

ORIGINAL
UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

in the matter of:

LONG ISLAND LIGHTING COMPANY

Docket No. 50-322-OL-3

(Shoreham Nuclear Power Station
Unit 1)

VOLUME V

Location: Hauppauge, New York

Pages: 10,995-11,254

Date: Tuesday, June 12, 1984

TR 01 0/1

*Original to E. Pleasant
H-1147*

Add: 3 copies to ASCBP

TAYLOR ASSOCIATES

Court Reporters
925 I Street, N.W. Suite 1080
Washington, D.C. 20006
(202) 293-7998

8406280381 840612
PDR ADOCK 05000322
T PDR

LILCO, April 2, 1984

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of)
)
LONG ISLAND LIGHTING COMPANY) Docket No. 50-322-OL-3
) (Emergency Planning Proceeding)
(Shoreham Nuclear Power Station,)
Unit 1))

TESTIMONY OF HARRY N. BABB, GARY J. BERGER,
MATTHEW C. CORDARO, CHARLES A. DAVERIO,
DENNIS S. MILETI, WILLIAM F. RENZ, AND
RONALD A. VARLEY ON BEHALF OF LONG ISLAND
LIGHTING COMPANY ON PHASE II EMERGENCY PLANNING
CONTENTIONS 39.A, B, 40, 41, 44.D, E, and F,
98, 99.C and G, 100.B, D, and G

Attachment 20 to Testimony
Volume 5 of 5

Hunton & Williams
707 East Main Street
Post Office Box 1535
Richmond, Virginia 23212
(804) 788-8200

ATTACHMENTS

- ATTACHMENT 1 Local EOC/ENC Activation Drill
- ATTACHMENT 2 LILCO Local Emergency Response Organization Traffic Guidance Drill, Rev. 0
- ATTACHMENT 3 LILCO Local Emergency Response Organization Transportation Coordination Drill, Rev. 0
- ATTACHMENT 4 LILCO Local Emergency Response Organization Personnel Monitoring and Decontamination Facilities Drill, Rev. 0
- ATTACHMENT 5 LILCO Local Emergency Response Organization EOC/ENC/All Staging Areas/EWDF Drill, Rev. 0
- ATTACHMENT 6 LILCO Integrated SNPS/LERO Drill EOF/EOC Activation, Rev. 0
- ATTACHMENT 7 Lesson Plan: Coast Guard Emergency Preparedness Training
- ATTACHMENT 8 Lesson Plan: Ambulance Personnel - Emergency Preparedness Training
- Lesson Plan: Ambulance Personnel - Radiation Protection Training
- ATTACHMENT 9 Lesson Plan: Helicopter Personnel - Radiation Protection Training
- ATTACHMENT 10 Letter dated January 20, 1984 from Charles A. Daverio, LILCO, to Captain E. W. Weigand, U.S. Coast Guard
- ATTACHMENT 11 Lesson Plan I, Emergency Preparedness Overview - General Knowledge (Module 1 - script)
- ATTACHMENT 12 Lesson Plan I, Emergency Preparedness Overview - Site Specific (Module 2 - script)
- ATTACHMENT 13 LERO Organization, Script No. 1, Radiation Protection (Module 3)
- ATTACHMENT 14 LERO Organization, Module No. 5, LERO Notifications
- ATTACHMENT 15 LERO Organization, Module No. 8, Emergency Communications

ATTACHMENT 16	LERO Organization, Module No. 8a, Portable Radio Installation and Operation
ATTACHMENT 17	LERO Organization, Module No. 9, Personnel Dosimetry Demonstration
ATTACHMENT 18	LERO Organization, Module No. 10, Radiological Monitoring and Decontamination
ATTACHMENT 19	LERO Organization, Module No. 12, Traffic Control
ATTACHMENT 20	LERO Training Program Workbook (bound separately as Volume 3)
ATTACHMENT 21	LILCO, Local Emergency Response Organization Decontamination Tabletop Drill, Rev. 0
ATTACHMENT 22	Lesson Plan: Traffic Direction and Control
ATTACHMENT 23	Syllabus, Lesson Plan: Traffic Direction and Control
ATTACHMENT 24	Syllabus, Lesson Plan: Traffic Direction and Control During Darkness
ATTACHMENT 25	Forms from drill participants
ATTACHMENT 26	Lesson Plan: Modules 8 and 9
ATTACHMENT 27	Lesson Plan: Modules 3 and 10
*ATTACHMENT 28	Videotape, Module 1
*ATTACHMENT 29	Videotape, Module 3
*ATTACHMENT 30	Videotape, Module 8A
*ATTACHMENT 31	Videotape, Module 14

*Supplied to the Atomic Safety and Licensing Board, the State of New York, the Federal Emergency Management Agency, and the Nuclear Regulatory Commission under separate cover.

Suffolk County is already in possession of these videotapes.

EMERGENCY PREPAREDNESS OVERVIEW

MODULE NO. 1.1

GENERAL KNOWLEDGE

This module applies to all LERO members.

Your Name _____

LERO Title _____

Company Title _____

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Training Objective	ii
Introduction	1
A. History of Emergency Preparedness Since Three Mile Island	2
B. Emergency Classification System	8
C. Emergency Planning Zones	10
D. Summary	14

TRAINING OBJECTIVES

At the conclusion of this module, the trainee should have an understanding of:

- A. Radiological emergency planning.
- B. How the regulations governing emergency planning have changed since the accident at Three Mile Island.
- C. The emergency classification system.
- D. Emergency planning zones.
- E. The emergency response actions that would be taken in each emergency planning zone.

INTRODUCTION

What would you do in case of a nuclear emergency? What would you do if you woke up in the middle of the night and smelled smoke in your home? How would you get your family out of the house? Where would you go? Most answers to these questions, like the answers in response to the nuclear emergency response question, would show a lack of direction and no specific plan of action -- a general unpreparedness. Americans in general are not comfortable with planning for any type of disaster.

The utility industry has long recognized that emergency preparedness is essential to protecting the health and safety of the community. As a provider of electrical service, which is vital to the well-being of the community, LILCO has developed a variety of plans to deal with natural events and other potential disasters. The purpose of this workbook and the accompanying videotape presentation is to help you understand the basics of planning for a radiological emergency.

In planning to respond to any type of emergency, the likelihood of the event is not a primary consideration. Similar steps are taken to plan for a radiological emergency as for a flood, for example. You may recognize these steps from the storm restoration plan:

- o provisions for early warning and information flow,
- o identification of the initiating condition (emergency),
- o specification of action to be taken in response to the emergency,
- o assignment of responsibility for emergency response actions,
- o identification of resources (manpower and equipment) required to perform those actions,

- o training and retraining to develop and maintain necessary skills, and
- o emergency planning drills.

These steps have been taken in planning for a radiological emergency at the Shoreham Nuclear Power Station. The radiological emergency response planning for Shoreham addresses relatively minor events, such as a loss of power, as well as more serious situations, such as a release of radiological material into the environment. The plans address both the onsite and offsite response.

A. HISTORY OF EMERGENCY PREPAREDNESS SINCE THREE MILE ISLAND (TMI)

Pre-TMI

Nuclear power stations have always been required to have emergency plans. Before TMI, plant owners were responsible for planning and implementing onsite emergency measures. Local, county, state, and federal agencies were responsible for offsite plans.

It was in accordance with this requirement that LILCO signed a memorandum of understanding with Suffolk County on emergency planning for the Shoreham Nuclear Power Station in June of 1976. This memorandum addressed the two parties' responsibilities in the event of an emergency at Shoreham, and resulted in an approved emergency plan for Suffolk County in 1977.

TMI

On March 28, 1979, outside Harrisburg, Pennsylvania the worst accident in the history of commercial nuclear power generation occurred at the Three Mile Island Nuclear Power Station.

Following the accident, investigations were conducted by a Presidential Commission, the U.S. Congress, the Nuclear Regulatory Commission (NRC) and the industry. The investigations included an assessment of overall emergency preparedness and response for TMI.

One of the conclusions following the investigations was that more effective emergency planning was needed for nuclear power plants. The President's Commission stated that

"Emergency plans must clearly and consistently detail the actions public officials and utilities should take in the event of offsite radiation doses resulting from release of radioactivity."

Post-TMI

In recognition of the need for more effective emergency planning, the NRC began a formal re-evaluation of the role of emergency planning in ensuring the continued protection of the public health and safety in areas around nuclear power stations. As a result, new emphasis has been placed on emergency preparedness, and numerous new regulations have been generated. The regulations reflect three major changes from past practices. First, to continue operations or receive an operating license, a licensee is required to submit its emergency plans, as well as plans for state and local emergency response, to the NRC. Second, requirements for detailed emergency planning were expanded to include 10- and 50-mile areas surrounding a plant, or Emergency Planning Zones. Third, detailed emergency planning implementing procedures must be submitted to the NRC for review.

NRC/FEMA Relationship

To understand how emergency preparedness is evaluated, it is necessary to understand the relationship between the NRC and the Federal Emergency Management Agency (FEMA).

The NRC is the federal agency charged with regulating the nuclear power industry and issuing licenses to utilities for nuclear power plants. FEMA is the federal agency charged with coordinating federal responses to disasters. Following

the accident at TMI, the President directed FEMA to assume the lead responsibility for offsite emergency preparedness for nuclear facilities. The NRC is responsible for evaluating onsite emergency preparedness and the coordinated onsite and offsite emergency preparedness.

New Regulations

- Submittal of Emergency Plans

Before the accident at TMI, NRC regulations concerning the coordination of emergency preparedness between a nuclear facility and offsite governmental agencies were characterized as "urging without requiring." Most of the regulations contained "should" statements. The NRC role was limited to review of local emergency preparedness plans if they were submitted by government agencies. In the case of TMI, the plans that did exist contained inconsistencies in their systems for classifying accidents and in their guidelines for notifying government officials.

After TMI, the NRC determined that coordinated onsite and offsite emergency preparedness, as well as proper siting and engineered safety features, are needed to protect the health and safety of the public. The new rules prevented the granting of an operating license unless the NRC determined that onsite and offsite emergency planning ensured that adequate protective measures would be taken in the event of a radiological emergency.

With no legal authority over state and local governments, the NRC could not require them to develop and submit emergency plans. However, as a regulatory agency, it could require utilities to submit such plans as a condition for obtaining their operating licenses.

NRC officials believed that state and local governments would cooperate in developing adequate plans for public protection. They recognized, however, that there was a possibility of inaction on the part of state and local governments. Because of this, provisions were made for each response organization's plan to compensate for potential deficiencies in another's plan to ensure adequate protection for public health and safety.

- Expanded Emergency Planning Zones

Before TMI, emergency planning focused on areas within the site boundary and a limited distance from the site. We now know that a major accident could affect areas further away. As a result, the concept of different-sized emergency planning zones was expanded to ensure that a broad-based, quick, and effective protective response could occur for a larger area should such a response ever be necessary. Two new offsite zones were established -- a 10-mile zone to protect the public from airborne exposure and a 50-mile zone to protect food and water supplies.

- Emergency Planning Procedures

Emergency plans describe the provisions that have been made to cope with emergency situations, specifying what actions are to be taken and when. This is the information needed to show how the utility complies with NRC regulations.

Emergency planning procedures show how, when, by whom, and with what specific pieces of equipment these actions would be taken. Previously, procedures were not submitted to the NRC. NRC inspectors reviewed procedures only during onsite inspections.

The onsite and offsite procedures are now required to be submitted to the NRC and FEMA so they can evaluate the details of how the emergency response would be carried out.

B. EMERGENCY CLASSIFICATION SYSTEM

One of the major problems with pre-TMI emergency planning was that there were no common standards for utilities and government agencies to use in communicating the seriousness of an accident and determining appropriate responses to an emergency. The emergency classification system was revised to improve coordination and communication between onsite and offsite groups, as well as to provide guidelines to plant personnel for classifying the severity of the emergency.

Detailed procedures for plant operators are developed based on these guidelines. If instrument readings from plant systems go beyond specified levels or an equipment failure occurs, the procedures specify which of the four levels of emergency classification should be declared. The classification is based on the seriousness of the emergency.

Onsite and offsite plans and procedures are written so that required actions are keyed to the emergency classification. By using the emergency classification system, plant operators can communicate the seriousness of an emergency to offsite response personnel without having to describe the specific equipment problem.

The four emergency classifications are: Unusual Event, Alert, Site Area Emergency, and General Emergency.

- Unusual Event

An Unusual Event would be declared if there were potential for a safety problem, but there had been no release of radiation from the plant. If this classification is declared, offsite officials are notified about the potential problem.

- Alert

An Alert would be declared if there were an actual or potential safety problem. At this point, there may have been a release of radiation, but the amount would not have been significant. At this level, offsite officials would make emergency personnel available to respond if the problem became more serious.

- Site Area Emergency

A Site Area Emergency would be declared if there were actual or potential major failures of plant systems needed for public protection. Releases of radiation may be involved, but they would not be expected to exceed limits beyond which the government requires protective action (called Protective Action Guidelines) except near the site boundary.

At this level, offsite officials would staff their emergency positions, radiation survey teams would be dispatched, and the public would be notified.

- General Emergency

A General Emergency would be declared if the situation involved actual or expected core damage and radiation releases were expected to exceed the government limits for areas beyond the immediate site.

At this level, offsite officials would decide whether pre-planned protective actions such as sheltering or evacuation, were necessary and provide continuing information on the situation to the public.

C. EMERGENCY PLANNING ZONES

There are three areas for which detailed emergency planning is performed: the plant site, a plume exposure pathway and an ingestion exposure pathway. The plant site is the onsite planning area. The plume exposure pathway and the ingestion pathway are the offsite planning areas.

- Onsite

The plant site is the land the utility owns around the plant. The emergency response for this area is detailed in the Onsite Emergency Response Plan and Procedures.

In the event of an emergency, the Onsite Emergency Response Organization would be responsible for the following actions:

- o figuring out what went wrong
- o figuring out how to fix the problem and fixing it
- o notifying offsite officials
- o performing a radiological assessment using onsite equipment and radiation monitoring crews
- o protecting people onsite (here, the onsite response organization is aided by local ambulance and hospital resources)
- o coordinating public information flow

- Offsite

The offsite planning area consists of an approximate 10-mile radius of the plant called the plume exposure pathway, and an approximate 50-mile radius called the ingestion exposure

MODULE 1.2

SITE SPECIFIC OVERVIEW

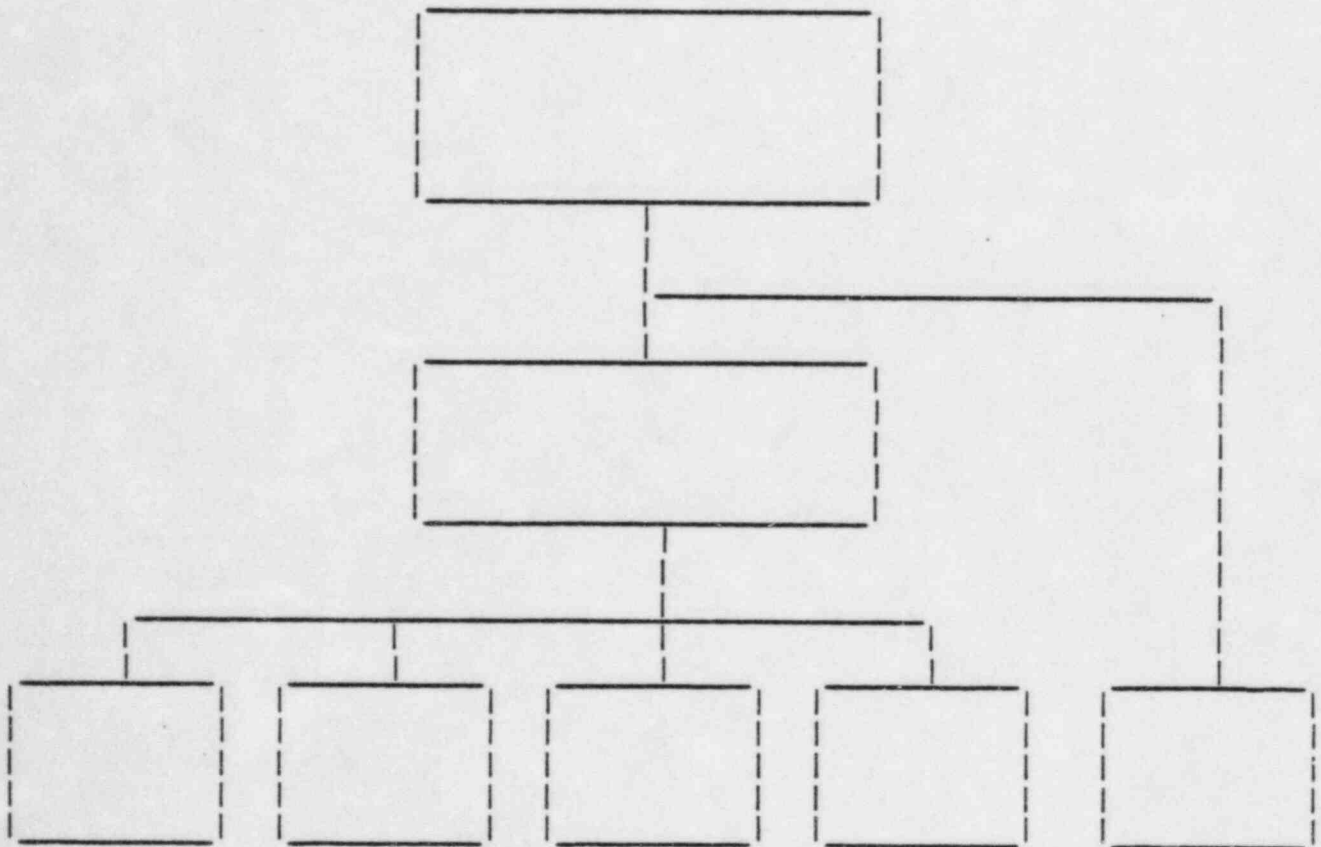
POST TEST
Part 1

Name: _____

LERO Title: _____

Company Title: _____

1. The following diagram represents the upper management of the Local Emergency Response Organization (LERO). Fill in the boxes with the correct titles.



2. The Director of Local Response is solely responsible for deciding to notify the public and for implementing actions to protect the health and safety of residents and transients within both the 10 and 50 mile EPZs.

True or False

3. The Director of Local Response is located at Shoreham during an emergency

True or False

4. Who does the Manager of Local Response report to?

5. Where is the Manager located during an emergency?

6. The responsibilities of the Manager of Local Response are:

- a. Drive a bus
- b. Coordinate LERO activities
- c. Make protective action decisions
- d. Ensure rapid implementation of protective action decisions
- e. b. and d. above

7. The Health Services Coordinator is responsible for:
 - a. Emergency medical and public services
 - b. Logistical support activities
 - c. Radiological accident assessment
 - d. Transportation
 - e. b. and d. above
 - f. a. and c. above

8. The Evacuation Coordinator is responsible for:
 - a. Traffic Control
 - b. Public Health and Sanitation
 - c. Transportation
 - d. Relocation Center operations
 - e. b. and d. above
 - f. a. and c. above

9. The Support Services Coordinator is responsible for:
 - a. Special evacuations
 - b. Radiological Exposure Control
 - c. Security
 - d. Logistical Support Activities
 - e. a. and b. above
 - f. c. and d. above

10. The responsibilities of the Lead Communicator are:
 - a. Talking to WALK radio
 - b. Fix malfunctioning communications equipment
 - c. Ensure staffing at communicator positions in the EOC
 - d. Issue news releases
 - e. a. and d. above
 - f. b. and c. above

11. Who does the Coordinator of Public Information report to?

12. The responsibilities of the Public Information Coordinator are:

- a. Rumor Control
- b. Preparing news releases
- c. Preparing EBS warning message
- d. All of the above

13. Which of the five major segments of LERO do you belong to?

- a. Health Services
- b. Evacuation
- c. Support Services
- d. Communications
- e. Public Information

pathway. The exact size and shape of the zones are based on local emergency response needs and capabilities as affected by population distribution, local geography and land characteristics, road systems, and jurisdictional boundaries.

o Plume Exposure Pathway

The plume exposure pathway emergency planning zone is the area in which the population would be subject to exposure from an airborne radioactive plume and from material deposited on the ground. The word "plume" is used to describe the shape of the radiation cloud.

