actual emergency. The problem with reception occurred during the last exercise. Since important information on protective actions for the public and instructions to farmers is broadcast over the EBS station, this element needs to be adequately demonstrated at the next full scale exercise.	E.5.	WHUM is a dawn-to-dusk station. During evening hours, the station can only operate with reduced power. During an actual emergency, the station is permitted to operate at full power; the station cannot do so during a simulated emergency. Municipalities in the EPZ will be directed to monitor WBYO FM, Boyertown, in future exercises	Apr. '88	
6. Delivery of the radiological exposure control equipment was simulated during this exercise. This was not in accordance with the procedures that had been agreed to at the exercise planning meeting, wherein at least a sample dosimetry kit would be available at all jurisdictions. In order to fully evaluate the municipal capabilities in the area of radiological exposure control, the county needs to actually deliver the kits, or pre-position the kits, to each jurisdiction for the next exercise.	K.3.a.	During the 1984 exercise, the capability to deliver dosimetry kits was demonstrated effectively. The demonstration of radiological monitoring was not an objective for the 1986 exercise. This will be demonstrated during 1988.	Apr. '88	
<u>Oley Valley High School - Reception Center</u>				
7. This reception center was not activated as called for in the scenario package. At the next exercise all critical activities, such as reception centers, should demonstrate their capabilities as part of the coordinated response process.	N.1.b.	Procedures will be established to ensure that critical activities such as reception centers are fully demonstrated.	Apr. '88	

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>Boyertown Borough EOC</u>				
8. There was confusion over the number of buses needed for residents of Boyertown without transportation. The number requested and the number indicated in the plan as needed were different. This clearly needs to be clarified. Further, while the county was requested to send buses, it was not clear that a specific method had been determined regarding how to get these people without cars to the buses. This should be added to the plan.	J.10.d., J.10.g.	The plan will be reviewed and bus requirements correctly identified. The Boyertown plan will be reviewed to ensure agreement with the county plan. The plan indicates that buses will pick up people.	Apr. '88	
9. The EMC believes that the notification regarding an Alert, etc. from Berks County would be through the phone lines to the Boyertown EOC. He thought that he would be informed by his Communications Officer (a communications person is in the Borough Hall on a 24-hour basis) of the call. However, the Berks County plan indicates the county will contact the EMC directly at home or at the office. If notification during nonbusiness hours will continue to be routed through the Borough Hall there may be a problem as the phone line from the Berks County EOC is not in the communications room; it may be difficult for the borough staff to hear the phone ring. This needs to be clarified between the two bodies.	E.1.	The EMC will be advised of the notification procedures as per the county plan.	Apr. '88	
<u>Amity Township EOC</u>				
10. Because the township EMC is frequently not immediately available by telephone but does carry with him at all times a radio pager, he reportedly has asked the county to initially alert Amity Township via the county radio dispatcher. The Township Supervisors support this request. In this exercise the county did not utilize this revised approach, resulting in a protracted delay in receiving the initial Alert. Had the emergency been real, the first	E.1	Procedures have been established to notify Amity Township by radio pager.	May '86	

Recommendation

indication the township would have had was the arrival at about 1730 of the RACES team dispatched by the county, followed by 1737 by the Police Chief being advised of the Alert by the county dispatcher. Negotiated resolution of the best method to be employed in alerting Amity Township, agreeable to both parties, is needed.

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| 11. Township EOC staff officers found that telephone numbers in their SOPs and the Amity Township copy of the county plan listed for their counterparts in the county EOC had been changed. This caused delay and some irritation in seeking guidance and resolving exercise problems. Instances noted by the federal observer were medical, agriculture, and transportation. Smoother emergency operations would be fostered by immediate notification of other EOCs normally interfaced of new or changed telephone numbers. | F.1.b. | The county EOC staff telephone directory will be distributed to municipalities. | Sep. '86 |
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Colebrookdale Township EOC

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| 12. In order to fully demonstrate activation of the EOC, staff participants should not be pre-positioned in future exercises. | E.2. | In future exercises, PEMA will advise counties to indicate to municipalities that personnel manning should follow scenario events to ensure a realistic demonstration of EOC capabilities. | Apr. '88 |
| 13. Notification of the EMC did not take place as called for in the plan. In future exercises notification of the township should be accomplished in accordance with established procedures. | E.1 | Future notifications will be according to the plan and established procedures. | Apr. '88 |

