



Federal Emergency Management Agency

Washington, D.C. 20472

MAY 19 1989

Mr. Frank J. Congel
Director
Division of Radiation Protection
and Emergency Preparedness
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Congel:

Enclosed is a copy of the final exercise report for the April 5, 1989, exercise of the offsite radiological emergency preparedness plans site-specific to the Limerick Generating Station. This was a full-participation exercise for the Commonwealth of Pennsylvania, Berks, Chester, and Montgomery Counties, the support Counties of Bucks and Lehigh, and 43 risk municipalities. This final exercise report was prepared by the Region III office staff of the Federal Emergency Management Agency.

There was one deficiency identified during the exercise which involved Lower Pottsgrove Township, Pennsylvania. The overall response capability demonstrated by the Lower Pottsgrove Township Emergency Operations Center staff was not adequate to ensure that the health and safety of the residents could be protected. A remedial exercise has been scheduled for June 14, 1989, with Lower Pottsgrove Township. You will be provided a copy of the remedial exercise report as soon as it becomes available. In addition, there were a number of areas requiring corrective action. The response from the Commonwealth of Pennsylvania to the areas requiring corrective actions are incorporated into the final report.

Based on the results of this exercise, the offsite preparedness at the Limerick Generating Station is not adequate to provide reasonable assurance that appropriate measures can be taken offsite to protect the health and safety of the public in the event of an accident.

If you should have additional questions, please contact Craig S. Wingo, Chief, Technological Hazards Division, at 646-3026.

Sincerely,

Dennis H. Kwiatkowski
Assistant Associate Director
Office of Natural and Technological
Hazards

Enclosure

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Mr. Joseph L. LaFleur, Director
Pennsylvania Emergency Management Agency
P.O. Box 3321
Harrisburg, Pennsylvania 17105-3321

Dear Mr. LaFleur:

Enclosed please find the Final Report for the Limerick Generating Station Exercise which was held on April 5, 1988. Through use of comments on the draft report provided by the Pennsylvania Emergency Management Agency and an extensive review by the FEMA Region III REP staff, we have been able to clarify and condense several issues in the final report. Modifications are summarized in the attached table.

We cannot support your comments in reference to the Deficiency identified in Lower Pottsgrove Township. As outlined in 44 CFR 350, all jurisdictions within the EPZ must participate in an exercise every two years. That participation must demonstrate the ability to adequately protect the health and safety of the public. This was not accomplished in Lower Pottsgrove Township.

We request your assistance with the resolution of this deficiency as soon as possible. Lower Pottsgrove Township should demonstrate its Radiological Emergency Response Plan during a remedial exercise. Participation should include the response of organizations within Lower Pottsgrove Township as outlined in the REP Plan.

The supplemental information and clarifications you have provided concerning Areas Requiring Corrective Actions have been considered. In some instances we have modified the report accordingly. These issues should be corrected and re-demonstrated during the next full-participation exercise in 1990.

Twenty-seven Areas Recommended for Improvement are included in the final report. As you are aware these are recommendations only. They do not imply that something was done incorrectly, only that by using the recommendations, overall response capabilities could be improved.

Page 2 - Joseph L. LaFleur, Director
Pennsylvania Emergency Management Agency

We greatly appreciate the time and effort expended by you and your staff in the completion of this report.

Sincerely,

Paul P. Giordano
Regional Director

Enclosures: 2/s

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: NOVEMBER 23, 1988

EXERCISE DATE: APRIL 5, 1988

PARTICIPATING
JURISDICTIONS:

Commonwealth of Pennsylvania
Risk Counties of Berks, Chester, and Montgomery
Support Counties of Bucks and Lehigh
Forty-Three Risk Municipalities

NON-PARTICIPATING
JURISDICTIONS:

NONE

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EXECUTIVE SUMMARY

STATE EOC

The capability to respond promptly to an unannounced, after-hours exercise was well demonstrated. The participation and presence of both the Lieutenant Governor and the Governor during the exercise is highly commendable. As stated in the emergency response plan, the Governor is responsible for making protective action decisions and for authorizing activation of the alert and notification system (sirens and EBS). PEMA is responsible for providing protective action decisions to the risk counties and coordinating siren and EBS activation. PEMA did not provide adequate guidance on alert and notification system activation during this exercise. This resulted in inconsistent system activation among the risk counties at Site Area Emergency. At General Emergency, the counties coordinated siren and EBS activations on their own. The problems experienced by the counties illustrate the need for effective State level coordination of siren and EBS activation procedures (see County Reports). Primary communications systems were adequately demonstrated except at General Emergency, when it was not possible to access the dedicated telephone. The dedicated telephone system has been installed to insure that a quick, dependable communications system is available to provide critical information to response organizations. Steps should be taken to insure that this system is available to serve the purpose for which it was intended. The computerized emergency information tracking and display system shows great promise of being an outstanding aid to timely emergency management response at the PEMA EOC. Since other agency response teams are located outside the operations room and the Director's decision center, the emergency information tracking and display system should be used to keep operations staff advised of key actions taken and message traffic generated by agencies located outside the operations area.

EMERGENCY OPERATIONS FACILITY (EOF)

The EOF adequately demonstrated the ability to provide appropriate information to offsite officials. BRP notified the EOF that sirens and EBS would be activated at 2200, when, in fact, they were activated at 2145. Care should be taken to insure accurate information is provided.

BUREAU OF RADIATION PROTECTION (BRP)

Throughout the exercise BRP was up-to-date on plant conditions and made appropriate recommendations for protective actions for the general public. Since there was little release of iodines, the decision to authorize the use of KI for emergency workers may require more careful consideration. While working out of the

State EOC is more conducive to interface with FEMA, much of the benefit of ERP's Fulton Building location has been lost. ERP's dedicated telephone, dose prediction computer and plant drawings are still located at the Fulton Building. In addition dedicated work space is not available.

PECO HEADQUARTERS EMERGENCY NEWS CENTER

The director and staff at the Emergency News Center exhibited enthusiasm, knowledge and prior experience of their duties. Although FEMA representatives present were professional and competent, the State Plan requires that the State Media Center operate out of the State EOC in Harrisburg and that all news releases to the public, generated by the State, originate there. The role of the State representative was to serve as a liaison between the State Media Center and the PECO Headquarters Emergency News Center. The physical arrangement of the center is not conducive to the exchange of information. Responders are segregated in separate offices, no public address system is presently available, and the status board should be located in a more prominent location and should be kept current. It is recommended that press briefings be recorded to enable verification of statements made to the press and to provide a vehicle for training in preparation for future exercises.

STATE MEDIA CENTER

The staff in the State Media Center displayed their usual high degree of enthusiasm and professionalism during the exercise.

ACCESS AND TRAFFIC CONTROL

The Pennsylvania State Police, Limerick Barracks fully demonstrated their ability to respond to an emergency situation. However, notifications from State Police representatives at the State EOC were not timely, e.g., official notification of an Alert was not received from the State EOC until 1852; Site Area Emergency was not received until 2110.

BRANDYWINE HOSPITAL

The Brandywine Hospital performed well for having only a few months to train and should be complimented on their enthusiasm. The hospital staff were only given four minutes warning that a contaminated victim was being brought in. Additional training and experience in marking the secure area, covering all areas to prevent the spread of contamination, and correct disrobing procedures are needed. Swabs of wounds and contaminated areas should be kept and sent to a laboratory for testing. Staff were not aware of what an EOC was or how to contact it. Perhaps overall training in radiological emergency response plans and concepts of operation is warranted.

AMBULANCE AND CREW

The Ambulance Crew were properly dressed but did not wear masks. No survey meter was available in the ambulance. The crew notified the hospital that they were transporting a contaminated victim only four minutes prior to arrival at the hospital. The patient was taken into the hospital on the ambulance gurney. The patient should be transferred to a hospital gurney outside to avoid possible spread of contamination into the hospital. For the same reason ambulance crew should remain outside to be monitored and to remove protective clothing.

RED CROSS FIELD HEADQUARTERS

The Red Cross Field Headquarters adequately demonstrated the capability to respond to an emergency situation. It is recommended that the scenario of future exercises be extended to allow the completion of actions to obtain unmet needs.

AIR SAMPLING TEAM

This sampling team is in need of additional training and experience with vehicle operations, radio procedures, and the sampling locations.

WATER SAMPLING TEAM

Overall, the team was well equipped to obtain samples and were familiar with sampling locations. Specific operating procedures for taking samples during a radiological incident are needed. Instructions were provided on sampling points by telephone from the supervisor; however, it took 30 minutes to obtain additional information concerning sample disposition and decontamination procedures. The team members used gloves while taking samples but no other protective gear or radiation detection equipment was available.

AGRICULTURAL SAMPLING TEAM

Team members were not notified in a timely manner by the Pennsylvania Department of Agriculture (See exercise report). They arrived at the dispatch point (Montgomery County EOC) at 2300 and 2310 respectively. Since they did not report until just prior to termination of the exercise no agricultural sampling was demonstrated.

BERKS COUNTY ACTIVITIES

The County Commissioners, EMC, Deputy EMC and staff promptly activated the EOC and responded appropriately to the Limerick

Nuclear Generating Station emergency. The EMC has provided the staff with comprehensive checklists to follow to insure that all response actions are completed. The Radiological Officer and his staff have provided excellent support through training and development of procedures. It was noted that during the Site Area Emergency as well as the General Emergency, that FEMA requested the County to activate the siren and EES system without providing sufficient time for the County to notify municipalities of these actions. The County, realizing the importance of this coordination, still notified appropriate emergency workers and activated the system within the required fifteen minute criteria. The Reception/Mass Care Centers and the Decontamination Station all provided adequate demonstrations of their respective plan functions. The Pennsylvania National Guard and the County Agriculture Agent did not participate in the exercise. It was also noted that the rumor control function was staffed with competent personnel who have not been provided training and written procedures necessary for the accomplishment of rumor control functions. Overall, the Berks County staff demonstrated the ability to implement major portions of their plan and would be able to accomplish the functions necessary to protect the populace.

AMITY TOWNSHIP

Initial notification was not in accordance with the plan and was a concern during the last exercise. The procedures used however, seemed effective and perhaps the plan should be adjusted to identify these initial notification procedures. Public protective actions such as route alerting were accomplished adequately.

BOYERTOWN BOROUGH

This municipal EOC staff demonstrated many examples of their training and preparation. The Deputy Coordinator managed the staff effectively and efficiently; there was cooperation among all and at no time did delays occur in responding to the situation. Although back-up power was operational, it was inadequate to power both lights and radio equipment. The two prior inadequacies were resolved. Generally, this Borough staff functioned with pride and seriousness.

COLEBROOKDALE TOWNSHIP

This Township reacted expertly and without problems throughout the exercise.

DOUGLASS TOWNSHIP

The Emergency Management Coordinator and the Emergency Operations Center staff accomplished all assignments for the exercise in accordance with the Radiological Emergency Response Plan.

EARL TOWNSHIP

A real fire occurred in this township at the same time the Limerick Exercise was initiated. A partial crew (those not involved in the fire) of emergency workers set up the EOC and kept it operating until the EMC reported. The EOC staff are to be commended for their enthusiasm; however, additional training is recommended for all emergency workers in the use of dosimetry and KI.

UNION TOWNSHIP

The Union Township staff demonstrated the overall ability to protect the public and manage emergency operations. The route alert and traffic control points were not activated. The EMC was waiting for initiation and coordination of these functions by the County. Personnel were available to demonstrate these activities.

WASHINGTON TOWNSHIP

Initial notification of the EMC was not accomplished in accordance with the plan. It was by chance that he learned of the incident over his scanner and reported to the EOC promptly. According to the EMC, he does not have sufficient staff to provide twenty-four hour staffing. Overall, there was effective management of the response.

CHESTER COUNTY ACTIVITIES

The capability for responding promptly to an unannounced exercise was well demonstrated. The Director capably managed the emergency operations, and the staff thoroughly demonstrated their capability for implementing an evacuation, activating mass care and establishing radiological exposure control for emergency workers. Due to PEMA's lack of guidance, the County demonstrated inconsistent siren activation procedures, thus illustrating the need for effective state level coordination of this action. Despite a radio message from the County, there was no indication at seven municipal EOCs that the staffs were aware of the second simulated siren activation. Workable after-hours telephone numbers should be identified for all listed transportation sources. Reception/Mass Care Centers and the Emergency Worker Decontamination Station were well prepared and the facilities were more than adequate. The radiological monitoring teams at the Mass Care Center demonstrated very thorough but lengthy

monitoring of evacuees: a more rapid scanning technique would permit processing of evacuees in a reasonable time.

CHARLESTOWN TOWNSHIP

The EMC and staff adequately demonstrated their capability to implement the Township's emergency plan. The staff members were cross-trained to perform all EOC jobs.

EAST COVENTRY TOWNSHIP

The objective to demonstrate full EOC staffing was not achieved, as the radiological officer did not participate. The EMC performed this duty, however, and he and his staff accomplished the other exercise objectives; and corrected the previous inadequacy. It is recommended that the message distribution procedure be modified.

EAST NANTMEAL TOWNSHIP

Operations were carried out properly by a well trained staff. It is recommended that EOC security be tightened.

EAST PIKELAND TOWNSHIP EOC

The EOC personnel did an excellent job and demonstrated that they were fully prepared to meet the exercise objectives. A new message handling system was very effective. The previous inadequacy was corrected.

EAST VINCENT TOWNSHIP

The EOC staff, including the Township Supervisors, were familiar with their responsibilities and demonstrated the capability to implement the appropriate actions for notifying and evacuating all residents. Although the EOC was double staffed, Township officials indicated the need for recruiting additional EOC personnel. A maintenance program should be implemented to assure that the emergency generator is operational.

NORTH COVENTRY TOWNSHIP

The capabilities of the EMC, his staff, and the EOC and facilities were tested and found to be more than adequate to handle an actual emergency. The two previous inadequacies were resolved.

PHOENIXVILLE BOROUGH

The objective to demonstrate full staffing was not accomplished, due to the absence of the medical officer. Otherwise, emergency operations were performed well. There is a recommendation that the status board be kept current at all times.

SCHUYLKILL TOWNSHIP

The emergency response was well organized, and all required actions necessary to meet the exercise objectives were accomplished. The four previous inadequacies were also resolved. However, Township officials acknowledged that local resources are not adequate to simultaneously man all TCPs, a problem which should be addressed in the plans and future exercises.

SOUTH COVENTRY TOWNSHIP

The staff, capably directed by the EMC, performed the appropriate actions in accordance with the emergency plan. No problems were identified. Two prior inadequacies were corrected.

SPRING CITY BOROUGH

The Coordinator and staff adequately demonstrated that they could accomplish the Township's emergency responsibilities. The second shift personnel were actually called in, but in the process it was discovered that some telephone numbers were incorrect. Three previous inadequacies were corrected.

UPPER UWCHLAN TOWNSHIP

Emergency operations were generally performed well, but the objective to demonstrate backup electrical power for the EOC was not met. There was a discrepancy between information in the plan and a statement by the EMC at the exercise regarding the existence of hearing-impaired and mobility-impaired residents. As a result, the objective to identify and notify such residents was not tested.

UWCHLAN TOWNSHIP

The emergency operations were performed properly by the well trained staff.

WARWICK TOWNSHIP

The EMC and staff thoroughly performed their responsibilities and demonstrated the capability to accomplish the exercise objectives.

WEST PIKELAND TOWNSHIP

Township officials failed to meet two exercise objectives. The EMC did not demonstrate the manning of the traffic control point using local personnel, and he did not activate route alerting for the hearing-impaired, stating that he did not have sufficient resources for this responsibility. The latter problem repeats a previous inadequacy. A second previous inadequacy was corrected.

WEST VINCENT TOWNSHIP

The EMC and staff adequately demonstrated the capability to perform their emergency plan responsibilities. All exercise objectives were achieved, but there is a recommendation to adopt a formal message procedure for enhanced internal coordination. Both inadequacies were corrected.

MONTGOMERY COUNTY ACTIVITIES

The Montgomery County Emergency Management Coordinator capably directed response actions in the EOC. All staff members were well trained and knowledgeable of their responsibilities. A minimum amount of simulation was demonstrated during the exercise. Shortly after the exercise began, the County was involved in responding to a real fire which required 12 fire companies to withdraw from the exercise to assist with the real emergency. When it was discovered that Lower Pottsgrove Township had only one staff member at the EOC, Montgomery County staff members were assigned tasks to insure appropriate actions were taken to protect the residents of the Township. The County does not require verification of receipt of pager notifications. If verification had been required, Montgomery County would have been aware that appropriate staff had not responded in Lower Pottsgrove Township. Siren and EBS activations were not coordinated with the risk counties by PEMA, as called for in the State Plan. This resulted in an inconsistent siren and EBS activation at Site Area Emergency. At General Emergency the Counties coordinated the siren and EBS activation themselves. The problems experienced in this area clearly indicate the need for PEMA to take the lead in coordinating a specific time with the risk counties for simultaneous siren and EBS activations. Reception/Mass Care Centers and Decontamination Station were activated according to the plan. Monitoring of the evacuees at the mass care was well demonstrated. The Emergency Worker Decontamination Station was not equipped to handle female emergency workers. Only one door was available into the shower room. Emergency Workers were not sure of when to take KI and what PAGs for the thyroid are.

AMBULANCE AND READING HOSPITAL

An ambulance crew demonstrated transporting a contaminated injured worker to the hospital. Additional training in Radiological Exposure Control is needed. Staff at the Reading Hospital were enthusiastic. No permanent record dosimeters were available to hospital staff.

COLLEGEVILLE BOROUGH

The Collegeville Borough emergency staff responded adequately. Appropriate actions were taken in a timely manner. All four route alert teams were activated to demonstrate full coverage of the municipality. Additional training and familiarity with the plan criteria in the area of dose limits and KI procedures is needed for the Radiological Officer.

DOUGLAS TOWNSHIP

Overall response was adequate. Messages and status boards reflected times incidents were classified by the utility, not times the EOC received them. Traffic control points were not activated due to a real emergency. However, no assistance was requested from the County. Players in the EOC were not aware of who to contact in the County for verification of unmet needs or requests for backup assistance or to clarify unclear messages.

GREENLANE BOROUGH/MARLBOROUGH TOWNSHIP

Overall response capabilities are excellent.

LIMERICK TOWNSHIP

This Township performed in an excellent manner. Although route alerting was demonstrated, the County notified the Fire Company directly without the EMC's knowledge. The EOC staff had difficulty contacting the County by telephone; however, RACES was used and worked effectively.

LOWER FREDRICK TOWNSHIP

Overall response was adequate. Route alerting was performed twice; once at Site Area Emergency and again at General Emergency.

LOWER POTTS GROVE TOWNSHIP

The overall response capability demonstrated by the EOC staff was not adequate to ensure that the health and safety of the residents could be protected. Specific details are included in the exercise report.

LOWER PROVIDENCE TOWNSHIP

Initial notification did not occur until RACES arrived at 1836 and informed the Police Chief who was at the EOC. Overall, the staff adequately demonstrated their response capabilities.

LOWER SALFORD TOWNSHIP

Adequate response capabilities were demonstrated. No problem areas were noted.

NEW HANOVER TOWNSHIP

This township demonstrated excellent capabilities to meet plan requirements.

PERKIOMEN TOWNSHIP

Activation and staffing of the EOC occurred in accordance with the plan. Management was good but would be improved with periodic briefings. Additional training of staff would also help.

POTTSTOWN BOROUGH

Overall management of the EOC was good; however, message handling internally was not timely. The EMC was not given the evacuation message until 2200. Hearing-impaired alert teams were activated. Briefing of Traffic Control Point staff did not include Reception Center locations or evacuation routes.

ROYERSFORD BOROUGH

The EMC managed overall operations in the EOC effectively. The public works officer was not available for the exercise. Radiological officer was well trained and knowledgeable; however, exposure control briefings were not complete. Special evacuation problems were handled promptly and understood thoroughly by the route alert team, the EMC and EOC staff. The PEMA observer provided training and advice during the exercise.

SCHWENKESVILLE BOROUGH

The EOC activation and staffing was very well coordinated. The Radiological Officer did not participate in the exercise. The EOC was well equipped, and activities were managed effectively by the staff. Activation of public alerting and traffic control functions was promptly initiated. The Medical Officer adequately demonstrated the use of radiological exposure control equipment.

SKIPPACK TOWNSHIP

This was a well run response organization. Route alerting functions were only simulated.

TRAPPE BOROUGH

Trappe Borough EOC staff demonstrated excellent response capabilities.

UPPER FREDRICK TOWNSHIP

Overall, excellent capabilities were demonstrated by the EOC staff. The Township officials were never notified when to start route alerting. Plans should be reviewed to clarify Township responsibilities in the area of route alerting.

UPPER POTTS GROVE TOWNSHIP

Overall response capabilities were adequately demonstrated by this EOC staff. The Township misinterpreted the message for siren and EBS system activation at 2058. The message read "EBS to follow". They thought they should wait until they received the EBS message to initiate route alerting. EBS was only simulated for this exercise. Consequently, the route alert teams were not dispatched. Clarification on what is required of municipalities at the time they are advised of siren activation and the purpose of the EBS message is needed.

UPPER PROVIDENCE TOWNSHIP

Three positions were not staffed in this EOC: the communications officer, the transportation officer and the medical officer. The EMC displayed outstanding leadership abilities and knowledge of the plan; however, performed all functions himself. Some of the staff that were there did not actively participate. The Radiological Officer was well trained and knowledgeable but did not provide a briefing and instructions on radiological exposure control to the staff.

UPPER SALFORD TOWNSHIP

Excellent response capabilities were demonstrated at this location.

WEST POTTS GROVE TOWNSHIP

The staff in this EOC consisted of well trained personnel who were all volunteers. The staff present were professional and efficient; however, 24-hour staffing capability is not available. The Radiological Officer could use some additional training.

SUPPORT COUNTY ACTIVITIES

BUCKS COUNTY

Bucks County adequately demonstrated the capability to accomplish its support role. The staffs of the EOC, Reception Center and Mass Care Center were well trained and knowledgeable of the procedures necessary to monitor, register and provide congregate care for evacuees.

LEHIGH COUNTY

The personnel and facilities involved in the Lehigh County operations were found to be excellent, and the capability for accomplishing the County's support mission was adequately demonstrated. Activations of the EOC, Reception Center and Mass Care Center were timely, the staffs were well trained, and demonstrated their respective capabilities for receiving, monitoring, registering and caring for evacuees.

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, adequate to verify the capability to deal with an accident scenario requiring responses up to, and including, evacuation. This was the third full participation exercise for the Limerick Generating Station and the various offsite organizations. The last full participation exercise was conducted on April 3, 1986.

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 5, 1988 joint, full participation exercise. Areas Requiring Corrective Action will be identified from this exercise and 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 evaluated by a team made up of individuals from FEMA Region III, with support from Argonne National Laboratory (ANL), the Center for Planning and Research (CPR) and the Regional Assistance Committee.

PARTICIPATING JURISDICTIONS

State

Pennsylvania Emergency Management Agency, and other State Agencies with emergency responsibilities during a radiological incident.

Flume EPZ Jurisdictions

Berks County

Amity Township
Boyertown Borough
Colebrookedale Township
Douglas Township
Earl Township
Union Township
Washington Township

Chester County

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

Montgomery County

Collegeville Borough
Douglass Township
Green Lane Borough
Limerick Township
Lower Fredrick Township
Lower Pottsgrove Township
Lower Providence Township
Lower Salford Township
Marlborough Township
New Hanover Township
Perkiomen Township
Pottstown Borough
Royersford Borough
Schwenkesville Borough
Skippack Township

Trappe Borough
Upper Frederick Township
Upper Pottsgrove Township
Upper Providence Township
Upper Salford Township
West Pottsgrove Township

Support Counties
Bucks County
Lehigh County

NON-PARTICIPATING JURISDICTIONS

None.

