DMB

NOV 9 1984

Docket No. 50-334

Duquesne Light Company
ATTN: Mr. J. J. Carey
Vice President
Nuclear Group
Post Office Box 4
Shippingport, Pennsylvania 15077

Gentlemen:

Subject: Transmittal of FEMA Exercise Report

Attached is the Federal Emergency Management Agency (FEMA) exercise report for the June 27, 1984, exercise of the offsite radiological emergency preparedness plans for the Beaver Valley Nuclear Power Station and the August 30, 1984 transmittal letter from FEMA to the NRC. A copy of this report has been sent by FEMA to the States of Pennsylvania, Ohio, and West Virginia. As noted in the August 30, 1984 letter, correction of one identified Category A deficiency has been accomplished for the State of Pennsylvania for protective action recommendations. This was demonstrated during the July 25, 1984 Limerick Generating Station exercise. The remaining Category A deficiencies pertain to prompt activation of the public alert and notification system and Hancock County, West Virginia's capability for performing detailed actions necessary to implement evacuation.

In connection with resolution of these deficiencies, you are strongly urged to facilitate the activities of both State and County authoritites.

In addition, a meeting has been arranged between Mr. J. Sieber of your staff and Mr. R. Bellamy of my staff to be held at the Region I office, on November 20, 1984, at 10:30 a.m. You should be prepared at that time to discuss the Category A deficiencies, your planned action to facilitate their resolution, accomplishments to date, and the date when full resolution will be achieved.

If you have any questions concerning this matter, please contact Mr. R. Bellamy, (215) 337-5200, of my staff.

Sincerely,

Original Signed By:

Thomas T. Martin, Director
Division of Engineering and
Technical Programs

Attachment: As stated

RI:DETP
Bellamy/rw 11/9

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IE 06

cc w/encl:
F. Bissert, Manager, Nuclear Support Services
C. E. Ewing, QA Manager
W. S. Lacey, Station Superintendent
R. Druga, Chief Engineer
R. Martin, Nuclear Engineer
J. Sieber, Manager, Nuclear Safety and Licensing
T. D. Jones, Manager, Nuclear Operations
R. M. Mafrice, Nuclear Engineer
N. R. Tonet, Manager, Nuclear Engineering
M. Coppula, Superintendent of Technical Services
Public Document Room (PDR)
Local Public Document Room (LPDR)
Nuclear Safety Information Center (NSIC)
NRC Resident Inspector
Commonwealth of Pennsylvania

bcc w/encl:
Region I Docket Room (with concurrences)
Senior Operations Officer (w/o encls)
Section Chief, DPRP

OFFICIAL RECORD COPY

Federal Emergency Management Agency

Washington, D.C. 20472

AUG 30 1984

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

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

SUBJECT: Exercise Reports for the June 27, 1984, Exercise of the Offsite Radiological Emergency Preparedness Plans for the Beaver Valley Nuclear Power Station

Attached are copies of the exercise reports for the June 27, 1984, joint exercise of the offsite radiological emergency preparedness plans for the Beaver Valley Power Station. The State of West Virginia and Hancock County, the Commonwealth of Pennsylvania, and Beaver, Alleghany, and Butler Counties, and the State of Ohio and Columbiana County participated in the exercise. The exercise reports dated July 27, 1984, and July 31, 1984, were prepared by the Federal Emergency Management Agency (FEMA) Region III and Region V staffs, respectively.

The FEMA Region III exercise report identifies two Category A deficiencies. The first Category A deficiency concerns the failure of the Pennsylvania Emergency Management Agency (PEMA) to clearly communicate protective action recommendations to Beaver County, Pennsylvania. In addition, the time taken to coordinate these protective actions and to coordinate the activation of the public alert and notification system was excessive. During the Limerick exercise on July 25, 1984, PEMA demonstrated its ability to clearly communicate protective action recommendations, and thus corrected the first part of the Category A deficiency. Documentation of this correction will be reflected in the Limerick exercise report when it is formally submitted.

The excessive time required by PEMA to coordinate activation of the public alert and notification system remains as the Category A deficiency for PEMA. PEMA's delay in activating the public alert and notification system in Pennsylvania also resulted in delays in activation of the systems in both Columbiana County, Ohio, and Hancock County, West Virginia, due to the need for a simultaneous system activation. The delays in Hancock County, West Virginia, and Columbiana County, Ohio, have been cited as Category B deficiencies in the FEMA Region III and V exercise reports, respectively. A remedial demonstration to correct this deficiency will be scheduled for PEMA within 120-days of the date of this transmittal and both Hancock County, West Virginia, and Columbiana County, Ohio, will be expected to participate with PEMA in the remedial demonstration.

The second Category A deficiency cited in the FEMA Region III exercise report relates to several problems encountered by Hancock County, West Virginia, in implementing protective action procedures. A remedial exercise will be scheduled within 120-days of this transmittal to address these problems. There were no Category A deficiencies identified for the State of Ohio or Columbiana County.

As soon as we receive and analyze the formal schedule of corrective actions, we will provide you with the results. If you have any questions, please contact Mr. Robert S. Wilkerson, Chief, Technological Hazards Division, at 287-0200.

Attachments
As Stated

EXERCISE REPORT

BEAVER VALLEY NUCLEAR POWER STATION
DEQUENSNE LIGHT COMPANY

JOINT EXERCISE

Location of the Station: Located in the State of Pennsylvania, Beaver County, Shippingport, Pennsylvania.

Exercise Date: June 27, 1984

Date of Report: July 31, 1984

Participants Included: The State of Ohio (partial scale), with Columbiana County (full scale); participating also was the Commonwealth of Pennsylvania, Beaver County, with 27 municipalities; the State of West Virginia, with Hancock County

PREPARED BY THE:
FEDERAL EMERGENCY MANAGEMENT AGENCY, REGION V
NATURAL AND TECHNOLOGICAL HAZARDS DIVISION
TECHNOLOGICAL HAZARDS BRANCH
FEDERAL CENTER
BATTLE CREEK, MICHIGAN 49016

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PART I

EXERCISE SUMMARY

A. STATE OF OHIO (Ohio Disaster Services Agency ODSA)

In relating the objectives to the scenario, many objectives listed for this exercise did not apply to the State Emergency Operations Center (EOC) due to Ohio's limited participation. The objectives they elected to demonstrate, all are associated with full-scale involvement rather than partial. Exercise objectives should be tailored to equate the level of participation. For example, the State elected to demonstrate the capability to support a continuous EOC staffing with only a partial staff involved in the exercise. Three functions of the State capability were implemented at the EOC to drive the exercise in support of the County's emergency response. The primary functions were accident assessment, communications, and direction and control.

Two rooms in the State Emergency Operations Center were used for this exercise. They are the same rooms which are identified for use in an actual emergency. Because of the State's partial participation and only three functions demonstrated, there was limited State staff involved in the EOC during the exercise. The initiation of events were basically as outlined in the scenario. On the partial participation basis, staff were mobilized, call lists were used, and staffing was completed by 9:50 a.m. with the initial staff alerting accomplished at 8:05 a.m. Commercial telephone is the State's primary communication means with radio and some pagers as back-ups.

The State Disaster Service Agency Deputy Director was in charge of the State Emergency Operations Center. He is the person designated in the plan. Periodic briefings were conducted and announcements were made during the exercise. Discussions were held among radiological assessment and communication staff. The plan is available along with the Standard Operating Procedures (SOP's) and each were referred to throughout the exercise. A message log was established to maintain a record of events. Messages were written on a multi-copy form, then separated and distributed to appropriate staff.

The field assessment teams were prepositioned by design to test specific capabilities found deficient in past exercises. Federal assistance was requested by the State Planning Officer. Federal resourses requested were monitoring teams, sampling teams and mobile laboratories. (Federal response was simulated.)

The State Emergency Operations Center is a modern, well established facility on the Northwestern edge of Franklin County, Worthington, Ohio. The Emergency Operations Center is certified by the Federal Emergency Management Agency.

There are adequate furnishings and environmental factors which contribute to a satisfactory working area. Communications within the State's control were good and were effectively established and maintained. It was noted some irregularities occured which presented short-term problems.

They were:

About 1:45 p.m. the utility used a non-dedicated telephone and indicated to Ohio that the dedicated telephone was not working. There seems to be an operational and/or procedural problem involved with the use of the dedicated phone system between the States, County, and the utility. This phone is presently located in the Radiological Assessment Room.

The State Radiological Health Officer (Ohio) desired more direct contact with the utility for a more constant flow of information.

Dose rates were derived from plant data and field readings. Calculations were made by using the State computer and checked by hand calculations. Calculations were promptly checked and plotted. Monitoring teams were directed to new locations. The plume was defined utilizing all data collected.

Protective actions were recommended and current metrological data was maintained. As it appeared from the State EOC, Columbiana County was experiencing difficulty in coordinating the simulataneous sounding of the sirens with the other counties. A simultaneous sounding of the sirens in all three (3) counties was by prior agreement, so that an independent annalysis could be accomplished. Pennsylvania announced to Ohio that they would sound the sirens at 2:15 p.m., then revised this time to 2:30 p.m. There is a problem in the rapid coordination of notifying the public. There was a lack of effective communication to coordinate with all State and local governments, especially in sounding the sirens. The period from the declaration of the "General Emergency" to the sounding of the sirens (notifying the public) was not timely, largely due to the amount of time taken by Pennsylvania to complete these actions.

The State Disaster Service Agency was in a supportive roll to the County. The most inactive period of time for the State was at the "Alert" classification. The State plan provides for the activation of the Joint Press Information Center (JPIC) upon declaration of "Site Area Emergency". Because of the travel time to the area, the plan also provides for a cadre including the Information Officer to be dispatched at the time of the "Alert". For this exercise the State Information staff consist of the Information Officer and two support persons who were prepositioned. A roster was presented to show extended staffing capability.

Columbiana County staffed the Joint Press Information Center (JPIC) in real time with their Information Officer arriving at 11:15 A.M. The Duquesne Light Company, Western District Headquarters at Aliquippa, Pennsylvania, serves as the information center. There is adequate working space and facilities for the governmental and utility information staffs as well as the working press. The District Headquarters is located within the ten (10) mile EPZ, and the JPIC was relocated (simulated) to the Corporate Headquarters in Pittsburgh, Pennsylvania in compliance with the evacuation order issued by Pennsylvania.

The Ohio information staff had commercial telephone capabilities to the State Office, the County office and the EOF. Conferencing and telecopier facilities were available and used as necessary. Radio to the State's mobile communication van served as the back-up system. The link was maintained throughout the exercise. Media kits from the utility and Ohio were provided to the press representatives when they arrived at the JPIC. Eight briefings were held with the first at 11:00 A.M to announce "Site Area Emergency", and the final at 4:55 P.M. to announce exercise termination. The material presented at the briefings was clear and complete. Hard copy was available. Utility personnel monitored commercial radio and television to assure correctness of the material being broadcast.

The various information officers did exchange information among themselves and all material to be presented at the briefings was discussed before-hand. Maps, displays, and other briefing tools were available in the briefing room and were used as required.

Emergency public instructions were prepared at the County EOC and communicated directly to the emergency broadcast station. The JPIC staff included this material in the briefings.

During the pre-exercise briefing, the State indicated that they were not going to demonstrate rumor control at the State level.

The field teams were mobilized from Columbus and Cleveland and prepositioned in adequate time to enable them to make background measurements prior to arrival of the plume. A call-up list is used to activate personnel. The teams were well equipped and sufficient back-up equipment was available. Instruments were recently calibrated, however, documentation should be made for record purposes. (Suggest calibration stickers put on instruments.) Additional seating in the vans would enhance the teams comfort.

The field monitoring teams were able to conduct the required measurements and sampling procedures. The team did not leave the plume to collect air samples. The technique used for iodine detection (pulse heights analysis) does not preclude interference from noble gases making iodine detection difficult if not impossible. The teams should either leave the plume to collect the air samples or shielding should be provided for the plume counting.

Field communications worked well. At times there was some radio reception breakup due, at least in part, to the weather. Sufficient communications equipment was available which included radio back-up systems.

EMERGENCY OPERATIONS FACILITY (EOF)
(Also referred to as the Emergency Response Facility ERF)

Ohio had two representatives at the Emergency Operations Facility (EOF) during the entire exercise. The double staffing demonstrated the twenty-four (24) hour staffing capability. Both staff members were knowledgeable of their duties. They were kept busy during the entire exercise. While one person can perform the essential task of transfer of utility information to the State in a timely fashion, consideration should be given to having two professionals on each shift. An additional clerical person per shift to log incoming and outgoing messages and to perform other duties would be helpful.

Necessary working space and equipment were available to the staff. The area where the Ohio staff worked was near the utility dose assessment staff and close enough to monitor most of the statusboards. The work area was adjacent to the work areas of Pennsylvania and West Virginia staffs. While the area was rather noisy, it did not appear to impede telephone communications. A head set for the telephone should be considered.

Changes in plant conditions, utility dose projection and the utility protective action recommendations were relayed to the State EOC in a timely fashing, usually within five minutes. The gaseous release began at 1:06 p.m. and the utility declared "General Emergency" at 1:20 p.m. The utility made their protective action recommendations at 1:34 p.m., and they were relayed to the State EOC. During this telephone call the State made its initial protective action recommendation. This is indicative of the timeliness of communications between the EOC and the EOF. Because of the good exchange of information between the States at the EOF, Ohio was informed at 1:39 p.m. that Pennsylvania was going to evacuate, rather than shelter their population.

The deployment of the Ohio field monitoring teams was monitored by the Ohio EOF staff and coordinated with the utility field teams. The teams were provided with adequate dosimetry and were trained in exposure control procedures.

The States were briefed by the utility one at a time. If one briefing was given, there would be an opportunity to establish a dialog between the States concerning the latest utility information.

It is recommended at future exercises that the participants do not have prior access to the exercise scenerio.

B. COLUMBIANA COUNTY (Columbiana County Disaster Service Agency CCDSA)

1. The exercise scenario depicted a loss of coolant at the Beaver Valley Nuclear Power Station on or about 7:05 a.m. By 11:07 a.m. the problem had escalated to a "Site Area Emergency" which according to the County plan, necessitated the full activation of the County Emergency Operations Center. Staff mobilization procedures were implemented and the EOC was fully staffed by 12:27 p.m.

   With the exception of the Fire Service, the organizational representatives that comprised the EOC staff were double staffed for training purposes as well as to demonstrate the capability to provide around-the-clock emergency response. All the organizational representatives demonstrated appropriate emergency response procedures, thus reflecting a high degree of training.

   Although a County representative is not dispatched to the utility's EOF, the executive group maintained coordination with the status of the emergency via telephone contact with this facility.

Due to the resignation of the Director of Columbiana County Disaster Services Agency, David Halverstadt, President of the County Board of Commissioners, assumed that role as well as Executive Director.. As the emergency response staff reported for duty at the EOC, he ensured that they were promptly briefed on the status of the emergency to enable their immediate involvement in the exercise.

The Executive Board carefully reviewed the various incidents of the emergency and collectively arrived at decisive actions to be taken by the emergency response organization.

Each of the organizational representatives had standard operating procedures at their station. Messages were logged and distributed to the appropriate staff members.

The Director initially received notification of an "Alert" status at the Beaver Valley Nuclear Power Station about 8:15 a.m. and notified the appropriate emergency response staff of the situation. Upon the escalation of the incident at the plant to the "Site Area Emergency", he initiated actions according to the plan to fully activate the EOC. The incident then escalated to a "General Emergency" about 1:24 p.m. The Executive Board made a timely protective action decision and began coordinating the activation of the siren and EBS systems with the other two (2) counties. Also the county was trying to ensure simultaneous sounding of sirens in all three (3) counties would satisfy the requirements of an independent survey being conducted during the exercise. Actual sounding of the sirens required approximately 55 minutes to activate because Beaver County, having received untimely protective action recommendations from Pennsylvania, needed additional time to notify their many municipalities. This delay affects the safety of the population and will require resolution of all the organizations responsible for coordinating and implementing protective actions. FEMA Region III has been notified of our concern and requested to provide guidance and assistance in reaching a prompt solution.

The one-time school that now houses the daily functions of the Columbiana County Disaster Services Agency, also provides the rooms necessary for the Emergency Operations Center. The facility has the basis amenities necessary to support the emergency response staff. The poor acoustics in the executive room as well as the old gym that is used by the main body of the staff detracted from the ability to hear briefings and to talk on the telephone at times. The ventilation in the entire building is poor due to the windows being boarded up for security purposes, especially the very small room used by the communications function.

The various emergency classification levels as well as the emergency levels statusboards were conspiciously displayed, depicting evacuation routes, care centers, traffic control points, radiological monitoring points, population by evacuation areas, as well as other information that may be used in determining appropriate emergency responses.

The County EOC staff uses telephones as their primary means of communication with State, County, utility and other support organizations. With the exception of the media center and hospitals, the radio system in the EOC serve as a back-up communications system.

To facilitate a timely news release between the Joint Press Information Center and the EOC, a datafax system provides hard copy within about four (4) minutes.

Telephone conference capability in the Executive Board room was evidently malfunctioning because it was extremely difficult to hear the incoming caller. Further, it was reported that some people involved in the conference interupted conversations to the point of interfering with an orderly coordinated process. The malfunctioning conference telephone should be repaired and procedures established to ensure a more orderly coordination process over the conference net.

The Columbiana County Executive Board received the protective action recommendations from the State and the utility and expediently reached a conclusion of the actions they initiated for the County to include activation of the siren system and EBS broadcasts. Implementation of this action was delayed because Pennsylvania was unable to make timely decisions.

According to the Ohio Highway Patrol and Sheriff's representative, the evacuation points where Route 267 bisects Route 30/11 and where Route 425 bisects Route 518 will be appropriately controlled to preclude confusion on the evacuation flow at these points. The Ohio Highway Patrol has the personnel and vehicles including helicopters to monitor all points of the evacuation routes.

Although the mobility impaired people were not actually transported during this exercise, the staff indicated that all of the people that have made their special needs known have been identified and lists supplied to the appropriate organizations assigned to provide this support. Annual mailings are made to the general public providing them with emergency response information as well as a card that can be sent to the County identifying special needs of the mobility impaired.

RADIOLOGICAL EXPOSURE CONTROL

The County has a supply of low range (0-20 MR), mid-range (0-20 R) and high range (0-200 R) dosimeters on hand for emergency workers. The emergency workers, according to the State Representative, have completed a basic radiological emergency response course which includes proper use of dosimetry. Upon issuance of dosimeters during emergencies, they are provided record cards for recording readings as well as provided oral instruction on the use of these instruments.

The news media was allowed access to the EOC toward the end of the exercise. This provided an opportunity for the press to not only obtain information relative to the exercise, but to aquaint them with the overall emergency response procedures of the County.

Recovery and reentry procedures were not called for in the exercise scenario and therefore were not demonstrated.

The scenario provided an opportunity to demonstrate the emergency response procedures described by the exercise objectives. The State introduced exercise problems during the exercise depicting realistic emergency situations that may occur in addition to the incident at the station.

II. COLUMBIANA COUNTY FIELD ACTIVITIES

The volunteers at the West Point Assembly Area need more instruction in order to provide the proper assistance to evacuees. Additional facts regarding the next area and step of the process should be a part of their instructions to evacuees. The two staff members at West Point were knowledgeable regarding the use of their equipment, but were not totally familiar with the use of forms. Additional problems observed at this activity involved the shortage of staff personnel in that the people that were assigned to this facility were unable to drive the radio equiped fire engines.

The training of the Hanoverton Fire Department was evident in that the staff displayed knowledge of their equipment and procedures. Their plan for continued staffing was appropriate and realistic. Response time was effective in that they were able to receive evacuees within one-half hour of initial activation.

The Red Cross has provided training for personnel and equipment to be transported to the designated area. Volunteers are assigned to specific positions in the care center. Food, clothing, cots, blankets and appropriate forms are prepackaged and ready for distribution.

A problem noted during the exercise involved the lack of communications between the County EOC and the Hanoverton Fire Department. In a briefing conducted on June 26, 1984, the day before the exercise, the Hanoverton Fire Department was advised to respond to a specific facility. During the exercise, the department responded to the wrong facility. Once the error was discovered, the error was corrected in a few minutes. It is recommended that when more than one organization is assigned to a single facility, prior contact be made between the supervisors of these organizations to ensure proper coordination.

The Negley Fire Department activated a decontamination and monitoring facility not far from the fire station. The primary function of this activity was to decontaminate emergency workers and their vehicles and secondly to monitor the vehicles of evacuees enroute to the assembly area. The evacuees' vehicles were not decontaminated but marked to indicate if it was contaminated or free of contaminates. The staff operating this facility were uncertain which vehicles were classified as emergency vehicles from those used by evacuees. As a part of activating this function the staff set up and checked their detection equipment, received their standard operating procedures, and prepared for the operation of the facility.

Emergency response vehicles were decontaminated at the rear of the station by washing them with a garden hose. It is possible that if a large number of vehicles had to be washed in that location, the excess contaminated water could run down the roadway toward a home. An alternate solution may be to wash vehicles on the grass section in front of the facility where excess contaminated water could be controlled more easily. The overall decontamination and monitoring capability could be inhibited by the lack of sufficient staff and a facility that was too small to process large numbers of vehicles and emergency workers in a timely manner.

The decontamination of personnel could not be accomplished in this facility because a shower for this purpose has not been installed. The anticipated location of the shower should be carefully examined to ensure that once the person is decontaminated, he does not exit into a contaminated area.

B. EAST LIVERPOOL (Municipality)

1. The East Liverpool EOC was alerted and promptly staffed at the "Alert" level. Staffing at the "General Emergency" level would involve all city employees and was simulated. Notification procedures to the city EOC from the County were not consistent and changed at the "General Emergency" level. From the "Unusual Event" through the "Site Area Emergency", notification

was made through the city police dispatchers and verified by the city EOC staff. Both notification and verification of the "General Emergency" were made through the city laison who was stationed at the Columbiana County EOC.

The East Liverpool EOC staff was well managed and operated effectively. When additional assistance was determined, the EOC staff requested the Ohio National Guard support. The EOC operation was limited by the size of the facility, traffic flow, and small number of telephones. Appropriate maps and status boards were made available to all participating staff.

The primary communications system was the telephone with radio back-up from the Triangle Amateur Radio Club and police and fire radios. The diverse use of these systems was well demonstrated. At times, the content of some messages from the county that were written on the city EOC statusboard was unclear. Radiological terms were not correctly expressed. In one case, Mr. was expressed as mph.

Several protective actions were demonstrated. A sample traffic control point was effectively established by the East Liverpool City Police Department. In addition, the City Health Officer requested that local hospitals, nursing homes and ambulance services inventory their patients, patients health conditions and available vehicles in case an evacuation became necessary.

Sufficient dosimetry equipment was available for all personnel at the alert stage which included high, medium, and low range dosimeters. Additional dosimeters were requested from the county as the emergency situation escalated. Consistent information was not received from the county EOC regarding the location of the appropriate decontamination center.

MEDICAL DRILL

The medical drill was performed at the City Hospital, East Liverpool. A contaminated, uninjured patient walked into the Emergency Room. Following establishment of security and a radiological survey of the patient, the staff and facility were ready to begin decontamination in a separate shower room. The preparation time took approximately 15 minutes. The hospital and staff followed procedures in handling the patient in order to avoid contamination. Following decontamination, the staff, as well as the patient, were monitored and contaminated clothing placed in a container. A minor problem occurred in moving some staff from the contaminated to the clean side of the shower room without the possibility of (potential for) recontamination. Additional training of supporting staff (e.g. Housekeeping) on contaminated procedures would be beneficial.

PART II

EXERCISE REPORT

A. Introduction

1. Exercise Background:

This is the third exercise of a simulated accident at the Beaver Valley Nuclear Power Station, which is operated by the Duquesne Light Company. The two preceding exercises were conducted on July 14, 1982, and February 16, 1983. In addition to involving Ohio and Columbiana County, the States and respective counties of Pennsylvania and West Virginia also participated in these exercises. The evaluation of the latter two States and counties are within the FEMA Region III and are, therefore, evaluated by that office.

2. Participating and Non-Participating State and Local Governments:

The 0-10 mile Emergency Planning Zone (EPZ) of the Beaver Valley Nuclear Power Station impacts Columbiana County in Ohio, Beaver County in Pennsylvania, and Hancock County in West Virginia. The ingestion pathway EPZ (10-50 miles) affects the counties of Columbiana, Trumbull, Portage, Mahoning, Stark, Carroll, Tuscarawas, Harrison, Jefferson, and Belmont in Ohio. Three of these counties, Trumbull, Portage, and Mahoning, are also in the ingestion pathway of the Perry Nuclear Power Station. The scenario for the June 27, 1984, exercise did not call for a demonstration of the protective actions for those counties in the ingestion pathway.

3. List of Evaluators:

During this exercise there were nine (9) Federal evaluators assessing the off-site radiological emergency preparedness of the State of Ohio, Columbiana County, the City of East Liverpool, and the various support organizations. Five (5) of the evaluators are FEMA Region V staff members, while four (4) evaluators were from the Argonne National Laboratory, a Federally contracted organization that provides support to FEMA. The nine (9) evaluators were assigned as follows:

a. Exercise Director and Team Leader Assignments:

Wallace Weaver, Exercise Director
Gordon Wenger, Team Leader, State of Ohio
Robert Shapiro, Team Leader, Columbiana County and the City of East Liverpool

b. Ohio Evaluator Assignments:

(1) Ohio Disaster Services Agency Emergency Operations Center (ODSA-EOC)
2825 West Granville Road
Worthington, Ohio

Gordon Wenger, FEMA Region V (Team Leader)

(2) State Communications Van
Richard Feldman Residence
1691 Annesley Road
East Liverpool, Ohio

Rochelle J. Honkus, Westinghouse Idaho Nuclear Co., Inc.

(3) Radiological Field Monitoring Teams
Staging Area, Columbiana County EOC

Rochelle J. Honkus, Westinghouse Idaho Nuclear Co., Inc.

(4) Joint Press Information Center
Duquesne Light Company, West District Headquarters
Meadow Lark Lane
Aliquippa, Pennsylvania

Ray Kellogg, FEMA Region V

(5) Emergency Operations Facility
East Side of Route 168

Jim Opelka, Argonne National Laboratory

c. Columbiana County:

(1) Columbiana County Disaster Services Agency,
Emergency Operations Center
51009 Richardson Avenue
Negley, Ohio

Robert Shapiro, FEMA Region V (Team Leader)

(2) Assembly Area
West Point Elementary School
13360 West Point Road
West Point, Ohio

Walter O'Keefe, FEMA Region V Red Cross Advisor

(3) Congregate Care Center
United Local School
8143 State Route 9
Hanoverton, Ohio

Walter O'Keefe, FEMA Region V Red Cross Advisor

(4) Decontamination Center and Route Alerting
Negley Fire Station
Negley, Ohio

Leonard Zarek, Argonne National Laboratory

d. The City of East Liverpool, Ohio:

(1) The City of East Liverpool, Ohio
Emergency Operations Center
126 West 6th Street
East Liverpool, Ohio

Sue Ann Curtis, Argonne National Laboratory

(2) City Hospital
425 West 5th Street
East Liverpool, Ohio

Sue Ann Curtis, Argonne National Laboratory

4. Evaluator Assignments of Exercise Evaluation Modules:

The following exercise evaluation modules were utilized for the purpose of assessing the off-site radiological emergency preparedness of the participating organization during the June 27, 1984, Beaver Valley Exercise.

a. State of Ohio:

EOC Module.....Gordon Wenger
EOF Module.....Jim Opelka
Media Center Module.....Ray Kellogg
Field Monitoring Module.....Rochelle Honkus

b. Columbiana County:

EOC Module.....Robert Shapiro
Media Center Module.....Ray Kellogg
Relocation Center Module.....Walter O'Keefe
Decontamination Module.....Leonard Zarek

c. The City of East Liverpool, Ohio:

EOC Module.....Sue Ann Curtis
Medical Support Module.....Sue Ann Curtis
Field Activity Module.....Sue Ann Curtis

5. Evaluation Criteria:

The State of Ohio and Columbiana County Radiological Emergency Response Plans were evaluated during the June 27, 1984, Beaver Valley Exercise to ascertain the capability of implementation should an accident occur at the Beaver Valley Nuclear Power Station. The exercise was conducted in accordance with the requirements set forth by 44 CFR Part 350 dated September 28, 1983. It was evaluated commensurate with the August 5, 1983, memorandum "Procedural Policy on Radiological Emergency Preparedness Plan Reviews Exercise Observations and Evaluations and Interim Findings" and with the criteria established in "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (NUREG 0654 FEMA REP-1, Revision 1). For the purpose of evaluating this exercise, all evaluators utilized the "Modular Format for Uniformity of Radiological Emergency Preparedness Exercise Observations and Evaluations" dated June 1983.

6. Summary of Exercise Objectives:

The exercise objectives were developed as a result of coordination between FEMA Regions III and V; the States of Ohio, Pennsylvania, and West Virginia; and the Duquesne Light Company. They were selected from the list of 35 exercise objectives contained in Tab M of the Modular Format for Uniformity of Radiological Emergency Preparedness Exercise Observations and Evaluations dated June 1983. There were 18 selected for the State of Ohio, who participated in a partial mode during the exercise, and 17 objectives were chosen for Columbiana County. All of the exercise objectives were developed into an exercise scenario designed to test major emergency response procedures described by the radiological emergency response plan. The objectives necessitated the State to provide dose assessment, activate the radiological monitoring teams, and dispatch the mobile communications van, as well as provide State representatives to the utility's Emergency Operations Facility (EOF) and the Joint Press Information Center (JPIC). The county objectives enabled a demonstration of their ability to provide direction and control, activation of decontamination and assembly areas, hospital support, as well as sending a county representative to the Joint Press Information Center (JPIC). A complete list of the State and county objectives evaluated during this exercise are contained in Attachment II-6-1

7. Summary of the Scenario:

The scenario was designed to incorporate the exercise objectives and reflect as much realism as possible. The scenario begins with normal initial on-site and off-site conditions and then progresses with a degregation of these conditions. It is with the degregation of normal conditions that activates the emergency responses to deal with the various problems imposed on those organizations charged with the responsibility to ensure that the general welfare of those affected are cared for.

The scenario sets the stage for the exercise by depicting a mid-summer time frame. The Beaver Valley Nuclear Power Station is producing power at its normal rate. Due to outages of other power stations, the reserves become low, while the demand increases. Simply stated, there becomes an imbalance between supply and demand. (For simplicity, the times reflected are those approximate times that the various scenario events occurred during the day of the exercise. Should this have been a real incident, there would have been greater periods of time between the situations than are described below.)

At about 6:30 a.m., the day of the exercise, the U.S. Weather Bureau issued a tornado "Watch" indicating that meteorological conditions in the Beaver, Columbiana, and Hancock County areas are favorable for the formation of severe thunderstorms with high winds and possible tornadoes. About 7:05 a.m., a reactor coolant problem at the station is experienced which exceeds the technical specifications per (Utility Emergency Operating Instructions) Tab 5, "RCS/Containment Leakage" in EPP/I-1 and requires a declaration of an "Unusual Event." By 7:10 a.m., notifications are initiated to the Beaver Valley Power Station management, station personnel, the Nuclear Regulatory Commission, and the off-site authorities. At 7:56 a.m., the National Weather Service escalates the tornado "Watch" to a "Warning." Reports from Jefferson County, Ohio, and Hancock County, West Virginia, indicate that winds have caused minor damage in their areas, yet no tornado touchdowns have been experienced. Within a few minutes, this changes radically when high winds hit the Beaver Valley Power Station followed by a small tornado touchdown. It is discovered that the tornado has created minor damage to the north louvers on the cooling tower with portions of the west wall and the roof of the intake structure torn off in places. Numerous cars are also turned over near the intake structure which adversely affects access to the damaged areas by repair crews. By 8:16 a.m., the plant monitoring of the damages indicates that the damages to the structure caused by the tornado are not severe enough to warrant a shut down of the station. At 8:25 a.m. based on (Utility Emergency Operating Instructions)

Tab 22, "Tornado Strikes Vital Plant Structures," plant operators escalate to an "Alert" emergency classification. Notification of this change in status is communicated to off-site authorities and they in turn communicate this change to the various emergency response personnel. Around 8:45 a.m., a plant employee falls from a ladder and is injured as a result of the fall. This injured employee becomes contaminated and is transported to the Alequippa Hospital. (This incident occurs in Pennsylvania and the results of evaluator observations should be included in the FEMA Region III final exercise report.) Plant conditions, although at the "Alert" stage, remain stable for the most part until about 10:55 a.m. At this time, an inadvertent relay operation at the station causes the loss of an important station transformer, which powers the reactor coolant pumps, main feed pumps, and all compressors. Along with this problem, reactor safety systems have a failure which conclude in an Anticipated Transient Without Scram (ATWS) situation to the station's reactor. This problem results in core damage with a minor release of radioactivity., As a consequence of this situation, the Plant's Emergency Director declares a "Site Area Emergency" based on (Utility Emergency Operating Instructions) Tab 1, "Radioactive Effluent EAL (airborne release highest point of release is 20 MREM/hr at the site boundary) and (Utility Emergency Operating Instructions) Tab 8 (Degraded Core, Possible Loss of Coolable Geometry). Notification of an emergency classification change to "Site Area Emergency" is communicated to the off-site authorities and the Joint Press Information Center, the utility's Emergency Operations Facility (EOF), as well as State and County Emergency Operations Centers (EOC) are to become fully activated. Prior to this, most EOC's were partially manned to meet the needs of a less severe emergency classification. On or about 12:30 a.m., the State (Ohio) and County (Columbiana County) EOC become fully staffed. From 11:15 a.m. through 12:55 a.m., the repairs to the damaged power station continue with no additional releases of radiation. The plant is on a "hot standby condition" on natural circulation awaiting the repairs of the defective breaker and other equipment so that emergency cooldown can begin. Between 1:00 p.m. and 1:20 p.m., a tube ruptures in a steam generator, which causes a major release from the reactor coolant system. This release is through the damaged tube and the steam generator safety valves. Based on (Utility Emergency Operating Instructions) Tab 1, "Radioactive Effluent" EAL (release corresponding to 600 MREM/hr to the whole body at the site boundary) and the loss of containment integrity, the utility declares a "General Emergency". Notification of this emergency classification change is transmitted to off-site authorities. Protective measures to be taken are decided on, which includes siren activation and EBS message release. By 2:30 p.m., plant operators continue to cool down the plant and, by 3:15 p.m., the plant conditions appear to stabilize with continued cooldown efforts. In plant radiation levels decrease and

tend towards a descalation of the "General Emergency" action level and so by 4:15 p.m. the station conditions warrant this descalation to an "Alert." Between 4:30 p.m. and 5:30 p.m., emergency conditions warrant close-out of emergency procedures and recovery actions are initiated. Again, the times reflected in the scenario outlined above were the approximate times the various events were to occur on the day of the exercise and should not be confused with the actual or real times these events happened as the events were reported by observers. Attachment II-7-1 contains a copy of the off-site scenario used by Federal observers.

The scenario was reviewed for adequacy by the Westinghouse Idaho Nuclear Company, Inc., a FEMA contracted organization for this purpose. The review indicated that the scenario was well prepared and, with minor recommendations, was acceptable for use during the June 27, 1984, Beaver Valley exercise. Attachment II-7-2 is a copy of this review.

8. Description of State, County, and Local Resources Used During the Exercise:

a. State of Ohio:

State EOC
State JPIC (Public Information Representative)
Ohio Disaster Services Agency
Ohio Department of Health
State Radiological Monitoring Team
State Mobile Communications Van
Utility's EOF (ODSA representative reports to this facility)

b. Columbiana County:

County EOC
Columbiana County Board of Commissioners
Columbiana County Disaster Services Agency (the Director resigned and this position was temporarily filled during the exercise by the President, Columbiana County Board of Commissioners)
Fire Services
Ohio Highway Patrol
Law Enforcement
County Engineer
County Transportation
Red Cross
East Liverpool Liaison
Ohio Army National Guard
County Health Department
County Welfare Department
County Schools
Ohio Department of Agriculture

9. Deficiencies Noted in Past Exercises Which Persist:

a. State of Ohio:

None

b. Columbiana County:

None

10. Exercise Objectives Still to be Effectively Achieved:

The following exercise objectives were evaluated during this exercise and found to contain weaknesses. Due to these weaknesses, it will be necessary to redomonstrate them during the next exercise to the point necessary to ensure that appropriate corrective measures have been implemented. Those exercise objectives not addressed in this section were satisfactorily demonstrated during the exercise.

a. State of Ohio:

(1) Category B Deficiency

(a) Exercise Objective Number 13 (Reference NUREG 0654 Criteria E5, E6). "Demonstrate the ability to alert the public within the ten (10) mile EPZ and disseminate an initial instructional message within 15 minutes. Columbiana County, based on State recommendations, alert the public.

It took approximately 66 minutes after the declaration of the "General Emergency" until the sirens were sounded in all three (3) counties. Although Columbiana County had reached a timely protective action decision, they were trying to ensure that a simultaneous sounding would be implemented for an independent survey being conducted of that system. The actual activation required approximately 55 minutes because of Pennsylvania's untimely protective action recommendations to Beaver County and that county's need for additional time to notify their many municipalities. Although Columbiana County was prepared to activate the public alert and notification system independent of the other two (2) counties, a simultaneous activation is more desireable. It was generally felt that the coordination system used by all those organizations responsible, inhibited a timely implementation process. This discrepancy, if repeated during a real emergency, would impede the ability to provide prompt emergency instructions to the public. The deficiency is placed with the State and County, for it is necessary for all those organizational representatives

in Ohio, Pennsylvania, and West Virginia to devise a more efficient coordination system. Ohio should provide the necessary guidance and assistance to the county in correcting this problem.

(a) Exercise Objective 5 (Reference NUREG 0654 Criteria F1d). Demonstrate the ability to communicate with all appropriate locations, organizations, and field personnel.

The dedicated telephone located in the State EOC (Radiological Assessment), which is also used for conference calls with contiguous State and local governments as well as the utility, was less than efficient. This system should be evaluated and corrective measures taken to ensure that an effective communications system is available.

Columbiana County:

(1) Category B Deficiency:

(a) Exercise Objective Number 13, (Reference NUREG 0654 Criteria E5, E6). Demonstrate the ability to alert the public within the ten (10) mile EPZ and disseminate an initial instructional message within 15 minutes.

It took approximately 66 minutes from the declaration of a "General Emergency" until the sirens were activated to alert the public. When the incident escalated to the "General Emergency" about 1:24 p.m., the Columbiana County Executive Board reached a timely protective action decision and began coordinating the activation of the sirens and EBS systems with the other two (2) counties. Columbiana County, during this process was trying to honor an agreement to have simultaneous sounding of the sirens in all three (3) counties for an independent survey being conducted of that system during the exercise. Actual sounding of the sirens required approximately 55 minutes because Beaver County received late protective action recommendations from Pennsylvania and needed additional time to coordinate with their many municipalities. Although Columbiana County was prepared to activate the system independent of the other counties, a simultaneous sounding of the sirens in all three (3) counties is desireable.

Although the county has no prior record of untimely implementation of protective actions, a more efficient coordination system should be implemented to provide for more timely emergency response procedures. It is recommended that all the organizations responsible for the coordination of emergency response procedures collectively divise a more efficient system. Ohio should provide the necessary guidance and assistance to the county in achieving this system.

(2) Category B Deficiency:

(a) Exercise Objective Number 29 (Reference NUREG 0654 Criteria K5a and b).

The Negley Fire Departmental Staff operating the Decontamination/Monitoring Station were uncertain which vehicles were classified as emergency vehicles or evacuation vehicles. This indicated a lack of sufficient training.

An additional deficiency relates to the absence of a shower to decontaminate personnel.