Douglass Township EOC

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| 14. Procedures have not been developed for providing additional transportation staff assistants to guide the drivers not familiar with the area to find the scattered locations, particularly at night. The township staff feels these procedures are warranted. They should be implemented as soon as possible. | J.10.d.,
J.10.g. | Procedures will be established to provide assistance to guide drivers sent by the county to provide evacuation transportation. | Apr. '88 |
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Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>Washington Township EOC</u>				
15. The EOC staff notification list was not up-to-date and the EMC found that telephone numbers for two staff members were incorrect. The correct numbers were eventually obtained from other members of the EOC staff. If not already accomplished, the revised telephone numbers should be incorporated into the RERP and Implementing Procedures.	E.2.	The EMC will be advised to maintain a current EOC staff notification list.	Jun. '86	
16. The PEMA observer was very active in the EOC operation at this site. The township plan does not reflect inclusion of this position in its organization, the municipal RERP should be revised to include the designated PEMA observer within the organizational chart; otherwise the PEMA observer should act solely as an observer at future exercises, as training of the staff should have been conducted prior to the exercise.	A.2.c.	PEMA has a legal obligation to advise on procedures and actions during emergencies or simulated exercises.	Apr. '86	
<u>Chester County EOC</u>				
17. In accordance with the plan, the RECALL system was the primary means for performing the initial notification of the municipal EMCs. However, three municipalities (Schuylkill Township, Spring City Borough, and West Vincent Township) received the initial notification by a secondary means. While several of these instances appear to be due to pre-positioning of the EMCs at their EOCs, there is some indication that the RECALL system was not properly programmed. It is recommended that county officials investigate to determine if more accurate information for these EMCs can be programmed into the system.	E.1.	County is investigating the recall system to determine if more accurate information can be programmed into the system.	Aug. 30, '86	

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<p>18. Amateur radio operations (RACES/ARES) were dispatched by Chester County to the municipal EOCs, to provide a secondary communications capability. The operators never arrived at South Coventry Township, West Pikeland Township and West Vincent Township, and were late at Warwick Township. County officials, in conjunction with their respective amateur radio organizations, should review the assignment procedures to ensure that operators are dispatched to, and are provided accurate directions to, all municipal EOCs.</p>	F.l.a.	<p>The county RACES/ARES coordinator is reviewing the assignment procedures and will ensure that operators are dispatched in a timely manner with appropriate directions to their assigned EOC.</p>	Apr. '88	
<p>19. The report from Spring City Borough indicates that the lists of mobility-impaired and hearing-impaired people contain some inaccuracies as to the municipality in which some are listed as residing. The problem apparently results from the lists being sorted according to the residents' zip codes. As the postal zones do not correspond to municipal boundaries, some special-needs residents are not on the correct community list. County officials, in coordination with the municipalities, should ensure that accurate lists of hearing-impaired residents are compiled.</p>	J.10.d	<p>Lists of hearing-impaired and mobility-impaired will be reviewed for accuracy.</p>	Apr. '88	
<u>Kennett High School - Mass Care Center</u>				
<p>20. Objective 16 called for the demonstration of the operation of one reception center and one mass care center in each of the support counties. This was not accomplished in a successful manner in this case. Mass care operations in Chester County need to be demonstrated at the next exercise, with simulation kept to a minimum.</p>	J.12	<p>The reception center was demonstrated successfully during this exercise. The mass care center was operational but did not demonstrate decontamination monitoring because it was not one of the established objectives. The chief of the decontamination monitoring team had the appropriate equipment and was knowledgeable of decontamination/monitor procedures.</p>	Apr. '88	