LIMERICK GENERATING STATION
RADIOLOGICAL EMERGENCY PREPAREDNESS EXERCISE
APRIL 5, 1988

EVALUATOR ASSIGNMENTS

Observer-at-large	Joseph McCarey, FEMA Regional Assistance Committee Chairman
State EOC	Chris Saricks (ANL), Team Leader
State Media	Hugh Laine (FEMA)
BRP	Bill Belanger (EPA)
Joint Media Center	Jim Sutch (CPR)
EOF	Craig Conklin (NRC)
Sampling Teams	
Air	Jerry Combs (DOE)
Agricultural	Cheryl Malina (USDA)
Water	Elisbeth Post (USDA)
	Fred Carlson (ANL)
ACPs and TCPs	Walt Adams (DOT)
Hospital	Fred Gill (HHS-PHS)
Red Cross Field Hq.	Dale Petranech, (ARC)
Berks County Reception/Mass Care Decontamination Station	Bob Shapiro, Team Leader, (FEMA) John Albright (FEMA) Tom Carroll (ANL)
Amity Township	Allen Justus (ANL)
Boyertown Borough	Steve Meleski (ANL)
Colebrookdale Township	Dave Thomas (FEMA)
Douglas Township	Roberta Campbell (FEMA)
Earl Township	Al Henryson (FEMA)
Union Township	Jerry Staroba (ANL)
Washington Township	Roman Helo (FEMA)
Chester County EOC Reception/Mass Care Decontamination Station	Steve Hopkins, Team Leader, (FEMA) George Goforth (CRP) Christine Klimezak (ANL)
Charlestown Township EOC	Bill Curtis (FEMA)
East Coventry Township EOC	Frank DeGregory (FEMA)
East Nantmeal Township EOC	Conrad Tome (ANL)

East Pikeland Township EOC	John Benn (FEMA)
East Vincent Township EOC	Woody Brzozowski, Asst Team Leader
North Coventry Township EOC	Marty Frengs (FEMA)
Phoenixville Borough EOC	Darrell Hammons (FEMA)
Schylkill Township EOC	John Tatar (ANL)
South Coventry Township EOC	Herb Fish (DOE)
Spring City Borough EOC	Ray Douglas (FEMA)
Upper Uwchlan Township EOC	Bob Nesius (ANL)
Uwchlan Township EOC	Etta Sims (FEMA)
Warwick Township EOC	Al Lookabaugh (ANL)
West Pikeland Township EOC	Barbara Gray (FEMA)
West Vincent Township EOC	Ed Hakala (ANL)
Montgomery County EOC	Janet Lamb, Team Leader. (FEMA)
Reception/Mass Care	Howard Rhude (ANL)
Decontamination Station	Marty Simonin (ANL)
Collegeville Borough EOC	Bill Knoerzer (ANL), Asst Team Leader
Douglass Township EOC	John Connolly (FEMA)
Green Lane Borough/Marlboro Township EOC	Guy Brackett (FEMA)
Limerick Township EOC	Tom Majusiak (FEMA)
Lower Fredrick Township EOC	Frank Wilson (ANL)
Lower Pottsgrove Township EOC	Bob Welch (FEMA)
Lower Providence Township EOC	Jack Schuback, (FEMA)
Lower Salford Township EOC	Bill Smalls (ANL)
New Hanover Township EOC	Josh Moore (ANL)
Perkiomen Township EOC	Mike Lazarro (ANL)
Pottstown Borough EOC	Steve Adukaitis (FEMA)
Royersford Borough EOC	Jacques Mittrani (ANL)
Schwenkesville Borough EOC	Joe Ello (ANL)
Skippack Township EOC	Kevin Flynn (ANL)
Trappe Borough EOC	Ed Robinson (ANL)
Upper Frederick Township EOC	Bob Linck (FEMA)
Upper Pottsgrove Township EOC	Bill Beattie (ANL)
Upper Providence Township EOC	Pat Arcuri (FEMA)
Upper Salford Township EOC	Nick DiTullo (CPR)
West Pottsgrove Township EOC	Bill Ludders (ANL)
Bucks County EOC	Dale Petranech (ARC)
Reception/Mass Care	
Lehigh County EOC	Mike Freeman (FEMA)
Reception/Mass Care	

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 and Support County Radiological Emergency Response 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.

OBJECTIVES

1. To demonstrate the timely activation of state, county, and municipal EOCs.
2. To demonstrate the effectiveness of the decision-making process and the ability to transmit and coordinate the decisions into emergency response actions.
3. To demonstrate the adequacy of communications systems among and within emergency response organizations and between designated facilities and field activities.
4. 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 may not, however, be tied to a protective action order or recommendation from the Governor. The ability to conduct route alerting will be demonstrated under county coordination by a route alert sector team in each risk municipality in Berks, Chester, and Montgomery Counties. Each municipality will be prepared to display and discuss with FEMA evaluators procedures for developing and maintaining a list of individuals with impaired hearing, non-English speaking, homebound, and their notification by route alert teams.
5. To demonstrate the internal message and information flow (collection, analysis, and dissemination) in the state, county, and municipal EOCs.
6. To demonstrate the conduct of an unannounced, after-hours exercise. For this exercise, the Alert stage will begin after 1800 hours (6:00 p.m.) and only the week (not the day) of the exercise will be identified for all participants.
7. To demonstrate the implementation of state, county, and municipal emergency plans and the provisions for direction and control of response and protective actions to ensure that the public health and safety is protected throughout the EPZ.
8. To demonstrate the existence and adequacy of emergency facilities and resources to support the response operation. Each risk municipal EOC will demonstrate the existence and operation of an emergency power source (generator).
9. To demonstrate accident assessment capabilities of the state and the ability to use the assessments as a basis for effective decisions to protect the public.

10. To demonstrate the ability to coordinate, communicate, and cooperate in the area of public information. FEMA will send a spokesperson to the Joint Information Center and that person will have authority to provide and coordinate the release of information to the public.
11. To demonstrate the ability to distribute dosimetry/KI from risk counties to risk municipalities. Storage facilities for dosimetry/KI will be made accessible for inspection by the FEMA evaluator. Procedures used for the issuance of dosimetry/KI to emergency workers and the associated recordkeeping will be explained. Counties that have predistributed dosimetry/KI need not demonstrate distribution.
12. To demonstrate the operation of one reception center and one mass care center in each of the three risk/support counties and in each of the other two support counties. A volunteer will be evacuated to a support hospital facility from one designated mass care center following monitoring and decontamination. This hospital, selected by FEMA in accordance with FEMA, GM MS-1 will be observed by the Public Health Service under arrangements made by FEMA.
13. To demonstrate monitoring and decontamination procedures at a station for emergency workers in each risk county. An emergency worker from one station designated by FEMA will be evacuated to a support hospital following monitoring and decontamination.
14. To demonstrate that action locations can alert, notify and mobilize response personnel in a timely manner.
15. To demonstrate that all EOC positions shown in the county and municipal plans will or can be manned on a 24-hour basis.
16. To demonstrate the ability to establish and operate rumor control in a coordinated manner at the state and county levels.
17. To demonstrate the initial notification procedures from risk counties to risk school districts when plant conditions escalate after normal school work hours. The initial notification satisfies the objective.
18. To demonstrate the abilities of state, county, and municipal governments to provide traffic control and control of access to selected restricted areas. The distribution of barrier material to and manning of one, selected access control

point will be demonstrated by Montgomery County. Two PSP ACP/TCPs per risk county, one municipal police TCP per

support county, and one municipal TCP per risk municipality will be demonstrated.

19. To demonstrate the Department of Corrections guard notification procedures through the call-down system; support facilities notification; and transportation provider notification procedures.
20. To demonstrate the ability of the Department of Environmental Resources and the Department of Agriculture to take environmental samples and milk samples and transport the samples to collection points.

OBJECTIVES STILL TO BE EFFECTIVELY ACHIEVED

The following objectives have not been adequately demonstrated by the action locations listed below. Details are included in the individual exercise reports.

Objective 1.

Lower Pottsgrove Township

Objective 2.

Lower Pottsgrove Township

Objective 3.

Water Sampling Team

Agricultural Sampling Team

Objective 4.

Union Township

Washington Township

Chester County, Partially met.

West Pikeland Township

Greenlane Borough/Marlborough Township

Lower Pottsgrove Township

Skippack Township

Upper Pottsgrove

Objective 6.

Lower Pottsgrove Township

Objective 8.

Boyertown Borough, partially met

Douglas Township

Earl Township

Washington

Upper Uwchlan Township

Lower Pottsgrove Township

Lower Salford Township

Objective 11.

Earl Township

Collegeville Borough

Lower Pottsgrove Township

Perkiomen Township

Objective 13.

Montgomery County Emergency Worker Decontamination Station,
partially met.

Objective 14.

Earl Township

Chester County, partially met

Lower Pottsgrove Township

Objective 15.

East Coventry Township
East Nantmeal Township
Phoenixville Borough
Lower Pottsgrove Township
Royersford Borough
Schwenkesville Borough
Upper Providence Township
West Pottsgrove Township
Berks County
Berks County Mass Care

Objective 16.

Berks County, partially met

Objective 18.

Union Township
Douglass Township
West Pikeland Township
Douglas Township
Pottstown Borough
Schuylkill Township
West Pikeland Township
Lower Pottstown Township

Objective 20.

Agricultural Sampling Team

OBJECTIVES STILL TO BE DEMONSTRATED FOR SIX-YEAR CYCLE

All objectives for the six-year cycle have been demonstrated except for those objectives applicable to recovery, reentry, ingestion pathway and objective 26, requests for federal and/or other assistance.

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

Field sampling team (air) and equipment

Field sampling team (water) and equipment

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.

SCENARIO AND TIME LINE

Unit 1 has been operating at continuous full power for three months. All power generating equipment and engineered safety feature equipment is operational except that control rod drive (CRD) pump-B is out for maintenance and low pressure core injection (LPCI) pump-C is unavailable due to unacceptable readings on the motor winding insulation resistor. The LPCI pump was declared inoperable two hours earlier during quarterly ISI pump testing. The wind is from the East at 5 mph and is not expected to vary significantly over the next 12 hours. The C auxiliary boiler is out of service for routine maintenance. Condenser maintenance is planned at the next outage. In preparation for this, scaffolding and other miscellaneous materials are stored in the vicinity of the condensate pumps.

The residual heat removal (RHR) B-loop was placed in suppression pool cooling mode early in the day to remove heat resulting from continuing minor safety/relief valve (SRV) leakage. The suppression pool temperature is 85 degrees farenheight. The core spray (CS) B-loop is aligned to the suppression pool to allow performance of the quarterly ST pump test. CS pump-B and D are being tested.

One of the reactor feed pump (RFP) turbine steam supply valves loses its packing and creates severe steam leak. The steam leak causes the feedwater control system to malfunction resulting in a signal to run the feedwater pumps at maximum speed which causes a reactor vessel water level rise. The excess feedwater flow causes condenser hotwell level to decrease. Level is restored through auto-makeup from the condensate storage tank.

The high-high water level causes an alarm in the control room but fails to trip the RFPs or close the main turbine stop valves or isolate HPCI or RCIC. Reactor water level continues to rapidly rise and overflows into the main steam lines. Prior to main turbine water induction the operator manually scrams the reactor and trips the main turbine. Coincident with this action there was a 30 second loss of all offsite power. The four diesel generators (DG) start. Loud bangs from the reactor building were heard just before the operator took manual action and shortly after the DGs started. (Later the loud bangs were determined to be from water hammers.)

Drywell pressure and temperature start increasing due to a RWCU line crack upstream of valve HV44-C-1F 105, the cause is later determined to be corrosion related wall thinning.

Reactor vessel water level is falling rapidly and the safety/relief valves (SRVs) are operating intermittently maintaining reactor pressure between 950-1150 psig. The SRV

remains stuck open when pressure drops to its reset setpoint. When the reactor water level drops to 38 inches the HPCI and RCIC do not supply injection water as the systems trip out due to turbine operation with steam supply lines flooded with water. The reactor water level continues to drop to -129 inches where the MSIVs close and Group 1 containment isolation occurs. At reactor water level -129 inches, the loop A and B core spray pumps start and run in standby mode; however, the minimum flow bypass valve for loop A fails closed due to an erroneous control signal. The A and B RHR pumps start but RHR pump D fails to start. At this point, the level in the reactor is below -129 inches and the pressure in the drywell exceeds 1.68 psig.

Alert should be declared based on boundary degradation and loss of coolant accident.

At 1:10 hours into the incident, the reactor water level is being restored to normal using the condensate pumps with the pressure controlled manually with ADS actuation.

The A Core Spray pump and the C Core Spray pump trip on bearing failure due to operating with no minimum bypass flow. The control room is then alerted that a major fire is detected in the condensate pump room. All condensate pump motors are damaged as a result of the fire, causing all three pumps to stop. The reactor water level is beginning to drop.

The operator manually reduces reactor pressure to allow use of Loop B CS pumps to inject water. All attempts for this flow alignment fail. The Loop B injection valve is failed closed due to the water hammer event that occurred from voiding of discharge piping to suppression pool at the time of the momentary power outage.

The operator further reduces reactor pressure to allow use of RHR pumps in the LPCI mode to inject water. Pump A starts to inject and maintains level but pump B injection valve is failed closed due to water hammer that occurred from voiding of discharge piping to suppression pool.

Radiation levels from containment leakage through HPCI outboard CIV bonnet crack become significant.

At 3 hours into the incident leakage from HPCI outboard PCIV causes short circuit in motor for "A" RHR pump. Reactor vessel level begins to decrease.

At 3 hours and 40 minutes into the incident, the level in the reactor is below -129 inches and the pressure in the drywell has reached 10 psig.

Site Area Emergency should be declared due to boundary degradation, loss of coolant accident, and loss of hot or cold shutdown capability.

At 4 hours and 40 minutes the stack effluents have reached 10 Uci/cc. General Emergency should be declared due to boundary degradation, loss of coolant accident, loss of hot or cold shutdown capability and offsite dose levels exceeded.

The core remains uncovered, the drywell pressure continues to rise, and the drywell radiation level has increased significantly.

Repairs to the motor breaker are made to get RHR pump D functional at 4 hours and 55 minutes and reactor flooding is initiated. The reactor level is restored and radiation levels drop significantly.

A 48-hour forward time shift is introduced so that stabilized reactor plant conditions will induce consideration of de-escalation of Emergency Classification and possible entry to recovery mode

The exercise is terminated approximately 6 hours and 30 minutes after incident start.

SCENARIO TIME LINE OF SIGNIFICANT EVENTS

Event	Projected Time	Actual Time
Unusual Event	Unannounced	1800
Alert	Unannounced	1807
Site Area Emergency	Unannounced	2030
General Emergency	Unannounced	2125
Protective Actions		
Recommendations		2125
Decisions		2133

STATUS OF PRIOR PROBLEM AREAS

EXERCISE HELD, APRIL 9, 1986

State EOC

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.

Corrected. At Site Area Emergency, this inadequacy was resolved by reading of the EBS message text over the dedicated hotline to the three risk counties simultaneously; there was no questioning of the purpose of the (simulated) siren and EBS activation because its purpose was clear in the message content.

Agricultural Sampling Team

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.

Not Corrected. Agriculture sampling team members were not notified in a timely manner by the Pennsylvania Department of Agriculture. Therefore, they did not arrive at the Montgomery County EOC dispatch point in time to receive any dosimetry or a briefing on its use from the Radiological Officer.

When team members were questioned about their knowledge of dosimetry, KI, and decontamination procedures, one team member expressed adequate knowledge and had used dosimetry on prior exercises. The second team member was participating in his first exercise and had received no training. The only instruction on dosimetry and KI that had been provided to team members was copies of the procedures, Attachment B, Appendix 16, from the State Plan on Dosimetry and KI.

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.

Not corrected. The County followed plan procedures for notifying the respective municipalities; however in several instances they could not reach the EMCs. In fact to expedite their own notification procedures, which reflects the timeliness of notifying the municipalities, the County is going through licensing procedures to obtain the frequency necessary to activate beepers for County personnel. Some municipalities experienced problems in initial notification during the April 88 Limerick exercise and these problems are identified in the municipal reports. If the County is obtaining beepers for its own staff, consideration should be given to providing beepers to the municipal EMCs. If this can not be done, some other method of initial notification must be developed.

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 accident.

Corrected. The transportation officer arrived at the EOC during the unannounced exercise in a timely manner.

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.

Corrected. During a real emergency the EBS stations are authorized to increase output power to complete geographic coverage. 6 radio stations are used.

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.

Corrected. Actual (sampling) distribution of dosimetry and KI was made to each of the municipalities.

Oley Valley High School - Reception Center

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.

Corrected. This reception center was not used during this exercise; however, the Reiffton Reception Center was opened and participated in the exercise.

Boyertown Borough EOC

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. Furthermore, 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.

Corrected. This problem has been resolved. The Deputy Coordinator clearly knew that seven (7) buses were needed and that they would be mobilized at the municipal parking lot.

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 jurisdictions.

Corrected. The initial notification occurred without problems.

Amity Township EOC

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.

Not Corrected Notification of the EMC was accomplished by the police dispatcher notifying the police and fire chiefs and the police chief then notifying the EMC. The township officials seem to be more comfortable with this arrangement. If this system works best then the plan should reflect this procedure.

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.

Corrected. Telephone numbers in the plans/SOPs were corrected.

Colebrookdale Township EOC

12. In order to fully demonstrate activation of the EOC, staff participants should not be pre-positioned in future exercises.

Corrected. Participants during the unannounced Limerick exercise conducted on April 6, 1988 were not pre-positioned and responded to their assignments in "real time".

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.

Corrected. Initial notification of the EMC was accomplished during the April 6, 1988 Limerick exercise according to the plan.

Douglass Township EOC

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.

Corrected. Additional transportation staff for guiding drivers of vehicles has been identified as the Crime Watch personnel who know the surrounding area, especially at night.

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.

Corrected. The same problem arose again but was corrected during the exercise. One number on the notification list was incorrect. Correction was made to Implementing Procedure showing the right number.

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 organization 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.

Corrected. Observer only observed and evaluated, but did not provide any guidance to participants.

Chester County EOC

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.

Corrected. The Recall system provided prompt initial notifications of most municipal EMCs, and there was no indication that the programmed information was inaccurate.

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.

Partially Corrected. Amateur radio operators were dispatched to all municipal EOCs and in all but one case their arrival was timely. The arrival of an operator at the Spring City Borough EOC was unnecessarily delayed due to an assignment problem. This problem is addressed in the Spring City Borough and Chester County section of this report.

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.

Corrected. Accurate lists of mobility-impaired and hearing-impaired residents was demonstrated at the Spring City Borough EOC. There was no indication of inaccurate lists due to postal zone sorting among the municipalities.

Kennett High School - Mass Care Center

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.

Corrected. The exercise objective which called for the demonstration and operation of one reception center and one mass care center in Chester County was demonstrated. A reception center was set up at the intersection of Route 100 and Swedesford Road, staffed by Fire Department personnel. The mass care center was activated at the Scott Intermediate School in Coatesville with personnel from the Fire Department and Red Cross.

East Pikeland Township EOC

21. The manning of traffic control points (TCP's) 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.

Corrected. The manning of one Traffic Control Point (TCP) was accomplished by a uniformed police officer in a timely fashion. He was dispatched by the Chief of Police (Deputy EMC) who indicated that with his normal complement and augmented by Fire Police, sufficient personnel are available to adequately man the designated TCPs.

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.

Corrected. Township Officials dispatched a route alert team to notify the hearing-impaired twice, at Site Area Emergency and General Emergency.

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.

Corrected. The EMC is well aware that the siren system may be activated at any time that the State and/or County wishes to provide a message over EBS.

South Coventry Township EOC

24. The Radiological Officer was not aware of the maximum dose one can receive without authorization. Further training in this area is warranted.

Corrected. The Radiological Officer was fully knowledgeable of the maximum allowable dose without authorization for emergency workers.

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 no one was in 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.

Corrected. An individual was assigned to monitor radio transmissions as a full time duty.

Schuylkill Township EOC

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, 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.

Corrected. Both the EMC and his deputy received notification via the Recall system at 1830.

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.

Corrected. Capability for around-the-clock staffing was

demonstrated by a combination of double staffing of positions and presentation of a roster.

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.

Corrected. The plans have been amended to include procedures for the dispatch of buses, vans and ambulances for mobility-impaired and transit-dependent residents.

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.

Corrected. A complete Dosimetry and KI kit was available for demonstration. The Radiological Officer simulated the distribution of this equipment. Adequate instruction was given to all staff members individually.

Warwick Township EOC

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.

Corrected. The RO issued Dosimetry, KI, and record forms to all appropriate personnel, and provided them with a thorough briefing that included all recent information. A chart including this information was also posted, for their reference.

West Pikeland Township EOC

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.

Corrected. The Township plan includes procedures for collecting transit-dependent residents, using transportation resources dispatched by the County EOC.

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.

Not corrected. The EMC did not activate route alerting for the purpose of notifying hearing-impaired residents as specified in the plan and exercise objectives. Although there was a list of such residents, the EMC stated that he did not have sufficient resources to perform this responsibility. Additional resources should be identified, and this capability should be demonstrated in future exercises.

West Vincent Township EOC

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.

Corrected. The EMC received initial notification via the Recall pager system, in accordance with the procedures.

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.

Corrected. Radiological Exposure control instructions were detailed and correct. The discussion of the dosimetry and KI packet was excellent.

Spring City Borough EOC

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.

Corrected. Borough officials promptly received initial notification via the Recall pager system, in accordance with the procedures.

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 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.

Corrected. Route alerting was activated at the appropriate time.

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 exercises.

Corrected. An accurate list of mobility-impaired and hearing-

impaired residents was demonstrated at the EOC.

East Coventry Township EOC

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.

Corrected. During the Alert Phase, the EMC directed the Transportation Officer to review the Township hearing-impaired list and contact by phone those individuals to verify home addresses. Upon sounding of the sirens during Site Area Emergency, the EMC initiated the Township Route Alerting for contacting the hearing-impaired. One Route Alert team was actually demonstrated.

East Vincent Township EOC

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.

Corrected. First and second shift staff as outlined in the plan participated in the exercise.

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.

Corrected. Staff notification list was accurate.

41. Staff members, particularly the EMC and acting RO, were unfamiliar with their respective tasks. The EOC staff should receive further training.

Corrected. All staff members displayed adequate training and knowledge necessary to perform assigned tasks.

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.

Corrected. Route alerting for hearing-impaired was adequately demonstrated.

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.

Corrected. TCPs were activated and manned appropriately by the Police Department.

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.

Not Corrected. This was not an objective of this exercise. It will remain an open item until schools are required to participate during the next six-year cycle.

Montgomery County EOC

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.

Corrected. Both positions were staffed during this Exercise.

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.

Corrected. There was no indication of pre-positioning during this exercise.

Douglass Township EOC

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.

Corrected. Public works representative participated in the exercise.

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.

Corrected. The EOC Recalled a Route Alert Team at 2045 and sent them out earlier than was instructed. The Route began at 2058 and was finished at 2118. The team was sent out early but by chance it corresponds with the time of the official activation of the teams. An active/accurate list of the hearing-impaired is available.

Lower Salford Township EOC

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 communications networks.

Corrected. This inadequacy was fully eliminated by installation of the Montgomery County Emergency Management Radio System

(MCEMRS), and improved procedures relating to the uses of RACES after all RACES operators are in place. All status changes were received by MCEMRS or RACES none over fire or police radio.

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.

Corrected. The Lower Salford Township Emergency call-up list for EOC staff members was current and used to activate the EOC and the second shift players.

New Hanover Township EOC

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.

Corrected. Township installed outside antenna-which converted the inadequacies-no problems with communications were witnessed during exercise.

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.

Corrected. No activity was noted at the EOC until 1835-there was no pre-positioning.

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.

Corrected. EMC received a call initiating EOC activation at 1816. The EMC arrived at EOC at 1830 and the EOC was completely

staffed at 1901. The hearing-impaired and evacuation assistance list are ready available and up-to-date.

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 instructions.

Corrected. KI instructions were posted and information also was verbally given.

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.

Corrected. Staff notified by alerting paging system.

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.

Corrected. Current up-dated 1987-1988 (C) list of hearing and mobility-impaired individuals is on hand in the EOC.

West Pottsgrove Township EOC

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. 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.

Corrected. This issue has been clarified and resolved. RACES is the primary means of communication and telephone is the backup. This is in the operating procedures known to all personnel involved.

Pottstown Borough EOC

58. A Borough police sergeant was designated as the EOC communications representative 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.

Corrected. Back-up individuals for EOC communications and the EMC were designated and present during the exercise.

59. According to the borough Police Chief, twenty-four 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.

Not Corrected. Briefing of TCP Officer was generalized and did not discuss specific evacuation routes, procedures or destination points (reception centers). Training is necessary. This inadequacy was not cleared by this exercise.

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 cited in the plan. The plan should be updated to reflect the current number of special needs persons.

Corrected. Plan was up-dated 2/88. List of these individuals was verified through actual placement of phone calls during the exercise.

Collegeville Borough EOC

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.

Corrected. An appropriate typed list with up-to-date telephone numbers is available to the EOC staff to contact appointed EOC personnel.

Greenlane Borough/Marlborough Township EOC

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.

Corrected. The local plans have been revised to identify the EMC. This inadequacy no longer exists.

Royersford Borough EOC

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.

Corrected. Emergency Management Director notified by pager arrived within 5 minutes of notification.

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.

Partially Corrected. Police Chief represented. Public Works not present during exercise.

Schwenkesville Borough EOC

65. Two of the EOC staff did not participate through the entire exercise. The Public Works Officer arrived at approximately 1900 hours, and the Transportation Officer arrived at about 1700 hours 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.

Not Corrected. One staff member was absent during drill. Medical service staff filled in for the Radiological person.

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.

Not Corrected. One Police Officer was manning one control point, remaining control point manned by Fire Police staff.

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.

Corrected. Plan has been up-dated.

Lower Frederick Township EOC

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 EBS system.

Corrected. Route Alerting was demonstrated twice during the exercise.

Lower Pottsgrove Township EOC

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.

Not Corrected. Written call list was available, staff did not respond to notification from the County.

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.

Corrected. EPZ map was posted.

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.

Corrected. This activity was demonstrated.

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.

Corrected. Staff were not pre-positioned and mobilization procedures were observed.

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.

Corrected. All EOC positions were staffed.

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 Area Emergency at 1940. Additional training should be provided to township EOC staff to ensure timely and appropriate contact with identified hearing-impaired individuals.