11. Exercise Objectives That Were Not Planned for This Exercise:

The following list of objectives, although not a part of this exercise, should be considered for demonstration at a future exercise. This should not be confused with those exercise objectives that were declared deficient during this exercise and required to be redemonstrated during the next exercise. (This follows the exercise objectives sequence contained in Tab M of the Modular Format for Uniformity of Radiological Emergency Preparedness Exercise Observations and Evaluations dated June 1983.)

a. State of Ohio:

OBJECTIVES	NUREG-0654
2. Demonstrate ability to fully staff facilities and maintain staffing around the clock.	A.2.a., A.4
11. Demonstrate ability to project dosage to the public via ingestion pathway exposure, based on field data, and to determine appropriate protective measures, based on PAG's and other relevant factors.	I.10, J.11
12. Demonstrate ability to implement protective actions for ingestion pathway hazards.	J.9, J.11
16. Demonstrate the organizational ability and resources necessary to deal with impediments to evacuation, as inclement weather or traffic obstructions.	J.10.k

17.	Demonstrate the organizational ability and resource necessary to control access to an evacuated area.	J.10.j
18.	Demonstrate the organizational ability and resources necessary to effect an orderly evacuation of mobility-impaired individuals within the plume EPZ.	J.10.d
19.	Demonstrate the organizational ability and resources necessary to effect an orderly evacuation of schools within the plume EPZ.	J.9, J.10.g
**21.	Demonstrate the ability to make the decision, based on predetermined criteria, whether to issue KI to emergency workers and/or the general population.	J.10.f
**22.	Demonstrate the ability to supply and administer KI, once the decision has been made to do so.	J.10.e
23.	Demonstrate ability to effect an orderly evacuation of on-site personnel.	J.2
*26.	Demonstrate the ability to establish and operate rumor control in a coordinated fashion.	G.4.e
27.	Demonstrate adequacy of procedures for registration and radiological monitoring of evacuees.	J.12
28.	Demonstrate adequacy of facilities for mass care of evacuees.	J.10.h
29.	Demonstrate adequate equipment and procedures for decontamination of emergency workers, equipment, and vehicles.	K.5.a, b
30.	Demonstrate adequacy of ambulance facilities and procedures for handling contaminated individuals.	L.4
31.	Demonstrate adequacy of hospital facilities and procedures for handling contaminated individuals.	L.1

33.	Demonstrate ability to relocate to and operate the alternate EOF/EOC.	H.2, H.3
35.	Demonstrate ability to determine and implement appropriate measures for controlled recovery and re-entry.	M.1

b. Columbiana County:

OBJECTIVE		NUREG-0654
5.	Demonstrate ability to communicate with all appropriate locations, organizations, and field personnel.	F
6.	Demonstrate ability to mobilize and deploy field monitoring teams in a timely fashion.	E.2, I.8
7.	Demonstrate appropriate equipment and procedures for determining ambient radiation levels.	I.8, I.11
8.	Demonstrate appropriate equipment and procedures for measurement of airborne radioiodine concentrations as low 10^{-7} uCi/CC in the presence of noble gases.	I.9
9.	Demonstrate appropriate equipment and procedures for collection, transport, and analysis of samples of soil, vegetation, snow, water, and milk.	I.8
11.	Demonstrate ability to project dosage to the public via ingestion pathway exposure, based on field data, and to determine appropriate protective measures, based on PAG's and other relevant factors.	I.10, J.11
12.	Demonstrate ability to implement protective actions for ingestion pathway hazards.	J.9, J.11
18.	Demonstrate the organizational ability and resources necessary to effect an orderly evacuation of mobility-impaired individuals within the plume EPZ.	J.10.d

19.	Demonstrate the organizational ability and resources necessary to effect an orderly evacuation of schools within the plume EPZ.	J.9, J.10.g
**21.	Demonstrate the ability to make the decision, based on predetermined criteria, whether to issue KI to emergency workers and/or the general population.	J.10.f
**22.	Demonstrate the ability to supply and administer KI, once the decision has been made to do so.	J.10.e
23.	Demonstrate ability to effect an orderly evacuation of on-site personnel.	J.2
30.	Demonstrate adequacy of ambulance facilities and procedures for handling contaminated individuals.	L.4
31.	Demonstrate adequacy of hospital facilities and procedures for handling contaminated individuals.	L.1
32.	Demonstrate ability to identify need for, request, and obtain Federal assistance.	C.1.a., b
33.	Demonstrate ability to relocate to and operate the alternate EOF/EOC.	H.2, H.3
34.	Demonstrate ability to estimate total population exposure.	M.4
35.	Demonstrate ability to determine and implement appropriate measures for controlled recovery and re-entry.	M.1

* Prior to the exercise, the State ammended their exercise objectives to indicate that they were not going to demonstrate rumor control at the State level, except to show that there is a telephone available for this purpose. Based on this clarification, this objective was not evaluated during this exercise and appears on this list of objectives to be demonstrated at another exercise.

**Ohio may not select this objective for demonstration because their plan indicates that they will not issue KI

PART III

NARRATIVE

Following the "Modular Outline," the succeeding narrative represents the evaluative results of the June 27, 1984, Beaver Valley exercise. It is realized that while these comments primrily focus attention to the negative aspects of the emergency response procedures, there were positive components as well. Prior to reflecting the deficiencies, it would be fair to mention that overall, there has been a great deal of effort on the part of many State and county people to bring about improvements to the emergency response procedures. When the results of this exercise are compared to those in the past, there has been positive progress achieved. The intent of reflecting the negative aspects should be taken in the spirit of enhancing existing plans and implementing procedures.

A. State of Ohio:

1. Emergency Operation Center (EOC):

a. Activation and Staffing:

In relating the objectives to the scenario, many objectives listed for the exercise could not be evaluated at the State EOC due to the State's limited participation. Three functions of the State's capability were implemented to drive the exercise in support of the county's demonstration of emergency response. Those three functions were Accident Assessment, Communications, and Direction and Control. Two rooms in the State EOC were used for this purpose. They are the same rooms which are identified for use in an actual emergency. Because of the State's limited participation in the exercise and only the three functions demonstrating capability and supporting the county, limited EOC staff of the State agencies were involved in the exercise. The initiation of events were basically as outlined in the scenario. On the limited participation basis, staff were mobilized, call lists were used, and staffing was "completed" by 9:50 a.m. Telephone is the State's primary communications means in which to alert the response staff with radio and some pager backup.

b. Emergency Operations Management:

The Ohio ODSA Deputy Director was in charge of the State EOC. He is the person designated in the plan.

Periodic briefings were held and announcements were made. Discussions regarding the emergency responses were made among

Radiological Assessment and Communication staffs. The plan is available along with the Standard Operating Procedures (SOP's). Each were referred to throughout the exercise. A message log was maintained to keep track of messages. Messages are written on a multi-copy form, then separated and distributed to the appropriate staff members. The sequence of events closely followed the scenario. Radiological monitoring teams and the mobile communications vans were prepositioned. The State Planning Officer simulated a request for monitoring teams, sampling teams, and mobile laboratories from the Federal Government.

c. Facilities:

The State EOC is a modern, well established facility on the northwestern edge of Franklin County, Worthington, Ohio. The EOC is certified by the Federal Emergency Management Agency and assisted through the cost-sharing program. Furnishings and environmental factors contributed to a comfortable working area.

d. Communications:

Communications within the State's control were established and maintained. It was noted some irregularities occurred which presented short-term problems.

They were:

- About 1:45 p.m. the utility using a non-dedicated telephone, indicated to Ohio that the dedicated phone was not working. There seems to be an operational and/or procedural problem involved with the use of the dedicated phone system between the States, Counties, and the utility.

- The State radiation Health Officer (Ohio) desired more direct contact with the utility for a more constant flow of information.

e. Dose Assessment and Protective Action Recommendation:

Dose rates were derived from plant data and field readings. Calculations were made by the State computer and checked by hand calculations. Calculations were promptly made, checked and plotted. Monitoring teams were directed to new locations. The plume was defined. Protective actions were recommended. Meterological data was kept current to ensure that the assessment calculations were accurate.

f. Public Alerting and Instruction:

From the Ohio EOC, the activation of the sirens in Columbiana County did not appear coordinated. Columbiana County experienced difficulty in that Pennsylvania announced to Ohio they would sound sirens at 2:15 p.m., then revised the time to 2:30 p.m. There was concern that a coordinated sounding might be missed. There appears to be a problem in the rapid coordination of notifying the public. There is a lack of effective communication to coordinate all State and local governments, especially in activating the sirens.

It is felt the period of time from the declaration of a "General Emergency" to the sounding of the sirens (notifying the public) was not timely.

g. Protective Action:

This was evaluated at the county and, therefore, the observation comments will appear in that portion of this report.

h. Radiological Control:

Radiological control procedures were evaluated at the county level and so comments related to this appear in the county portion of the report.

i. Media Relations:

Media relations evaluation comments appear in the Joint Press Information Center portion of this report.

j. Recovery and Re-entry:

Recovery and re-entry was not an exercise objective and, therefore, was not evaluated during this exercise.

k. Scenario (as it relates to the State EOC):

Although the scenario was approved by FEMA prior to the exercise, it seemed to lack sufficient events to challenge the State's emergency response procedures during the exercise.

The State DSA was in a supportive role to the county. They needed additional activity to keep the pace of the exercise moving. The long hold for the State was at the "Alert" classification.

2. Emergency Operation Facility (EOF):

Emergency Response Facility (ERF) is the term used for an EOF by the utility and is used interchangeably in the text of this report.

a. Activation and Staffing:

The staff were prepositioned for this exercise and activation was not an objective of this exercise. The ERF (EOF) was fully staffed with State representatives upon the arrival of Mr. Ben Wilmoth, Ohio Department of Health (ODH), at 9:15 a.m. and Mr. Ken Cole, Ohio DSA (ODSA), at 10:55 a.m., five minutes before the "Site Area Emergency". According to the plan, only one person is necessary to staff the ERF (EOF). The presence of two people was to demonstrate the capability for shift change and 24-hour capability. Both Wilmoth and Cole were knowledgeable of their duties. A regular system of using a pager or commerical telephone is available to notify ERF (EOF) staff in Columbus at the "Alert" stage. Once notified, they would be flown to Negley (nearby) in response to an actual incident.

Consideration should be given to having clerical assistance for the professionals on each shift.

b. Facilities:

Necessary space and equipment was available to the Ohio staff. The facility was reasonably comfortable and there was ample working space. The area provided for the Ohio personnel was conveniently near the representatives of West Virginia and Pennsylvania. It was also noted that the area in the ERF (EOF) provided for the Ohio staff representative was near the utility's dose assessment function.

Although the ERF (EOF) was relatively noisy, it did not seem to impede telephone communications. Telephone headsets could prove beneficial to emergency workers in the area when the noise levels become a problem.

c. Communications:

The communication system between the ERF (EOF) and the county and State EOC's was by way of a three-party conference call system. A backup system was through use of another telephone (actually assigned to the off-site agency liaison but

never used by utility). Radio communications was the second backup. A hard copy capability was available to transmit and receive from the media center.

It was noted that Procedure EPP/IP 1.1 does not have space for the 500 ft. wind speed. Also, communications to and from the EOC's were not logged on a regular basis.

A recording of the phone conversation or an additional person recording the messages would be very helpful and thus eliminate the need for the technical representative to perform clerical functions when his time needs to be focused on emergency response procedures.

d. Informational Functions:

Informational functions within the ERF (EOF) did not apply to this exercise and, therefore, were not evaluated.

e. Dose Assessment and Protective Action Recommendations:

Changes in plant conditions, utility dose projections, and utility protective recommendations were relayed to the staff at the State EOC in a timely fashion (usually within five minutes). For a release which began at 1:13 p.m., the utility declared "General Emergency" at 1:20 p.m. and made their protective action recommendation by 1:34 p.m. The utility's protective action recommendations were relayed immediately to the State EOC and, by this time, the State EOC had made their own protective action recommendations. The Ohio State EOC found out at 1:39 p.m. that Pennsylvania was going to evacuate. The deployment of State field monitoring teams was monitored by the State staff at the ERF (EOC) and coordination with the utility field teams and projected plume (utility version) was performed.

Briefings by the utility were given to one State at a time. If one briefing was given, time would be saved and there would be the possibility of dialog among the States concerning the latest "news."

f. Scenario (as it relates to the ERF (EOF)):

The scenario tested the ability of all the States involved in this exercise to interact. Furthermore, it provided an opportunity for the Ohio representative to communicate data to the State and county EOC; and, for this reason, the scenario was of value.

3. Field Monitoring:

a. Field Team Mobilization:

Radiological monitoring teams were mobilized and dispatched from Columbus. They arrived in adequate time to enable them to make background measurements prior to the release. A call-up system is used to notify the Radiological Monitoring Team members. No list was provided to illustrate the number of trained individuals available in case someone cannot be reached. No backup system is used.

b. Field Team Equipment:

The team's equipment was very good. It was well organized and in good condition. The van has plenty of space for people and equipment, however, there are only two seats available for a three-man team. Installing a third seat would improve the situation. Sufficient backup instruments are available. The team members stated that equipment had been calibrated. Documentation of calibration, such as calibration stickers or cards, should be provided with the equipment.

c. Field Team Technical Operations:

The team was adequately trained in making measurements, taking samples, radio communications, exposure control, and were technically competent. The procedures provided were thorough and easy to follow. The team was proficient at taking air samples. They did not leave the plume to take background readings. Even though a single channel analyzer is used, the compton scattering from Noble gases will increase the background in the region of the 364 KeV iodine peak. The team should either leave the plume to count the sample or shielding should be provided for counting in the plume. The teams did have some minor difficulties locating some of the sampling points but they eventually did complete all assignments.

d. Field Team Communications:

The communications went smoothly. At times there was some radio broadcast breakup due at least in part to the weather. Overall they could communicate with all parties, as necessary, with adequate backup communications available to them.

e. Field Team Exposure Control:

All team members were provided with both pencil dosimeters and TLD's. They were well trained in exposure control procedures.

f. Scenario (as it relates to field monitoring):

During this exercise, controllers were not available. It was then necessary for players to have field data available to them. This created a lax attitude on the part of the field teams and their controller since they were aware of where the plume was going and when. Future exercises will provide better training if participants are not aware of the scenario content.

4. Joint Press Information Center (JPIC):

a. Activation and Staffing:

The State Plan provides for the activation of the JPIC upon the declaration of "Site Area Emergency." Because of the extended travel time to the JPIC, a response cadre, including a PIO, is dispatched at the time of the "Alert." For this exercise, the State JPIC staff of one Information Officer (IO) and two support personnel were prepositioned. A roster was presented to show extended staffing capability. Columbiana County staffed the JPIC "real time" with their Information Officer arriving at 11:15 a.m.

In addition to the utility, Pennsylvania; West Virginia; Beaver County, Pennsylvania; and Hancock County, West Virginia were represented at the JPIC.

b. Facilities:

The Duquesne Light Company Western District Headquarters at Aliquippa, Pennsylvania, serves as the Joint Press Information Center (JPIC). There is adequate working space and facilities for the governmental and utility information officers as well as the press.

The Joint Press Information Center (JPIC) is located within the 10 mile EPZ and was relocated (simulated) to the Corporate Headquarters in Pittsburgh following evacuation orders issued by Pennsylvania.

c. Communications:

The Ohio information staff had commercial telephone capability to the State Office, the county office, and the ERF (EOF). Conference and telecopier facilities were available and used.

Radio to the State mobile van served as the backup system. This link (radio) was maintained throughout the exercise.

d. Informational Functions:

Media kits from the utility and Ohio were provided press representatives when they arrived at the Center. Eight briefings were held with the first at 11:00 a.m. to announce "Site Area Emergency" and the final at 4:55 p.m. to announce the exercise termination. The material presented at the briefings was clear and complete. Hard copy was available. Utility personnel monitored commercial radio and TV to assure the correctness of the material being broadcast.

The various information officers exchanged information among themselves and coordinated all material to be presented at the briefings. Maps, displays, and other briefing tools were available in the briefing room and were used as required.

e. Public Instruction:

Emergency instructions for the public were prepared at the county EOC and communicated directly to the emergency broadcast stations. The JPIC staff included this material in their media briefings.

f. Rumor Control:

Rumor control was not activated at the State level although the phone number was included in the media kits and in the press releases issued at the JPIC.

During the pre-exercise briefing, the State clarified the exercise objective to indicate that they were not going to demonstrate rumor control at the State level, except to show that there is a telephone available for this purpose. Based on this clarification, rumor control was not evaluated at the State level.

g. Scenario (as it relates to the JPIC):

The scenario was sufficient to activate the various operating aspects of the JPIC.

B. Columbiana County:

1. Emergency Operation Center (EOC):

a. Activation and Staffing:

The exercise scenario depicted a loss of coolant at the Beaver Valley Nuclear Power Station about 7:05 a.m. By 11:07 a.m.

the problem had escalated to a "Site Area Emergency" which, according to the county plan, necessitated the full activation of the county emergency operating center. Staff mobilization procedures were implemented and the EOC was fully staffed by 12:27 p.m. with the organizational representative called for by the plan.

With the exception of the Fire Services, the organizational representatives that comprised the EOC staff were double staffed for training purposes, as well as to demonstrate the capability to provide around-the-clock emergency response. All the organizational representatives demonstrated appropriate emergency response procedures reflecting extensive prior training.

Although a county representative is not dispatched to the utility's EOF, the executive group maintained a coordination with the status of the emergency via telephone contact with the facility.

b. Emergency Operations Management:

Due to the resignation of the Director of Columbiana County Disaster Services Agency, David Halverstadt, President of the County Board of Commissioners, assumed that role as well as Executive Director. As the emergency response staff reported for duty at the EOC, he ensured that they were promptly briefed on the status of the emergency to enable their immediate involvment in the exercise.

Each of the organizational representatives had standard operating procedures at their station which pertained to their area of responsibility. Messages were logged in and distributed to the appropriate staff members.

The Executive Board carefully reviewed the various incidents of the emergency and collectively arrived at decisive actions to be taken by the emergency response organizations.

The Director initially received notification of an "Alert" status at the Beaver Valley Nuclear Power Plant on or about 8:15 a.m. the day of the exercise and notified the appropriate emergency response staff members of this situation. Upon the escalation of the incident at the plant to the "Site Area Emergency", he initiated actions according to the plan to fully activate the EOC. It took approximately 66 minutes from the declaration of a "General Emergency" until the sirens were activated to alert the public.

When the incident escalated to the "General Emergency" about 1:24 p.m., the Columbiana County Executive Board reached a timely protective action decision and began coordinating the activation of the siren and EBS system with the other two (2) counties. Columbiana County, during this coordination process, was trying to honor an agreement to have a simultaneous

sounding of the sirens in all three (3) counties for an independent survey being conducted of that system during the exercise. Actual sounding of the sirens required approximately 55 minutes because Beaver County received late protective action recommendations from Pennsylvania and needed additional time to coordinate with their many municipalities. Although Columbiana County was prepared to activate the system independent of the other counties, a simultaneous sounding of the sirens in all three (3) counties is desireable. This problem which affects the safety of the population of all counties and municipalities, will require the immediate resolution of all those organizations responsible for coordinating and implementing protective actions. FEMA Region III will be notified of our concern and requested to provide guidance and assistance in reaching this prompt solution.

c. Facilities:

The one-time school that now houses the daily functions of the Columbiana County Disaster Services Agency also provides the rooms necessary for the emergency operations center. The facility has the basic amenities necessary to support the emergency response staff. The poor acoustics in the executive room, as well as the old gym that is used by the main body of the staff, detracted from the ability to hear briefings and use the telephones at times. The ventilation in the entire building is poor due to the windows being boarded up for security purposes. The very small room used as the communications function has virtually no ventilation since the air-conditioning unit has been removed.

Emergency status titles depicting the various emergency classification levels, as well as the emergency statusboard, were conspicuously posted. The emergency staff had use of display maps depicting evacuation routes, care centers, traffic control points, radiological monitoring points, population by evacuation areas, as well as other information that may be used in determining appropriate emergency responses.

d. Communications:

The County EOC uses telephones as their primary means of communications with State, County, utility and other support organizations. With the exception of the media center and hospital, the radio systems in the EOC serve as the back-up.

A datafax system tied into the Joint Press Information Center provides hard-copy news releases to the Executive Board in approximately four (4) minutes.

Telephone conferencing capability in the executive board room was evidently malfunctioning because it was extremely difficult to hear the incoming caller. Further, it was reported that some people involved in the conference interrupted conversations to the point of interferring with an orderly, coordinated process. The malfunctioning conference telephone should be repaired and procedures established to ensure a more orderly coordination process over the conference net.

e. Dose Assessment and Protective Action Recommendations:

The Columbiana County executive board received the protective action recommendations from the State and the utility and expediently reached a conclusion of the actions they initiated for their county to include activation of the siren system and EBS broadcasts. Implementation of these actions were delayed pending the lack of a timely decision in Pennsylvania.

f. Public Alerting and Instruction:

The county coordinated activation of the siren system, as well as the EBS system, with the two neighboring counties. The sirens were sounded at 2:30 p.m., followed by an actual test emergency message over the local EBS station.

Emergency public instruction to the residential population was provided, yet very little, if any, instructions were directed to the transient population engaged in recreational activities, such as camping, boating, fishing, or otherwise in public use facilities (motels, restaurants, stores, etc.).

g. Protective Actions:

According to the Ohio Highway Patrol and Sheriff's representative, the evacuation points where Route 267 bisects Route 30/11 and where Route 425 bisects Route 518 will be appropriately controlled to preclude confusion of the evacuation flow at these points. The Ohio Highway Patrol has the personnel, vehicles, to include helicopters, to monitor all points of the evacuation routes.

Although the mobility impaired people were not actually transported during this exercise, the emergency staff indicated that all of the people that have made their special needs known have been identified and lists supplied to the appropriate organization assigned to provide this support. Annual mailings are made to the general public providing them with emergency response information, as well as a card that can be sent to the county identifying any special needs requested by the mobility impaired.

h. Radiological Exposure Control:

The county has a supply of low-range (0-200 MR), mid-range (0-20 R), and high-range (0-200 R) dosimeters on hand for emergency workers. The emergency workers, according to the State representative, have completed a basic radiological emergency response course which includes proper use of dosimetry. Upon issuance of dosimeters during emergencies, they are provided record cards for recording readings, as well as provided oral instructions in the use of these instruments.

i. Media Relations:

The news media was allowed access to the EOC toward the end of the exercise. This provided an opportunity for the press to not only obtain information relative to the exercise but to acquaint them with the overall emergency response procedures of the county.

j. Recovery and Re-entry:

Recovery and re-entry procedures were not called for in the exercise scenario and, therefore, were not demonstrated.

k. Scenario:

The scenario provided an opportunity to demonstrate the emergency response procedures described by the exercise objectives. The State introduced exercise problems during the exercise that depicted realistic emergency situations that may occur in addition to the incident at the plant.

2. Assembly Area and Congregate Care Center:

a. Activation and Staffing:

The volunteers at West Point were trained and knew the procedure of decontamination, however, they were not familiar with the next area and step of the process the evacuees were to follow upon decontamination. They had the proper forms and equipment to complete these tasks.

The Hanoverton Fire Department had a ten (10) man team at the United Union School. They were well trained and had a good knowledge of the procedures to which they were assigned. They were, however, in the wrong building of the school complex. During the briefing the night before the exercise their instructions were to use the rear gym building.

The Red Cross plan was effective and the knowledge of the procedures was thorough. They had all the forms and basic equipment to operate the center.

b. Registration and Monitoring:

The school was large enough so there were separate areas for male and female. In addition, there were areas that could be used as alternate areas. Decontamination, registration, shelter, feeding, and medical areas were separated.

There was a communications problem in that the Hanoverton Fire Department (HFD) had been told to use a building on the south end of the school complex. This building would have been best utilized as an additional or alternate area. The Red Cross had set up in the main building and had designated all areas to be used. As soon as it became apparent that they were not using the same building, both groups arranged to utilize one area and coordinate their efforts.

c. Congregate Care:

The care center was adequately designated and staffing, as well as equipment, were either available or were at designated areas. The food, cots, and blankets were not on site, but could be transported to the site in 30 minutes. In the case of actual disaster, supplies would have been transported from Salem, Ohio. Local police for security arrived three minutes after requested.

There were no significant problems and the groups assigned were compatible and had very good knowledge of their assignments.

d. Scenario (as it relates to the Assembly Area and Congregate Care Center):

The scenario was not as active as the groups would have liked it to be. There should have been evacuees for both monitoring and registration.

Both groups (HFD and Red Cross) are well trained and were able to explain the procedures and use of all equipment they use. Their participation indicated the readiness of both groups.

3. Decontamination:

The Negley Fire Department activated a decontamination and monitoring facility not far from the fire station. The primary function of this facility was to decontaminate emergency workers and their vehicles and secondly to monitor the vehicles of evacuees

enroute to the assembly area. The evacuees' vehicles were not decontaminated but marked to indicate if it was contaminated or free of contaminates. The staff operating this facility were uncer-ain which vehicles were classified as emergency vehicles from those classified as belonging to evacuees. As a part of activating this station, the staff set up and checked their detection equipment, reviewed their standard operating procedures, and generally prepared for the operation of the facility.

Emergency response vehicles were decontaminated at the rear of the station by washing them down with a garden hose. It is possible that, if a large number of vehicles had to be washed down in that location, the contaminated water could run down the roadway toward a home. An alternate solution may be to wash vehicles on the grass section in front of the facility where contaminated water could be controlled more easily. The overall decontamination and monitoring capability could be inhibited by the lack of sufficient staff and a facility that was too small to process large numbers of people and vehicles.

The decontamination of personnel could not be accomplished in this facility because a shower for this purpose has not been installed. The anticipated location of the shower facility should be carefully examined to ensure that, once the person is decontaminated, he does not exit into a contaminated area.

4. Route Alerting:

The public address system on the ambulance, which was used for alerting, was checked as soon as the firemen arrived at the station. It was demonstrated again on the route by broadcasting a radio transmission through it. The speed at which they would drive and the message used was practiced and demonstrated enroute. The message used was concise and contained appropriate emergency information. The firemen felt a second trip would be necessary, at which time they would look for "We have been notified" signs in the windows and go to the doors of homes that did not have the signs. They also consulted their lists of homes of people who had hearing, eye, or other disabilities so they could get special attention. Although it is a very difficult route, they were familiar enough with the route to complete the alerting. The first attempt at covering the route was interrupted by an ambulance call. The Chief at Negley notified the EOC of this and requested additional manpower for his station. Two extra men were sent from the East Palestine Fire Department but there was some delay in getting them there. The County EOC advised the Negley Fire Chief that the route alerting procedures should be completed in a more expedient manner. The Chief indicated that insufficient

personnel resources existed. Route alerting waited until East Palestine arrived. Additional manning is needed at this station.

a. Exposure Control:

After all the units were calibrated, each worker was issued three CDV-742 dosimeters. A form for recording readings was given to each individual and its proper use was reviewed. While out on route alerting, they recorded their reading when entering the EPZ, every 30 minutes thereafter, and when leaving the EPZ. Without referring to the SOP's, they knew what dose they must report to their supervisor (1.5 MR). There was a question of who their supervisor was, their Chief or the Fire Department Coordinator at the EOC. They also knew what the maximum permissible dose was (25 R). Since this was also a decontamination station, they were aware of where to go for this procedure. KI kits are not approved by the State of Ohio, therefore, were not applicable at this time.

b. Scenario (as it relates to Route Alerting):

The scenario allowed for a demonstration of the decontamination procedures at the Negley Fire Department. It could have been improved by processing more people through to provide more of a challenge to that particular staff. Perhaps the State and county officials could arrange for more vehicles to be processed the next time there is a demonstration of this function.

5. Medical Support (East Liverpool, Ohio, City Hospital):

a. Communications:

The hospital has telephone and radio communications available. The telephone interconnects the hospital with other non-medical organizations. The radio links the hospital with one of two local ambulance companies. A radio system also links this hospital with a medical network that is regional in scope.

b. Hospital Facilities and Procedures:

The emergency response capability of the City Hospital was observed during this exercise. At approximately 9:27 a.m., a patient walked into the emergency room asking for a staff member. This person walked through the ER lounge and into the hallway leading to the examining room. At that time, it was determined that the individual believed he was potentially contaminated although not physically injured.

The nurse in charge contacted the hospital President, Vice President of Nursing, and housekeeper to activate their emergency plan. By 9:55 a.m., the hospital staff and hospital facility were ready to begin the decontamination by showering the patient in a nearby room. The following activities had been completed in approximately 15 minutes.

(1) The hallways from the patient to the shower were covered in plastic.

(2) Towels were placed in the shower room.

(3) A tape marked off the shower room into a "hot" and "clean" side.

(4) Air vents were closed.

(5) Security closed off the contaminated areas where the patient had been walking and rerouted other emergency room activities.

(6) Plans were made to remove carpeting where the patient had walked.

(7) Four staff members were covered in protective clothing and equipped with dosimeters and survey probes. This team included one physician, one nurse, one specialist in nuclear medicine, and one housekeeper. One staff member from housekeeping did not have a dosimeter.

During this 15 minute setup period, the emergency team had performed a survey of the individual and had located several areas of beta surface contamination. Nose swabs were not taken. Appropriate cards on the readings and location of the contamination were completed.

The patient was then moved to the shower at 9:55 a.m. for supervised washings. While this was being done, three additional housekeepers were dressed in protective clothing and they surveyed and cleaned the plastic from the hallway. Following decontamination, the patient and each of the staff were surveyed again. Protective clothing was carefully removed and proper procedures were in place to allow the patient and staff access to the clean side of the room. All contaminated clothing and floor plastic were placed in an enclosed container. Before leaving the clean side of the shower room, the dosimeters were read and patient and seven staff were surveyed again by the hospital radiological specialist. Some irregularities were observed when several staff members would step back into the "hot" area while removing the clothing.

The physician in charge ordered blood tests on the patient and a nose swab, however, there was some question of where samples would be sent to for radiological analysis and the turnaround time for results. The patient would be retained for observation.

The hospital staff was well prepared and appeared committed to learning and participating in the drill. The staff demonstrated a team effort and a rapid response time. However, the team did not include a health physicist.

c. Ambulance Facilities and Procedures:

Ambulance facilities and procedures were not an exercise objective to be demonstrated during this exercise and, therefore, was not evaluated.

d. Scenario (as it relates to hospital support):

The scenario lacked realism by not providing an explanation of how and why the patient arrived at the hospital. The handling of the individual and implementation of the protective actions guides (PAG's) was expected to reflect the standard procedures for any contaminated individual.

6. Field Activity (Traffic Control):

a. Traffic and Access Control:

The traffic control point at Newell Bridge, East Liverpool, Ohio, was activated at 8:45 a.m. by a East Liverpool police officer. His squad car appeared to be the barricade. The officer stated that the West Virginia side of the bridge would be controlled by the West Virginia State Police.

This officer was well informed on alternative evacuation routes in East Liverpool and the locational needs of traffic control points for selected routes. This officer was also aware of the locations of the reception and decontamination centers where the evacuees could be directed. The officer had just begun his station after being dispatched from the City Hall police station. He was in radio communication with the dispatcher and was able to communicate with other squad cars. SOP requires that the traffic control points be updated on the emergency situation in order to be effective. The officer would call in concerning his dosimetry readings above a level of 1 MR per hour.

b. Special Evacuation Problems:

Special evacuation problems were not an exercise objective and, therefore, not demonstrated during this exercise.

c. Route Alerting:

Route alerting was not an exercise objective and, therefore, not demonstrated during this exercise.

d. Worker Exposure Control:

The city police officer at the traffic control point was equipped with a high, medium, and low level dosimeter. A charger was also available in his car. Dosimeters and chargers were distributed by the police dispatcher and record cards were provided by the East Liverpool EOC Health Officer. The officer was asked to calibrate his dosimeters before leaving and to read and record them every 30 minutes. Upon reading them for the observers, the officer observed that the 0-200 MR dosimeter was reading 18 MR. The officer believed that there was an error and that the dosimeter had been bumped.

The officer was aware of procedures for reporting a dose level beyond the maximum allowable dose. He knew the dose levels, the locations of decontamination centers, and procedures when decontamination would be required.

e. Scenario (as it relates to the field activity, traffic control):

The scenario was realistic for causing the demonstration of a traffic control point. The demonstration could not be timed to correspond with the scenario activities that call for the activation of traffic control points.

C. City of East Liverpool, Ohio:

Although the City of East Liverpool coordinates their emergency response procedures with Columbiana County and supports that county during emergencies, they operate a separate emergency operations center (EOC). For this reason, this report treats this facility (EOC) as a separate evaluation apart from the county evaluation in an attempt to reflect this difference. Since it is a municipality, the State need not respond to FEMA relative to deficiencies found during the exercise unless it relates to the implementation of the county emergency response procedures in an adverse manner.

1. Activation and Staff:

This EOC was activated after the Police Dispatcher received notification of an "Alert" from the County Sheriff's Department (8:28 a.m.). The City Safety Director then proceeded to verify this call. Additional staff members were then notified by the police using a current system, which included the mayor, police, fire, and utility department heads. These individuals, in turn, notified their key individuals who were to report to the EOC. Staffing was completed at 8:45 a.m. and reflected the staff listed in the EOC plan.

When a "General Emergency" was declared, all city employees would be required to report to the EOC. This activity was simulated because it would have involved 132 individuals. Prior to the "General Emergency," all police and fire staff were placed on standby status.

A procedural problem occurred with the SOP for notification of the emergency status to the East Liverpool EOC. The SOP for the "Unusual Event," "Alert," and "Site Area Emergency" levels was by notification from the County Sheriff to the East Liverpool police dispatcher. All of these notifications were verified by the EOC staff. The notice for the "General Emergency" was received by telephone to the Police Chief from the City Liaison at the county EOC. This liaison reported the change in emergency level, as well as the verification action to the police chief. This change in procedure produced some confusion for the East Liverpool EOC staff. Even though the EOC staff was told that verification was completed by the liaison, the staff called the county for a second verification.

It has been suggested by the East Liverpool EOC officials that the notification system could be improved.

2. Emergency Operations Management:

The Mayor was effectively in charge of the East Liverpool EOC and was assisted by the Safety Director and his assistant. Periodic briefings were held to update the staff on the status of the situation. Staff members worked well together and decision making was appropriate. Staff members frequently utilized the county plan and checklists. EOC and departmental message logs were maintained and messages were distributed as necessary. Message recording on the status board was performed by volunteers who promptly processed the numerous entries. Additional staff was required by the Mayor and he requested National Guardsmen.

The time between the utility recommendation to shelter and the county recommendation to shelter was lengthy (1:55 p.m. versus 2:35 p.m.). The siren notification and EBS message were also not closely tied to the notification of the "General Emergency" (2:27 p.m. versus 1:24 p.m.). However, it should be noted that siren activation was controlled by the county and that the city is unable to use these sirens.

3. Facilities:

The EOC facility was small in size and disbursed among several rooms with connecting corridors. This room complex was located in the City Hall Police Department, which is situated in the basement. Access was by stairway and security to this area was easily maintained.

While the furniture, lighting, and noise control were adequate, the working space was cramped and the number of available telephones was limited. The functional operation of the EOC could be improved by a better layout, additional phones, and movement of the EOC operations to another area in the City Hall. The City Hall building and fire building two blocks away could support the extended operations. A portable generator was available, although it was not demonstrated.

All of the appropriate status boards and maps were available and posted. The appropriate maps were placed on the wall of the inner office and the status board was in the most outer office. Consequently, the staff had to come out to inspect the message updates. This status board contained detailed messages on the event and the EOC emergency response messages with their liaison in the Columbiana County EOC. This board served as a constant reference for the EOC staff and the out-of-the-way location eliminated some congestion that would have occurred in the inner offices.

4. Communications:

The primary communication system was the commercial radio. General phone lines, as well as special lines, to select EOC officers were also available. The radio system available to both the police and fire departments served as one backup. In addition, the Triangle Amateur Radio Club was in place in the EOC to provide a secondary backup system. The telephone and radio backups interconnected the East Liverpool EOC with the county EOC, other EOC's, the State, JPIC, EBS stations, and local schools. Conferencing capabilities were available on the commercial telephone lines. A hard copy device was available in the EOC building for duplicating messages.

This system was efficient and the quality of both the primary and secondary radio systems was excellent. The functioning of the total system was also maintained by a calling check that duplicated messages being sent through the police dispatcher in the city EOC. The East Liverpool EOC liaison in the county EOC also directly called the police and/or fire chief at a special number in the EOC. This message from the liaison was recorded in the police or fire chief's calling log. This log was periodically checked for consistency against the messages received by the police dispatch and posted on the status board.

However, the content of some of the messages received by the East Liverpool EOC was unclear. These messages were transmitted from the county EOC and the topics concerned information on radiological doses. This information was transcribed on the status-message board. One message said a dose was 500 mph and 1/3 of an R. This did not make sense and clearly indicates that the person recording the message was not trained in the use of radiological symbols. Better coordination is needed on transmittal of dose information in an acceptable manner. In addition, the radio backup by the Triangle Amateur Radio Club could be improved by making the county EOC ham operator part of the information logs.

5. Dose Assessment and Protective Action Recommendations:

Dose assessment and protective action recommendations are not a responsibility of East Liverpool, Ohio, and, therefore, was not evaluated.

6. Public Alerting and Instruction:

The East Liverpool EOC demonstrated a limited aspect of their public alerting capabilities. Phone calls were made to two local schools and nine medical institutions (hospitals, nursing homes, and ambulance companies). Notifications were made at each emergency action level above an "Unusual Event." Notifications were completed approximately one-half hour after the EOC was contacted and the emergency action level change was verified. The EOC received notification of the "Unusual Event Alert" and "Site Area Emergency" levels from the County Sheriff's Dispatcher through the City Police Dispatcher. The notification for the "General Emergency" was received by the Police Chief from the City EOC liaison at the County EOC.

The expected public response to EOC alerting activities was (in part) controlled by the information packet that had been sent to local residents. The information packet was sent out by the county and coordinated with the city. The data generated

by the special needs card would be sent on to the city. Moreover the green "I have been notified" notice card would be placed in windows of evacuated houses. This would be expected and understood by local city police and fire department personnel making notifications.

7. Protective Action:

Traffic control points were demonstrated by the activation of one point. This point was discussed in further detail in the field activity module. In an actual emergency, the EOC staff believed that current equipment and staff were sufficient for functions anticipated.

Special evacuation problems involving institutional individuals were demonstrated. Local hospitals, nursing/homes, and ambulance services were called and informed of the emergency situation. These institutions were requested to inventory patients needing ambulance assistance and this information was tabulated by the East Liverpool Health Officer. Ambulance services were also inventoried to determine available vehicles and capacities. The EOC Health Officer maintained these records in the event that the residents of this community were evacuated.

Moreover, the EOC staff maintains a current list of non-institutionalized individuals that may need special care in an evacuation.

8. Radiological Exposure Control:

The dosimetry equipment available in the city EOC included high, medium, and low level dosimeters, a charger, and recordkeeping cards. TLD's were not observed. The supply was adequate for the number of staff present at the alert stage. However, dosimetry was not sufficient for the staff that would be activated at the "General Emergency" level. The Health Commissioner called the County Medical Officer at 12:08 p.m. and requested additional dosimeters. These additional dosimeters would be disbursed from the East Liverpool EOC. Some dosimeters and probes were already in place at the police and fire dispatch locations.

The EOC Health Commissioner was responsible for coordinating all recordkeeping cards and tracking exposure levels. He was aware of the maximal allowable dose for emergency workers and decontamination procedures. He demonstrated sufficient training for coordinating exposure control at the city level.

However, the EOC staff experienced some problem in obtaining consistent information on the preferred decontamination center

for a truck driver scenario problem. This problem involved reception of coordinated information from the county EOC to the ham radio operator, fire chief, and Health Director at the East Liverpool EOC. The source of this confusion did not originate within the East Liverpool EOC. The problem seemed to be in the logistics at the county in managing the activation and operation at the decontamination centers.

9. Media Relations:

During this exercise, a special area was not designated for the press or other media. However, a television crew did visit the EOC and some of the staff were questioned. The Mayor stated that a formal press area would be established if this need were sustained on a long-term basis.

A rumor control number (1-800-282-7310/216-426-6807) would be given to interested parties that contacted the East Liverpool EOC staff by phone or visit to this EOC.

10. Recovery and Re-entry:

Recovery and re-entry procedures were not an exercise objective and, therefore, not demonstrated during this exercise.

11. Scenario (relative to the East Liverpool EOC):

The scenario was well designed in terms of the scheduling of EOC activity responses. The EOC staff remained busy throughout the exercise and the input from the State controller provided diverse problems for the staff to solve.