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>East Pikeland Township EOC</u>				
21. The manning of traffic control points (TCPs) was simulated. According to the police chief, a recent change in State law resulted in the abolishment of the township's auxiliary police force, which were to perform this duty. The chief reported that his nine member force, augmented by the fire police, would be adequate to cover the five TCPs. This responsibility should be reassigned and the plan should be changed accordingly.	A.2.a.	The staffing of TCPs will be reviewed and changed as appropriate.	Apr. '88	
<u>North Coventry Township</u>				
22. North Coventry Township officials failed to dispatch route alert teams to notify the hearing-impaired, as required by the plan. Township officials should review the plan procedures for performing this function; the capability to perform this activity should be demonstrated in future exercises.	E.6.	Procedures will be reviewed and route alert teams will be demonstrated in future exercises.	Apr. '88	
23. The North Coventry Township EOC staff were not aware that the plans provide for the activation of the primary alert and notification system (which includes route alerting of the hearing-impaired) at a time prior to the General Emergency phase. Appropriate township officials should review the plan to assure themselves that this action can be taken as early as the Alert stage.	E.6.	Township supervisors and emergency management staff will receive additional training regarding route alert procedures.	Apr. '88	
<u>South Coventry Township EOC</u>				
24. The Radiological Officer was not aware of the maximum dose one can receive without authorization. Further training in this area is warranted.	K.4., o.1.	The township radiological officer will receive additional training concerning KI dosage authorization.	Apr. '88	

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<p>25. No one person was given the task to monitor the radio transmissions; therefore, an important message (notification of Site Area Emergency) was missed because the person was in the next room instead of the radio room. Procedures relative to the Site Area Emergency were delayed by one-half hour. In the future, a specific individual should be responsible for monitoring communications traffic at all times.</p>	E.2.	<p>During future exercises, one individual will be assigned the task of monitoring radio transmissions.</p>	Apr. '88	
<u>Schuylkill Township EOC</u>				
<p>26. The initial notification of the EMC occurred by a method other than the RECALL system (a township police officer was contacted by police radio, located the EMC at the township EOC, and advised the EMC to contact the county EOC). As a result, the EMC felt that the system was not accurately programmed. This is addressed further under the Chester County section of this report.</p>	E.1.	<p>The system was accurately programmed but EMC was not at programmed sites, therefore, alternate methods were used until he was contacted. Further considerations will be given to contacting an alternate or elected officials when initial effort fails.</p>	Apr. '88	
<p>27. The capability to establish a full second shift was not adequately demonstrated, as there was no defined second shift roster. Additional personnel should be recruited and trained, if necessary; the staffing lists contained in the plan should be amended accordingly; and the capability to provide round-the-clock manning of all positions should be demonstrated in future exercises.</p>	A.2.a., A.4.	<p>Concur. Remedial action will be taken and plans will be amended accordingly.</p>	Apr. '88	
<p>28. Township officials acknowledged that, after arrival of the county-provided transportation resources at the township EOC, there were no prepared plans regarding how the vehicles would be dispatched. The plan should be further developed regarding the procedure for collecting transit-dependent residents.</p>	J.10.d., J.10.g.	<p>Plans will be reviewed regarding the procedure for collecting transit-dependent residents and remedial action will be taken.</p>	Apr. '88	

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<p>29. The Radiological Officer distributed self-reading dosimeters and KI, but a sample TLD, record form and instructions were not provided to the EOC staff, and a system for monitoring emergency worker exposure was not evident. The Radiological Officer should receive additional training.</p>	<p>K.3.a., K.3.b.</p>	<p>Appropriate radiological equipment was delivered to the township EOC prior to the exercise. The radiological officer will be scheduled for additional training.</p>	<p>Apr. '88</p>	
<u>Warwick Township EOC</u>				
<p>30. Instructions concerning the use of dosimeters and KI had reportedly been provided to EOC, fire and ambulance personnel prior to the exercise, and were not demonstrated by the Radiological Officer. The ARES volunteer, who had not been included in the earlier briefings, was provided both dosimetry and KI without instruction. Procedures should be implemented for the RO to review the use of radiological exposure control materials with all personnel to whom it is provided, regardless of whether or not they have been previously instructed.</p>	<p>K.3.b.</p>	<p>The radiological officer will be scheduled for additional training.</p>	<p>Apr. '88</p>	
<u>West Pikeland Township EOC</u>				
<p>31. According to the plan, transportation resources dispatched by the county are to report to a staging area within the township. The township officials did not have prepared plans regarding the procedure by which the intended passengers would be picked up. The plan should be further developed to address the procedure for collecting transit-dependent residents.</p>	<p>J.10.d., J.10.g.</p>	<p>The plan will be reviewed and further developed regarding procedures for collecting transit-dependent residents.</p>	<p>Apr. '88</p>	