The radioactive plume would be similar in behavior to a cloud of smoke coming out of a stack. The difference is, you can see the cloud of smoke, but you would not be able to see the plume. If there were a release of radiation from a nuclear plant, it would behave just like a cloud of smoke, being heavy at the point of release and dispersing into the air as it got further away, until it became diluted to a low level.

Any airborne radiation released from the plant would move in the direction the wind was blowing. Not all the plume exposure pathway would be affected -- those areas downwind of the plant would be at greater risk than those upwind.

The major risk or danger in this zone would come from breathing radioactive gases. If there were a release of radiation, the amount of exposure would drop off as you went away from the plant. That's because a radiation cloud, just like a smoke cloud, is dispersed by the wind.

The criterion for establishing the size of the plume exposure pathway zone was the amount of radioactive material that could be released in the event of an accident. Past 10 miles, the amount of radiation would drop off, and very few people, if any, would receive a radiation dose higher than the government's Protective Action Guideline limits.

To assure that protective actions can be taken quickly to protect the people at the greatest risk of exposure, the plume exposure pathway is subdivided into zones. Any protective actions would be implemented for specific zones rather than the whole 10-mile plume exposure pathway.

The utility owner of the nuclear plant is responsible for providing annual information to the public within the 10-mile Emergency Planning Zone on how they would be notified and what their response should be in the event of an emergency. The utility must also ensure that the government has the ability to notify the public within 15 minutes. This is accomplished with sirens and tone alert radios. The emergency planning information provided by the utility would instruct people to remain indoors and tune to the Emergency Broadcast System station for further instructions when they hear the sirens or tone alerts.

The local government normally is responsible for protecting the health and safety of the public within the 10-mile EPZ, for determining the appropriate protective actions (such as sheltering, partial evacuation, or complete evacuation), and implementing those actions.

To assist the local government in their decision, both the state and the utility make recommendations on protective actions. The federal and state governments also provide technical advice, manpower, and equipment support to the local government.

o Ingestion Exposure Pathway

The ingestion exposure pathway is the 50-mile area in which food and water supplies could be contaminated. The major risk to people would be from the intake of contaminated water or foods such as milk or fresh vegetables. Similar to the plume exposure pathway, the size of this zone was established to ensure that few people, if any, would receive a radiation dose beyond the Protective Action Guideline limits through the intake of contaminated food or water.

The state would normally have primary responsibility for protective actions within the 50-mile EPZ. These actions would involve:

- o notifying livestock owners to place animals on stored feed,
- o controlling water supplies,
- o monitoring and controlling milk and dairy products
- o monitoring and controlling produce

D. SUMMARY

Following the accident at TMI, increased emphasis was placed on emergency preparedness. It was determined that better onsite and offsite emergency preparedness, proper siting, and engineered safety features were needed to protect the health and safety of the public.

Emergency plans are developed to clearly explain the actions to be taken in the event of a radiological emergency. The plans are supported by detailed procedures which specify how those actions are to be carried out. Response actions are keyed to the emergency classification levels, which are:

- o Unusual Event
- o Alert
- o Site Area Emergency
- o General Emergency

Regardless of the classification, both the LILCO onsite emergency response organization and the Local Emergency Response Organization would initiate specific actions based on the extent of the emergency.

Emergency planning is based on three zones: the onsite zone, the plume exposure pathway zone, and the ingestion exposure pathway zone.

Together, the plans and procedures detail onsite and offsite actions by the utility and local, state, and federal government agencies, providing for an integrated emergency response. Plans and procedures must be submitted to the NRC for their and FEMA's review. Approval of the plans and procedures is a condition which must be met for the plant to receive an operating license. The utility must demonstrate that the plans are workable by conducting annual drills.

LERO

TRAINING PROGRAM

MODULE 1.1

GENERAL KNOWLEDGE

POST TEST

Name: _____

LERO Title: _____

Company Title: _____

1. The steps involved in Radiological Emergency Planning are unique to the nuclear power industry.

True or False

2. Nuclear power plants were not required to have emergency plans prior to the accident at TMI.

True or False

3. The Nuclear Regulatory Commission, as a branch of the federal government, can require the states and local governments to submit radiological emergency response plans for NRC approval.

True or False

4. Planning for radiological emergencies in the post-TMI regulatory era:

- a. are limited to onsite
- b. are limited to offsite
- c. integrate both onsite and offsite response

5. FEMA can withhold an operating license from a utility because of inadequate offsite emergency preparedness.

True or False

6. Match the following columns by writing the letter of the proper description under the emergency classification:

Emergency Classification

Description

6.1 Unusual Event

a. Actual or expected core damage and radiation releases expected to exceed government limits beyond the site. Offsite officials would decide on preplanned protective actions; and continuing information provided to the public.

6.2 General Emergency

b. Actual or potential safety problem. Possible release of radiation; emergency personnel available to respond.

6.3 Site Area Emergency

c. Potential safety problem, no release of radiation. Offsite officials are notified.

6.4 Alert

d. Actual or potential major failures of plant systems. Releases of radiation may be involved; offsite officials would staff emergency positions and public would be notified.

7. Name the three areas for which detailed emergency planning is done.

1. _____
2. _____
3. _____

8. Offsite radiological emergency planning protects the public from:

- a. airborne radioactivity
- b. over exposure to x-rays
- c. contaminated food and water
- d. all of the above
- e. a and b
- f. b and c
- g. a and c

9. Protection of the health and safety of the public within the 10-mile Emergency Planning Zone in the event of a radiological release is normally the responsibility of:

- a. the federal government
- b. the state government
- c. the local government
- d. the utility
- e. all of the above
- f. none of the above

10. The adequacy of emergency planning and ability to implement the plans must be demonstrated:
- a. once before obtaining the plant operating license
 - b. annually
 - c. every two years
 - d. every ten years

SITE SPECIFIC OVERVIEW

MODULE NO. 1.2

This module applies to all LERO members.

Your Name _____

LERO Title _____

Company Title _____

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Training Objectives	ii
Introduction	1
A. Local Emergency Response Organization	2
B. Concept of Operations (How the Plan Works)	16
C. Notification and Mobilization	24
D. Emergency Operations Center	30
E. Implementing Procedures	33
FIGURES	
Local Emergency Response Organization	3 thru 6
Response Organization Relationships	12
Typical Telephone Cascading or Tree Scheme	26
Local Emergency Operation Center Functional Layout	32
TABLES	
Organizational Matrix	11

TRAINING OBJECTIVES

At the conclusion of the Site Specific Overview portion of the LERO Training Program, the trainee will:

- A. Be able to identify the seven LERO managers and senior coordinators.
- B. Have a general knowledge of the responsibilities of each of the above, in addition to the responsibilities of the five LERO groups.
- C. Have a general knowledge of what accident assessment is.
- D. Be able to name the six protective actions.
- E. Have a general understanding of how LERO members will be notified.
- F. Have a general understanding of the amount of mobilization that occurs for each emergency class.
- G. Know where the EOC is located.
- H. Know at what emergency classification the EOC will be activated.
- I. Have a general knowledge of what occurs at the EOC.
- J. Know what the purpose of an implementing procedure is.

INTRODUCTION

Since the incident at Three Mile Island in March of 1979, the federal government has required nuclear power plant owners to develop offsite radiological emergency response plans to protect the health and safety of surrounding communities in the unlikely event of an emergency.

The Local Offsite Radiological Emergency Response Plan has been developed to meet this requirement for the Shoreham Nuclear Power Station. The concepts in this radiological response plan are very similar to those used to respond to other types of emergencies. In fact, in some areas of the country, radiological response plans have been successfully used in emergency situations which were not nuclear power related.

Many of the items the government requires to be covered in the plan, including Emergency Planning Zones and the Emergency Classification System, were discussed in the previous workbook. This workbook will concentrate on the areas which are unique to offsite planning:

- Emergency Organization
- Concept of Operations
- Notification and Mobilization
- Emergency Operations Center
- Implementing Procedures for carrying out emergency activities

A. LOCAL EMERGENCY RESPONSE ORGANIZATION (LERO)

The organization responsible for implementing the Local Offsite Radiological Emergency Response Plan and its primary source of people is the Local Emergency Response Organization, or LERO.

LERO is made up of personnel from several organizations. It is anticipated that personnel from a state or federal agency will be used in key leadership positions to provide independent, non-utility decision-making and direction for LERO. Long Island Lighting Company personnel will provide the resources necessary to implement response actions. If necessary, trained LILCO personnel will also fill leadership positions.

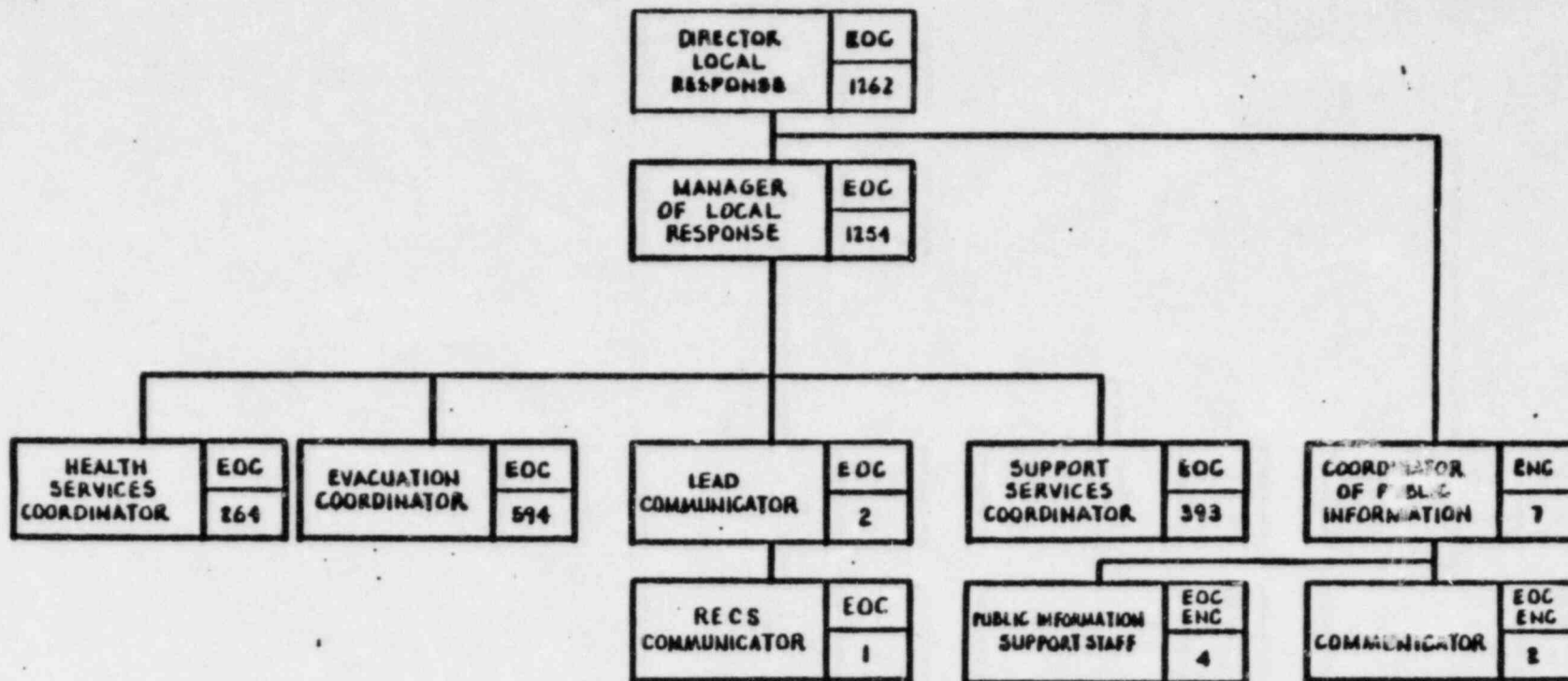
An organization chart showing the structure of this organization is shown on pages 3 thru 6. The table on page 13 shows the relationships between the positions discussed in this section and key emergency response functions. The remainder of this section describes the key positions in the organization.

Director of Local Response

During a radiological emergency at Shoreham, the Director of Local Response would have sole decision-making responsibility for public notification and implementation of actions to protect the health and safety of residents and transients within both the 10- and 50-mile Emergency Planning Zones. The Director of Local Response would allocate and direct response personnel and equipment to minimize the offsite effects of an incident.

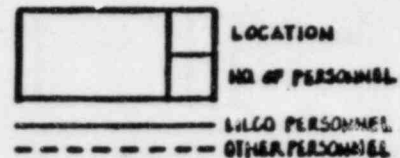
The Director would command the Local Emergency Operations Center (discussed on page 33) and direct overall LERO response activities from this center. The Director is also responsible for requesting additional federal resources to support the offsite response effort.

LOCAL EMERGENCY RESPONSE ORGANIZATION



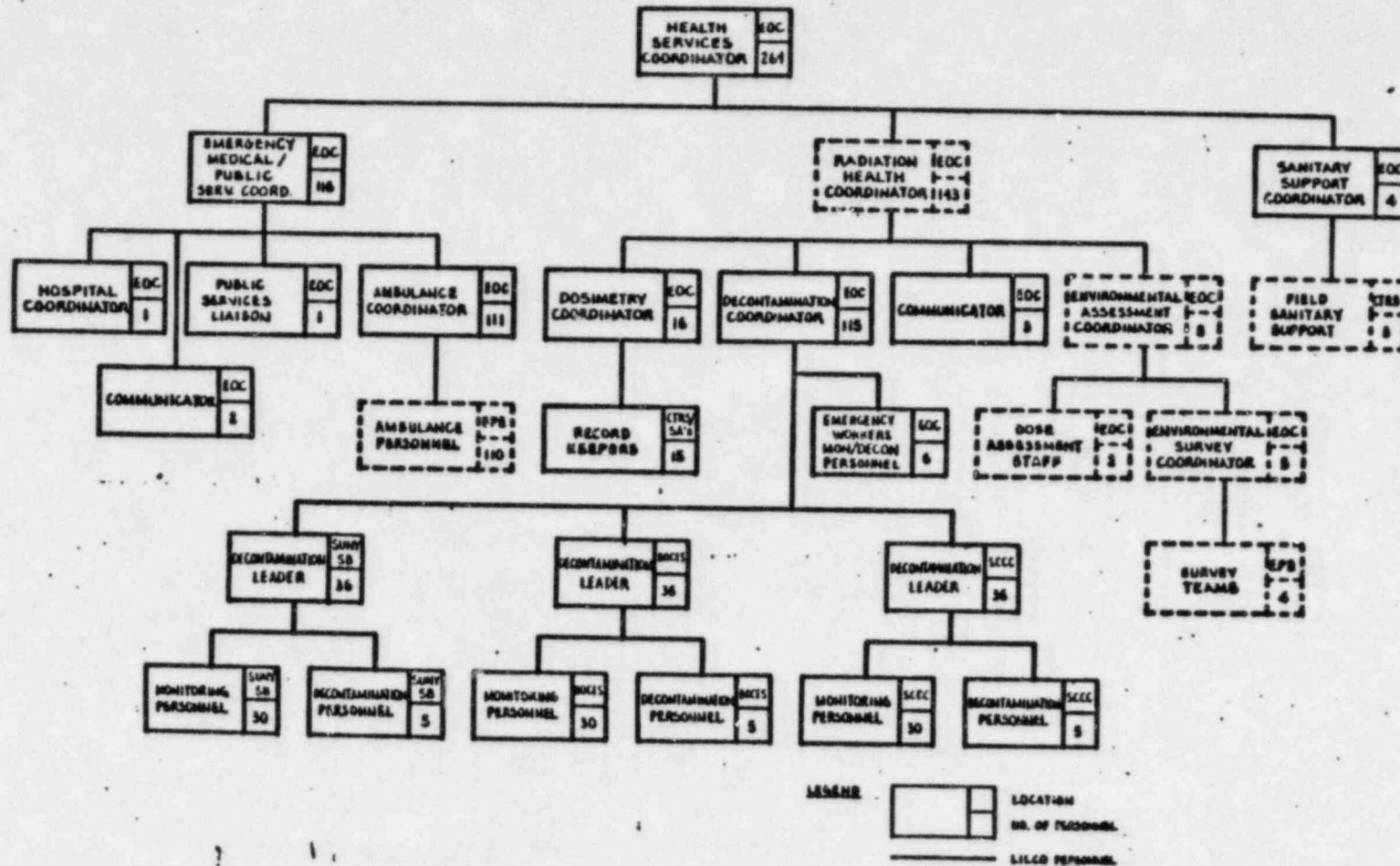
The numbers located in the lower right hand corner of each box reflect the total number of individuals fulfilling that function per shift. Additionally they are cumulative as they progress up the organizational structure, to reflect total numbers of individuals in the organization. Numbers used for the functions in the "other personnel" boxes are estimated based on previous experiences. Actual numbers are at the discretion of the agency involved.