PART IV

SUMMARY LISTINGS OF

DEFICIENCIES

Ohio
(State)

Exercise Beaver Valley
Summary Listing of Deficiencies
Category A Deficiency Affecting Public Health and Safety

June 27, 1984
(Date)

(Community)

NUREG Item	Narrative Statement of Deficiency	Corrective Action Proposed	Scheduled Date	Actual Date
	None			

Ohio (State) | Exercise: Beaver Valley | June 27, 1984 (Date)

Summary Listing of Deficiencies

B Other deficiencies

(Community)

NUREG Item	Narrative Statement of Deficiency	Coorective Action Proposed	Scheduled Date	Actual Dat
E6	Exercise Objective Number 13 (Reference NUREG 0654 Criteria E5, E6). "Demonstrate the ability to alert the public within the ten (10) mile EPZ and disseminate an initial instructional message within 15 minutes. Columbiana County, based on State recommendations, alert the public. It took approximately 66 minutes after the declaration of the "General Emergency" until the sirens were sounded in all three (3) counties. Although Columbiana County had reached a timely protective action decision, they were trying to ensure that a simultaneous sounding would be implemented for an independent survey being conducted of that system. The actual activation required approximately 55 minutes because of Pennsylvania's untimely protective action recommendations to Beaver County and that county's need for additional time to notify their many municipalities. Although Columbiana County was prepared to activate the public alert and notification system independent of the other two (2) counties, a simultaneous activation is more desireable. It was generally felt that the coordination system used by all those organizations responsible inhibited a timely implementation process. This discrepancy, if repeated during a real emergency, would impede the ability to provide prompt emergency instructions to the public. The deficiency is placed with the State and County, for it is necessary for all those organizational representatives in Ohio, Pennsylvania, and West Virginia to devise a more efficient coordination system. Ohio should provide the necessary guidance and assistance to the county in correcting this problem.			

Ohio (State)

(Community)

Exercise Beaver Valley
Summary Listing of Deficiencies

June 27, 1984 (Date)

B. Other deficiencies

NUREG Item	Narrative Statement of Deficiency	Corrective Action Proposed	Scheduled Date	Actual Date
G.4.c	There seems to be an operational and/or procedural problem involved with the use of the dedicated phone system between the States, Counties, and the Utility. This phone is presently located in the Radiological assessment room.			

Ohio
(State)

Columbiana County
(Community)

Beaver Valley
Exercise

June 27, 1984
(Date)

Summary Listing of Deficiencies

Category A Deficiency Affecting Public Health and Safety

NUREG Item	Narrative Statement of Deficiency	Corrective Action Proposed	Scheduled Date	Actual Date
None				

Ohio
(State)

Exercise Beaver Valley
Summary Listing of Deficiencies
B Other deficiencies

(Date)

Columbiana County
(Community)

NUREG Item	Narrative Statement of Deficiency	Coorective Action Proposed	Scheduled Date	Actual Date
E5 E6	Inability to alert the public within the ten (10) mile EPZ and dissemtnate an initial instructional message within 15 minutes after the declaration of a "General Emergency". It took approximately 66 minutes from the declaration of a "General Emergency" until the sirens were activated to alert the public. When the incident escalated to the "General Emergency" about 1:24 p.m., the Columbiana County Executive Board reached a timely protective action decision and began coordinating the activation of the sirens and EBS systems with the other two (2) counties. Columbiana County, during this process, was trying to honor an agreement to have simultaneous soundings of the sirens in all three (3) counties for an independent survey being conducted of that system during the exercise. Actual sounding of the sirens required approximately 55 minutes because Beaver County received late protective action recommendations from Pennsylvania and needed additional time to coordinate with their many municipalities. Although Columbiana County was prepared to activate the system independent of the other counties, a simultaneous sounding of the sirens in all three (3) counties is desireable. Although the county has no prior record of untimely implementation of protective actions, a more efficient coordination system should be implemented to provide for more timely emergency response procedures. It is recommended that all the organizations responsible for the coordination of emergency response procedures collectively divise a more efficient system. Ohio should provide the necessary guidance and assistance to the county in achieving this system.			

Ohio (State)

Exercise Beaver Valley
Summary Listing of Deficiencies

June 27, 1984 (Date)

Columbiana County (Community)

B. Other deficiencies

NUREG Item	Narrative Statement of Deficiency	Corrective Action Proposed	Scheduled Date	Actual Date
K5 a,b	The Negley Fire Department staff operating the decontamination/monitoring station were uncertain which vehicles were classified as emergency vehicles or evacuation vehicles. This indicates a lack of sufficient training. An additional deficiency relates to the absense of a shower to decontaminate personnel.			

ATTACHMENTS

II-6-1	The State of Ohio and Columbiana County Exercise Objectives
II-7-1	Off-site Scenario
II-7-2	Westinghouse Idaho Nuclear Company, Inc. Off-site Scenario Review

ATTACHMENT II-6-1

THE STATE OF OHIO AND COLUMBIANA COUNTY

EXERCISE OBJECTIVES

Federal Emergency Management Agency

Region V 300 South Wacker, 24th Floor, Chicago, IL 60606 (312) 353-1500

MAY 22 1984

MEMORANDUM FOR: Beaver Valley Nuclear Power Plant Off-Site REP Exercise Evaluators

FROM: for Dan Clement
Wallace J. Weaver, Chairman
Regional Assistance Committee

SUBJECT: Objectives for the Beaver Valley Exercise

As a result of the objectives meeting held in Negley, Ohio, on April 25, 1984, the State of Ohio has amended the objectives for the Beaver Valley exercise.

Attached is a revised Attachment D to your Beaver Valley Exercise Evaluation Instructions dated May 11, 1984. This revised Attachment D consists of exercise objectives for the State of Ohio and Columbiana County, as well as those provided by Duquesne Light Company.

Do not hesitate to contact me if you have any questions.

Attachment

STATE OF OHIO
ADJUTANT GENERAL'S DEPARTMENT
2825 WEST GRANVILLE ROAD
WORTHINGTON OHIO 43085

DISASTER SERVICES AGENCY

COPY

AGOH-DS

May 11, 1984

Mr. Edward J. Roche
Regional Director
Federal Emergency Management Agency
Region V
300 South Wacker Drive
Chicago, IL 60606

Dear Mr. Roche:

As a result of the objectives meeting held in Negley, Ohio on April 25, 1984, attended by Wallace Weaver of your staff, the State of Ohio wishes to amend the objectives for the 1984 Beaver Valley exercise. I have enclosed the revised list of objectives for Ohio and Columbiana County, as well as those provided by Duqusne Light Company.

If further clarification of any activities scheduled is needed, please contact Mr. Kenneth Cole of my staff at (614) 889-7157.

FOR THE DIRECTOR

RICHARD M. LOCKHART
Deputy Director

KBC:kjs

Encls: BVNPS 1984 Ohio Objectives
BVNPS 1984 Columbiana County Objectives

cc: Mr. Wallace Weaver,
Chicago, IL
Mr. Bob Shapiro,
Battle Creek, MI

BEAVER VALLEY 1984 EXERCISE

COLUMBIANA COUNTY

OBJECTIVES

OBJECTIVES	CORRESPONDING PART(S) OF FORM	NUREG-0654
1. Demonstrate ability to mobilize staff and activate facilities promptly.	EOC Sec. I EOF Sec. I MEDIA Sec. I RELOC Sec. I FM Sec. I	E.1, E.2
2. Demonstrate ability to fully staff facilities and maintain staffing around the clock.	EOC Sec. I EOF Sec. I MEDIA Sec. I RELOC Sec. I	A.2.a, A.4
3. Demonstrate ability to make decisions and to coordinate emergency activities.	EOC Sec. II	A.1.d, A.2.a
4. Demonstrate adequacy of facilities and displays to support emergency operations.	EOC Sec. III EOF Sec. II	G.3.a, H.2, H.3
10. Demonstrate ability to implement appropriate protective measures, based on PAG's, available shelter, evacuation time estimates, and all other appropriate factors.	EOC Sec. V EOF Sec. XI	I.10, J.10.m
13. Demonstrate ability to alert the public within the 10-mile EPZ, and disseminate an initial instructional message, within 15 minutes.	EOC Sec. VI FA Sec. III	E.6
14. Demonstrate ability to formulate and distribute appropriate instructions to the public, in a timely fashion.	EOC Sec. VI	E.5
15. Demonstrate the organizational ability and resources necessary to manage an orderly evacuation of all or part of the plume EPZ.	EOC Sec. VII.A FA Sec. I	J.9, J.10.g

OBJECTIVES	CORRESPONDING PART(S) OF FORM	NUREG-0654
16. Demonstrate the organizational ability and resources necessary to deal with impediments to evacuation, as inclement weather or traffic obstructions.	EOC Sec. VII.A FA Sec. I	J.10.k
17. Demonstrate the organizational ability and resources necessary to control access to an evacuated area.	EOC Sec. VII.A FA Sec. I	J.10.j
20. Demonstrate ability to continuously monitor and control emergency worker exposure.	EOC Sec. VIII	K.3.a, b
24. Demonstrate ability to brief the media in a clear, accurate and timely manner.	EOC Sec. IX MEDIA Sec. IV	G.3.a, G.4.a
25. Demonstrate ability to provide advance coordination of information released.	EOC Sec. IX MEDIA Sec. IV	G.4.b
26. Demonstrate ability to establish and operate rumor control in a coordinated fashion.	EOF Sec. II MEDIA Sec. VI	G.4.c
27. Demonstrate adequacy of procedures for registration and radiological monitoring of evacuees.	RELOC Sec. II	J.12
28. Demonstrate adequacy of facilities for mass care of evacuees.	RELOC Sec. III	J.10.h
29. Demonstrate adequate equipment and procedures for decontamination of emergency workers, equipment and vehicles.	DECON all	K.5.a, b

BEAVER VALLEY 1984 EXERCISE

OHIO

OBJECTIVES

It should be noted that Ohio will only participate partially in this exercise. Therefore, the Assessment Group, Monitoring Teams, Communications Group, and Public Information Group will be the only EOC/drill functions demonstrated during the exercise.

OBJECTIVES	CORRESPONDING PART(S) OF FORM	NUREG-0654
1. Demonstrate ability to mobilize staff and activate facilities for Dose Assessment, Communications, Field Monitoring and Public Information.	EOC Sec. I ECF Sec. 1 MEDIA Sec. I RELOC Sec. I FM Sec. 1	E.1, E.2
3. Demonstrate ability to make decisions and to coordinate emergency activities.	EOC Sec. II	A.1.d, A.2.a
4. Demonstrate adequacy of facilities and displays to support emergency operations.	EOC Sec. III EOF Sec. II	G.3.a, H.2, H.3
5. Demonstrate ability to communicate with all appropriate locations, organizations, and field personnel	EOC Sec. IV EOF Sec. III MEDIA Sec. III RELOC Sec. III FA Sec. I, II FM Sec. IV	F
6. Demonstrate ability to mobilize and deploy field monitoring teams in a timely fashion (as noted in #5).	FM Sec. I	E.2, I.8
7. Demonstrate appropriate equipment and procedures for determining ambient radiation levels.	FM Sec. II, III	I.8, I.11
8. Demonstrate appropraite equipment and procedures for measurement of airborne radioiodine concentrations as low as 10^{-7} uCi/cc in the presence of noble gases.	FM Sec. II, III RADLAB Sec. I, II	I.9

OBJECTIVES	CORRESPONDING PART(S) OF FORM	NUREG-0654
9. Demonstrate appropriate equipment and procedures for collection of samples of soil, vegetation, and water. Samples will be collected, but not transported to labs.	FM Sec. II, III RADLAB Sec. I, II	I.8
10. Demonstrate ability to project dosage to the public via plume exposure, based on plant and field data, and to determine appropriate protective measures, based on PAG's available shelter, evacuation time estimates, and all other appropriate factors.	EOC Sec. V EOF Sec. XI	I.10, J.10.m
13. Demonstrate ability to alert the public within the 10 mile EPA, and disseminate an initial instructional message, within 15 minutes. Columbiana County will, based on State recommendations, alert the public.	EOC Sec. VI FA Sec. III	E.6
14. Demonstrate ability to formulate and distribute appropriate instructions to the public, in a timely fashion.	EOC Sec. VI	E.5
15. Demonstrate the organizational ability and resources necessary to manage an orderly evacuation of all or part of the plume EPZ, same as #13.	EOC Sec. VII.A FA Sec. I	J.9, J.10.g
20. Demonstrate ability to continuously monitor and control emergency worker exposure.	EOC Sec. VIII FA Sec. IV FM Sec. V	K.3.a, b
24. Demonstrate ability to brief the media in a clear, accurate and timely manner at the JPIC.	EOC Sec. IX MEDIA Sec. IV EOF Sec. IV	G.3.a, G.4.a
25. Demonstrate ability to provide advance coordination of information released at the JPIC.	EOC Sec. IX MEDIA Sec. IV	G.4.b

OBJECTIVES		CORRESPONDING PART(S) OF FORM	NUREG-0654
*26.	Demonstrate ability to establish and operate rumor control in a coordinated fashion.	EOF Sec II MEDIA Sec. VI	G.4.c
32.	Demonstrate ability to identify need for, request, and obtain Federal assistance.	(To be developed)	C.1a.,b
34.	Demonstrate ability to estimate total population exposure.	EOC Sec. V EOF Sec. VI	M.4

* During the pre-exercise briefing, the State clarified the exercise objective to indicate that they were not going to demonstrate rumor control at the State level, except to show that there is a telephone available for this purpose. Based on this clarification, rumor control was not evaluated at the State level.

ATTACHMENT II-7-1

OFF-SITE SCENARIO

Offsite Sequence of Events

Section VI

Part I

Initial Conditions

A significant difficulty to overcome in the development of any scenario is preventing the exercise participants from resolving simulated problems prior to allowing response from organizations both onsite and offsite from occuring. To alleviate this situation to some extent, comprehensive initial plant and offsite conditions were developed. To set the stage for the 1984 Beaver Valley Emergency Exercise, the following initial conditions will be used:

- Plant is at 100% power for last 3 months (End of Life).
- Time is mid-summer. There is a full demand for electricity and a low reserve due to outages at other power stations.
- Weather conditions: until recently, severe heat wave; but forecasters are now predicting severe storm warnings with high winds approaching the area. Severe storm watch established at 4:00 a.m. and is planned to stay in effect until 11:00 a.m.

NOTE: The sequence of events incorporates a cue numbering system as follows:

CC - Cue Card -- A 3" by 5" card with single initiating event instructions or data.

CS - Cue Sign -- An 8 1/2" by 11" or larger sheet of paper indicating conditions in that area of the plant or piece of equipment.

CIS - Cue Information Sheet -- An 8 1/2" by 11" sheet of paper in a format for relaying specified and changing plant operating parameters.

PROP - Various materials used to support the scenario.

APPROX. TIME OF DAY	PLANNED EXERCISE TIME	OFFSITE SEQUENCE OF EVENTS	CUE #
0630	00/30	The U.S. Weather Bureau reissues a tornado watch indicating that meteorological conditions in the Beaver, Columbiana and Hancock County areas are favorable for the formation of severe thunderstorms with high winds and possible tornados.	CC-1
0700	00/00	Beaver Valley Annual Emergency Exercise begins.	
0705*	00/05	Reactor coolant leakage exceeding technical specifications per Tab 5. "RCS/Containment Leakage" in EPP/1-1. Requires declaration of an Unusual Event by the Beaver Valley Power Station Control Room staff.	
0710	00/10	Notifications are begun to BVPS management, station personnel, the NRC and offsite authorities per EPP/I-2.	
		Offsite actions due to the Unusual Event notification include:	
		Hancock County - Communications Dispatcher receives Initial Notification and logs the information. WCOES is notified and follow-up notifications are made to BVPS and WVOES.	
		WVOES - Message is logged on Initial Notification Form. No additional actions will be taken by WVOES at this level.	
		Columbiana County - Sheriff's Dispatcher at Columbiana Co. jail receives call and logs the message. Verification call is made and instructions to Sheriff's Dispatcher are given. ODSA and East Liverpool Police are notified.	

*Exact time may vary depending on Plant Operator action or other factors.

APPROX. TIME OF DAY	PLANNED EXERCISE TIME	OFFSITE SEQUENCE OF EVENTS	CUE #
0710 (cont.)	00/10	ODSA - Message is logged on the Initial Notification Form. No additional actions will be taken by ODSA at this level. NRC - logs the call and remains in a standby mode.	
0756	00/56	National Weather Service escalates the tornado watch to a warning. Reports are coming in from Jefferson County, Ohio and Hancock County, W. Virginia that winds are causing minor damage in their areas. No reports of tornado touchdowns have been received at this time.	CC-2
0757*	00/57	Update notifications to the NRC and offsite authorities are begun by BVPS, based on Tab 22, "Tornado Warning Received".	
0800	01/00	Offsite authorities continue to monitor the situation.	
0815	01/15	High winds hit BVPS followed by a small tornado touchdown that has traveled from West Virginia and is heading up the Ohio river toward Industry, PA. The touchdown path of the tornado at BVPS is less than a quarter mile; minor damage has occurred to the north louvers in the cooling tower. Moderate damage has occurred to the Trailer City Complex. The west wall and the roof of the Intake Structure are torn off in places. Numerous cars are also turned over near the Intake Structure. Only minor missile damage has occurred in other areas.	

*Exact time may vary depending on Plant Operator action or other factors.

APPROX. TIME OF DAY	PLANNED EXERCISE TIME	OFFSITE SEQUENCE OF EVENTS	CUE #
0815 (cont.)	01/15	The Control Room begins to receive reports from the Station on the path of the tornado touchdown. The storm funnel quickly moves past BVPS and disappears. The storm will touchdown again near ARCO POLYMER and cause some damage.	
0816	01/16	Plant Operators monitor plant conditions. The storm has had no major effects on the Intake Structure operations or plant operations. The decision is made to leave the plant on line. No other damage has occurred onsite. No injuries have been reported at this time.	
0817	01/17	Damage control operations and assessment begin. Reports indicate that no one was injured by the storm.	
0825*	01/25	Based on Tab 22, "Tornado Strikes Vital Plant Structures", Plant Operators escalate to an Alert emergency classification. NOTE: This tornado's effects will be minor. BVPS Control Room begins notifications to BCEMA, BRP, CCDSA, HCOES and the NRC indicating BVPS has escalated to an Alert emergency. Offsite actions due to the Alert notification include:	

*Exact time may vary depending on Plant Operator action or other factors.

APPROX. TIME OF DAY	PLANNED EXERCISE TIME	OFFSITE SEQUENCE OF EVENTS	CUE #
0825* (cont.)	01/25	Hancock Co. - Dispatcher receives call and logs message. Verification is made and State EOC contacted. The Hancock County EOC is activated as are designated elected officials and government agencies. WVOES - Message is logged in. Key state agencies are notified of the problem and informed that the State EOC may be activated. Field personnel are contacted and notified of the possibility of traveling to Hancock County and BVPS. Columbiana Co. - Dispatcher logs call and relays information to the CCDSA Director. Verification call is made. Adjacent counties as well as State officials are contacted. Columbiana County requests Communications Officer, EOC Controller and East Liverpool representative come to EOC. Security is also requested. The Highway Patrol, local school boards, municipalities and the EOC staff are activated. ODSA - will notify the Governor's Office, Ohio Dept. of Health, Ohio EPA and ODSA staff. The above (except Governor) will staff the assessment room of State EOC. ODSA field monitoring teams and communications team (van) will be dispatched to County. Ohio's EOF representative and PIO for the Public Information Center will be enroute at the Alert stage. Any future notifications should be made to the State EOC.	

*Exact time may vary depending on Plant Operator action or other factors.

APPROX. TIME OF DAY	PLANNED EXERCISE TIME	OFFSITE SEQUENCE OF EVENTS	CUE #
0825* (cont.)	01/25	NOTE: Duquesne Light Company's Public Information Dept. will provide timely news releases for the Unusual Event and Alert Classifications.	
0835	01/35	Storm warnings continue and will remain in effect until 11:00. ARCO POLYMER notifies the County that a small tornado touchdown or high winds damage has occurred at their facility. Some potentially dangerous, flammable tank trucks containing pentane and ethylbenzene have been turned over but no releases have occurred. No offsite assistance is needed, and if any problems develop, the County will be kept posted.	CC-3 CC-4
0838	01/38	BCEMA Coordinator takes appropriate actions.	
		The National Weather Service calls PEMA and indicates the severe weather front is moving rapidly through the Tri-State Area. They request information on any tornado sightings.	CC-5
0840	01/40	State and County EOCs are becoming staffed and operable; communications among emergency organizations are established and tested. EOC support personnel are brought to a stand-by condition. Appropriate notifications are made to jails, hospitals, schools, nursing homes and day care centers.	

*Exact time may vary depending on Plant Operator action or other factors.

APPROX. TIME OF DAY	PLANNED EXERCISE TIME	OFFSITE SEQUENCE OF EVENTS	CUE #
0845	01/45	While descending a ladder in the BVPS containment structure, an Operator on a repair team falls from the ladder and is injured. His injuries include cuts on the head and a broken wrist. This individual will be contaminated and semi-conscious.	
During	Anytime	Reports of damages as a result of the storm begin coming into County EOCs.	CIS-1 CIS-2
0910	02/10	Injured operator is removed from the containment airlock. The Control Room is notified that off-site assistance will be required due to the man's injuries. The Beaver County Police Center is contacted and asked to provide ambulance service. Notifications are made to Aliquippa Hospital to prepare for receipt of a contaminated and injured individual.	
0915	02/15	Update notifications begin at the Station and to the NRC and offsite authorities per EPP/I-2.	
0920	02/20	Damage assessment continues onsite. NRC and offsite authorities continue to be updated on plant conditions. No major operational problems are occurring. No personnel at BVPS were injured due to the storm.	

APPROX. TIME OF DAY	PLANNED EXERCISE TIME	OFFSITE SEQUENCE OF EVENTS	CUE #
0930	02/30	Plant conditions continue to be stable. Final reports indicate no individuals were seriously injured at BVPS or in the Counties as a result of the storm. Onsite activities continue. The ambulance arrives onsite and the contaminated and injured man is transported to the hospital.	
0940	02/40	ARCO POLYMER calls and notifies BCEMA that they are making progress and there is no need for offsite support personnel at the present time. They will keep the County posted. NOTE: No calls should be made to ARCO POLYMER for information. This data will be provided by exercise controllers.	CC-6
0941	02/41	Beaver County ECC requests that BVPS emergency organizations assist in coordinating with DLCo T&D on damages reported in the County due to the storm. The County is making this request due to difficulties in contacting DLCo T&D organizations.	CC-7
0945	02/45	Cleanup efforts continue onsite and offsite. Plant conditions and indications are again assessed by Plant Operators and TSC personnel. Plant operations are stable. NOTE: Any repair activities related to the scenario will be simulated during the exercise.	

APPROX. TIME OF DAY	PLANNED EXERCISE TIME	OFFSITE SEQUENCE OF EVENTS	CUE #
During	Anytime	The DLCo Public Information Dept. prepares news releases concerning the accident conditions at Beaver Valley.	
1000	03/00	The Station remains at an Alert posture based on the storm watch still in effect, the problems at Arco, offsite request for assistance (Station will help coordinate with T&D), and other minor problems onsite.	
1015	03/15	Cleanup efforts continue offsite and reports continue to come in concerning minor storm damages. No serious injuries have been reported.	CIS-1 CIS-2
1020	03/20	National Weather Service calls PEMA. They inform PEMA that the front is moving through quickly and there are no further reports of tornado touchdowns coming in from the Tri-State area. Wind speeds continue to decline and the tornado warning is de-escalated to a watch.	CC-8
1035	03/35	ARCO notifies BVPS and the County EOC that problems at their location have been corrected and there will not be a need for offsite assistance or concern.	CC-9

APPROX. TIME OF DAY	PLANNED EXERCISE TIME	OFFSITE SEQUENCE OF EVENTS	CUE #
1040 to 1049	03/40 to 03/49	An inadvertant relay operation at BVPS causes the loss of an important Station Transformer which powers the reactor coolant pumps, main feed pumps and air compressors. Along with this problem, reactor safety systems have a failure which results in an ATWS situation (Anticipated Transient Without Scram) to the plant's reactor. This problem will result in some core damage and a minor release of radioactivity.	
1055*	03/55	The Emergency Director in the TSC declares a Site Emergency based on Tab 1, "Radioactive Effluent" EAL (airborne release highest point of release to be 20 mrem/hr at the site boundry) and Tab 8 (Degraded Core, Possible Loss of Coolable Geometry).	
1100	04/00	Offsite notifications are begun by the TSC and actions taken per EPP/I-4. The Emergency Operations Facility (EOF) initial activation begins and the Public Information Department activates the Joint Public Information Center (JPIC). HCOES - Continues monitoring and assessment actions and coordinates public warning actions with WVOES, CDSA, CCDSA, BCEMA or PEMA. Issues dosimetry and report forms to emergency workers and activates response organizations. A PIO officer reports to the JPIC. WVOES - EOC is fully activated. State agencies are called in. Field personnel are dispatched.	

*Exact time may vary depending on Plant Operator action or other factors.

APPROX. TIME OF DAY	PLANNED EXERCISE TIME	OFFSITE SEQUENCE OF EVENTS	CUE #
1100 (cont.)	04/00	CCDSA - Continues call-out procedure and notifications to appropriate agencies. PIO officer reports to JPIC. CCDSA, EOC are fully activated and all response organizations are activated. ODSA - Ohio EOC will be fully activated and request for utility liaison may be made. State EOF liaison will be enroute. NOTE: Updates from Public Information Center will be provided on a timely basis. Offsite agencies and NRC updated periodically. State and county assessment actions and monitoring continue.	
1115 to 1255	04/15 to 05/55	Repairs continue at BVPS. No additional releases of radiation have occurred. The plant is in a hot standby condition on natural circulation awaiting the repairs of the defective breaker and other equipment so that emergency cooldown can begin. The NRC and offsite authorities continue to receive updates on plant conditions throughout this time period and mobilization and coordination activities continue in all EOCs.	
1300 to 1320	06/00 to 06/20	A tube rupture in a steam generator causes a major release from the Reactor Coolant System through the ruptured tube then to the atmosphere through the steam generator safety valves.	

APPROX. TIME OF DAY	PLANNED EXERCISE TIME	OFFSITE SEQUENCE OF EVENTS	CUE #
1300 to 1320 (cont.)	06/00 to 06/20	NOTE: This release will continue for 20 minutes. Based on Tab 1, "Radioactive Effluent" EAL (release corresponding to 600 mrem/hr to the whole body at the site boundary) and the loss of containment integrity, the BVPS Emergency Recovery Manager declares a General Emergency. Offsite notifications are begun to the NRC, States and Counties.	
1315 to 1335	06/15 to 06/35	WVOES - Assess information concerning protective actions and coordinate activities with Hancock County EOC. ODSA - Assess information concerning protective actions and coordinates activities with Columbiana County EOC. HCOES, CCDSA - Coordinates all information concerning protective action recommendations based on local conditions. Continued emergency operations include activation of access and traffic control into the risk area. Risk municipalities continue to receive instructions on the emergency situation. The EOF, Emergency Recovery Manager makes protective action recommendations. NRC and offsite agencies are notified.	

APPROX. TIME OF DAY	PLANNED EXERCISE TIME	OFFSITE SEQUENCE OF EVENTS	CUE #
1315 to 1335 (cont.)	06/15 to 06/35	NOTE: In conjunction with the Annual Exercise, the FEMA required Emergency Siren Alert Notification Test will be conducted. Chilton Research Service of Radnor, Pa. have been contracted to survey the communities within the 10 mile EPZ concerning the notification system's effectiveness.	
1315 to 1335	06/15 to 06/35	ODSA/CCDSA and WVOES/HCOES - Message is verified and alert system is activated. Readings by offsite monitoring teams combined with BVPS recommendations lead to WVOES and ODSA protective action considerations. NRC and offsite authorities continue to be updated based on continued plant assessment and field monitoring. Offsite protective actions are still recommended. EBS messages indicate appropriate actions to be taken in Pennsylvania, Ohio and West Virginia. The NRC and offsite authorities continue to be updated on plant conditions.	
1325	06/25	Security Traffic Control Point (TCP) at the north end of the Shippingport Bridge notifies the Central Alarm Station (CAS) at BVPS that an ambulance will be needed at their position. An individual evacuating the area is having a heart attack at their location.	

APPROX. TIME OF DAY	PLANNED EXERCISE TIME	OFFSITE SEQUENCE OF EVENTS	CUE #
1325 (cont.)	06/25	NOTE: This event is occurring to test facilities and procedures at the Beaver County Medical Center concerning response to a potentially contaminated and injured person. Offsite dose projections are stepped up and field monitoring continues. An onsite evacuation is ordered (simulated). Security continues to restrict access to the site.	
1330	06/30	The Beaver County Police Center is notified and requested to provide an ambulance for the heart attack victim. Notifications are made to the Beaver County Medical Center to prepare for the receipt of a potentially contaminated and injured person.	
1340		The BVPS Emergency Recovery Manager provides recommendations for offsite protective actions.	
1345*	06/45	The Beaver County Police Center is notified that the ambulance has arrived and the victim is being transported to the Beaver County Medical Center.	
1350	06/50	Plant conditions continue to be relayed to offsite authorities.	
1400	07/00	The NRC and offsite authorities are updated on plant conditions. The Emergency Recovery Manager continues his work with offsite protective actions. EBS messages indicate appropriate actions to be taken in Pennsylvania, Ohio and West Virginia.	

*Exact time may vary.

APPROX. TIME OF DAY	PLANNED EXERCISE TIME	OFFSITE SEQUENCE OF EVENTS	CUE #
1400 (cont.)	07/00	NOTE: These protective actions should be raintained until field monitoring readings verify that radiation levels offsite are below protective action guide values.	
1430	07/30	Plant Operators continue to cooldown the plant and maintain control per emergency operating procedures.	
1445	07/45	Beaver County Medical Center notifies BCEMA that the heart attack patient is alive but in intensive care.	CC-10
1500	08/00	Efforts continue to stabilize and improve plant conditions.	
1505	08/05	The NRC and offsite authorities are updated on plant conditions.	
1515	08/15	Plant conditions appear to be stable with continued cooldown. control of radiological releases and inplant radiation levels decreasing.	
1550	08/50	The NRC and offsite authorities are updated on plant conditions.	
1600	09/00	Plant conditions continue to be stable. At this point exercise controllers should lead offsite exercise participants toward de-escalation of the emergency.	
1615*	09/15	NRC and offsite agencies and authorities are updated on plant conditions and that the emergency is being de-escalated to an Alert.	

*Exact time may vary depending on Plant Operator action or other factors.

APPROX. TIME OF DAY	PLANNED EXERCISE TIME	OFFSITE SEQUENCE OF EVENTS	CUE #
1615 (cont.)	09/15	Rad monitoring continues in all states. NOTE: Refer to Section VII for detailed radiological monitoring information.	
1630	09/30	A time jump in the exercise occurs so that BVPS can realistically move into its recovery operation. The emergency conditions are closed out and re-entry efforts at the station begin with the formation of the recovery organization. Certain factions of the offsite organizations are disbanded as conditions permit.	CC-11
1645	09/45	Updates are provided by the States to offsite authorities.	
1700	10/00	All initial onsite re-entry measures are completed and full scale recovery efforts commence.	
1730	10/30	All basic recovery efforts are discussed or simulated. The exercise is then terminated.	

ATTACHMENT II-7-2

WESTINGHOUSE IDAHO NUCLEAR COMPANY, INC.

OFF-SITE SCENARIO REVIEW

Westinghouse Idaho
Nuclear Company, Inc.

Box 4000
Idaho Falls, Idaho 83403

RJH-15-84

June 19, 1984

Mr. Wallace J. Weaver, Chairman
Regional Assistance Committee
Federal Emergency Management Agency
Region V
300 S. Wacker, 24th Floor
Chicago, IL 60606

Dear Mr. Weaver:

Subject: Review of Beaver Valley Exercise Scenario and Objectives

I have reviewed Beaver Valley Exercise Scenario and Ohio Objectives and offer the following comments.

Several deficiencies found during the Beaver Valley 1983 exercise could be more clearly stated in this year's objectives. These are: 1) establishment of a central point for field samples to be collected, and 2) coordination of emergency actions and communications between the three states involved. These would be included under Objectives 1, 3, and 5, respectively, but could be addressed specifically to avoid any misunderstandings between participants. I understand the recovery and reentry was tested at another exercise to comply with the recommendation in last year's exercise report.

The scenario package is well prepared and the information supplied is very thorough. It is obvious that a lot of time and effort has been spent on it's preparation. The release in this scenario is very short and decreases rapidly, however, the initial release rate of 130 μCi/sec will probably be sufficient to drive protective action decisionmaking. Using a projected release based on a repair time of one hour the projected doses in Ohio will be below PAG's. However, I would anticipate that when the release begins, initial dose projections using the 130 μCi/sec release rate will be made without benefit of this information. The release time estimated by the State will determine what actions need to be taken. The field rates are sufficient to test the requirement to measure iodine concentrations of 10^{-7} μCi/cc and plume tracking.

I would recommend that information on state field methods for measuring iodine be provided to the controllers prior to the exercise so appropriate conversions can be made.

If I can be of further assistance, please contact me.

Sincerely,

Rochelle J. Honkus

Rochelle J. Honkus, Engineer
Special Programs

cc: M. Lawless - FEMA
C. Siebentritt - FEMA

Table of Contents

BEAVER VALLEY POWER STATION

Duquesne Light

Pennsylvania, Beaver County, Shippingport Borough

Date of Report: July 27, 1984

Date of Exercise: June 27, 1984

Participants

State of West Virginia

Hancock County

State of Pennsylvania

Beaver County
27 Municipalities as noted in the main body of the report

Allegheny County (Support County)

Butler County (Support County)

Pennsylvania

State EOC

The Pennsylvania Emergency Management Agency (PEMA) and other State agencies responded capably to the exercise scenario up to the point of relaying protective action decisions to the parent County. Activation and staffing was completed promptly and efficiently. Emergency management operations were demonstrated effectively with PEMA taking ample initiative to communicate with other agencies and jurisdictions, insuring a more coordinated response, again up to the point of relaying protective action decisions to the parent County. The facilities and communications systems are outstanding. The coordination and presentation of information to the public was handled in a professional manner. Protective action recommendations, and public alerting and instructions were coordinated between the States of Ohio, West Virginia, and Pennsylvania, BRP, the licensee and jurisdictions within the 10-mile EPZ. General Emergency was announced at 1322; however, the sirens were not activated until 1430. Confusion resulted when the licensee injected its protective action recommendations at the same time that PEMA was discussing different recommendations with BRP and the other jurisdictions involved. This resulted in the parent County misinterpreting the intent to evacuate. In addition, Beaver County did not receive a hard copy message confirming what the protective actions would be. The use of KI for emergency workers was recommended by BRP; however, Beaver County did not receive a message that KI was to be taken by emergency workers.

In playing out the scenario, PEMA terminated the exercise before allowing sufficient time for the County and local governments to complete their response actions.

Although exercise events were sufficient and County and local governments' response actions adequate to test their abilities to establish a readiness to meet evacuation requirements, the lack of receipt or misinterpretation of these most important protective action decisions leaves a question open as to State and local governments' capability to insure the health and safety of the public and emergency workers.

To reiterate, no evacuation of the public or protection of emergency workers occurred, even though this was specifically recommended by the State accident assessment agency (BRP). The reasons that critical protective action decisions were not implemented must be investigated and resolved through all levels of government.

Emergency Operations Facility

The Bureau of Radiation Protection (BRP), Department of Environmental Resources, major function is to provide an independent evaluation of the plant status and radioactive release potential using information available

at the EOF, and also to transmit his information to the BRP Assessment Center for further evaluation. The West Virginia Office of Emergency Services (OES) provides a person as part of their emergency disaster plan to act as a liason officer for information dissemination.As provided for in the Commonwealth of Pennsylvania's emergency plan the nuclear engineer (BRP) evaluated plant status and based protective action recommendations on the conditions of plant systems. The independent assessment to evacuate the entire EPZ differed from the licensee's recommendation to shelter 0-5 miles and 5-10 miles downwind.

Bureau of Radiation Protection

In general, BRP's responses to the situation were appropriate and adequate. Several events occurred which are out of BRP's control. These events are discussed in the report.

Medical Support

The drills at both hospitals fully tested the capabilities of all personnel. The helicopter evacuation was accomplished without problems. The personnel involved are to be commended for their professionalism and dedication. The drill was realistic and a positive attitude prevailed.

Joint Media Center

Based on observation of the Joint Media Center during the exercise at the Beaver Valley Power Station, it is apparent that the overall performance was good. In spite of a few areas which could be improved, as noted in the body of the report, the plan was well carried out.

Air Monitoring Team

The team had well documented procedures for use of excellent equipment. Deployment of the team to its monitoring location was accomplished efficiently. Monitoring instruments were properly and effectively utilized by team members. Communications between the team and the State EOC were excellent throughout the drill. Exposure control was followed by team members. Two deficiencies were noted: 1) the team was not adequately informed of plant or weather conditions; 2) the team was unnecessarily ordered out of the EPZ, rather than ordered out of the plume. This resulted in much wasted time when the team was later asked to resume monitoring.

Water Monitoring Team

During the exercise a water monitoring team was not activated nor deployed to collect water samples. A staff member of the State Department of Environmental Resources was present in the Beaver County EOC during the exercise and was prepared to take samples if directed.

He had an appropriate vehicle, with two-way radio and necessary equipment to accomplish water sampling and was knowledgeable of the local area and procedures for decontamination, if necessary.

Traffic and Access Control

The Pennsylvania State Police (PSP) have portrayed a sincere effort to fully support the emergency planning process. Through training and development of plans for the PSP, they have displayed their commitment to the process.

Decontamination

Personnel at each location were well aware of their responsibilities and had the equipment necessary to accomplish their tasks. In future exercises emergency workers and vehicles should be dispatched to all decontamination stations so that actual performance of decontamination functions can be observed.

Beaver County

Activation and staffing of the EOC was completed in accordance with the emergency response plan. Staff members displayed adequate training and knowledge of the plan required to respond to an incident at Beaver Valley Power Station. The Beaver County Emergency Management Coordinator was effectively in charge of County operations. Lengthy delays were experienced by some municipalities in receiving messages from the County. This problem should be investigated by the County and jurisdictions involved so that communications can be improved as necessary. The primary means of communications between the County and municipal EOCs is stated in both plans to be commercial telephones with RACES or REACT being the secondary or backup systems. However, during this exercise, in most cases RACES or REACT was used as the primary means. If this is to be the standard procedure, plans should be changed to reflect this.

As noted in more detail in the report body, confusion as to protective action recommendations was experienced by Beaver County EOC and no hard copy message addressing protective actions was received. However, sufficient information was available to warrant a more aggressive pursuit of the matter with PEMA. As stated in the State and County plans, protective action recommendations and decisions are relayed to the County by PEMA, except in cases where this is impossible. However, Beaver County did receive protective action recommendations directly from the Utility during this exercise. The County EMC did react to this call from the Utility in the proper manner. Even though there was confusion as to the actual receipt of a protective action order, it is felt that the County and muncipalities' response actions did establish a readiness to perform an actual evacuation.

Aliquippa Borough

Generally, the Aliquippa EOC was adequately staffed in a timely manner within excellent facilities suited to radiological emergency preparedness needs of a small municipality. While the scenario was limited as a test of the EOC's operations, those operations that were observed were generally efficient. The only deficiency that was noted was concerned with radiological exposure control and is easily correctable. The deficiency was due to unnecessarily allowing "contaminated" personnel to enter the EOC and an inadequate description by EOC personnel of the proper use of PAGs for emergency workers involved with hazardous radiation.

Beaver Borough

In general and specifics the Borough did very well. The personnel had a plan, were familiar with it and executed it. Leadership was strong and the EOC team willing. All in all, the residents of the Borough should feel comfortable as they would be well taken care of in an emergency.

Bridgewater Borough

Overall, things went well at the Bridgewater Borough EOC during this exercise. Their response was more than adequate. Any minor deficiencies will be noted in the narrative report.

There are no ambulances available in Bridgewater. They would have to contact the County for assistance. The Emergency Management Coordinator seemed concerned that this would be inadequate.

Traffic control might be a potential problem due to lack of staffing of police department (two full-time, one day/one night, and 3-4 part time).