Recommendation

<p>32. Although the EMC was aware of the possible need to mobilize route alert teams in the event of siren failures (actually a county responsibility), he did not activate route alerting for the purpose of notifying hearing-impaired residents, as required in the plan. Appropriate township officials should review the plans concerning this function; additional resources should be identified to perform this activity, if necessary, and the capability to perform route alerting for the hearing-impaired residents should be demonstrated in future exercises.</p>	<p>E.6.</p>	<p>The EMC will be scheduled for additional training regarding notification of hearing-impaired residents.</p>	<p>Apr. '88</p>
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West Vincent Township EOC

<p>33. The EMC arrived at the EOC prior to the Alert declaration, and first learned of the emergency at 1640, when he intercepted a Montgomery County fire radio message. Because he was at the EOC, rather than at home or work (the numbers for which are programmed into the system), the EMC did not receive the RECALL notification. However, the EMC reported, after checking with his family, that the RECALL notification was never received at his home, either. This matter is further addressed within the Chester County EOC section of this report.</p>	<p>E.1.</p>	<p>County is investigating the recall system to determine if more accurate information can be programmed into the system.</p>	<p>Aug. 30, '86</p>
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West Vincent Township EOC

<p>34. The radiological exposure control instructions provided to the emergency workers at the time the dosimetry and KI were distributed, did not address the significance of dosimeter readings and allowable exposure levels. Township officials should assure that such information is provided to emergency workers whenever there is a need to distributed dosimetry equipment.</p>	<p>K.3.b., K.4.</p>	<p>Emergency workers will be briefed concerning significance of dosimetry readings and allowable exposure levels as noted.</p>	<p>Apr. '88</p>
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Recommendation

Spring City Borough EOC

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| 35. Due to pre-positioning of the EMC at the EOC, initial notification did not occur as specified in the plan. The EMC was under the misimpression that the EOC phone was also programmed into the county RECALL system. The Mayor initiated a call to the county EOC upon learning, via a scanner, that the Limerick Fire Department had received an Alert message. Thus initial notification of the borough was not accomplished until 50 minutes after the Alert was declared. Township officials should avoid pre-positioning in future exercises. | E.1. | Pre-positioning will be an item addressed to all local EMCs prior to future drills and exercises. | Apr. '88 |
| 36. Route alerting of the borough's hearing-impaired residents was not performed at the specified time. The fire chief stated shortly after the sirens were sounded that he believed route alerting for the hearing-impaired should have been activated at that time. He was overruled by the EMC, who determined that they should wait for the county to notify them to perform route alerting. As a result, it was not until a call was received from East Vincent Township requesting route alerting assistance that borough officials realized their mistake and implemented route alerting for the hearing-impaired. This did not occur until 70 minutes after the sirens had sounded. Borough officials should review the plan, which charges them with responsibility to implement route alerting for the hearing-impaired residents; the capability to perform this action in a timely manner should be demonstrated in future exercises. | E.6. | Route alerting procedures for the hearing-impaired will be reviewed with the EMCs and borough officials. | Apr. '88 |

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<p>37. A list of mobility-impaired and hearing-impaired residents of Spring City Borough was not shown to the observer, and borough officials acknowledged that the list they had received from the county was not accurate. The list had reportedly been sorted on the basis of residents' zip codes. As the postal zones do not correspond to jurisdictional boundaries, the Spring City list included people who were not actually borough residents. Borough officials, in coordination with the county, should ensure that accurate lists of hearing-impaired and mobility-impaired residents are compiled. The lists should be maintained at the borough EOC, and made available to the observer at future exercise.</p>	<p>E.6., J.10.d.</p>	<p>Lists of hearing-impaired and mobility-impaired will be reviewed for accuracy.</p>	<p>Apr. '88</p>	
<u>East Coventry Township EOC</u>				
<p>38. The township officials did not initiate route alerting for notification of hearing-impaired when the sirens sounded at Site Area Emergency, as they should have. Rather, they waited until receiving the General Emergency declaration to activate this function. The appropriate officials should review the plan, and demonstrate the proper activation of route alerting for the hearing-impaired during future exercises.</p>	<p>E.6.</p>	<p>Route alerting procedures for the hearing-impaired will be reviewed with the EMCs and borough officials.</p>	<p>Apr. '88</p>	
<u>East Vincent Township EOC</u>				
<p>39. Full EOC staffing, as specified in the plan, did not occur as the position responsible for performing the Fire Services and Radiological functions was not manned. These functions were assigned (one apiece) to two other staff members who already had two functions to perform. Furthermore, the township did not have the capability for a second shift. Additional staff members should be recruited, as necessary, and trained; a full first shift and capability for a full second shift should be demonstrated in future exercises.</p>	<p>A.2.a, A.4.</p>	<p>Cross training is emphasized for all staff positions. If necessary staff augmentations will be recommended. Additional staff members will be recruited and trained to provide the capability for 24-hour coverage.</p>	<p>Apr. '88</p>	