LEGEND

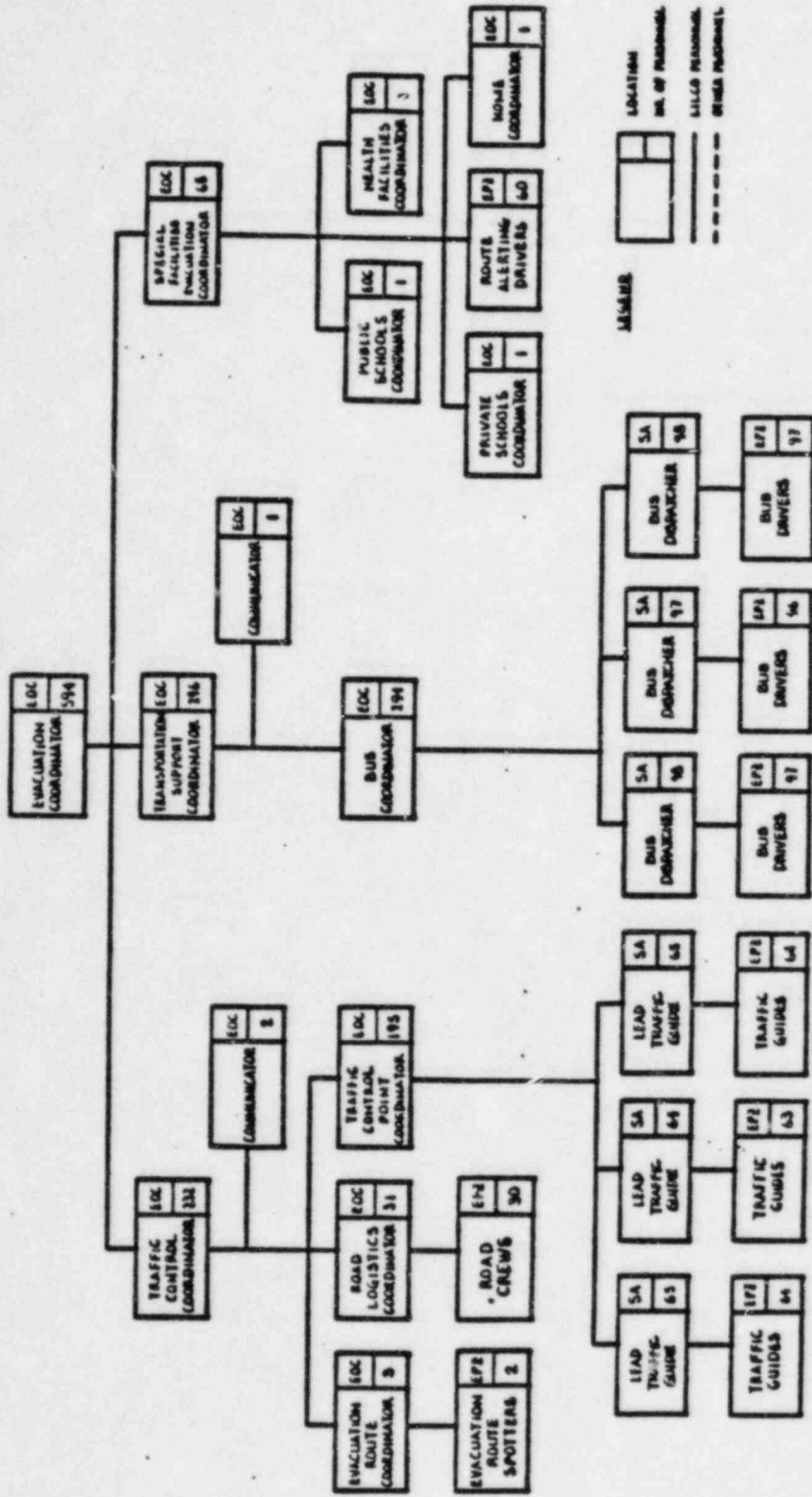


REV 6-23-83

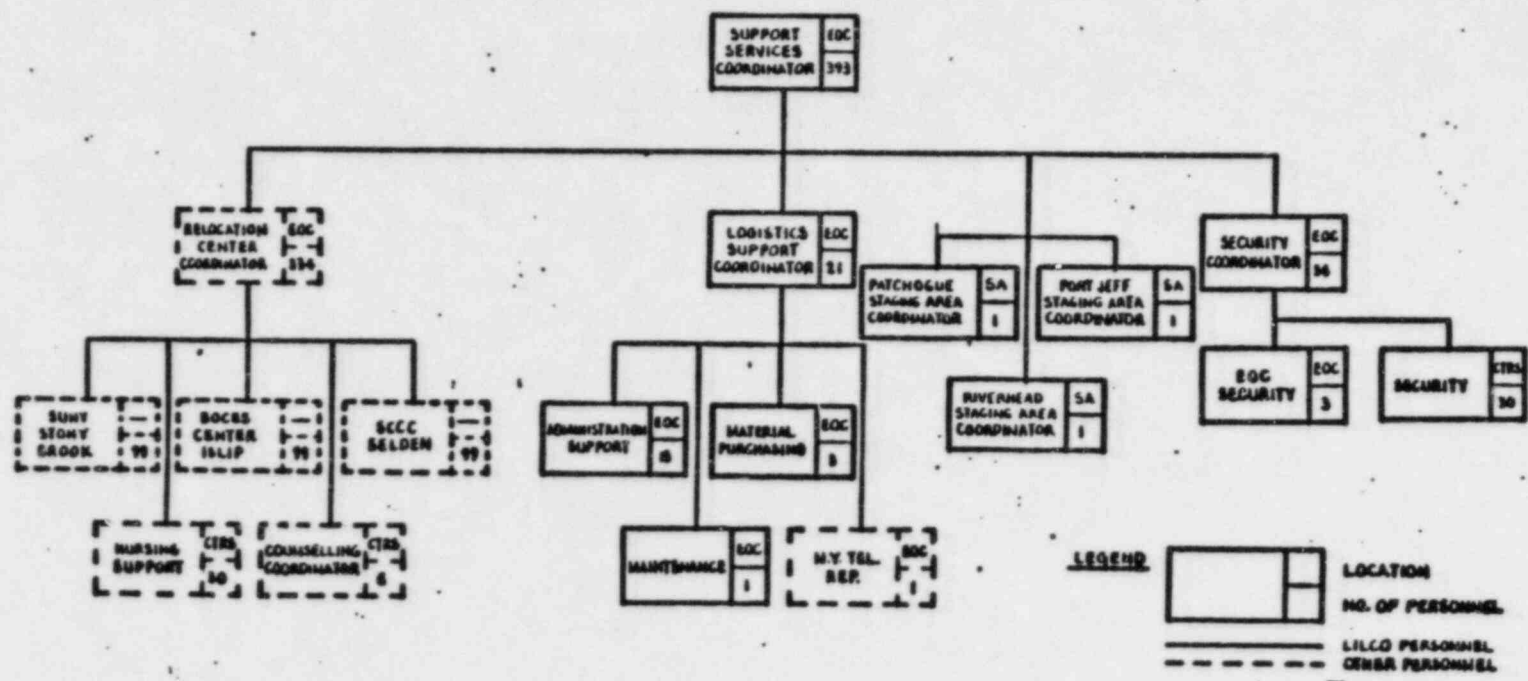
LOCAL EMERGENCY RESPONSE ORGANIZATION



LOCAL EMERGENCY RESPONSE ORGANIZATION



LOCAL EMERGENCY RESPONSE ORGANIZATION



Manager of Local Response

The Manager of Local Response, reporting to the Director of Local Response, acts as a focal point for coordinating all LERO activities, leaving the Director in a position to maintain an appropriate overview of the entire offsite response. The Manager's primary responsibility is to ensure that the protective action decisions made by the Director are rapidly implemented.

Should the need for additional resources or manpower beyond the capabilities of LERO be identified, the Manager is responsible for obtaining resources from other agencies or organizations for the duration of the emergency.

The Manager of Local Response is also located at the Local Emergency Operations Center for the duration of the emergency.

Senior LERO Coordinators

Five senior LERO coordinators report to the Director and Manager of Local Response. All five coordinators have overall responsibility for ensuring that:

- The Director or Manager to whom they report is informed of all activities performed in their functional areas.
- There are enough people and resources to carry out the activities.
- All activities are carried out rapidly and efficiently.

Four of the five senior coordinators report directly to the Manager of Local Response and are located in the Local Emergency Operations Center during an emergency:

- The Health Services Coordinator
- The Evacuation Coordinator
- The Support Services Coordinator
- The Lead Communicator

The fifth senior coordinator, the Coordinator of Public Information, reports to the Director of Local Response and would be located in the Emergency News Center in Ronkonkoma, NY. Each of the coordinators directs a segment of LERO, as described below.

- Health Services Coordinator

The Health Services Coordinator directs and coordinates a segment of LERO which is responsible for carrying out response actions related to:

- o Public Health and Sanitation (sanitation and general health services)
- o Emergency Medical and Public Services (coordination of ambulance, local fire and law enforcement services)
- o Radiological Accident Assessment (see Page 16)
- o Radiological Exposure Control (personnel dosimetry, monitoring and decontamination)

Each of these activities is carried out by a separate group within the Health Services segment of LERO. As show on Page 4, a functional coordinator directs each of the three groups.

- Evacuation Coordinator

The Evacuation Coordinator directs a segment of LERO responsible for:

- o Traffic guidance (directing and maintaining traffic flow)
- o Transportation (coordination of bus transportation)
- o Evacuation (evacuation of schools, health facilities and disabled individuals)

Each of these activities is carried out by a separate group within the Evacuation segment of LERO. As shown on Page 5, a functional coordinator directs each of the three groups.

- Support Services Coordinator

The Support Services Coordinator directs a segment of LERO responsible for response actions related to:

- o Relocation Centers Operation (activation, operation and maintenance)
- o Logistical Support Activities (clerical support, building maintenance, purchasing)
- o Security (at emergency facilities)

Each of these activities is carried out by a separate group within the Support Services segment of LERO. As shown on Page 6, a functional coordinator directs each of the three groups.

- Lead Communicator

The Lead Communicator is responsible for ensuring that all communicator positions (telephone and radio operators) in the

local EOC are continuously staffed. Additionally, the Lead Communicator is responsible for correcting any equipment malfunctions that occur during the operation of the Local EOC.

The Lead Communicator is located in the Local Emergency Operations Center throughout an emergency.

- Coordinator of Public Information

The Coordinator of Public Information is responsible for ensuring that prompt, accurate information reaches the public. Public information functions include preparation of news releases, formulation of Emergency Broadcast System Warning Messages for WALK radio, and rumor control.

- Remainder of LERO Staff

A variety of other assignments have been incorporated into the organization to provide necessary staffing, as outlined on page 13. Activation and utilization of these individuals are discussed throughout the emergency plan and in detail in the implementing procedures. All LERO members will be trained in these procedures and in carrying out their specific responsibilities.

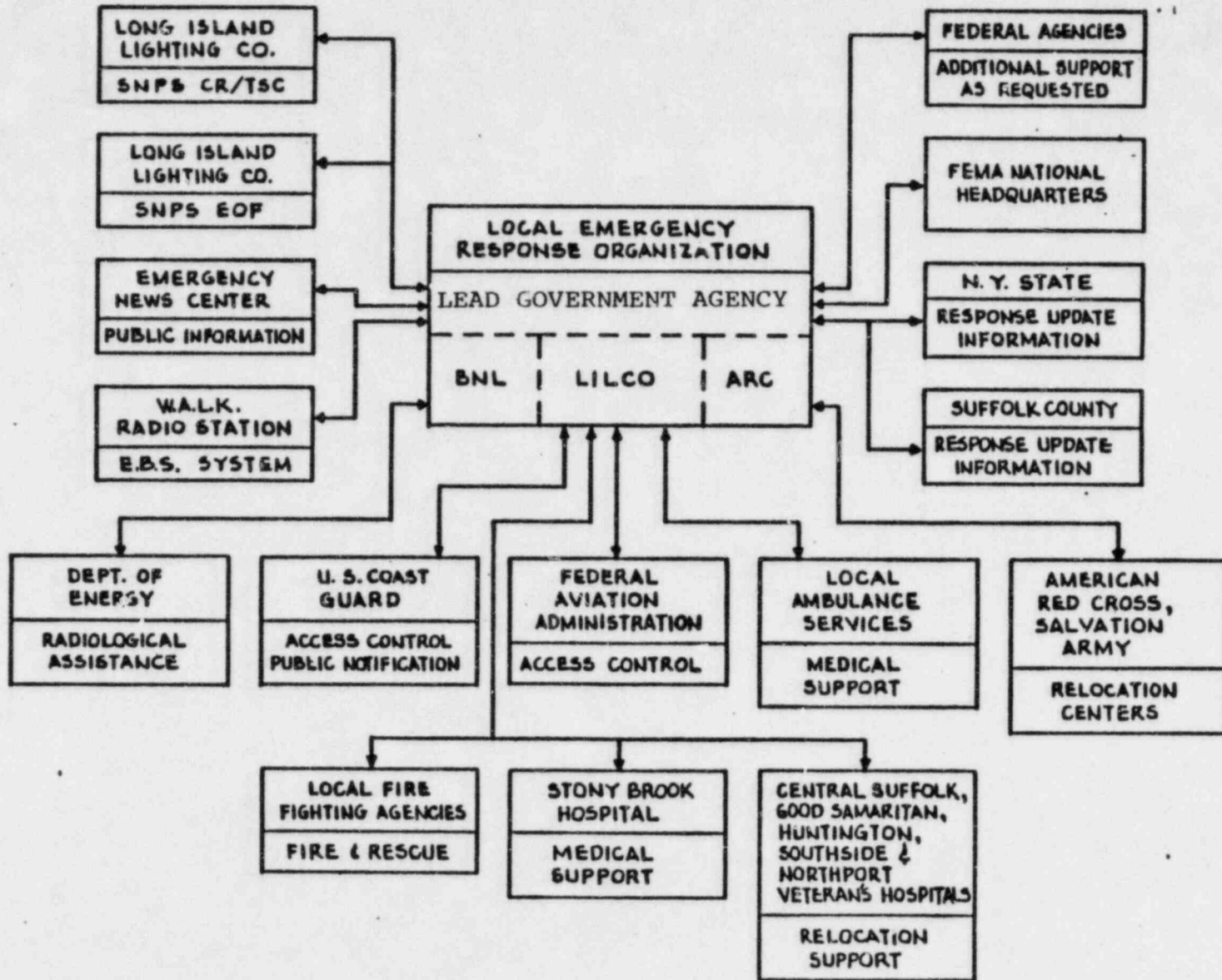
Support Organizations

In the event of a radiological incident at Shoreham, LERO may need to request support from other agencies. (The figure on page 14 shows the relationship between LERO and support organizations.) The following briefly describes the role other organizations and services play during an emergency.

	Command and Control	Initial Notification	Communication	Public Information & Notification	Accident Assessment	Medical and Public Health	Relocation Center/Social Services	Traffic Control	Transportation	Radiological Exposure Control	Coord. of LERO Organization	Personnel & Equipment Procurement	Emerg. Facilities Security	Normal Law Enforcement & Fire Response
LERO-Director of Local Response	P			S	S									
LERO-Manager of Local Response											P			
LERO-Health Services Coord.											S			
LERO-Emerg. Med./Public Services Coord.			S			P			S					S
LERO-Radiation Health Coord.			S		P					P				
LERO-Sanitary Support Coord.			S			P								
LERO-Evacuation Coord.											S			
LERO-Traffic Control Coord.			S					P						
LERO-Special Evac. Coord.			S						S					
LERO-Transportation Support Coord.			S						P					
LERO-Lead Communicator			P								S			
LERO-Support Services Coord.											S			
LERO-Relocation Center Coord.			S			P	S							
LERO-Logistic Support Coord.			S									P		
LERO-Security Coord.			S										P	
LERO-Coord. of Public Info.			S	P										
Customer Service		P												
Local Public Service Agencies														P
Local Emerg. Medical Services Agencies			S			P								
Department of Energy/BNL			S		P									
W.A.L.K. Radio				P										
U.S. Coast Guard			S	P				P						
American Red Cross & Salvation Army						S	P							
Federal Aviation Administration			S					P						

P = PRIMARY RESPONSIBILITY
 S = SUPPORTING RESPONSIBILITY

Organizational Matrix



RESPONSE ORGANIZATION RELATIONSHIPS

- American Red Cross

The American Red Cross will open, manage, and operate pre-designated relocation centers for evacuees. The American Red Cross will register evacuees and provide food, clothing, and medical and counseling services at the relocation centers.

- Salvation Army

The Salvation Army may provide support to the American Red Cross in operating the relocation centers.

- WALK Radio Station

WALK Radio Station will transmit Emergency Broadcast System (EBS) messages in support of the public notification and information efforts of LERO.

- Stony Brook Hospital, Central Suffolk Hospital

These hospitals will provide medical services in support of LERO for injured or contaminated individuals.

- Good Samaritan, Huntington, Southside and Northport Veterans Hospitals

These hospitals provide relocation center services for hospital and nursing home patients during an evacuation.

- Federal Aviation Administration

During a radiological emergency at SNPS, the Federal Aviation Administration (FAA) would restrict aircraft activities in the vicinity.

- United States Coast Guard

The United States Coast Guard will provide notification services to people on the waters within the 10-mile EPZ. Additionally, the U.S. Coast Guard will control private and commercial vessel traffic and restrict access to affected areas.

- Department of Energy/Brookhaven National Laboratory (BNL)

BNL provides independent radiological accident and dose assessment personnel and equipment to LERO.

If needed, government laboratories such as Bettis, Knolls, Argonne, and Oak Ridge can supplement BNL services.

- Private Ambulance Services

Local private ambulance services will move people who require specialized medical care. LERO Ambulance, Health Facilities and Home Coordinators located in the local EOC will coordinate these services.

- Local Law Enforcement Agencies and Fire Departments

It is anticipated that all local law enforcement agencies and fire departments within the 10-mile EPZ would carry out their normal response functions during an emergency.

LERO provides a full-time liaison located in the local EOC through which all agencies can obtain information.

Summary

The Local Emergency Response Organization, or LERO, is managed by seven people:

- The Director, who has overall responsibility for protecting the health and safety of the general public
- The Manager, who reports to the Director and has responsibility for implementing emergency decisions
- Five senior coordinators, who report to the Director and Manager and implement emergency activities through functional coordinators. The Senior Coordinators who report to the Manager of Local Response are the:
 - o Health Services Coordinator
 - o Evacuation Coordinator
 - o Support Services Coordinator
 - o Lead Communicator

The Coordinator of Public Information reports to the Director of Local Response.

Each of these senior coordinators has supporting functional coordinators and/or staff to assist in carrying out emergency activities. In addition, outside support agencies will be requested to assist the response effort as needed.

Specific information about your particular responsibilities will be provided to you later in the program for placement behind the "Your LERO Task" tab in this workbook.

B. CONCEPT OF OPERATIONS (How the Plan Works)

The Local Offsite Radiological Emergency Response Plan calls for the following sequence of events for effective response to an emergency:

1. Initial Notification and Mobilization

To begin a response to an emergency, LERO members must be notified and LERO must be mobilized (pages 24 through 29). The specific procedures for notifying LERO members will be presented to you for inserting behind the "Communications" tab in this workbook.

2. Accident Assessment

To determine if protective actions must be taken for the community around Shoreham, an "accident assessment" must be conducted. The Health Services Coordinator is responsible for accident assessment.

In the first step of the assessment, plant and weather conditions are evaluated. Then, depending on the seriousness of the emergency, onsite and offsite teams, could be sent out to measure radiation levels.

These teams will pass on data to the EOC, where it will be evaluated along with information from the plant. The evaluation consists of calculations to predict the effects of a radiation release on the public in the 10-mile EPZ, as well as on the food chain in the 50-mile EPZ. These predictions will be compared to Environmental Protection Agency's Protective Action Guides (PAGs) for allowable radiation levels.

Once the predicted effects are compared to the PAGs, a decision must be made on what protective actions must be taken.

3. Protective Actions

The emergency plan contains procedures for determining the appropriate protective action(s) based on the comparisons discussed above. The protective actions are described below. (If your LERO responsibilities involve any of these actions, you will be given additional materials to place behind the "Your LERO Activity" tab in your workbook.)

- Individual Protective Actions

Many readily available household and personal items will provide adequate and immediate protection from exposure to airborne radioactive material by inhalation. Toilet paper, bath towels, handkerchiefs, or bed sheets can be used as filters for breathing when folded several times and held over the mouth and nose.

- Selective Sheltering

To minimize radioactive exposure, particularly to pregnant women and children, selective sheltering may be ordered even when radiation levels are below the PAGs. In addition, selective sheltering may be recommended, even during an evacuation, for people who have been designated medically unable to withstand the physical stress of an evacuation or who require constant sophisticated medical attention.

- Sheltering

The Director of Local Response, based on the advice of the Manager of Local Response and/or the Radiation Health Coordinator may recommend sheltering, or staying indoors, for designated zones. Public notification of the need to take shelter will be accomplished through use of the Emergency Broadcast System.

Sheltering actions may be terminated when the likelihood of exposure to radiation levels in excess of the PAGs no longer exists.

- Selective Evacuation

If selective evacuation were ordered, people who might have a low tolerance to radiation exposure, such as pregnant women and children 12 years and under, would be evacuated from the the 10-mile EPZ.

- General Evacuation

If the Director of Local Response calls for an evacuation of any or all of the zones within the 10-mile EPZ, the public will be notified of evacuation procedures and routes via the Emergency Broadcast System.

At the direction of the Traffic Guidance Coordinator, traffic guidance posts will be established and potential impediments to evacuation will be removed by tow trucks or other heavy equipment. As the evacuation proceeds, evacuation route spotters will report progress to the local EOC.