The communications via RACES were excellent with Beaver County EOC.

Bridgewater Borough actually dispatched route alerting teams to all five sectors as a practice for their emergency personnel.

Through no fault of their own, this municipality did not receive timely notices on exercise activities/status from the County in several instances (were received as much as one hour after actual message).

Brighton Township

All the applicable requirements noted for risk municipalities were accomplished by the Township. The Township demonstrated the capability to perform its role. However, there were problems with the receipt of the Site Area Emergency message. The 1050 Site Area Emergency declaration was not announced as such by the County EOC; it therefore went completely unnoted by the Township EOC. The Township went from the 0847 Alert declaration directly to the 1330 General Emergency declaration. A phone call by the Township EMC to the County could have clarified this matter; this was not done. The Township EMC did try to call REACT on another matter relating to the General Emergency declaration but could not locate or obtain the phone number. The Federal observer would think that this number would have been included in the Township's emergency management plan.

Center Township

The Center Township EOC was staffed with dedicated, well-trained, and knowledgeable people who were familiar with their plan and carried out procedures accordingly. They actually seemed disappointed when the exercise terminated and they were not able to respond to more protective actions, which they also seemed to be well aware of. A fairly new municipal building provided an excellent environment for the exercise and there was never any sign of disagreement among personnel, as only cooperation and good spirit seemed to prevail.

Chippewa Township

Overall,the performance at Chippewa Township EOC was adequate and participants were familiar with the plan and how to implement it.

Fallston Borough

For one-half of the exercise the staffing of the EOC consisted of one person - the Coordinator. Due to staff (usually 5 people) not willing to miss work the Coordinator had to man the EOC himself. This meant that practically every response had to be simulated. In simulating all response actions there is no way to actually determine capabilities. All essential response actions during Alert, Site Area Emergency and General Emergency were covered; however, this was done by simulation and not actually demonstrated.

The EMC seemed very capable of progressing throughout the Borough's response plan. All questions posed to the EMC resulted in correct response. However, not having the manpower resulted in simulation of events.

Two major items were not simulated nor observed. These were evacuation and/or protective actions. These items were not directed for action by the Beaver County EOC; therefore they were not displayed. The schedule of events, however, called for evacuation. Overall it appears that the Borough can adequately respond to an emergency situation. However, actual demonstration was not observed.

Hanover Township

The emergency management plan was followed, as is written. The officials displayed a working knowledge of the plan and appeared conscientious and interested in its application. The EMC, police and fire chief expressed concern regarding the Township's lack of resources and training but expressed a commitment to amend the emergency management plan and apply for the needed funding and resources to better it. On the whole, the officials demonstrated an excellent approach to emergency management and its applications. Despite inadequate reporting procedures and messages of the County RACES dispatchers, the exercise demonstrated by Hanover Township was conducted for the most part within the guidelines indicated in the SOP of Appendix 10.

Hookstown Borough, Green Township, and Georgetown Borough

These three municipalities participated in the exercise from a joint EOC located in Hookstown Borough. The volunteer fire departments from the three municipalities, who constituted the entire response team, participated with enthusiasm and intensity. However, if this system is to work, one plan will have to be written covering all three jurisdictions. In addition one emergency management coordinator should be in command. During the exercise three emergency management coordinators occupied the same operations area; but no one person was effectively in charge. One possible solution to this problem could be the appointment of one EMC as overall coordinator. The other two EMCs designated deputies with responsibility for or in their respective jurisdictions. Many of the problems noted in the report can be corrected with the completion of a cohesive plan, agreeable to all three

jurisdictions, with responsibilities delegated to proper individuals or agencies and with the training needed to perform the functions required in the plan.

Hopewell Township

Considering that this was the first time that Hopewell Township has participated in this type of exercise, the EOC staff, in particular the EMC, performed well and in accordance with the written plans. Naturally, because there was no protective action ordered by the County EOC, this function could not be evaluated.

South Heights Borough

South Heights Borough is a small community participating in this type of exercise for the first time. Considering that most of the primary staff was not available for this exercise, the EOC staff which did participate performed well. The designated EMC was at work and the Assistant EMC was on vacation. The Fire Chief performed adequately as acting EMC. There were no major deficiencies noted during this exercise except that protective action was not observed because the County EOC never gave notification.

Independence Township

The only major problem with the Independence Township's EOC was verification of the initial phone call from County police to open up the EOC. The EMC had not considered it necessary (his wife had taken the call). He did not have a phone number to call. The EOC was staffed at 1000, 50 minutes after Alert. They had no prior knowledge of time (had understood exercise would start at about noon). The EMC called staff after arriving at the EOC to change time of activation.

The route alerting was abbreviated for demonstration of capabilities only - actual time would have been 2 hours due to large fire trucks and bad roads in the Township. This is considered excessive - routes should be reevaluated and additional sectors added to insure completion within 45 minutes.

Industry Borough

Response to the exercise at the Industry EOC was well run and amply staffed especially for a Borough. There were very few problems noted which is a tribute to the excellent training of the personnel. There were 8 workers in the EOC with 2 policemen, and 12 volunteer firemen at the fire house that participated from 0900-0930.

However, there is a possible weakness in the EOC operation due to the lack of any second shift capability. In a real emergency EOC personnel would have to work non-stop and further degradation of performance would be significant because some of the key EOC staff have jobs which require travel and they may not be available during an emergency.

Lack of equipment is also a weakness in the Industry EOC. The four telephones available in the EOC were rented for one day and the Borough has a shortfall of one bus that would be necessary to remove incapacitated residents.

Midland Borough/Glasgow Borough/Ohioville Borough

On the whole, it was apparent that the joint EOC concept worked well and, if the communities were also satisfied, they should formalize the relationship from a planning standpoint. Everyone involved was enthusiastic and performed their responsibilities in a most professional manner. Several errors did occur but were acknowledged before significant problems arose.

Monaca Borough

The Monaca EOC was effectively staffed in a timely manner. Initially there was extensive participation by members of the volunteer fire department, available for route alerting and for the simulation of evacuee pickup and transportation. Communication from Beaver County EOC was received primarily over the RACES system and then confirmed with a telephone call. When the EOC undertook the voluntary simulation of transport of contaminated emergency workers, a real-life traffic accident on the toll bridge between Monaca and Rochester blocked access to the decontamination center at Baden. The simulation was aborted but alternate routes and the use of towing equipment were discussed by the EOC staff. All other activites were effectively undertaken by the EOC, including staffing, communications, mobilization, and emergency notification.

Patterson Township, Patterson Heights Borough

The multiple municipal participation in one EOC, which had been planned by Patterson Township and Patterson Heights Borough for this exercise, did not materialize due to the fact that Patterson Heights Borough decided at the last minute to participate on their own.

The Patterson Township EMC was advised of the Alert status by a telephone call from the Beaver County EOC at 0850. The EMC arrived at the Patterson Township police department building to activate the EOC at about 0920 and the EOC was fully staffed by approximately 1000 hours. Personnel notification procedures were adequate; however, round-the-clock staffing capability was not fully demonstrated. The Patterson Township EMC was observed to be in good control of emergency operations at the EOC and was knowledgeable of his duties and those of his staff. Message handling and communications between staff members were orderly and timely. Facilities at the EOC were generally adequate. A status board and a problems board were both clearly visible; however, appropriate maps were not all posted and in some cases, not available. Communications systems and procedures between Township personnel were good; however, some delays were apparent in receiving timely messages from the Beaver County EOC. Public alerting and instructions for the Township population were observed to be timely and well planned. Protective action procedures (establishing traffic control points and knowledge of special evacuation problems) were well planned. Radiological exposure control was well demonstrated by the issuance of dosimetry equipment for Township personnel.

No significant deficiences were apparent or observed at the Patterson Township EOC.

Potter Township

The Potter Township EOC was managed effectively and staff members carried out their responsibilities in accordance with their plan. There was a delay at one point in getting verification of a message. The EOC staff were eager to work on executing protective action decisions but none were forthcoming from the County.

Raccoon Township

The Raccoon Township EOC effectively carried out its emergency response functions throughout the exercise. The EOC was promptly activated and staffed by personnel familiar with their duties. The communications systems worked well and message handling was efficient. Public alerting was successfully accomplished by siren activation and route alerting. Procedures are in place to deal with mobility-impaired and other residents with special evacuation needs. The EOC should work with the County EOC and agricultural extension office to assess the needs of farmers and livestock owners.

Shippingport Borough

The overall response capabilities for the Borough were demonstrated in a well organized, orderly fashion. The Emergency Operations Center staff were dedicated and performed their responsibilities as outlined in the plan. This EOC has only one phone line. Additional lines are necessary in order to accommodate the 10 staff people assigned to the EOC.

South Beaver Township

The exercise in South Beaver Township rarely demonstrated a spirit of realism. Shortcomings evolved from several points. First, the emergency operations were fragmented between the Township police center and Township fire hall. Second, though the Board of Supervisors, police, fire and public works department were well represented throughout the day, many of the staff were not cably unfamiliar with the procedures and instructions set forth in their Township plan. Third, the EMC was appointed just two weeks prior to the exercise, and was unable to provide the necessary leadership.

The bright spots were the police and fire departments and the RACES communications. The Police Chief and his staff were trained and knowledgeable in the calibration, distribution and use of the dosimeters. The Police Chief also had previous experience in this type of exercising and assumed the leadership role on numerous occasions. The fire department conducted a successful route alerting exercise in one sector of the Township. The RACES communications system established between the Township police center and the Beaver County EOC was very effective. The equipment was operational within minutes upon its arrival on site and was professionally administered.

In addition to Township activity, the Pennsylvania Department of Agriculture, through a representative of the Penn State Extension Service, successfully established a Farmer Information site. The representative was in place to distribute dosimeters to the area's dairy farmers. Communications were effectively established between the field office and the

Pennsylvania Department of Agriculture supervisor at Beaver County EOC. Also assisting in this effort was the U.S. Department of Agriculture's Soil Conservation representative.

Vanport Borough

It is apparent that, except for initiating route alerting and the manning of ACPs/TCPs at Site Area Emergency rather than in conjunction with the sounding of the sirens, this municipality performed their response actions in accordance with their plans. The EOC staff were anxious to demonstrate their capabilities.

West Virginia State EOC

The West Virginia State EOC participated in the Beaver Valley Power Station REP exercise in general accordance with the State Radiological Emergency Plan and attachments. Activity at the State level was extremely slow, however, most State agency representatives were well aware of their responsibilities in support of radiological response activities. Training with regard to REP responsibilities and parameters should be provided to personnel with public information responsibilities. Future exercises should demonstrate the consideration and distribution of KI, ingestion pathway actions, control of air and rail transportation routes, and interaction with the Governor in the determination of protective action recommendations. An effective standard operating procedure in the use of the BVPS hotline is needed to allow acceptable use of this communication means. Exercise objectives for future scenarios should be focused on responsibilities and actions which are maintained at the State level.

Hancock County

The County demonstrated a generally adequate capability for performing the basic, initial response functions, up to and including deciding upon protective actions. Accident assessment, performed at the State EOC, could be accomplished more efficiently if the responsible individual relocated to the County EOC, as in previous exercises.

The capability for implementing an evacuation was not adequately demonstrated, however. Many of the actions required for an orderly evacuation were not addressed, including: preparation of public instructions; determining available resources and acquiring unmet needs; evacuating schools; evacuating the transit-dependent population; evacuating mobility-impaired and other handicapped individuals; and establishing security for the evacuated area.

The County does not have permanent record dosimetry available for emergency workers.

Background

In order to test and evaluate radiological emergency response plans, federal requirements state that periodic exercises be conducted which involve participation by the nuclear power plant and State and local governments responsible for the health and safety of the public. The last joint full-scale exercise for the Beaver Valley Power Station was conducted on February 16, 1983. The exercise scenario simulates a radiological release off-site that requires actions by State and local officials to include the mobilization of personnel and resources sufficient to verify their capability to respond to an incident up to and including evacuation.

This document is submitted to record the observations and recommendations made during the full-scale exercise on June 27, 1984, which served as an actual and simulated demonstration of State and local governments' capabilities to protect the health and safety of the public during an incident at the Beaver Valley Power Station.

The exercise was observed by a team of 37 observers from FEMA Region III, FEMA Headquarters, Argonne National Laboratory, and members of the Regional Assistance Committee.

Particiating State/County/Municipal Governments

Plume EPZ Jurisdictions

Pennsylvania Emergency Management Agency and Other State agencies

Beaver County

Aliquippa Borough
Beaver Borough
Bridgewater Borough
Brighton Township
Center Township
Chippewa Township
Fallston Borough
Frankfurt Springs
Georgetown Borough
Glassgow Borough
Green Township
Hanover Township
Hookstown Borough
Hopewell Township
Independence Township
Industry Borough
Midland Borough
Monaca Borough
Ohioville Borough
Patterson Township
Patterson Heights Borough
Potter Township
Raccoon Township
Shippingport Borough
South Beaver Township
South Heights Borough
Vanport Township

Support Counties

Allegheny County
Butler County

West Virginia Office of Emergency Services

Hancock County

Non-Participating Jurisdictions

All jurisdictions within the 10-mile EPZ participated in this exercise.

Lawrence and Washington Counties are support Counties for the 10-mile EPZ of Beaver Valley Power Station. They did not participate as players in this exercise; however, they did send representatives to the other two support Counties to observe their response actions.

Observer Assignments
Beaver Valley Exercise
June 27, 1984

James R. Asher	RAC Chairman (FEMA R-3)
Joseph Gavin	Project Leader (FEMA R-3)
PA State EOC BRP Headquarters	Don Newsom (Argonne) Bill Belanger (EPA)
Joint Media Center	Diana Diaz (FEMA)
Communications	Fred Donnelly (FEMA R-3) Ken Storm (FEMA R-3)
EOF	Jim Hawxhurst (NRC R-1)
Beaver County EOC	Joseph Gavin (FEMA R-3) Anita Miller (DOI) Mary Conoscenti (FEMA R-3)
Aliquippa Township	Ken Green (FEMA HQ)
Beaver Borough	Jim Oesterling (FEMA R-3)
Bridgewater Borough	Patricia Crawford (FEMA R-3)
Brighton Township	Robert Linck (FEMA R-3)
Center Township	Robert Neisius (Argonne)
Chippewa Township	Robert Turner (FEMA HQ)
Fallston Borough	Thomas Majusiak (FEMA R-3)
Hanover Township	Etta Sims (FEMA R-3)
Georgetown Borough Green Township Hookstown Borough	John Benn (FEMA R-3)
Hopewell Township South Heights Borough	Martin Frengs (FEMA R-3)
Independence Township	Harvey Bushby (Argonne)
Industry Borough	Fran Dougherty (EPA)
Midland Borough Glasgow Borough Ohioville Borough	Rick Kinard (FEMA R-3)

Monaca Borough	Penny Wallingford (Argonne)
Patterson Township Patterson Heights Borough	Robert Rospenda (Argonne)
Potter Township	Vern Wingert (FEMA HQ)
Raccoon Township	Susan Barisas (Argonne)
Shippingport Borough	Janet Lamb (FEMA R-3)
South Beaver Township	Dennis Figg (FEMA R-3)
Vanport Township	Gerry Smith (FEMA HQ)
Support Counties	Dale Petranech
Allegheny County EOC	
Butler County EOC	
Decontamination Stations ACPs & TCPs (1200-1400 hours)	Walter Adams (DOT)
Air Monitoring Team	Robert Casey (DOE)
Water Monitoring Team	Robert Conley (USDA)
Hospitals	Joe McCarey (FEMA R-3)
West Virginia State EOC	Karen Larson (FEAM R-3)
Hancock County EOC	Steve Hopkins (FEMA R-3) Craig Pattani (FEMA R-3)

Evaluation Criteria Used

The States and local governments participating in the Beaver Valley exercise were evaluated in relationship to their ability to respond to an incident as outlined in their plans. The plans utilized during the response are as listed below:

1. Commonwealth of Pennsylvania Disaster Operations Plan, Annex E - Fixed Nuclear Facilities, November, 1980.

2. Beaver County Emergency Response Plan, October, 1983.

3. Twenty-seven municipal plans within Beaver County.

4. West Virginia Radiological Emergency Response Plan for a Fixed Nuclear Facility, 1983.

5. Hancock County Emergency Response Plan, June 1982.

Support County, school district plans and a variety of Standard Operating Procedures were also utilized to evaluate the capabilities of appropriate jurisdictions and organizations.

These plans were prepared in accordance with NUREG-0654, Planning Standards and Criteria.

Pennsylvania

1. Test and evaluate the capabilities of State, Counties and municipalities to interface and coordinate with each other in the following areas:

   a. Notification of Officials and Staff.

      The adequacy of the nuclear incident notification alert procedures from the fixed nuclear facility to PEMA, BRP, risk counties and municipalities and support counties.

   b. Public Alert/Notification and Information

      The ability of State, County and municipal authorities to alert, notify and update the public of incidents within the plume exposure pathway emergency planning zone, to include actual use of sirens, EBS announcements, route alerting and other communications means available.

   c. Communications

      The adequacy of and/or the need for all planned internal and external communications systems among and between the participants to include backup communications systems, EBS and RACES.

   d. Emergency Operations Center (State/County/Municipal)

      The adequacy of the emergency operations centers with respect to security, space, comfort, staffing and function for managing responses to nuclear facility incidents.

   e. Direction and Control

      The ability of key State, County and municipal emergency response personnel and elected officials' support for the initiation and coordination of timely and effective decisions and their ability to provide resource requirements for incidents.

   f. Emergency Plans

      The adequacy and capability of implementation of State, risk and support counties and municipal emergency response plans.

   g. Public Information

      The adequacy of the interface of State, County and nuclear facility public information systems with the news media, to include news medial briefing rooms, rumor control measures, etc.

h. Accident Assessment (Bureau of Radiation Protection)

The effectiveness of State BRP nuclear facility accident assessment system, to include adequacy of equipment, personnel staffing and competency skills with respect to reporting, dose projection, field measurement, coordination and communications.

i. Protective Measures

The capability of the State, County and municipal emergency response systems to implement sheltering or evacuation and to take actions to activate such support functions as reception centers, mass care/decontamination centers, decontamination stations, risk school district procedures, ambulance services, bus operations, and pickup points.

j. Radiological Exposure Control

The capability of State, County and municipal emergency response personnel to implement access control points and traffic control points, the issuance of dosimetry and KI and the record keeping and decontamination procedures.

West Virginia

I. Notification

A. Notification of Officials and Staff

1. To test and evaluate the adequacy of the fixed nuclear facility incident notification and alert procedures in the following areas:

a. Notification by Hancock County Emergency Services to west Virginia State Office of Emergency Services (WVOES).

b. Notification by the Pennsylvania Emergency Management Agency (PEMA) to WVOES.

2. To test and evaluate the ability of key emergency response personnel at the State level to implement notification procedures for fixed nuclear facility incidents, to include continuing notification and coordination.

B. Public Alert/Notification and Information

1. To evaluate the ability of State authorities in assistant Hancock County Office of Emergency Services in alerting and notifying the public of incidents within the plume exposure pathway EPZ.

2. To evaluate the ability of State authorities in assisting Hancock County Office of Emergency Services in providing the public within the 10 mile EPZ of the plant periodic updates of emergency status.

3. Evaluate capability of coordinating actions with other States.

II. External Communications

A. To test and evaluate the adequacy of all planned communications systems among and between the participants.

B. To evaluate the need for and availability of communications circuits between and among the participants.

C. To review all primary communications circuits for backup communication capability.

D. To determine the efficiency and effectiveness of circuits such as RACES.

E. To evaluate the availability and effectiveness of the communications interface with federal agencies and/or contiguous States.

III. Emergency Operations Center

A. To test and evaluate the adequacy of the emergency operations centers with respect to space, comfort and function for managing responses to nuclear facility incidents.

B. To test and evaluate the adequacy, appropriateness and effectiveness of the internal communications systems within the EOC, to include maps and displays.

C. To evaluate the adequacy and competency of the staff.

D. To test and evaluate the adequacy of control and security of the EOC.

IV. Direction and Control

A. To evaluate the ability of key State emergency response personnel to initiate and coordinate timely and effective decisions with respect to fixed nuclear facility incidents.

B. To evaluate the capability of State emergency response agencies to identify and provide for resource requirements.

C. To evaluate the capability of State government in coordinating (internally/externally) actions, needs and status of situations between organizations for the purpose of acquiring support and evoking appropriate decisions.

V. Emergency Plans

To evaluate the adequacy and capability of implementation of State emergency response plans.

VI. Public Information

A. To evaluate the adequacy of the interface of State, County and BVPS facility public information systems with the news media to include news media briefing rooms, rumor control measures, etc.

B. To coordinate the release of press information.

VII. Accident Assessment

To evaluate the effectiveness of the State nuclear facility accident assessment system, to include adequacy of equipment, personnel staffing and competency skills with respect to reporting, dose projections, field measurement, coordination and communications.

VIII. Protective Measures

A. To evaluate the capability of the State emergency response system to assist Hancock County Office of Emergency Services in making decisions and implementing sheltering or evauation and to take support actions for the County's requirements in implementing these decisions.

B. To evaluate the capability of coordinating such actions with other States.

IX. Radiological Exposure Control

A. To evaluate the capability of the State emergency response personnel in assisting Hancock County Office of Emergency Services to implement access control points and traffic control points.

B. To evaluate methods for distribution, issuance, administering and record keeping of potassium iodide (KI) to emergency workers.

C. To evaluate methods for distribution of dosimetry to emergency workers.

D. To evaluate the methods and capability of State emergency personnel for keeping records of individual radiation exposure doses.

Scenario

The on-site scenario called for the Beaver Valley Power Station to be operating at 100% power for the last three months and is at its end of life cycle. Equipment problems were identified and are being addressed through surveillance activities. Beaver County was under a Tornado Watch. During a scheduled water balance inventory test, operators discovered a leak in the reactor coolant system. A second test verified the leak and an Unusual Event wss declared. After being informed of a tornado touch down involving portions of the plant, the incident is upgraded to the Alert stage. A Site Area Emergency is declared when radiation monitors indicate that a radioactive release of 20 m Rem per hour at the site boundary had occurred. After some time a tube ruptured in the steam generator causing a major release of radioactivity to pass through the tube and into the atmosphere (600 m Rem per hour to the whole body). At this point a General Emergency was declared.

Pennsylvania's policy is to evacuate the entire 10 mile EPZ. Therefore, after assessing plant conditions and after receiving protective action recommendations from the Utility, an evacuation order was announced by the Governor's office. The evacuation was initiated and involved all State, County and municipal organizations in the area.

Chronology of Events

Projected Time		Actual Time
0705	Unusual Event	0705
0825	Alert	0814
1055	Site Area Emergency	1107
1300-1320	General Emergency	1322
	Recommended Evacuation	1350
1300-1400	Evacuation Declared	No
1615	De-escalate Emergency	No
1730	Exercise Terminates	1515

Resources

- Personnel capabilities
- Communications systems and equipment
- Route alerting personnel and equipment
- Decontamination equipment and personnel
- Reception and mass care centers
- Hospital facilities
- ACPs and TCPs equipment and personnel
- Equipment and personnel for evacuation
- Radiological protective measures

Deficiencies Noted in Previous Exercise
February 16, 1983

Following is a list of the 16 deficiencies noted in the February 16, 1983 exercise and an explanation of how they were addressed in the exercise held on June 27, 1984:

Pennsylvania State EOC

1. Future exercises should include a demonstration by PennDOT as well as involvement of all PSP troops assigned to access control (NUREG-0654 J.10.j.).

   No demonstration of equipment resources was made by PennDOT. However, the Pennsylvania State Police stated that no equipment other than that already available to them, is needed. This deficiency has been adequately addressed.

2. Care must be taken in the terminology used in messages between political jurisdictions (specifically between the County and municipalities). Future drills and exercises need to stress the interplay between the County and municipalities both in terms of message content and coordination of actions. Frequent contact needs to be maintained with both levels showing the initiative in contacting the other and not waiting when they need to pass on or receive important information (NUREG-0654 A.1.b.).

   Although the accident assessment agency recommended evacuation, none was actually demonstrated. This is due to the fact that either the message was given to the County by the State and the County did not react; or, the message was not given or was so unclear that the County misunderstood the evacuation order. In addition, no message was received at the County authorizing the use of KI for emergency workers.

   Communication and coordination of vital protective action decisions to the lowest possible government levels is vital to the proper implementation of response actions. This deficiency has not been adequately addressed.

BRP

3. In the future, detailed scenarios including expected dose calculations, dosimetry, and monitored levels should be provided to monitoring team observers and to dose assessment observers. The dose assessment observer needs to have available in advance the doses expected to be calculated from the available data (NUREG-0654 I.8.).

   The complete scenario containing the needed information was provided to FEMA Region III. This deficiency has been adequately addressed.

Sampling Teams

4. Emergency workers should be instructed to take dosimeter readings at proper time (NUREG-0654 K.3.b.).

   All monitoring team emergency workers knew the procedures for reading dosimetry and did so at the proper time. This deficiency has been adequately addressed.

Beaver County

5. Low-range dosimetry and TLDs are not presently available for emergency workers in the Beaver County area, as called for in the County's REP plan. Because of the very nature of commercial nuclear power plant accidents it is deemed very important to have dosimetry with a low-range scale as well as a permanent record device such as a TLD. It is critical these items be distributed as soon as possible. In the meantime, future exercises should simulate obtaining low-range dosimeters and TLDs if they are not available for these plants (NUREG-0654 K.3.a.).

   Low range dosimetry was available and was distributed to the municipalities and to County emergency workers. TLDs were not distributed during the exercise but were available at the County EOC. Their use was not simulated. This deficiency has been adequately addressed. However, if the County does not wish to actually distribute TLDs, simulation of the use of TLDs should be demonstrated in the future.

6. An accurate list of handicapped persons residing at home within the EPZ must be developed (NUREG-0654 J.10.d.).

   An accurate list of handicapped individuals residing in the 10-mile EPZ has been developed. This deficiency has been adequately addressed.

7. The problem of access control on the eastern boundary of the EPZ must be addressed (NUREG 0654 J.10.j.).

   Access control was not demonstrated along the eastern boundary of the EPZ. They were set up for this exercise on the north boundary and the south boundary. This deficiency has not been adequately addressed.

8. The County PIO should be located at the EOC so he can observe the County's actions directly and be able to handle media requests and, at the same time, relieve the EMC of this time-consuming activity (NUREG-0654 G.3.a.).

   The County PIO was located in the County EOC. This deficiency has been adequately addressed.

Communications

9. A mechanism needs to be developed for determining priorities of use on the BVPS hotline to the State and County EOCs. The present system does

not allow for this and results in some degree of confusion over when it is proper or advisable to break into a conversation in progress. It is recommended that anything eminating from the Utility (BVPS) be given first priority, the State EOC having second prioriy, etc. (NUREG-0654 F.1.d.).

Confusion was caused when the Utility and BRP were both on the hotline making protective action recommendations to the States and risk jurisdictions. In the State plan, Appendix 4, Facility Responsibilities, it states that the Utility is responsible to make recommendations to the accident assessment agency (BRP). Then BRP will make their recommendations to the States, using the Utility input. The State, after consulting with the Governor, will pass the protective action decisions down to local governments. The message directing the initiation of protective actions should be separate and distinct, thereby eliminating any possibility of misinterpretation of these important decisions. This deficiency has not been adequately addressed.

Allegheny County

10. State and local plans should be developed to establish procedures for vehicle monitoring decontamination (NUREG-0654 K.5.b.).

Allegheny County has not established procedures for vehicle monitoring and decontamination. This deficiency has not been adequately addressed.

11. The school pickup points should be updated in the plans to reflect the final destination students will be transported. This information should be shared with all parties (NUREG-0654 J.10.c.).

No separate pre-designated student pickup points have been designated in the plans. This deficiency has not been adequately addressed.

Industry Borough

12. The moving of radio/message center from the EOC as means of reducing noise level and increasing control factors should be considered (NUREG-0654 H.).

The high noise level in this EOC has not been corrected. This deficiency has not been adequately addressed.

13. Personnel in the EOC should be briefed on content of changes to the Borough's new plan (NUREG-0654 A.2.a.).

This deficiency has been adequately addressed.

Shippingport Borough

14. Efforts should be made to increase communication among EOC staff, and the decisionmaking process should include public (elected) officials (NUREG-0654 A.2.a.).

Communications between the EOC staff were very effective and the decisionmaking process did include input from the Mayor. This deficiency has been adequately addressed.

West Virginia

15. West Virginia should be given an opportunity to demonstrate their dose assessment capability to include communications between health physicists and monitoring teams (NUREG-0654 F.1.d.).

Capability for performing dose calculations was demonstrated but it was performed after protective action decisions and had no bearing on that decision. Exercise artificialities and a change in procedures from previous year precluded a demonstration of the capability of the health physicist to communicate directly with monitoring teams. However, the State plan for West Virginia has made other arrangements for dose assessment, therefore, this deficiency has been adequately addressed.

Scenario

16. The scenario should be coordinated so that the players of the Utility, State and local governments are all at the phase at the same time. The four hour time advance did not allow the State and local governments to perform necessary functions during the General Emergency stage (NUREG-0654 N.3.).

The scenario for this exercise did not involve a time advance. This deficiency has been adequately addressed.

Pennsylvania

All objectives have been met except for objectives i and the last part of j. Although County and local governments' response actions were adequate to test their abilities to establish a readiness to meet protective action decisions, the actual implementation of these protective actions did not occur.

West Virginia

Objectives II, IV, V, VII have been met. Objectives I, III, VI, VIII, IX are addressed below:

I.a.2.

Communication between the Utility and impacted States and Counties via the existing hotline was confusing to EOC staff and procedures in the use of the hotline were not coordinated. Also, clarification is required regarding State responsibility in notifying Federal agencies (i.e. FEMA).

I.B.

Public instruction regarding evacuation procedures, routes, destinations, etc. was not demonstrated at Hancock County EOC. Future exercises should include preparation of appropriate emergency instructions for the public, in the form of both EBS messages and news releases.

III.B.

Stricter control and thoroughness is needed with regard to standard procedures for communications and message documentation within the EOC. Messages should be serially numbered to avoid loss of information and necessary information regarding time received, person receiving the information, actions taken, and routing should be consistently applied to the message form.

VI.

A simulated press briefing was demonstrated during the Beaver Valley REP exercise at the State EOC. Future exercises should provide more detailed briefings to the Governor's press representative, or should provide for technical backup personnel to be available to the press representative during interaction with the press.

Special telephone number was designated for rumor control, however, this number was the same as the EOC number. It may be more efficient to publicize a separate number for rumor control and to separate response capability from the operations room.

VIII.

Dose calculations were performed at the State EOC based on both plant and field data by the WVDH representative. Protective action decisions to evacuate the entire plume EPZ within the State of West Virginia was based on the desire to implement consistent protective actions and EBS notification to the public, and did not include discussions concerning available shelter, evacuation time estimates, and did not correlate with recommendations received from the Utility.

Hancock County's capability for performing the actions necessary to implement an evacuation has not been demonstrated. Future exercises should include realistic simulation of the full range of activities to include: instructing the public; notifying all special facilities, camps, parks, etc.; controlling air, water and rail traffic; determining available resources and acquiring unmet needs, evacuating schools; evacuating the transit dependent population; evacuating the handicapped, mobility-impaired; and controlling access to evacuated areas.

IX.

The issue of KI was not discussed or demonstrated, neither at the State nor at the County. No TLDs or film badges were available, self reading dosimeters have been pre-distributed to all emergency organizations. It is not distributed at the County EOC. Therefore the actual distribution of dosimetry or record keeping was not observed.

Pennsylvania State EOC

I. Activation and Staffing

Activation of the EOC was initiated at 0814 in response to the notification of Alert status from BRP to PEMA. Verification of this call was implicit in use of the dedicated line to BRP. For this exercise, the State had only limited participation. Agencies represented at the EOC were PEMA, BRP, PennDOT, Health, Education, Agriculture, State Police, and Military Affairs. This staffing was completed at 1006. The staff were knowledgeable about their roles. Twenty-four hour staffing capability was referred to only by PEMA, by presentation of a two-shift roster. Most of the PEMA staff not at the ECO were in the field as players or observers/instructors, hence normal calling of the second shift could not be demonstrated.

II. Emergency Operations Management

K. R. Lamison was in charge of emergency operations. He and the operations officer, periodically briefed PEMA and other response agency staff on situation updates. The response staff were equipped with written procedures for reference, and were actively involved in carrying out their emergency response roles. Message handling was efficiently done through the use of multi-part forms and photocopying for distribution. Access to the EOC was controlled by a police guard.

The EOC was notified of the Alert at 0814, Site Area Emergency at 1107, and General Emergency at 1322. PEMA staff promptly notified all other State agencies and other jurisdictions according to the plan. Periodic calls were held with other jurisdictions, especially Beaver County, to determine the status of response actions. The Lieutenant Governor was kept notified of changing status, and the Governor's office was involved in declaring a State of Disaster Emergency.

III. Facilities

The State EOC was equipped with sufficient space, furniture, lighting, and telephones for all agencies and staff to operate effectively. A status board in the operations room was kept posted with significant events. Maps were posted showing the plume EPZ, evacuation routes, and relocation centers. Information on traffic and access control points, and on population, was also available.

IV. Communications

Primary communications with the contiguous states, risk counties, the licensee, and BRP was demonstrated via the BVPS dedicated line

systems. In addition, the regular State radio network and CD/NRS were available, but not used. A telecopier was used for sending and receiving hard copy from the media center.

V. Dose Assessment and Protective Action Recommendation

Dose assessment was handled at a separate facility by BRP, as was the reading of the State's protective action recommendation based on dose and plant conditions. A protective action recommendation of 360 degree evacuation to 10 miles was reached in consultation with BRP and the affected jurisdictions. General Emergency was announced at 1322; however, the sirens were not sounded until 1430. Confusion resulted from the licensee being on the dedicated conference line, giving their protective action recommendations at the same time PEMA was discussing other recommendations with BRP and the other jurisdictions. In order to avoid confusion, PEMA's message directing protective actions (evacuation, in this case) should be transmitted as a separate and distinct message. If this message is verbal, it should be followed up with a hard copy. PEMA coordinated the sounding of sirens, EBS, and protective actions among the jurisdictions. However, the parent County reportedly misinterpreted the intent to evacuate.

The use of KI by emergency workers was recommended by BRP at 1350, and considered by Health as dose information became available. However, it was not observed whether or not the Secretary of Health actually then authorized the use of KI, as PEMA terminated the exercise shortly after the discussion of dose. Beaver County reportedly did not receive instructions to use KI.

Concerning the ingestion pathway, the State Agriculture representative issued precautionary directions for milk sampling and livestock care (sheltering, use of stored feed and water).

VI. Public Alerting and Instruction

The State EOC conferred via the dedicated line with the other states and all affected risk counties to coordinate the time of siren sounding and activation of EBS. Coordination was successfully accomplished to sound the sirens simultaneously at 1430, and PEMA received a report from Beaver County at 1432 that the sirens were sounding.

VII. Protective Actions

The State Police and PennDOT directed actual or simulated events to implement protective actions. Activation of traffic control points (out of sequence for the exercise) was ordered by PSP. PennDOT simulated responding to a hazardous material spill by closing the affected road, and simulated informing their headquarters of the Governor's Declaration of Disaster Emergency, closing the EPZ to rail, air, and water traffic, and pulling out road construction crews working in the area.

Radiological exposure control was not applicable at the State EOC.

IX. Media Relations

Frequent news releases were prepared by a PIO on loan from the Department of Corrections though no actual media briefings were given. The news releases were accurate and complete, their composition being based on information from the Director of Operations. News releases were telecopied to and from the media center to ensure that information was consistent with the information coming from other spokespersons. One of the early news releases reported the State and Beaver County phone numbers for rumor control.

X. Recovery and Reentry

Recovery and reentry were not played. The exercise was terminated shortly after initiation of evacuation.

XI. Scenario

The scenario was generally adequate to drive the State's action, given that the State decided to evacuate when the protective action debate was going on. However, a firmer basis for the needed offsite evacuation play could have been had if the scenario created conditions such that the licensee, as well as ERP, would recommend evacuation.

Also, in playing out the scenario, PEMA terminated the exercise too soon for the County and local players to have enough time to play out their emergency responses. The State EOC and Response Team staff relaxed when their role was finished, but did not consider that more time was needed by the County and local players to gain the most benefit from the exercise.

Pennsylvania State EOC Deficiencies

1. One response team representative took 90 minutes to respond to the call to activate the EOC.

2. In accordance with State and local plans, the licensee's protective action recommendation should have been discussed with the States alone, not in conference with the Counties as well. Protocol should be established for use of the dedicated hotline by the licensee in conference with the States, and by the State in conference with each other and the local jurisdictions.

3. Protective action recommendations reached by the State (evacuation, and the use of KI) were not communicated to the County, or were communicated ambiguously such that they were not understood. In addition, the time taken to coordinate these protective actions and public alert and notification was excessive.

4. Exercise play was terminated by PEMA too early for the County and local participants to have time to fully play out protective actions.

BRP

In general, BRP's responses to the situation were appropriate and adequate. A few events happened which were out of BRP's control which should be noted. First notice was very early and was a "weather alert" from the Utility. This would not normally happen. Later when Alert was declared, the basis for the Alert (damage from teh tornado to the plant) was not transmitted to BRP in a timely manner by the Utility. Later, at General Emergency stage, the Utility issued a protective action recommendation (sheltering) directly to the Counties without consultation with BRP. This should not be done, especially since BRP was issuing a conflicting recommendation. Finally, the lack of an "official" protective action phone link delayed discussion of protective actions among the States. This was made worse when the scenario was sped up at the end.

BRP Deficiencies

See State deficiency 2.

Media Center

I. Activation and Staffing

Activation and staffing plans were carried out with no major problems. Public Information Officers represented PEMA, the Ohio Office of Emergency Services in Charleston, West Virginia, the Ohio Disaster Services Agency in Worthington, West Virginia, and counties including Hancock, West Virginia, Columbiania, Ohio, and Beaver, Pennsylvania. All appeared to be efficient and knowledgeable in their fields. All but one brought assistants, most of them with public information or stenographic skills to back them up.

The Press Secretary, who was spokesperson for PEMA at the Media Center, was present. All primary staff, with the exception of the Chief Company Spokesperson were present by 0930, as well as several of the first and second alternates. It was explained to the FEMA observer that an individual from each state and county (three total) was present shortly after the Unusual Event was declared at 0705 hours to call organizational PIOs and staff persons. Some calls were still being placed when FEMA observer arrived at 0900.

It was also explained that 24 hour staffing capabilities were in place with triple staffing. Second and third shift members who were present seemed knowledgeable and capable.

II. Facilities

Facilities were excellent with communications capabilities including typewriters, telephones, copying machines and telecopiers. There

was adequate space for the PIOs, a news monitoring room set up with three televisions for following news coverage, a room for media persons equipped with 20 phones and potential for double that. A news media presentation center was equipped with a screen for slides or graphs. A plant drawing illustrating the nuclear reactors was on permanent view and explained during one of the press briefings.

The PIOs were provided access to a conference room down the hall from the news presentation center. There was also office space provided for two persons who acted as liaisons with local communities, mostly for calls pertaining to rumor control. Media packets were available to all.

The one communications device that was not kept updated was a status board located in the presentation center. The last update on this board was at 1320 hours.

III. Communications

Communications, with primary and secondary links, demonstrated an efficient system. The primary link was telecopier and telephone. Telecopiers were employed to send messages and releases to the PEMA office in Harrisburg, using prescripted releases which were filled in according to the actual event.

State releases prepared in Harrisburg were based on information received from the Emergency Operations Facility (EOF), a technical assessment center located just off-site of the nuclear plant, and transmitted to the Bureau of Radiation Protection (BRP) in Harrisburg by way of hotline. The EOF and JMC were in constant communication via phone.

Hard copy releases from Harrisburg were then teletyped to the Beaver County EOC and Western Area PEMA Headquarters, as well as to Indiana University, which is within Beaver County.

No examples of contradictory messages were brought to FEMA observer's attention. Secondary communication links were two-way radios, and messages carried by hand. Vehicles with PA systems were ready if necessary, according to information provided FEMA observer. They were not actually seen as they were located at county offices.