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
40. Several incorrect telephone numbers were noted on the staff notification list. The EMC should ensure that this list is checked periodically and kept current.	E.2.	Notification lists will be reviewed and updated periodically.	Apr. '88	
41. Staff members, particularly the EMC and acting RO, were unfamiliar with their respective tasks. The EOC staff should receive further training.	O.1.	The EOC staff will receive further training in all aspects of EOC operations.	Apr. '88	
42. Township officials did not activate route alerting for the hearing-impaired residents following the initial siren activation (during Site Area Emergency) as the plans specify. Rather, they incorrectly delayed this action until the second (simulated) siren activation during the General Emergency. Appropriate township officials should review the plan procedures for implementing route alerting for the hearing-impaired. The capability to correctly activate this function should be demonstrated in future exercises.	E.6.	Route alerting procedures for the hearing-impaired will be reviewed with the EMCs and borough officials.	Apr. '88	
43. Township officials did not demonstrate or simulate the activation of the five traffic control points identified in the plan. Officials reported that they did not have sufficient personnel or equipment to perform this task. The township should obtain the resources necessary to establish the traffic control points for which it has responsibility. Proper activation of this capability should be demonstrated in future exercises.	J.10.g., J.10.k.	TCP capabilities will be reviewed and corrected if necessary.	Apr. '88	

Great Valley School District

44. There was no demonstration (or simulation) by Great Valley School District of the capability for dealing with traffic caused by parents attempting to pick up their children. In future exercises school district officials should perform all functions required by the emergency plan, including arrangements to establish traffic control	J.9.	Traffic control procedures will be reviewed with the Great Valley School District and corrected as necessary.	Apr. '88	
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Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date'	Actual Date
<u>Montgomery County EOC</u>				
45. The Transportation and Agriculture positions were not represented by the individuals designated to fill those positions, although other individuals were assigned to assume these responsibilities. In the case of the former, in discussions with the EMC, the federal observer was informed that the Transportation Officer participated out-of-sequence during the school exercise. FEMA was expecting this function to take place during the evening exercise and was not informed differently prior to the exercise. Thus, the function of this critical position could not be observed. All primary staff, or their designated backup, should participate in future exercises.	A.4.	An attempt will be made to insure that all EOC positions are staffed during future exercises.	Apr. '88	
46. Some RACES operators were at the municipal EOCs prior to the Alert, and thus prior to the time municipal EOCs would be activated. Future exercises should avoid the pre-positioning of EOC staff.	E.2.	In future exercises PEMA will advise that personnel manning should follow scenario events to ensure a realistic demonstration of EOC capabilities.	Apr. '88	
<u>Douglass Township EOC</u>				
47. The Public Works Officer did not participate in this exercise. Although his responsibilities were assumed by other individuals, full staff capability, as designated in the plan, should be demonstrated at the next exercise.	A.2.a.	All EOC staff members or their designated representatives should participate in scheduled exercises.	Apr. '88	
48. Lists of impaired residents are available at the EOC. This data has not been tabulated for ease of route alerting, and some information is reported by the staff to be inaccurate. Steps should be taken to organize the materials for route alerting teams, especially concerning hearing-impaired individuals. Also, if there is a concern over the accuracy of the lists, the township should meet with other appropriate individuals to resolve the problem as soon as possible.	E.6.	A listing of mobility-impaired and hearing-impaired will be maintained in the EOC and updated as changes occur.	May 1, '86	