People without transportation will be evacuated by buses that will follow the routes identified in a public information brochure which will have been distributed to the public living within the 10-mile EPZ. The Transportation Support Coordinator will coordinate bus operations and ensure an adequate supply of buses and drivers.

The evacuation of special facilities will be coordinated by the Special Facilities Evacuation Coordinator.

If an emergency occurs during normal school hours, schools within the 10-mile EPZ will be instructed via the Emergency Broadcast System to dismiss school children in accordance with their early dismissal plans.

If evacuation of any health facilities is required, the Special Facilities Evacuation Coordinator will ensure that buses and ambulances are available.

The LERO Home Coordinator will coordinate the evacuation of handicapped or aged people who need assistance. LILCO is developing a list of these people from mail-in cards included in the public information brochure.

Relocation Centers will be established to provide monitoring, decontamination, temporary housing, food, and first aid for evacuees. The American Red Cross is responsible for the organization and management of the Relocation Centers. The Relocation Center Coordinator at the Local EOC will ensure availability of sufficient Relocation Centers.

- Food, Milk, Water and Livestock Feed Control

The Health Services Coordinator will direct resources involved in controlling food, milk, water, and livestock feed supplies which may have become contaminated within a 50-mile radius of the plant. Controls are designed to keep radioactive material from being consumed by people both in and out of the ingestion exposure pathway or 50-mile EPZ. The Coordinator of Public Information will advise farmers via WALK radio of the recommended practices for livestock and agricultural products.

The Director of Local Response has sole responsibility for deciding which of the above protective actions, if any, will be implemented.

4. Emergency Worker Protection

All LERO staff members who enter the 10-mile EPZ will be protected from over-exposure to radiation. Radiation protection for LERO members is the responsibility of the Director of Local Response.

Each LERO member will be self-protected by a method called personnel dosimetry. Additional details about personnel dosimetry will be provided for filing under the "Radiation Protection" tab in this workbook. This section will cover:

- o An overview of radiation
- o Guidelines for exposure to radiation
- o Use of a direct-reading dosimeter
- o Monitoring for contamination
- o Decontamination procedures

The Director of Local Response is responsible for ensuring the safety of all LERO staff members.

5. Public Information

Effective response to a radiological emergency requires that the community surrounding the plant be informed about procedures that would be followed and actions that would need to be taken. To accomplish this, LILCO has developed a complete public information program for the Local Offsite Radiological Emergency Response Plan.

The program involves:

- Advance Information in Case of an Incident at the Shoreham Nuclear Power Station

LILCO will provide educational materials to residents, special facilities, workers, travelers and vacationers in the 10-mile EPZ on an ongoing basis through telephone books, mailout brochures, and posters. In addition, selected communities outside of the 10-mile EPZ will also receive emergency educational materials.

- Emergency Information

The Director of Local Response, through the Public Information Coordinator, will advise the public of the status of any Shoreham Nuclear Power Station emergency and of any required protective actions using the Emer-

gency Broadcast System on WALK radio 1370 AM or 97.5 FM. Information will focus on the nature of the incident and the required response, if any. LILCO and government spokespersons will coordinate the release of information working in conjunction with the County Executive or his designee.

Summary

For the Local Offsite Radiological Emergency Response Plan to work effectively, a series of events must occur in sequence.

First, LERO members must be notified of the situation and the organization must be mobilized. Then, the seriousness of the emergency must be determined through an accident assessment. Next, based on the accident assessment process, a decision must be made on which protective actions, if any, should be implemented. These include:

- Individual protective actions
- Sheltering
- Selective sheltering
- Selective evacuation
- General evacuation
- Food, milk, water, and livestock feed control

It is important to note that "general evacuation" does not necessarily mean an evacuation of the entire 10-mile EPZ. The EPZ is divided into zones. In the unlikely event of an evacuation, only the zones which could be affected (depending on direction of the wind) by a radiological release would be evacuated.

LERO members will also take protective actions, through a method called personnel dosimetry, to prevent unnecessary exposure to radiation.

Important to the overall effectiveness of the plan is public knowledge and understanding both before and during an emergency at Shoreham.

MODULE 1.2

SITE SPECIFIC OVERVIEW

POST TEST
Part 2

1. The first step of an "accident assessment" is to send out field teams to measure radiation levels.

True or False

2. The predicted effects of the "accident assessment" compared to:
 - a. Radiation levels
 - b. Food and Drug Administration Warnings
 - c. Environmental Protection Agency's Protective Action Guides
 - d. Dosimeter readings
3. Name the six protective actions provided in the Local Offsite Radiological Emergency Preparedness Plan.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

4. What are the two basic public information functions?

1. _____
2. _____

LERO

TRAINING PROGRAM

C. NOTIFICATION AND MOBILIZATION

If an emergency is declared at Shoreham, LILCO is required by law to notify offsite officials within fifteen minutes of such a declaration. A Control Room operator at the plant will use a special Radiological Emergency Communications System to notify the lead government agency and LILCO Customer Service. Both of these contact points are staffed 24 hours a day.

Both the lead government agency and LILCO Customer Service are responsible for receiving and verifying notifications. When the Local EOC Communication Center is activated, LILCO's responsibility for receiving the notifications will shift from Customer Service to the Local EOC Communications Center. This would be expected to occur during the early stages of an "Alert" emergency classification.

The number of people notified and the degree of mobilization of the organization depends on the classification of the emergency:

- Unusual Event

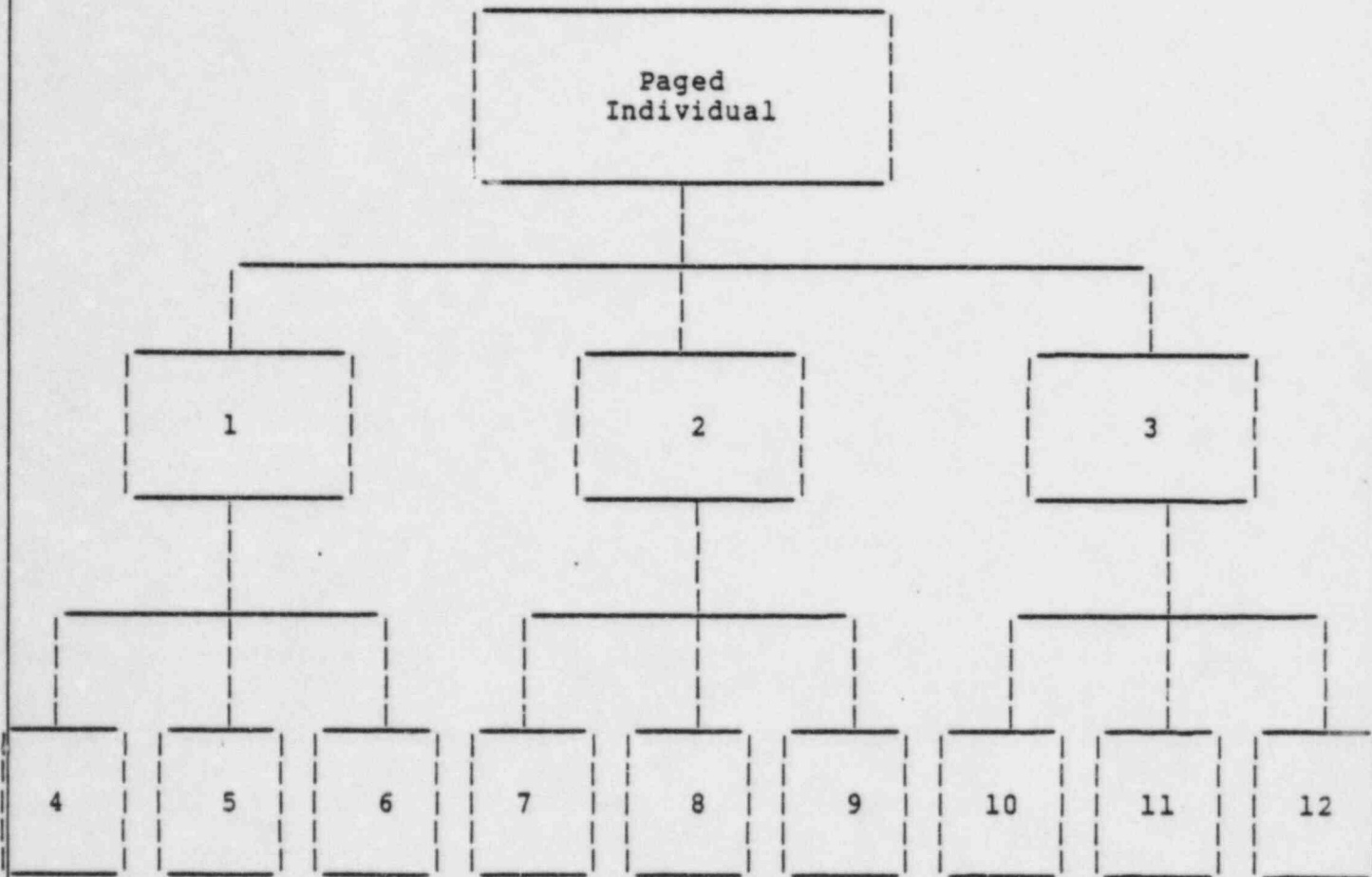
For an Unusual Event, the government and the LILCO Customer Service operators will verify the authenticity and content of the message with the plant's communicator. The Customer Service operator will then notify the Manager of Local Response and other key LERO emergency coordinators through the LILCO paging system. The government operator will notify the Director of Local Response and the Coordinator of Public Information using the government notification system.

No activation of LERO members or emergency facilities is anticipated for an Unusual Event. However, action can be taken if necessary.

- Alert

Once the message from the plant is verified, the Customer Service operator will use the LILCO paging system to notify additional individuals in accordance with emergency procedures. Individuals contacted through the paging system will in turn notify other individuals by commercial telephone using cascading telephone tree scheme. This telephone tree scheme (see page 26) is the primary means by which LERO staff will be notified.

The government operator will use the government notification system to notify the Director of Local Response and the Coordinator of Public Information and his staff. The Brookhaven National Laboratory (BNL) Security Station will notify the BNL response team via the BNL paging system. Suffolk County, WALK Radio (EBS), the U.S. Coast Guard, Nassau County, the State of New York, and the State of Connecticut will also be alerted.



Typical Telephone Cascading or Tree Scheme

Upon notification, the Director of Local Response, the Manager of Local Response, Lead Communicator, and key emergency response personnel will report to the Local EOC and activate it. The Coordinator of Public Information will also report to the Local EOC or ENC if it is activated, with support staff as necessary. Other emergency personnel, including WALK Radio Station (EBS), will be placed on standby status.

- Site Area Emergency

If the EOC is activated, the Lead Communicator (Customer Service Operator if EOC is not activated) will take over notification in accordance with emergency procedures and notify additional LERO members as required.

Upon notification, LERO personnel will report to their duty stations. The Local EOC and ENC will be activated. As appropriate, field teams will be dispatched to their assigned locations.

- General Emergency

Procedures for notification and activation are the same as those for a Site Area Emergency.

- Notification of the Public

If a Site Area Emergency or General Emergency is declared, the Director of Local Response will implement procedures to alert and provide periodic status updates to the public within the 10-mile EPZ. If the event is classified an Alert, EBS may be used to notify the public. However, the Director may also activate the Prompt Notification System as described below.

The Prompt Notification System is the primary mechanism for alerting the public about a radiological emergency. The permanent and transient (hotels, parks, beaches, etc.) population will be alerted through a system of 89 sirens mounted throughout the 10-mile EPZ, and a tone-activated radio system for warning those organizations where large number of people are located, such as schools, hospitals, nursing homes and major employers.

Activation of the Prompt Notification System is a LERO responsibility. The Director of Local Response will activate the Prompt Notification System sirens using an encoder located at the local EOC and verify that WALK (EBS) is ready to broadcast a prepared message. He will also request the U.S. Coast Guard to warn offshore areas if necessary.

In the event of partial or total siren failure, vehicles equipped with public address units will be driven through affected areas in the 10-mile EPZ and will alert residents to listen to a local Emergency Broadcasting System (EBS) radio station.

As directed by the Director of Local Response, the Coordinator of Public Information will activate the EBS system. The public will be expected to tune to EBS radio station WALK for specific instructions. The EBS system and siren system activation will be coordinated to ensure that the public receives prompt instructions.

Summary

The LERO notification and mobilization processes always start when an emergency is declared at the plant. Government officials and LERO are notified over a special telephone line.

Once initial notification is received by the lead government agency and LILCO Customer Service, LERO Coordinators, staff, and support agencies are notified, depending on the emergency classification.

Mobilization of LERO also depends on the emergency classification and can vary from personnel on standby during an Unusual Event to full mobilization during a General Emergency, with field personnel reporting to their emergency duty stations.

Finally, should the emergency situation require public notification, a Prompt Notification System has been installed to notify residents and transients in the 10-mile EPZ within 15 minutes. The public will be educated to know that if they hear sirens, they should go indoors and tune to the EBS radio station for information and instructions.

MODULE 1.2

SITE SPECIFIC OVERVIEW

POST TEST
Part 3

1. Notification of LERO is started by a:
 - a. Siren system
 - b. Fire signal
 - c. Paging system
 - d. Radio communications

2. How will you be notified of an emergency at Shoreham?

3. At what emergency classification will LERO personnel report to duty stations?

4. What are the three major components of the Prompt Notification System?
 1. _____
 2. _____
 3. _____

LERO

TRAINING PROGRAM



D. EMERGENCY OPERATIONS CENTER

The Local Emergency Operations Center (EOC) will serve as the facility from which offsite response functions are directed and controlled. The EOC will house all personnel and equipment necessary to effectively coordinate the emergency response. The EOC is located at LILCO's Brentwood Operations Facility. This facility normally operates 24 hours a day. In the event of an emergency at Shoreham, a portion of the building will be used as the EOC.

- EOC Activation

The EOC will be activated if an Alert or higher classification is declared. LILCO Customer Service personnel will notify appropriate emergency personnel to report to and activate the Local EOC. Upon arrival at the EOC, the staff will modify the telephone system to accommodate the emergency situation. Once the EOC is fully activated, the LILCO Emergency Operations Facility and the New York State EOC will be notified.

The functional layout of the EOC is shown on Page 35.

- EOC Chain of Command

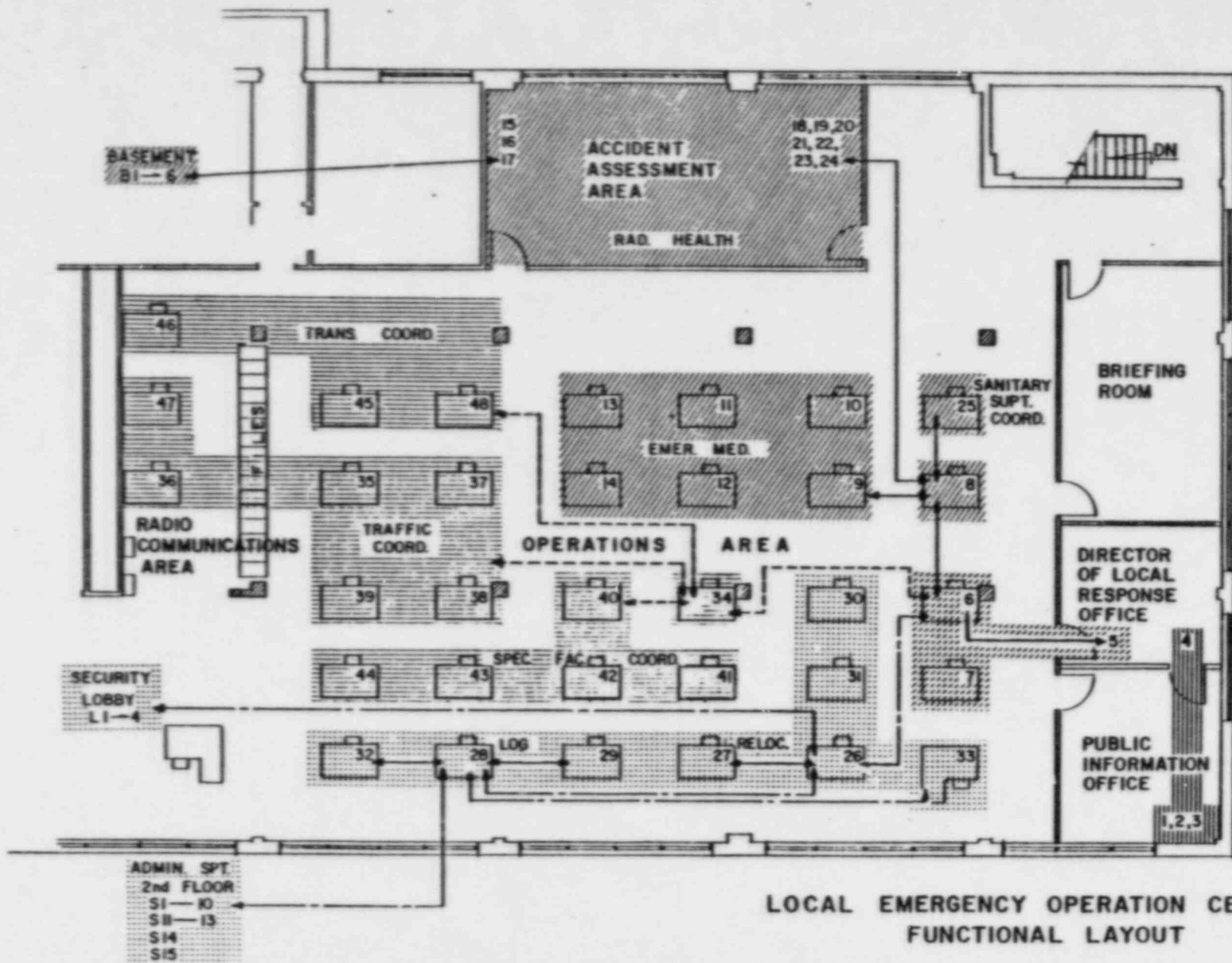
The personnel listed on the index on page 36 are all located at the Local EOC. The two key individuals in the EOC are the Director of Local Response and the Manager of Local Response.

The Director of Local Response will receive and review a constant flow of information from the Manager of Local Response, Radiation Health Coordinator, and other senior coordinators at the EOC as to event classification,

escalation or de-escalation, real or potential radiation hazards, and recommendations on protective actions. In conjunction with the Radiation Health Coordinator, the Director of Local Response will formulate the LERO position regarding the protective response required.

- EOC Personnel

The Local EOC will be staffed in accordance with the severity of the emergency. Upon notification, the LERO functional coordinators will report to the Local EOC to provide direction and control of the emergency response. The duties of each of these functional coordinators are described in Section A. In addition to the functional coordinators, sufficient communicators and administrative staff will be provided to perform the response. Should the emergency response involve operations over a protracted period of time, continuous 24-hour staffing will be provided by two pre-designated 12-hour shift rotation. All emergency response personnel at the EOC must display their EOC identification badges at all times during an emergency.



LOCAL EMERGENCY OPERATION CENTER FUNCTIONAL LAYOUT

E. IMPLEMENTING PROCEDURE

In order to assist LERO in carrying out the concepts and operations outlined in the Local Radiological Emergency Response Plan, an extensive set of implementing procedures has been developed. These procedures provide LERO with guidance as to what activities must be carried out in preparation for and during an emergency at Shoreham.

Additional training materials will be provided to you for placement under the "Your LERO Task" tab in this workbook. This information will be taken from the procedures you need to know to carry out your LERO task.

To demonstrate your knowledge and understanding of your task, you and all other LERO members will participate in drills and exercises each year.