IV. Informational Functions

Press briefings were held five minutes before each press conference. These were conducted at 1100 hours, 1200 hours, 1330 hours, 1430 hours, and 1600 hours. The JMC issued 14 news releases between 0730 and 1445. The Public Broadcasting System message was read at the 1430 news conference, then typed and made available with the press releases which were on a table in the presentation center.

Press conferences and briefings were clear and accurate, and did not contain "technical jargon." PIOs exchanged information and coordinated releases of information.

Emergency instructions were not drafted at the JMC because all county offices had received emergency instructions prior to the exercise according to the PEMA spokesman. On June 6, 37,000 copies of an instructional brochure were allegedly mailed to residents, county offices and community leaders by Duquesne Light Company. These instructions were also printed in the phone book blue pages.

V. Rumor Control

Rumor control seemed to be well coordinated, with hotline number to reach county EOCs, the Governor's office in Harrisburg, and the JMC. Staffers were well prepared to answer questions and made several test calls to be sure all lines were working and being answered properly. Only one call was answered incorrectly. The JMC rumor control was activated at 0800.

A news release issued at 0835 from Harrisburg announced an audio service to provide hourly updates and actualities from state agencies. A state hotline number was issued at 0915, as well as the local number for the rumor control center established by Beaver County EMA.

VI. Scenario

The media center was a focal point for press and media throughout the exercise. Activity was kept moving at good pace and seemed realistic.

Deficiencies

1. Status board located in the presentation center was not kept up-to-date.

Emergency Operations Facility

I. Activation and Staffing

Both the State of Pennsylvania and the State of West Virginia pre-positioned their response personnel. The Pennsylvania Bureau of Radiation Protection (BRP), Department of Environmental Resources, has specified a principal and backup Nuclear Engineer for each nuclear power plant site within Pennsylvania. Full coverage is provided by two 12 hour shifts. During an emergency, the primary individual is dispatched to the site's emergency operations facility (EOF) as addressed in the Pennsylvania Emergency Management Agency operational plan. The West Virginia Office of Emergency Services upon notification of an Alert will dispatch a representative, within

24 hours, to act as a liaison officer; until such time the utility personnel are required to provide the State and County emergency staff with the necessary information.

The observer noted after a discussion with both state participants that a system was in place for notification and implementation of their emergency plans during a nuclear incident.

As described in their plans, a full complement of staff were present. The individuals were trained and familiar with their State's emergency plan.

II. Facilities

The EOF provided adequate space and equipment for the States and identified a liaison officer to assist in dissemination of offsite information. The EOF is hardened and equipped with a filtered ventilation system to protect against potential airborne contaminents. The State personnel had unhindered access to all plant status boards.

III. Communications

The primary communication lines were via a dedicated phone over commerical phone lines. Both Pennsylvania and West Virginia relied on the Utility's backup power supply for secondary communication. The observer noted that conferencing was available but there was difficulty with the system.

News releases were disseminated via a hard copy telefax through the media center. The system was found to be fast and reliable during the exercise.

IV. Informational Function

This function was not performed at the EOF.

V. Rumor Control

The rumor control numbers were activated and manned by utility personnel; one person was located in the Emergency News Center and the other in Corporate Headquarters. The observer did not verify the capability or awareness of these individuals but noted that an administrative emergency plan had designated specific individuals who were responsible.

VI. Dose Assessment and Protective Action Recommendations

Dose assessment was not performed by either the State of Pennsylvania or West Virginia at the EOF.

The major functions of the State representatives were: 1) to provide radiological and meteorological plant data, participate in discussions concerning protective action recommendations among the licensee and request information needed by cognisent State and County response personnel; 2) Pennsylvania's representative (Nuclear Engineer) provides an independent evaluation of the plant status.

The Pennsylvania BRP representative evaluating plant status chose to make an independent protective action recommendation, which was different than that made by the licensee personnel, during the general emergency. The BRP representative decided, based on plant conditions and Pennsylvania evacuation policy, to evacuate rather than shelter (as recommended by the utility).

VII. Scenario

The scenario was adequate enough to provide for offsite response activity and test the capability of the State agencies. Within the constraints of the "required" offsite doses necessary for emergency response the scenario was realistic enough to allow for free play and independent evaluation.

Air Monitoring Team

I. Field Team Mobilization

Field team was placed on alert at 0815 hours by phone call from Harrisburg. Team Leader checked out emergency equipment and confirmed that needed equipment was available. Team was ready to go by 0845. The team was requested to depart for Beaver Valley area about 1100 prior to declaration of Site Area Emergency as a precautionary step. Arrival at the assigned monitoring point was approximately 1245 hours. Mobilization was performed effectively, however the team was not adequately briefed on plant conditions nor meteorological conditions.

II. Field Team Equipment

The field equipment is excellent and appropriate. The plan identifies the necessary equipment and a checklist was used to establish that it was available. The air sampling equipment was also excellent and fully provided for iodine and particulate monitoring. Water and milk sampling is the responsibility of another team. The team had an excellent vehicle assigned for its use. Instruments had not been calibrated in the past year. There may be a potential problem with calibration frequency that should be reviewed. The team was not prepared to collect soil or vegetation samples during the drill, but this should not be considered a significant deficiency, since the primary objective of the field team is plume exposure monitoring.

III. Field Team Technical Operations

The team handled its technical operations well. Written procedures were available for set up of equipment and were utilized. Air samples for iodine were collected. The team knew its field sampling points well and readily located its assigned points. No samples other than air and direct measurements were collected, but water and milk samples were the responsibility of another team. No soil or vegetation samples were collected but this should not be considered a deficiency for the early stages of the accident that this scenario tested.

IV. Field Team Communications

The team had excellent radio communications throughout the drill with the State EOC.

V. Field Team Exposure Control

The team was conscientious in their monitoring of radiation exposure. Each member was issued two dosimeters and they were read out and recorded every 30 minutes. They were aware of exposure limits that they should not exceed without further approval. Upon request of the State EOC, they took KI tablets. They were aware of personal and equipment decontamination procedures. One problem should be reviewed by the State. Considerable time was wasted when the team was ordered to deploy from the plume exposure area and to evacuate beyond the 10 mile zone. Approximately 20 minutes later the team was ordered back into the zone into an area the other side of the site from which they evacuated. There does not appear to be a good reason to order the team out of the 10 mile zone.

Deficiencies

1. The team was not adequately briefed on plant or meteorological conditions.

2. The team was asked to evacuate from the 10 mile EPZ, rather than relocate out of the plume.

Water Monitoring Team

I. Field Team Mobilization

One staff member of the local Department of Environmental Resources was present in the Beaver County EOC during most of the exercise day and was available for deployment but was not directed to do so.

Normally the system for call up would begin at the State EOC, go through the Indiana, Pennsylvania PEMA area facility to the DER office in Pittsburgh where a call to the local Beaver Valley DER

office would activate a water monitoring/sampling team. The team would report to the Beaver County EOC for dosimetry equipment, i.e. a CDV-742 and KI if necessary.

Mobilization of the water monitoring team was not demonstrated during the exercise.

II. Field Team Equipment

The DER staff member who was present in the EOC at Beaver County had a station wagon with a two-way radio and all necessary equipment for water sample collection. However, the vehicle and equipment were not used during the exercise.

III. Field Team Technical Operations

The DER staff member was familiar with the local area and knew where water sampling points were located. He was trained and knowledgeable in sampling procedures.

The water monitoring team was not dispatched during the exercise.

IV. Field Team Communications

The water monitoring team vehicle was equipped with a two-way radio for communications and telephone call-in was the backup system.

Communications were not demonstrated during the exercise.

V. Field Team Exposure Control

The team member was issued a CDV-742 dosimeter and also had a copy of PEMA dosimetry-KI report form and was familiar with entering appropriate data on reading and KI usage. He was also familiar with decontamination procedures and the location of decontamination centers.

Exposure control was not demonstrated during the exercise.

VI. Scenario

The scenario was not observed for the water monitoring team. However, the scenario under the heading of "Time Schedule of Additional Actual Events" did call for a DER water sampling team to depart from field office.

No water monitoring team was dispatched to collect water samples during the exercise.

Water Monitoring Team Deficiency

1. Although the water monitoring team was on standby at the Beaver County EOC with all equipment necessary, they were not mobilized during the exercise.

Traffic and Access Control

The Pennsylvania State Police (PSP) should be commended for a well executed exercise. In particular, the briefing for the assigned officer was well presented and gave the participants a good understanding of their roles in the exercise. The assigned officers understood the need for dosimetry, their traffic responsibilities and the support that was available to them from the staging area. They promptly reported to their assigned locations and clearly described what their responsibilities were and where the nearest reception areas were located.

There was no demonstration of equipment resources by PennDOT. However, no equipment other than that already available to PSP is required at most locations.

In an actual emergency two staging areas are planned. To assist the officers responsible for the second area they also attended this exercise briefing. The PSP are also in the process of developing a standardized response plan for all reactor emergencies.

The PSP have indicated a sincere effort to fully support the emergency planning process. Through training and development of plans for the PSP they have displayed their commitment to the process.

Decontamination

Personnel at each location were generally well versed in their responsibilities and had the equipment to accomplish their tasks. The ability to actually perform assigned tasks was only observed in Ambridge where a fire vehicle and drivers were scanned and cleared to return to their post. A vehicle and driver(s) was also checked at Beaver Falls but was not observed by the Federal observer. No vehicles or workers were processed at Baden.

Decontamination Deficiencies

1. It appeared that the decontamintion station at Baden had been activated well before the general emergency. In the future activation closer to the general emergency would be more appropriate.

2. Assuring that vehicles are dispatched to all decontamination stations would improve future exercises.

Medical Support

I. Communications

Notification and verification of emergency messages were good, with one exception. Ambulance enroute to Aliquippa Hospital was not informed of construction on Green Guard Road, causing a delay in arriving. The communications between Life Flight and Aliquippa were well coordinated. Personnel were familiar with communication procedures, operating with minimum difficulty.

Communications between security personnel for maintaining ACPs at Aliquippa require additional coordination.

II. Hospital Facilities and Procedures

Both hospitals observed did very well in all aspects of the drill; personnel had a good knowledge of equipment, and its use for decontamination procedures. Contaminated material was handled properly.

III. Ambulance Facilities and Procedures

The ambulance crew were accompanied by Radcon Personnel from the plant. They performed necessary decontamination operations. They were familiar with decontamination procedures. The dosimeters they were issued at the emergency site were not calibrated properly, so a true reading could not be obtained.

IV. Scenario

The drills at both hospitals fully tested the capabilities of all personnel. The helicopter evacuation was accomplished with no problems. The personnel involved are to be commended for their professionalism and dedication. The drill was realistic. A positive attitude prevailed.

Beaver County EOC

I. Activation and Staffing

The County police and fire switchboard received a call at 0637 from PEMA regarding a tornado watch (part of the exercise). This message was relayed to the County Emergency Management Coordinator (EMC) at his home. Upon receipt of this message the Coordinator left home for the County EOC. Notification of an Unusual Event was received at the County switchboard from BVPS at 0705. The Coordinator received notification of an Alert declaration from PEMA at 0811 while in the EOC. Upon Alert notification staff mobilization procedures were initiated. Staff notification was complete by approximately 0900 and the EOC was fully staffed by 0945.

The County switchboard is in operation 24 hours a day and permits activation of staff at any hour. The EOC was fully staffed. Persons or organizations represented were: County Commissioners, County Emergency Management Coordinator and assistant, County Public Information Officer, Mass Care Coordinator, PennDOT representative, Public Works Coordinator, National Guard Liaison, County Agricultural Agent, Industry Liaison, RACES and REACT operators, Sheriff's Department, Pennsylvania State Police, Fire Services Coordinator, Health/Medical Officer, Transportation Coordinator and School Services Coordinator.

Staff members displayed adequate training and knowledge. Round-the-clock staffing capability was demonstrated via presentation of a roster; some second shift personnel were present in the EOC; those not present were in telephone contact at some point in the exercise.

II. Emergency Operations Management

Beaver County Emergency Management Coordinator was effectively in charge of County operations. Periodic briefings were held and staff input invited. Appropriate resource materials including checklists, etc., were readily available. Message handling was for the most part efficient.

Access to the EOC was controlled by personnel from the County Sheriff's department beginning at 0823. At 1051 the EMC noticed two persons entering the EOC from a stairway leading from the County switchboard in the basement below the EOC. The EMC promptly had the situation corrected which had enabled people arriving to enter the EOC through this alternate avenue.

Notification of emergency action levels was received at the following times:

Alert	0811
Site Area Emergency	1117
General Emergency	1329

No protective action orders were issued. At 1336 BVPS recommended sheltering from 0 to 5 miles in certain sectors. The EMC, however, insisted, correctly, that any protective action decisions should come to the County from PEMA. No protective action recommendations were made by the County to the municipalities at this point.

PEMA contacted the County EMC on the BVPS dedicated line at 1410 requesting that sirens be activated at 1415; the Federal observer at the State EOC in Harrisburg indicates that PEMA was also recommending a 360 degree evacuation during this conversation. The County Coordinator objected, stating that more time would be needed for the 27 Beaver County municipalities to be contacted. He put the

phone down to confer with the president of the County Commission and with County communications personnel. When he picked up the phone again he had apparently been cut off. He then picked up the PEMA dedicated line and quickly reached the same PEMA person with whom he was previously speaking. He advised that 1430 would be an acceptable time for siren sounding and route alerting. During discussion between the County Coordinator, President of the County Commission, and communications personnel, a member of the staff asked the Coordinator if any protective action recommendations were to be part of the message to be relayed to the municipalities. He responded no and said he expected such a recommendation to follow later. At any rate, there was confusion as to the actual transmission of protective action decisions. and the exercise was terminated prior to any attempt by PEMA or Beaver County to verify that specific protective action decisions had been relayed to the municipalities. Although no protective actions were ordered, the County staff anticipated an evacuation order. Transportation needs and resources were established during the Site Area Emergency.

All three County Commissioners were at the EOC during the exercise with at least one present at all times. The Commissioners' clearance was obtained by the EMC on all significant decisions.

County check sheets indicated that with one or two exceptions communications to the municipalities from the County were prompt. However, contradictory observations were made at some municipalities indicating that there were lengthy delays in communications from the County. The County and the municipalities should meet, or otherwise communicate, on this matter in order to a) form, if possible, an accurate picture of intra-County communications a.d b) improve communications as necessary.

III. Facilities

The basic facilities - furniture, space, lighting, telephones were adequate for the needs of the EOC staff during the exercise. The furniture arrangement and clear identification of the function handled at each staff location (eg. RACES, State Police, Communication Center) was effective.

All primary communications systems are permanently located in the EOC building, including teletype, police communications center with telephone and radio contact with all fire, police, and ambulance services county-wide, radio contact with adjacent counties and State Police; RACES and REACT equipment; telephone lines for EOC staff; Beaver Valley Power Station hotline telephone; and the computer controlling siren activation.

The facility is not set up to support extended operations. It appears that operations presume the availability of outside facilities for food and for staff to rest when off duty. The EOC is at the outer edge of the 10 mile EPZ; evacuation of the EPZ is not called for by the County's radiological emergency plan.

A backup generator is available, and turns on automatically 30 seconds after the primary power systems fail.

Although the message board and status board were mislabeled (i.e. the message board was used for status reports, and vice versa), the boards were readily visible, significant events were listed promptly, and the emergency classification level was posted as part of the status information.

The plume EPZ and evacuation route maps were posted around the EOC, as were siren location maps. Evacuation route maps noted to which relocation center each evacuation route led.

Maps indicating access control points, radiological monitoring points and population by evacuation area were not posted but were available. Meteorological conditions were posted on the EPZ map and updated periodically.

IV. Communications

The overall communications capabilities in this EOC are outstanding, but the processing of information to the municipalities should be investigated. There is a serious delay in notifying some municipalities of real time situations at the power plant. Some of the delays were over an hour and in one instance over 2 1/2 hours late. The County had contact with West Virgina and Ohio via the power plant hotline. Primary contact to the CPCS-1 station or CPCS-2 station was not demonstrated. The County did call the EBS station in Beaver Falls (WBVP) via telephone but had no backup capability. The primary contact to the State EOC was via hotline with RACES as the backup. Communications capability does exist with the power plant by use of the hotline with a radio link as backup. The media center was notified by means of telephone with a teletype circuit as backup. The County made use of the RACES and REACT nets.

The risk municipalities were well staffed with qualified communications personnel. Most of the EOCs have sufficient telephones but there are some of them that can use additional phones. The radio capabilities at all the locations were outstanding. Message traffic was well documented, controlled and posted. There was a serious delay in information getting from the County EOC to some municipalities on the call down list.

EBS System

The overall operation and notification of EBS stations during this exercise was not in accordance with the Emergency Broadcast System (EBS) procedures for the Pittsburgh extended operational area. Prior to the exercise the County knew that the CPCS-1 station (KDKA)

would not be participating as the next station to be notified by the CPCS-2 station (WTAE) in Pittsburgh. There was indication that this station was never notified. The County called WBVP in Beaver Falls to inform them of the siren activations but this station did not activate the two-tone EBS alert signal. Unless the CPCS-1 and CPCS-2 stations are notified other stations monitoring them will not get the alert tones telling them to stand by for an EBS message; this causes confusion to anyone listening to another station that may not broadcast the emergency message. Radio station WMBA in Ambridge received a telephone call in regard to the sirens but they did not understand it so they took no action.

VI. Public Alerting and Instruction

The Beaver County EOC plays a major role in public alerting via siren activation, EBS activation, issuance of directives to municipalities to commence route alerting and calls to institutions such as schools and factories. Upon direction of PEMA the County sounded sirens within its EPZ and directed its municipalities to begin route alerting; these activities were coordinated with West Virginia and Ohio.

Emergency public instructions are prescripted and included in the County REP plan. The route alerting message for the exercise was for the public to turn to an EBS station in the event of a real emergency. Sheltering and evacuation messages are included in the County plan.

Calls were actually made in this exercise to schools in the EPZ.

VII. Protective Actions

A. Evacuation and Access Control

Activation of traffic control points was handled by the Pennsylvania State Police.

B. Special Evacuation Problems

Lists of mobility-impaired individuals are the responsibility of municipal emergency management organizations. However, the County Transportation and Health/Medical Officers are responsible for gauging the unmet transportation needs of such individuals and locating the resources to move them. These functions were performed: bus companies and ambulance companies were contacted by phone. Sufficient buses were available locally. To meet ambulance needs, the County Health/Medical Officer contacted a regional emergency medical services organization which was able to advise him that the required number of ambulances could be supplied if needed.

C. Implementation of Ingestion Pathway Protective Actions

The County Agricultural Extension Agent was present at the EOC throughout the exercise and was in frequent communication with the Pennsylvania Department of Agriculture. Detailed information was available to him concerning locations of farms, water supply facilities, etc. The County agent recommended the readying of alternate feed sources for livestock during Site Area Emergency.

The County extension agent also successfully established a farmer information site at which farmers who were designated as emergency workers would be able to obtain dosimetry. The Soil Conservation Service area representative assisted in this effort.

VIII. Radiological Exposure Control

Personal low-range dosimeters (0-200 mR) were distributed to all the County municipalities and to all County emergency workers during the Alert phase of the exercise. Appropriate instructions and record keeping cards were provided to County EOC workers. TLDs were not distributed during the exercise, but are available; their use was understood and explained by the County radiological officer.

Because of its location at the outer edge of the EPZ, relocation of the County EOC is not part of the County's REP plan.

No recommendations for the use of potassium iodide were received by the County nor did the County raise the subject.

IX. Media Relations

Press briefings and tours of the EOC were conducted during a pre-arranged one hour time period. Several television reporting crews and several newspaper reporters were provided with information by the County PIO and by the County EMC. Press briefings and news releases were coordinated with the joint media center. A rumor control phone number was established early in the exercise. It and other phones were utilized intensely immediately following the sounding of the sirens.

X. Recovery and Reentry

No evacuation was ordered in Beaver County; no recovery and reentry measures were called for by the scenario.

XI. Scenario

The scenario was not fully played out in that protective action decisions were not transmitted through the County to its municipalities; however, exercise events were sufficient to test the

County's ability to establish a readiness for evacuation. The scenario was also sufficient to test the basic capabilities of the County's 27 municipalities, most of which were participating for the first time.

Beaver County Deficiencies/Recommendations

1. The County should examine both its internal and external communications procedures with the goal of preventing a recurrence of the failure to receive and transmit the protective action decisions. Messages should be completely written out and read back to the sender for purposes of verification. The County should also attempt to determine why some municipalities experienced delays in communications from the County, and correct the factors causing those delays.

2. While no protective action decisions (evacuation, use of KI) were received or were misunderstood by the County from PEMA, there was sufficient information available to the County to warrant a more aggressive pursuit of the matter with PEMA. Such a non-passive stance on the County's part would foster a more fail-safe communications system.

3. The County should determine for itself exactly what functions chalkboard message log and its status board are supposed to fulfill and use them accordingly.

4. The County and municipal plans state that the primary means of communications is by telephone with RACES as backup. As noted in many of the municipal reports the County used RACES as the primary communications link for this exercise. If this is to be standard procedure then County and municipal plans should be revised to reflect this.

5. The EBS system did not operate in accordance with the Pittsburgh Extended Operational Area EBS Plan.

Aliquippa Borough

I. Activation and Staffing

According to the EOC logs which were maintained during the exercise, and confirmed by the FEMA observer, the emergency coordinator was notified at his home at 0935 that there was an Alert status at the Beaver Valley commercial nuclear reactor. After being notified by the Beaver County EOC the coordinator arrived at the Aliquippa Borough EOC at 0940 and began to call the officials needed to staff the center. The jurisdiction no longer has a Borough Manager so that most of early decisionmaking was carried out by the Emergency Management Coordinator. However, the Coordinator was knowledgeable and the staffing of the EOC was completed by 1120 hours with the

exception of the Mayor who was at work and unavailable). The police chief acted for the Mayor and was soon joined by two members of the Borough Council. Ably supporting the emergency management coordinator was the fire chief who was also well versed in radiological emergency response procedures. At all times messages received during the operation of the EOC were verified by return calls.

The organizations that were present at the EOC were fire, police, RACES and a number of elected officials. Around-the-clock staffing was demonstrated by double shifting and all personnel displayed good general knowledge of radiological emergency preparedness at the municipal level.

II. Emergency Management Operations

The acting coordinator was the person so designated in the plan. The Coordinator was effectively managing the operation with the active support of the fire chief. Staff and elected officials were briefed as messages came in from the County through both the RACES team and the phones. Such messages were efficiently processed as the reports on plant status were received at the EOC for the Alert (0835), Site Area Emergency (1125), and the General Emergency (1349). There was no evidence that the EOC staff knew of the scenario or were prepositioned for the exercise. Access to the EOC was controlled and only those staff members necessary to the overall management of the emergency response were allowed in the EOC.

At all stages of the emergency calls were made to the schools and housing projects. The chiefs of police, fire and transportation were all present at the EOC so calls to them were not necessary. If buses had to be dispatched they were radio controlled and that control was verified.

Elected officials were constantly consulted before any decisions were made. Additionally, the EOC periodically contacted the County to see if there were any changes in plant status and after the General Emergency was declared, what were the recommendations for protective actions.

III. Facilities

The facilities at the EOC were sufficient in that furniture, space, lighting, beds, telephones, kitchen, showers and backup power were available. The status board showed the different stages of the emergency as they were reported to the EOC and was clearly visible. Maps were shown of the Borough as were evacuation routes and the direction to relocation centers. Access control points were available and posted.

IV. Communications

Communications facilities consisted of commercial telephones and RACES with two backup radios. The fire radio was also used.

V. Public Alerting and Instruction

The EOC did play a role in the alerting of the public simply by carrying out the function of route alerting after the sirens were sounded. A log was prepared showing how the route alerting teams covered their sectors.

VI. Radiological Exposure Control

An adequate supply of dosimetry, chargers and simulated KI, along with record forms, were received at the EOC at 1012 hours. In the review of the use of the equipment the radiological exposure control officer was not able to be definite on PAGs for emergency workers. In addition, while no radioactive release was reported offsite to the Borough, persons who thought they were excessively exposed to radiation were allowed to enter the EOC in a momentary breach of security.

VII. Scenario

This scenario did not appear to stress the EOC sufficiently to test their abilities in the event of an accident requiring actions to protect the public from hazardous radiation.

Aliquippa Deficiency

1. The Aliquippa Borough EOC should receive training for selected personnel so that such personnel can demonstrate in a drill that: 1) contaminated personnel in the vicinity of the EOC can be properly directed to decontamination and/or treatment facilitis; and 2) the decisionmaking process and PAGs for the exposure of emergency workers to hazardous radiation can be adequately explained and implemented.

Beaver Borough

I. Activation and Staffing

At approximately 0900 the EOC was notified by the police center dispatcher. No formal verification was made as the Beaver Borough dispatcher who received the call knew the police center dispatcher. Staffing was completed by 0915 and was efficiently carried out. The staff reporting for duty had been well trained and knew what their task assignments required.

II. Emergency Operations Management

The EMC was very much in charge, he knew the plan and directed his staff in a very efficient manner. Access to the EOC was controlled by a Beaver Borough police officer.

III. Facilities

The room which functioned as the EOC was well laid out and had all the requisite appointments and equipment. Signs were in place clearly indicating responsibilities. Status boards were visible for all and kept up to date.

Evacuation routes were posted although they were incorrect. The contractor who prepared them for the power company apparently made a mistake.

IV. Communications

Communications were more than adequate with both radio and telephone. The performance of the REACT personnel was especially good.

V. Public Alerting and Instruction

Public alerting was done by loud speakers on fire trucks and was carried out promptly.

VI. Radiological Exposure Control

Radiological exposure control was more than adequate. On the Borough staff was a gentleman knowledgeable in both equipment and procedures.

Beaver Borough Deficiency

1. Since utilization of the correct evacuation routes is critical for a successful evacuation, the Borough should obtain revised information on evacuation routes as soon as possible.

Bridgewater Borough

I. Activation and Staffing

The Bridgewater Borough EOC was activated by a telephone call at 0835-0840 to the Emergency Management Coordinator at his residence. This call was received from the Beaver County police station. Staffing was completed by 0930. The following organizations were represented at the EOC: Police Department (police chief was in and out); EMC; Fire Department (Assistant Fire Chief and volunteer fire department staff on standby as emergency workers); RACES (three operators); Mayor (Mayor was in and out). The staff appeared to have adequate training and knowledge. No round-the-clock staffing capability was demonstrated. However, the EMC advised that additional staff would be called in to relieve first shift, which would be permitted to go home and rest and come back later.

The EMC advised that there are two full-time policemen (one night/one day), plus 23 members of the volunteer fire department who could be called in. There were about eight firemen on duty for the exercise.

II. Emergency Operations Management

The individual in charge of the Emergency Operations Center was the Emergency Management Coordinator. He was assisted by the fire chief and Assistant Fire Chief. Information advising EOC staff of updates was provided verbally to staff on a periodic basis.

A message log was maintained by EMC and appeared to be efficient. Access to EOC was not controlled, but EOC staff advised that it would be done in the event of an actual emergency.

The EOC was notified by Beaver County EOC advising of plant at Alert status at 0835-0840 via a telephone call to EMC at his residence. Notification of plant at General Emergency status via a RACES message was received at 1345 from the Beaver County EOC.

Actions were taken to coordinate emergency activities such as those with fire department and police assistance. Fire Department was on premises. Other calls were placed to Beaver County EOC for clarification or information.

The Mayor was present for portions of the exercise (his office is in the same building). It did not appear that he was actively involved in the decisionmaking process.

PEMA observer-instructor provided some guidance on miscellaneous matters. EOC management appeared to be very capable and well trained.

III. Facilities

Office facilities were more than adequate based on the staffing at the EOC.

A status board was clearly visible and was continuously kept up to date by the EMC as significant events occurred.

The following maps were visible/posted: Alert Sector Map; Main Evacuation Routes/Traffic Control Points and Pickup Points.

In summary, facilities appeared to be more than adequate for staffing in EOC. There is no backup power available at the present time.

IV. Communications

Primary communications were demonstrated by use of RACES. A commercial telephone line was also available, but the majority of communications involved incoming and outgoing RACES messages. Police and fire radios were also available and utilized.

Communications seemed to flow very well via RACES. The Bridgewater Borough handled it very well. However, through no fault of Bridgewater, this municipality did not receive timely notices on exercise activities and/or status from Beaver County, such as the following: 1) Message #229 at 1227 - Message - "Reactor conditions stable" - not received until 1320. 2) Message #213 at 1230, not received until 1450.

V. Dose Assessment and Protective Action

This section is not applicable.

VI. Public Alerting and Instruction

Bridgewater Borough EOC played a role in public alerting as a result of a RACES message at 1420-1425, advising them to do route alerting when sirens were sounded. The sirens were sounded at 1430 and fire vehicles were immediately dispatched to perform route alerting in all five sectors. Even though they were only instructed to do one sector they wanted staff to get experience in actually doing the entire area.

A. Public Instruction

Public instructions were drafted at the EOC by using information in their emergency plan. Bridgewater EOC also sent message to County to seek approval in using this. Message was clear and appropriate. It was provided via fire vehicles with PA systems during General Emergency and basically advised residents to tune to EBS.

No evacuation or shelter instructions were received at this EOC.

B. Protective Action

Activation of traffic control points was not observed. Police Chief was out on patrol and in radio contact with EMC. The PEMA observer believes that he was to be notified when to perform traffic control.

According to EOC staff, appropriate resources are available to keep evacuation routes clear because Fire Chief is also the Streets Commissioner and would arrange for removal of stalled or wrecked cars and keep roads clear with Borough equipment. This was not demonstrated.

According to EOC, local resources are available to cover all traffic and access control functions in terms of available vehicles and available personnel, although the Federal observer feels that traffic control might be a potential problem due to limited staffing of police department.

C. Special Evacuation Problems

EOC staff were aware of the location of mobility-impaired individuals in the area. Fire Chief advised that in such a small town he knows "where and what" for everyone in town who might need assistance. He also had a list on file. There were also cards provided to community to complete and return if assistance was required. Only three cards were returned. The transportation arrangements for the above reference persons with special needs was not observed, but the Fire Chief advised the Federal observer that police, fire, private vehicles of fire department (including firemen's wives) would be utilized.

No schools are located within Bridgewater Borough; all children go to school in Beaver. There are also no farms, hospitals or colleges in Bridgewater.

VII. Radiological Exposure Control

Low range (0-200 mR) direct read dosimeters were on hand. EOC staff advised they have 31. There were several chargers on hand, along with record keeping cards. There were no permanent record dosimeters (TLDs) on hand. Instructional booklets were issued to all emergency workers. They have also all attended several training sessions on its use provided by the Utility. There was no potassium iodide on hand. The Borough would have to contact Beaver County for assistance. The EMC advised that decontamination procedures would be conducted in Butler County. No notice was received of need for EOC to take protective actions against plume exposure to EOC. Fire emergency workers had low range dosimetry equipment and geiger counter devices with them on fire equipment. It was not clear what they intended to do with the equipment.

VIII. Media Relations

There was no space set aside for press briefings at this location. EOC staff believe that it is not necessary because news media will probably go directly to the County level.

Capability for rumor control was not demonstrated, but it was discussed. EMC probably should seek further guidance on where to direct callers/visitors. EMC advised that with limited telephones it would not be efficient. There is only one phone line directly in EOC.

IX. Recovery and Reentry

This section is not applicable.

Summary

Overall, the FEMA observer believes that Bridgewater Borough EOC staff did a more than adequate job. They quickly mobilized. EOC staff were extremely cooperative. They seemed enthusiastic about the exercise. With some prompting from the PEMA observer-instructor followed plan and seemed to be well informed about their procedures. Other than the couple items noted above that should be addressed in order to improve emergency response capabilities, the Bridgewater Borough EOC staff did a fine job.

Bridgewater Borough Deficiencies

1. The Borough should clarify, with Beaver County, the role they should play, if any, in public information and rumor control.

2. Additional personnel should be trained and a roster established as part of the plan to cover 24 hour manning capabilities.

Brighton Township

I. Activation and Staffing

At 0947 (Alert stage) a call was received from Beaver County EOC which resulted in the initiation of activity within the Township EOC. The EMC recalled the County EOC to confirm. Staffing was completed at 0915 except for one Supervisor who was notified at the proper time and could not attend. Township was aware of this situation before-hand. The EOC was staffed by Township Supervisors, Police Services Director, Fire Services Director, Public Works Director, and Director of Communications. They appeared well versed in their roles and responsibilities. Round-the-clock capability of staffing is available; a stand-by backup list was shown the Federal observer.

II. Emergency Operations Management

The EMC also serves as Township Manager and Sewer Authority Manager. He was well informed as to his role as EMC and periodically briefed his staff on the situations, soliciting their opinions in decisionmaking. Messages were read by the EMC as they were received and elaborated on by him if necessary.

Two charts were in the Township EOC; a message chart and a major problem chart. Both charts were kept current, easy to read, and comprehensive. Adjacent to the charts were maps indicating evacuation routes and access control points. Maps showing

radiological monitoring teams and ingestion groups were available with the Township Emergency Management Plan but were not posted. The population by evacuation area was not available.

III. Facilities

The Township EOC was adequately supplied with furniture, lights, phones, and space. The only problem with the area was noise control. Water and sewer bills were being sent out on a noisy printer. The EMC indicated to the Federal observer that in an actual event this would not occur.

The Township EOC was notified at 0847 of Alert status and at 1349 of the 1330 General Emergency status. The 1050 Site Area Emergency status was not noted. To the Federal observer this problem seemed to originate at the County EOC. However, a phone call from the EMC to County EOC would have rectified this problem. Also on another occasion the EMC tried to contact REACT but could not obtain the phone number. This number should have been on file with the Township EOC.

The Township EOC placed a call at 0928 to activate the route alerting teams and at 0950 to activate other response organizations (e.g., police, ambulance, fire). Calls were made by Township EOC to the County EOC as needed if the Township had any questions (however no call was made regarding the lack of a Site Area Emergency declaration as previously mentioned).

IV. Communications

Communications with the County would be via commercial phone with a police radio backup. Communication with route alerting teams would be via police radio.

V. Public Alerting and Instruction

The Township EOC alerted the public as to the incident. The Township is divided into five alert sectors with an alert team for each sector whose purpose is to ensure that all residents including transients have been notified. These teams advise residents to tune to EBS for further instructions. The teams and EBS activated at 1430. The alert team contact was shown and is via vehicles with loudspeakers or bull horns and/or by knocks on doors. Route time is 45 minutes. (The EMC advised the Federal observer that no factories or nursing homes are in the Township and that the County has the responsibility of notifying schools and hospitals. The Township will assist with school notifications.)

The staff activities were accomplished both via present instructions as well as via discussion/consultation. The Township EOC also prepared a previously distributed Newsletter advising the public of the exercise and procedures which were a part of the exercise.

VI. Protective Actions

Traffic control points activation was promptly ordered. State Police are to provide traffic control on main evacuation routes. Township Police Department set up traffic control point within the Township to expedite residents to the main evacuation routes and in keeping the evacuation routes clear. The EMC indicatd that the County EOC has the responsibility of activating reception centers.

A list of residents who need assistance in evacuating is maintained and kept at the Police Department. Since the exercise occurred during break, evacuation of school children was not demosntrated. EMC stated that evacuation and notification to do so lies with the County but that the Township would assist. Evacuation would be to Slippery Rock High School where the students would be picked up by parents. Water supply intake points are all underground. No food processing plants are in the Township. The County has all the information addressing farm activities and workers with Penn State University Cooperative in implementing protective actions.

VII. Radiological Exposure Control

The Township EOC obtained 0-200 R dosimeters, chargers, and record keeping cards. The materials were explained and demonstrated by the EMC. KI was to be available at the County but not distributed. The EMC indicated that his staff was aware of the proper procedures of using it. He advised his staff of the location of the decontamination centers.

VIII. Media Relations

The Chairman of the Board of Supervisors was the media person and was at the Township EOC. No specific area was set aside for him and no briefing was demonstrated. Residents and others with rumor questions would first contact EOC who would allay the rumor. If it could not be satisfied at this level, then the person would be directed to the Police Department. This was not demonstrated to the Federal observer.

IX. Scenario

The problem seemed to be in implementing the scenario. The Township did well especially for the first time. The Federal observer suggests that more actual demonstration of the activities required would be appropriate.

Brighton Township Deficiency

1. The County should give their municipalities periodic status reports concerning the emergency response in order to insure that missed messages are at least received in a somewhat timely manner. If

Center Township

I. Activation and Staffing

The observer arrived at the Center Township EOC at 0810. At 0845 the Emergency Management Coordinator arrived at the EOC. He had been notified by phone from the Beaver County EOC at 0840 of the Alert status. At 0850 the Center Township police were notified. At 0905 the Gateway Rehabilitation Center was put on alert status. At 0907 a Center Township fire department representative arrived at the EOC. At 0915 the Center Township communications operator arrived at the EOC. At 0938 one of the Township Supervisors arrived at the EOC. They had all been notified by phone from the municipal supervisor's office. At 0946 the Alert status was confirmed from the Beaver County EOC and at 0958 the local fire and police were put on standby. At 1000 a REACT operator arrived at the EOC and at this point staffing was considered to be complete. The staff knew their responsibilities and if around the clock staffing was required it would have been coordinated through the police and fire chiefs who were also familiar with the Center Township Emergency Management plan. Briefing of the staff was done in an orderly and adequate fashion throughout the exercise.

II. Emergency Operations Management

The EMC, as designated in the plan, arrived at the EOC at 0845 and was effectively in charge. The staff was small but also very effective. A message log was kept and periodic briefings were held. Message handling was efficient and security was controlled by a Center Township police officer. A Township Supervisor actively participated in the EOC decisions. The EMC was notified at home by phone from the Beaver County EOC of Alert status at 0840. The Site Area Emergency was received via REACT at the EOC from the Beaver County EOC at 1126. The General Emergency was received the same way at 1330. Fire, police and all appropriate units were called as required after the emergency messages.

III. Facilities

The EOC is in a large room in the Center Township Municipal Building. Furniture, space, lighting, rest rooms, etc. were all available and more than adequate. There was one telephone with two lines. A status board was posted and kept up-to-date. Maps of the plume EPZ with sectors labeled, evacuation routes, relocation centers, access control points, radiological monitoring points, and population by evacuation areas were all posted and kept up-to-date as appropriate.

IV. Communications

Communication capabilities consisted of one telephone with two lines, which was supposed to be primary; the REACT operator which was the backup, and portable radios from the EOC to the Center Township police and fire departments.Local schools if in session will be notified by telephone and route alerting teams are notified by portable radio. Communications with the Beaver County EOC were excellent through the REACT operator and this should probably be considered as the primary instead of the telephone. If the telephones to the local schools would fail the backup would be by police and fire department portable radios.

V. Media Relations

If the media would come to the EOC they would be referred to the Beaver County EOC.

VI. Public Alerting and Instruction

The Center Township EOC got the call for route alerting on REACT from the Beaver County EOC at 1420. The sirens were activated at 1433 and the fire trucks used as alert vehicles were also dispatched at 1433. All routes were completed by approximately 1513. The Beaver County EOC had prepared a message to be read by the route alerting team. The message instructed the public to tune to the EBS on radio or television. The EOC monitored the EBS broadcast. Word of the execise was heard on the morning news only. No other mention was made.

VII. Protective Action

There were five TCPs activated at 1435 and they were reported manned at 1439. The Center Township police chief has various agreements with several local garages to provide towing, emergency road service, and fuel, on an as-needed basis. The identification and location of handicapped were available in written form and had been recently updated. The list was detailed as to the specific type of disability (two people hearing impaired). Police were to be used for evacuation. If ambulances were needed they would be coordinated through the County.

No message was received from the Beaver County EOC to take any protective action, either evacuation or take shelter. At 1530 the Center Township EOC received word via REACT from the County that the drill had been terminated as of 1515.

VIII. Radiological Exposure Control

High range dosimeters (0-200 R) were delivered to the EOC at 1200 hours and distributed to all Center Township volunteers by 1245.

availalbe. There were no KI, film badges, or TLDs issued, although a Center Township fireman was familiar with procedures for using this equipment. Instructions for decontamination procedures and the location of decontamination centers was also discussed and provided for in the EOC. There was a discussion about the possible need to evacuate the EOC and move to Ambridge Fire Department as an alternate EOC. There was a slight delay in the distribution of dosimetry equipment because the EMC waited to take a count on the number of workers before he sent to Beaver County EOC for his requirements. These numbers as it turns out were pre-determined.