Recommendation	Reference MUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>Lower Salford Township EOC</u>				
49. The township EOC heard status changes over the police band but did not receive notification authentication until RACES messages were received (About a 5-6 minute delay). Thus, the township EOC was not the official, first point-of-contact for the county EOC. The emergency response plan states that "incident classification and protective action information will normally be provided by the county via RACES and confirmed by a county-initiated telephone call." This was not the case. An attempt should be made to closely coincide messages being broadcast over different communication networks.	E.1.	An attempt will be made to closely coincide messages being broadcast over different communication networks.	Apr. '88	
50. The list of EOC staff members in the township's emergency response plan was not current, i.e., did not match up one for one with the list the EMC used for activation.	A.2.a.	The EOC staffing list will be made current.	May '86	
<u>New Hanover Township EOC</u>				
51. The RACES equipment presented some communications difficulties. Outgoing message traffic was difficult to receive at other locations. Appropriate steps should be taken to resolve this problem.	F.1.b.	RACES equipment will be used primarily for incoming messages.	May '86	
52. The EOC staff was pre-positioned at the start of the exercise. Future exercises should demonstrate realistic activation procedures, as called for in the RERP.	E.2.	In future exercises, PEMA will advise that personnel manning should follow scenario events to ensure a realistic demonstration of EOC capabilities.	Apr. '88	

Recommendation

Upper Frederick Township EOC

53. The delayed arrival of the EMC highlighted several potential problem areas. A backup or second shift EMC did not respond, leaving persons unfamiliar with up-to-the-minute changes and details in charge for over 1-1/2 hours. Although sufficient information on proper procedures and lists of hearing-impaired and persons requiring evacuation assistance was available at the EOC, no one knew where this information was. The most current plan and detailed instructions for other key responders were not labelled, and therefore were not found and used. Better organization and labelling of this documentation would be an appropriate and prudent way to correct this confusion. Also, a key to the filing cabinet where this information and the telephone were stored should be clearly identified and be available in the township office above the EOC. These procedures are especially important due to the EMC's job being located in Philadelphia, a considerable distance away.
- J.9. Procedures will be established to permit access to all emergency documents by EOC staff personnel. Additionally, training will include procedures for designated personnel to assume directive positions when the situation so dictates. An attempt will be made to insure that all EOC positions are staffed during future exercises.
- Apr. '88

Upper Frederick Township EOC

54. EOC personnel exhibited some confusion concerning the proper use of KI, both in appropriate doses and when KI should be taken. Instructions were given for the route alert personnel to take KI immediately after its dispersal, not waiting for the Health Secretary's instruction.
- J.10.e. EOC personnel will be advised of the proper use of KI.
- Apr. '88

Upper Pottsgrove Township EOC

55. Individuals should not be pre-positioned at the EOC. This prevented a realistic notification process to the township EMC from being accomplished, including the activation of the EOC staff.
- E.1.,
E.2. In future exercises, PEMA will advise that personnel manning should follow scenario events to ensure a realistic demonstration of EOC capabilities.
- Apr. '88

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date'	Actual Date
<p>56. Although the township EOC staff felt that the one hearing-impaired individual would be notified of an emergency at Limerick by a relative with which she resides, the township should take an active role in ensuring the individual is notified as the relatives may not be home at all times. The EBS station should be monitored as called for in the township's plan.</p>	E.6.	<p>An attempt will be made to notify, as required, all individuals on the impaired list.</p>	May '86	
<u>West Pottsgrove Township EOC</u>				
<p>57. There needs to be a clarification both in the West Pottsgrove Township plan and in the minds of the EOC staff about the communications system. Prior to the exercise it was thought that the primary means of communication would be the telephone and that RACES would provide backup. During the exercise it became apparent that the RACES was primary and that land line was backup. It is recommended that all appropriate plans be revised to simply reflect the available communications systems. Prioritization of the system is not a necessity. This gives emergency responders the flexibility of utilizing the equipment as they see fit.</p>	F.1.a., F.1.b.	<p>Plan will be revised to indicate available communications systems.</p>	Apr. '88	
<u>Pottstown Borough EOC</u>				
<p>58. A borough police Sergeant was designated as the EOC communications representatives for this exercise. A backup individual, however, was not assigned for this position nor for the Emergency Management Coordinator's position. Twenty-four hour coverage for all EOC responsibilities should be established.</p>	A.2.a., A.4.	<p>An attempt will be made to fill each EOC staff position to include 24-hour coverage.</p>	May '86	