Not Corrected. Confusion still existed over actual plan procedures. Decision was made not to do route alerting based on the information received.

Skipack 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.

Corrected. Volunteer back up equipment has been identified for emergency call up if needed. Depending on how bad the weather is, this could always be a problem at any site.

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.

Corrected. The information has been included in the plan. Early in the drill the dosimetry material was inventoried and general radiation information was included. The Radiological Officer briefed all the pertinent EOC staff regarding the use of the dosimetry material and appropriate radiation levels which trigger additional measures.

Perkiomen Township EOC

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.

Corrected. The hearing-impaired are now to be given a written message that informs them of the emergency and instructs them on what corrective action needs to be taken. To insure that the hearing-impaired individuals fully understand the message the dispatcher should wait until the message is read and an acknowledgement of understanding is conveyed by the individual.

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.

Not Corrected. The new radiological officer needs to review and learn the recommended exposure limits.

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.

Not Corrected. This was not an exercise objective. This issue will remain open until schools are again tested within the six year cycle.

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.

Corrected. Monitoring and decontamination teams were available at the mass care center during this exercise.

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.

Corrected. Proper registration procedures were followed. All staff were knowledgeable and well trained in their responsibilities.

EXERCISE REPORTS

PENNSYLVANIA STATE EOC

The State EOC demonstrated timely and complete activation and staffing with no observed pre-positioning. All response teams and operations staff were fully in place by 2006. Operations management by the PEMA Director and his operations officer was generally efficient and thorough, assisted by large display screens that projected key readouts (checklists, maps, message files and logs) from networked personal computer screens. The presence of both the Lieutenant Governor and the Governor during portions of the exercise was highly commendable. This exercise represented the first operational test of a software package for Emergency Information Management that the Commonwealth has procured, and the package shows great promise of facilitating and expediting the Commonwealth's emergency operations and notification responsibilities under Annex E of the State Plan.

Facilities in the State EOC are excellent, with the display screens being a noteworthy and very beneficial improvement. Primary communications were demonstrated to be adequate except at General Emergency notification when it was not possible to access the dedicated telephone. Individual notification calls had to be placed, making it impossible to efficiently coordinate siren and EBS activation, and rendering call verification back from the counties difficult. Participation by RACES and ARES in backup communication activities was also noted and was effective.

The Governor is responsible for making Protective Action Decisions and for authorizing the activation of the Alert and Notification System. PEMA is responsible for coordinating the siren and EBS activation among the risk counties. The Alert and Notification System (sirens and EBS) was activated twice during the exercise.

At 2048, the State instructed the risk counties to activate the sirens and EBS system immediately. This resulted in an uncoordinated siren and EBS activation among the risk counties (See County reports).

The second siren and EBS activation occurred in conjunction with the General Emergency declaration and protective action decisions. As noted above, the dedicated telephone was not available and the State had to revert to backup commercial telephone to notify each risk county separately. Therefore, siren and EBS activation was not coordinated by the State.

Two key breakdowns led to critical interface problems with the risk counties shortly after the 2125 declaration of General Emergency by the utility. At that time, the Governor of Pennsylvania was in the EOC receiving a briefing on both event

status and general radiological assessment procedures from the Director of PEMA and a representative of the Bureau of Radiation Protection. There was a delay in the preparation and signing of a State of Emergency Declaration during the Site Area Emergency. This declaration became available to the Operations Room simultaneously with the General Emergency (2133). At that time it was discovered that; a. the dedicated telephone to the risk counties and the utility could not be accessed and b. the hard copy transmission device was being held up possibly by excessive message traffic elsewhere. Moreover, it was at this point that staff entering message traffic into the computerized master log became unable to do so due to an unanticipated problem with the automated system. For all these reasons, notification to the risk counties was delayed. Furthermore, the text of the Governor's declaration of a State of Emergency could not be transmitted in hard copy until after 2200. Due to the lockup of the computerized system, the EOC fell somewhat behind in fulfilling all action items on its General Emergency checklist. It should be noted that due primarily to this same system, all outstanding action items and unmet needs were resolved prior to exercise termination.

All agency response teams operate in a remote location from both the operations room and the Director's decision center. At times, this prevented timely feedback of information to the Director about the notification times of field offices and operations by response team agencies at the EOC. In at least two instances this resulted in delayed notification to deploy field activities (See Access and Traffic Control and Agriculture Sampling Team reports).

PROBLEM AREAS

1. The State EOC informed the risk counties to activate the siren system "immediately" at Site Area Emergency and General Emergency. This resulted in an inconsistent siren and EBS activation at Site Area Emergency (see County Reports). The Counties themselves coordinated siren and EBS activation at the General Emergency. The risk counties must advise all emergency workers at municipal EOCs prior to activation of the System. It is important that the State take the lead in coordinating siren and EBS activation among the risk counties, as stated in the State Plan. A specific time for this to occur should be set by the State, thereby insuring simultaneous activations.
2. The dedicated telephone, which is used to inform risk counties simultaneously of protective actions and to coordinate siren and EBS activation among the risk counties, was not available during a critical point in the

exercise. Efforts should be undertaken to assure that the dedicated line is available at all times, and that backup hard copy transmission capability is also in place. If this is not possible, the Commonwealth should work with the risk counties to insure that backup notification protocols are understood and acted upon at all levels.

3. While the computerized Emergency Information tracking and display system shows great promise of being an outstanding aid to timely emergency management response at the PEMA EOC, it did not fully succeed in drawing the various agency response team cells into the critical information flow needed by the Director and the Operations Officer, and it broke down at a very important point in the scenario. The system itself should be fully "debugged" prior to its next utilization, and should include the capability to bring in to operations control (by additional display or otherwise) key notifications and message traffic originating from the response team cells in the EOC. This may necessitate adding additional display screens in the operations control area.

EMERGENCY OPERATIONS FACILITY

The Emergency Operating Facility (EOF) was activated at 2020. EOF personnel established contact with the Bureau of Radiation Protection (BRP) at the State EOC at 2030. Numerous briefings and exchanges of information occurred between the EOF and BRP. Discussions were held on worsening plant conditions and potential protective action recommendations. The licensee declared a General Emergency at 2125. The General Emergency plus recommended protective actions were conveyed to the BRP at the State EOC by 2127. At 2140 BRP informed the EOF of the Governor's protective action decision to evacuate 360 degrees out to ten miles. The EOF was also informed that sirens and EBS would be activated (simulated) at 2200. The sirens and EBS were activated by offsite officials at 2145. It is unclear why the EOF was given the wrong time.

The BRP representative arrived at the EOF at 2200 (see note). He was promptly briefed and actively involved in appropriate discussions. The unannounced objective for this exercise was adequately demonstrated; there was no evidence of pre-positioning by either licensee or BRP personnel at the EOF.

PROBLEM AREAS

1. The EOF was notified by BRP that sirens and EBS would be activated at 2200; when in reality they were activated at 2145. Care should be taken to insure that accurate information is provided.

Note: This was an unannounced, after-hours exercise; therefore travel to the EOF was played in real time. Travel from Harrisburg to the Limerick EOF requires approximately 2 hours.

BUREAU OF RADIATION PROTECTION

Bureau of Radiation Protection activities were conducted from the State EOC. While this location is conducive to interface with FEMA much of the benefit of BRP's Fulton Building location has been lost. In particular, BRP lacked their detailed plant drawings which allowed plant conditions to be assessed. The computer graphics supplied are less detailed than would be optimum. BRP's dedicated telephones and dose prediction computer are also still at the Fulton Building. The State EOC location requires BRP to use offices which are normally occupied by others which precludes rearrangement of furniture, posting of maps and drawings, etc. While BRP's performance was adequate, the facilities available in the Fulton Building would have improved it.

The problem in dose assessment from the October 1987 TMI exercise has been resolved. Throughout the exercise, BRP was up-to-date on plant conditions and releases, and made the proper recommendations for protective action, although the decision to authorize KI could have used more thought. In this exercise, there was little release of iodines, yet emergency workers were told to take KI. While circumstances at the time did not warrant KI, it is possible that future conditions could have developed which would justify the use of KI, therefore, the decision could not be called categorically incorrect. However, since KI can have adverse side effects, more careful thought should go into its authorization.

PROBLEM AREAS

1. While working out of the State EOC is more conducive to interface with FEMA, many of the benefits of BRP's Fulton Building location has been lost. It may be worthwhile to reexamine both facilities in more detail to assure that future ERP needs are met.
2. Emergency workers were authorized to take KI although there was little release of radioiodines. Since KI can have adverse side effects, more careful thought should go into its authorization.

PECO HEADQUARTERS EMERGENCY NEWS CENTER

The PECO Headquarters Emergency News Center was activated following notification from the plant in accordance with the plan. The initial notification was received while several officials were still in the office and, according to the plan, they became the activators of the plan. Staff arrived in a timely manner and assumed their positions and responsibilities, exhibiting enthusiasm, knowledge and prior experience in their duties. The Emergency News Center and the Media Briefing Rooms were declared operational at 2000. The Director of the News Center conducted periodic updates of the staff, consulted with the State Representatives and with the technical staff from the plant, prior to issuing press releases and/or conducting press conferences. A minor problem, which has been reported in prior exercises was the lack of a public address system in the News Center to quickly call the staff together for internal briefings, announcements, or other required contacts.

Office facilities, communications equipment and administrative support were more than adequate to conduct the exercise and carry out the assigned responsibilities, i.e., informing the public regarding conditions at the plant. A rumor control function was operated by PECO to answer calls from the public concerning plant conditions and what to do about them. Several press briefings were held which were informative and presented timely reports about plant conditions. All objectives of the exercise were met.

The term Joint News Center is somewhat of a misnomer in this instance. Although PEMA representatives present, were professional and competent, the Pennsylvania State Plan requires that the State Media Center will be located at the State EOC in Harrisburg and that all releases to the public generated by the State originate there. The PEMA Representatives consulted with PECO officials prior to the release of PECO news releases, took part in briefings at scheduled press conferences and answered questions related to the State operations. However, their role was to serve as liaison between the State Media Center and the PECO Headquarters Emergency News Center.

PROBLEM AREAS

1. There was a minor problem assembling the News Center staff for internal updates and briefings. Plans are in progress for a Public Address system to be installed to overcome this problem. This has been documented in prior exercises. The system should be in place within 60-90 days.
2. The physical arrangement of the office space is not conducive to the general exchange of information. The area is normally used for office space, consequently exercise responders are segregated in separate offices which limits

the general exchange of information that takes place in a less compartmented environment. As mentioned previously, the PA system should help. An additional aid would be to locate the status board in a more prominent place and to insure that it is kept current.

3. A recommendation for improvement would be to record the Press Conferences to provide a means of verifying statements given to the press and to provide a vehicle for training in preparation for future exercises or actual incidents.

STATE MEDIA CENTER

The PEMA Media Center in the State EOC was activated in a timely manner in accordance with the State plan. Representatives of the Governor's office and the Lieutenant Governor's office and five State agencies were present to assist the PEMA Public Information Officer. There was adequate Coordination between the PEMA Media Center in Harrisburg, the PECO Headquarters Emergency News Center in Philadelphia, and the three risk county EOCs.

One press briefing has held in the new State Media Center in the Capitol Complex. The Lieutenant Governor, the PEMA Director and the PEMA Public Information Officer participated. No media representatives were present as this was an unannounced exercise. Staff members played the role of media representatives.

Rumor control telephone numbers were publicized for the risk counties and for the Governor's Action Center, which serves as the rumor control center during disasters.

The staff of the State Media Center displayed their usual high degree of enthusiasm and professionalism during the exercise. Both the Governor and the Lieutenant Governor spent a great deal of time at the EOC, participating in decision making and discussions.

PROBLEM AREAS

None identified.

ACCESS AND TRAFFIC CONTROL

The Pennsylvania State Police, Limerick Barracks fully demonstrated their ability to respond to an emergency situation at the Limerick Generating Station as required by the off-site emergency plans. However, notifications from the State Police Representative in the State EOC to Limerick Barracks were not timely. Upon notification of an Alert status, troopers from each of the risk counties were summoned to the Limerick PSP Barracks and arrived within a half hour. The Troop Commander briefed all participating officers. The briefing addressed access and traffic control duties; reception, mass care and emergency worker decontamination centers; radiological exposure control; dosimetry, record keeping, KI, protective clothing, respiratory protection.

After being briefed, the officers were instructed to report to their assigned posts. Each post was manned promptly and the officers individually understood their responsibilities.

PROBLEM AREAS

1. Although an Alert was declared at 1813, the barracks received their first indication of an incident from Chester and Montgomery County radio notices at 1837 and 1839 respectively. Official notification from the State Police Representative in Harrisburg wasn't received until 1852. Similarly, Site Area Emergency notification from the Pennsylvania State Police in Harrisburg was not received until 2110. More timely notification from the PSP Representative in the State EOC would facilitate a much quicker local PSP response.

AIR SAMPLING TEAM

The Air Sampling Team arrived at the Montgomery County EOC at 2105. The team departed the EOC at 2130. Dosimeters and instruments were checked in the vehicle. Instructions were received via radio from BRP in Harrisburg to report to the first sampling location (W-1). While in route, the controller instructed the team to perform plume verification procedures. A background radiation measurement was made and the team reported the test was inconclusive.

At 2200, the team was instructed to incorporate Iodine Packet. The team reported exercise inject of 67 counts/2 minutes iodine concentration. This was later changed to (correctly) a uCi/cc number. Location W-1 was not located. The team was then directed to the next location (W-2) at 2237. Upon arrival, the team was told to stand by. Dosimeters were read every half hour and reported to the controller. Radio transmission was clear and timely.

The actual time that was spent taking samples was about one hour, 15 minutes. Most of the time was spent driving.

PROBLEM AREAS

1. Additional training and experience is needed. The team was unfamiliar with sampling locations and the vehicle; unfamiliar with radio procedures; and were not sure of radiological emergency procedures.

WATER SAMPLING TEAM

Two water sampling teams were mobilized in a timely fashion using an established call-out system. They reported to the Montgomery County EOC and were given a briefing on dosimetry use and recordkeeping. Although they had no specific operating procedures for taking samples during radiological events such as this exercise, they were well equipped to obtain samples and were familiar with sample points. Both vehicles were equipped with two-way radio which is used day-to-day but communications were not established with them by the EOC, partly because the EOC did not realize the teams had radio equipment. The teams communicated with each other and used a commercial telephone to call their supervisor for directions as to disposition of samples and whether to report to decontamination station upon leaving the EPZ. In short, they were not controlled by the EOC. The teams were not equipped with any radiation monitoring equipment although they had dosimeters and TLDs and had a briefing on the reading and recordkeeping required. They were equipped with KI and briefed on its use. The team members used protective gloves while taking samples but had no other protective clothing or respirators. No control was exercised to obtain samples from the desired locations at a particular time to maximize the usefulness of the sample content. One station to be sampled, that of the Citizens Utility Intake, was locked and not available for sampling.

PROBLEM AREAS

1. The water sampling teams were not fully briefed on the plume conditions and had no protective clothing, respirators, or radiation detection equipment. Also, they were not trained specifically for obtaining samples in a radiation situation/environment.
2. There was no obvious control of the time the samples were to be obtained to assure they represented the radioactivity which would have been deposited in the river; i.e., to maximize the usefulness of the data obtained.

AGRICULTURAL SAMPLING TEAM

The initial notification of the two members of the Agricultural Sampling Team was received via telephone at their respective homes at 2115. Notification was made by the State Department of Agriculture representative at the State EOC in Harrisburg. The initial message was that an Alert had been declared and team members were to stand by.

At 2230 team members received a second call from the State Department of Agriculture representative directing them to report to the dispatch point at the Montgomery County EOC. Team members arrived at approximately 2300 and 2310 respectively. The exercise terminated before team members could receive any dosimetry or demonstrate any sampling procedures.

However, once team members arrived at the dispatch point, an interview was conducted by the Federal Evaluator and the following information obtained.

The current system for mobilizing Agriculture field teams begins with PEMA calling the State Department of Agriculture. State Agriculture notifies the Regional Agriculture Coordinator. The various Agriculture divisions provide personnel for the Agriculture teams. One two-member team is comprised of State Milk Sanitarians familiar with the affected counties. The Bureau of Radiation Protection advises State Agriculture of sampling locations.

Team members did have the proper equipment for taking milk, water, feed, pasture and vegetation samples. Included in this equipment were scoops, plastic collection bags, plastic containers, writing materials, knives, identification labels and disposable lab coats.

Since team members did not arrive at the dispatch point until just before the termination of the exercise, no dosimetry was issued and no procedures for taking agricultural samples were demonstrated.

PROBLEM AREAS

1. Agricultural Sampling Team members were not notified in a timely manner by the Pennsylvania Department of Agriculture to report to the dispatch point at the Montgomery County EOC. Since team members did not report until the termination of the exercise, no agricultural sampling procedures could be demonstrated. Also a prior inadequacy

regarding team members use of dosimetry cannot be cleared since a demonstration of proficiency was not performed.

BRANDYWINE HOSPITAL

The hospital communications system operated well during the exercise. They received word about Alert status and standby over the radio in the Emergency Room. At 2108 a RACES Operator, dispatched from Chester County EOC, arrived to establish communications with the EOC. The hospital did not have means for him to convert his radio so he monitored calls from his car. However, the ER was aware of what was going on. The General Emergency was heard over the radio at 2138.

The hospital has phone and radio communications with congregate care facilities, has low-band PATCH radio communications with ambulance intransit, and phone communications with radiologist, radiology department, and health physicists. Nurses in the ER did not know if they had communications with the EOC but they claimed they could communicate with the EMS and Fire Band. No official word was ever received from PEMA about the drill. Over the radio the ER did learn that there was contaminated victim(s) and injured but did not receive word about number, status, etc. from ambulance personnel until 2242 when the ambulance was only four minutes from the hospital.

The Brandywine Hospital performed well and should be complimented. They have two separate procedures for treating contaminated patients, depending on the seriousness of the injury. The patient in the exercise was not seriously injured (laceration) and was treated in a secured hallway with access to a shower. The housekeeping department was responsible for covering the floors and walls prior to the arrival of the patient. They started laying paper on the floor and then were told to lay plastic down first and then a paper runner from the front door; this was corrected. The staff did not adequately secure the area to treat the contaminated victim. They did dress properly, however, some of the protective coveralls had sleeves that were too short. The response team met the ambulance outside and checked the ambulance crew and ambulance prior to dismissing them. The ambulance crew should not have gone into the hospital. They should have been checked outside with plastic bags to contain their discarded protective wraps. Throughout the decontamination process the crew did not keep cotton swabs for laboratory testing, during cleansing and after decontamination. The response team did not undress properly after the patient was decontaminated and removed from the ER. The plastic bags for the clothing were not labeled "Radiation".

PROBLEM AREAS

1. The ER staff did not know if they could communicate with the EOC, or what the EOC was. Staff should be aware of what and where the EOC is and how to contact it.
2. The hospital staff were told four minutes before arrival that the ambulance was bringing in a contaminated victim. Advance notice should be given to the hospital early on so they can prepare to receive contaminated patients. If the patient in the exercise had a serious injury requiring treatment in the trauma room, the hospital would not have been prepared to receive the contaminated patient.
3. Proper procedures to limit the spread of radioactive contamination were not used consistently. The secure area was not properly marked and roped off, door handles on the front doors were not covered, protective clothing did not fit emergency workers, swabs of wounds and contaminated areas were not kept and sent to a laboratory for analysis, protective clothing was not removed in the proper order. Additional training on proper procedures for minimizing the spread of radiological contamination is needed.

AMBULANCE AND CREW

The ambulance crew called the hospital only four minutes prior to arrival time at hospital. The crew of two were properly dressed but did not wear masks. They wore dosimeters but did not have a survey meter. The ambulance was lined in plastic and the patient was wrapped in plastic to prevent spread of contamination. Upon arrival at the hospital, the ambulance gurney was removed and taken into the hospital; the ambulance crew followed.

PROBLEM AREAS

1. The ambulance crew should have a survey meter with them in the ambulance.
2. The patient should be transferred to hospital gurney outside if possible.
3. Ambulance crew should stay outside, be monitored, able to strip the protective gear into protective plastic bags marked Radiation and then shower if necessary.

RED CROSS FIELD HEADQUARTERS

The Red Cross was alerted by means of a beeper system provided by Montgomery County. Upon notification, Red Cross Chapter officials called the Red Cross Liaison, who reported to the County EOC. The Liaison then contacted the Field Headquarters.

After calling the Montgomery County Liaison, the Red Cross called other Red Cross locations in accordance with their plan and call down lists. In some cases, (particularly support counties) the Red Cross was notified prior to the County EOCs official notification. Only normal, anticipated delays were encountered.

The Eastern Operational Headquarters staff did not physically respond because of the unannounced nature of the exercise. There was not sufficient time to travel from Alexandria, Virginia, to the exercise area. Nevertheless, telephone communications were established.

PROBLEM AREAS

1. Because of the unannounced nature of the drill, the Red Cross Headquarters personnel were unable to confirm receipt of unmet needs (cots, blankets, USDA food, etc.). The ability to fill unmet needs should be demonstrated. Some means should be established to contact after hours Red Cross backup suppliers.

BERKS COUNTY EOC

Berks County was advised of the Alert status at the Limerick Generating Station from the Pennsylvania Emergency Management Agency (PEMA) via the dedicated telephone at 1817. Staff notification procedures were implemented and the EOC was operationally staffed by 2030. Representatives from the National Guard and the Department of Agriculture did not participate on the EOC staff. 24-hour staffing was demonstrated by either double staffing or the presentation of a posted roster of additional staff. The staff demonstrated excellent knowledge of the plans as well as the ability to respond appropriately to the emergency.

The County Commissioners were effectively in charge of the response and were aptly supported by the Emergency Management Coordinator (EMC), the Deputy EMC and the support staff. The staff members had comprehensive checklists developed for their respective responsibilities which ensured that all procedures were implemented.

The County maintains a list of the special needs of the mobility and hearing-impaired persons within their County. The responsibility for meeting these needs rests with the municipalities.

PEMA advised Berks County of the Site Area Emergency at 2035 and that the siren and EBS system activation be accomplished immediately. Knowing the importance of coordinating these actions prior to implementation, the County notified all the municipalities prior to activation of the system, which was accomplished at 2050. When the General Emergency was declared, PEMA notified Berks County at 2136 and directed that the siren and EBS system be activated immediately. Again, knowing the importance of coordination, the risk Counties got together on the telephone and coordinated these actions. The end result was that the municipal notifications and siren and EBS activation was accomplished by 2145. The municipalities were notified via RACES and telephone.

The Berks County facility is located in the basement of the Agriculture Building. The staff can boast of very spacious accommodations with such amenities as a kitchen with separate dining, sleeping capabilities, showers, multiple office space, good ventilation, lighting, etc. With the exception of a population distribution map, all other appropriate maps depicting evacuation routes, relocation centers, access control points, etc. were conspicuously displayed for use by the staff.

There is sufficient primary and alternate means of communication available to enable the County to coordinate with those organizational representatives intended to provide support.

Since no calls were placed to the Rumor Control function to test the staff's capabilities, an interview was conducted. The Rumor Control function is staffed with very competent personnel, yet they have not been provided sufficient training and appropriate checklists. Hard copy news releases, which are important to this function, were not available and should have been provided by the media center. If the same people are provided with training, checklists and hard copy news releases, this function would prove more valuable to the County.

The Radiological Officer and his staff have provided the County with an excellent program through the development of training courses and procedures. This staff is very professional and strive to improve their already outstanding program.

Overall, the County displayed the ability to respond to the simulated emergency according to their plan and to provide the necessary protection to the residents of the County. The staff should be complemented on their demonstration.

PROBLEM AREAS

1. Rumor Control was not really tested. No calls were received by that office to ascertain if they could be handled properly. Personnel manning the operation were not aware of the basic procedures such as obtaining the telephone number and name of the caller especially should further research be necessary to satisfy the inquiry. Hard copy press releases and EBS messages were not provided to the rumor control staff. Having copies of this information would greatly facilitate response to basic questions which may be asked by the public. Additional training and development of a more complete checklist would also have a positive affect.
2. Full staffing as called for in the plan was not demonstrated. The National Guard and Department of Agriculture were not represented at the EOC during the exercise. The County EMC should stress the importance of full staff participation for future exercises.

RECEPTION CENTER

The activation of the Reception Center by the Reiffton Fire Police personnel demonstrated the unit was well trained and prepared for this type of emergency. The site was highly visible to travelers, being marked with flares and flashing lights. The officers were prepared to control traffic. Evacuees would have been presented with information and directions to the Mass Care Center. The center received excellent communications support by the Reading Radio Club.

Problem Areas

None identified.

MASS CARE CENTER

The Mount Penn Fire Company activated upon notification and setup the registration-monitoring center in the Mount Penn High School lower level. The Red Cross activated the congregate care center in the gymnasium and cafeteria.

Evacuees, upon arrival at the school, were registered by the Mount Penn Fire Company, then monitored for possible contamination, using a CDV-700 monitor and standard procedures. Contaminated individuals were taken to the boys shower room for decontamination. Contaminated clothing was stored in special containers for later disposal. A data form was completed for each evacuee monitored. Those individuals not needing decontamination proceeded directly to the congregate care center.