IX. Scenario

The scenario played well at this EOC which did an excellent job with all applicable phases of the exercise.

Center Township Deficiency

1. Another phone should be installed in the EOC to eliminate some timing problems with incoming and outgoing calls.

Chippewa Township

I. Activation and Staffing

The EOC was activated and staffing was completed at approximately 0955 hours. There was some apparent pre-positioning. The Deputy Emergency Management Officer (acting in the absence of the Emergency Management Officer who was out of the Commonwealth) received word from the Beaver County Police Center at approximately 0835.

Represented at the EOC were representatives from the fire department, police department, REACT, the Township Manager, and radiological officer. No elected official was at the site during the exercise.

Overall, the staff displayed an adequate knowledge of the Township's plan and operating procedures. The EOC staff were supportive and worked well as a team.

A shift change was not demonstrated; however, individuals and their assigned duty hours were posted.

II. Emergency Operations Management

The EOC was adequately managed by the Deputy EMC, and ably supported by the police chief, fire service representatives, REACT and communications staff.

No briefings were held. However, the EOC was small and most information was immediately apparent due to the close proximity of staff, the existing working relationships, and relatively low level

of activity; i.e., there was not a lot of information being transmitted from the Beaver County EOC to the Township EOC.

A status board was maintained, and messages received and transmitted were written and retained.

Access to the EOC was well controlled by a uniformed Township police officer.

III. Facilities

It should be noted that the Township police department was used as the EOC rather than the Township Municipal Building. This was apparently decided upon due to telephone problems that were being experienced at the Municipal Building prior to the exercise.

The space was small, but adequate for the tasks to be performed. Telephone, police and fire communications systems and REACT were available and utilized. Extended operations would have been possible if conditions warranted. Backup power generators were available at the designated municipal building EOC, and could have been moved to the temporary EOC at the police department quickly if necessary. REACT did have a backup power source.

Maps indicating siren coverage, alert sectors, evacuation routes, traffic control points, and pickup points were posted. They were also included in the copies of the Township plans, which were also readily available.

IV. Communications

The EOC had sufficient telephones and radios to insure effective execution of messages received from the County EOC. The main problem here was the delay in receiving the messages. It was taking at least one hour for messages, originating at the County EOC, to be received. The Township considered the telephone as the primary means of coordination with the County, but all message traffic to them was being passed over the REACT radio net. There were times when this EOC had to call the County EOC to get information that was not passed to them. Messages were being received and posted, but in no timely or orderly manner.

V. Public Alerting and Notification

The Township EOC plays a supportive role in public alerting and notification. The sounding of sirens and EBS messages are a function of the County. The Township did run route alerting in two sectors. Emergency workers in vehicles equipped with a public address system traveled the two sectors completely. Route alerting was initiated almost immediately following the cessation of the sirens. Schools were not in session and were not, therefore, notified. A nursing home was notified.

An observeration - there was a radio in the EOC and there appeared to be frequent messages about the exercise being provided to the public.

VI. Protective Actions

Traffic control points were activated. Traffic control points and evacuation routes and pickup points are identified in the Township plan. Maps were posted in the EOC. State Police are responsible for providing traffic control on main evacuation routes.

Evacuation of public and private schools within the Township is the responsibility of the Superintendent, Blackhawk School District.

Information is available on non-ambulatory residents. This information is maintained and updated. Provisions have been made for providing transportation.

Removal of stalled vehicles from evacuation routes within the Township will be accomplished by use of towing equipment provided by private operator.

Establishment and operation of mass care centers is a function of the County EOC.

VIII. Radiological Exposure Control

Personal dosimetry equipment was provided by the County to the Township. Dosimeters were calibrated, logged and distributed. A Township fire service representative served as a radiological officer, handed them out and provided general instructions. Each dosimeter was accompanied by a form to record exposures. Readings were performed every 30 minutes. These activities were performed/observed in the Township EOC.

IX. Scenario

This was Chippewa Township's first exercise. The scenario provided sufficient activity.

Fallston Borough

I. Activation and Staffing

Due to the staff recently being called back to work (lay-off) they were not available for the exercise. Only the EOC coordinator and a number of the fire department were able to participate in the exercise. The coordinator related that in case of a real emergency that the entire staff would be available. The entire staff is able to maintain a 24-hour capability by splitting into two 12-hour teams. The coordinator simulated contacting his entire staff of security, fire department, public works, and council.

The coordinator related that normally he would be at the Beaver County EOC for an Alert situation but because of the shortage of staff for the exercise that he assumed the coordinator position. The Coordinator was contacted at home by the County police network and he proceeded to simulate contacting staff and opening the EOC. The EOC was operational by approximately 0920 hours.

II. Emergency Operations Management

The EMC was very knowledgeable of procedures to follow. As noted in the previous section he was practically a one-man operation throughout most of the day. None of his primary staff was able to participate in the exercise due to work requirements. This being the case the chain of command was very straight forward. The plan was constantly used by the EMC. The messages relayed by the RACES operator were somewhat confused initially, however, this was corrected by the coordinator. Initially the RACES operator had started to answer some County communications before giving the inquirer to the Coordinator. As mentioned this was quickly corrected.

III. Facilities

The EOC was one large room approximately 30 feet by 50 feet. There was a surplus of furniture and space available if the entire EOC staff would have been present. For the most part all maps were posted in a conspicuous location along with adequate posting of the emergency condition. This notification board was constantly updated as messages were sent and received. The major shortfall of the facility is that there is only one phone. In the event of an actual emergency this would certainly pose a problem due to inquiries and possible more use by the EOC. The phone line was backed up by a RACES operator along with the operator's assistant. Between the two operators they had four mobile radios.

IV. Communications

Insofar as this EOC was a local municipality, there was only a need to communicate with the County EOC and, therefore, that was all that was demonstrated. This was primarily carried out by receiving messages over the radio along with a few radio replies. For the most part the EOC used the telephone line to relay informatin to the County EOC.

V. Dose Assessment and Protective Action

Not applicable.

VI. Public Alerting and Instruction

This EOC was instructed to proceed with route alerting after siren signal was sounded. Due to staffing problems no actual route

alerting took place. It was simulated. The message to read during route alerting was received over radio from the County EOC. The Borough would have had three route alerting teams if actual emergency existed. The routes were posted on the EOC wall and relatively short due to the small size of the community. The Borough has three vehicles available with loud speakers for route alerting.

VII. Protective Action

There is no police force in Fallston Borough; therefore, they have an agreement with the Pennsylvania State Police to man the TCPs. The Borough has completed a survey of all non-ambulatory residents in the Borough and have procedures for obtaining the necessary equipment to move them.

The schools that serve the Borough are all outside the 10-mile EPZ therefore no school notification is necessary.

The TCPs were simulated as being manned due to the absence of a police force. The Borough's list of mobility-impaired residents was available at the EOC for evacuation assistance.

VIII. Radiological Exposure Control

The EOC had no staffing available to pick up the dosimeters from the County. Therefore the County delivered such at approximately 1015.

Everyone (2 RACES operators, 1 EMC and 1 fireman) seemed knowledgeable of dosimetry. The proper documentation of issuance of dosimetry was performed.

IX. Media Relations

The observer does not believe this section is applicable to the Fallston Borough EOC.

X. Scenario

This EOC did not receive any instructions regarding protective action. Neither shelter nor evacuation was initiated.

It should be noted again that any protective action or evacuation would have to be simulated due to the absence of manpower at the EOC. A fireman did arrive just before noon to assist however there still was not adequate staffing to actually demonstrate any capabilities.

Fallston Township Deficiency

1. Because of the lack of participation by the Borough, the Region cannot state definitively that the public health and safety would be

maintained in the event of an actual emergency at Beaver Valley. In future exercises the Borough should try to staff the EOC and actually complete as many tasks as possible rather than simulate.

Hanover Township

I. Activation and Staffing

The call initiating activation of the EOC was placed by Beaver County and received at 0852. Verification of the call was not initiated by the EMC until 0945. Staffing, however, was complete by 0905 by use of a call down list. During the interim (0905 - 0945) there was confusion in verifiying who the caller was; the EMC thought that he was at the Utility. By 1000 the caller and message "this is a full Alert" had been clarified and verified (via telephone) by the EMC. The message "this is a full Alert" was received by the Police Chief. The wording of the message was incorrect as the message should have read "This is an Alert" followed by "this is an exercise message."

The Hanover Township staff consisted of the following personnel: EMC, Fire Chief, Police Chief, message logger, RACES operator. Double staffing, for the most part, ensured round-the-clock staffing.

II. Emergency Operations Management

The Emergency Management Coordinator for this exercise was the Deputy EMC. The EMC listed in the Township plan resigned two months ago. However, the Deputy EMC performed effectively and he and the Township Supervisor had a good working knowledge of the plan and displayed the skills necessary for its implementation.

The EOC, communications room staff, fire and police departments all interacted effectively. Messages were repeated as they came in and were centrally posted. Access to the EOC was effectively monitored and controlled. The control point at the County level utilized the RACES for all messages - this practice, however, was the backup communication method in the plan.

The EOC was notified of the Alert status at 0852, Site Area Emergency status at 1125, and General Emergency at 1405 via RACES. The EOC received almost all messages 1/2 hour later than which the event actually occurred.

The Deputy EMC is also a community official. He advised, that if the need be, the Chief Executive Officers would be called in from their places of employment.

III. Facilities

Facilities were sufficient. However, radio and telephone utilities were inadequate. The only telephone was monitored by both the

The plume EPZ was posted and showed three sectors designated by the Township's evacuation and alerting routes. The observer did not observe relocation centers posted. Access control points, radiological monitoring points and population evacuation areas were posted.

IV. Communications

The Hanover Township EOC operated via RACES. The telephone was utilized as a secondary or backup system only. The Township claimed that sometimes there is difficulty on the line. Asnoted above there was only one phone for the police as well as the fire company. The EBS station was either not utilized or was not able to be picked up on the small portable hand-held radio at the EOC. There are no schools, nursing homes or ambulances within the Township, but the EMC advised the observer that if needed one could be provided. Classification messages received in the EOC through RACES were received about 1/2 hour after the fact.

V. Public Alerting and Instruction

At 1425 a message from the County was received through RACES that the sirens would be activated at 1430 with EBS announcement to follow. The Township siren was activated at 1431 for three minutes. The route alerting teams were mobilized at 1435. A PA system was installed in the vehicle.

The EMC advised the observer that the public had information regarding evacuation but this was not observed or presented. The observer did not see the instructions given to the public during route alerting. Radios were utilized for communication with route alerting teams, who were called back at 1535 hours.

There are no schools, nursing homes or ambulances within the Township but if an ambulance was required they could get one.

VI. Protective Action

It was discovered that it required 54 minutes to complete route alerting in sector one only. Sectors 2 and 3 were not alerted. Sector one is the most heavily populated, however. There was a shortage of available personnel and vehicles for route alerting. Evacuation was not demonstrated by the Township. The exercise was terminated at 1515. The termination came in the EOC via telephone and was received and verified by the EMC.

A. Special Evacuation Problems

A card file was posted at the EOC recording the type of impairment and special needs assessment of five Township residents. If necessary, the police chief advised private cars or fire trucks could provide transportation. The observer saw no information/action regarding ingestion pathway protective actions.

VII. Radiological Exposure Control

The dosimeters (0-200 R) were distributed to emergency workers at the EOC at 1150. Readings were taken every 1/2 hour. The proper entries were made for official records. The EMC had no instructions and made no decisions as to the access, storage or dissemination of TLDs or KI. The emergency staff did not know where to report for decontamination. They advised the observer that their fire station was a decontamination center for emergency workers. No equipment or facilities for decontamination were observed at the EOC.

VIII. Media Relations

The police chief demonstrated capability for rumor control. A security barrier existed at the EOC.

IX. Recovery and Reentry

Recovery and reentry was not ordered by the County. The exercise was ended at 1515 hours.

Hanover Township Deficiencies

1. Additional phone lines are needed in the EOC. At the present time there is only one telephone.

2. The Beaver County plan lists the Hanover fire station as a decontamination station for emergency workers. The municipality verified this with the Federal observer. However, no showers, monitoring equipment were observed.

3. One sector of the Township was route alerted. This sector required 54 minutes to cover. The routes in the Township should be reevaluated so that alerting can be accomplished within the 45 minute timeframe as stated in NUREG-0654. In addition, more emergency workers should be recruited and trained to man route alert teams.

Hopewell Township

I. Activation and Staffing

The Township EMC, received a call from the Beaver County EOC at 0856 at his home and immediately notified his staff. Staffing, which included security, Fire Chief (assistant EMC), Radiological Officer, Police Chief (notified, but remained on duty at police building), Public Works Officer (notified but remained on duty at the Township Garage); all Township Commissioners were at State convention in the Ponocos; was completed at 0918. Adequate staff was available for 24 hour staffing according to the written duty roster. The EMC verified this first Beaver County EOC contact, as he did all County EOC messages, via the Township telephone. At 1000 the EMC requested communications backup from the County EOC. At 1032 a REACT operator appeared and set up direct radio contact with the County EOC.

II. Emegency Operations Management

The EMC did an excellent job in managing the Township EOC. He knew the Township plan and carried out all the required actions that were called for at each different notification status. Messages were properly handled and recorded and all the staff were kept informed of important milestones. Access to the EOC was properly controlled by a Township police officer and communication between fire, police and ambulance personnel were demonstrated.

III. Facilities

The physical layout of the EOC was adequate. All the required displays were either posted or readily available. The status board was clearly visible and kept up-to-date. The telephones had four lines available and radio contact was demonstrated with the fire department units and the police units. The ambulance was contacted by telephone. The REACT radio actually became the main communications link with the County EOC and the telephone was used to verify all important messages from the County EOC.

IV. Communications

The communications were adequate in this EOC.

V. Dose Assessment and Protective Action Recommendations

There was no communication between the County EOC and the Township EOC concerning this subject.

VI. Public Alerting and Instruction

At 1147 the County EOC notified the Township EOC to put the route alerting teams on standby to initiate route alerting after the siren sounded, and to use the prescribed EBS message. At 1431, after the siren sounded, one fire department route alerting team made its trip, the other sector was simulated. This was not observed or timed by the Federal observer but was described later by the EMC and confirmed by the PEMA observer.

VII. Protective Actions

After General Emergency was declared at 1354 hours, the EMC dispatched one police officer to man a TCP. The activation of the other TCPs was simulated. The EMC displayed the written plans for the special needs people as to who, when and where would do what. The Hopewell Township EOC secretary even telephoned one person at 1436 at the reception center to confirm that the center was opened. Because there was no direction from the County EOC to take any specific protective actions, the Township's capability in this mode was not observed and could not be evaluated. However, the Township EOC was prepared and did appear capable of carrying out its protective action plan.

VIII. Radiological Exposure Control

At 0938 the EMC dispatched his radiological officer to the County EOC to pick up the radiological exposure kits. At 1100 he returned with a box or kit containing the proper number of high range (0-200 R) dosimeters, two chargers, record keeping cards, and instructions. However, there were no TLDs and no KI in the kit and their distribution and use was not simulated. The dosimeters were properly distributed and instructions on their use properly explained. No radiation exposure to the EOC and staff was simulated.

IX. Media Relations

At 1109 the utility PIO called the EOC and told the EMC that an information center was established for the media in Center Township and to send any reporters to that office.

Hookstown, Green and Georgetown

I. Activation and Staffing

The telephone notification of the Emergency Management Coordinators was not effectively accomplished for the Alert stage. The Hookstown EMC was called at his place of employment by his wife, who took the incoming call from Beaver County EOC. Either the information was incorrectly passed to his wife, or she incorrectly passed it to the

Hookstown EMC, but the exact status of the exercise was never verified to anyone's satisfaction until late morning. The EMC for Green Township was never notified officially and arrived at the Hookstown Fire Building (EOC exercise area) on his own at 0940. The response staff relies on a cascade call-down list that could be hampered by the party line system in place in certain locales. Fire siren sounded at 0940 to call in team members which consisted of all volunteer firemen.

The emergency organization had no 24-hour manning capability within the plan. During the exercise, no public officials were in attendance with the exception of the EMC/Mayor of Hookstown. The response staff was initially confused as to what should be undertaken due to the failure to verify exactly what exercise status they were in. Thus, any actions taken were out of sequence to the local plan. Team members had no SOP checklists. The local operations plan was not kept up-to-date with addenda furnished by Duquesne Light. The EMCs had difficulty sorting through envelopes to seek resource data or listing of names (invalids or those requiring transportation). The staffing was also incomplete for Hookstown and Georgetown.

(Firemen have requested that they be given tone activated beepers but that would also entail the construction of a relay tower given the topography of the area.)

II. Emergency Operations Management

The three jurisdictions mutually shared only the space and the communications facilities but acted in a somewhat independent manner. Incoming messages were addressed to all three but the outgoing messages indicated independent action or, if not, failed to advise the receiver that the message affected all three jurisdictions. Consultations between the three EMCs were noted frequently, but the EOC was managed by committee, rather than one individual effectively in charge of the overall operations.

One person was charged with answering the one phone and logging events on large briefing type paper sheets. This served as the status board as well as their record of actions. The paper soon became cluttered and events were posted out of sequence so that information or actions taken or messages received/sent were difficult to identify. The logger was in a separate room from the RACES operator and did not know of his existence until questioned by the FEMA communications observers visiting on site.
Plan reference documents were rarely referred to by the EMCs and the other participants were never briefed as to the situation. The entire response cell was handled by the EMCs with no delegation of authority. Other service organizations were not in attendance in the EOC.

No wind direction/velocity was posted or requested. A radio to listen to the EBS announcement was procured at 1313.

Message handling was inefficient, in that the logger told the nearest EMC and left it at that. The RACES individual was required to verbalize each message received to each EMC or to them all if found in a group as no photostat capability existed.

III. Facilities

Adequate space is available in the EOC. Backup power could be managed by utilizing a gasoline generator on one of the fire trucks. The EMC assured the Federal observer that the generator could be hooked up to supply power to the facility, if required.

The Status board was in open view but as mentioned previously, it became the log list of every action affecting the EOC and thus, was very cluttered.

IV. Communications

One telephone located in the Fire Chief's room and RACES system providing the only backup capability, were the means of communications. Hookstown EMC asked his wife to initiate call down of officials/response team from his home, as he did not want to tie up only link with Beaver County EOC.

RACES provided the most effective means of communication in terms of written copy of message traffic. With no photostat machine, RACES operator had to read aloud the messages to each EMC or to them jointly if he found them in a group. When he passed along such messages, the RACES system was unattended as it was physically located in a separate room.

V. Public Alerting and Instruction

Public alerting and instruction in the municipalities consisted of performing route alerting - excellent once everything was sorted out. Confusion reigned as firemen were about to depart on the route alerting process at 1022. They requested permission to do so from Beaver County EOC who said no, we are only in Alert stage. Teams were briefed and routes reviewed. Some variance in routes was agreed to in order to insure better utilization of fire vehicles equipped with PA systems. Route coverage was extensive and went beyond one route per jurisdiction. Two trucks still did not depart after siren and EMC went outside to tell them to depart.

EMCs did not request clarification of 1417 message recommending the taking of protective actions. They were only concerned with the route alerting segment of the exercise.

The EOC has an excellent listing of persons requiring assistance and has developed a listing of locals who have vans/four wheel drive vehicles that would pick up such persons thus freeing the buses to relocate school children.

VIII. Radiological Exposure Control

No member of the response team has taken the FEMA Radiological Monitoring Course and solely relied on training provided by the power plant. Excellent records of dosimeter distribution were kept and workers were instructed to read dosimeters every 30 minutes. Borough of Georgetown did not receive its allocation and used CDV-742s that would be assigned to the bus drivers of South Side Garage. This shortfall was not a noted deficiency and the EMC did not notify Beaver County EOC of the occurrence.

Discussions with staff indicated that they had very vague knowledge of the use and limitations of the CDV-742 as well as KI. Training is required in these areas.

IX. Scenario

The exercise terminated too early to effectively rate certain areas of the EOC module.

Hookstown, Georgetown, Greene Deficiencies

1. If the three municipalities continue to operate as one, a new plan will have to be written naming one person in charge and responsibilities assigned to specific individuals and agencies. This should assist with the resolution of the following:

   a. management by committee;

   b. call down lists not utilized to notify staff members;

   c. incomplete staffing;

   d. verification of messages not done;

   e. no participation by public officials;

   f. plans not up-to-date;

   g. no 24-hour capability;

   h. improper use of status boards;

   i. no delegation of authority;

   j. EMC for Green Township not notified.

2. Additional training is required in emergency management, radiological exposure control, practice drills, table-top communications drills. This will assist in clearing up the following areas:

a. lack of knowledge in dosimetry, KI use;

b. lack of determination of exercise status;

c. status boards ineffective;

d. reactions out of sequence (route alerting);

e. communications and message management poorly done.

Independence Township

I. Activation and Staffing

The EMC received a call at home from the County police at 0910 to activate the EOC. He arrived 10 minutes later and notified the rest of the staff by phone from the EOC. Staff was sufficient to operate by 1000 with a complete staff as per plan by 1030. Verification of the activation call was the only major problem for that EOC as the EMC did not have a phone number for this purpose and he did not know verification was required. Verification was done by 0945.

All staff required in the plan were represented: Public Works at 0800 (worked in the building); EMC, Fire Chief (1020); Police Chief (1030); Chairman of the Board of Supervisors (1000); two RACES operators (0945). With the one exception of verification, as noted above, adequate training and knowledge was demonstrated by all. Round-the-clock staffing was demonstratred by double staffing and presentation of a roster.

II. Emergency Operations Management

The EMC was effectively in charge as designated in the plan. He kept all staff informed of proceedings through periodic briefings and consultation with the staff persons involved. The plan was referenced as needed. Message logs and a status board were kept up-to-date for all to see in a very efficient manner. Police and fire departments were represented as part of the staff. A locked door and a police officer controlled access to the EOC. The EMC is a member of the Board of Supervisors. The Chairman of the Board was also present and represented the second shift for the EMC, having served in this capacity last year.

The EMC was notified at 0910 by phone of the Alert status. RACES received the Site Area Emergency message at 1125 and the General Emergency message at 1350. At 1145 RACES received the message to prepare the alerting teams and what message they were to convey; this to take place upon sounding of the sirens.

III. Facilities

The facilities were more than adequate for this EOC; furniture, space and lighting were adequate and a backup power generator from the fire department was available but not demonstrated. The RACES team had their own backup power in their cars to operate the two radios if needed. The one phone was sufficient. The status board was kept up-to-date and clearly visible to everyone. A kitchen was available but no showers or bunks; however, with the staff living in the immediate vicinity they are not needed.

The plume EPZ map showing evacuation routes and access control points and relocation centers was posted. Population of the area was presented in the plan but not posted. A map showing the plume EPZ sectors was not available. However, this municipality is totally within the EPZ.

IV. Communications

The only communication from and to this EOC was from Beaver County EOC using RACES as primary and commericial phone as backup. An attempt to monitor the EBS station was unsuccessful due to lack of an outside AM radio aerial. The Fire Chief maintained radio contact with the fire trucks used for route alerting.

V. Public Alerting and Instruction

Public information dissemination was relegated to route alerting of a small area to demonstrate capability. Total route alerting takes two teams two hours to complete, consisting of 35 miles per team. This excessive time is required because large fire trucks are used on the Township's poor roads. The initiating event was sounding of the sirens at 1430 as per instructions received from Beaver County EOC at 1145. A prescripted message was simulated as provided by Beaver County EOC following a detailed route sheet of instructions per team.

VI. Protective Actions

Activation of the three Township TCPs was simulated. There are three Township police officers but according to the EMC the County would provide additional help if requested.

A written list containing the names, locations and requirments of the mobility-impaired was posted. All handicapped people were checked for transportation needs by 1250.

VII. Radiological Exposure Control

The Public Works person obtained dosimetry equipment from the County (CDV-742s) and arrived back at the EOC at 1045. He did not have to

aware of proper use of KI but it was not received from the County nor were TLDs. The CDV-742s were distributed and logged to each member of the EOC, alerting teams, and police. The EMC stated that the decontamination point was Ambridge for this EOC area.

VIII. Scenario

The scenario was adequate to fully exercise this Township's resources, this being their first exercise.

Independence Township Deficiencies

1. The EMC was not aware of the requirements, nor did he know how to verify the initiating call from the Beaver County EOC. He should have a phone number at home for this purpose.

2. A test of public alerting by two teams with fire trucks takes two hours. Routes should be evaluated and redesigned so that each one takes no longer than 45 minutes.

Industry Borough

I. Activation and Staffing

This phase of the operation went smoothly. The EMC has a police radio which is also tied in with the County emergency radio system in his home.

All staff were promptly called and quickly responded since they live close to the EOC. Although adequate staff were present there is no second shift capability.

II. Emergency Operations Management

The EMC listed in the emergency management plan was not present for this exercise. However, this did not affect the overall operation or knowledge of the staff. The present EMC did an excellent job. Briefings were adequate especially in the afternoon.

EOC access was tightly controlled. Messages were logged appropriately. In addition all messages were taped.

Alert status, Site Area Emergency, and General Emergency status were received and carried out without incident.

An elected official was present during the exercise. Although the Mayor was at work and could not attend.

There were sufficient telephones for the exercise but at the critique at the end of the exercise it was found that the phones were rented for one day only and it is unlikely that they would be immediately available in an emergency.

There was not an effective status board at the EOC. It was hard to read and not in a good location. Initially the sheets of paper were not kept up-to-date; however, during the afternoon updating was excellent.

IV. Communications

At this EOC there were problems encountered with the RACES radio net. The high noise level in the EOC due to the close proximity of the RACES operator to the telephones made coordination difficult. The RACES transmissions were also causing problems with the daily police operations due to interference. The RACES operations should be moved to another room; if this is not possible it should be partitioned off. In addition, the RACES antennas should have the capability of being mounted on the roof of the EOC where it will not interfere with police operations. All primary communications with the County EOC were done via the telephone with the RACES net as a backup. The radiological monitoring teams utilized the fire radio net for coordination. All messages were recorded and posted in a timely manner.

V. Dose Assessment

This segment was handled by the Beaver County EOC. However, a geiger counter was set up to monitor any people entering the EOC for contamination.

VI. Public Alerting

The EOC called all local industry and ambulatory patients to inform them what was going on. A problem here is that the information cards provided by Beaver County are not adequate. A real address was not listed in some cases (this should be stated on card) but only a mailing address. The card simply had a P.O. Box location which provided no useful information.

All sirens functioned, according to a telephone survey conducted by the EOC.

The EOC should have a sign outside stating it was being used for that purpose.

VII. Protective Actions

Pickup points should have been identified by a temporary sign as well as the two evacuation routes in the town.

There were adequate police and plenty of volunteer firemen to handle this aspect of the exercise. However, at the EOC more emphasis should have been given to access and traffic control. This was not discussed at all with the staff. The transfer of mobility-impaired patients as stated before had in some cases address problems. In addition there was a shortage of buses to carry these individuals.

VIII. Radiological Exposure Control

Personal radiological monitors were worn (0-200 R) by all participants at the EOC. Several chargers were present but the monitors were not properly set to 0. Some read as high as 17 rads. There also should have been more explanation to EOC personnel about the radiological monitor's function.

KI was requested by the Industry Borough EOC. Beaver County chose not to issue KI. However, the local EOC should have played out the KI scenario even though they did not receive it. This was not done.

IX. Media Relations

There were no provisions for media relations; this was considered a function of the Beaver County EOC.

Rumor control was part of the EOC Industry Emergency Plan (to be handled by the police) but this was not played out to the observer's knowledge.

X. Recovery and Reentry

The exercise was terminated before recovery and reentry was performed.

XI. Scenario

The scenario was excellent and in general interest was high with full participation. It should be stressed in the future to play out all roles even though they are not required (such as KI scenario).

Industry Borough Deficiencies

1. Status boards were hard to read and not visible to all staff members.

2. The RACES operator was set up too close to the telephones. The noise level in the EOC made coordination and discussion very difficult.

3. MICLE transmissions caused interference on the regular police lines. An antenna mounted on the roof of the EOC will stop interference in the police net.

4. Additional training in radiological exposure control is needed.

5. The addresses of people needing assistance arenot complete. They have mailing addresses, not where they are actually located.

6. The Borough should recruit and train additional emergency workers to provide 24-hour manning capabilities.

Midland, Glasgow and Ohioville Boroughs

I. Activation and Staffing

The three boroughs were notified, on an individual basis, by Beaver County between approximately 0850 and 0855. In Ohoville and Clasgow the County has the home telephone numbers of the Emergency Management Coordinator (EMC) or their alternate and thus they are contacted directly. Initial messages to Midland Borough are routed through the police dispatcher who then relays it to the EMC.

The initiating message was verified by the communities, as were all important messages. Written call lists were utilized to contact the various staff members. Staffing was completed at 0930 and included: from Midland - the EMC, fire, police, public works, the Borough Secretary, members of Borough Council, the Mayor and backup staff for certain positions; from Ohioville - the EMC, police, fire, Borough Secretary and members of Borough Council; and from Glasgow - the EMC, Mayor and President of Borough Council.

It was evident that the various participants were well-versed in their responsibilities and enthusiastic in carrying out their jobs. Ohioville and Midland presented a roster showing 24-hour capability and, at the end of the exercise contacted the second shift to determine their availability. Glasgow admits that they have difficulty in assuring 24-hour coverage.

II. Emergency Operations Management

The respective EMCs were in charge of operations for their particular municipality. Although as the exercise progressed one of the EMCs coordinated the joint response for the three municipalities, a formalized process should be developed so that one individual is recognized as having overall coordinating authority.

Periodic briefings of the staff occurred whenever significant information was obtained, the staffs were involved in decisionmaking and it was evident that their plans were consulted in assisting them

should be given to one individual maintaining a combined log. Security was demonstrated throughout the exercise by a police officer stationed at the entrance to the EOC. All participants also displayed identification.

The notification of Alert was received at 0854 (declared 0808), Site Area Emergency at 1125 (declared 1100) and General Emergency at 1342 (declared 1320). Consideration should be given to notifying these municipalities more quickly because of their proximity to the Beaver Valley plant. Emergency activities were coordinated with other organizations (police, fire, Beaver County) throughout the exercise. As noted above, elected officials from the three communities participated throughout the exercise.

As has occurred in past exercises in Pennsylvania, the Governor's declaration of a state of disaster caused initial confusion at the EOC, until its meaning was clarified by the PEMA observer/instructor.

III. Facilities

There was adequate furniture, lighting and telephones. Slightly more space might be beneficial; consideration should be given to utilizing the council chambers across the hall for the EOC. A kitchen, large bathroom and backup power was available which would assist in long-term operations. A status board was clearly visible and was kept up-to-date throughout the exercise. Maps were also posted showing the plume EPZ, evacuation routes, traffic control points and route alerting sectors.

IV. Communications

The commercial telephone, along with police and fire radio networks were the only methods of communication utilized throughout the exercise. Although repeated requests were made to the County for a RACES operator, none was provided. As noted above, because of their proximity to the plant, instantaneous communication might be necessary, especially in the event of a possible failure of the telephone system.

V. Public Alerting and Instruction

As coordinated by Beaver County, the sirens were sounded at 1430 and the municipalities then instituted one sector, in the case of Ohioville and two in Midland, of their route alerting system. Since Glasgow Borough relies on Ohioville for police and fire protection, Ohioville assumed the responsibility for route alerting as well. Because Glasgow is a small community they also initiated a house-by-house notification. Midland's route alerting team took less than one-half hour to complete their routes while Ohioville took almost an hour to complete their route. The sector chosen by Ohioville had

teams at 1030. They acknowledged their mistake and recalled the team to the firehouse.

Route alerting teams are instructed to inform residents to turn on their radios or televisions for instructions. The municipalities contacted several large industries, and would have done the same with the local schools had they been in session, to confirm that they had heard the sirens. A radio station was monitored (KDKA) but no EBS message was heard.

VI. Protective Action

A. Evacuation and Access Control

Traffic control points that are the responsibility of the local police were manned promptly at General Emergency. Plans were made to activate resources to deal with stalled or wrecked cars, including tow trucks and extra supplies of gasoline.

B. Special Evacuation Problems

Written information concerning mobility-impaired, or handicapped, individuals was posted in the EOC. It included such data as whether they were hard of hearing, visually impaired and required special notification and/or transportation. Ohioville simulated notifying these individuals while Midland made actual contact with their residents having special needs. At 0955, the Boroughs requested four buses and two ambulances for transit-dependent individuals from the County. They neglected to follow-up on their request until 1300. At that time they re-contacted the County and were informed that the simulated dispatch of the buses and ambulances had just taken place.

VII. Radiological Exposure Control

Only CDV-742s and dosimeter chargers, along with record-keeping information, were dispatched to the boroughs in adequate numbers. The Federal observer was informed that, based on a conversation between the boroughs and the County, adequate low-range dosimeters, KI and TLDs are also stored at the Beaver County EOC.

Adequate instructions were issued along with the dosimeters, and the officials were aware of the maximum dose allowed without authorization. They were also cognizant of the location of their decontamination center. Instructions were given to emergency workers to read their dosimeters every one-half hour.

Public information requests would, for the most part, be handled by officials at Beaver County and at Duquesne Power and Light.

IX. Scenario

Although the exercise ended prematurely, before the implementation of protective actions, the exercise provided a valuable test of the emergency response capabilities of the three boroughs. If they were satisfied with the combined EOC concept, the process should be formalized to a greater extent from a planning sense.

Midland, Glasgow, Ohioville Deficiencies

1. Although it is understood that Glasgow Borough has attempted to ensure 24-hour emergency response capability, continued efforts should be made to resolve this problem.

2. Plans should be revised, if the communities feel it is warranted, establishing the unified EOC response concept and recognizing one individual as the lead coordinator for the three boroughs. In addition, a combined log should be maintained.

3. The County should establish a notification sequence whereby these communities are contacted early on, due to their proximity to the plant.

4. RACES communication should be established for these communties in future exercises.

5. Because of the length of time necessary to complete the one route in Ohioville/Glasgow consideration should be given to adding another route alerting sector.

6. Ohioville should reexamine their plan to update themselves on the purpose of route alerting and, more importantly, the timing as to when the teams should be sent out.

Monaca Borough

I. Activation and Staffing

According to the Emergency Management Coordinator the notice to establish the EOC was received at 0850. It was issued by the County to the EMC at his home. The EOC was fully staffed at 0930. The following organizations were represented in the EOC: police, fire, Borough Administrators, public works and elected officials. Because this was the first exercise undertaken by Monaca Borough, double staffing was employed, in some cases, to maximize training benefits. Telephone calls were made to the second shift of the EOC

the Emergency Plan and posted at the EOC, could strengthen the staffing operation. The EOC staff displayed sufficient knowledge to successfully carry out their responsibilities. Team members were conscientious.

II. Emergency Operations Management

The designated EMC was effective in his management of the EOC. Only one staff briefing was held but the EOC is small and communications among the EOC staff were constant. Message logs were kept of telephone and RACES communications. The message log used for telephone calls could be improved by including more detailed information regarding contact initiated by the Monaca Borough EOC; level of detail on messages received was sufficient. Photocopies and/or carbon copies of messages were made to ensure adequate communications. Access to the EOC was controlled by a police officer stationed at the door.

The EOC was notified of Alert status at 0850, Site Area Emergency status at 1120, and General Emergency status at 1340. A message was reported at 1330 by RACES operators that the Beaver County EOC was evacuating; this was confirmed by telephone contact. However, this was a misinterpretation of the message. The Monaca EOC frequently telephoned the County EOC for status updates and confirmation of messages received via RACES.

Coordination with police and fire department appeared effective. Local officials had major input into decisionmaking at the EOC as the Mayor was a staff member and the EMC was a Councilman.

III. Facilities

The EOC is located in the municipal building/fire station and has adequate facilities to conduct emergency operations. There is one telephone with five lines; communications to this telephone are routed through the police department. A status board was clearly visible and updated as changes occurred. Evacuation routes, traffic control points, and pickup points were posted. A map of the plume EPZ was included in the Emergency Plan. No map of the population by evacuation area was observed.

IV. Communications

The telephone is designated in the Emergency Plan as the primary communications means for the Monaca Borough EOC with RACES and the police/fire net as backup. However, most communication from the Beaver County EOC were received via RACES. No tape recording nor teletyping equipment was available; the communication system was dependent on the efficiency of the clerk receiving the message.

V. Public Alerting and Instruction

At 1412 the Monaca Borough EOC received instructions from the Beaver County EOC to activate alerting systems at 1430. Sirens were operated and vehicles with PA systems were dispatched. The public was instructed to tune to the EBS station for information. Route alerting was completed in approximately 30 to 40 minutes. During the morning the EMC and telephone clerk called local industries to verify that they had been contacted by Beaver County.

VI. Protective Actions

The Monaca Borough EOC dispatched teams with proper equipment (hats and barricades) to traffic control points. Up-to-date, written information on the location of mobility-impaired individuals which noted any special needs was posted at the EOC. Teams were sent to the pickup points and the Beaver County EOC was notified of people requiring ambulance service. Other EOCs were contacted regarding mobility-impaired individuals who had erroneously sent their request for transportation assistance cards to Monaca Borough. The public works department, with information and water supply intake points, is located in the same building and a staff member was included in the EOC.

VII. Radiological Exposure Control

Seventy high-range dosimeters were obtained from Beaver County providing an adequate number for the emergency workers. According to the radiological officer, proper instructions on the use of the dosimeters were given to the volunteer fire department and police staff who would be undetaking alerting and traffic control operations. KI supplies were stated to be available at Beaver County. To improve a capable performance, EOC staff members (aside from the radiological officer) could benefit from additional training in dosimetery.

The EOC voluntarily sent some emergency workers to the decontamination center in Baden. This demonstration was aborted when a real-life accident on the toll bridge between Rochester and Monaca blocked the route to Baden. Possible solutions to this problem were discussed by the EOC team. An alternate bridge is closed awaiting repairs; this condition is reported to have existed for nearly two years.

VIII. Scenario

This was the first exercise undertaken by the Monaca Borough EOC. The EOC was prepared and staffed to undertake more extensive action.

1. Additional training on dosimetry would enhance the performance of the EOC. Emergency workers from the fire department appeared adequately trained by the radiological officer but there was some confusion by other team members within the EOC.

Patterson Township/Patterson Heights Borough

I. Activation and Staffing

The multiple municipal participation in one EOC, which had been planned by Patterson Township and Patterson Heights Borough for this exercise, did not materialize due to the unavailability of many Patterson Heights Borough staff members. Patterson Heights did participate; this was confirmed by radio contact that was maintained between these two locations throughout the exercise. Since FEMA assumed that Patterson Township and Patterson Heights would participate jointly, no federal observer was assigned to Patterson Heights. Therefore, this evaluation only includes observations made at the Patterson Township EOC.

The call initiating the activation of the EOC (Alert stage) was received by the Patterson Township Emergency Management Coordinator at 0850. The call was initiated by the Beaver County EOC. According to the EMC, this message was verified by telephone when the EMC reached the Patterson Township Police Department building to activate the EOC at approximately 0920. EOC staff began to arrive at about 0930 and the EOC was fully staffed at approximately 1000. Staffing included the EMC, a member of the Board of Commissioners, Deputy Police Chief, Fire Police Chief, Assistant Fire/Reserve Chief, Medical/Ambulance Chief, Deputy Transportation Chief, Deputy Communications Chief, and several alternates. In general, the staff present at the EOC displayed adequate training and knowledge. Round-the-clock staffing capability was partially demonstrated by the presence of several staff alternates. Since several staff members, including Commissioners, were known to be out of town, phone calls to more fully demonstrate round-the-clock staffing capability were not attempted.

II. Emergency Operations Management

The Patterson Township EMC demonstrated a good knowledge of his duties and those of his staff members, and was effectively in control of the emergency operations at the EOC. The EMC conducted periodic briefings with various staff members during the course of the exercise. Because of the close physical proximity of all EOC staff members, message handling was efficient. Access to the EOC was closely controlled. Only staff with identification were

General Emergency at 1340. Actions were taken by the EMC at 1428 to activate the police and the fire police for route alerting and traffic control respectively. In addition, the EMC initiated calls to the Beaver County EOC to obtain clarification on plant status and response actions at 0950, 1125, 1134, and 1340. One elected official, a member of the Board of Commissioners, was present at the EOC. Although this commissioner occasionally interacted with the EMC, it was not observed if he was actively involved in the decisionmaking.