Emergency Preparedness documents, including implementing procedures, plans, or training workbooks, will undergo many revisions to ensure that the latest emergency preparedness guidance and state-of-the-art planning principles are always available to LERO.

MODULE 1.2

SITE SPECIFIC OVERVIEW

POST TEST

Part 4

1. At what emergency classification will the Local EOC be activated?

2. Where is the Local EOC located?
3. What is the purpose of the Local EOC?
 - a. It is the place where all offsite response functions are conducted and controlled.
 - b. It is the place where all meals will be served to LERO members.
 - c. It is the place where the Director of Local Response will hold press conferences.
 - d. None of the above.
4. An "implementing procedure" provides LERO members with guidance as to when to call home.

True or False

EMERGENCY PREPAREDNESS OVERVIEW

MODULE NO. 3

RADIATION PROTECTION

This module applies to all LERO members.

Your Name _____

LERO Title _____

Company Title _____

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Training Objectives	ii
A. Atomic Structure	1
B. Types of Radiation	2
C. Radiation Units and Sources	4
D. Biological Effects of Radiation	9
E. Control of Radiation	16

TRAINING OBJECTIVES

At the completion of the Radiation Protection module, the trainee will:

- A. Understand atomic structure, such as protons, neutrons and electrons
- B. Know the three types of radiation
- C. Be familiar with the types of materials that will block radiation
- D. Understand the various units of measurement used in radiation protection
- E. Be able to identify natural and man-made sources of radiation
- F. Know how and at which levels radiation can cause damage
- G. Know the LERO worker radiation exposure limit
- H. Be able to identify the forms of radiation found in a nuclear power plant
- I. Know the difference between exposure and contamination
- J. Be familiar with methods for controlling and monitoring radiation

A. ATOMIC STRUCTURE

All substances on earth are made of elements. There are 92 naturally occurring elements, and scientists have increased the total number to more than 100 by artificially producing elements.

An atom is the smallest unit of an element. Each atom has three basic components: 1) protons; 2) neutrons; and 3) electrons. Protons and neutrons are tightly bound together in the central part of the atom, called the nucleus. Protons and neutrons have about the same mass. Protons have a positive electrical charge, and neutrons have no electrical charge. Electrons, which orbit around the nucleus, are about 2000 times lighter than protons or neutrons and are negatively charged.

The nuclei of elements tend to exist in a stable state. Some atoms are unstable. An unstable nucleus attempts to achieve stability by releasing energy. This released energy can be in the form of particles or waves and is called radioactivity.

The first evidence of radioactivity was reported by Henry Becquerel in 1896. While working with uranium ore, he found that it would fog nearby photographic plates. By 1903, it was understood that there were three types of radiation: alpha, beta, and gamma.

B. TYPES OF RADIATION

Alpha particles are the least penetrating of the three forms of radiation. They travel only 2 or 3 inches in air before they lose their energy and come harmlessly to rest. Alpha particles can be effectively stopped by a thin sheet of paper. Alpha particles are composed of two protons and two neutrons and are positively charged. Because alpha particles cannot travel very far, they are not an external radiation hazard. An external hazard is where the radiation remains outside the body. If a person is exposed to alpha radiation, all the energy of the radiation would be stopped by the outer layer of the skin.

Beta particles are negatively charged electrons that originate in the nucleus of the atom. They travel for a few feet in the air, close to the speed of light. Beta particles can partially penetrate the skin and are considered an external hazard. However, they can be stopped by plastic or thin sheets of aluminum.

Gamma rays come from the nucleus of a radioactive, or unstable, atom. Gamma rays are released when the nucleus of an atom has excess energy after the release of an alpha or beta particle.

Gamma rays can travel great distances. The higher the energy, the farther they travel. Because of this, gamma rays are the most penetrating form of radiation. Most gamma radiation will pass right through the body. It is considered an external hazard. Large quantities of concrete or sheets of lead are needed to stop gamma radiation.

Activity

The rate at which atoms decay or give off radiation is called their "activity." All radioactive substances follow the same general decay pattern. Their activity decreases over a period of time. The time it takes to decrease the activity to one half its original value is called the half-life. An atom's half-life gives us an indication of when it will be stable, or no longer radioactive.

Each radioactive atom has a unique half-life that can range from fractions of a second to billions of years.

MODULE 3

RADIATION PROTECTION

MODULE REVIEW

Part 1

Name: _____

LERO Title: _____

Company Title: _____

1. What is the center of an atom called?

2. Each atom is composed of what three particles?

1. _____

2. _____

3. _____

3. Name the three types of radiation.

1. _____

2. _____

3. _____

4. Alpha particles can be stopped by _____.

5. Beta particles can be stopped by _____.

6. Gamma rays can be stopped by _____.

LERO

TRAINING PROGRAM

C. RADIATION UNITS AND SOURCES

Radiation Units

We use measurements every day to describe such things as the length of a football field, the speed of a car and the weight of a person.

There are four basic radiation protection terms that you should understand.

- Exposure
- Exposure Rate
- Absorbed Dose
- Dose Equivalent

Exposure refers to the amount of radiation present at a particular point. Exposure is measured in units of Roentgens, and is denoted by the letter R.

Exposure Rate is the amount of exposure per unit of time such as Roentgens per hour. Exposure and exposure rate can be illustrated with an automobile speedometer and odometer.

An odometer tells you how far you've gone, or your total "exposure."

A speedometer tells you how fast you're going, or how fast you'll receive that "exposure."

Examples:

1. If you're traveling at 60 miles per hour, how far will you have gone in 30 minutes?

Answer: Speed = $60 \frac{\text{miles}}{1 \text{ hour}}$

$$\begin{aligned} \text{Distance traveled} &= 60 \frac{\text{miles}}{1 \text{ hour}} \times \frac{1}{2} \text{ hour} \\ &= 30 \text{ miles} \end{aligned}$$

2. If the exposure rate is 60 R/hour, how much exposure will be received after 30 minutes?

Answer: Exposure rate = $60 \frac{\text{R}}{1 \text{ hour}}$

$$\begin{aligned} \text{Exposure received} &= 60 \frac{\text{R}}{1 \text{ hour}} \times \frac{1}{2} \text{ hour} \\ &= 30 \text{ R} \end{aligned}$$

Absorbed Dose

Being exposed to radiation doesn't necessarily mean your body will absorb all of it. If you are exposed to radiation, only that portion which is absorbed by your body is the "absorbed dose." The unit of measurement of absorbed dose is called a rad.

As an example, exposure can be compared to the sun's rays. When you're on the beach sunbathing, your skin absorbs a portion of the sun's rays. The portion of the sun's rays your body absorbs is similar to an absorbed dose of radiation.

Dose Equivalent

Different types of radiation have different effects on the body. To measure those effects, scientists have developed a unit called the rem. Because we are concerned with the effects of radiation on the body, the term used is the rem. The rem relates radiation effects to the human body. In radiation protection, the rem is a very large number and therefore, the unit that is used most often is the "millirem." It takes 1000 millirem to equal 1 rem.

For emergency planning purposes, the Roentgen, rad and rem are interchangeable. We have described these units for three reasons: one, direct-reading dosimeters (which we will discuss later) measure milliroentgens (mR) or Roentgens (R); two, some hand-held survey instruments, like those used by the decontamination and monitoring teams, are read out in millirad; and three, the thermoluminescent dosimeter or TLD, your personal exposure record, is read in millirem.

$$\boxed{\text{Rem} = \text{Rad} = \text{Roentgen}}$$

Now that we have an understanding of the terms and units of radiation, let's look at some common sources and their levels of radiation.

Radiation Sources

People are constantly exposed to naturally occurring radiation. This radiation has existed since the beginning of time. Each day we are exposed to three types of naturally occurring radiation: cosmic (sun), terrestrial (earth), and internal (people).

- Cosmic radiation comes from the sun and outer space. It bathes the earth in a constant stream of radiation. Cosmic radiation delivers approximately 23 millirem/year to our exposure.

- Terrestrial radiation comes from the naturally occurring radioactive materials in the earth's crust. This source of radiation adds another 23 millirem/year to our exposure.

- Internal radiation from the intake of naturally occurring radioactive materials contributes about 23 millirem/year to our exposure.

This comes to a total exposure of 69 millirem/year per person on Long Island from natural sources.

Only since the beginning of the twentieth century have people been exposed to man-made sources of radiation. Three major man-made sources of exposure are: medical technology, fallout from weapons testing, and the nuclear industry.

- Medical radiation from X-rays (e.g., chest, dental, and therapy) delivers most of the man-made radiation. It contributes, on the average, approximately 64 millirem/year to people living on Long Island.

- Radioactive fallout from weapons testing in the 50's and 60's still delivers about three or four millirem/year to people living on Long Island.

- Radiation from the nuclear power industry, as well as other nuclear industries, contributes less than one millirem/year to the population on Long Island.

The total exposure from man-made sources is about 69 millirem/year. Clearly, radiation from the nuclear industry is a small fraction of the total average annual exposure of 138 millirem.

LERO

TRAINING PROGRAM

MODULE 3

RADIATION PROTECTION

MODULE REVIEW

Part 2

1. What is the unit of radiation exposure measurement most often used? (circle one)
 - a. Roentgen
 - b. millirem
 - c. yards

2. Name three sources of natural radiation.
 1. _____
 2. _____
 3. _____

3. Which man-made source of radiation causes the highest exposure? (circle one)
 - a. Nuclear fallout
 - b. Medical technology
 - c. Nuclear power reactors

D. BIOLOGICAL EFFECTS OF RADIATION

Biology

Probably the greatest concern we have about radiation is how it affects us. Before we discuss radiation effects, let's review some basic biology.

Biological systems (such as organs, skin, and bones) are composed of cells. The basic cell has three major components, a nucleus, cytoplasm, and a cell wall.

The nucleus of the cell is composed of chromosomes which contain the DNA necessary for cells to reproduce themselves.

Cytoplasm consists mainly of water and nutrients that supply the cell's energy.

The cell wall separates individual cells and defines a boundary for each cell.

Direct and Indirect Actions

Radiation creates damage to atoms through a process called ionization. This is a process whereby radiation interacts with an atom and ejects an outer electron. Separating the electron from the rest of the atom is called ionization. Ionizing an atom changes its chemical characteristics. Ionization can cause damage to biological systems by direct or indirect actions.

Radiation can interact with the cytoplasm and create toxic substances which disrupt a cell's normal function. This action is called indirect radiation damage.

Radiation can also interact with the nucleus of the cell by breaking apart the DNA molecules. Most damage to DNA can be repaired and will not damage the cell. However, large doses of radiation can cause severe damage to DNA, and when the cell reproduces, the newly formed cell is unable to function and dies off. This effect is called direct damage of radiation.

Radiosensitivity

Some cells are not as easily damaged by radiation as others. A cell's sensitivity to radiation damage is known as its radiosensitivity. Mature cells that don't reproduce often are less radiosensitive, or more resistant to radiation. For example, nerve and muscle cells are less radiosensitive than blood-forming or stomach-lining cells.

Because most radiosensitive cells reproduce rapidly, they can easily be repaired, and they recover from the radiation damage more rapidly.

The human body is constantly replacing old cells with new ones. For example, a common cold can kill millions of cells, but when you recover from the cold, those cells are replaced and your body functions normally. Cells which die from radiation damage can be replaced in the same way.

However, if too many cells are damaged by radiation or other causes, the effects can be detected. What's important to understand is how much radiation causes enough cellular damage to produce a noticeable effect.

Somatic and Genetic Effects

Radiation effects are classified into two categories: somatic and genetic.

- Somatic Effects

When radiation damage occurs only in the individual exposed, without causing any genetic changes, this is known as a somatic effect. Somatic effects can be caused by either acute or chronic exposure.

- o Acute exposure is short-term, usually lasting only minutes to hours. The effects of acute exposure appear within 30 to 60 days.

The effects from various levels of acute exposure without medical attention are listed in Table D.1.

TABLE D.1

BIOLOGICAL EFFECTS OF ACUTE RADIATION

Dose Level ^a (mrem)	Biological Effect
5,000 or less	Data at low dose rates, even in test animals, are inadequate to assess effects at low levels. Therefore, effects are conservatively assumed to be directly proportional to total dose received regardless of dose rate.
5,000	[EPA Protective Action Guidelines for the general population for nuclear accidents.]
Less than 25,000	No detectable effects.
25,000 to 50,000	Detectable only by laboratory examination. (Clinically observable effects below about 50,000 mrem tend to be minor and of short duration.)
Less than 100,000	Temporary and minimal short-term clinical effects, but certain cancers, such as leukemia, will occur more frequently.
Less than 250,000 ^b	Few or no early deaths, but acute radiation sickness develops and significant long-term injury in terms of cancer induction will occur.
450,000	50% of those exposed will die in less than 30 days; remaining 50% will recover but with some permanent illness.
1,000,000	Death in less than 30 days.

a Once-in-a-lifetime dose received in a short time (i.e., a few hours or less).
 b Radiation sickness includes vomiting, diarrhea, loss of hair, nausea, hemorrhaging, fever, loss of appetite and general malaise. Recovery (if no complications) occurs in about three months.

As with any illness, these effects will vary between individuals, depending on such factors as age, physical condition, and general health at the time of exposure.

- o Chronic exposure is generally associated with exposure over periods of time of 10 years or more. Potential long-term effects from chronic exposure include acceleration of the aging process, increased risks of cancer, and cataract development.

- Genetic Effects

Genetic effects from radiation exposure have been found only in laboratory experiments with animals. Although similar injury may occur in man, none has ever been detected, even at doses as high as hundreds of thousands of millirem.

LERO Exposure Limits

The upper limit of exposure that LERO members would be allowed to receive is 5,000 millirem. It is very unlikely that exposure levels would ever be that high. This is at least five times lower than the amount that produces minor blood changes.

A LERO worker would not be permitted to be exposed to any radiation level higher than that of the general public living in the area.

The estimated loss of life expectancy from various normally encountered health risks is listed in Table D.3.

TABLE D.2

ESTIMATED DAYS OF LIFE EXPECTANCY LOST FROM VARIOUS HEALTH RISKS*

Health Risk	Estimated Average Days of Life Expectancy Lost
Smoking 20 cigarettes/day	2370 (6.5 years)
Overweight (by 20%)	985 (2.7 years)
All accidents combined	435 (1.2 years)
Auto accidents	200
Alcohol consumption (U.S. average)	130
Home accidents	95
Drowning	41
Natural background radiation, calculated	8
Medical diagnostic X-rays (U.S. average) calculated	6
All catastrophes (earthquakes, etc.)	3.5
5,000 millirem, one time emergency worker exposure (calculated)	5

* Adapted from Cohen and Lee, "A Catalogue of Risks," Health Physics, Vol. 36, June 1979.

Forms of Radiation

Nuclear power plants can release radiation in the form of noble gases, radioiodines, and particulates.

- Noble Gases

Noble gases are odorless, colorless gases that do not interact with other chemicals in the body. If they are inhaled, they are immediately exhaled. An external radiological hazard occurs when you have been in or close to the radioactive cloud for a period of time. Noble gases emit both gamma and beta radiation but the major contributor to the external dose is from gamma rays.

- Radioiodines

Radioactive iodines, or radioiodines, are another byproduct of nuclear reactors that can be either in the form of gases or particulates. The most significant health hazard from radioiodines is from beta and gamma radiation entering the body and accumulating in the thyroid gland.

- Particulate Radiation

Particulates can be thought of as radioactive dust. They can emit alpha, beta, or gamma radiation. Because particulates behave in the same way as dust, they are confined to the reactor core and are rarely found in the environment of a nuclear power plant.

LERO

TRAINING PROGRAM

MODULE 3

RADIATION PROTECTION

MODULE REVIEW

Part 3

1. Name two parts of the basic cell.
 1. _____
 2. _____

2. Which type of cell is more sensitive to radiation? (circle one)
 - a. nerve
 - b. stomach

3. Somatic effects are: (circle one)
 - a. where damage is done to offspring
 - b. an ancient tribe of wanderers
 - c. where damage is done to the individual exposed

4. At what level of radiation can effects from exposure be noticed?

5. What is the LERO exposure limit?

6. What three forms of radiation can be released from a nuclear power plant?
 1. _____
 2. _____
 3. _____

LERO

TRAINING PROGRAM

E. CONTROL OF RADIATIONExposure vs. Contamination

First, it's important to understand the difference between exposure to radiation and contamination by radiation. Let's use the example of visiting a local hospital to help illustrate this. If you get a chest X-ray, the X-rays go through your body and result in an image on a piece of film. This is considered "exposure" to radiation. Once the machine turns off, the exposure to radiation stops. You do not carry this radiation away with you.

In a nuclear medicine department, radioactive materials, usually in liquid form, are injected into patients for diagnostic studies. Let's assume this radioactive liquid spills and comes in direct contact with someone's skin. This would be considered "contamination" by radiation. This small quantity of radioactive material can be spread to other areas, and possibly be ingested or inhaled.

A person who is simply exposed to radiation does not require any special care. That person cannot spread the exposure. However, if a person is contaminated, steps must be taken to remove the radioactive material from the skin or clothing.

Exposure Control Techniques

Exposure can be reduced by external and internal radiation exposure control techniques, use of individual protective equipment, and familiarity with emergency operating procedures. The three most important factors in reducing external exposure are time, distance, and shielding.

- o Time

By spending the least amount of time necessary in radiation areas, exposure can be limited.

Example:

If the exposure rate in an area is 100 millirem per hour, and a person spends one hour in that area, he or she would receive a dose of 100 millirem. If the person spent half an hour in the area, he or she would only receive a dose of 50 millirem.

- o Distance

In a radiological emergency, some emergency workers may be exposed to radiation from the radioactive cloud or plume. The farther away from the plume, the lower the dose rate. An example of using distance to control radiation would be to redirect traffic away from the plume even if this required people to travel a longer distance.

- o Shielding

Shielding is one of the most effective methods of radiation protection. It consists of placing material between a person and the source of radiation. The effectiveness of the shielding depends on the material and its thickness. The thicker the material, the more radiation is absorbed. An example of shielding would be to take immediate shelter in a house, which is one of the best and easiest methods of reducing radiation exposure.

- Exposure Control

Radioactive materials enter the body primarily through inhalation, ingestion, or absorption through the skin or a wound. Internal radiation exposure can be reduced by not eating, drinking, smoking or placing any object in the mouth in a radiation area.

Another method of preventing internal exposure, especially if radioactive iodine is present, is by taking potassium iodide. This thyroid-blocking agent is used to prevent the uptake of radioactive iodine in the thyroid. The directive to take potassium iodide would be issued only when projected levels of iodine would result in an exposure to the thyroid gland of at least 10,000 millirem.

Protective clothing will be issued to emergency workers stationed in the Emergency Planning Zone to keep their own clothes from becoming contaminated.

Having a firm understanding of your responsibility during an emergency will tend to reduce potential exposure. By knowing various emergency operating procedures, you will be able to perform your job in an efficient and timely manner.

Radiation Monitoring

A dosimeter measures a person's total radiation dose. Each emergency worker will be issued three dosimeters. Two will be the pencil type which can be read directly. The third will be a

badge containing a radiation-sensitive crystal that records cumulative individual radiation dose. This badge will be read at a later time and serve as an official exposure record.

A more detailed description of dosimeter use will be presented in another training session.

MODULE 3

RADIATION PROTECTION

MODULE REVIEW
Part 4

1. Briefly explain the difference between exposure and contamination.

2. What are the three most important factors in reducing external exposure?
 1. _____
 2. _____
 3. _____

3. Briefly explain how to control internal radiation exposure.

4. Why is potassium iodide taken? and when?

5. How will your radiation be monitored?

LERO

TRAINING PROGRAM



LERO NOTIFICATION

WORKBOOK NO. 5

This module applies to all LERO members.