The Red Cross had provided sleeping accommodations in the gym for the evacuees. The school cafeteria had been activated by the Red Cross to provide meals. The Red Cross had standby provisions to provide additional food. A registered nurse was available for medical aid. A service to provide information to relatives and to reunite families was available.

PROBLEM AREAS

None identified.

EMERGENCY WORKER DECONTAMINATION STATION

The decontamination station for Emergency Workers was established at the Daniel Boone High School in Birdsboro. This facility has also been designated as the relocation center for emergency workers from other risk counties.

The facility is large and adequate for the dual designation. It also has an abundance of parking around the school.

The school gym and locker areas are designated for reception, monitoring and decontamination of emergency personnel. The Birdsboro Volunteer Fire Department has the responsibility for establishing and operating the decontamination station. The firemen were knowledgeable and proficient in preparing the area for reception of contaminated workers. The contaminated area and paths were well defined and separated. Monitoring stations were located before the registration area and exit from showers. Clean clothing was available upon exit from showers. After re-monitoring personnel were routed to designated holding areas. The complete procedure of registration, monitoring, decontamination, routing to holding area was adequately demonstrated by using two students as contaminated workers. All essential equipment and protective clothing was properly utilized. Dosimetry kits did not contain logs for recording of names and numbers when distributing the instruments.

The staff procedurally described the vehicle decontamination procedures adequately. The area projected for washing of Vehicles is on the crest of a sloping parking lot and wash water will drain to an open low area.

PROBLEM AREAS

1. Dosimetry kits did not contain logs for recording who has been assigned what dosimeter, etc. The log and instructions, which are on one form, are being developed. Once this form is completed, it should be included in the dosimetry kits.

AMITY TOWNSHIP EOC

The initial notification of the Emergency Management Coordinator (EMC) did not occur in accordance with the plan. According to the plan, Berks County is to notify the EMC and since this was difficult to accomplish, they notified the Fire and Police Chief at 1815. Actually, this method seems to be more expedient and consideration should be made to changing to this method in the plan. The end result still was that the EOC was activated promptly.

The EMC managed the EOC effectively and provided frequent briefings to the staff to ensure they were aware of the status of the simulated emergency. The staff demonstrated an excellent knowledge of the plan as well as the ability to implement it.

Twenty-four hour staffing is possible with a roster of personnel who can be called upon to provide this coverage.

The EOC has sufficient amenities such as space, furniture, lighting, telephones, etc., to support the staff while they respond to an emergency. The staff made adequate use of posted maps and charts during their response to the simulated Limerick emergency.

It was noted that the 2 KW generator when made operational, would produce a great deal of noise in the operational area of the EOC. If the generator was relocated further away from the building, this noise could be minimized or possibly eliminated.

Overall, the Amity Township emergency response staff demonstrated the ability to implement procedures to protect the health and welfare of the citizens of that township.

PROBLEM AREAS

1. The initial notification, though not in accordance with the written plan, was timely and probably superior to the written plan. It is suggested that the written plan be changed to reflect the timely procedure demonstrated.
2. An area for improvement would be the placement of the 2KW generator further from the EOC building due to its noise during operation. Additionally, it would have been preferable for the Police representative to have been seated with the other EOC staff. These changes should be included in the plans for the construction of the new EOC building.

BOYERTOWN BOROUGH EOC

After notification of the drill, the staffing and activation of the EOC occurred quickly and smoothly. The facilities as to lighting, ventilation, desks and phones for the staff to perform their duties and the management of the EOC and adequate training of the staff was demonstrated. The first-shift staff, under the direction of the Deputy Coordinator, accomplished the initial duties of notifying local industries, hearing-impaired and handicapped individuals from current typed lists. The request to Berks County for dosimetry and potassium iodine was made. A sample unit was delivered, the briefing and instructions to emergency workers was concise and complete. The actual dispatching of the route alert teams and the manning of the traffic control point occurred in a timely fashion with telephone confirmation that their duties were accomplished. The demonstration of backup power occurred successfully, but the size of the generator was inadequate to power both electricity and radios.

PROBLEM AREAS

1. When the generator was tested it worked but it could not supply power for both electricity and the radios. The generator has only 3.5 KW. Attempts should be made to procure a generator large enough to supply the total needs of the building.

COLEBROOKEDALE TOWNSHIP EOC

The Emergency Management Coordinator was alerted by the RACES operator by telephone at 1840 and arrived at the EOC at 1847. Activation was immediate via call-down and staffing was completed at 1900. It is interesting to note that an Alert was received via the Fire Radio at 1828 and the Radiological Officer responded to that Alert before RACES contacted the EMC. The Fire radio consistently gave notifications or events prior to RACES throughout the exercise. Round-the-clock staffing was demonstrated by the presentation of a roster.

The EMC was in complete control throughout the exercise. Staff briefings occurred frequently and messages were appropriately logged and posted. Little discussion was necessary at crisis points because each staff member was thoroughly trained and the staff of the EOC reacted as a team. Area security was stringent and one observer whose name was not verified by the County EOC was barred from entry. The Township's handling of this situation was admirable despite tremendous pressure being exerted on the EMC by the alleged observer and his sponsors.

The facilities were spacious, well lighted and adequately furnished. Living facilities were not available but were not deemed necessary under these circumstances. A backup generator was available and tested. Once a general evacuation had been completed, the EOC would be relocated to the Earl Township Fire Company where more complete facilities are available. All appropriate mapping was posted and clearly visible.

EOC communications consisted of telephone lines, fire band radio scanners and two-way walkie-talkies, AM/FM radio for EBS monitoring and RACES. All worked well. A backup system of actual physical contact and notification was available through police and fire personnel.

A sample kit of dosimetry equipment and KI was received at 1929. The kit had examples of all pertinent equipment and documents and was competently demonstrated by the Radiological officer. Instructions on the dissemination and use of dosemitry and KI were followed precisely. Distribution of this equipment was simulated by the Radiological Officer. The Radiological Officer was questioned on decontamination procedures and locations and exhibited a remarkable knowledge of the program.

Public alerting was accomplished by telephone and route alerting when necessary and in accordance with the plan. At 2106 the County EOC notified the EMC that sirens in sector 17-D did not sound. Route alerting was activated at 2114 and completed by 2142. At 2211 schools, factories, etc were notified by telephone.

Prompt response to protective action decisions was observed. Persons with special problems were actually called and arrangements for transportation were made and dispatched (simulated).

Media inquiries were simulated by the Evaluator and referred to the County EOC in accordance with instructions.

PROBLEM AREAS

None identified.

DOUGLASS TOWNSHIP EOC

The initial notification of the Emergency Management Coordinator (EMC) and the activation of the Emergency Operations Center (EOC) staff was accomplished in accordance with the County's response plan. Both shifts were activated for this exercise. The EMC effectively managed the EOC operations and used the expertise of his staff to accomplish all tasks. The EOC communications system was adequate, however, the facility did not include any kitchen area that might be needed in an extended operation. This may be helpful in that the EOC is located in a remote location. A backup generator was available but not demonstrated during the exercise.

The fire Services/Radiological Officer performed her duties in an effective, timely manner and required that the route alert teams were given KI in case the authorization for its use was received when the teams were out of the EOC.

The Township wished to conduct a route alert but could not use the personnel which were designated in the plan. According to the plan, Amity and Boyerstown Fire Departments are to complete route alerting in Amity Township but were unable to accomplish this because they were responding to a real fire. The EMC requested assistance from Berks County but were told the County did not have any available personnel to perform route alerting so the EMC activated the Crime Watch patrol who responded immediately and promptly executed the assigned task of route alerting. The EOC monitored the EBS radio station and informed the hearing-impaired with printed direction cards during the route alert procedure.

The general evacuation was conducted in accordance with the Township's plan and a current list was provided of special evacuation problems.

The Radiological Officer had all emergency staff complete a Dosimetry-KI Report Form and requested all emergency workers to read their dosimeters at 30 minute intervals.

PROBLEM AREAS

1. The EOC does not have a kitchen area. Since this EOC is remotely located, a kitchen might be helpful during extended operations
2. The backup generator was available and tested monthly; however it was not tested during the exercise. Actual demonstration of the generators was an exercise objective. This item should be demonstrated at the next exercise.

EARL TOWNSHIP EOC

The incident at the Limerick Generating Station occurred coincidentally with a real fire emergency in Earl Township. The Township Fire Chief, who is also the Radiological Officer heard over the fire radio that the Limerick exercise had started. Although many people promptly reported to the EOC, all but three of these people were needed to respond to the Fire. The Radiological Officer, who was in charge of the response to the real fire, assumed the direction and control of the EOC Response Team as well. Attempts to reach the EMC were unsuccessful for over an hour. The Deputy EMC was ill and could not participate. The EOC did not become fully staffed until 2045. However, activation was accomplished as best as could be expected. Round-the-clock staffing was eventually demonstrated with both presentation of a roster and double staffing. Personnel were knowledgeable of basic emergency response procedures but lacked detailed knowledge of dosimetry and KI. When radiological training was conducted in this Township, the fire personnel were responding to another real fire and could not attend the training. Although there was always someone effectively in charge of the EOC, they were not always those designated in the plan.

The plan and adequate instructions were available and messages and logs were handled and distributed appropriately. The EOC facility was satisfactory although no bunks or showers were available. Backup power was available but not tested during the exercise. It was used while responding to the real fire. Communications consisted of the telephone and RACES. Protective action recommendations were adequately carried out. Only two route alerting teams are required. Public alerting and instruction was effectively completed. Protective action procedures were adequately demonstrated (simulated). Radiological equipment is available for all emergency workers; however, as stated previously, detailed knowledge of dosimetry and KI procedures were lacking.

PROBLEM AREAS

1. The EMC could not be reached for over an hour after initial notification. The Deputy Coordinator was seriously ill and could not be contacted. The Radiological Officer, who is also the Fire Chief, and was in charge of responding to the real fire, assumed the direction and control of the EOC response team until the EMC arrived at 1930. It is recommended that a pager system be provided to the person responsible for activation of the EOC (EMC) to backup the telephone system notification in case the person can not be reached by telephone.

2. Knowledge of dosimetry and HI procedures was lacking by the Radiological Officer and the EOC staff. When training was being provided in this municipality, staff members were involved in an actual response to another fire and could not attend the class. This training should be rescheduled as soon as possible.
3. Backup power was available but not tested. It was used during the response to the real fire. This item was an exercise objective and should be tested during the next scheduled exercise.

UNION TOWNSHIP EOC

Activation of the Union Township EOC was completed at 1940 after initial notification to the EMC at 1840. Several duplicate staff were also present. Double staffing was demonstrated by an up-to-date roster with several back-up personnel present. The designated Emergency Management Coordinator was effectively in charge and held periodic informative updates to the staff. Access to the EOC was also controlled. Copies of the plan were available and a checklist for each agency was followed. Messages were handled efficiently. The facilities were adequate and large enough to support emergency operations. Back-up power generation was also demonstrated. Communications were good.

The Radiological Officer was very knowledgeable in dosimetry principles and techniques, and briefed all workers and staff periodically. One set of dosimetry was delivered by the County and procedures for its use were adequately described. The Township physical and manpower resources were judged to be adequate to keep evacuation routes clear and handle special evacuee problems.

According to the EMC of Union Township, the EOC did not participate in public alerting/instruction functions (route alerting) or TCP demonstration, as these were to be initiated by the County EOC by radio to the Fire Department.

PROBLEM AREAS

None identified.

WASHINGTON TOWNSHIP EOC

The initial notification of the EMC was not accomplished according to the plan. The EMC heard the Alert notification on his personal scanner. He arrived at the Township EOC at 1830, activated the EOC and called the Berks County EOC to verify the Limerick plant status. Full first shift staffing was demonstrated and completed by 1935. One problem was evident with the notification list. The telephone number for the Medical officer was incorrect.

The EOC operations were effectively managed by the EMC, who demonstrated complete control at each action level. The EOC and facilities, including the communications equipment were adequate to support operations. A backup generator was available and demonstrated.

At 2153, the Pennsylvania Department of Health instructed the use of KI for emergency workers. The radiological officer was directed by the EMC to take necessary actions for the initiation of record-keeping by emergency workers taking KI. The Radiological Officer was knowledgeable of exposure control procedures and had sufficient dosimetry available.

The Township EMC was instructed by the Berks County EMC not to perform public alerting and instruction (route alerting) and not to evacuate the EOC when evacuation of the general public was completed.

PROBLEM AREAS

1. Initial notification of the EMC was not in accordance with the plan. The EMC learned of the emergency via his personal scanner and responded promptly to the EOC. Initial notification procedures need to be reviewed by Berks County and Washington township. Both parties should agree on these notification procedures and then plans should be changed to reflect the procedures that will be used to notify Washington Township emergency management officials.

CHESTER COUNTY EOC

EOC activation and staff mobilization occurred promptly, and as specified in the plan procedures. RECALL, a computerized automatic dialing and paging system, provided an effective and timely means for notifying the county staff and the municipal Emergency Management Coordinators (EMCs). The EOC staff responded promptly, the EOC was fully staffed, and the capability for continuous operations was demonstrated.

The Director of Emergency Services capably managed the County's emergency operations. The staff were well-trained and demonstrated the capability to thoroughly perform their respective duties at each emergency classification level. Internal coordination was assisted by an effective message system. The County Commissioners demonstrated good support through their participation at the EOC.

The adequate EOC facilities included multiple back-up power sources and excellent communications capability. Amateur radio operators provided a secondary means of communications for all EOCs and other appropriate locations, but a dispatching problem resulted in an operator arriving late at one municipality. In addition, the County EOC personnel repeatedly used the wrong telephone number when calling this EOC.

Siren and EBS activation (simulated, in accordance with the objectives) occurred at the Site Area Emergency and General Emergency stages. Due to PEMA's failure to establish a specific time for both events, the siren activation procedures demonstrated by the County were inconsistent, and the municipal EOCs were not notified in advance of the first sounding, as they should have been. Although the County transmitted a radio message several minutes prior to the second simulated siren activation, there was no indication in seven of the municipal EOCs that the staffs were aware of the fact. The Public Information staff drafted appropriate EBS messages on both occurrences, as part of the simulated activation of that part of the Alert and Notification system. The Fire Group activated route alert teams within each municipality following the first siren sounding. This was done in accordance with the objectives, to demonstrate the procedure for dealing with siren failures. The procedure for notifying schools, businesses, and other institutions via telephone was demonstrated following each change in emergency status.

The staff performed their respective procedures thoroughly and with a minimum of simulation, thereby demonstrating their capability to implement the evacuation. Health care facilities were contacted, and suitable arrangements were made for their evacuation to the designated host locations; the municipalities were polled to determine their unmet needs; traffic and access

control, and impediments to evacuation were addressed; and arrangements were made to obtain and deploy the necessary bus and ambulance transportation. In attempting to contact the bus companies identified in the SOPs, the transportation coordinator found that appropriate after-hours phone numbers had not been listed for most of them.

The Chester County EOC is well beyond the 10-mile EPZ boundary, precluding the necessity for dosimeters for the staff. The dosimetry/KI kits for the municipalities had been predistributed in accordance with the plan. The Radiological Officer and his assistant were knowledgeable of all appropriate aspects of radiological exposure control, and provided instructions and guidance to the municipal EOCs at appropriate times.

The Public Information staff demonstrated the capability for providing information to the news media, via telephone calls and news releases. A press briefing room was available and appropriately equipped. Rumor control was also demonstrated.

PROBLEM AREAS

1. Following the Site Area Emergency notification, the Director was instructed by PEMA to activate the public Alert and Notification System immediately. This was done, but it did not provide for the County to notify the municipalities prior to siren activation. Following the General Emergency declaration, the County received the same instruction - to activate the siren system and EBS immediately. This time, the County Directors coordinated among themselves, and established a mutual siren activation time which allowed Chester County to broadcast a radio message notifying the municipalities in advance. Neither course of action by the County Director is considered incorrect. These incidents illustrate that the siren activation procedure is more consistent and more effectively coordinated when PEMA takes the lead in establishing a specific time for the risk counties to activate their siren and EBS system.
2. In seven municipal EOCs, there was no indication that the staff were ever aware of the second simulated siren activation (following General Emergency) despite a radio message which included that information. The radio message also advised of the General Emergency and the evacuation. All municipalities received this latter information, yet the Charlestown Township, East Coventry Township, East Vincent Township, Phoenixville Borough, South Coventry Township, Spring City Borough, and Upper Uwchlan Township EOCs were not aware of the siren activation, which was part of the same message. County and Municipal officials should investigate to determine the cause of this communication failure, and implement appropriate measures to correct the

problem.

3. In several instances staff members in the EOC did not have correct telephone numbers to contact key resource providers and municipal EOCs (Spring City Borough). Telephone lists should be updated and plans and SOPs changed to reflect correct information.
4. A problem with the assignment of an ARES operator unnecessarily delayed the establishment of this secondary means of communication at the Spring City Borough EOC for two and a half hours. The operator who lives in the Borough was reassigned (by the ARES organization) to another municipality and a replacement operator was assigned who had to travel 30 miles. Chester County and ARES officials should coordinate the assignment of operators to assure that operators are assigned to their home communities or nearby municipalities whenever possible.

CHESTER COUNTY RECEPTION AND MASS CARE

The notification of personnel and activation of the reception center and mass care facility were accomplished in accordance with the plan, and adequately demonstrated the objective. Personnel at the reception center were well-trained and knowledgeable of the SOPs, and demonstrated their capability to perform all appropriate actions. Monitoring of evacuees at the mass care center was performed thoroughly by fire department personnel. However, it is recommended that they spend less time per person, in order to complete evacuee monitoring within a reasonable time. The mass care facility was activated, and provided adequate capability to accommodate the planned capacity of 2500 evacuees. There are plans to open additional shelters as required. An immediate food supply was available, and additional supplies, including food, can be obtained in a short period of time. A nurse was available at the mass care facility.

PROBLEM AREAS

1. Radiological monitors at the mass care center demonstrated thorough, but lengthy monitoring of evacuees (NUREG-0654 recommends 90 seconds per person). At the rate they were monitoring (12 persons per hour/team) it would take two teams nearly 100 hours to accomplish the task. The monitors should perform a more rapid scan of evacuees. It may be warranted to assign additional monitoring teams to perform this function.

EMERGENCY WORKER DECONTAMINATION STATION

Activation of the emergency worker decontamination station at the Lionville Fire Company was timely, and the center was staffed by well-trained personnel. The decontamination team thoroughly demonstrated their capability to properly monitor incoming personnel, vehicles and equipment, to determine the need for decontamination. Appropriate instruments and decontamination procedures were demonstrated. Station personnel wore protective clothing and respiratory protection, and the center was properly set up, including signs, barriers, and paper coverings, to minimize the spread of contamination. The staff described adequate procedures for handling radioactive wastes, including contaminated washwater.

PROBLEM AREAS

None identified.

CHARLESTOWN TOWNSHIP EOC

The initial notification of an incident at Limerick was received at 1840 by the Assistant Deputy EMC and the EMC via telephone pager. The Assistant Deputy EMC promptly activated the EOC and notified the staff in accordance with the township plan. The EOC was fully staffed by 1905. The EMC managed the EOC operations effectively, and the staff demonstrated their capability for performing their responsibilities. Each staff person was cross-trained in the duties of every position in the EOC.

During this exercise the EMC used the Townwatch to man one Access Control Point. The EOC facility was adequate for this exercise, and includes kitchen and shower facilities. A backup generator was available and tested during the exercise. The adequate communications system consisted of telephone and UHF radio, backed up by local Townwatch-owned radio system and ARES. Route alerting was demonstrated by activating the local volunteer fire service. This is also backed up by the local Townwatch.

The EOC staff were aware of all residents with special needs in the event of protective actions. Complete detailed lists were consulted and appropriate transportation arrangements were made for their evacuation. The EOC is located just outside the EPZ, but adequate dosimetry equipment and KI supplies were available for the staff. At the direction of Chester County, the EOC staff demonstrated only one set of dosimeters and KI. The Radiological Officer was versed in the use of these items. There were no problem areas identified during this exercise and the EMC and his staff functioned well and performed their responsibilities in accordance with the plan.

PROBLEM AREAS

None identified.

EAST COVENTRY TOWNSHIP EOC

The activation and staffing of the East Coventry Township EOC was accomplished in a timely and efficient manner with staff members fully knowledgeable of their duties and responsibilities. However, even though all staff members were notified, full EOC staffing was never completed. The Emergency Management Coordinator and Deputy did an excellent job in the management of the EOC operations. They were very familiar with the Plan and made good use of the guidance provided in the Township EOC implementing procedures. The message handling procedures were considered adequate, with all major events properly logged and posted, except that the staff were not always provided copies of applicable messages. The EOC facilities were adequate for this operation, but some improvements in graphic displays of essential data and key events would enhance the operations. A backup generator was available and demonstrated. The communications systems utilized for initial notification, staff activation, and EOC operations (including pagers, telephones, radios and ARES) were adequate. There are plans to upgrade the Township's communication equipment by acquiring two-way radios for the police and emergency workers. This additional capability will further enhance an already successful radiological response operation, particularly as the population density increases and response time becomes even more critical. The EMC was well aware of the actions necessary to accomplish public alerting and notification, and effectively dispatched the Route Alerting and Traffic Control Point teams. The evacuation protective actions, including coordination of transportation resources with the County, and radiological exposure control procedures and equipment were implemented properly in conformance with the Township plan.

PROBLEM AREAS

1. The exercise objective to demonstrate staffing of all EOC positions was not demonstrated. The Radiological Officer and alternate were contacted, but did not participate. Although this duty was performed during the exercise by the Deputy EMC, he was neither trained nor certified. Full staffing of all EOC positions by trained and qualified personnel should be demonstrated in future exercises.
2. Messages were properly reproduced and logged, but not always distributed appropriately. Although a copy of each message was given to the person posting all major events, the EMC and other staff members were not always provided copies of appropriate messages regarding their functional areas. It is recommended that the message distribution procedure be modified to assure that all appropriate staff members receive copies.

3. The graphic wall map depicting Traffic Control Points(TCPs) was not current, and many of the features were fading and indistinguishable. The staffing directory was available but never posted on any display board. It is recommended that an accurate, legible map and staffing list be posted.

EAST NANTMEAL TOWNSHIP EOC

Activation and staffing of the EOC was quick and orderly, and completed according to the Township's emergency plan. All personnel were knowledgeable and capable of carrying out their duties. Emergency operations management was effective and under the direction of the Emergency Management Coordinator. The facilities were adequate but not capable of extended operations due to the lack of a food preparation area, showers, or bunks. EOC security was handled by the EMC rather than a staff member. Good communications capabilities and message handling were demonstrated. The status board was displayed and kept up-to-date. Charts, maps, and other information was available and recently updated but not posted. A backup generator was demonstrated during the exercise. Public alerting, performed with public address systems on vehicles, was properly activated. Information cards containing details of the evacuation were available for the hearing-impaired. All traffic control points were manned by the State Police, and this was verified with the County EOC. Evacuation arrangements were well planned. Transportation needs, including ambulances for evacuating the mobility-impaired individuals, were coordinated with the County. Good Radiological procedures were demonstrated, including the appropriate dosimetry equipment and KI.

PROBLEM AREAS

1. An EOC security officer was not present. The EMC acted as the Security Control Officer, which took him away from the operations area at times. It is recommended that a separate staff member be assigned to control EOC access.

EAST PIKELAND TOWNSHIP EOC

The initial notification to the EMC (via RECALL) and subsequent notification of EOC staff occurred in accordance with the plan. Full first-shift staffing was completed promptly and the capability for second-shift staffing was also demonstrated. The EOC operations were conducted in an efficient and professional manner with periodic staff briefings, and key messages posted promptly. The facilities and support equipment, including all communication devices were excellent and in good working order. The emergency generator was put on line for one-half hour and provided adequate power for building operations. A staff briefing was conducted by the Radiological Officer which adequately covered all aspects of the use of dosimetry equipment, record forms and the use of Potassium Iodide (KI). Public alert teams (3) were dispatched (two route alert and one hearing-impaired). None of the teams completed the appointed rounds in the recommended 45 minute time frame due to road construction and detours. One TCP was activated by local police. The staff notified schools and businesses, and reported transportation needs for evacuation to the County. Lists of mobility-impaired and hearing-impaired residents were available. During this exercise, message handling procedures were implemented. These procedures worked well with adequate logs kept and prompt message dissemination to affected support groups within the EOC. The entire staff exhibited enthusiasm and knowledge of their assigned tasks.

PROBLEM AREAS

1. Due to road construction and detours, none of the Township's three demonstrated route alert teams completed their rounds within the recommended 45 minutes. It is recommended that, due to construction, routes be temporarily re-configured, and/or additional routes added, in order to shorten the route alert time to no more than 45 minutes.

EAST VINCENT TOWNSHIP EOC

Activation and staffing of the EOC was completed in a timely fashion and staff members reported promptly after they were notified. Although the EOC positions as specified in the plan were double staffed, the EMC stated that there were not enough personnel for a full second shift.

The new EMC (formerly the deputy) was effectively in charge of EOC operations. All three Township supervisors participated at the EOC throughout the exercise. The staff members demonstrated adequate knowledge of their responsibilities, but message handling could be improved. The EOC facilities were sufficient and the communications capability, including RACES, was very good. An emergency generator was available, but would not start.