III. Facilities

The Patterson Township EOC was located in the Township police department building. Space had been set up in the basement of the building to serve as the EOC. This was a large area with long conference tables, sufficient seating, and a large blackboard. However, as the exercise activities commenced it became clear that it was much more practical to coordinate the oeprations from the main floor above, since most communications equipment was located there. However, the main floor area (police communications) had the disadvantages of limited space and awkward seating arrangements. In spite of these constraints, the main floor area proved adequate. Both a status board and a "problems" board were visible to all and were kept up-to-date. The EOC was lacking in appropriate maps. The only map posted was a map of the Towship showing the various sectors. All other pertinent maps were either not posted or not available.

IV. Communications

This EOC made very good use of portable radio communications and the REACT net. The primary means of communications with the County EOC was supposed to be by telephone, but all message traffic was being received on the REACT net. There was a REACT radio operator at this EOC but he was not copying the traffic on his net; the message coordinator for the telephones was also copying REACT messages. Primary communications to the local schools is by telephone with the police radio net as a backup. Status of the power plant condition was posted for everyone's information. Message traffic to this EOC was also delayed, causing problems for the EOC in keeping their personnel advised.

V. Public Alerting and Instruction

Initially during the exercise there was some confusion on the part of the EMC as to when route alerting should occur. Based on recent meetings he indicated it was his understanding that route alerting should take place when Alert status is identified, rather than

the EOC indicated surprise at this. The EMC subsequently called the Beaver County EOC to obtain clarification. However, before clarification was obtained, one Township crew prematurely started a route alert before they were called back. Route alerting at the proper time was initiated by a directive from the Beaver County EOC at 1420. Immediately upon activation of the sirens by the County at 1432, the route alerting was started by Township police and fire departments. Alerting of sectors 1, 2, 3 and 4 was completed by 1522. Vehicle PA systems were used during this route alerting. The message was prepared by the Beaver County EOC and transmitted to the Patterson Township EOC via REACT. No sheltering or evacuation was advised. The Federal observer accompanied a police unit to observe route alerting in sector 2.

VI. Protective Action

Activation of traffic control points by the EOC was promptly activated at 1425 after a directive from Beaver County at 1420. One of the traffic control points on Darlington Road was directly observed to be manned. Manning of the other control points was confirmed verbally by the EMC. By means of a previously prepared listing, the EOC staff was aware of the locations of mobility-impaired individuals in the Township. It was not observed if EOC personnel were aware of particular special needs of these individuals. Arrangements for transportation for these individuals was accomplished by advising Beaver County of these needs. Since school was not in session, no transportation arrangements were made for school children.

VII. Radiological Exposure Control

Dosimters (0-200 R) were issued to Township emergency personnel, including personnel at the EOC. Appropriate forms were completed by each person receiving the dosimeter. Each person was advised to take readings every one-half hour. Potassium iodide was not issued by Beaver County for this exercise. All dosimetry equipment was supplied to Patterson Township by Beaver County. It was not observed whether someone at the EOC was aware of the maximum allowable dose. At the end of the exercise all personnel were to report to a decontamination center; however, the decontamination center terminated operations prior to the EOC, so this was not possible to implement.

VIII. Scenario

The exercise provided sufficient activity to test the capabilities of Patterson Township to respond to an accident at the Beaver Valley nuclear plant.

Patterson Township Deficiencies

1. Because the planned multiple municipal participation in one EOC by Patterson Township and Patterson Heights Borough was not implemented, an evaluation of its feasibility was not performed. In addition, an evaluation of the physically separated Patterson Heights Borough EOC was not able to be performed. These should be evaluated as part of the next exercise.

2. Since some staff members of the EOC were out of town, round-the-clock staffing was not able to be demonstrated.

3. Additional coordination with the Beaver County EOC should be pursued to improve timeliness of messages from the County.

4. Not all appropriate maps were available or posted at the EOC.

5. Additional coordination with the Beaver County should be performed by the Patterson Township EMC to ensure that a firm understanding is established as to when route alerting is to take place.

Potter Township

I. Activation and Staffing

The Fire Chief, six volunteer firemen, two persons for message handling and three Township councilpersons arived at the EOC (fire station) by 0900 per activation by Beaver County EOC. The fire chief knew what to do at all times and utilized the Township emergency plan and procedures. All of the emergency staff were well acquainted with their roles and responsibilities and performed quite well.

II. Emergency Operations Management

The Fire Chief was very much in charge and gave very positive leadership throughout the exercise per the Township plan and emergency procedures. The Township emergency team credited this largely to recent training given them by Beaver County and Utility staff. The staff had difficulty verifying messages and emergency action levels from the Beaver County EOC. Once verification was made, all of the messages were correct.

III. Facilities

All appropriate information was available and adequately displayed. The observer saw no need for data on population since they knew their Township sectors quite well.

IV. Communications

The primary communication resource was the local fire band. It worked well, however, the Fire Chief advised the observer that the fire band would become overloaded and unuseable in a real emergency and often does in major fires. The backup resources (REACT and telephone) would suffice if this occurred.

V. Public Alerting and Instruction

Per their plan, the firemen proceeded to route alerting as soon as the siren blew. They had the capability to sound their sirens, use PA system, and go door-to-door. They completed route alerting for two sectors in a very short period of time.

VI. Protective Action

Because no evacuation was ordered, activation of traffic control points was not needed.

The EOC staff had pre-identified special need cases - parapalegic, non-ambulatory, heart patients who may need help due to stress.

There was no need for ingestion protective actions due to lack of ingestion resources in the Township and no orders for activation of such measures.

VII. Radiological Exposure Control

The provision of dosimeters was timely and adequate. However, the EMC did not know what to do with KI, film badges and TLDs even if someone supplied them.

VIII. Media Relations

There was no need for media control - no press showed at the EOC.

IX. Recovery and Reentry

Recovery and reentry were not demonstrated during this exercise.

X. Scenario

The exercise stopped short of the need to advise on protective actions. The local emergency staff were eager to work on executing protective action decisions.

Potter Township Deficiency

1. Emergency procedures are needed to adequately address the securing and use of film badges, TLDs and KI.

Raccoon Township

I. Activation and Staffing

Raccoon Township was promptly activated and staffed by personnel familiar with their duties. The Emergency Management Coordinator received a telephone call from the Beaver County police center at 0845 notifying him of the Alert status. After the message was verified, the staff was mobilized using a written call list. Eight staff members reported to the EOC by 0900 and staffing was complete by 0925. The EOC was staffed by persons from the Board of Supervisors, Fire Department, and Police Department as well as individual Township residents. A RACES operator arrived by 0930. Round-the-clock staffing capability was demonstrated by presentation of a roster. All second shift personnel were contacted, although they were not required to report to the EOC.

II. Emergency Operations Management

The EOC was effectively managed throughout the exercise by the EMC. Key events were announced, and all staff were kept up-to-date on the situation. All staff discussed any problems and were involved in decisionmaking. Formal briefings were not needed because of the relatively small size of the EOC and number of people present. A copy of the plan as well as written checklists were available for reference. Message logs were kept throughout the exercise. The EOC was notified at 1125 that a Site Area Emergency had been declared at 1100; and at 1347 that a General Emergency had been declared at 1320. Access to the EOC was controlled by a security person stationed at the door. A written list of personnel authorized to enter the EOC was available and identification badges were issued upon entering. Other personnel (e.g. RACES operators) were required to show identification.

III. Facilities

The Raccoon Township EOC is located in the Municipal Building. The facility has adequate furniture, space, lighting and telephones to support emergency operations. An emergency generator is available to provide backup power, if needed. A status board was clearly visible and kept up-to-date on emergency classification levels and other significant events. Maps clearly indicating evacuation routes and traffic control points were posted, however, maps showing population estimates for evacuation routes and relocation centers were not available.

IV. Communications

The communications system operated effectively throughout the exercise. Communication to the County EOC is by telephone, police radio and RACES. The Alert notification came over the telephone but

information was received via the RACES operator. All communications were clearly received. The media center can be contacted by telephone. The two schools in the Township can be contacted by telephone or, if needed, a fire truck could be dispatched. Ambulances can be contacted by radio via the police center.

VI. Public Alerting and Instruction

Public alerting was accomplished by sirens and route alerting. The sirens sounded at 1430, and the EOC verified that all sirens sounded by telephoning individuals who live near each siren. A siren verification list, identifying two residents per siren, was used. The route alerting teams were dispatched to Sector 1 at 1439 and completed their routes by 1534. The fire department indicated that there are enough vehicles and personnel to cover both sectors 1 and 2 in the event of an actual emergency. Discussion about routes and problems took place before the sirens sounded. The potential for a problem due to construction on Garden Road was resolved by contacting the construction crew and instructing them to allow the fire trucks to pass through without interruption. The EOC contacted two schools, two towing and wrecking companies, and two industries at the Alert stage to inform them of the situation.

VII. Protective Action

A. Evacuation and Access Control

Although evacuation was not ordered, the EOC tested activation of traffic control points by staffing two points. Traffic control points have to be staffed by the Township fire department or State Police because there is only one Township police officer. Two towing companies are available in the event stalled or wrecked cars have to be removed, and snowplows are available to clear Township roads in winter.

There appears to be some confusion on who to call to request transportation assistance. The Raccoon Township EOC contacted the Beaver County EOC via RACES to request two buses. The County called back over an hour later to tell them to call a special number to request assistance.

B. Special Evacuation Problems

The EOC indicated that it could effectively deal with any special evacuation problems. The name, location, phone number, and special needs of mobility-impaired individuals are available on a written call list. Arrangements have been made for fire department personnel to transport these individuals, if necessary. If school children are to be evacuated by bus, the schools will contact the bus companies. In order to avoid traffic jams, parents have been informed not to pick up their children at school.

VIII. Radiological Exposure Control

Raccoon Township was issued dosimeters (0-200 R), chargers, and record keeping cards. In the event of an actual emergency, additional dosimeters would be needed (in addition to the 21 allocated) because more route alerting teams would be dispatched as well as workers to pick up mobility-impaired individuals. Instructions on reading the dosimeters, and the maximum dose allowed were given at the time the dosimeters were issued, according to the radiological services coordinator. The FEMA observer did not observe this because emergency workers (route alerting teams and traffic control point personnel) were dispatched from the fire house. Appropriate record keeping forms were completed and instructions given for those dosimeters issued within the EOC. EOC staff were aware that emergency workers would have to report to the Ambridge decontamination center.

IX. Media Relations

A space was set aside separate from the main EOC operations room to meet with the press, if needed, and answer the rumor control phone. The personnel in these rooms could communicate over an intercom with staff in main operations room.

X. Scenario

The scenario tested activation and operation of the EOC, communications, public alerting, and some radiological exposure control procedures. However, activity to test responses to evacuation or sheltering was not provided. In future exercises, a test of protective action measures would be a much better learning experience for EOC staff.

Raccoon Township Deficiency

1. Maps showing population estimates for evacuation routes and relocation centers were not available in the EOC.

Shippingport Borough

I. Activation and Staffing

Shippingport Borough received a call from the Beaver County EOC at 0845 advising them of an Alert for the Beaver Valley Power Station. The Emergency Management Coordinator proceeded with activation of the EOC personnel by utilization of his staff call-down lists. Shippingport Borough has arranged release forms with employers of some key personnel in case of an emergency in the Borough. This procedure proved very effective during activation of the EOC. Two members of the EOC staff could not be released from their places of employment; however, these positions were filled by backup

in the EOC: Emergency Management Coordinator, Deputy Emergency Management Coordinator, Mayor, Police Chief, Fire Chief, Medical Officer, secretary, 2 message loggers.

Round-the-clock staffing capability was demonstrated. Many of the positions were double-staffed in the initial stages of the emergency. At approximately 1100 these extra staff members were told to go home on standby. They would be contacted when necessary, to man the second shift.

II. Emergency Operations Management

The EMC proved very effective. The staff were well briefed on the status of the emergency throughout the day. The entire staff were knowledgeable of the plans and operated in a smooth and effective manner. The rapport between various members of the staff was outstanding. All staff members had written procedures and checklists to follow. The EMC was briefed immediately when tasks were completed.

Two staff members were involved with the logging and distribution of messages. Another staff member kept the status board up-to-date. Each staff member was provided a folder with copies of all messages as they were received. The message handling in this EOC was very efficient. The EOC was notified at 0843 that an Alert had been declared at 0800; at 1127 a Site Area Emergency declared at 1100 and at 1337 a General Emergency declared at 1300. The municipality never received orders for protective actions, i.e. sheltering, evacuation, or the use of KI. At 0905 the fire sirens went off. This was the means of notifying all volunteer firemen to report to the EOC. By 1015 the fire station was activated and staffed. At 1420 Beaver County contacted all municipalities via RACES that sirens would sound at 1430. At 1505 the EMC requested information from Beaver County about which protective actions were to be taken.

The Mayor of Shippingport was available during the entire exercise and actively participated in decisionmaking process.

III. Facilities

The EOC at Shippingport is a new municipal building with more than adequate furniture, space, lighting. There is a small kitchen available. Backup power is available and the generator was set up in case it was needed during the emegency. The EOC has only one telephone in the operations area. The status board was clearly visible and updated immediately.

The entire Borough is in the EPZ. Maps of the EPZ were available and posted. Evacuation routes, route alert sectors, reception centers, decontamination centers were posted on various maps in the EOC, as were ACPs and radiological monitoring points.

Communications

The primary means of receiving and transmitting messages at this EOC was by telephone. There were a total of 10 positions in the EOC and they all had to share the one telephone. A minimum of 4 phones needs to be installed in this EOC to insure effective coordination can be performed. The EOC made very good use of the police, fire and REACT radio nets for backup communications. All message traffic was well documented and any information passed to the EOC was posted so everyone knew the status.

V. Public Alerting and Instruction

The EOC played a role in public alerting by performing route alerting. The Borough is divided into four sectors. The fire department has the responsibility for route alerting and were placed on standby at the fire station at 1015. At 1145 instructions were received from Beaver County on the message to give to the public and to begin route alerting immediately following the siren sounding.

The sirens were activated at 1430. The four route alert teams were dispatched at 1431. Each route took approximately 15 to 20 minutes to complete. The average speed was 10 to 15 miles per hour. Vehicles were equipped with PA systems. An EBS announcement was not heard at this location although the EOC did monitor a radio. The EMC said the EBS system was tested earlier in the day.

VI. Protective Actions

A. Traffic and Access Control

Traffic and access control points were manned at approximately 1022. The Shippingport police deparmtent is very small. Additional personnel were sworn in by the Mayor. The oath taken was that the officers would take their instuctions from the Shippingport Police Chief for the duration of the emergency. Shift changes were demonstrated every two hours.

B. Special Evacuation Problems

The EOC staff are not aware of any mobility-impaired or hearing-impaired individuals in the Borough. Post cards were sent out to all residents but none of these were returned requesting assistance. There are no schools or nursing homes in the Borough.

Ingestion pathway protective actions were not addressed during the exercise at Shippingport Borough.

VII. Radiological Exposure Control

At 1005 the EMC requested, from Beaver County, enough dosimetry for 35 workers. He informed Beaver County that a driver was on his way to Beaver County EOC. A kit containing 54 high range dosimters (0-200 R), the record keeping forms, and chargers was waiting for the driver. He was back in the Shippingport EOC by 1115. All personnel were briefed on the use of the dosimeters, how and when to read them and how to zero them. All emergency workers were instructed to go to the decontamination center when their duties were completed. The distribution of permanent record dosimeters and KI was not demonstrated during this exercise.

All windows in the EOC were closed. Once the Borough was evacuated, the EOC would relocate to Hopewell Township.

VIII. Media Relations

Media relations are a responsibility of the County. If there had been inquiries from the press, these would be referred to the Beaver County EOC. Rumor control was handled by the police desk.

IX. Recovery and Reentry

Recovery and reentry were not demonstrated during this exercise.

X. Scenario

The scenario was sufficient to test the capabilities of this municipality. The fact that protective actions were not defined did cause some consternation at the Shippingport EOC. However, all tasks up to the point of actual evacuation were completed and the EOC staff was definitely prepared for the evacuation of the public.

Shippingport Borough Deficiency

1. A minimum of four phones needs to be installed in this EOC to ensure effective coordination of response actions.

South Beaver Township

I. Activation and Staffing

The Beaver County police department notified the South Beaver Township EMC of an Unusual Event at the plant site at 0840. The EMC telephoned the board secretary who in turn telephoned the Fire Chief and Chairman of the Board of Supervisors. The EMC proceeded from his private residence to the Township police center. Upon arriving at 0853 the EMC telephoned the Beaver County EMC to verify the call. Full staffing was completed at 0855. A security guard was posted at that time.

The police department, fire department and public works department were represented at the EOC. Radiological services were provided by the police and fire staff. The Chairman of the Board of Supervisors was in attendance the entire time. The other two board members stopped in periodically and were on standby if needed.

The majority of the staff was noticably unfamiliar with procedures and instructions set forth in the Township plan. The EMC was just recently appointed and could offer little direction. However, the Radiological Officer (Police Chief) and most of the police and fire staff are well trained in the calibration, distribution and use of the dosimetry. This was demonstrated with the orderly method in which dosimetry was obtained from the County EOC, calibrated on-site and distributed to the staff. Round-the-clock staffing would consist of the same group staying at the EOC.

II. Emergency Operations Management

Being new to the position, the EMC relied heavily on the Police Chief, who was temporarily designated as Deputy EMC. The Police Chief displayed the leadership and decisiveness to command the group and provided as much expertise in as many capacities as possible. It was unclear at times who was in charge. Periodic briefings were not formally held. The State and Federal observers were required on several counts to inquire as to what was happening. Messages were logged in by the secretary and distributed to fire department at the fire hall for the most part in person. Message handling was adequate, yet not as widely distributed so as to keep all of the staff informed as to what was happening. Security was posted as mentioned above at 0955.

The original Alert was received at 0937 via commerical telephone. Site Area Emergency and General Emergency were received at 1125 and 1347 respectively via the RACES system.

The elected Chairman of the Board of Supervisors was in attendance the entire day, providing input as needed into the decisionmaking process. The other two board members stopped in periodically and were on standby if needed.

III. Facilities

The room size, desk space and seating at the police building were just adequate. RACES operator set up in the attached garage area. The fire department staff were located in the Fire Hall roughly 1/10 of a mile from the police building. The Pennsylvania Department of Agriculture established a dosimeter distribution point at the fire hall as well. More than adequate facilities are available there. The split operation was not conducive at all to a cohesive, authentic exercise.

The status board was clearly visible to the emergency operation staff but was never used. It remained blank the entire day. Plume EPZ and evacuation route maps were not posted.

IV. Communications

The primary communications to and from the County EOC was RACES, after the initial Alert phone message. There was some confusion as to whether the RACES operator should be at the police building or the fire hall. But once that was resolved the RACES communication system was operational within minutes and was utilized extensively throughout the exercise.

Also available, and effectively utilized during the exercise, was the police and fire band radio system. This was used for communication between the EOC and the route alerting team. Radios were also distributed to the alerting team and were effective up to a certain range.

Ambulance notification was handled via RACES to the County EOC.

V. Public Alerting and Instruction

The public alerting was started by the sounding of the siren at 1434. One team was standing by and was dispatched at 1435. One sector was covered in roughly one hour. Five other fire department personnel arrived at the fire hall and were then directed to the police building for assignment. It was decided not to activate a second alerting team. Fire department vehicles with PA systems are used for this purpose. The simulated message was for the public to tune to an EBS station. Contact between the EOC and alerting team was successfully achieved with the police band radio.

VI. Protective Actions

The only protective action requested of South Beaver Township from the County EOC was a list of all known persons within the Township who would require ambulance assistance. This was determined to be one and the EOC was notified by telephone.

VII. Radiological Exposure Control

An adequate supply of high range dosimeters and chargers were obtained by a Township fire representative from the Beaver County EOC. The Radiological Officer and the police and fire staff calibrated the dosimeters on-site and distributed them to the staff. As previously mentioned, the handling of the dosimetry was in an orderly, professional fashion.

The Police Chief, Fire Chief and most of their respective staffs are trained in the handling of the dosimetry equipment.

VIII. Radiological Exposure Control

In addition to the Township personnel, the Pennsylvania Department of Agriculture through the assistance of the Penn State Extension Service established a dosimeter distribution point at the fire hall for area farmers. Assistance was given by the U.S. Soil Conservation official as well. This effort was well organized and established to certify the farmers as County EMA Farmer Emergency Workers. Procedures were established for dosimeter distribution to the 10 area dairy farmers and the completion of the report form. Communications were established for this purpose between the County EOC and the fire hall utilizing commercial phone.

IX. Media Relations

There was no expectation or preparation for media involvement.

X. Recovery and Reentry

Exercise terminated before any recovery or reentry.

XI. Scenario

The scenario was adequate to test the response capabilities of South Beaver Township.

South Beaver Township Deficiencies

1. The fragmentation of the emergency operations between the fire station and police building must be resolved. The fire station appears to be capable of providing adequate space for the EOC staff, RACES operator and the Pennsylvania Department of Agriculture dosimeter distribution point as well as supporting extended operations. The fire station could then become the Township Emergency Operations Center. All personnel could report to a single point. Support groups (police, fire, RACES, etc.) could coordinate on a continuous basis. And, perhaps most importantly, the EMC and elected officials would be better informed, able to observe the entire operation and determine where personnel adjustments are needed and/or additional support requested.

2. Training sessions need to be conducted to familiarize the key staff members with the procedures and instructions set forth in the Township plan.

3. Training sessions need to be conducted to familiarize the key fire department personnel with decontamination procedures.

4. Appendix 3, Attachment A and Appendix 5 need to be filled in on the plan to provide a complete, single point of reference during an emergency.

5. Road maps should be obtained and the routes to be taken clearly indicated for both alert teams.

6. Standard Operating Procedures need to be established to ensure the prompt updating of the plan reflecting personnel changes.

7. Periodic briefings should be held by the EMC to update the staff; i.e. following a receipt of a message.

8. Status board should be utilized and clearly visible to all. It needs to be kept up-to-date on significant events and have the emergency classification level posted at all times.

9. The plume EPZ maps and evacuation route maps should be posted and utilized.

South Heights Borough

I. Activation and Staffing

The Acting EMC received a telephone call from the Beaver County EOC at 0843. This call, along with all other communications from the County EOC, was not verified by the Borough EMC or staff. Borough EOC staffing, which included the police department, fire department and Radiological Officer, was completed at 0900. The staff present displayed adequate knowledge and training and 24-hour staffing was displayed by a duty roster.

II. Emergency Operations Management

The Borough Fire Chief was the Acting EMC during this exercise because the designated EMC was at work and the Police Chief/Assistant EMC was on vacation. The Acting EMC, with assistance from his staff and elected officials, displayed adequate command of the situation and the proper action was taken as called for in the Borough plan during Alert status at 0843, Site Area Emergency status at 1126 and General Emergency status at 1348.

III. Facilities

The Borough EOC facilities were generally adequate except for the following:

1. Only one telephone line was available for use into and out of the EOC.

2. Because the County EOC chose to inform communities via the RACES network, this system which is supposed to be backup soon became the primary communications system with the telephone serving as the backup.

4. The plume EPZ and relocation centers were not available and were not posted.

IV. Communications

The limitations of the Borough EOC communications system are described in the previous section, III. Facilities.

V. Dose Assessment and Protective Action Recommendations

Capabilities in these areas were not demonstrated by the Borough EOC staff.

VI. Public Alerting and Instruction

At 1420, the Borough EOC received a message from the County EOC that "the sirens will go off at 1430, send out route alerting teams to repeat the command, tune to EBS message after the sirens sound." The sirens were activated at 1432 and the proper vehicles were dispatched to do route alerting as called for in the Borough plan at 1435.

VII. Protective Actions

Traffic control points within the Borough corporate limits were to be manned by State Police according to the Borough plan. There was no check with the County EOC or the State Police as to whether or not this was simulated by the State Police. The Borough EOC should have checked to see if the State Police knew of this responsibility.

The EOC staff knew of all the special evacuation individuals which were outlined in the plan. However, their capability to properly evacuate these people was not demonstrated because the protective action order was never received from the County EOC.

VIII. Radiological Exposure Control

While the Borough EOC did receive the proper number of high range (0-200 R) dosimeters and were trained as to their use, they did not receive any simulated TLDs or simulated KI. When asked by the FEMA observer, they did not display an adequate knowledge of KI dosage or decontamination procedures (where the decontamination centers were).

South Heights Borough Deficiencies

1. Additional phone lines are needed in this EOC.

2. Additional training is needed in the area of decontamination procedures and the use of KI.

3. The EOC did not confirm with Beaver County that the TCPs were manned by the State Police.

Vanport Township

I. Activation and Staffing

The notification that initiated the activation of the Vanport EOC was received by the Vanport Township clerk in the Vanport Township Center at 0838. The call was received from the Beaver County EOC communications center and verified by the Township clerk, who recognized and confirmed the caller's identify. Prior to the notification at 0835 hours, the EMC for Vanport Township had arrived at the Vanport EOC to confirm the fact of tornado warning in effect for Beaver County. At the time of the notification of Alert stage, the EMC directed that call list be utilized to initiate staffing. Staffing notifications were completed at 0852 hours. Staffing was essentially complete by 0919 hours, with the Vanport Fire Chief on duty at the Vanport Fire Station at that time. He arrived at the EOC at 0928 hours, at which time the EMC directed the RACES operator to notify the Beaver County EOC that the Vanport EOC was assembled and on stand-by. On duty at the Vanport EOC were the EMC, the RACES operator, the Vanport police lieutenant, the Vanport Fire Chief, a Township Commissioner, the Township secretary and clerk and a volunteer message dispatcher. (The Township Commission Chairman and two other Commissioners were at a Township Commission conference out of town. The Township solicitor was in court. The Township engineer and water and sewage department head was accessible via Township radio).

The staff in general displayed an adequate knowledge of their responsibilities in the event of an emergency. A 24-hour staffing capability was discussed, but not demonstrated. The police department would require three additional officers; the fire department 24 additional staff and there is no one adequately trained to relieve the EMC. The remainder of the staff would be required to split into two shifts in the event of a 24-hour response necessity. The Township has a limited population base to draw volunteers from (1993 current population; 1980 census data - 2013). The EOC staff ably handled the requirements placed on it by the scenario. In addition, the EMC notified the Beaver County EOC of the additional staff needed to fulfill 24-hour response capability at 0958 hours.

II. Emergency Operations Management

The Vanport EMC was effectively in charge of the Vanport EOC staff. He held periodic staff briefings on plant conditions, weather factors and Vanport response capabilities. The EOC staff provided valuable input to the EMC in his management decisions. In fact, after route alerting had been completed by the Vanport fire department, a telephone call was placed to the fire station directing route alerting team members to a decontamination center in

route alerting team members to stand by until such orders were received by the EMC at the Vanport EOC. Those orders were never received. Messages were relayed from the RACES operator through the message dispatcher to the EMC in a timely manner. Messages were in triplicate on carbon copy forms provided by the utility. The EMC found these forms to be useful, but not entirely comprehensive. The EMC complained that there were no spaces designated on the forms for the message number and the time of the message.

Access to the EOC was effectively controlled by a Vanport police officer, who checked identification and issued EOC badges when appropriate. The Vanport EOC was notified of Alert status at 0838,of Site Area Emergency at 1117, and of General Emergency at 1348 hours. Each notification was received from the Beaver County EOC via the RACES operator. General Emergency was declared at 1320, but that information was not received at the Vanport EOC until over 35 minutes later, at 1359 hours. At that time, no protective actions were recommended by the Beaver County EOC. A member of the Vanport Township Commission was present throughout the decisionmaking process.

III. Facilities

Facilities at the Vanport EOC were adequate. The facility itself cannot support extended operations, due to lack of showers and bunk space. Those capabilities are available, to EOC staff, however, at the Vanport fire station two blocks away. The fire station also contains full kitchen facilities, while the EOC has a small refrigerator and gas stove. Backup power (not demonstrated) is available through use of one of the fire department's four portable gas generators. The emergency classification level was not posted, although a status board was clearly visible and frequently updated. The plume EPZ with sectors labeled, and evacuation route maps were posted and frequently consulted. A relocation center map was available, but not posted. Access control points were posted on the evacuation route map. Radiological monitoring points were not posted. Population by evacuation area was not posted.

IV. Communications

Communications between the Beaver County EOC and Vanport EOC took place primarily via the RACES network. Four commercial telephones are available at the Vanport EOC. A Beaver County police and public safety radio is available, also. There are no schools within Vanport Township. Two local industries were notified at the Alert stage by commercial telephone. Ambulance companies are also available by commercial telephone.

V. Public Alerting and Instruction

A Site Area Emergency declaration took place at 1100 and was received via RACES at the Vanport EOC at 1117. At 1150 as a result of the Site Area Emergency declaration, and in a deviation from the Vanport Township plan, the EMC and the EOC staff dispatched two route alerting teams. The team simulating route alerting on the south side of the Township completed its course at 1212; the team on the north side of the Township at 1217 hours. In addition to route alerting, simulated traffic control points were established by the Vanport police, and an actual survey of evacuation routes for possible obstructions took place. The survey by a Vanport police officer was completed at 1223 hours. The simulated route alerting message was generic in nature, and prescripted: "An incident has occured at the Beaver Valley Power Station which requires your attention. Please turn to KDKA at 1020 AM, WBVP at 1230 AM or WMBA at 1460 AM for further instruction."

The EMC notified the Beaver County EOC that route alerting had commenced, at 1155 hours, via RACES. At 1220 hours, the Beaver County EOC requested the Vanport EMC to suspend route alerting until a General Emergency declaration (a moot point since route alerting was completed at 1217). The EMC realized his deviation from the plan and set about to simulate route alerting if a General Emergency declaration was received.

Notification that a General Emergency had been declared at 1320 was received from the Beaver County EOC via RACES at the Vanport EOC at 1358 hours. In the interim, at 1324 hours, the Vanport EOC received a message that the reactor was stable. This contradictory and confusing information did not assist the EOC morale, which was deteriorating through lack of scenario input. Rather, it further contributed to EOC staff questions and puzzlement. In fact, due to lack of action at 1400, the Fire Chief and Township Commissioner left the EOC with instructions on where they could be located if necessary. The EMC did not contact the Beaver County EOC to clarify the situation. Rather, the course of events resulted in a protective action recommendation at 1417 hours. The protective action recommendation received at that time via RACES did not state whether to evacuate or shelter, but did state that the sirens would be sounded at 1430 hours, with route alerting to commence thereafter. The EMC did question the ambiguity of the message, but did not pursue the issue further. The sirens sounded at 1431 hours, and simulated route alerting commenced in Vanport Township at that time, ending at 1454. An EBS broadcast on WBVP was monitored at the EOC at 1438 hours by the Vanport police department. The same prescripted message as before was utilized during the route alerting simulation.

Activation of traffic control points was promptly ordered to coincide with route alerting. However, this took place at Site Area Emergency instead of General Emergency (see Section VI). A physical survey of evacuation routes took place at this time also. Appropriate resources are available to clear evacuation routes should the need arise. These resources were not demonstrated. The EOC staff were well aware of mobility-impaired individuals in Vanport Township, through use of the Vanport Emergency Questionnaire Survey replies and Beaver County emergency reply cards. Personal knowledge of mobility-impaired persons in this Township was even more informative than the reply cards. There are no schools in Vanport Township. At 1156, the EMC sent a resources report to the Beaver County EOC via RACES, requesting one additional ambulance and one bus for transport of mobility-impaired persons. At 1315, he requested a confirmation of the resources report. No confirmation was ever received by the Vanport EOC. In the interim, two ambulance carriers were contacted to initiate transport if necessary, but a third was still required.

There are no farms or food processing plants in Vanport Township. Water supply intake points information is available.

VIII. Radiological Exposure Control

A Vanport police vehicle was dispatched to the Beaver County EOC at 0957 to pick up dosimeters. The officer returned to Vanport EOC at 1020 with 24 CDV-742 high range dosimeters, although 50 were requested by the EMC. Chargers were provided, however, along with record keeping cards. Instructions were issued by the Vanport police on the use of the dosimeters. The dosimeters were distributed to all staff at the EOC and all route alerting members. Maximum dose was not mentioned, although when questioned by the Federal observer, the police lieutenant stated not to exceed "somewhere around 40 percent." Decontamination stations for Vanport Township are at Slippery Rock State College. No consideration was given to shutting down the air conditioning system of the EOC, although some discussion was held to covering the windows with plastic.

IX. Scenario

The scenario did not adequately test the capabilities and responsibilities of Vanport Township EOC. There was a general lack of action, causing the Fire Chief and Township Commissioner to leave the EOC at 1400 with numbers where they could be contacted if needed. The Township response seemed to be dictated by the limited plant status information from the Beaver County EOC. In this Federal observer's view, the Township was anxious to demonstrate its capabilities, but frustrated by the slow pace and lack of opportunity to do so.

Vergent Township Deficiencies

1. There is no one adequately trained to relieve the Emergency Management Coordinator.

2. The Emergency Management Coordinator, in a deviation from the principal plan, initiated route alerting and manning of ACPs/TCPs at Site Area Emergency. When Beaver County told him to call back the teams and perform route alerting in conjunction with the siren sounding, he realized his mistake and made plans to simulate route alerting at the proper time.

3. Additional training is required in the area of radiological exposure control.

Support Counties

The support counties of Allegheny and Butler participated in the exercise. Although Washington and Lawrence Counties did not participate it was planned that they would observe Allegheny and Butler Counties. The Red Cross in these counties did participate. The Red Cross supported their three-State program from the Pittsburgh District Office.

Allegheny County

EOC. The facility was staffed after receiving the Site Area Emergency notification. The EOC was adequate in space and had excellent display boards for recording necessary information. Appropriate key personnel were in control and displayed excellent leadership abilities.

Reception Center. The reception center at South Park was well controlled. Sufficient space was available for parking. Excellent control could be maintained for "funnelling" people to proper mass care facilities.

If a school was evacuated the students would also come through this center. The State and local school boards should consider direct evacuation of students to pre-designated student pickup points. This would alleviate congestion at the reception center and also enable parents to know in advance where their children will be taken.

There is still no plan for vehicle decontamination. Vehicles could be decontaminated at a designated place near the reception center, using one or more of the local volunteer fire departments.

Mass Care/Decontamination - South Park School

This facility was used for the third time to demonstrate the mass care/decontamination capability. The personnel were new this year

to the decontamination center (a shower with private entrance). When decontamination procedures were completed the victim was returned to the "flow" pattern.

Red Cross personnel effectively demonstrated a capability to run the mass care facility.

Butler County

The mass care and decontamination procedures were played out of sequence. The EOC was not observed during the exercise. The EMC conducted a tour of the "under construction" facility. It had sufficient space and had display boards and maps indicating action stations during the exercise.

The EMC indicated that he had three private air craft checking traffic flow on Rt. 79 during the exercise. This is reflected in his plan.

Reception Center. The reception center activity demonstration was cancelled because of severe thunder/hail storms. However, the location had adequate space and the plan could have been implemented if necessary as all the personnel were present.

Mass Care/Decontamination. The County Radiation Control Officer displayed excellent leadership and briefed his personnel as to exact procedures that he wanted. There was sufficient knowledgeable staff present and a walk-through of the decontamination plan indicated it was workable.

The Red Cross will support the County's mass care efforts by operating the mass care facilities. The Red Cross Chapter has sufficient staff to man six shelters and procedures to train more if needed. The Butler County operation was outstanding and no deficiencies were noted.

Support Counties Deficiencies

1. If the Red Cross plans a District Headquarters to support their operation, this activity should be included as an action point in the scenario and the activity should be observed.

2. Local school boards should be encouraged to select pre-designated student pickup points for the schools that may be evacuated.

3. Allegheny County should develop a plan for vehicle decontamination (this was also a deficiency last year).

State of West Virginia

I. Activation and Staffing

Activation of the West Virginia EOC was accomplished smoothly and timely following a call from the Emergency Operations Facility at 1105 which notified the West Virginia Office of Emergency Services (OES) of a Site Area Emergency classification at the Beaver Valley Power Station. Code names were used to verify official notifications concerning plant status. This notification stimulated EOC staff to verify information regarding the upgraded status by placing calls to PEMA and to Hancock County. Although a direct communications line (the hotline) exists connecting the principal response agencies, many coordinating calls transpired via the existing commercial telephone line system.

Staff responded quickly to EOC activation, with all attending representatives present by 1203. Organizations represented at the State EOC included the Office of Emergency Services, American Red Cross, Governor's Office and the Departments of Health, Highways, Public Safety (State Police) and RACES. Representatives from the National Guard were not present in the EOC due to other training commitments, but an exercise telephone contact was provided through the National Guard Armory in Charleston, Also, a representative from the Department of Natural Resources was not present during response operations. Non-working hour notification of emergency situations is accomplished via a programmed tape, which is activated through the commercial telephone line. This tape provides home contact information for four OES operations staff persons, with the State Police network as a backup contact location. State Police telephone channels are monitored on a 24-hour basis. Contacted OES persons would continue notifications and activate the EOC according to State plan procedures. State OES staff demonstrated round-the-clock staffing capability through an actual shift change of positions occurring at 1200. Both shifts displayed adequate training in REP procedures and parameters of the State plan. The second shift was provided a briefing by the first shift Operations Officer as to current status of the response operations.

Three Department of Health and two OES staff persons were dispatched to the EOF and Hancock County EOC the night before the exercise in order to be available at these locations during the exercise. Real world transportation problems, however, prohibited the OES staff persons, who were designated controllers for these locations, to attend the exercise. The State EOC contacted the Department of Public Safety and simulated transportation of these individuals to their prospective locations via State helicopter. The loss of these positions and interjected problems within the scope of exercise play resulted in slow activity for State agency representatives.

A separate Operations Officer was designated for the morning and afternoon shift operations at the West Virginia State EOC. Several briefings were held during morning operations, but these activities waned during the course of the exercise. Notification of escalation to the General Emergency classification was updated on the status board, but was not announced to the EOC staff. Several individuals were not present in the operations room at the time of the update, and were not immediately aware of this change in status as indicated on the board.

The State representative acting as Controller of the exercise at this location was very knowledgeable with regard to State procedures, and was often queried with regard to appropriate procedures and actions. This person's attempts to limit his actual involvement were admirably demonstrated, though not totally successful, as evidenced through staff communications and organization by this individual of the simulated press briefing.

Message logs were not maintained for internal or external communications; additionally, emergency message forms were not numbered, and information applied to the forms regarding the source of the call, the time it was received, and the routing of each message was inconsistent and sporadically included. This leaves open a wide margin for loss of information during more active exercise scenarios. EOC staff did maintain, however, a master notebook for gathering original message communications.

Access to the EOC was strictly maintained, with sign-in and -out procedures required at all times. Notification of plant Alert status was received at 0821 from the Beaver Valley Power Station; Site Area Emergency notification was received at 1105 from the Health representative at the EOF, which stimulated the EOC staff to verify this information with Hancock County at 1120 and PEMA at 1123; General Emergency status was forwarded to the EOC by the EOF at 1331, and was verified via several conference calls during which protective actions were discussed. It is noted that these notification procedures do not directly correspond with the State plan, which calls for initial notification to come from Hancock County, following County verification with utility, and subsequent verification by PEMA. On-going communications between the West Virginia EOC, PEMA, EOF and Hancock County were observed. No elected officials were in attendance at the EOC, or actively involved in decisionmaking.

A recommendation to take shelter for 360 degrees for 0-5 miles and shelter to 10 miles in Sections M, N, P, Q and R was recommended at 1345 by the Utility. Further communication with PEMA at 1356 evidenced an attempt to coordinate protective actions within the

Operations Officer, and concluded that a 10-mile, 360 degree evacuation would be recommended in order to avoid confusion by the populace who may be listening to out-of-State, and varying, EBS messages. This recommendation was forwarded to Hancock County at 1406, in addition to Pennsylvania's and Ohio's plans to schedule sirens to sound at 1415. A return phone call from Hancock County at 1412 indicated that they would sound their sirens at 1430, with EBS message to follow at 1435. A "Proclamation of Emergency" declaration by the Governor was simulated at or around 1342. Federal notification or request for assistance was not demonstrated at the State EOC, although questions as to the appropriateness to notify FEMA were raised. Pages 14-4, 14-5, 14-2-1, 14-3-1, and 14-4-1 of the State plan do not include FEMA notification as a West Virginia EOC responsibility. This is contradicted, however, on pages 3 and 4 of the State plan, which includes FEMA in the West Virginia notification procedures for Alert, Site Area and General Emergency classification updates.