Your Name _____

LERO Title _____

Company Title _____

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Training Objectives	ii
Introduction	1
A. LERO Notification Groups	2
B. Notification Equipment	8
C. LERO Notification at each Emergency Classification	9
D. Notification of De-Escalation	14
Summary	15
 <u>Figures</u>	
Figure 1 - LERO Organization Charts	4 - 7
Figure 2 - Emergency Caller Procedure No. 39	12 - 13

TRAINING OBJECTIVES

At the conclusion of this module, the student should:

- A. Understand how the entire Local Emergency Response Organization is notified
- B. Know what equipment is used in the notification process
- C. Know how and when he/she will be notified
- D. Know what his/her response (report/standby) should be after being notified

and be able to demonstrate this understanding by:

- E. Identifying the three LERO notification groups
- F. Listing the emergency classification levels at which each group is notified
- G. Listing the emergency classification level at which each group reports for duty
- H. Describing the equipment that is used to notify LERO personnel
- I. Identifying the notification group to which he/she belongs
- J. Explaining how LERO notification equipment is used
- K. Identifying what response or actions he/she will take upon notification

INTRODUCTION

If an emergency is declared at the Shoreham Nuclear Power Station, prompt, accurate notification of response personnel is essential. You will recall from our previous modules that there are four classes of emergencies. They are:

- Unusual Event
- Alert
- Site Area Emergency
- General Emergency

As a LERO member, you will take specific actions depending upon the emergency class and your specific assignment.

For example, the Manager of Local Response will be notified for all emergencies. He will be on standby during an Unusual Event, but will report for all other emergencies. As another example, most bus drivers are not notified until after an Alert has been declared, and then only to be put on standby.

In this module we will discuss the entire notification process. We will define the different notification groups, discuss the equipment used for notifying LERO members, and examine LERO notifications at every emergency class.

A. NOTIFICATION GROUPS

There are three LERO notification groups: Group 1, Group 2 and Group 3. In most cases, all personnel in a particular notification group are notified at the same time and will report for the same emergency levels.

- LERO Notification Group 1

As shown in Figure 1, Group 1 members include the top LERO managers. These include the Director of Local Response, the Manager of Local Response and the senior coordinators who report directly to them. These individuals are notified by pager, for every emergency classification. Group 1 members are on standby for a Notification of Unusual Event emergency classification, but must report for all other emergencies. When Group 1 members are notified at the Unusual Event level, it is expected that they will stay within "pager range" and be available to respond promptly if the emergency is upgraded. Pager range is defined as the New York Metropolitan area.

- LERO Notification Group 2

Group 2 members are primarily LERO middle management. As shown in the LERO organizational chart Figure 1, the leaders of this group report directly to one of the senior coordinators notified in Group 1. The group includes most of the LERO coordinators and part of their staffs.

Group 2 members are notified by pager and must report to their preassigned locations when they are notified. Notification of this group will occur at Alert and higher emergency classifications.

- LERO Notification Group 3

The last LERO notification group is Group 3 (see Figure 1). This group consists of:

- o Record keepers
- o Decontamination and monitoring personnel
- o Evacuation route spotters
- o Road crews
- o Traffic guides
- o Bus dispatchers and drivers
- o Route alert drivers
- o Relocation Center security personnel

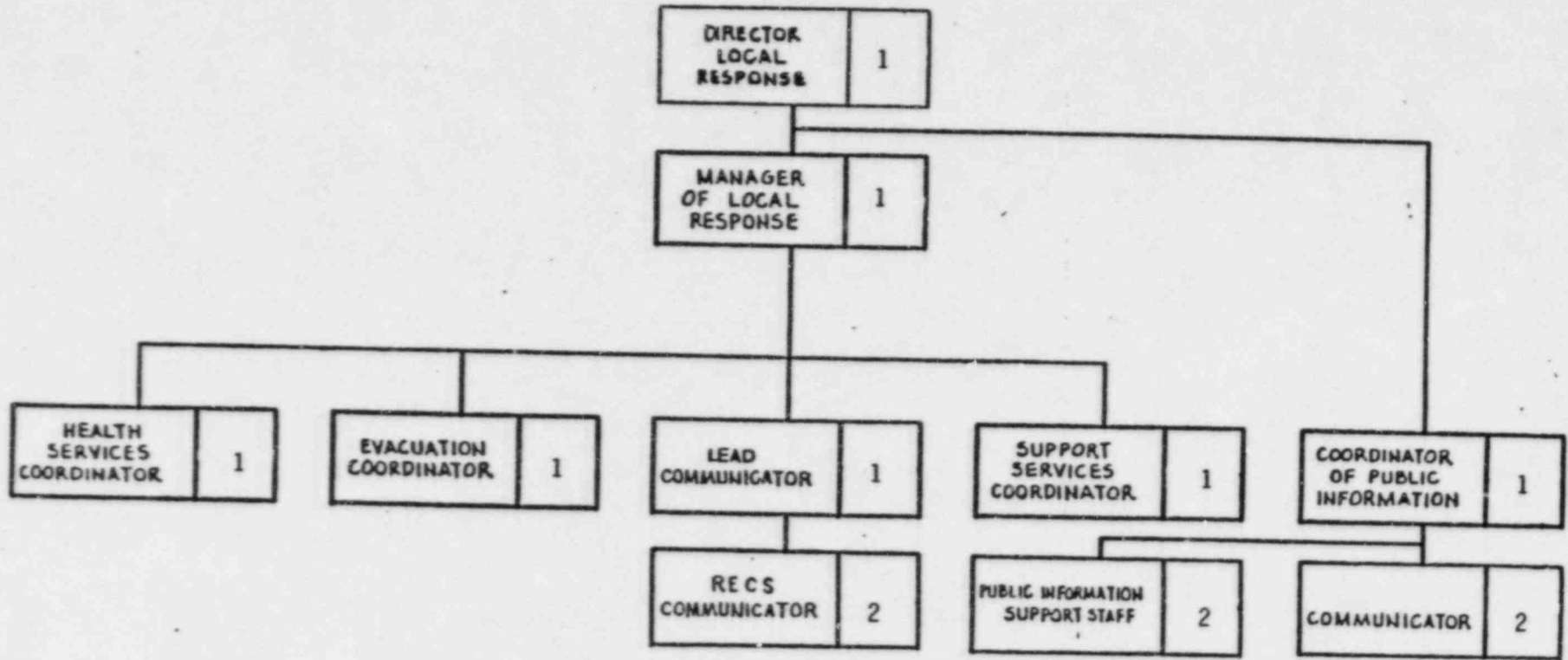
Within this group, some individuals are notified by pagers and the rest are notified by telephone.

The people in this group who carry pagers will be notified at the Alert stage and put on standby.

To this group, standby means:

- a. Read applicable materials.
- b. Stay close to your home or business phone in case you are notified and asked to begin notifying others by telephone.

FIGURE 1
**LOCAL EMERGENCY
 RESPONSE ORGANIZATION**



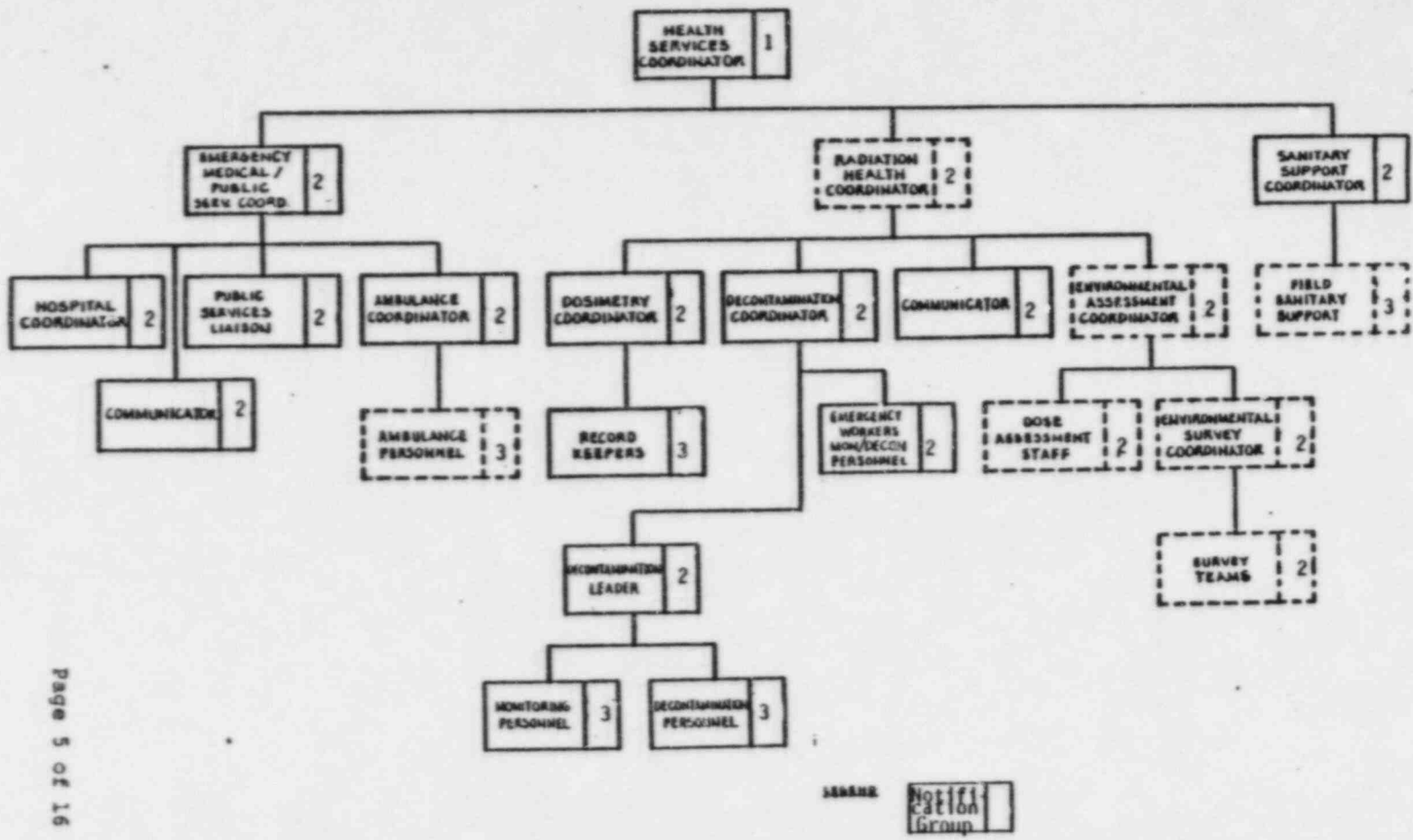
LEGEND

Notifi- cation Group	
----------------------------	--

REV. I 7-20-83

FIGURE 1
LOCAL EMERGENCY
RESPONSE ORGANIZATION

PAGE 2 OF 4



Page 5 of 16

REV 1 7-20-83

SEBANK
 Notification Group

FIGURE 1
LOCAL EMERGENCY
RESPONSE ORGANIZATION

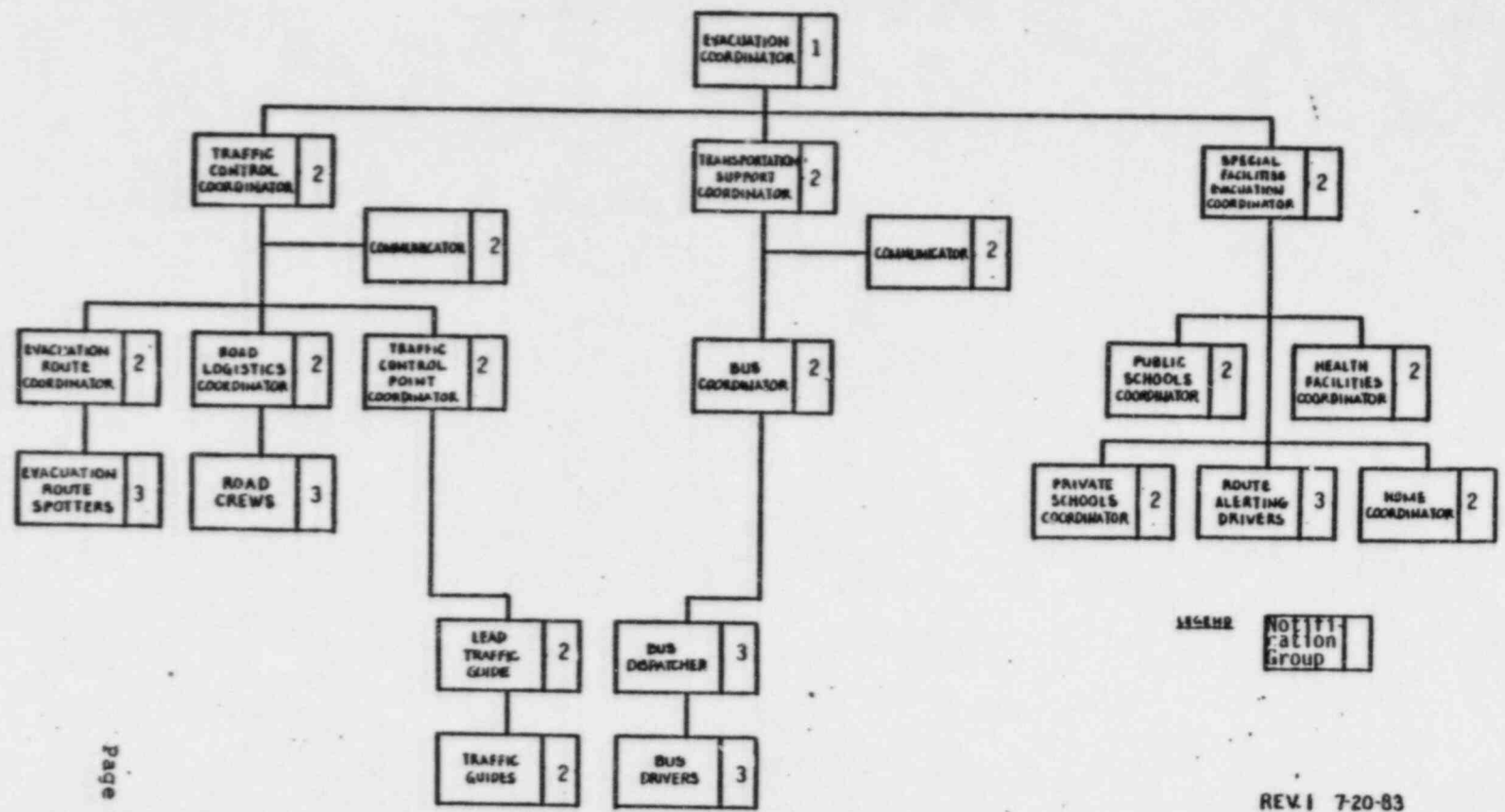
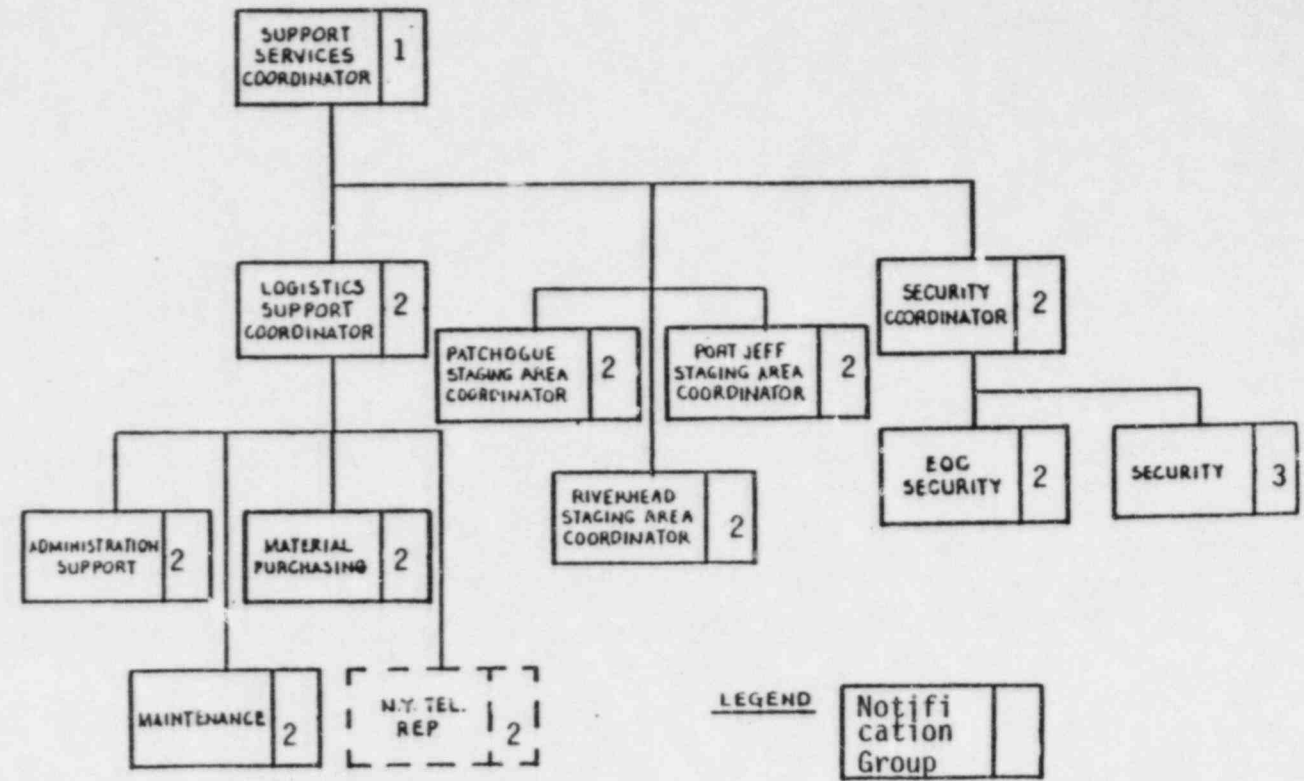


FIGURE 1 LOCAL EMERGENCY RESPONSE ORGANIZATION



REV 1 7-20-83

All other workers will report to their pre-assigned locations only after they are notified that a Site Area Emergency has been declared.

B. LERO NOTIFICATION EQUIPMENT

LERO members are notified through pagers and commercial telephone.

- The LILCO Paging System

The LILCO paging system is used to notify Group 1, Group 2 and some of Group 3 LERO members. This paging system can activate one or more selected groups of pagers, allowing Customer Service Operators to be selective about who is notified.

The pagers are tone-encoded to sound a distinct signal and show a digital emergency code. The digital display indicates emergency classifications and corresponding actions required. There are six emergency code readouts on the pager:

<u>Emergency Code</u>	<u>Emergency Classification</u>	<u>Recipient's Action</u>
1111	Unusual Event	Standby
2222	Alert	Report
2255	Alert	Standby
3333	Site Area Emergency	Report
4444	General Emergency	Report
0000	De-escalation from Unusual Event	None

CAUTION: THE ABOVE 4-DIGIT EMERGENCY CODES WILL BE PRECEDED WITH "99" FOR EXERCISES AND COMMUNICATIONS TESTING.

EXAMPLES: 991111
992222

Those LERO members who do not carry pagers will be notified of the emergency classification and required action by commercial telephone.

C. LERO NOTIFICATION AT EACH EMERGENCY CLASSIFICATION

If an emergency is declared at Shoreham, the Communicator in the Control Room will notify the LILCO Customer Service Operator in Hicksville, unless the Emergency Operations Center (EOC) has been activated. In that case, the Lead Communicator at the EOC will be notified. The EOC is not expected to be activated until the Alert stage.