The staff placed notification calls to the special facilities (such as day care centers and camps) as specified in the plan. Those that could not be reached were designated for direct notification by the fire company route alerting teams, upon their activation.

The capability for manning traffic control points was successfully demonstrated by the police department. The EOC staff had lists of hearing-impaired and mobility-impaired residents. Suitable transportation arrangements were made for evacuating the latter group, as well as transit-dependent residents.

The person responsible for radiological exposure control for the Township emergency workers was very knowledgeable concerning his responsibilities. Adequate supplies of dosimetry and KI were maintained at the EOC. Evacuation of the EOC to the alternate location outside the EPZ was simulated.

PROBLEM AREAS

1. Operation of the emergency generator was not demonstrated, as it could not be started. The Township officials should implement an inspection and testing program for all emergency equipment; operation of an emergency generator should be demonstrated in future exercises.
2. Message handling procedures could be improved. Some messages were not consecutively numbered, and some of the event times posted on the status board did not match the times on messages received. It is recommended that message procedures be improved to avoid these problems.

NORTH COVENTRY TOWNSHIP EOC

The EMC was notified by Chester County by the pager system at 1830. This notification was verified at 1840 via telephone from the Township EOC. Complete staffing was accomplished within 35 minutes and 24 hour capability was demonstrated by a combination of double staffing and roster presentation. Adequate primary and secondary communications were demonstrated using telephone, UHF radio and the ARES network. Backup electrical power, in the form of a 2000 watt generator, was demonstrated. The capabilities of the EMC and his staff were clearly tested and found to be more than adequate to handle an actual emergency. The EOC facilities were also adequate. It should be noted that reporters were present in the EOC.

Route Alerting and notification of the hearing-impaired were demonstrated during Site Area Emergency and again when Evacuation was ordered. All TCPs were manned according to the plan in a timely manner. Up-to-date lists of all mobility impaired, hearing-impaired, and others needing transportation were available and utilized by the staff during this exercise. Unmet needs (buses, ambulances, ARES operator, and police support) were coordinated with Chester County and requested at the appropriate times. 46 complete dosimetry/KI kits (mid-range and high-range dosimeters, a TLD badge, KI, and a record card), enough for each staff member and fire department volunteer, were available at the EOC. While distribution was simulated, the use of each item was adequately demonstrated by the Radiological Officer.

PROBLEM AREAS

None identified.

PHOENIXVILLE BOROUGH EOC

Initial notification of the EMC was accomplished through the notification procedure described in the plan. Subsequent staffing of the EOC was accomplished in accordance with the provisions of the plan. Full first shift staffing was not demonstrated, however, due to the absence of a Medical Representative. Twenty-four hour staffing capability was demonstrated by a combination of double staffing and presentation of a roster.

The Deputy EMC, who was acting EMC for this exercise, effectively managed EOC operations. Periodic briefings were held, with appropriate staff input. Copies of the basic plan, along with prepared checklists, were available and referred to by all present. Message logs were kept, and message handling was efficient. A status board, listing current classification, was maintained and updated appropriately.

The facilities and equipment were adequate to support operations. Backup power was available and demonstrated.

Up-to-date lists of persons requiring special transportation services, along with lists of hearing-impaired residents were maintained. According to responsible officials, ongoing efforts are made to update these lists. Route alerting and TCP manning were properly demonstrated. Transportation arrangements were made for transit-dependent residents, and those with mobility impairments. The knowledge, equipment and procedures necessary to implement effective radiological exposure control were demonstrated.

Overall, Borough personnel displayed an understanding of their individual emergency management roles, and were knowledgeable of their individual duties and responsibilities.

PROBLEM AREAS

1. The objective to demonstrate staffing of all EOC positions was not demonstrated, as the medical representative was not present for the exercise (his/her duties were assumed and accomplished by the EMC, Radiological Officer, Transportation Officer and Fire Representative). Full staffing of all EOC positions by trained and qualified personnel should be demonstrated in future exercises.

SCHUYLKILL TOWNSHIP EOC

Emergency operations at the Schuylkill Township EOC were conducted in an excellent manner and were well organized. Initial notification was received at 1830. The EOC was declared operational at 1934. Full staffing and capability for a second shift were demonstrated via double staffing of many positions and presentation of a roster with primary and backup staff. This resolves a prior inadequacy. All staff had a good understanding of their roles. The EOC staff made the best use of cramped and noisy quarters at the EOC. Backup power was successfully demonstrated. Communications systems (emergency radio, phone and RACES) performed well. The Township conducted route alerting, but it was not initiated until 2212, about an hour late. This was due to the fact that the responsible fire department was responding to an actual fire at the time. The EOC staff placed telephone calls to all public facilities in the Township during the Site Area Emergency, and police were dispatched to schools. TCPs in the Township were established during Site Area Emergency, but the EMC reported that there were not enough resources in the Township to man all TCPs simultaneously. The EOC staff contacted all mobility-impaired individuals during the exercise to double check their transportation needs. The Township maintains computerized lists of mobility-impaired, hearing-impaired, and transit dependent individuals. Transportation requirements were identified by the EOC staff and reported to the County. Procedures were in place for the dispatch of transportation resources. One complete set of dosimetry/KI was available at the EOC for the exercise. The radiological officer demonstrated the distribution of dosimetry to all staff. Adequate instructions were provided to staff, which resolved a previous inadequacy.

PROBLEM AREAS

1. According to the EMC, local resources are not adequate to simultaneously man all TCPs in the Township. This has not been identified in the plan as an unmet need, nor was it reported to the County EOC as such during the exercise. The plan should be amended to identify the TCPs which the Township can not man, and the Township staff should request the County to provide the necessary resources during future exercises.

SOUTH COVENTRY TOWNSHIP EOC

The South Coventry EOC was activated at 1930 with a limited staff, as several volunteers were enroute from their places of employment. By 2000 the EOC was fully staffed in accordance with the plan. Several positions were represented by two persons thereby affording an excellent training opportunity. Operations at the EOC were effectively directed by the Emergency Management Coordinator and his Deputy. The Chairman of the Board of Supervisors was present and another Board member was closely involved in the decision making process. Available staffing rosters demonstrated a capability for a 24-hour operation. The EOC facilities were adequate, with appropriate displays, maps and status boards kept current and referred to with respect to route alerting and evacuation. Radio communications were carefully monitored with message flow permitting timely implementation of protective actions.

Since the Ridge Fire Company serves both East Coventry and South Coventry and is located in East Coventry, dispatch of a team for Route Alerting and TCP manning was initiated by radio to the Fire Company and was accomplished in an orderly manner. Requirements for meeting the objective for transportation needs for the homebound and non-institutionalized mobility-impaired residents was expertly handled. Radiological protection with appropriate dosimetry, TLD and KI was demonstrated. The availability of a backup generator and its use was demonstrated.

PROBLEM AREAS

None identified.

SPRING CITY BOROUGH EOC

The initial notification of municipal EOC personnel occurred according to the plan. The staff began arriving promptly, and all positions were manned within 45 minutes of the Alert declaration. The capability for continuous operations was demonstrated by actually calling in the second shift. However, problems occurred in notifying the second shift personnel due to the telephone numbers being incorrect on the roster. The EOC facility was adequate, and the backup power generator was demonstrated. Several communications-related problems were not the fault of the Borough staff. A problem with the assignment of the ARES operator unnecessarily delayed the establishment of this secondary means of communication at the EOC, and the Chester County EOC repeatedly used the wrong telephone number when calling the Spring City EOC.

Management of the EOC operations was excellent throughout the exercise, and all personnel performed their assigned duties professionally. The Mayor conducted briefings throughout the exercise to update the staff as appropriate. Implementing procedures color-coded to the emergency classification were available and used by the staff.

The capability for activating traffic control and route alert teams was properly demonstrated. An accurate list of hearing-impaired residents was available, and route alerting for the hearing-impaired was performed at the appropriate time. The Borough also had an accurate list of mobility-impaired residents, and transportation arrangements for their evacuation, as well as for transit-dependent members of the general population, were coordinated with the County. The appropriate dosimetry equipment and KI was available, and the Radiological Officer was knowledgeable of the various aspects of exposure control for emergency workers.

PROBLEM AREAS

1. In order to demonstrate the capability for continuous EOC operations, the second shift was actually called in. In the process it was discovered that the listed telephone numbers for these personnel were incorrect. Borough officials should compile an accurate notification list for second-shift personnel, and ensure that it is updated on a regular basis.
2. A problem with the assignment of an ARES operator unnecessarily delayed the establishment of this secondary means of communication at the Borough EOC for two and a half hours. The operator who lives in the Borough was reassigned to another municipality, and a replacement operator was assigned who had to travel 30 miles. Chester County and

ARES officials should coordinate the assignment of operators to assure that operators are assigned to their home communities or nearby municipalities whenever possible.

3. Chester County EOC staff members did not initially have the correct phone number for the Spring City Borough EOC, and failed to make the correction repeatedly during the exercise. Chester County officials should revise the plans and implementing procedures to reflect the correct Borough EOC telephone number.

UPPER UWCHLAN TOWNSHIP EOC

Initial notification of the EMC did not occur via the RECALL system, as the plan specifies, but by the Township Police, who received a radio message concerning the Alert declaration. Nevertheless, response was prompt, and staff notification and EOC activation did occur in accordance with the plan. Full staffing was complete in less than an hour.

The EMC who was designated in the plan was effectively in charge. Staff were involved in decision-making and periodic briefings were held. Security to the EOC was well maintained by Township Police.

An addition to the building provided the EOC with new toilet facilities and much more space. Back-up power was not demonstrated due to the generator reportedly being stolen.

The communications systems, including ARES, performed well. The plan stated that there are three residents who require special assistance in the event of evacuation, and one hearing-impaired person. However, no names or addresses were on file at the EOC. The EMC stated that those people no longer lived in the Township. This precluded a demonstration of special alerting procedures and evacuation transportation arrangements for such residents.

The staff made telephone calls to notify schools and businesses at each change in emergency status. Route alerting for a simulated siren failure in the Township was performed by the Ludwigs Corner Fire Department, under direction of the County Fire Board. According to the plan, the Township has not been assigned responsibility for manning any of the ACPs or TCPs within the jurisdiction; this duty is divided between the State Police and County Sheriff's Department. The Sheriff's Department did activate and man one of their designated TCPs within the Township during the exercise.

All required dosimeters, KI, TLDs and record forms were on hand, and distributed to the staff. The Radiological Officer was well trained and provided appropriate instructions. Following the simulated evacuation of the Township's general population, the evacuation of the EOC and relocation to the alternate location outside the EPZ (as stated in the plan) was also simulated.

PROBLEM AREAS

1. Lists of hearing-impaired residents and residents requiring special assistance in the event of evacuation were not available at the EOC during the exercise, although the plan states that there are four such residents. The EMC stated that these people no longer resided in the Township, which precluded any demonstration of special procedures for

alerting and evacuating such residents. This discrepancy should be resolved, and the plan revised, as appropriate. Continuing efforts should be made to identify special needs residents, and if any are residing within the Township at the time of future exercises, the EOC staff should demonstrate how they would be notified and evacuated.

2. The objective to demonstrate backup electrical power for the EOC was not met, due to the unavailability of the Township's generator (it had reportedly been stolen). The Township's plan to obtain a replacement generator should be completed as soon as possible, and this capability should be demonstrated during future exercises.

UWCHLAN TOWNSHIP EOC

Initial notification of the EMC was completed as specified in the plan, and he arrived to activate the EOC within 45 minutes of the County's receipt of the Alert notification. Overall, the EOC facilities were adequate, although space was limited. An emergency generator was available and demonstrated for backup power. Access to the EOC was controlled. Adequate radio and telephone communications, including ARES, were available.

Effective management of emergency operations was demonstrated by the EMC. Route alerting, performed by the Lionsville Fire Company, began at the appropriate time, as directed by the County EOC. Up-to-date lists at the EOC identified sight and hearing-impaired persons and residents needing special assistance in the event of evacuation. These persons with special needs were notified, and arrangements for their evacuation were made. Traffic and access control functions were performed by the police department. According to Township officials local resources were adequate to cover all control points.

The appropriate dosimetry/KI and related equipment were available, and the Radiological Officer demonstrated adequate knowledge concerning its use, and exposure control procedures.

PROBLEM AREAS

None identified.

WARWICK TOWNSHIP EOC

The activation and staffing of the EOC were accomplished in accordance with the plan. The EOC was fully staffed with some positions double staffed. The staff members demonstrated adequate training and knowledge of their jobs.

The EOC was managed very effectively by the EMC. He kept the staff updated concerning emergency activities throughout the exercise.

The EOC provided adequate space, furniture, lighting, telephones and communications capability, and could support extended operations. Backup power was available and was successfully demonstrated during the exercise.

The route alerting teams were given the proper radiological equipment with instructions for their use prior to leaving. Two sectors were alerted during this exercise, and both teams finished well within the 45 minute guideline.

In addition, route alerting for the hearing-impaired was demonstrated. This was completed within ten minutes.

One traffic control point (TCP) was demonstrated at Route 23 and Trythall Road. Appropriate instructions were given to the team members, along with proper radiological exposure control equipment. Barriers at the TCP were simulated.

The EMC was knowledgeable of mobility-impaired individuals needing special assistance, and proper arrangements were made to assist them in evacuating.

The EOC has an adequate supply of the specified dosimetry equipment, including KI. The Radiological Officer demonstrated an adequate working knowledge of its use and procedures. The EOC staff simulated moving to their alternate location outside the EPZ after evacuation of the general population was complete.

PROBLEM AREAS

None identified.

WEST PIKELAND TOWNSHIP EOC

The initial notification of the Emergency Management Coordinator (EMC) and his subsequent activation of the EOC and staff were accomplished in accordance with the plan. The call notification list used to contact the staff was up-to-date. A double shift reported to the EOC, demonstrating the capability for continuous operations. The EMC managed the EOC operations effectively. A copy of the plan was available for reference. Message logs were kept and message handling was efficient. Access to the EOC was controlled.

The EOC is located in the basement of the EMC's home. While a status board, maps, and a generator for backup power were available and demonstrated. The space was limited.

The communications at the EOC were adequate, consisting of telephone and radio, including ARES. Route alerting was performed in the Township in response to a simulated siren failure. As the fire company responsible is not located within the Township, the EMC coordinated this activity with the County. The EMC did not activate route alerting for the purpose of notifying hearing-impaired residents (according to the plan there are four such residents). According to the EMC, the Township does not have sufficient local resources to perform this responsibility. This repeats an inadequacy from the previous exercise.

Township officials were aware of the responsibility for local police to man one TCP, but the location was not manned, and the exercise objective was not met. A list of mobility-impaired residents was available at the EOC, and arrangements to obtain suitable transportation for their evacuation were coordinated with the County EOC.

A complete kit of dosimetry equipment and KI was available at the EOC. Instructions pertaining to the procedures to be followed were posted. The Radiological Officer also demonstrated adequate exposure control knowledge. Prepackaged equipment for each staff member is stored at the EOC.

PROBLEM AREAS

1. Although Township officials were aware of the responsibility for local police to man one TCP, as specified in the emergency plan, this was not done, and the exercise objective was not met. If the Township lacks the resources to perform this duty, officials should report this unmet need to the County, and the plans should be revised accordingly. The manning of TCPs within the Township should be demonstrated by the responsible organization in future exercises.

2. The EMC did not activate route alerting for the Hearing-impaired, stating that he did not have sufficient resources to perform this responsibility. This repeats an inadequacy from the previous exercise. Additional resources should be identified to perform this function, and the capability to perform route alerting for hearing-impaired residents should be demonstrated in future exercises.

WEST VINCENT TOWNSHIP EOC

The West Vincent Township EMC received initial notification by pager, activated at the Chester County EOC. All EOC staff were promptly mobilized, using written procedures and current call lists. Double staffing was demonstrated, with all prescribed organizations represented in the EOC, including the three Township supervisors. The EMC was effectively in charge as designated in the plan. Periodic briefings were held and emergency operations management was effective. The EOC facilities were adequate, and backup power was demonstrated. Adequate maps and a status board were utilized, and the available communications systems were also adequate. Internal coordination and information would be enhanced by the adoption of a formal procedure for transcribing, logging and distributing messages.

Route alerting was performed by the Fire Company in accordance with the plan. Activation of the teams was coordinated with the County EOC. The EOC staff was aware of the names and locations of hearing-impaired and mobility-impaired residents. The capability to implement the evacuation was demonstrated, and transportation needs were coordinated with the County. Although the plan assigns responsibility for manning one of the TCPs to the Township, this is identified as an unmet need, and was appropriately referred to the County.

Radiological exposure control was capably demonstrated. The specified dosimetry and KI were available, and the staff were thoroughly briefed. After the arrangements were made for evacuating the general public, the EOC staff simulated evacuation to the alternate location.

PROBLEM AREAS

1. A formal method of transcribing, logging, and distributing messages was not in evidence. It is recommended that a message procedure be adopted in order to enhance internal EOC coordination and information sharing.

MONTGOMERY COUNTY EOC

Activation and staffing of the Montgomery County EOC occurred promptly and in accordance with the plan. A pager system was used to notify all EOC staff, other agency personnel and municipal EMCs. Individuals were instructed not to call the EOC for verification but to report directly to assigned locations and then notify Montgomery County. All locations were reportedly manned in a timely manner. However, at 1930 the Evaluator at Lower Pottsgrove Township contacted the Evaluator at Montgomery County to report that the EMC and other staff members had not acknowledged receipt of the pager notification and never reported to the EOC. (Lower Pottsgrove Township had advised the County that the EOC was activated at 1840.) The only person present was a police officer who was on duty at the time.

The Montgomery County EOC was fully staffed, except for the National Guard Representative, and the ability to provide 24-hour operations was demonstrated by double staffing of all positions.

The emergency management operations were capably and efficiently managed by the Emergency Management Coordinator and his Operations Officer. All other staff members were well-trained and demonstrated excellent knowledge of their assigned tasks.

Shortly after the exercise at Limerick started, Montgomery County was involved in response to a real fire within the County. Twelve fire companies had to withdraw from the exercise to assist with the real emergency. However, the Fire Representative very capably provided the support necessary to cover both events.

As stated previously, the Lower Pottsgrove Emergency Management Coordinator and most of the EOC staff never responded to the pager notification. When the Federal Evaluator at Montgomery County advised the EMC of the situation in Lower Pottsgrove Township, he immediately held a meeting with key staff members and decisions were made quickly on how to handle the situation. One staff member was assigned the task of reviewing the Township plan, and attempting to locate Township Officials and staff. He was able to contact one Township Official, a fire representative and two other staff members who reportedly arrived at the EOC after Site Area Emergency was declared. In addition, all mobility-impaired individuals living in Lower Pottsgrove and all schools, business, etc. within the Township were called. The Montgomery County Fire Representative took steps to insure route alert teams were available for the Township. Overall adequate steps were taken by Montgomery County to insure that response actions were completed for Lower Pottsgrove Township.

Facilities were more than adequate and included multiple communications systems, backup power sources, ample space and appropriate resources for 24-hour operations. All necessary

charts, maps and status boards were available, posted and updated throughout the course of the exercise.

Two siren and EBS activations were demonstrated during the exercise: one at Site Area Emergency and one at General Emergency.

At 2048, the County was advised by FEMA to activate sirens and EBS immediately. The County EMC, following his plan, made a decision to provide appropriate notifications to all municipal EMCs first. He advised these locations that sirens and EBS would be activated at 2058. FEMA did not coordinate a simultaneous siren and EBS activation among the three risk counties.

At 2136, Montgomery County was contacted by FEMA via commercial telephone and given the General Emergency, Governor's Declaration of Emergency and Protective Action Decisions and were advised to activate sirens and EBS immediately. The Montgomery County Coordinator immediately contacted Chester and Berks Counties and the EMCs, themselves, coordinated siren and EBS activation for 2145. All municipalities were advised of the General Emergency, Governor's Declaration of Emergency and Protective Actions; however, they were not informed of the siren and EBS activation. Many municipalities were confused by this and did not activate route alert teams in conjunction with siren and EBS activation.

Minimum amounts of simulation were demonstrated during this exercise. Staff members actually made calls to school officials, health care facilities, ambulance companies and transportation resource companies. Access and traffic control procedures were adequately demonstrated. This function was coordinated through State Police, Sheriff's Department and Police Services Representatives in the EOC. Route alert team dispatch was efficiently coordinated through the Fire Services Representative. He worked directly with the Fire Departments in the municipalities. Consequently some municipal EMCs were not aware that route alert teams had been dispatched.

The Montgomery County EOC is located within the 10-mile EPZ; therefore, radiological exposure control is necessary. The Radiological Officer is well trained and knowledgeable of his responsibilities. In-depth briefings were provided to all staff members. In addition, the staff were advised every half hour to read dosimetry equipment and to record findings. Dosimetry and KI have been pre-distributed to each municipality. The EOC is located underground in a protected building.

Public information tasks were handled in an adequate manner. An actual press briefing was provided. Rumor control numbers were publicized and the staff were adequately trained. General

information and updates in status were provided to the rumor control staff to assist them in answering queries from the public. Copies of news releases were received from FEMA.

PROBLEM AREAS

1. Lower Pottsgrove Township EMC and most staff members did not respond to the pager notification. However, Montgomery County was not aware of a problem because a police officer on duty reported the EOC activated at 1840. The County should reconsider their procedures to not require verification of receipt of pager notifications. In this instance they would have been aware that appropriate staff had not replied to the page when verification was not received from the Lower Pottsgrove EMC.
2. The Pennsylvania Emergency Management Agency did not coordinate siren and EBS activation with the risk counties as the State Plan calls for. At Site Area Emergency, Montgomery County was instructed to activate sirens and EBS immediately. The Coordinator, following his plan, waited until staff members completed appropriate notifications to County staff, field workers and municipal EMCs. This is not considered a bad decision. Sirens in this County were activated at 2058, which was not simultaneous with the other risk Counties. Again at 2136, Montgomery County was instructed to activate sirens and EBS immediately. This time, however, the risk Counties coordinated siren and EBS activation themselves, at 2145. These problems clearly indicate the need for PEMA, as addressed in the State Plan, to take the lead in coordinating a specific time with the Counties for a simultaneous siren and EBS activation. PEMA should consider the notifications the County must make before establishing a specific time for this activation.
3. The Fire Representative at the County dispatched route alert teams directly through municipal fire stations, consequently some of the municipal EMCs were never aware that teams had been sent out. Procedures should be established and understood between involved responders to insure that municipal EMCs are aware of actions taken within their jurisdictions. This problem occurred in Limerick Township, Green Lane Borough/Marlborough Township, Lower Providence Township, Pottstown Borough, and Upper Fredrick Township.
4. The messages advising the municipalities of the General Emergency, Governor's Declaration of a State of Emergency and Protective Action Decisions did not advise the municipalities of siren and EBS activation times. Consequently many municipalities did not initiate route alerting. Care should be taken to insure all information is included in important messages to the municipalities.

RECEPTION AND MASS CARE

The Reception Center was manned by a facility manager and a person from the Second Alarmers Organization. The only function of the Reception Center was to direct evacuees to the Mass Care Center. The evaluator was informed that two evacuees had already been directed to the Mass Care Center. A map and directions were provided.

PROBLEM AREAS

None identified.

MASS CARE CENTER

The Mass Care Center was already activated when the evaluator arrived at 2200. It was well organized and well staffed. All participants were quite knowledgeable of their responsibilities. Two radiation monitoring teams were available. Overall, the Mass Care Center was very well organized and functioned smoothly.

PROBLEM AREAS

None identified.

EMERGENCY WORKER DECONTAMINATION STATION

The Emergency Worker Decontamination Station was located at the Red Hill High School. The Station was manned by the Red Hill Volunteer Fire Department and the Police. RACES was the primary communications system with the Montgomery County and local EOCs. The RACES operator was conscientious and professionally handled all communications with the Station. However, he performed his duties outside of the school building.

Only personnel monitoring was demonstrated. The survey was very thorough. Instructions were posted along the wall in the monitoring area. Showers were available; however, there was only one entrance. Since women may well have to be decontaminated, privacy in the shower area, female monitors, and a place for monitoring them after showering must be considered.

An adequate dosimetry kit was available with all kits maintained at the County EOC. The personnel were not sure of when to take KI nor when the thyroid level is too high. The disposable coveralls were too small for some workers and one did tear.

PROBLEM AREAS

1. The shower area used for decontamination of personnel had only one door which means that after showering a person would have to walk over a contaminated area. In addition, separate showers were not available for women, nor were female monitors. Officials should review the facilities and resources necessary and make appropriate changes to adequately provide for the monitoring and decontamination of all possible emergency workers.
2. The Decontamination team was not sure when to take KI and what the PAGs for the thyroid are. Additional training should be provided to the teams.

AMBULANCE

Two ambulances are available from the Upper Ferkioman Valley Ambulance Service. One was brought to the Decontamination Station. The inside of the vehicle was professionally covered with plastic to prevent the spread of contamination. The rear doors were not covered. Adequate communications systems were included on the vehicle. Only one person was provided with a TLD badge and one O-20R dosimeter. The ambulance team were not sure how frequently they should read their dosimeters. The gloves and disposable coveralls used by the team were too small.