III. Facilities

The West Virginia EOC is well equipped with ample furniture, space and adequate lighting. Telephones are available for each of the agency representatives, although auxiliary lines beyond the existing four operations rooms' live connections were not activated in order to defray additional costs in connection with the exercise. A backup power generating capability was successfully demonstrated during the exercise. Although the EOC is not within designated plume zones for the power plant, air filtering capability does exist, and arrangements have been made to utilize on-site cafeteria accommodations and bedding needs through the local American Red Cross Chapter in the case of extended EOC operations.

A status board was clearly visible within the operations room. Use of the board was primarily restricted to major emergency classification updates and protective actions, and its use decreased during the course of the exercise. A 10 and 50 mile EPZ map was posted at the front of the operations room, with sectors clearly labeled. Maps depicting evacuation routes, relocation centers, access control points, radiological monitoring points, and population figures for Hancock County were available, but not posted.

IV. Communications

Commercial telephone lines were the demonstrated primary means for communication with Hancock County, the States of Ohio and Pennsylvania, the EOF, and the Utility. However, a BVPS hotline was also frequently used to receive information and to coordinate activities with conferencing capability extending to the three affected States (WV, OH, PA), the three plume counties, the Bureau

Administrative Building (EOF). Although a one-page SOP was available for the use of this line, the actual transfer of information and communication processes were at times confusing and garbled to EOC staff. Communication to the Joint Media Center was demonstrated via commercial telephone, and Utility news releases were received on a timely basis via telefax for informational purposes, although news releases numbered 4 and 6 out of a total 11 releases were not received at the EOC.

Two RACES operators were available for backup communication during the exercise, although only one formal message was transmitted.

V. Dose Assessment and Protective Actions

Dose calculations were performed by hand from both plant release data and field readings at the State EOC by the Department of Health representative. Calculations were made as soon as they were received in the EOC, with plant release data originating from the EOF and field readings from the Hancock County EOC. The number of readings stemming from the EOF curbed following the General Emergency recommendation, but field data continued to be received at a frequent rate. An inconsistency was identified in the field readings for Site 14. This inconsistency was brought to Hancock County's attention and was determined to be an error in exercise play.

A protective action recommendation resulting in a 360 degree 10-mile evacuation of the general public was established as the result of a tri-State agreement to avoid public confusion. This varied from the plant recommendation to shelter 0-5 miles for 360 degrees and to shelter out to 10 miles for Sectors M, N, P, Q, R based on projected doses at 2 miles of 1.43 R whole body and 3.30 R thyroid, and 0.445 R whole body an 1.05 R thyroid at 5 miles, and due to prevailing winds. Protective action recommendations were not changed following notification from the EOF at 1419 that the release, beginning at 1317 had been stopped as of 1346. Discussion concerning the use of KI was not observed, nor is there evidence of transmittal of any information regarding the use of KI between West Virginia and the EOF, PEMA, or Hancock County, nor is there any evidence of serious consideration of ingestion pathway issues. No considerations were made concerning air or rail transportation route control.

VI. Media Relations

The Governor's press representative was responsible for coordination of public information at the State EOC. Utility news releases were posted to the status board as they were faxed to the EOC, but were not distributed or read to EOC staff. A simulated press conference was held at 1445, with the agency representatives present at the EOC playing the roles of news media personnel. The conference was

questions until accurate information could be obtained. However, responses to many critical questions were erroneous and, in a real-world response, could have lead to serious public confusion.

No equipment or facilities other than space would be provided to media personnel at the EOC.

VII. Scenario

Activity at the State EOC was extremely slow but in general accordance with the State Radiological Emergency Plan. The inactivity at the State EOC was heightened due to the inability of State-designated controllers to reach their destinations at the EOF and Hancock County, and were therefore unable to introduce problems within the scope of the exercise. Exercise objectives were not completely demonstrated at the State EOC, in part due to this lack of play, but also due to an inappropriate assignment of responsibilities to the State which are listed as County responsibilities in the State plan.

West Virginia State Deficiencies

1. Future exercises should demonstrate active and timely briefings throughout the course of the exercise to maintain a current level of awareness for all agency representatives concerning the latest activities and response operations.

2. The role of the Controller as a non-participating exercise individual should be stressed in future exercises in order to more clearly test the roles of the actively-playing personnel.

3. Stricter control and thoroughness is needed with regard to standard procedures for communications and message documentation within the EOC. Messages should be serially numbered to avoid loss of information and necessary information regarding time received, person receiving the information, actions taken, and routing should be consistently applied to the message form.

4. Notification procedures for the State EOC of emergency classifications and identified points of contact should be reviewed, and corrections to the State plan made if appropriate.

5. Protective actions were coordinated with the two adjacent impacted States in order to avoid confusion on the part of the general public. The State plan provides specific guidance with regard to protection actions which are to be taken based on projected doses to the public. If the State of West Virginia elects to adopt a standard 360 degree provision for implementing protective actions in mutual coordination with Pennsylvania and Ohio, this should be so noted in the plan.

6. Future exercises should demonstrate active participation in protective action decisionmaking by the Governor or his/her designee, as provided for in the State plan.

7. The State plan should be revised to consistently approach the subject of West Virginia's responsibility to contact FEMA regarding radiological emergency status classifications at the Beaver Valley Power Station.

8. It is recommended that active use of the status board, to include significant actions taken by the agency representatives, be maintained throughout the course of future exercises in order to maintain agency representative awareness of current activities, to maintain coordination between these activities, and to heighten involvement in exercise actions.

9. Additional coordination and experience in the transfer of information via the hotline is warranted in order to make this a more viable means of communication.

10. Future exercises should demonstrate consideration processes for the use of KI and ingestion pathway decisions in accordance with the State plan. Air and rail transportation systems control should also be demonstrated.

11. The location where dose rate calculations are to be performed by WVDH/IHD staff, i.e. at the State or Hancock County EOCs, should be clarified in the State plan.

12. It is recommended that training be provided to all persons with potential news media responsibilities at the State level with regard to basic radiological emergency preparedness paramaters. Future exercises should demonstrate exercise-specific briefings to the public information personnel immediately prior to actual or simulated briefings and/or technically-qualified persons should attend such briefings as an accurate information source to be called on to support the public information officer when necessary.

13. State EOC objectives for future exercises should be aligned with radiological emergency response activities assigned to the State, as identified in the State plan.

Hancock County

I. Activation and Staffing

Activation and staffing of the EOC were accomplished smoothly and efficiently. BVPS notified the continuously-manned County Communications Center of the initial Unusual Event declaration, and subsequent changes in emergency status, via commercial telephone.

of the initial notification, the procedure is for the dispatcher to notify the West Virginia Office of Emergency Services (OES) Deputy Director at home. Verifications of exercise notifications were made by the Deputy Director, who placed followup calls to BVPS.

Following receipt of the Alert notification (at about 0815), the Deputy Director notified the staff using a written call list. Mobilization occurred quickly; the Director reported that the EOC was fully staffed by 0905. All EOC positions were manned, with representatives from virtually all County organizations, the State Department of Health, the State Police, Red Cross, RACES and a Utility liaison. The staff demonstrated professionalism and capability in performing their duties.

An actual shift change was not performed, but the capability for round-the-clock staffing was evidenced by the presentation of a roster.

II. Emergency Operations Management

The County plan designates the OES Director to manage the County's emergency response. The Director, assisted by the Deputy Director, demonstrated effective leadership and decisionmaking capability.

Briefings were held periodically, and staff members were involved in decisionmaking, as appropriate. Elected officials, however, did not participate in the exercise.

The staff demonstrated good coordination of emergency activities. Telephone logs were maintained, message handling was excellent, the status board was well-maintained, and security and control of access to the EOC were very good.

A change in this year's exercise was the provision, by the Utility, of a technical liaison to explain or interpret data and plant conditions. Having someone with this capability at the County EOC was a definite asset.

III. Facilities

The EOC is located in the County Courthouse. It includes an Operations Room which provides individual work stations and telephones for all staff members, with an adjacent office for the Director and Deputy Director. The County Communications Center is currently located one floor above the EOC, but a new communications center is under construction within the EOC. The present arrangement requires that messages be relayed between the two locations, resulting in delay and opportunity for message error. Completion of this new facility would benefit the County's response capability by promoting more efficient EOC communications.

and telephones. Excellent plume EPZ maps are posed, displaying all appropriate information. The facility can reportedly support extended operations (bunks, kitchen and shower are available), but these were not demonstrated. At the time of the exercise, the EOC was not not equipped with an emergency generator, but the Deputy Director reported that one will be available upon completion of the improvements discussed above. The EOC is not located within the 10-mile EPZ.

IV. Communications

The primary and backup communications capabilities in this EOC are outstanding. Each individual agency had their own separate telephone line for coordination. All message traffic was sent and received by the County dispatcher then passed to the EOC via portable radio. The County had a backup dispatcher on hand to handle any overflow of traffic. There was telephone service available between the dispatcher and the EOC as a backup for the portable radio. The County had telefax and telephone service available to the Media Center. A RACES radio link was established to the State EOC in Charleston and surrounding Counties in West Virginia. Activation of the siren system resides with the County's Communication Center. The system is tested weekly to ensure operational capability. There was the capability for the County to contact the States of Ohio and Pennsylvania, their respective risk Counties, and the West Virginia EOC by utilizing the power plant hotline. The County was able to contact the CPCS-1 station in Wheeling (WWVA) by telephone and could use RACES as a backup.

V. Dose Assessment and Protective Action Recommendations

A. Dose Projection

Collection of field data is to be accomplished by a combined field monitoring team composed of members of both the State and County Health Departments. According to the plan, the State Health Department personnel, along with monitoring equipment and supplies, would be transported from Charleston to the County EOC. Travel time is estimated at less than an hour via helicopter. For the exercise, however, one representative of the State Health Department was prepositioned in Weirton. The team's field activities, consisting of setting up at several pre-established monitoring locations, were not observed. The team was provided with simulated data for various locations; upon their return to the County EOC, the RADEF Officer reported these readings to the State EOC via telephone, at the appropriate times. Dose calculations were performed at the State EOC by a health physicist with the West Virginia Department of Health. The County RADEF Officer also received

reports from the State's EOF liaison regarding plant conditions and protective action recommendations. This information was also relayed to the health physicist at the State EOC. In the previous exercise, the health physicist relocated to the County EOC to perform accident assessment. This procedure should be reinstated, as it benefits the protective action determination process in several ways: 1) it facilitates direct consultation between the health physicist and both the County Director and the Utility technical liaison, 2) it provides the health physicist with more direct access with both the monitoring teams in the field, and the State's EOF liaison, and 3) it frees the County RADEF Officer from relaying data, and allows him to perform a more useful accident assessment function.

B. Protective Action Recommendation

The initial protective action recommendation was received from the Utility, via the hotline, at about 1340. It called for sheltering in all sectors out to five miles, and in sectors M, N, P, Q, R out to 10 miles. At 1351, the State EOF liaison called the County EOC to report that Pennsylvanai's Bureau of Radiation Protection had recommended to PEMA that all sectors be evacuated out to 10 miles. This information was reported to the State EOC, which responded at about 1408 with a recommendation for a 10-mile evacuation of all sectors. This recommendation was immediately accepted by the County Director. Shortly after, at 1423, the County received another call from the State EOF liaison, advising that BVPS had declared that the release had been terminated, and the plant was stable. Even though the public had not yet been alerted or notified of the pending evacuation, there was no reconsideration of the protective action decision at the County. Messages received by the County indicated that the release had lasted for only about an hour and twenty minutes (the actual release was 25 minutes) changing the protective action decision from evacuation to sheltering would have been a logical consideration at this time. However, as the County did not have the capability to quickly re-evaluate the situation, the Director stayed with his initial decision. This is another example of having the State health physicist located at the County EOC - capability for rapid re-assessment.

VI. Public Alerting and Instruction

Good coordination was demonstrated in arranging for the simultaneous activation of the primary alert and notification systems (sirens and EBS) in the three risk Counties. During a coordinating call initiated by PEMA at about 1413, it was decided to sound the sirens at 1430,. Because West Virginia had to wait on the State of Pennsylvania, in order to activate the alert and notification systems simultaneously in the three states, the sirens were not sounded within the 15 minute timeframe as required in FEMA-43. The Deputy Director activated the primary EBS station, WWVA in Wheeling, via commercial telephone, at 1435. A code word was used to establish authenticity.

The primary station aired a test message, but the secondary station WEIR in Weirton, never activated due to a breakdown in the EBS procedures established in the Wheeling Operational Area Plan. Procedures should be reviewed with appropriate station personnel. Route alerting, the secondary means for alerting the public, was reportedly demonstrated by all seven fire departments which have been assigned this responsibility in the plan, but an insufficient number of Federal observers precluded witnessing the routes. However, the fire department representative at the EOC reported that the routes had been completed by 1515, 45 minutes following activation of the sirens, and within the recommended guidelines.

Public instruction was not adequately demonstrated. Although a test EBS message was broadcast, there was no preparation of appropriate evacuation instructions for the public, either in the form of EBS messages or news releases. These important proceudres are contained in the County plan, and demonstration of public instruction was a stated exercise objective. Future exercises should include such a demonstration.

VII. Protective Actions

The EOC staff revealed a basic and potentially serious problem affecting the implementation of protective actions - underestimation of the County population located within the 10-mile EPZ. estimates among the staff ranged from 4,000 to 10,000. The State plan, however, places the figure at over 14,500, based on the 1980 census. Such low estimates of the population at risk will result in County officials grossly underestimating the resources needed in the event of an evacuation. All County emergency organizations and personnel should be aware of the actual population figures, and re-evaluate their expected needs for resources, as appropriate.

A. Evacuation and Access Control

Activation of traffic control points (simulated) was timely. The County requested 20 State Police troopers and the Highway Department to assist in providing the necessary resources. An estimate of the expected traffic volume was placed at only 1,000 vehicles, based on an estimated EPZ population of 4,000. While actions to control vehicular traffic were demonstrated, air, water, and rail traffic were not addressed.

One traffic control point was actually established, but this occured during the Site Area Emergency phase (in conjunction with the nursing home evacuation, described below) and was not observed.

Activation of the reception center and mass care facility was also timely, occurring soon after the Site Area Emergency was announced. Following the evacuation decision, at about 1445, activation of a second mass care facility was simulated, in order to provide for an expected 4,000 evacuees.

The reception center was established at Waterford Park, about one mile beyond the 10-mile EPZ boundary. The center was staffed by four members of the Weirton Heights volunteer fire department. Three people were responsible for monitoring evacuees, while the fourth distributed mass care center information. The staff demonstrated good capability for monitoring vehicles and personnel, and had appropriate equipment. The Fire Chief described adequate procedures for decontaminating vehicles and evacuees, and disposing of contaminated clothing. Registration procedures for evacuees were not demonstrated at this location. Upon completion of monitoring, evacuees were directed to the mass care center in Weirton. According to the Fire Chief, bus transportation would be available in the event of an actual emergency.

The mass care center was located at the Millsop Community Center in Weirton, about 9 miles beyond the plume EPZ. The facility, which has a capability for 1,000 evacuees, was staffed by personnel from the American Red Cross and the Weirton fire department, which was responsible for radiological monitoring of evacuees. RACES provided communications.

Adequate procedures for the care and feeding of evacuees were demonstrated, and all necessities relative to their housing have been addressed. The only deficiency noted was a discrepancy between the staffs at the mass care and reception centers regarding registration of evacuees. According to the mass care staff, registration should take place at the reception center, when evacuees report there first. It is recognized, however, that some evacuees may report directly to the mass care center. For this reason, the mass care staff had a supply of registration forms. As noted above, however, the reception center staff did not demonstrate evacuee registration. The County should resolve this discrepancy.

B. Special Evacuation Problems

The evacuation of mobility-impaired and handicapped residents is a responsibility of the individual fire departments serving the districts in which those with special needs reside. Identification of the location and needs of such individuals has been accomplished through the use of a public information brochure, which is distributed annually. The brochure includes a post card by which residents can register their special needs. The Director exhibited copies of a large number of these cards which have been returned. The originals have been distributed to the appropriate fire departments. As a sufficient number of Federal observers was not available to visit the fire departments, no further demonstration of the County's capability to perform this aspect of evacuation was observed.

The County demonstrated evacuation of Fox Nursing Home. This occurred during the Site Area Emergency phase, according to the Director, because of the length of time and special problems involved. An initial census was requested by EOC personnel at about 0945 in order to establish transportation needs. After coordinating the evacuation decision with the nursing home director, two buses with wheelchair lifts and an ambulance were dispatched at 1145.
Due to the time of year, County personnel did not have to contend with the problems of evacuating the seven schools located within the EPZ. Only one school within the EPZ was open for summer session at the time of the exercise. This was closed early by school officials (during the Site Area Emergency stage) on the pretext of a low water problem.

Capability for providing transportation for those members of the general population without their own means was partially demonstrated. The staff determined that 16 Hancock County and 10 Brooke County buses were available at the time, but there was no demonstration as to how these resources would be allocated to the various pickup points, nor was there a determination as to whether this was a sufficient quantity of buses to perform the evacuation.

C. Implementation of Ingestion Pathway Protective Actions

The exercise did not include a demonstration of the capability for implementing ingestion pathway protective actions, other than precautionary recommendations issued by the County agricultural agent regarding the washing and/or avoiding of garden-grown foodstuffs.

In general, the County's capability for performing the initial emergency response actions, up to the point of making a protective action decision, has been demonstrated. The capability for implementing that decision, however, has not been adequately demonstrated. The more difficult aspects of arranging for the evaucation and care of over 14,000 people were not addressed during this exercise. Future exercises should include a realistic simulation of the full range of activities necessary to implement an evacuation, including: instructing the public; notifying all special facilities, camps, parks, etc.; controlling air, water, and rail traffic; determining available resources and acquiring unmet needs; evacuating schools; evacuating the transit-dependent population; evacuating the handicapped, mobility-impaired, and others with special needs; controlling access to the evacuated area; recovery and reentry.

VIII. Radiological Exposure Control

Dosimetry and other radiological exposure control equipment for use by County emergency workers has been pre-distributed to the

County EOC. However, a backup supply is maintained at the EOC to cover shortages or unforeseen needs. Zeroing of the self-reading dosimeters, dosimetry distribution, and record keeping are the responsibility of the individual organizations, such as police and fire departments, and were not observed. It was discovered, however, that Hancock County has no permanent record dosimetry available. The County should assure that appropriate arrangements are made with a supplier of either Thermoluminescent Dosimeters or film badges, in order to assure the capability for maintaining accurate, permanent dose records for all County emergency workers.

Authorization for the use of KI by emergency workers, and providing the County with a sufficient supply, are responsibilities of the State Health Department. The exercise included no demonstration regarding the use of KI.

IX. Media Relations

The primary contact point for media representatives is intended to be the Joint Public Information Center (JPIC) in Beaver. The County also designated a courtroom in the courthouse building, above the EOC, as a local media center for press briefings. This was not demonstrated during the exercise.

The County staffed two PIO positions, one at the EOC and the other at the JPIC. Communication between the two were via telephone and telecopier. The latter was used during the exercise to transmit utiltity news releases to the County EOC.

X. Scenario

This exercise was virtually identical to the 1983 exercise - even the special problems inserted by a controller at the County EOC were duplicated. As a result, the officials and staff were not presented with a situation which further tested their capabilities, or required emergency activities beyond the basic, initial response. Future exercises should allocate less time to the pre-General Emergency phase, and place greater emphasis on the post-protective action decision phase. Implementation of evacuation, implementation of ingestion pathway protective actions, and recovery and reentry should be stressed in future exercises.

Hancock County Deficiencies

1. The Hancock County EOC is presently undergoing improvements, including construction of a new Communications Center and installation of an emergency generator. These improvements should be completed quickly in order to establish capability for efficient and uninterrupted EOC communication.

2. This exercise marked a deviation from the previous demonstration regarding accident assessment procedures - instead of relocating to

the Hancock County EOC, the State's health physicist remained at the State EOC to perform accident assessment and dose calculation. It is recommended that, for future exercises and actual incidents, the health physicist relocate to the County EOC. This procedure will promote more efficient accident assessment capability, including the capability for rapid re-evaluation, by providing the health physicist direct consultation with the County Director and BVPS technical liaison, and more direct access to the field monitoring team and EOF liaison.

3. Despite activation of the primary EBS station, the secondary station, WEIR in Weirton, failed to activate due to a breakdown in the EBS procedures established in the Wheeling Operational Area Plan. Proceudres should be reviewed with appropriate station personnel.

4. Public instruction regarding evacuation procedures, routes, destinations, etc. was not demonstrated, despite the fact that such a demonstration was a stated exercise objective, and procedures are contained in the County plan. Future exercises should include preparation of appropriate emergency instructions for the public, in the form of both EBS messages and news releases.

5. County EOC personnel were not adequately familiar with the population located within the 10-mile EPZ, citing inconsistent and low estimates. All County emergency organizations and personnel should be advised of the actual population figures, and re-evaluate their expected needs for resources, as approriate.

6. The County's capability for performing the detailed actions necessary to implement an evacuation have not been demonstrated. Future exercises should include realistic simulation of the full range of activities, including: instructing the public; notifying all special facilities, camps, parks, etc.; controlling air, water, and rail traffic; determining available resources and acquiring unmet needs; evacuating schools; evacuating the transit-dependent population; evacuating the handicapped, mobility-impaired, and others with special needs; controlling access to the evacuated area.

7. The County does not have permanent record dosimetry available. The County should assure that appropriate arrangements are made with a supplier of either film badges or thermoluminescent dosimeters, to assure the capability for maintaining accurate, permanent dose records for all County emergency workers.

8. There was a discrepancy regarding responsibility for registration of evacuees between the staffs at the reception center and mass care center. A determination should be made as to which staff is responsible.

9. In order to acheive a simultaneous activation of the alert and notification system, Hancock County delayed their siren sounding to coincide with the siren sounding in Beaver County Pennsylvania. The sirens were not sounded in Hancock County within the required 15 minutes. FEMA-43-Standard Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants, stated that the capability will be available for providing both an alert signal and an informational or instructional message to the porulation in the 10-mile EPZ within 15 minutes.

This report has referenced two types of deficiencies: Category "A" and Category "B". It is important to differentiate between the two.

A Category "A" deficiency is of the type that would 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 Beaver Valley in the event of a radiological emergency.

Category "B" deficiencies include those where demonstrated performance during the exercise was considered faulty, corrective actions are considered necessary, but other factors indicate that reasonable assurance could be given that, in the event of an actual radiological emergency, appropriate measures can be taken to protect the health and safety of the public. Also included as a Category "B" deficiency are those areas where performance was considered adequate but where a correctable weakness was noted. Correction of the weakness would enhance the ability of the organization to perform their adequately demonstrated response capability.

III. SUMMARY OF DEFICIENCIES

Category A. The following deficiencies indicate 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.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
Pennsylvania State EOC				
1. Protective action recommendations reached by the State (evacuation, and the use of KI) were not communicated to the County, or were communicated ambiguously such that they were not understood. In addition, the time taken to coordinate these protective actions and the coordination and activation of the public alert and notification system was excessive. FEMA-43, Standard Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants, states that once the decision has been made to activate the Alert and Notification system, the capability will be available for providing both an alert signal and an informational or instructional message to the population on an area wide basis throughout the 10-mile EPZ, within 15 minutes.	E-2, E-6			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
Pennsylvania State EOC				
1. One response team representative took 90 minutes to respond to the call to activate the EOC.	H.4			
2. In accordance with State and local plans, the licensee's protective action recommendation should have been discussed with the States alone, not in conference with the Counties as well. Protocol should be established for use of the dedicated hotline by the licensee in conference with the States, and by the State in conference with each other and the local jurisdictions.	A.1.a			
3. Exercise play was terminated by PEMA too early for the County and local participants to have time to fully play out protective actions.	N.2.d			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
Media Center				
4. Status board located in the presentation center was not kept up-to-date.	J.9			
Air Monitoring Team				
5. The team was not adequately briefed on plant or meteorological conditions.	I.7			
6. The team was asked to evacuate from the 10 mile EPZ, rather than relocate out of the plume.	I.7			
Water Monitoring Team				
7. Although the water monitoring team was on standby at the Beaver County EOC with all equipment necessary, they were not mobilized during the exercise.	I.7			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
Decontamination				
8. It appeared that the decontamintion station at Baden had been activated well before the general emergency. In the future activation closer to the general emergency would be more appropriate.	K.5.b			
9. Assuring that vehicles are dispatched to all decontamination stations would improve future exercises.	K.5.b			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part. II	Correction	Proj'd Date	Act'l Date
Beaver County				
10. The County should examine both its internal and external communications procedures with the goal of preventing a recurrence of the failure to receive and transmit the protective action decisions. Messages should be completely written out and read back to the sender for purposes of verification. The County should also attempt to determine why some municipalities experienced delays in communications from the County, and correct the factors causing those delays.	E.2			
11. While no protective action decisions (evacuation, use of KI) were received or were misunderstood by the County from PEMA, there was sufficient information available to the County to warrant a more aggressive pursuit of the matter with PEMA. Such a non-passive stance on the County's part would foster a more fail-safe communications system.	E.2			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
12. The County should determine for itself exactly what functions chalkboard message log and its status board are supposed to fulfill and use them accordingly.	J.9			
13. The County and municipal plans state that the primary means of communications is by telephone with RACES as backup. As noted in many of the municipal reports the County used RACES as the primary communications link for this exercise. If this is to be standard procedure then County and municipal plans should be revised to reflect this.	F.1			
14. The EBS system did not operate in accordance with the Pittsburgh Extended Operational Area EBS Plan.	E.5			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
Aliquippa Borough				
15. The Aliquippa Borough EOC should receive training for selected personnel so that such personnel can demonstrate in a drill that: 1) contaminated personnel in the vicinity of the EOC can be properly directed to decontamination and/or treatment facilitis; and 2) the decisionmaking process and PAGs for the exposure of emergency workers to hazardous radiation can be adequately explained and implemented.	O.4			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
Beaver Borough				
16. Since utilization of the correct evacuation routes is critical for a successful evacuation, the Borough should obtain revised information on evacuation routes as soon as possible.	J.10.a			
Bridgewater Borough				
17. The Borough should clarify, with Beaver County, the role they should play, if any, in public information and rumor control.	G.3.a G.4.c			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
18. Additional personnel should be trained and a roster established as part of the plan to cover 24 hour manning capabilities.	A.4			
Brighton Township				
19. The County should give their municipalities periodic status reports concerning the emergency response in order to insure that missed messages are at least received in a somewhat timely manner. If periodic uplates are not received by the municipality, they should not hesitate to contact the County for information.	E.1			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
Center Township				
20. Another phone should be installed in the EOC to eliminate some timing problems with incoming and outgoing calls.	F.1.a			
Fallston Township				
21. Because of the lack of participation by the Borough, the Region cannot state definitively that the public health and safety would be maintained in the event of an actual emergency at Beaver Valley. In future exercises the Borough should try to staff the EOC and actually complete as many tasks as possible rather than simulate.	N.1.b			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
Hanover Township				
22. Additional phone lines are needed in the EOC. At the present time there is only one telephone.	F.1.a			
23. The Beaver County plan lists the Hanover fire station as a decontamination station for emergency workers. The municipality verified this with the Federal observer. However, no showers, monitoring equipment were observed.	K.5.b			
24. One sector of the Township was route alerted. This sector required 54 minutes to cover. The routes in the Township should be re-evaluated so that alerting can be accomplished within the 45 minute timeframe as stated in NUREG-0654. In addition, more emergency workers should be recruited and trained to man route alert teams.	E.6			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
Hookstown, Georgetown, Greene				
25. If the three municipalities continue to operate as one, a new plan will have to be written naming one person in charge and responsibilities assigned to specific individuals and agencies. This should assist with the resolution of the following:	A			
a. management by committee;				
b. call down lists not utilized to notify staff members;				
c. incomplete staffing;				
d. verification of messages not done;				
e. no participation by public officials;				
f. plans not up-to-date;				
g. no 24-hour capability;				
h. improper use of status boards;				
i. no delegation of authority;				
j. EMC for Green Township not notified.				

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
26. Additional training is required in emergency management, radiological exposure control, practice drills, table-top communications drills. This will assist in clearing up the following areas:	O			
a. lack of knowledge in dosimetry, KI use;				
b. lack of determination of exercise status;				
c. status boards ineffective;				
d. reactions out of sequence (route alerting);				
e. communications and message management poorly done.				

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
Independence Township				
27. The EMC was not aware of the requirements, nor did he know how to verify the initiating call from the Beaver County EOC. He should have a phone number at home for this purpose.	E.1			
28. A test of public alerting by two teams with fire trucks takes two hours. Routes should be evaluated and redesigned so that each one takes no longer than 45 minutes.	E.6			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
Industry Borough Deficiencies				
29. Status boards were hard to read and not visible to all staff members.	J.9			
30. The RACES operator was set up too close to the telephones. The noise level in the EOC made coordination and discussion very difficult.	H.3			
31. RACES transmissions caused interference on the regular police lines. An antenna mounted on the roof of the EOC will stop interference in the police net.	F.1.d			
32. Additional training in radiological exposure control is needed.	O.4.g			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
33. The addresses of people needing assistance are not complete. They have mailing addresses, not where they are actually located.	J.10.d			
34. The Borough should recruit and train additional emergency workers to provide 24-hour manning capabilities.	A.4			
Midland, Glasgow, Ohioville				
35. Although it is understood that Glasgow borough has attempted to ensure 24-hour emergency response capability, continued efforts should be made to resolve this problem.	A.4			
36. Plans should be revised, if the communities feel it is warranted, establishing the unified EOC response concept and recognizing one individual as the lead coordinator for the three boroughs. In addition, a combined log should be maintained.	A.2.a E.1 P.4			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
37. The County should establish a notification sequence whereby these communities are contacted early on, due to their proximity to the plant.	E.1			
38. RACES communication should be established for these communties in future exercises.	F.1.a			
39. Because of the length of time necessary to complete the one route in Ohioville/Glasgow consideration should be given to adding another route alerting sector.	E.6			
40. Ohioville should reexamine their plan to update themselves on the purpose of route alerting and, more importantly, the timing as to when the teams should be sent out.	E.6			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
Monaca Borough				
41. Additional training on dosimetry would enhance the performance of the EOC. Emergency workers from the fire department appeared adequately trained by the radiological officer but there was some confusion by other team members within the EOC.	O.4.g			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
Patterson Township				
42. Because the planned multiple municipal participation in one EOC by Patterson Township and Patterson Heights Borough was not implemented, an evaluation of its feasibility was not performed. In addition, an evaluation of the physically separated Patterson Heights Borough EOC was not able to be performed. These should be evaluated as part of the next exercise.	N.4			
43. Since some staff members of the EOC were out of town, round-the-clock staffing was not able to be demonstrated.	A.4			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
44. Additional coordination with the Beaver County EOC should be pursued to improve timeliness of messages from the County.	E.1			
45. Not all appropriate maps were available or posted at the EOC.	J.10.a			
46. Additional coordination with Beaver County should be performed by the Patterson Township EMC to ensure that a firm understanding is established as to when route alerting is to take place.	E.6			
Potter Township				
47. Emergency procedures are needed to adequately address the securing and use of film badges, TLDs and KI.	J.10.e K.3.a			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
Raccoon Township				
48. Maps showing population estimates for evacuation routes and relocation centers were not available in the EOC.	J.10.a			
Shippingport Borough				
49. A minimum of four phones needs to be installed in this EOC to ensure effective coordination of response actions.	F.1.a			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
South Beaver Township				
5ø. The fragmentation of the emergency operations between the fire station and police building must be resolved. The fire station appears to be capable of providing adequate space for the EOC staff, RACES operator and the Pennsylvania Department of Agriculture dosimeter distribution point as well as supporting extended operations. The fire station could then become the Township Emergency Operations Center. All personnel could report to a single point. Support groups (police, fire, RACES, etc.) could coordinate on a continuous basis. And, perhaps most importantly, the EMC and elected officials would be better informed, able to observe the entire operation and determine where personnel adjustments are needed and/or additional support requested.	H.3			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
51. Training sessions need to be conducted to familiarize the key staff members with the procedures and instructions set forth in the Township plan.	O.1			
52. Training sessions need to be conducted to familiarize the key fire department personnel with decontamination procedures.	O.4.g			
53. Appendix 3, Attachment A and Appendix 5 need to be filled in on the plan to provide a complete, single point of reference during an emergency.	A.1.d			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
54. Road maps should be obtained and the routes to be taken clearly indicated for both alert teams.	J.10.a			
55. Standard Operating Procedures need to be established to ensure the prompt updating of the plan reflecting personnel changes.	P.4			
56. Periodic briefings should be held by the EMC to update the staff; i.e. following a receipt of a message.	J.9			
57. Status board should be utilized and clearly visible to all. It needs to be kept up-to-date on significant events and have the emergency classification level posted at all times.	J.9			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
58. The plume EPZ maps and evacuation route maps should be posted and utilized.	J.10.a			
South Heights Borough				
59. Additional phone lines are needed in this EOC.	F.1.a			
60. Additional training is needed in the area of decontamination procedures and the use of KI.	O.4.g			
61. The EOC did not confirm with Beaver County that the TCPs were manned by the State Police.	J.10.j			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
Vanport Township				
62. There is no one adequately trained to relieve the Emergency Management Coordinator.	A.1.e			
63. The Emergency Management Coordinator, in a deviation from the principal plan, initiated route alerting and manning of ACPs/TCPs at Site Area Emergency. When Beaver County told him to call back the teams and perform route alerting in conjunction with the siren sounding, he realized his mistake and made plans to simulate route alerting at the proper time.	J.10.c			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
64. Additional training is required in the area of radiological exposure control.	O.4.a			
Support Counties				
65. If the Red Cross plans a District Headquarters to support their operation, this activity should be included as an action point in the scenario and the activity should be observed.	A.1.a			
66. Local school boards should be encouraged to select pre-designated student pickup points for the schools that may be evacuated.	J.10.c			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
67. Allegheny County should develop a plan for vehicle decontamination (this was also a deficiency last year).	K.5.b			

III. SUMMARY OF DEFICIENCIES

Category A. The following deficiencies indicate 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.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
Hancock County				
1. The County's capability for performing the detailed actions necessary to implement an evacuation have not been demonstrated. Future exercises should include realistic simulation of the full range of activities, including: instructing the public; notifying all special facilities, camps, parks, etc.; controlling air, water, and rail traffic; determining available resources and acquiring unmet needs; evacuating schools; evacuating the transit-dependent population; evacuating the handicapped, mobility-impaired, and others with special needs; controlling access to the evacuated area.	A-4 E-5,7 J.10.c,d,g,l			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
West Virginia State				
1. Future exercises should demonstrate active and timely briefings throughout the course of the exercise to maintain a current level of awareness for all agency representatives concerning the latest activities and response operations.	J.9			
2. The role of the Controller as a non-participating exercise individual should be stressed in future exercises in order to more clearly test the roles of the actively-playing personnel.	N.4			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
3. Stricter control and thoroughness is needed with regard to standard procedures for communications and message documentation within the EOC. Messages should be serially numbered to avoid loss of information and necessary information regarding time received, person receiving the information, actions taken, and routing should be consistently applied to the message form.	J.9			
4. Notification procedures for the State EOC of emergency classifications and identified points of contact should be reviewed, and corrections to the State plan made if appropriate.	E.1			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
5. Protective actions were coordinated with the two adjacent impacted States in order to avoid confusion on the part of the general public.. The State plan provides specific guidance with regard to protection actions which are to be taken based on projected doses to the public. If the State of West Virginia elects to adopt a standard 360 degree provision for implementing protective actions in mutual coordination with Pennsylvania and Ohio, this should be so noted in the plan.	A.2.a			
6. Future exercises should demonstrate active participation in protective action decisionmaking by the Governor or his/her designee, as provided for in the State plan.	A.4			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
7. The State plan should be revised to consistently approach the subject of West Virginia's responsibility to contact FEMA regarding radiological emergency status classifications at the Beaver Valley Power Station.	C.1.b			
8. It is recommended that active use of the status board, to include significant actions taken by the agency representatives, be maintained throughout the course of future exercises in order to maintain agency representative awareness of current activities, to maintain coordination between these activities, and to heighten involvement in exercise actions.	J.9			
9. Additional coordination and experience in the transfer of information via the hotline is warranted in order to make this a more viable means of communication	E.2			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
10. Future exercises should demonstrate consideration processes for the use of KI and ingestion pathway decisions in accordance with the State plan. Air and rail transportation systems control should also be demonstrated.	J.10.e			
11. The location where dose rate calculations are to be performed by WVDH/IHD staff, i.e. at the State or Hancock County EOCs, should be clarified in the State plan.	I.11			
12. State EOC objectives for future exercises should be aligned with radiological emergency response activities assigned to the State, as identified in the State plan.	N.3			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
13. It is recommended that training be provided to all persons with potential news media responsibilities at the State level with regard to basic radiological emergency preparedness paramaters. Future exercises should demonstrate exercise-specific briefings to the public information personnel immediately prior to actual or simulated briefings and/or technically-qualified persons should attend such briefings as an accurate information source to be called on to support the public information officer when necessary.	G.4.j			
Hancock County				
14. The Hancock County EOC is presently undergoing improvements, including construction of a new Communications Center and installation of an emergency generator. These improvements should be completed quickly in order to establish capability for efficient and uninterrupted EOC communication.	F.1			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
15. This exercise marked a deviation from the previous demonstration regarding accident assessment procedures - instead of relocating to the Hancock County EOC, the State's health physicist remained at the State EOC to perform accident assessment and dose calculation. It is recommended that, for future exercises and actual incidents, the health physicist relocate to the County EOC. This procedure will promote more efficient accident assessment capability, including the capability for rapid re-evaluation, by providing the health physicist direct consultation with the County Director and BVPS technical liaison, and more direct access to the field monitoring team and EOF liaison.	I.8			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

	Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
16.	Despite activation of the primary EBS station, the secondary station, WEIR in Weirton, failed to activate due to a breakdown in the EBS procedures established in the Wheeling Operational Area Plan. Proceudres should be reviewed with appropriate station personnel.	E.5			
17.	Public instruction regarding evacuation procedures, routes, destinations, etc. was not demonstrated, despite the fact that such a demonstration was a stated exercise objective, and procedures are contained in the County plan. Future exercises should include preparation of appropriate emergency instructions for the public, in the form of both EBS messages and news releases.	E.7			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

	Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
18.	County EOC personnel were not adequately familiar with the population located within the 10-mile EPZ, citing inconsistent and low estimates. All County emergency organizations and personnel should be advised of the actual population figures, and re-evaluate their expected needs for resources, as approriate.	J.10.b			
19.	The County does not have permanent record dosimetry available. The County should assure that appropriate arrangements are made with a supplier of either film badges or thermoluminescent dosimeters, to assure the capability for maintaining accurate, permanent dose records for all County emergency workers.	K.3.a			
20.	There was a discrepancy regarding responsibility for registration of evacuees between the staffs at the reception center and mass care center. A determination should be made as to which staff is responsible.	J.12			

III. SUMMARY OF DEFICIENCIES

Category B. The following deficiencies, while not indicative of preparedness insufficient to provide the assurance specified in Category A, above, require corrective action. Also included are recommendations where performance was adequate, but correctable weaknesses were noted.

Deficiency/Recommendation	Reference NUREG-0654 Part II	Correction	Proj'd Date	Act'l Date
21. In order to achieve a simultaneous activation of the alert and notification system, Hancock County delayed their siren sounding to coincide with the siren sounding in Beaver County, Pennsylvania. The sirens were not sounded in Hancock County within the required 15 minutes. FEMA-43, Standard Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants, states that the capability will be available for providing both an alert signal and an informational or instructional message to the population in the 10-mile EPZ within 15 minutes.	E-6			