If notified, the LILCO Customer Service Operator would be responsible for starting the LERO notification process. However, if the EOC has been activated, the EOC Lead Communicator will be responsible for notification.

In this section, we will assume that the LILCO Customer Service Operator initiates the LERO notification process. The following shows how the notification process works at each emergency classification level.

- Unusual Event

During an Unusual Event, only Group 1 personnel are notified. Their pagers will be activated and the digital code "1111" will be displayed.

- Alert

During an Alert, Group 1 pagers are activated to display "2222." Second, Group 2 pagers are activated and coded with "2222" by the Customer Service Operator. Third, the Logistics Support Coordinator notifies the NY Telephone Representative. Fourth, the Customer Service Operator activates the Group 3 pagers and codes them with "2255." In conclusion, Groups 1 and 2 will be notified and must report. Group 3 remains on standby.

- Site Area Emergency

If a Site Area Emergency is declared, all LERO groups must be notified and are required to report. The following events then occur:

Assuming the EOC has not been activated, the Customer Service Operator will activate all pagers and code them "3333." (As you know, "3333" means that a Site Area Emergency is in progress and that everyone with a pager -- including all Group 1 and 2 members and some Group 3 members -- must report.) If an Alert had been previously declared, Groups 1 and 2 would already have reported. Group 3 is notified as follows:

Selected members of Group 3 will carry pagers. When notified, each selected Group 3 member is responsible for notifying other Group 3 members via commercial telephone. Consequently, these selected members are known as Emergency Callers.

- General Emergency

During a General Emergency, the most serious of all classifications, all LERO members are notified and required to report. Notification procedures during a General Emergency are the same as during a Site Area Emergency, except for the digital readout on the pagers.

When a General Emergency is declared, all pagers will be activated and a "4444" will be displayed on each pager. If a Site Area has already been declared, all LERO members should already be present at their pre-assigned locations. If not, LERO notification will proceed as in a Site Area Emergency.

To show how the Group 3 notification process works, let's use the notification of bus drivers as an example. In the event of an Alert, the Customer Service Operator will activate the pagers of the 21 bus drivers who are Emergency Callers. Their pagers will display "2255." This means that an Alert is in progress, and that they are on standby. At this point, they are not required to make any calls. However, if the emergency is upgraded to a Site Area, the Customer Service Operator will again activate the Group 3 pagers which will display "3333." At this point, each Emergency Caller will notify 14 other bus drivers using commercial telephone. (Each Emergency Caller has an Emergency Caller Procedure that includes the names of bus drivers he/she will call.)

For example, let's assume you are Bus Driver No. 9, following Emergency Caller Procedure No. 39. You are assigned to the Riverhead Staging Area in the Riverhead District Office (Figure 2). There are six steps to the procedure you would follow.

FIGURE 2

Page 2 of 2

EMERGENCY CALLER PROCEDURE #39
BUS DRIVERS #9
REPORTING TO RIVERHEAD DISTRICT OFFICE
(continued)

Emergency Position/Name Home Phone Work Phone Date/Time/Initials

BUS DRIVERS
(continued)

8.			/ /
9.			/ /
10.			/ /
11.			/ /
12.			/ /
13.			/ /
14.			/ /
15.			/ /
16.			/ /
17.			/ /
18.			/ /
19.			/ /
20.			/ /

Step 1: Circle the correct emergency code, which is the digital display on the pager.

Step 2: Record the time you were notified.

Step 3: If the emergency code is 2222, 3333 or 4444, then follow steps 4, 5, and 6.

Step 4: Contact at least 14 other bus drivers whose names appear on the list. Notice that you may contact any 14 of the 20 individuals on the list.

Step 5: Give every person you contact the time you were notified and the appropriate code (2222, 3333, or 4444).

Step 6: Write the date, time of contact, and your initials next to the name of each person you contact.

D. NOTIFICATION OF DE-ESCALATION

Once the emergency situation is over, action must be taken to either reduce LERO staffing or de-activate the entire organization. The Director of Local Response or the Manager of Local Response will direct the Customer Service Operator to notify all emergency personnel of de-escalation through the pager system.

The Customer Service Operator can activate a single pager or a group of pagers through the pager system. LERO members whose pagers are activated and coded with "0000" will know that they are no longer on duty. Those who don't carry pagers will be released from duty by their immediate supervisors.

SUMMARY

There are three notification groups; Group 1, Group 2 and Group 3.

Group 1 members are notified at every emergency classification and report at each level except during a Notification of Unusual Event, when they are on standby. Group 2 members are notified at an Alert or a higher emergency classification and must report whenever they are notified. Group 1 and Group 2 LERO members are notified using the paging system only. Group 3 members are notified using the LILCO paging system and commercial telephone and report during a Site Area or General Emergency only. (Those Group 3 members with pagers are put on standby during an Alert.)

LERO notification is initiated by the Customer Service Operator in Hicksville unless the Local EOC in Brentwood has been activated. In this case, the Lead Communicator at the EOC would initiate the LERO notification process.

LERO members are notified of an emergency via a pager or commercial telephone. If you are notified through a pager, you will know the emergency classification and your response by the digital readout on your pager. If you are contacted by telephone, you will be informed of the emergency classification and your action by the Emergency Caller.

There are six emergency codes. Each code indicates an emergency classification and the required action (report or standby).

As a LERO member, it is your duty to act in a responsible manner upon receiving notification. You are advised not to brief members of the general public, such as neighbors or relatives, on the current status of the emergency. The Emergency News Center was formed to act as the single voice of LERO to prevent rumors, which may promote confusion, panic or even premature evacuation of the general public.

LERO

TRAINING PROGRAM

WORKBOOK NO. 5

LERO NOTIFICATION

MODULE REVIEW

Name: _____

LERO Title: _____

Company Title: _____

1. How many LERO notification groups are there?

2. What two types of devices are used to notify LERO members?
 1. _____
 2. _____

3. For which emergency classifications would Group 1 LERO members be notified?

4. For which emergency classifications would Group 1 members report?

5. At what emergency classification are Group 2 personnel notified?

6. At what emergency level do Group 3 personnel first report?

7. Some individuals in Group 3 carry pagers and are notified at the Alert state. Answer the following questions pertaining to those individuals.

a. When they are notified in an Alert, do they go on standby mode, or do they report?

b. What are these people supposed to do while on standby?

c. Another title for these individuals is Emergency _____

d. Who notifies those Group 3 members who do not carry pagers?

8. All the pagers in a particular group are usually activated at the same time. However, it is possible to activate only a few pagers in a group.

True or False

9. The digital readouts on the pager indicate what three things?

1. _____

2. _____

3. _____

10. How many different digital readouts are used in emergency situations?
11. What is the difference between codes 2222 and 2255?
12. What does the "99" in the following digital readout represent?

"992222"
13. How are LERO members who do not carry pagers notified?
14. All Group 3 members who are notified via commercial telephone must report for duty.

True or False
15. If the Local EOC in Brentwood has not been activated, who initiates LERO notification?

16. Who initiates LERO notification when the Local EOC is activated?

17. At what emergency level is the EOC normally activated?

18. In an Alert which of the following notification groups get notified?

- a. Group 1
- b. Group 2
- c. All Group 3
- d. Only Group 3 members with pagers

19. Every LERO member reports to their pre-assigned location at a Site Area Emergency.

True or False

20. What are Group 3 LERO personnel who carry pagers supposed to do upon notification?

21. Do all bus drivers carry pagers?

22. For what two emergency classifications do Emergency Callers perform their task?

1. _____

2. _____

23. What is the only difference in notification between a Site Area and a General Emergency?

LERO

TRAINING PROGRAM

PUBLIC NOTIFICATION

MODULE NO. 6

This module applies to:

- Director of Local Response
- Manager of Local Response
- Evacuation Coordinator
- Coordinator of Public Information
- Public Information Support Staff
- Special Facilities Evacuation Coordinator
- Public Schools Coordinator
- Health Facilities Coordinator
- Private Schools Coordinator
- Route Alerting Drivers
- Home Coordinator

Your Name _____

LERO Title _____

Company Title _____

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Training Objectives	ii
Introduction	1
A. Public Notification	2
Notifying the Public of an Emergency	3
- Prompt Notification System	3
- Emergency Broadcast System	5
- Tone-Activated Radios	6
- Route Alerting	6
B. Responsibilities	9
Activation of the Prompt Notification System	9
Activation of the Prompt Notification System - Immediate General Emergency Requiring Sheltering or Evacuation	10
Activation When the Director of Local Response or Coordinator of Public Information Cannot be Reached	11
Spurious Activation of the Sirens	12
Activation of the EBS	12
Verification of the Prompt Notification System	13
- Route Alerting	14
<u>Attachments</u>	
1. Route Alerting Message	17
2. Sample Notification Message	18
3. Route Alerting Driver Procedure	19

TRAINING OBJECTIVES

The objectives of the Public Notification methods and procedures module is to provide each trainee with an understanding of what is done to notify the public in case of an emergency at the Shoreham Nuclear Power Station. At the completion of this module, each trainee will have a general understanding of:

- A. The personnel directly involved in notifying the public
- B. The procedures used to activate the systems
- C. What components make up the Prompt Notification System
- D. How the system activation differs during an immediate General Emergency
- E. Who can activate the sirens if the Director of Local Response or Coordinator of Public Information cannot be reached
- F. The tone-activated radios
- G. What role the EBS operator plays in an emergency

INTRODUCTION

If an emergency were declared at the Shoreham Nuclear Power Station (SNPS), the public would have to be notified so they may become aware of what is happening and take actions to protect themselves if it became necessary to do so. In this workbook we will be examining the procedures established for public notification. The systems and methods used by LILCO to notify individuals who are in the EPZ are also explained.

This module will also describe the responsibilities of individuals within LERO to notify the public of an emergency. This includes the personnel responsible for educating the public to the notification process, the personnel responsible for turning on the sirens and calling the radio station to broadcast emergency messages, and those individuals who will alert the public if partial or total siren failure occurs.

A. PUBLIC NOTIFICATION

Current federal regulations require licensees, including LILCO, to have the capability of notifying offsite response organization authorities within 15 minutes of a declared emergency. Offsite agencies in turn must have the capability of notifying the public in the 10-mile Emergency Planning Zone (EPZ) within the following 15 minutes. Methods for notifying the communities inside the 10-mile EPZ have already been established if an emergency occurred at the SNPS. Residents will be educated about the means of notification of an emergency and about what to do if they hear sirens or are told to take protective actions.

The way that communities will know about the public emergency notification process for SNPS is that they will have been sent educational materials about the plant before it goes on-line. The residents will receive special mailings and a Public Information Brochure in the mail describing the Prompt Notification System (sirens, radio broadcasting and route alerting) and radiation protection techniques residents may be asked to take if an emergency occurred.

Provisions have also been made for notifying transients. Transients are those people who do not live in the EPZ, but may be traveling, working, or vacationing here. Educating these people about the notification process is accomplished by placement of stickers and posters in many public places. Pre-emergency information will prime residents and transients for notification of an emergency and for actions they may be asked to take if an emergency occurred. The following describes the actual notification processes.

Notifying the Public of an Emergency

There are several processes involved through which the public is notified of an emergency at the SNPS. They are:

- o Activation of the sirens
- o Announcements over the radio through the Emergency Broadcast System (or EBS)
- o Route Alerting (to be used only when sirens do not function properly)

- Prompt Notification System

The Prompt Notification System is a means of notifying the public in the 10-mile EPZ of an emergency. This system is comprised of 89 sirens located throughout the 10-mile EPZ and the Emergency Broadcast System which activates the Tone Alert Radios.

After an emergency is declared (an Alert or higher classification), the sirens are activated by order of the Director of Local Response. This begins the public notification process. The sirens will sound for three to five minute periods. They are distinguishable from fire sirens as fire sirens make a distinctive wailing sound. The Prompt Notification System sirens are of an unusually high sound level.

The sirens are activated by a device called an encoder. There are three encoders, one located at each of the following locations:

- o the local Emergency Operations Center (EOC) in Brentwood
- o the SNPS Control Room
- o the Brookhaven Substation.

The sirens will be sounded when one of the encoders is activated. As an encoder is activated, signals are sent from a transmitter that activates all of the 89 sirens in the EPZ.

Activation of the sirens must be closely coordinated with activation of the Emergency Broadcast System (EBS). This is important because the purpose of the sirens is to make people aware that something has occurred at the plant, and it tells them they must get more information about the situation from the radio. (If an emergency is already in progress and has been escalated to a more serious emergency, the sirens will again be activated.)

Whenever the sirens are activated, a radio announcement will always follow describing the situation. This announcement is the emergency broadcast system message. The EBS message will provide details about the reason for the alarm at the plant and will broadcast what the people in the EPZ should do.

The radio announcement, sirens, and tone-alert radios (discussed later) together make up the Prompt Notification System. This system must be activated at the declaration of a Site Area or General Emergency. At the discretion of the Director of Local Response, the entire Prompt Notification System may be activated at an Alert emergency class.

It should be mentioned here that notification will also be made to the Coast Guard and Federal Aviation Administration by the Evacuation Coordinator. These agencies in turn will notify boats and aircraft within the EPZ of the emergency.

- Emergency Broadcast System (EBS)

The EBS is the means by which special radio receivers can be simultaneously activated using a radio signal. WALK radio (97.5 FM and 1370 AM) is the lead radio station for disseminating local information about an emergency at the SNPS to the public. It is the most powerful broadcasting station in the area and will broadcast simultaneously in AM and FM on a 24-hour basis during an emergency.

If an emergency occurred at SNPS, the EBS operator at the station will be contacted by the Coordinator of Public Information, the Director of Local Response (or his designee) or the Customer Service Operator. The EBS operator will follow the procedures set up, taking down all information that must be broadcast to the public. (The procedure outlining this is OPIP 3.8.2, Emergency Broadcast System Activation.) The EBS operator at WALK radio will activate the EBS signal which turns on EBS radio receivers. The EBS operator at each station has now been notified and will record or take down the information to be broadcast, and in turn will broadcast the message at the time intervals specified. Throughout the duration of the emergency, instructions and updates will be broadcast over these stations.

- Tone-Activated Radios

The specialized radio receivers mentioned previously are called Tone Activated Radios. Tone-activated radios are an additional means of notifying people in the communities in the 10-mile EPZ that reside or work in special facilities. These are facilities that may have unique evacuation requirements such as major employers, schools, hospitals, nursing home facilities, and residences for handicapped people.

When an emergency broadcast signal is sounded, tone-alert radios in these facilities will automatically be activated and the EBS message will be broadcast. Facilities with the Tone Alert radios will receive this notification and can begin their pre-planned emergency procedures.

EBS station broadcasts are used to disseminate information to the public about an emergency; the sirens tell the communities to listen to the EBS station. In the unlikely event a siren or several sirens fail to sound, provisions must be made so that the public can still be notified to listen to the radio. This alternative method of alerting the public is called Route Alerting.

- Route Alerting

Route alerting is a system designed to notify the public to turn on their radios and is used if one or more of the sirens fail to sound when activated. Implementing procedure OPIP 3.3.4, Prompt Notification, details the actions for route alerting. If a siren fails, Route Alert Drivers will be

dispatched to the area(s) served by the failed siren. They drive through these area(s) at 5 miles per hour and, using a public address system, broadcast a message telling residents to turn on their radios to WALK radio station. (For this sample message, see Attachment 1, Route Alerting Message.)

The remaining sections of this module describe the responsibilities of the people involved in notifying the public of an emergency.

Summary

- The communities in the 10-mile EPZ will receive pre-emergency information. This information is designed to prime people in the communities to public notification of an emergency at the SNPS.
- The EBS, the sirens and tone-activated radios make up the Prompt Notification System.
- An ALERT emergency will require the EBS to be activated. The sirens can be activated at the discretion of the Director of Local Response.
- The sirens and the EBS will be activated for a SITE AREA and GENERAL EMERGENCY. Sirens will be activated just before the EBS message is broadcast.
- The EBS is the means by which special radio receivers can be simultaneously activated.

- WALK radio (AM and FM) has been designated as the lead radio station for disseminating information about an emergency at SNPS.

- Tone-activated radios are located at facilities such as major employers, hospitals, nursing homes, schools, etc., so these facilities can implement their pre-planned emergency procedures. Tone-alert radios are activated as WALK radio activates the EBS signal.

- Route alerting is used if the sirens fail. Route Alert Drivers drive through those areas where sirens have failed and make an announcement to listen to WALK radio.

B. RESPONSIBILITIESActivation of the Prompt Notification System

The Coordinator of Public Information has specific duties related to public notification that must be carried out to activate the Prompt Notification System. Upon the decision to activate the system, the Coordinator of Public Information will be notified by the Director of Local Response to prepare a message (for the appropriate class of emergency) for the EBS. (See Attachment 2, Sample Notification Message.) Before the Director of Local Response can activate the siren system, he will ensure that the Coordinator of Public Information has in fact transmitted the message to WALK radio (from a dedicated phone in the EOC) and that they are prepared to broadcast it. At this point, the Director will have the Coordinator of Public Information activate the EBS, and he will activate the sirens using the encoder located at the Local EOC.

The steps involved in notifying and relaying the EBS message to the WALK radio are described as follows.

When transmitting an EBS message, the Coordinator of Public Information will call WALK radio from the dedicated phone at the Local EOC and immediately request the EBS operator on duty. The Director of Local Response or his designee can also transmit the message. The person calling will give the EBS operator:

- o Name and title
- o The authentication number

The authentication number is a nine-digit number given to authorized individuals who can activate the EBS. It provides (when given to the EBS operator who also knows the number) for positive identification of the caller.

The EBS operator will record information supplied by the caller on a prearranged message form. This information will include the:

- o Caller's name and title
- o Message type
- o Time
- o Affected zones
- o Selected relocation centers, if they are opened

Once the EBS operator has taken down the information, he will read it back to the caller to verify its contents. This authorizes the message for broadcasting. The operator will begin to broadcast it only when told to do so by the caller.

When told to do so, WALK radio will turn on the EBS signal and EBS tone alert radios would be activated. The EBS operator at WALK will read the message and repeat it again in 5 minutes. The stations receiving the message will record and/or transcribe it over the air as often as instructed.

Activation of the Prompt Notification System - Immediate General Emergency Requiring Sheltering or Evacuation

In the unlikely event that the initial notification from the plant is a General Emergency and immediate sheltering or evacuation is recommended, the procedure for activating the Prompt Notification System differs.

In this situation, the Coordinator of Public Information, as directed by the Director of Local Response, will call WALK radio from a commercial telephone since he will not be at the EOC. He will explain that there is an immediate emergency and that the Local EOC has not, as yet, been activated, so the dedicated phone set up for this purpose could not be used. The call and message will be verified using the established methods.

When told to do so, the Coordinator of Public Information will indicate to the station when to broadcast the EBS message.

While this is happening, the Director of Local Response will have the sirens activated by use of an encoder located in the Control Room. The sirens will then be sounded in conjunction with the EBS broadcast.

Activation When the Director of Local Response or Coordinator of Public Information Cannot be Reached

If an immediate General Emergency has been declared and these two individuals cannot be reached within 10 minutes, the Customer Services Operator will initiate activation of the Prompt Notification System.

The Customer Services Operator will call WALK radio station and transmit the SNPS prepared EBS message. The message will be verified for correctness. The sirens will then be directed to be activated using the encoder located at the Control Room at the plant. (Again, sirens will be activated in conjunction with the EBS message.)

If for some reason the encoder in the Control Room does not work, a SNPS Security Guard will be dispatched to the Brookhaven Substation to use a backup encoder located there. The sirens can then be activated from the Brookhaven Substation.