PROBLEM AREAS

1. The ambulance team stated that the dosimeter should be read every hour which is not in accordance with the plans. Additional training should be provided.

READING HOSPITAL

The hospital adequately demonstrated proper procedures for handling a contaminated patient. The staff were enthusiastic and excellent security was demonstrated in the parking area. Two registered nurses, a doctor and a radiation physicist were involved in the exercise. The patient was monitored with two GM radiation monitoring instruments, and both small radioactive sources were eventually detected. No permanent record dosimeters were available for the staff.

PROBLEM AREAS

1. Permanent record dosimeters were not available for the hospital staff involved in handling the contaminated patient. Permanent record dosimeters are required for all emergency workers.

COLLEGEVILLE BOROUGH EOC

Staffing and activation of the Collegeville Borough EOC were timely. Full staffing, as documented in the plan, consisted of fire response agencies and one elected official and was completed in less than one hour. The Emergency Management Coordinator maintained excellent control during the exercise and had good support from EOC staff members. The original activation notification was received as an unusual event. When RACES activated and received a copy of initial notification the message was correct. Alert was verified. The EOC and facilities, including the communications equipment, were adequate to support operation. An emergency generator was demonstrated during the exercise. Knowledge and distribution of dosimetry were adequately demonstrated, however, awareness to specific plan criteria was weak. A traffic control point and route alerting procedures were successfully demonstrated. Mobility-impaired lists were updated during the exercise. Route alerting was notably demonstrated in Collegeville Borough, four teams were activated to demonstrate the full route alerting capability for the municipality.

PROBLEM AREAS

1. The radiological officer was not aware of specific plan criteria in the area of dose limits (PAGs) and authorization to administer KI. Additional training is needed.

DOUGLASS TOWNSHIP EOC

The EMC arrived at 1820. He was notified via his pager at 1810 and he began contacting his staff. When staff arrived they also began contacting area schools, hospitals and industries to notify them of the alert. Full staffing was achieved within one hour with the exception of the RACES operator who arrived at 1850.

Communication systems include RACES, four commercial telephones, a County radio system and a fire radio system. The EMC used the telephone mostly when keeping in touch with the County but had problems with busy lines. The EMC conducted his staff in a very orderly manner and his staff was familiar with their duties.

The EMC readied a route alert team at 2045. The route alert began at 2058, when sirens were sounded, and was finished at 2118. The team was able to complete the route within 20 minutes. The team has a list of the hearing-impaired maintained in the EOC. Traffic Control points were not demonstrated due to an actual emergency.

The EOC has maps posted which indicated all evacuation routes and relocation centers. Updated lists of backup EOC positions were available. The EOC was adequately furnished and was able to sustain a staff on a 24 hour basis, including several backup generators which were demonstrated. A board was kept updated as to the series of events and upgrades. It should be noted that the board reflected the actual time of each event but failed to note the time that each message was received.

Dosimeters were demonstrated in a professional manner and an adequate supply was on hand.

PROBLEM AREAS

1. Communications were basically conducted through the telephone system which proved to be inadequate for lines were mostly busy. Communication should also utilize the radio systems.
2. The EMC was not able to demonstrate the TCP as a real emergency requiring police diverted their attention. The EMC did not demonstrate a backup method to man the TCP and did not request assistance from the County EOC.
3. The EOC staff did not demonstrate a working knowledge of contacts with the County EOC. They did not verify transportation or request backup for the TCP. This is an issue that the Township and the County should coordinate.

GREEN LANE BOROUGH/MARLBOROUGH TOWNSHIP EOC

The initial notification of the EMC and his notification of the staff was efficiently accomplished in accordance with the plan. All positions were double staffed with a shift change being demonstrated during the dinner hour. The EMC was very familiar with his duties and led a well trained staff in accomplishing the EOC operations. The new municipal building provided very adequate facilities to support the staff. Backup power capability was demonstrated. Communication support was more than adequate with radio and telephone available for all needs. The use of dosimetry and KI was handled competently by the EOC staff and emergency workers. The EMC was unable to demonstrate route alerting because of a failure to be instructed to do so by the Montgomery County EOC. The EOC is prepared to provide evacuation assistance to the mobility and hearing-impaired residents. Elected officials were deeply involved with assigned duties.

PROBLEM AREAS

None identified.

LIMERICK TOWNSHIP EOC

The notification of the EMC and activation of the EOC was implemented in a timely manner as designed in the Township plan. The EOC was fully staffed and demonstrated round-the-clock staffing capability by double staffing of all positions. The EMC demonstrated that he was effectively in charge and staff members had and consistently used their copy of the implementing procedures. Logs, message handling and access were well handled. The EOC and facilities were adequate for the exercise. A backup generator was available and tested. The status board and applicable maps were all well displayed and kept up to date. Communication hardware was excellent. Along with 6 telephones the Township had available a "RACES" radio, a County emergency radio network, fire radio and police radio. For a back-up the Township also had a cellular phone. At various times the EOC had problems talking to the County by phone; however, the transition to radio communications proved to be excellent backup to bypass the busy phone lines. Route alerting was demonstrated; however, the Fire Company was notified directly by the County to route alert without the Township's knowledge. A TCP was demonstrated and the EOC did have enough resources and staff for all identified TCPs. The EOC was aware of all individuals needing special assistance and arrangements were demonstrated for notification and transportation. The Radiological Exposure Control was well handled with the staff displaying good knowledge and excellent implementation of the plan. Dosimetry and KI was available for all identified staff. Dosage, decontamination procedures and decon station were all identified properly.

PROBLEM AREAS

None identified.

LOWER FREDERICK TOWNSHIP EOC

The initial notification of the EMC and his subsequent activation of the EOC and staff were accomplished in accordance with the plan. Facilities and equipment, which included an emergency generator, which was tested, were adequate. The EMC generally managed the EOC operations effectively. Communications between the Township and County EOC were by RACES and telephone. All other communications were by telephone. The facility is adequate for round-the-clock operations. The public alerting is principally done by route alerting after EBS and sirens have been activated. A route alerting team demonstrated its system twice, once at Site Area Emergency, taking 35 minutes to accomplish and again at General Emergency, taking 25 minutes to complete. The message was pre-scripted and read over a PA system. The radiological and equipment exposure control system was activated and implemented according to their plan.

PROBLEM AREAS

1. The EMC had problems trying to verify initial activation because of telephone problems. Either no one was at the County EOC or the Township had the wrong phone numbers.
2. The message form used in the exercise gave the operator a problem because of unfamiliarity with the form. Some training is needed.

LOWER POTTS GROVE TOWNSHIP EOC

The initial notification of Emergency Operations Center staff and activation of the EOC were not accomplished in accordance with the plan. The Emergency Operations Center was never fully staffed and therefore specific functions and objectives of the exercise were either not met or were simulated at best. The law enforcement representative to the EOC did his best to maintain the management of the EOC and should be commended for displaying the insight he possessed of the local plan. The facility was more than adequate, complete with the proper maps and boards, and quite comfortable. However, for the exercise, staff of the EOC could not demonstrate the use of backup power source and also ran into problems with adequate local resources to handle traffic and access control functions. Communications between the EOC and Montgomery County were handled mostly by RACES and except for notification of the Alert phase, all communications appeared smooth. Written call lists for activation and staffing were used only by the law enforcement representative. The absence of such procedures was due to the fact that there were no other members of the EOC mobilized. Round-the-clock staffing was not demonstrated due to the problems in notifying EOC staff members. Those members of the EOC who arrived later, with the exception of the Fire Representative, did not display adequate emergency operations training and knowledge. Periodic briefings in the EOC were non-existent simply because there was no staff to brief. The Law Enforcement Representative did his best to execute emergency operations in the absence of staff and an Emergency Management Coordinator. Backup power was not available. The diesel generator that was to serve as the backup source was actively involved in a local oil spill emergency. The Fire representative briefed a member of the staff concerning dosimetry and KI. There was little evidence of any EOC briefing on this subject and there was not a briefing or monitoring of emergency workers. The Fire Representative did possess the training and knowledge necessary to perform this task. Procedures were available to alert the public as to the nature of the incident. However, due to lack of staff, this function was not executed. After being questioned, the Fire Representative detailed for evaluators the procedures to be followed in conducting route alerting. This simulated action strictly followed the guidelines set forth in the Lower Pottsgrove Township Plan. The manning of the traffic control point at High Street and Pleasantview Road was to be demonstrated. However, there was a local problem that required the use of local law enforcement resources. It should be noted that this function was satisfactorily simulated in accordance with the local plan.

PROBLEM AREAS

1. The overall response capability demonstrated by the Lower Pottsgrove Township EOC staff was not adequate to ensure

that the health and safety of the residents could be protected. The Emergency Operations Center was never properly staffed. Those staff members that did arrive later, except for the Police Representative, Fire Representative and the RACES operator, did not display adequate emergency operations training and knowledge. Due to this lack of trained and knowledgeable staff, specific functions and objectives applicable to this local jurisdiction were either not met or were simulated at best. Those staff members that did arrive after Site Area Emergency was declared did so only because the EMC and staff at Montgomery County were successful in getting one public official and several other staff members to report to the EOC. It is imperative that the County and officials from the Township recruit and train staff members who will be available to respond in an emergency. The Township should demonstrate a capability to protect the health and safety of its residents as soon as possible.

that the health and safety of the residents could be protected. The Emergency Operations Center was never properly staffed. Those staff members that did arrive later, except for the Police Representative, Fire Representative and the RACES operator, did not display adequate emergency operations training and knowledge. Due to this lack of trained and knowledgeable staff, specific functions and objectives applicable to this local jurisdiction were either not met or were simulated at best. Those staff members that did arrive after Site Area Emergency was declared did so only because the Federal Evaluator contacted the Federal Evaluator at the Montgomery County EOC. The EMC and staff at Montgomery County were successful in getting one public official and several other staff members to report to the EOC. It is imperative that the County and officials from the Township recruit and train staff members who will be available to respond in an emergency. The Township should demonstrate a capability to protect the health and safety of its residents as soon as possible.

LOWER PROVIDENCE TOWNSHIP EOC

Township was first notified of an Alert by the arrival of the RACES operator at 1832. RACES operator stated that he learned of the Alert via his personal monitor at approximately 1825. No verification call was observed. At 1901, the EMC was given a message that an Alert communication was received on County radio frequency at 1851. The Police dispatcher contacted the EOC staff via telephone and personal pager. Call list was up-to-date and effective. The EOC was fully staffed at 1930. All positions were manned.

All staff had a solid working understanding of both their individual responsibilities and the overall group function. The Emergency Management Coordinator went round-the-table at each upgrade stage for a review of specific duties of each staff position. All staff members communicated very well and effectively managed the incident. Decisions and areas of confusion were discussed. Staff had considerable understanding of emergency management in general. More aggressive activity in obtaining and clarifying information could improve their effectiveness.

Facilities and communications were adequate. A generator to provide backup power systems was available and demonstrated.

The Township has organized a volunteer civilian force to accomplish route alerting. This enables fire department personnel to remain available for firefighting and rescue operations. The volunteers assembled at the EOC and were competent and well-organized. The Organizer/Leader of the volunteer force was considerably well-versed in the principles of emergency management. However, there was some overall confusion among the entire EOC staff as to when to activate route alerting in accordance with the plan.

Protective actions were adequate. Computerized listings of hearing-impaired and others who might need special assistance are maintained. A traffic control point team was dispatched as a demonstration.

PROBLEM AREAS

1. Notification of the Township occurred by the arrival of a RACES Operator dispatched by the County. No message was received on County radio until 1851. Notification verification was not observed. The EMC is the Chief of Police; however, and is therefore likely to be easily accessible at all hours. Nevertheless, notification should occur as outlined in the plan.

LOWER SALFORD TOWNSHIP EOC

The initial notification of the EMC and his subsequent activation of the EOC and staff were accomplished in accordance with the plan. Full first shift staffing was demonstrated as was a second shift call-up using an up-to-date call-up list. The EMC managed EOC operations effectively and involved his staff in the decision making process as well as keeping them informed as to the current situation through short, regular briefings.

The EOC furnishings and equipment, including communications equipment were adequate to support operations. Backup power was available and demonstrated.

Emergency workers assigned route alerting, traffic control and ambulance (transportation of the handicapped) duties were equipped with appropriate dosimetry/KI equipment. Instructions for use of the dosimeters were given at the base station for the services involved. Instructions for using the KI were repeated by emergency service radio following instructions from the Secretary of Health for its usage.

Route alerting was necessary in one area when a siren failed to operate. The route alert vehicle completed its mission in 23 minutes.

A traffic control point (TCP) was established to assist in an orderly evacuation. Mobility-impaired individuals were contacted by phone and an ambulance made a trip to one mobility-impaired individual's home when no one responded. This also provided a time in travel check for the dispatcher.

Dosimetry equipment was available for all Township emergency workers and EOC staff. Chargers, record-keeping cards and TLDs were available as was an adequate supply of KI. Instructions for the use of the dosimeters were available with the dosimeters and also posted on large charts on the EOC wall.

The Lower Salford Township Emergency Management Organization operated well as a team and showed the results of a recent tabletop exercise. The EMC is enthusiastic, knowledgeable and dedicated and the operation of the EOC in this exercise showed his leadership.

PROBLEM AREAS

None identified.

NEW HANOVER TOWNSHIP EOC

The Township EOC was activated at 1835, after the Alert declaration at 1817. Staffing at the EOC was composed of all staff listed in the Township plan. There were 15 individuals representing nine disciplines. Emergency management operations in the EOC were under the leadership of the emergency management coordinator. All activities were closely coordinated with Township elected officials. Changes in emergency classification were effectively coordinated among staff members and the Montgomery County EOC.

Communications utilized during the exercise included the commercial telephone, Township radio and RACES as backup. All systems were operable during the exercise.

The EOC facility was adequate in size and well arranged. Charts, Tables, and operational maps were prominently displayed.

New Hanover Township activated and staffed one TCP by local police department staff after receiving notification from the county EOC. The officer was knowledgeable of evacuation routes, location of shelters and dosimetry equipment procedures.

The Township activated route alerting on one route. The Fire service performed this activity with a vehicle, voice speaker and sirens. The route was started at 2202 and ended at 2238. There was a prescribed message that was used. The Township has 17 vehicles with speakers/sirens and two hand held speakers. Printed material is available for non-english speaking residents.

Two fire departments have the responsibility for monitoring vehicles and personnel. Decontamination was not witnessed but during an interview, the fire personnel all were knowledgeable of the methods and equipment to perform this function.

A separate room at the EOC is available for news briefings, which is the responsibility of the Township Manager or her designee.

Backup power was demonstrated by the use of battery packs, capable of supplying power for 90 minutes. Generators are available and can be in place within 15 minutes.

PROBLEM AREAS

None identified.

PERKIOMEN TOWNSHIP EOC

The initial notification of the EMC and his subsequent activation of the EOC and staff were accomplished in accordance with the plan. Generally, the management of the EOC was good, but could be improved with the scheduling of periodic briefings on the status of key actions and events and with better preparation of key staff (additional training). The facilities were adequate for efficiently conducting emergency response duties. A generator for backup power was demonstrated. On occasion, radio communications were interrupted by noise (staff communications) in the RACES room. Communications, public alerting and instruction and protective action procedures were handled in an efficient manner. The lack of proper training seems to be the cause of problems noted with radiological exposure control.

PROBLEM AREAS

1. The traffic noise in the RACES room can reach levels that impede effective communications. This was discussed during the exit interview and the RACES operator suggested that wearing head phones would alleviate the problem. Another alternative would be to move the RACES operations into another room at the EOC facility. The back room, although crowded now with posters and operations materials, could be used for this purpose. The crowding in that room can be reduced by moving the EMC operations to the location now occupied by the RACES operator. In any event, the status board should be moved from the back room to a more visible location.
2. Periodic briefings on the status of key actions and events were not demonstrated. General management of the EOC would be improved with the scheduling of such briefings.
3. The Radiological Officer did not demonstrate knowledge of exposure limits and an ability to operate and interpret self-reading dosimeters. Training should alleviate this problem.

POTTSTOWN BOROUGH EOC

The initial notification of the EMC and the activation of the EOC were accomplished in accordance with the plan and in a timely fashion. Twenty-four hour staffing capability was demonstrated through double staffing of all positions including the EMC and EOC communications staff. The EMC conducted operations in an effective manner. Internal message handling was not timely; problems in message logging and distribution often resulted in the EMC receiving important information in a delayed fashion. e.g., the EMC did not receive notice of the 2145 evacuation order until 2200. The EOC and related support facilities, including communications, were adequate. Backup power was demonstrated and the generator worked. The Borough did not dispatch a route alerting team and stated they were awaiting orders to do so from the County EOC. Alert teams to contact the hearing-impaired were dispatched at 2223 after the 2145 evacuation order; the Fire Chief explained the procedures to be used in notifying these individuals and produced the pre-scripted notification card. One police officer was dispatched to man a TCP; the briefing of that officer was generalized and did not discuss specific evacuation routes, procedures or destination points. The Transportation Officer was very cognizant of people requiring assistance for evacuation and had his staff call all the people on the list for the purpose of updating that list. Radiological exposure control was handled in an exemplary fashion. Supplies were correct in content, adequate in number and the implementing instructions were excellent.

PROBLEM AREAS

1. Internal message handling was slow at times and resulted in the EMC receiving delayed notification of important information. Important messages (changes in classification level or the issuance of protective action) should be given to the EMC immediately and then entered into the formal system.
2. The briefing of the TCP Officer was very general. Future briefings should contain specific information concerning responsibilities, reception center locations and evacuation routes and procedures.

ROYERSFORD BOROUGH EOC

The initial notification of the EMC and the subsequent activation and staffing of the EOC was accomplished swiftly and professionally. Full staffing was not demonstrated, due to the inability to contact the Public Works Representative. The EMC managed the operations effectively, but the briefings were not as frequent and methodical as other aspects of the operations. The facility and communications were of high quality, including backup power source which was demonstrated. The public alerting system was demonstrated satisfactorily. The evacuation and access control was demonstrated, but adequate towing was not available. These resources were not demonstrated. The special evacuation problems were handled promptly and understood thoroughly by the route alerting team and the EMC and staff. The radiological exposure control was demonstrated but instructions to the route alert team were incomplete.

PROBLEM AREAS

1. The Public Works Officer and his backup were unreachable during the exercise. All positions in the plan should be staffed.
2. The EMC did not hold briefings with all staff present. He did discuss topics individually with staff. The EMC should hold hourly, or when appropriate round-table briefings.
3. The Radiological Officer demonstrated adequate knowledge of dosimetry and exposure limits, but did not effectively convey this information to the route alerting team. The instructions to all emergency workers should be expressed thoroughly and understood by the workers before sending them out.
4. The FEMA Observer provided advice and training to the staff throughout the exercise. Observers should be there to observe. Training should be complete prior to the exercise.

SCHWENKESVILLE BOROUGH EOC

The EMC and EOC staff mobilization was accomplished in accordance with the plan. The first shift staffing was demonstrated although one staff member did not participate. All staff displayed adequate training and knowledge and at all times were available to perform specified actions of the plan. The staff discussed emergency situations such as how to proceed in the event of further required actions. EOC message handling and communications were adequate. Backup power capabilities were demonstrated. Pre-arranged route alternatives, and public alerting were handled as specified in the plan. Dosimetry equipment was sufficient and an individual was aware of proper dosage and procedures. All incoming communications were handled by RACES and confirmed by phone. One siren in the 73-A area of Schwenkesville Borough was not activated. A Route alerting procedure was performed in that area. The EOC was evacuated to the County library and the Fire Department to the Indian Valley High School.

PROBLEM AREAS

1. The Radiological Officer did not participate in the exercise. Although the Medical Services Staff performed his duties adequately, staffing should be completed in accordance with the plan.
2. The Police Department is responsible for manning traffic control points. However, the Borough has currently only one police officer and rely on fire and police staff personnel to fill in. The plan should reflect the personnel who are actually assigned to fill the responsibility. If assistance is needed in this area, the municipality should request that assistance from the County.

SKIPPAK TOWNSHIP EOC

The EOC was adequately staffed, both first and second shift, and conscientiously managed by the EMC. The facilities were more than adequate for this level of support (bath, kitchen and sleeping facilities). Emergency generating equipment was tested. The communications systems consisted of phone lines with radio backup. Route alerting is thorough and up-to-date with adequate emergency vehicles available. Route alerting was only simulated. Updated lists of hearing-impaired, ambulance dependent, and transportation dependent evacuees are maintained. Vehicles with PA systems were available. Traffic control and access control were activated and deployed. The relocation of the EOC was simulated. Evacuation and traffic control can be handled by Township staff. Under excessively bad weather conditions volunteer backup from the community will be utilized. The Radiological Exposure Control supplies and information are adequate. Pertinent staff members were briefed regarding the use of dosimetry material and the significance of radiation levels.

PROBLEM AREAS

1. Route alert team dispatch was only simulated. According to the objectives, each municipality was to demonstrate one actual route. This objective should be demonstrated during the next exercise.

TRAPPE BOROUGH EOC

The EMC arrived at the EOC at 1825 and the deputy EMC arrived at 1830. They had been notified by pager activated from the County EOC. Steps were immediately taken to set up tables, chairs, get the telephones ready, portable radios out and in general follow the plan to ready the EOC for operation. The EMC used an automatic dialing system to notify the balance of the staff. The system was backed up with pagers and portable radios. A security position was established at the main entrance. All personnel entering the EOC signed in before being allowed into the EOC. All the organizations designated in the plan were present and each position was double staffed which showed the capability for 24 hour operation. The staff was enthusiastic and knowledgeable of their roles. The EMC was in charge of the EOC operations and worked well with the staff. As messages were received he would brief the staff on the content and if necessary discuss with the appropriate staff member on what was to be done. The deputy EMC was also very knowledgeable about the plan and very helpful in the EOC operations. Communications were received by a RACES operator and then given to the message flow operator, who in turn distributed the message to the EMC. It was at this period in time that the EMC would read the message to the entire staff and then it was placed on the status board. The EOC staff were notified of the status at the plant in a timely manner and took the necessary actions to protect the public. The facilities are adequate to sustain 24-hour operations and a generator is available which was demonstrated to provide for backup power. In case the primary generator failed, they also have generators on the fire trucks which are capable of running all equipment in the EOC. The status board was visible and kept up-to-date; however, it is suggested that the writing should be larger so that it can be read from anywhere within the room. The primary communications available are highband portable radios, commercial telephone and RACES. The decision to use KI was authorized at 2120 and received at the EOC at 2145, at which time the appropriate action was taken. At 2210 the fire chief received a call from the County EOC explaining that a siren did not work and that the EOC staff should implement route alerting. They chose to run both routes which would cover the entire Borough. The route alerting was started at 2214 and completed at 2244, which is within the established time guidelines. The capability does exist to keep the evacuation routes clear of snow, stalled or wrecked cars. There is adequate personnel and resources available for traffic and access control. The EOC has confidential lists of the mobility-impaired available and were aware of the special needs of these people. The necessary dosimetry was available for distribution to all staff. The Fire Chief, who is the designated Radiological Officer as per the plan, was very knowledgeable of what had to be done. Due to the entire EPZ being evacuated, the Trappe Borough EOC moved to the

alternate EOC at Montgomery County Library (simulated) at 2250.
The EMC notified the County of this action by radio.

PROBLEM AREAS

None identified.

UPPER FREDERICK TOWNSHIP EOC

The initial notification of the EMC, and his subsequent activation of the EOC and staff, were in accordance with the plan. Double staffing was used to demonstrate round-the-clock capability. The EOC doubles up assignments and should be able to function with a staff of three (e.g., the EMC also is assigned law enforcement functions, the fire services person also handles the radiological function. This is per the plan.

The EMC is contacted by the County via beeper; in turn, he contacts his staff. All staff members have a current staff roster. The EOC and facilities, including communications, are adequate to support operations. Backup power capabilities were available and demonstrated. There was a problem with the base station radio in that it would not send messages.

The prior inadequacies concerning the EMC's arrival, backup shifts, and special evacuation needs have been resolved. The EMC arrived at the EOC fifteen minutes after notification by the County and the EOC was staffed completely at 1901. Special evacuation needs lists are readily available and current.

The EOC commenced route alerting on its own based on its decision that the sirens in Sector #5 had failed to operate. Route alerting started at 2202 and finished at 2250. The County's decision to sound sirens was made at 2050, received by the Township EOC at 2056, and sirens were simulated at 2058.

Activation of TCPs took place at 2202. The Township fire/police has a vehicle which can be used to assist stalled or wrecked vehicles. The Township believes that all traffic and access control functions can be covered.

Special evacuation problems are adequately addressed. The EOC has a current file listing hearing-impaired and those in need of transportation.

The EOC has adequate supplies of dosimeters and related equipment as well as KI. The prior inadequacy concerning proper use of KI has been resolved. KI use instructions are posted and information on its use also was given verbally.

PROBLEM AREAS

None identified.