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date'	Actual Date
59. According to the borough Police Chief, twenty-four fire/police representatives are available to man the 17 identified traffic control points. However, training has yet to be provided to this staff resource as the borough plan had not been approved until recently. Training concerning traffic control point responsibilities, reception center location and personal protective actions should be provided to these persons.	O.1.	Training will be provided as required.	Sep. '86	
60. The mailing poll recently conducted within the borough indicates a total of 5 hearing-impaired persons and 15 mobility-impaired individuals. These numbers are significantly different from those sited in the plan. The plan should be updated to reflect the current number of special needs persons.	J.10.d.	The plan will be updated as required.	Dec. '86	
<u>Collegetown Borough EOC</u>				
61. EOC staff contact lists were not available at the EOC as they were reportedly being updated at an EOC staff person's home. A 1983 telephone directory was used instead in order to obtain telephone numbers for EOC staff. Measures should be taken to ensure that a call-down list is available at the EOC at all times.	E.2.	A call-down list will be available in the EOC at all times.	Sep. '86	
<u>Green Lane Borough/Marlborough Township EOC</u>				
62. The individual newly positioned as the EMC had been active in this role for approximately one month at the time of the exercise. The local plans should be revised to identify this individual as the designated EMC.	A.2.a.	Appropriate documents will be revised.	Sep. '86	

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
<u>Royersford Borough EOC</u>				
63. Confusion over the accepted method of notification to Royersford Borough from the county led to a delayed activation of the EOC. If the tone alert radios are to be used for EOC staff mobilization, the cause of the non-activation of all appropriate radios should be determined and corrected, and this means of staff notification should be incorporated within the plan. If notification was to be accomplished by some other method, the appropriate officials at the borough and county levels should discuss how this problem can be resolved.	E.1.	Confusion will be eliminated through training.	Dec. '86	
64. The Public Works and Police Chief were not represented at the EOC. Full representation of all EOC positions should be demonstrated during exercise activities.	A.2.a.	An effort will be made to have full representation of all EOC positions.	Sep. '86	
<u>Schwenksville Borough EOC</u>				
65. Two of the EOC staff did not participate through the entire exercise. The Public Works Officer arrived at approximately 1900, and the Transportation Officer arrived at about 1700 and left by 1730. Although the Deputy EMC was at the EOC the entire exercise and assumed these responsibilities, future exercises should demonstrate full staffing throughout the exercise.	A.2.a.	An effort will be made to have full staffing in the EOC.	Sep. '86	
66. The police department is responsible for manning 2 traffic control points using 5 staff persons in the plan. However, they currently have only 2 police officers and have to rely on the fire/police to fill the outstanding staff requirements. This staff resource for TCPs should be identified in the plan.	A.2.a.	TCP resources will be identified in the plan.	Dec. '86	

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Actual Date
67. A predetermined reorganization of the route alert sectors (using 3 vehicles instead of 2, as identified in the plan) was utilized during this exercise. This change in procedure should be incorporated within the municipal plan.	E.6.	Route alerting will be accomplished as efficiently as possible.	May '86	
<u>Lower Frederick Township EOC</u>				
68. Door-to-door notification to the hearing-impaired was not initiated in coordination with the activation of the sirens as indicated in the township plan. Further exercises should demonstrate the notification of the total general public upon decision to activate the Emergency Broadcast System.	E.6.	Procedures will be implemented to ensure notification of the hearing-impaired.	Dec. '86	
<u>Lower Pottsgrove Township EOC</u>				
69. In demonstrating EOC activation and staffing activation, the call list did not appear to be up-to-date. There was some problem in staffing the EOC; the primary Medical Officer was involved in an actual emergency and the backup Medical Officer could not be located. Measures should be taken to ensure the manning of all positions at the EOC at the appropriate time during the next exercise.	A.2.a., E.2.	An effort will be made to have full staffing in the EOC.	Dec. '86	
70. There was no plume EPZ map posted. A plume EPZ map should be acquired by the township and posted within the EOC for reference purposes during future exercises.	J.10.a.	An effort will be made to obtain a plume EPZ map for future exercises.	Dec. '86	
71. No activities were demonstrated concerning route alerting of the hearing-impaired. These activities should be simulated at a minimum in future exercises, to include the notification of appropriate staff who would be assigned these functions.	E.6.	Procedures will be implemented to ensure notification of the hearing-impaired.	Dec. '86	

Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date'	Actual Date
<p>76. The EOC staff believed that dosimeters were to be read only before and following a field mission. Similarly, the staff was not aware of maximum allowable exposure without authority. This information is set forth in the major portion of the plan, but not in the procedural portion of the plan. The EMC agreed that this was a potential oversight and indicated an intention to revise the plan. This would involve incorporating this information in the procedural section or referring to the plan page number. A card could be placed in the dosimeter boxes reminding workers of dose limits and how often to read their dosimeters. Once the determined actions have been decided, the accepted revisions should be incorporated into the township activities. Also, additional training should be provided to EOC staff to ensure awareness of this information.</p>	<p>K.3.a., K.4.</p>	<p>The plan will be revised as noted and training will be provided as required.</p>	<p>Dec. '87</p>	
<u>Perkiomen Township EOC</u>				
<p>77. The township has not received instructions in what to do for the hearing-impaired beyond going to their residences. It is recommended that further instructions be given to the staff in this area.</p>	<p>E.6.</p>	<p>Further instructions will be provided to the staff in this area.</p>	<p>Dec. '86</p>	
<p>78. The maximum dose allowed without authorization was incorrectly identified as 40 rem (rather than 25 rem as listed in the plan). It is recommended that exposure limits be reviewed by staff.</p>	<p>K.4.</p>	<p>Exposure limits will be reviewed by the staff.</p>	<p>Dec. '86</p>	

Recommendation

Lower Providence Township EOC

72. The Emergency Management Coordinator and the EOC staff were pre-positioned and notification and mobilization procedures were therefore not observed. However, the police dispatch center is manned 24-hours a day which potentially provides for the rapid notification of staff. Mobilization procedures should be demonstrated in future exercises. E.2. In future exercises, PEMA will advise that personnel Apr. '88 manning should follow scenario events to ensure a realistic demonstration of EOC capabilities.
73. Due to township financial concerns, the Public Works position for this exercise was not manned. Future exercises should provide for the staffing of all EOC positions. A.2.a. An effort will be made to have full staffing in the EOC. Apr. '88
74. Notification of hearing and mobility-impaired individuals was initiated following the evacuation order, received at 2014. The township plan, however, calls for the dispatch of route alert teams to notify the hearing-impaired if the public alert system is activated. In this exercise, the alert and notification system was activated during Site Emergency at 1940. Additional training should be provided to township EOC staff to ensure timely and appropriate contact with identified hearing-impaired individuals. E.6. Procedures and training will be implemented to ensure notification of the hearing and mobility-impaired. Dec. '86

Skippack Township EOC

75. The EOC staff, in objectively discussing available local resources, indicated that all roads could not be kept open should an evacuation occur during a heavy snow storm. To overcome this, the Public Works Officer intends to canvas the township for volunteers with snow plow attachments on their vehicles. Assistance would also be requested of PennDOT. When procedures are finalized they should be incorporated in the plan, including provisions for providing any volunteers with the necessary radiological exposure control equipment. J.10.k. Noted. May '86

Recommendation

Perkiomen Valley School District

79. The absence of a RACES operator at the school district office resulted in significant impact to response operations. Since the order to evacuate was distributed over RACES, the Superintendent was not advised that an evacuation was in effect. (Follow up conversation with county staff indicated that the RACES operator assigned to the district office went instead to a district school and, therefore, never arrived at the district office.) The Superintendent did not communicate by telephone with the county as to the status of sending an operator when it was apparent that no RACES representative had arrived, nor were communications initiated with the county to receive updates in status of the situation. The Superintendent should confer with the county in order to determine the cause for the mislocation of the RACES operator, and take the necessary measures to ensure that this does not occur in future exercises.

E.1.,

Procedures have been established to preclude a reoccurrence of this nature.

May '86

Bucks County

80. The county had reportedly been directed by the State not to man the mass care center with monitoring/decontamination teams. Future exercises should demonstrate full activation of the mass care center to include monitoring and decontamination actions.

J.12.

Radiological monitoring and decontamination procedures were not a stated objective to be demonstrated during this exercise. The procedures will be demonstrated during the next established exercise.

Apr. '88

81. Although "evacuees" were available at the mass care center, a registration table was not established for approximately one hour following center activation, and inappropriate procedures were used to register these persons. Registration procedures should be demonstrated at future exercises.

J.12.

The county emergency management coordinator will review procedures with mass care personnel. Registration procedures will be demonstrated during the next scheduled exercise.

Apr. '88