UPPER POTTS GROVE TOWNSHIP EOC

The Upper Pottsgrove Township EOC was activated and staffed as outlined in the RER Plan. All primary emergency services staff reported to the EOC with the exception of the Transportation Officer, who was replaced by his deputy. Communications, amenities and emergency power (demonstrated) were sufficient to support the EOC facility. The route alerting demonstration was never conducted due to a misinterpreted message. Personnel responsible for this activity were present and knowledgeable with sufficient vehicles to conduct the alerting. Radiological exposure control operations were conducted by the EMC and his deputy with instructions properly given to staff members. TCP manning at three locations was demonstrated by the Township Police and the County Sheriff. One of the Township police cars was involved in an accident prior to the exercise start.

Evacuation and alternate EOC relocation was simulated with handicap transportation provided as requested.

PROBLEM AREAS

1. The Township misinterpreted the message at 2058 "EBS to Follow" as if they were to wait until they received the EBS message. EBS was only simulated for this exercise. Clarification on what is required of the municipalities at the time they are advised of siren activation and the purpose of the EBS message is needed.

UPPER PROVIDENCE TOWNSHIP

The initial notification of the EMC, EOC staff and elected officials was performed as outlined in the plan. The EOC was not fully staffed as delineated in the plan. Staffing of the second shift was demonstrated by the presentation of a roster, along with the telephone calling of some of the individuals. The EMC was the person effectively in charge. In addition to his managing and coordinating the EOC operations, he actually performed the list of actions necessary to implement the plan.

The furniture, space, lighting and communications equipment were sufficient to support the EOC activities. There were no shower facilities or sleeping accommodations available. Backup power was available and demonstrated. Status boards and maps were clearly posted.

Route alerting was demonstrated for sectors 4 and 1 (also known as J and B). The demonstration was completed successfully in 26 minutes.

Although the activation of the sirens and EBS was simulated, the message stating that the sirens would sound at 2058 with the EBS message to follow was received at the EOC at 2052.

The EMC simulated the calling of the individuals requiring the following: transportation, ambulances and special assistance. However, because of his familiarity with the individuals, it was realized that the lists are in need of revision. For example, a person reflected on the list had passed away.

Activation of traffic control points was demonstrated. Discussions with the EMC and Police Services Officer covered expected traffic volume, disabled vehicles and inclement weather conditions.

EOC staff was not briefed by the Radiological Officer. However, when questioned on the use and distribution of KI and the dosimetry, he was aware of the proper procedures. It should also be noted that the EMC was very knowledgeable in the area of radiological exposure control.

PROBLEM AREAS

1. The positions of Communications Officer, Transportation Officer and Medical/Ambulance Officer were not filled. The duties associated with these positions were assumed by the EMC. Consequently, the EMC was too intricately involved with executing the objectives of the plan. It is noted, that the absence of the three individuals did not hinder the overall operation. The EMC displayed outstanding leadership ability, while performing the required tasks of the

additional EOC staff. Steps should be taken to insure that these critical staff members are available during the next exercise.

2. The knowledge of the participating staff could not be ascertained as the players were not actively taking part. The EMC performed the majority of the objectives as detailed in the plan in a timely and efficient manner. If individuals are assigned a responsible position in the plan, they should be trained and able to fulfill the responsibilities of that position.
3. The Radiological Officer was well-trained and knowledgeable of Radiological Exposure Control; however, he did not provide a briefing and instructions to the rest of the staff. This should be considered a part of the role of the Radiological Officer. It is important that all staff members understand the importance of the equipment.

UPPER SALFORD TOWNSHIP EOC

The initial notification to activate the EOC was received by the EMC at 1822 from the Montgomery County EOC via radio beeper. The Township EOC was subsequently activated in accordance with the Township plan. The EOC was fully staffed with exception of a RACES operator at 1917. The RACES operator arrived at 1951. Round-the-clock staffing capability was demonstrated by presentation of a roster. The EMC demonstrated adequate knowledge of emergency management procedures and effectively managed the EOC staff. The staff was kept informed by periodic briefing as the exercise developed.

The EOC facility is adequate for emergency operations. However, there are no bunks, showers or kitchen facilities. A 2KW portable generator was available and demonstrated for emergency power. Communications equipment available and demonstrated are adequate to support emergency operations. Route alerting was accomplished by Township Fire personnel within the 45 minute guidelines. Local resources are not adequate to cover all traffic control points. State police personnel are required to man two of the three control points. The EOC staff is aware of the transportation requirements of mobility-impaired individuals and this information is periodically updated. The EOC is located within the 10-mile EPZ and dosimetry equipment and KI was available for the staff. The Radiological Officer was knowledgeable in the use of the equipment, KI and record keeping forms. All of the exercise objectives for the Township were demonstrated satisfactorily.

PROBLEM AREAS

None identified.

WEST POTTS GROVE TOWNSHIP EOC

The EOC was activated and staffed in approximately 20 minutes of the Alert notification from the County. The staff consisted of well-trained personnel who were all volunteers. Although the staff was professional and efficient, there would be difficulty in maintaining round-the-clock staffing due to a lack of additional volunteers. The EMC was motivated and competent and kept the staff apprised of actions in a smooth manner. All necessary emergency plans were on hand. Staff checklists and an exceptionally good Implementing Procedure list were available. Incoming and outgoing messages were properly maintained and message control was efficient. The site was not involved in major decision-making since this was generally done at the County level or higher. The facility was equipped with sufficient furniture and equipment, and had appropriate lighting to support emergency response activities. Sleeping accommodations and showers were not an integral part of the EOC, but were available nearby; and if necessary, could be made available for round-the-clock staffing. The EOC has a backup generator which can be put into use immediately and operation of this unit was demonstrated. The generator is in good condition and well maintained. Charts and maps were posted depicting evacuation routes, relocation centers, control points, etc. The only chart not kept up accurately was information on the plume EPZ and ingestion pathway, but information on this was not provided from the County EOC. The primary means of communications was RACES with commercial phone as backup. If necessary, police and volunteer fire nets could be used for significant events alternatives. Communications response to actions were somewhat slow, apparently due to heavy communications traffic. The site demonstrated route alert procedures and dispatched a vehicle on an assigned route. Personnel, equipment and procedures for this went very well. A traffic control point was set up by the local police department and evacuation was simulated. The EOC maintains exceptionally good lists in regard to physically-impaired persons and those requiring transportation assistance in the event of an evacuation. Radiological exposure control measures were demonstrated according to procedures. Although the Radiological Officer was trained in radiological control activities, this important area could be enhanced by some refresher training for the Radiological Officer and several other involved personnel. Overall, good team spirit and efficiency existed at this site throughout the exercise.

PROBLEM AREAS

1. 24-hour staffing capability was not demonstrated. Most of the staff is volunteer. There are not sufficient volunteers to meet 24-hour staff requirements. It is recommended that the EMC continue efforts to recruit additional volunteers through churches, fraternal organizations, newspaper ads,

etc. to obtain the additional help necessary to operate the EOC.

SUPPORT COUNTIES

BUCKS COUNTY EOC

According to the message logs, the County EOC was fully activated by 1940. County staff, Fire, Police, RACES and Red Cross representatives were present. To conform with the agreed upon window, Reception and Relocation Centers were activated earlier than called for in the plan. The EMC was clearly in charge. The County showed flexibility when it learned that the primary exercise Mass Care Center would not be used because of a "lock out." The County notified FEMA, requesting a Governor's State of Emergency Declaration, which would give the County the authority to take over the school. Because of the exercise status, no take over was actually conducted. The County elected to use one of its backup facilities for the demonstration which proved satisfactory. There were sufficient communications available at all levels and qualified personnel exhibited good procedures in manning the equipment. The Government Radio was supplemented with RACES and ARES personnel and equipment. They also performed in an outstanding manner. No problems were noted in this discipline. There was sufficient equipment to support the county plan and the supervisors' staff had an excellent understanding of the equipment and procedures.

RECEPTION CENTER

The Reception Center was established in the parking lot of the Neshaminy Mall. County Sheriff's Department had sufficient patrol vehicles and traffic control devices, i.e., day flow cones, to effect control of traffic. As cars were processed through the lines, they were given a trip-map and instructions to proceed to the Mass Care center. The windshields of the vehicle were marked with a Mass Care Designation Code. The operation was under control at all times and no problems were encountered.

RELOCATION CENTER

The Fairless Hills Fire Station #1 was used as the Relocation Center when the primary facility could not be used. The monitoring and decontamination personnel provided an excellent demonstration. They had the proper equipment and the knowledge of its use. They were forced to simulate the use of the commode stalls as showers as no real showers were available. The forced change location also curtailed the number and speed in which the monitors could accomplish their duties.

The Lower Bucks Chapter of the American Red Cross directed the Mass Care operations. They have a capability to use computers for registration and record-keeping. This improvement in

registration and record-keeping should be added to the plan. Red Cross staffed the smaller facility as they would have staffed the primary center. The staff were knowledgeable of their assigned duties and no problems were observed.

PROBLEM AREAS

None identified.

LEHIGH COUNTY EOC

Activation and staffing of this support county EOC occurred promptly and according to plan. Initial notification was received from Montgomery County EOC, followed by a second call from FEMA's Eastern Area Office several minutes later. Staff notification and mobilization was prompt, with full staffing complete within 40 minutes of initial notification. The staff members were well-trained concerning their responsibilities. The EOC provided adequate facilities, with excellent communications, including RACES. The appropriate dosimetry was available, and staff members were aware of radiological exposure control procedures. Reception and Mass Care centers were activated in a timely manner.

RECEPTION CENTER

The Reception area was fully staffed with fire and police personnel. The staff members were knowledgeable of their responsibilities. A supply of maps and directions to the Mass Care Centers was available, and copies were provided to the participating evacuees. Traffic control was performed by the police, and the Fire Company provided a truck with portable lighting.

RELOCATION CENTER

The Relocation Center was staffed by Representatives from the appropriate organizations, including the Red Cross, local Fire and Police Departments, and the County Emergency Management Agency. The staff were notified by commercial telephone, and responded quickly. The Center was set up and operational within 20 minutes.

Upon arrival, evacuees were properly monitored for radiological contamination. Two teams were available and demonstrated the correct procedures, and there is reportedly the capability to activate an additional six teams. Showers were available for decontamination, and appropriate procedures were demonstrated and described. Clothing was also available. Evacuee registration was adequately demonstrated by the Red Cross personnel. The shelter was located more than five miles beyond the EPZ boundary, and provided adequate facilities for the planned capacity of 750. When this capacity is reached, there is a planned procedure at the reception center to direct evacuees to other mass care centers. Adequate communications were provided by commercial phones and amateur radio. The facility included a nursing station and a nurse, and provided quick access to a hospital, if necessary.

Overall, the personnel and facilities involved in the Lehigh County operations were found to be excellent, and the capability for accomplishing the County's support mission was adequately demonstrated.

PROBLEM AREAS

None identified.

SUMMARY LIST OF PROBLEM AREAS

The problems listed for each evaluated location or activity have been summarized and classified according to the following categories:

Deficiencies are demonstrated and observed inadequacies that cause a finding that offsite emergency preparedness was not adequate to provide reasonable assurance that appropriate protective measures can be taken to protect the health and safety of the public living in the vicinity of the Limerick Generating Station in the event of a radiological emergency. Because of the potential impact of deficiencies on emergency preparedness, they are required to be promptly corrected through appropriate remedial actions including remedial exercises, drills or other actions. There was one deficiency identified during this exercise.

Areas Requiring Corrective Action are demonstrated and observed inadequacies of 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. There were 56 Areas Requiring Corrective Action identified during this exercise.

Areas Recommended for Improvement are 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 organizations level of emergency preparedness. There were 27 Areas Recommended for Improvement identified during this exercise.

DEFICIENCIES

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-1D	Lower Pottsgrove		to be determined	

1. The overall response capability demonstrated by the Lower Pottsgrove Township EOC staff was not adequate to ensure that the health and safety of the residents could be protected. Although the Montgomery County simulated taking appropriate actions for the municipality, 44 CFR 350 states that all localities must participate in an exercise every two years. In addition, that participate must adequately demonstrate the ability to protect the health and safety of the residence of that locality. The Emergency Operations Center was never properly staffed. Those staff members that did arrive later, except for the Police Representative, Fire Representative and the RACES operator, did not display adequate emergency operations training and knowledge. Due to this lack of trained and knowledgeable staff, specific functions and objectives applicable to this local jurisdiction were either not met or were simulated at best. Those staff members that did arrive after Site Area Emergency was declared did so only because the EMC and staff at Montgomery County were successful in getting one public official and several other staff members to report to the EOC. It is imperative that the County and officials from the Township recruit and train staff members who will be available to respond in an emergency. The Township should demonstrate a capability to protect the health and safety of its residents as soon as possible.

State Response:

The municipal EMC and deputy were out of town on business and beyond the range of their pagers during the night of the exercise. The police representative on the EOC staff received notification and assumed the EMC's position. The initial notification was verified, but the County was not notified until much later that a problem existed because it wasn't apparent at that time. Operations were further complicated and hindered by an oil spill and major fire. This depleted the fire and police emergency workers who would normally support the exercise. The County staff, as called for in the State response plan, took steps to correct the shortfalls. The FEMA evaluators may not have been aware of the special procedures implemented by the County, and the fact that a County operations officer set up in a separate office in order to provide individual oversight of Lower Pottsgrove Township's operations. The Township's unmet need for three buses and one ambulance was coordinated. Through mutual aid, police and firefighters from other municipalities were scheduled to man the TCPs and route alerting teams. The latter were not deployed or demonstrated because this was an exercise not

a real emergency. There, therefore, was no relaxation of the legal and liability implications. Although full staffing was not achieved, and it is evident that additional training and volunteers who are more readily available would be helpful, it should be noted that the FEMA evaluator's conclusion was, "Overall adequate steps were taken by Montgomery County to insure that response actions were completed for Lower Pottsgrove Township." See page 57 of the FEMA report. It also appears that the FEMA evaluator at the Township was not aware of the additional support provided by the County. For the above reasons, recommend that the Deficiency be changed to an Area Requiring Corrective Action, and the first and last sentences of the finding be deleted.

AREAS REQUIRING CORRECTIVE ACTION

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-1R	State EOC	E.5.E.6	9/88	

1. The State EOC informed the risk counties to activate the siren system "immediately" at Site Area Emergency and General Emergency. This resulted in an inconsistent siren and EBS activation at Site Area Emergency (see County Reports). The Counties themselves coordinated siren and EBS activation at the General Emergency. The risk counties must advise all emergency workers at municipal EOCs prior to activation of the System. It is important that the State take the lead in coordinating siren and EBS activation among the risk counties, as stated in the State Plan. A specific time for this to occur should be set by the State, thereby insuring simultaneous activations.

State Response:

The coordination of siren activation, route alerting and EBS announcements for either a change of status (classifications) or a protective action announcement is a standard operating procedure which was superseded by the non-availability of the dedicated telephone system. The exercise "15-minute rule" implications precluded establishment of a commercial line conference call with all concerned parties, and dictated immediate action through individualized calls. The proposed correction date coincides with the date of the Peach Bottom exercise.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-2R	State EOC	F.1.d.	9/88	

2. The dedicated telephone, which is used to inform risk counties simultaneously of protective actions and to coordinate siren and EBS activation among the risk counties, was not available during a critical point in the exercise. Efforts should be undertaken to assure that the dedicated line is available at all times, and that backup hard copy transmission capability is also in place. If this is not possible, the Commonwealth should work with the risk counties to insure that backup

notification protocols are understood and acted upon at all levels.

State Response:

The non-availability of the dedicated circuit to risk counties and the facility was thought to be caused by a new, redundant phone system that backed up the 50-button key set in the operations room. The communications attempts between the 50-button key set and the new instrument cancelled each other or caused a busy signal. Since the exercise, the 50-button set has been removed, and tests of the Limerick dedicated circuit have been conducted without any major problems. Additionally, standard operating procedures require that, upon loss of communications with the facility, the parent county (i.e., Montgomery County) would assume coordination control until resumption of communications. In this exercise, the time for that transferral of control was not attained; therefore, an uncoordinated per se activation did occur.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-3R	State EOC	A.2.a.		7/88

3. While the computerized Emergency Information tracking and display system shows great promise of being an outstanding aid to timely emergency management response at the FEMA EOC, it did not fully succeed in drawing the various agency response team cells into the critical information flow needed by the Director and the Operations Officer, and it broke down at a very important point in the scenario. The system itself should be fully "debugged" prior to its next utilization, and should include the capability to bring in to operations control (by additional display or otherwise) key notifications and message traffic originating from the response team cells in the EOC. This may necessitate adding additional display screens in the operations control area.

State Response:

As recommended by the FEMA Evaluator, feasibility planning is currently being initiated for the possibility of adding one or two additional screens to continuously display the current checklist and message traffic to and from response teams. Additionally, response teams will now enter data directly into the event log. Monitoring the event data is currently the responsibility of the watch desks, the Senior Watch Officer, the Operations Officer's computer operator, and the Operations Coordinator's computer operator. Thus a redundant method of monitoring data has been established as of July 1988. A projected date for adding one or two screens cannot be determined at this time.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-4R	State EOC	J.10.k.	9/88	

4. Although an Alert was declared at 1813, the barracks received their first indication of an incident from Chester and Montgomery County radio notices at 1837 and 1839 respectively. Official notification from the State Police Representative in Harrisburg wasn't received until 1852. Similarly, Site Area Emergency notification from the Pennsylvania State Police in Harrisburg was not received until 2110. More timely notification from the PSP Representative in the State EOC would facilitate a much quicker local PSP response.

State Response:

Records indicate that the Pennsylvania State Police liaison officer (LNO) was first notified by the State EOC at about 1850 hours and the LNO notified the appropriate state police barracks shortly thereafter. The time it took to accomplish notification is considered the norm for unannounced exercises because, as expected, people are not always at home and it may take several calls in order to locate them. In order to avert any delay in notifying the state police barracks, they are also notified by the risk counties as is specified in the risk county plans. It appears that those procedures worked effectively.

The reason for the delay in notification of Site Area Emergency was that all of the response team leaders were in a meeting with the Governor at the time that the escalation was announced, and were not released from it until about 2105 hours. The root problem was that the escalation was not announced over the public address system to the other response team members who are located in another room. The latter is a standard procedure in the State EOC that was overlooked.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIM88-5R	Air Sampling Team	I.8.O.4	Continuous	

5. Additional training and experience is needed. The team was unfamiliar with sampling locations and the vehicle; unfamiliar with radio procedures; and were not sure of radiological emergency procedures.

State Response:

Additional training will be provided. This was the first Limerick exercise in which the current team participated. Familiarity with sampling locations, procedures, and radio protocol will come from experience gained through quarterly rehearsals and future exercises. The team subsequently took part in a practice drill with the utility on July 20, 1988.

It should be noted that valuable response time was lost due to conditions beyond the team's control. The air sampling team was to meet the FEMA evaluator at the Montgomery County EOC and return immediately to their vehicle to await further instruction. They were delayed at the County EOC for 25 minutes passing through security and locating the FEMA observer since a meal was being served at the EOC to evaluators and County emergency workers. An element of confusion was introduced due to the air sampling team meeting the evaluator at the Montgomery County EOC. Normally teams leave from a Department of Environmental Resources' (DER) regional office. Arrangements to meet the FEMA observer at the Department's Norristown Regional Office should correct this in future exercises.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-6R	Water Sampling Team K.3.a.		4/90	

6. The water sampling teams were not fully briefed on the plume conditions and had no protective clothing, respirators, or radiation detection equipment. Also, they were not trained specifically for obtaining samples in a radiation situation/environment.

State Response:

Water teams were briefed on plant conditions by the Regional Emergency Response Coordinator (ERC) upon rendezvous at the Norristown Regional Office. Any change in plant status, plume, or meteorology was to be transmitted to the teams in their vehicles on the microwave-radio link from BRP in Harrisburg or the Regional Office. Due to the confusion at the Montgomery County EOC this was not possible although frequent attempts were made by the DER radio operator. Water sampling teams will be issued GM meters and dosimetry-KI and dispatched from the Department of Environmental Resources Norristown Regional Office in all future exercises and incidents without going to the Montgomery County EOC. Full implementation is expected on or about August 15, 1988.

The Department water sampling teams are used to verify whether protective actions are necessary for public drinking water. As no slug or contaminated water was released during the exercise scenario they were sent into the EPZ during the exercise for ingestion pathway demonstration purposes only. The demonstration reflects the most likely use of the team 24 to 48 hours after a release when plume deposition runoff may cause drinking water PAGs to be exceeded. The source term scenario of noble gases with little radioiodine did not require the use of full anticontamination clothing or respirators assuming this time frame.

The Department would not send a first response water sampling team into the plume where airborne radioiodine concentration exceeds PAGs for the general public since evacuation of the consumers would negate its necessity. Were highly contaminated samples necessary for incident assessment purposes, a USDOE RAP team or DER Health Physicists with proper equipment and attire would be used.

Montgomery County EOC provided two GM radiation detectors for use by the water teams in this exercise. Since issuance was only simulated, this may not have been evident to the Evaluator. However, the Department possesses sufficient GM meters at the Norristown Regional Office for use of the water sampling teams. These will be used during future incidents and exercises.

effectively immediately.

The water sampling teams received training in response to fixed nuclear facility incidents by a DER Health Physicist on March 17, 1988. Instruction included emergency classification levels, nuclear physics, radiological health, water sampling, dosimetry, and radiation detection equipment with hands on opportunity. Overhead transparencies were used and a course outline manual was distributed to attendees. The training will be repeated on an annual basis with added emphasis on sampling procedures.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-7R	Water Sampling Team I.10.		4/90	

7. There was no obvious control of the time the samples were to be obtained to assure they represented the radioactivity which would have been deposited in the river; i.e., to maximize the usefulness of the data obtained.

State Response:

Future exercises will include a message from the State EOC to the DER Emergency Management Director, and BRP giving information on wind direction, precipitation, and time after release so decisions can be made to maximize the usefulness of the data obtained.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-8R	Ag Sampling Team	I.8.	10/89	

8. Agricultural Sampling Team members were not notified in a timely manner by the Pennsylvania Department of Agriculture to report to the dispatch point at the Montgomery County EOC. Since team members did not report until the termination of the exercise, no agricultural sampling procedures could be demonstrated. Also a prior inadequacy regarding team members use of dosimetry cannot be cleared since a demonstration of proficiency was not performed.

State Response:

An in depth review of the circumstances surrounding this finding indicates that the cause of it does not rest within the State's Department of Agriculture (DOA). Two factors became evident. First, the demonstration was intended to occur out of sequence and within the 8:30-10:00 hours demonstration window, but this had not been clearly coordinated with the Department of Agriculture. Second, the scenario was faulty in that it did not provide for a sufficiently large radiocontaminant release that would trigger the taking of agricultural samples. Meanwhile the DOA response team was responding real-time to a condensed-time scenario because they had not

been instructed to simulate a release and conduct a sampling during the demonstration window. The response team very accurately followed the procedures prescribed in the State's emergency response, Annex E. Additionally, there was no requirement for the sampling team to demonstrate dosimetry. FEMA had approved that dosimetry demonstration would be conducted only at the risk municipality EOCs.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-9R	MS-1 Hospital	A.2.a.	12/88	

9. The ER staff did not know if they could communicate with the EOC, or what the EOC was. Staff should be aware of what and where the EOC is and how to contact it.

State Response:

Additional training will be provided.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-10R	MS-1 Hospital	E.1.	12/88	

10. The hospital staff were told four minutes before arrival that the ambulance was bringing in a contaminated victim. Advance notice should be given to the hospital early on so they can prepare to receive contaminated patients. If the patient in the exercise had a serious injury requiring treatment in the trauma room, the hospital would not have been prepared to receive the contaminated patient.

State Response:

Additional training will be provided.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-11B	MS-1 Hospital	J.10.L.1.	12/88	

11. Proper procedures to limit the spread of radioactive contamination were not used consistently. The secure area was not properly marked and roped off. door handles on the front doors were not covered. protective clothing did not fit emergency workers. swabs of wounds and contaminated areas were not kept and sent to a laboratory for analysis. protective clothing was not removed in the proper order. Additional training on proper procedures for minimizing the spread of radioactive contamination is needed.

State Response:

Additional training will be provided.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-12R	Ambulance/Crew	L.4.	4/90	

12. The ambulance crew should have a survey meter with them in the ambulance.

State Response:

A survey meter will be issued during future exercises.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-13R	Ambulance/Crew	L.4.	12/88	

13. Ambulance crew should stay outside, be monitored, able to strip the protective gear into protective plastic bags marked Radiation and then shower if necessary.

State Response:

Additional training will be provided.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-14R	Red Cross HQ	J.12.	None	

14. Because of the unannounced nature of the drill, the Red Cross Headquarters were unable to confirm receipt of unmet needs (cots, blankets, USDA food, etc.). The ability to fill unmet needs should be demonstrated. Some means should be established to contact after-hours Red Cross backup suppliers.

State Response:

The sources of cots, blankets, food, etc. are predetermined and well known by American Red Cross Personnel.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX98-15R	Berks County	G.4.c.O.4.j.	12/88	

15. Rumor Control was not really tested. No calls were received by that office to ascertain if they could be handled properly. Personnel manning the operation were not aware of the basic procedures such as obtaining the telephone number and name of the caller especially should further research be necessary to satisfy the inquiry. Hard copy press releases and EBS messages were not provided to the rumor control staff. Having copies of this information would greatly facilitate response to basic questions which may be asked by the public. Additional training and development of a more complete checklist would also have a positive affect.

State Response:

Calls to rumor control were not scheduled for the exercise. Rumor control play, however, should be better designed and the checklist is being revised and expanded. PIO procedures are also being revised in order to improve upon distribution of press releases and the EBS messages. Additional training will be provided.

Rumor control activity at each County EOC is driven by the number of situations transmitted from the State EOC to County Rumor Control during an exercise. Since this is a FEMA responsibility, a larger number of situations requiring rumor control action will be developed for future exercises.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-16R	Berks County	A.1.a.e.A.4.	None	

16. Full staffing as called for in the plan was not demonstrated. The National Guard and Department of Agriculture were not represented at the EOC during the exercise. The County EMC should stress the importance of full staff participation for future exercises.

State Response:

Representatives of the PAARNG and the County USDA agent have always been present for training and announced exercises. This situation will be experienced in future unannounced exercises because of the travel time involved. Part of the finding is not correctable by the County because it does not have control of the deployment of PAARNG LNOs and that portion should be removed from the final report concerning Berks County.

The County USDA agent would not have been able to arrive at the County EOC until late in the exercise, and therefore, did not deploy.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-17R	Decon Station	K.3.a	None	

17. Dosimetry kits did not contain logs for recording who has been assigned what dosimeter, etc. The log and instructions, which are on one form, are being developed. Once this form is completed, it should be included in the dosimetry kits.

State Response:

Recording forms are in existence and were distributed with the kits. In future exercises a demonstration of completing the form will be accomplished if it is an exercise objective. It was not a specific objective of this exercise and the finding should be removed from the report.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-18R	Earl Township	A.1.a.F.1.a.e	12/88	

18. The EMC could not be reached for over an hour after initial notification. The Deputy Coordinator was seriously ill and could not be contacted. The Radiological Officer, who is also the Fire Chief, and was in charge of responding to the real fire, assumed the direction and control of the EOC response team until the EMC arrived at 1930. It is recommended that a pager system be provided to the person responsible for activation of the EOC (EMC) to backup the telephone system notification in case the person can not be reached by telephone.

State Response:

A pager system has been purchased and will be issued as soon as the license for the repeater is received.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-19R	Earl Township	K.3.a,0.4	Continuous	

19. Knowledge of dosimetry and KI procedures was lacking by the Radiological Officer and the EOC staff. When training was being provided in this municipality, staff members were involved in an actual response to another fire and could not attend the class. This training should be rescheduled as soon as possible.

State Response:

Additional training is being scheduled.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-20R	Washington Township	J.10.c.O.4.	None	

20. Initial notification of the EMC was not in accordance with the plan. The EMC learned of the emergency via his personal scanner and responded promptly to the EOC. Initial notification procedures need to be reviewed by Berks County and Washington township. Both parties should agree on these notification procedures and then plans should be changed to reflect the procedures that will be used to notify Washington Township emergency management officials.

State Response:

Initial notification was accomplished in accordance with the plan which calls for redundant means. It is not necessary to change this system and the finding should be removed from the final report.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-21R	Chester County	E.6.	Continuous	

21. In seven municipal EOCs, there was no indication that the staff were ever aware of the second simulated siren activation (following General Emergency) despite a radio message which included that information. The radio message also advised of the General Emergency and the evacuation. All municipalities received this latter information, yet the Charlestown Township, East Coventry Township, East Vincent Township, Phoenixville Borough, South Coventry Township, Spring City Borough, and Upper Uwchlan Township EOCs were not aware of the siren activation, which was part of the same message. County and Municipal officials should investigate to determine the cause of this communication failure, and implement appropriate measures to correct the problem.

State Response:

The central cause of this problem lies in either communications transmissions or message handling. These subjects will be stressed during future training sessions for all municipalities.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-22R	Chester County	E.1.		7/88

22. In several instances staff members in the County EOC did not have correct telephone numbers to contact key resource providers and municipal EOCs (Spring City Borough). Telephone lists should be updated and plans and SOPs changed to reflect correct information.

State Response:

Prior to the exercise all telephone numbers were updated and posted in the resource manual. The problem occurred because some of the outdated lists were not discarded. The files have been purged of outdated lists, and in accordance with standard procedures, telephone numbers are updated quarterly.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-23R	Chester County	F.1.a.	4/90	

23. A problem with the assignment of an ARES operator unnecessarily delayed the establishment of this secondary means of communications at the Spring City Borough EOC for two and a half hours. The operator who lives in the Borough was reassigned to another municipality and a replacement operator was assigned who had to travel 30 miles. Chester County and ARES officials should coordinate the assignment of operators to assure that operators are assigned to their home communities or nearby municipalities whenever possible.

State Response:

The reassignment of the Spring City ARES operator should not have occurred. An ongoing investigation has so far not pinpointed how it happened or who gave the instruction. Care will be taken on future exercises to not change assignments, or if necessary, to coordinate with the EMC.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-24R	Mass Care	J.12.	None	

24. Radiological monitors at the mass care center demonstrated thorough, but lengthy monitoring of evacuees (NUREG-0654 recommends 90 seconds per person). At the rate they were monitoring (12 persons per hour/team) it would take two teams nearly 100 hours to accomplish the task. The monitors should perform a more rapid scan of evacuees.

State Response:

It does not appear the evaluator was aware that monitoring teams are assigned on the basis of one team per 250 evacuees, and that the federal standard is the completion of all monitoring in twelve hours. For the exercise only two of the monitoring teams that would be mobilized for a real incident were demonstrated. Had the full complement of monitoring teams been mobilized, each team would have slightly less than three minutes to monitor each person in order to meet the twelve hour standard. The slowness was caused by the habit of evaluators to hide trick devices on their persons. This forces the teams to be overly cautious during exercises. The objective was met and this finding should be removed from the final report.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-25R	East Coventry Township	A.2.a.	Continuous	

25. The exercise objective to demonstrate staffing of all EOC positions was not demonstrated. The Radiological Officer and alternate were contacted, but did not participate. Although this duty was performed during the exercise by the Deputy EMC, he was neither trained nor certified. Full staffing of all EOC positions by trained and qualified personnel should be demonstrated in future exercises.

State Response:

The full staffing problem is expected to be experienced during future unannounced exercises. Cross training of EOC staff members will be stressed in future training in order to ensure that trained staff members are available to complete all actions.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-26R	Phoenixville Borough	A.2.a.	Continuous	

26. The objective to demonstrate staffing of all EOC positions was not demonstrated, as the medical representative was not present for the exercise (his/her duties were assumed and accomplished by the EMC, Radiological Officer, Transportation Officer and Fire Representative). Full staffing of all EOC positions by trained and qualified personnel should be demonstrated in future exercises.

State Response:

The full staffing problem is expected to be experienced during future unannounced exercises. Cross training of EOC staff members will be stressed during future training in order to ensure that trained staff members are available to complete all actions.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-27R	Schuylkill Township	A.2.a.	None	

27. According to the EMC, local resources are not adequate to simultaneously man all TCPs in the Township. This has not been identified in the plan as an unmet need, nor was it reported to the County EOC as such during the exercise. The plan should be amended to identify the TCPs which the Township can not man, and the Township staff should request the County to provide the necessary resources during future exercises.

State Response:

The Township is tasked to man six TCPs. The TCPs are to be manned by the police department and fire police. Adequate personnel are available within the Township to accomplish this mission. The plan reflects zero unmet needs in this category and the plan is accurate. This finding should be removed from the final report because no corrective action is appropriate.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-29R	Spring City Borough	E.1.	Continuous	

28. In order to demonstrate the capability for continuous EOC operations, the second shift was actually called in. In the process it was discovered that the listed telephone numbers for these personnel were incorrect. Borough officials should compile an accurate notification list for second-shift personnel, and ensure that it is updated on a regular basis.

State Response:

Municipalities have been reminded to update all telephone numbers quarterly.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-29R	Upper Uwchlan Township	J.10.d.	Continuous	

29. Lists of hearing-impaired residents and residents requiring special assistance in the event of evacuation were not available at the EOC during the exercise, although the plan states that there are four such residents. The EMC stated that these people no longer resided in the Township, which precluded any demonstration of special procedures for alerting and evacuating such residents. This discrepancy should be resolved, and the plan revised, as appropriate. Continuing efforts should be made to identify special needs residents, and if any are residing within the Township at the time of future exercises, the EOC staff should demonstrate how they would be notified and evacuated.

State Response:

Lists of hearing-impaired and other special needs persons are updated periodically and pen and ink edits are posted to the plans. Hard copy changes to the plan are accomplished annually.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX08-30B	Upper Uschlan Township	H.9.	1/90	

30. The objective to demonstrate backup electrical power for the EOC was not met, due to the unavailability of the Township's generator (it had reportedly been stolen). The Township's plan to obtain a replacement generator should be completed as soon as possible, and this capability should be demonstrated during future exercises.

State Response:

The theft is under investigation, and the purchase of a replacement for the generator is being addressed by the Supervisors.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX08-31B	West Pikeland Township	J.10.k.	4/90	

31. Although Township officials were aware of the responsibility for local police to man one TCP, as specified in the emergency plan, this was not done, and the exercise objective was not met. If the Township lacks the resources to perform this duty, officials should report this unmet need to the County, and the plans should be revised accordingly. The manning of TCPs within the Township should be demonstrated by the responsible organization in future exercises.

State Response:

The township has four policemen available to man the single TCP it is tasked to operate. There is no need to revise the plan, and appropriate officials have been advised to complete exercise objectives.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-32R	West Pikeland Township	J.10.d.	9/88	

32. The EMC did not activate route alerting for the hearing-impaired, stating that he did not have sufficient resources to perform this responsibility. This repeats an inadequacy from the previous exercise. Additional resources should be identified to perform this function, and the capability to perform route alerting for hearing-impaired residents should be demonstrated in future exercises.

State Response:

Township officials have been requested to review this issue, and if an unmet need exists, to report it to Chester County.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-33R	Montgomery County	E.6.	9/88	

33. The Fire Representative at the County dispatched route alert teams directly through municipal fire stations, consequently some of the municipal EMCs were never aware that teams had been sent out. Procedures should be established and understood between involved responders to insure that municipal EMCs are aware of actions taken within their jurisdictions. This problem was identified in Green Lane Borough/Marlborough Township, Limerick Township, Lower Providence Township, Pottstown Borough and Upper Frederick Township.

State Response:

The County is modifying its procedures and municipal plans to ensure that in cases where response units are centrally dispatched, the affected municipal EOCs are also notified.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-34R	Montgomery County	E.6.	4/90	

34. The messages advising the municipalities of the General Emergency, Governor's Declaration of a State of Emergency and Protective Action Decisions did not advise the municipalities of siren and EBS activation times. Consequently many municipalities did not initiate route alerting. Care should be taken to insure all appropriate information is included in important messages to the municipalities.

State Response:

Care will be taken to ensure that all appropriate information is included in important messages to the municipalities and additional training will be conducted in this area.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-35R	Decon Station	K.5.a.	None	

35. The shower area used for decontamination of personnel had only one door which means that after showering a person would have to walk over a contaminated area. In addition, separate showers were not available for women, nor were female monitors. Officials should review the facilities and resources necessary and make appropriate changes to adequately provide for the monitoring and decontamination of all possible emergency workers.

State Response:

This facility has men's and women's locker rooms and showers. Due to a school commitment, only one side of the facility was available. A requirement to provide female monitors to monitor women or male monitors to monitor men is not recognized. This finding should be removed from the final report.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-36R	Decon Station	J.10.e.	Continuous	

36. The Decontamination team was not sure when to take KI and what the PAGs for the thyroid are. Additional training should be provided to the teams.

State Response:

Continuing training will be provided.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-37R	Ambulance	O.4.h.	Continuous	

37. The ambulance team stated that the dosimeter should be read every hour which is not in accordance with the plans. Additional training should be provided.

State Response:

Continuing training on this item will be conducted.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-38R	Reading Hospital	K.3.a.	None	

38. Permanent record dosimeters were not available to the hospital staff involved in handling the contaminated patient. Permanent record dosimeters are required for all emergency workers.

State Response:

PEMA does not provide dosimetry to MS-1 hospitals, or specify their patient care procedures. During future exercises, dosimetry will be demonstrated in accordance with hospital procedures. The FEMA evaluator, in this case, arrived at the hospital at 11:50 p.m. The evaluator requested that the station be reassembled because he had a report to write. This was grossly unfair to the hospital personnel. The demonstration window for this exercise was 8:30-10:00 p.m. This finding should be removed from the final report.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-39R	Collegetown Boro	K.4.	Continuous	

39. The radiological officer was not aware of specific plan criteria in the area of dose limits (PAGs) and authorization to administer KI. Additional training is needed.

State Response:

Continuing training on these items will be provided.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-40R	Douglass Township	F.1.b.	Continuous	

40. Communications were basically conducted through the telephone system which proved to be inadequate for lines were mostly busy. Communication should also utilize the radio systems.

State Response:

Three additional telephone lines have been installed. The employment of redundant communications systems will be emphasized during training.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-41R	Douglass Township	D.10.k.		6/88

41. The EMC was not able to demonstrate the TCP as a real emergency requiring police diverted their attention. The EMC did not demonstrate a backup method to man the TCP and did not request assistance from the County EOC.

State Response:

All municipalities have been advised to inform the county when they cannot fulfill exercise objectives. The assigned TCP organization had been deployed to a major fire.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-42R	Douglass Township	E.1.	Continuous	

42. The EOC staff did not demonstrate a working knowledge of contacts with the County EOC. They did not verify transportation or request backup for the TCP. This is an issue that the Township and the County should coordinate.

State Response:

Coordination with the county will be emphasized.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-43R	Lower Providence Township	E.1.	None	

43. Notification of the Township occurred by the arrival of a RACES Operator dispatched by the County. No message was received on County radio until 1851. Notification verification was not observed. The EMC is the Chief of Police; however, and is therefore likely to be easily accessible at all hours. Nevertheless, notification should occur as outlined in the plan.

State Response:

As outlined in the county plan, the initial notification was accomplished by pagers and records indicate a positive contact with township officials at 6:10 p.m. This notification was reconfirmed over county radio at 6:50 p.m., which is also the procedure outlined in the county plan. Since the planned procedures were followed, a problem does not exist and this finding should be removed from the final report.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-44R	Perkiomen Township	H.3.	12/88	

44. The traffic noise in the RACES room can reach levels that impede effective communications. This was discussed during the exit interview and the RACES operator suggested that wearing head phones would alleviate the problem. Another alternative would be to move the RACES operations into another room at the EOC facility. The back room, although crowded now with posters and operations materials, could be used for this purpose. The crowding in that room can be reduced by moving the EMC operations to the location now occupied by the RACES operator. In any event, the status board should be moved from the back room to a more visible location.

State Response:

The use of headphones and rearrangement of the EOC is under review and will be accomplished within the physical limitations of the facility.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-45R	Perkiomen Township	K.4.	Continuous	

45. The Radiological Officer did not demonstrate knowledge of exposure limits and an ability to operate and interpret self-reading dosimeters. Training should alleviate this problem.

State Response:

Additional training will be provided.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-46R	Pottstown Borough	A.2.a.	Continuous	

46. Internal message handling was slow at times and resulted in the EMC receiving delayed notification of important information. Important messages (changes in classification level or the issuance of protective action) should be given to the EMC immediately and then entered into the formal system.

State Response:

Additional training on message handling is included in the continuing training program.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-47R	Pottstown Borough	K.3.b.	None	

47. The briefing of the TCP Officer was very general. Future briefings should contain specific information concerning responsibilities, reception center locations and evacuation routes and procedures.

State Response:

The responsibility of all TCPs is to expedite traffic on the evacuation route. That and assignment of a specific TCP site is all that should be in the briefing. If the TCP is to be an answering service on reception centers, evacuation routes and procedures (what is meant by the latter is not clear) then a traffic jam will result. This finding has no basis and should be removed from the report.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-48R	Royersford Borough	E.1.	4/90	

48. The Public Works Officer and his backup were unreachable during the exercise. All positions in the plan should be staffed.

State Response:

The full staffing problem is expected to be experienced during future unannounced exercises.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-49R	Royersford Borough	K.3.b.	None	

49. The Radiological Officer demonstrated adequate knowledge of dosimetry and exposure limits, but did not effectively convey this information to the route alerting team. The instructions to all emergency workers should be expressed thoroughly and understood by the workers before sending them out.

State Response:

The established objective was to demonstrate dosimetry/KI in each municipal EOC. There was no requirement to demonstrate dosimetry/KI either to route alert teams or all emergency workers as stated in the finding. The finding should be removed from the final report.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-50R	Schwenkesville Borough	A.2.a.	4/90	

50. The Radiological Officer did not participate in the exercise. Although the Medical Services Staff performed his duties adequately, staffing should be completed in accordance with the plan.

State Response:

The full staffing problem is expected to be experienced during future unannounced exercises.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-51R	Skippack Township	E.6.	4/90	

51. Route alert team dispatch was only simulated. According to the objectives, each municipality was to demonstrate one actual route. This objective should be demonstrated during the next exercise.

State Response:

The fire company that was to conduct route alerting had responded to a fire at the Holiday Inn. Fulfillment of the route alerting mission during a real emergency would have been by a mutual aid fire company. All municipalities have been advised to notify the county when exercise objectives cannot be met.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-52R	Upper Pottsgrove Township	E.5.		6/20/88

52. The Township misinterpreted the message at 2058 "EBS to Follow" as if they were to wait until they received the EBS message. EBS was only simulated for this exercise. Clarification on what is required of the municipalities at the time they are advised of siren activation and the purpose of the EBS message is needed.

State Response:

Township officials have been instructed that the purpose of EBS announcements is to inform or instruct the public. EOC staff actions are based on the plan and instructions from county.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-53R	Upper Providence Township	A.2.a.	4/90	

53. The positions of Communications Officer, Transportation Officer and Medical/Ambulance Officer were not filled. The duties associated with these positions were assumed by the EMC. Consequently, the EMC was too intricately involved with executing the objectives of the plan. It is noted, that the absence of the three individuals did not hinder the overall operation. The EMC displayed outstanding leadership ability, while performing the required tasks of the additional EOC staff. Steps should be taken to insure that these critical staff members are available during the next exercise.

State Response:

The full staffing problem is expected to be experienced during future unannounced exercises.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-54R	Upper Providence Township	A.2.a.	Continuous	

54. The knowledge of the participating staff could not be ascertained as the players were not actively taking part. The EMC performed the majority of the objectives as detailed in the plan in a timely and efficient manner. If individuals are assigned a responsible position in the plan, they should be trained and able to fulfill the responsibilities of that position.

State Response:

Additional training will be provided.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-55R	Upper Providence Township	K.3.b.	4/90	

55. The Radiological Officer was well-trained and knowledgeable of Radiological Exposure Control; however, he did not provide a briefing and instructions to the rest of the staff. This should be considered a part of the role of the Radiological Officer. It is important that all staff members understand the importance of the equipment.

State Response:

Officials have been advised to complete the objectives as outlined in future exercises.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-56R	West Pottsgrove Township	A.4.	4/90	

56. 24-hour staffing capability was not demonstrated. Most of the staff is volunteer. There are not sufficient volunteers to meet 24-hour staff requirements. It is recommended that the EMC continue efforts to recruit additional volunteers through churches, fraternal organizations, newspaper ads, etc., to obtain the additional help necessary to operate the EOC.

State Response:

Obtaining and training additional volunteers will be pursued.

AREAS RECOMMENDED FOR IMPROVEMENT

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-1I	EOF			

1. The EOF was notified by BRP that sirens and EBS would be activated at 2200; when in reality they were activated at 2145. Care should be taken to insure that accurate information is provided.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-2I	BRP			

2. While working out of the State EOC is more conducive to interface with PEMA, many of the benefits of BRP's Fulton Building location has been lost. It may be worthwhile to reexamine both facilities in more detail to assure that future BRP needs are met.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-3I	ERP			

3. Emergency workers were authorized to take KI although there was little release of radioiodines. Since KI can have adverse side effects, more careful thought should go into its authorization.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-4I	PECO Emergency News Center			

4. There was a minor problem assembling the News Center staff for internal updates and briefings. Plans are in progress for a Public Address system to be installed to overcome this problem. This has been documented in prior exercises. The system should be in place within 60-90 days.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-5I	PECO Emergency News Center			

5. The physical arrangement of the office space is not conducive to the general exchange of information. The area is normally used for office space, consequently exercise responders are segregated in separate offices which limits the general exchange of information that takes place in a less compartmented environment. As mentioned previously, the PA system should help. An additional aid would be to locate the status board in a more prominent place and to insure that it is kept current.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-6I	PECO Emergency News Center			

6. A recommendation for improvement would be to record the Press Conferences to provide a means of verifying statements given to the press and to provide a vehicle for training in preparation for future exercises or actual incidents.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
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LIMX88-7I	MS-1 Hospital			
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7. Ambulance crew should not enter the hospital. The patient should be received by the hospital response team, transferred to hospital gurney and taken into ER. The ambulance crew should be checked outside, able to strip protective gear outside and then shower inside if necessary.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
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LIMX88-8I	Ambulance			
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8. The patient should be transferred to hospital gurney outside if possible.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-91	Amity Township			

9. The initial notification, though not in accordance with the written plan, was timely and probably superior to the written plan. It is suggested that the written plan be changed to reflect the timely procedure demonstrated.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-101	Amity Township			

10. An area for improvement would be the placement of the 2KW generator further from the EOC building due to its noise during operation. Additionally, it would have been preferable for the Police representative to have been seated with the other EOC staff. These changes should be included in the plans for the construction of the new EOC building.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-11I	Boyertown Borough			

11. When the generator was tested it worked but it could not supply power for both electricity and the radios. The generator has only 3.5 KV. Attempts should be made to procure a generator large enough to supply the total needs of the building.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-12I	Douglass Township			

12. The EOC does not have a kitchen area. Since this EOC is remotely located, a kitchen might be helpful during extended operations.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-13I	Douglass Township			

13. The backup generator was available and tested monthly; however it was not tested during the exercise. Actual demonstration of the generators was an exercise objective. This item should be demonstrated at the next exercise.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-14I	Earl Township			

14. Backup power was available but not tested. It was used during the response to the real fire. This item was an exercise objective and should be tested during the next scheduled exercise.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-15I	East Coventry Township			

15. Messages were properly reproduced and logged, but not always distributed appropriately. Although a copy of each message was given to the person posting all major events, the EMC and other staff members were not always provided copies of appropriate messages regarding their functional areas. It is recommended that the message distribution procedure be modified to assure that all appropriate staff members receive copies.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-16I	East Coventry Township			

16. The graphic wall map depicting Traffic Control Points (TCPs) was not current, and many of the features were fading and undistinguishable. The staffing directory was available but never posted on any display board. It is recommended that an accurate, legible map and staffing list be posted.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-17I	East Nantmeal Township			

17. An EOC security officer was not present. The EMC acted as the Security Control Officer, which took him away from the operations area at times. It is recommended that a separate staff member be assigned to control EOC access.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-18I	East Pikeland Township			

18. Due to road construction and detours, none of the Township's three demonstrated route alert teams completed their rounds within the recommended 45 minutes. It is recommended that, due to construction, routes be temporarily re-configured, and/or additional routes added, in order to shorten the route alert time to no more than 45 minutes.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-19I	East Vincent Township			

19. Operation of the emergency generator was not demonstrated, as it could not be started. The Township officials should implement an inspection and testing program for all emergency equipment; operation of an emergency generator should be demonstrated in future exercises.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-20I	East Vincent Township			

20. Message handling procedures could be improved. Some messages were not consecutively numbered, and some of the event times posted on the status board did not match the times on messages received. It is recommended that message procedures be improved to avoid these problems.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-21I	West Vincent Township			

21. A formal method of transcribing, logging, and distributing messages was not in evidence. It is recommended that a message procedure be adopted in order to enhance internal EOC coordination and information sharing.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-22I	Lower Frederick Township			

22. The EMC had problems trying to verify initial activation because of telephone problems. Either no one was at the County EOC or the Township had the wrong phone numbers.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-23I	Lower Frederick Township			

23. The message form used in the exercise gave the operator a problem because of unfamiliarity with the form. Some training is needed.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-24I	Perkiomen Township			

24. Periodic briefings on the status of key actions and events were not demonstrated. General management of the EOC would be improved with the scheduling of such briefings.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-25I	Royersford Borough			

25. The EMC did not hold briefings with all staff present. He did discuss topics individually with staff. The EMC should hold hourly, or when appropriate round-table briefings.

Problem ID	Location/Activity	NUREG Element	Proposed Correction Date	Confirmed Correction Date
LIMX88-26I	Royersford Borough			

26. The FEMA Observer provided advice and training to the staff throughout the exercise. Observers should be there to observe. Training should be complete prior to the exercise.

Problem ID	Location/Activity	NUREG Element Date	Proposed Correction Date	Confirmed Correction
LIMX88-27I	Schwenkesville Borough			

27. The Police Department is responsible for manning traffic control points. However, the Borough has currently only one police officer and rely on fire and police staff personnel to fill in. The plan should reflect the personnel who are actually assigned to fill the responsibility. If assistance is needed in this area, the municipality should request that assistance from the County.