Spurious Activation of the Sirens

If all or some of the sirens have been activated by mistake, an Emergency Broadcast System message will be announced. The Director of Local Response (or his designee) will call WALK radio. The EBS operator on duty will receive the message and activate the EBS tone. The message will then be broadcast. It will state that an emergency has not occurred at the Shoreham Nuclear Power Station.

Activation of the Emergency Broadcast System

As stated before, when the EBS operator at WALK radio is contacted, verification of the call is made using the controlled authentication number; content of the EBS message is also verified, and only then will the message be ready for transmission. The EBS operator will only read the message over the air when directed and it will be after the sirens have been activated.

The messages transmitted to the public will be assembled by the Coordinator of Public Information, with input from the Director of Local Response and others. The message will be assembled according to the emergency class that has been declared. A sample message as shown in Attachment 2 calls for information to be included such as the emergency type, the time and date the incident occurred, and a description of the problem and its cause if it is known. These message types are as follows:

- o Alert
- o Site Area Emergency - No radiological release
- o Site Area Emergency - Radiological release
- o General Emergency - Sheltering
- o General Emergency - Sheltering and evacuation
- o General Emergency - Evacuation

There are several other message types that can be broadcast when authorization is given to do so. These are:

- o Termination of Emergency Message (read over the air when the plant has been brought back under control)
- o Test Message for EBS System
- o Spurious Activation of Prompt Notification System (read when all or some of the sirens have been activated by mistake)

Verification of the Prompt Notification System

The sirens and EBS messages are going to be monitored when activated. The sirens will be monitored to ensure that all are working properly. The EBS messages will be monitored on a commercial radio (located in the EOC) to ensure activation of the EBS.

The Public Information Staff at the EOC will have a commercial radio to listen to for the EBS message. If the message is not being broadcast properly or at all, the staff will take action to correct the broadcast or report a failure to broadcast to the Director of Local Response.

The Public Services Liaison will communicate with field personnel that are to monitor the siren activation system. Field personnel will call the Liaison to report any non-activated sirens. The Public Services Liaison, upon notification of non-activated sirens, will report this to the Manager of Local Response.

After the Manager of Local Response has been notified of non-activated sirens, he shall report this information to the Evacuation Coordinator. The Evacuation Coordinator in turn will direct the Special Facilities Evacuation Coordinator to initiate route alerting as appropriate.

- Route Alerting

Route alerting is used to notify people to listen to the radio if sirens have failed and will be performed by Route Alert Drivers.

The Route Alert Drivers located at the Staging Areas are informed by the Staging Area Coordinators when to begin driving their routes. Route Alerters will be issued a Route Alert Emergency Packet by the Staging Area Coordinators. The emergency packets will contain a route alert procedure, route maps, messages, and a public address system.

A checklist will also be provided to each driver. (See Attachment 3, Route Alert Drivers' Action Checklist.) This checklist helps drivers to prepare themselves and their vehicles for route alerting. Following the steps on the checklist, drivers should put on their dosimeters immediately. Drivers must then each mount a public address system on their vehicles and proceed to the starting point of the

route. At a speed of approximately 5 mph, the drivers will proceed to drive their routes and broadcast the pre-recorded route alert message (from a cassette player) continuously. Drivers will complete the route and proceed to the Local EOC in Brentwood for monitoring and possible decontamination.

Summary

- When an emergency at SNPS occurs, the Coordinator of Public Information will be notified to prepare an EBS message that will be transmitted to WALK radio.
- Upon the direction of the Director of Local Response, the Coordinator of Public Information will be told to activate the EBS. This will be done using the dedicated phone in the EOC.
- The EBS message transmitted to WALK radio will be broadcast to the public at the time specified. The message will then be broadcast repeatedly at the time intervals specified.
- EBS messages are assembled according to the type of emergency declared. The message will include the emergency type, the time and date, and a description of the problem and its cause if it is known.
- Authentication numbers have been established to verify the call made to the EBS station. The EBS message will also be verified by the EBS operator by reading the message back to the caller (initiator).

- The sirens will be activated by the Director of Local Response just before the EBS message is publicly broadcast. The sirens are activated using the encoder in the EOC.
- For an immediate General Emergency that requires sheltering or evacuation, the Director of Local Response will direct the Coordinator of Public Information to call WALK radio from a commercial telephone. He will talk to the EBS operator and tell him when the message is to be broadcast. In the meantime, the Director of Local Response will begin preparation for activation of the sirens.
- If the Director of Local Response or Coordinator of Public Information cannot be reached, the Customer Service Operator will transmit the EBS message to WALK radio. The Customer Service Operator shall then direct the activation of the sirens from the Control Room.
- If activation of sirens from the Control Room does not work, an SNPS Security Guard will be dispatched to the Brookhaven Substation to use an encoder there to set off the sirens.
- If sirens are accidentally activated, the EBS operator at WALK will be notified. The EBS signal will be activated and a message broadcast that an emergency has not been declared.

ATTACHMENT 1

ROUTE ALERTING MESSAGE

ATTENTION PLEASE: AN EMERGENCY HAS BEEN
DECLARED AT THE SHOREHAM NUCLEAR POWER STATION.
PLEASE GO INDOORS AND TUNE TO RADIO STATION WALK
(97.5 FM OR 1370 AM) FOR FURTHER INSTRUCTIONS
AND INFORMATION.

ATTACHMENT 2

SAMPLE NOTIFICATION MESSAGE

SAMPLE PRESS RELEASE
MESSAGE AALERT

Time aired: _____

Release from: Local EOC/Emergency News Center

Director of Local Response, (NAME), announced today that a malfunction at the Shoreham Nuclear Power Station resulted in the declaration of an ALERT emergency classification.

The malfunction, reported to the Local Emergency Response Organization at (TIME) involved (DESCRIPTION OF MALFUNCTION)

No release of radiation is expected and the Long Island Lighting Company is currently correcting the problem.

The Local Emergency Response Organization has activated its Emergency Operations Center and will continue to monitor the incident until the malfunction is corrected.

According to the Local Health Services Coordinator, there is no danger to the public at this time. Local Emergency Response Organization officials will continue to be informed of conditions at the plant site until the problem has been corrected.

Updates of the situation at the plant may contain information specific to geographic areas around the plant and will be referred to by predesignated emergency planning zones. If you live within ten miles of the plant and you do not know the designation of your emergency planning zone, refer to the Shoreham Nuclear Power Station Emergency Planning Brochure mailed to your home (or the special insert in the yellow/white pages of your telephone book). Posters with this information are posted at motels, gas stations, and other public places within a 10-mile radius of the plant.

ATTACHMENT 3

ROUTE ALERT DRIVER PROCEDURE

ROUTE ALERT DRIVERS - ACTION CHECKLIST

1. Inventory emergency packets before beginning route alerting. Packets should contain:
 - o Route alert procedure
 - o Standard road map
 - o Route maps
 - o Messages
 - o Public Address System
2. Receive dosimetry consisting of 1 self-reading dosimeter (0-200 mR), 1 self-reading dosimeter (0-5 R) and 1 TLD.
3. Mount the Public Address System on the vehicle.
4. Upon reaching the starting point of the route, drive at approximately 5 mph and read appropriate message continuously.
5. If readings go beyond the scale on the 0-200 mR dosimeter, inform the Special Facilities Evacuation Coordinator, read the 0-5 R dosimeter.
6. At a reading of 3.5 R (3500 mR), inform the Special Facilities Evacuation Coordinator, abandon the route, and return to the Emergency Worker Decontamination Center at the Local EOC.
7. Upon completion of the route, report to Emergency Worker Decontamination Center at the Local EOC in Brentwood for monitoring and possible decontamination.

MODULE NO. 6

PUBLIC NOTIFICATION

MODULE REVIEW

Name: _____

LERO Title: _____

Company Title: _____

1. a. Transients in the EPZ receive information about the Public Notification process through publicly-posted stickers and posters.

True or False

- b. How will residents receive information about the notification process?

2. What are the three parts of the Prompt Notification System?

1. _____
2. _____
3. _____

3. If an Alert is declared, the Emergency Broadcast System is activated, but it is not mandatory that the sirens be activated. Who makes the decision to activate the sirens at this class of an emergency?

- a. Coordinator of Public Information
- b. Director of Local Response
- c. EBS Operator
- d. Route Alert Drivers

4. For a Site Area or General Emergency, the entire Prompt Notification System is activated. What is the purpose of the sirens?

- a. To tell people to leave their homes
- b. To tell people to listen to their radios

5. What radio station has been designated as the lead EBS station to be contacted if an emergency at the SNPS is declared?

6. Name three types of facilities that would have a tone-activated radio.

- 1. _____
- 2. _____
- 3. _____

7. Route Alert Drivers make announcements to listen to the lead EBS station when sirens fail.

True or False

8. Name three items that will be included in an EBS message.

9. The initiator of the EBS message will verify the call made to the EBS Operator at the radio station by the EBS Operator reading back the message to the initiator and using the authentication numbers.

True or False

10. How is the EBS Operator at the lead EBS station contacted by the Coordinator of Public Information when an emergency has been escalated to a higher class of emergency?

- a. From a dedicated phone in the EOC
- b. Through use of a handheld radio

11. What are the three facilities that house the encoders that can be used to activate the sirens?

12. What LERO member uses the encoder to activate the sirens from the EOC?

13. If the Director of Local Response cannot be reached within 10 minutes of an immediate General Emergency, who directs activation of the sirens?

- a. Customer Service Operator
- b. SNPS Security Guard
- c. Brookhaven Laboratory employee

14. If activation of the sirens cannot be accomplished from the Control Room, who is dispatched to the Brookhaven Substation?

- a. Customer Service Operator
- b. SNPS Security Guard
- c. Brookhaven Laboratory employee

15. Spurious activation of the sirens means:

16. If spurious activation of the sirens occurs, how is the public notified that an emergency has not been declared?

- a. The EBS signal is broadcast and an announcement is made
- b. The sirens will be activated a second time
- c. The public will be mailed brochures

RELOCATION CENTER OPERATIONS

MODULE NO. 7

LERO personnel who should complete this workbook:

- Relocation Center Coordinator
- Relocation Center Manager
- Nursing Support
- Registrars
- LERO Relocation Center Manager
- Logistics Support Coordinator
- LERO Relocation Center Staff
- Counselors
- Coordinator of Public Information
- Public Information Support Staff
- Communicators

Your Name _____

LERO Title _____

Company Title _____

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Training Objectives	ii
Introduction	1
Part I - Public Relocation Centers	2
A. Public Relocation Center Basics	2
B. Locations	3
C. Evacuation to a Relocation Center	3
D. Responsibilities and Services	4
E. Relocation Center Activation	7
F. Relocation Center Operation	9
G. Types of Records That Are Kept at a Center	12
Summary	12
Part II - The LERO Relocation Center	14
A. LERO Relocation Center Basics	14
B. Responsibilities	14
C. LERO Relocation Center Operation	16
Summary	24
<u>Figures</u>	
1. LERO Relocation Center Registration Form	19
2. Daily Center Record/Report	21

TRAINING OBJECTIVES

At the conclusion of this module, the trainee should be able to:

- A. List the three major functions of a Relocation Center and when they are activated
- B. Identify the primary and backup Public Relocation Centers that will be used
- C. Explain how the public knows which Relocation Center to go to
- D. Identify the organization and persons by title responsible for activating, operating and de-activating the public and LERO Relocation Centers
- E. Identify the emergency duty station of the person primarily responsible for activating and coordinating all Public Relocation Centers
- F. Identify by title the main liaison between LERO and the American Red Cross
- G. List the services available at a Relocation Center
- H. Briefly explain how radiological monitoring and decontamination will be performed at the Public Relocation Center and who is responsible for these functions
- I. Indicate the essential role LERO plays in assisting the Red Cross and compare the role of LERO and the Red Cross in the operation of a Relocation Center
- J. Discuss how the evacuees may be involved in the activities at a Public Relocation Center
- K. Know the minimum operating time of a shelter and how long they will be operating
- L. Differentiate between LERO and the Red Cross on who will provide various services and supplies

- M. Know the purpose and location of the LERO Relocation Center
- N. State who provides the supplies, equipment and staff for the LERO Relocation Center
- O. Know where families of LERO workers may go for radiological monitoring
- P. List several types of records that will be kept at the LERO Relocation Center

INTRODUCTION

The Emergency Planning Zone or EPZ for the Shoreham plant has over 100,000 residents. Even though it is very unlikely, there may be a need to evacuate a portion of the population from the EPZ. This decision to recommend evacuation is made by the Director of Local Response. He makes this decision based upon measured data and careful predictions. The portion of the EPZ population that evacuates will come from areas immediately surrounding the plant and from selected downwind areas at certain distances. Experience indicates that in most evacuations, no matter what the cause, evacuees go to the homes of relatives or friends or to motels. However, a portion of the population may not have transportation out of the evacuation area or may not have a place to go. For those who do not have transportation or a place to temporarily relocate, Relocation Centers will be provided.

Part I of the module will present information on "Public" Relocation Centers. Part II will present a discussion on the "LERO" Relocation Center. The LERO Relocation Center is set up to temporarily house any LERO workers and their families who desire shelter.

PART I - PUBLIC RELOCATION CENTERSA. PUBLIC RELOCATION CENTER BASICS

Public Relocation Centers are set up to temporarily house evacuated people. These public facilities will be in place before Shoreham begins operation.

A Relocation Center must serve THREE MAJOR FUNCTIONS.

The three major functions of a Relocation Center are:

1. Mass Care - To house and care for a large number of people. They will be provided with meals, toilet and shower facilities, and a place to sleep.
2. Social Services - First Aid will be available for anyone who is injured. Severely injured people will be transported to hospitals by ambulance for treatment. Counseling will be provided along with information on housing, child care, health services and other items.
3. Radiological Monitoring and Decontamination - If there is an actual radiation release from the plant, there is a remote possibility that some of the population may be exposed to radiation and contamination. Each main Relocation Center has a designated area with procedures for monitoring incoming people and their cars for contamination.

B. LOCATIONS

All the Relocation Centers are located outside the EPZ. There are five primary Relocation Centers set up as three main centers and two backup centers.

RELOCATION CENTER LOCATIONS**Main Centers**

SUNY, Stony Brook
Boces, Islip
Suffolk Community College, Selden

Backup Centers

SUNY, Farmingdale
St. Joseph's College, Patchogue

C. EVACUATION TO A RELOCATION CENTER

The population of each zone within the EPZ has been assigned a primary Relocation Center. The emergency information packets sent to them will tell the residents which Relocation Center to go to and the actual.

People who do not have transportation will be picked up by bus within approximately 1/2 mile of their homes. They will be brought by bus to an assigned Relocation Center along a pre-designated route. Assigning certain zones to a Relocation Center along with traffic guidance will prevent one center from exceeding its capacity. Special measures will be made to evacuate people who cannot walk to a bus stop.

D. RESPONSIBILITIES AND SERVICES

The American Red Cross (ARC) is responsible for the operation of the Public Relocation Centers. They have established their own guidelines and procedures for operating a shelter. There is an ARC representative in the EOC known as the Relocation Center Coordinator. He coordinates the activation and operation of all the Public Relocation Centers. He also acts as the main liaison between LERO and the Red Cross.

In each Relocation Center, the Red Cross will have a person in charge. This person's title is Relocation Center Manager.

What Kind of Services are Available at a Relocation Center?

When people are housed in a Relocation Center, they will need the same basic living items that they have at home. To take care of these basic living needs, people at a center will be provided with:

1. Sleeping Space

People may need to sleep in the centers. Cots, blankets and bedding will be provided. The centers will be arranged to allow at least 20 square feet per person, which is a Red Cross minimum requirement. Families will be grouped together and separate areas will be provided, if available, and people with special needs will be given particular consideration. If additional cots, bedding or other supplies are needed, the Red Cross will get them from their supply headquarters.

2. Cooked and Prepared Meals

Since people may not be able to leave the center to eat, meals will be supplied. Each center has a cafeteria and kitchen with institutional quantities of food available in storage at most times. The Red Cross will oversee the preparation and distribution of meals. If food supplies run low, the ARC has pre-established contacts with food wholesalers.

3. Drinking Water

Each center has its regular supply of drinking water. However, the system could break down. If it does, Sanitary Support from LERO will arrange for the delivery of a minimum of five gallons of water for each person every day.

4. Toilets and Showers

Each center has a minimum of one toilet and shower for every 40 people. Again, if the system and plumbing breaks down, Sanitary Support will arrange for repairs or for portable toilets to be brought in.

5. Parking

Each center has enough parking space for all the cars that are expected. LERO traffic guides and security will direct arriving cars off the road and into proper parking spaces.

6. Trash Removal and Maintenance

There will be extra trash and janitorial needs for the many additional people at a center. The day to day trash removal and custodial services may not be able to take care of the demand. LERO's Sanitary Support will offer assistance as needed for trash removal and maintenance.

To help sort out responsibilities, here is a list of personnel or services carried out at a Relocation Center. These services are performed by LERO or the Red Cross. Notice that the Red Cross takes care of social services and mass care while LERO does all the monitoring and decontamination work.

American Red Cross Responsibility

LERO Responsibility

o Relocation Center Coordinator (at EOC)		
o Relocation Center Manager		o Lead Radiological Coordinator
o Accommodation Services		o Security
o Food Services - Cooking and Serving		o Drinking Water
o Maintenance		o Trash Removal
o Supplies		o Backup Supplies
o Registration		o Traffic Control
o Information		o Backup Maintenance
o Treating Injuries		o Decontaminating Minor Wounds
o Relocation Assistance		o Monitoring People and Vehicles
o Nursing		o Decontaminating People and Vehicles
o Counseling		

E. RELOCATION CENTER ACTIVATION

Let's take a look at how a Public Relocation Center is activated in a step-by-step fashion.

Step 1 Emergency Information is Gathered

The Director of Local Response, who is the lead LERO member, receives information in the Emergency Operations Center from the plant and/or the Radiation Health Coordinator. This information can come from actual field radiation measurements or can come from dose projections supplied by the Shoreham station.

Step 2 Possible Doses to the Population are Calculated

The Director's staff verifies the information and then predicts what the actual or potential radiological doses to the population might be. They also determine which zones or areas might be affected, depending on the weather conditions, and then determine the protective action recommendation.

Step 3 Evacuation is Ordered

If the Director determines that the protective action recommendation is evacuation, the public will be notified by the Emergency Broadcast System. Those living in the affected areas will be requested to evacuate.

Step 4 Activation of a Relocation Center is Ordered

The Support Services Coordinator will quickly inform the Relocation Center Coordinator in the EOC of the evacuation order and will instruct him to activate a particular center or centers.

Step 5 Relocation Center ARC Staff is Notified

The Relocation Center Coordinator will promptly contact the Relocation Center Managers and tell them to activate the centers that are needed. The Relocation Center Manager will contact the day-to-day operators of the facilities that will be activated. The managers will then contact the Red Cross staff and instruct them to report to their particular center.

The staff of a Relocation Center is shown below:

Red Cross Staff at a Relocation Center

Title	Number
Relocation Center Manager	1 (per shift)
Nurses	4-5 (total for 24-hour staffing)
Counselors	2 (per shift)
Registrars	40 (total for 24-hour staffing)
Support Staff for Meals, Accommodations, Information and other work	59 (total for 24-hour staffing)

The counselors, registrars and support staff are all volunteers.

Step 6 LERO Relocation Center Staff is Notified

LERO coordinators in the EOC will notify LILCO personnel. Notification will branch out until the required amount of people are notified.

Step 7 Center is Activated

Notified personnel either go on standby or go to their assigned center. The facility operator or security will be at the center to unlock doors and open up areas.

When no longer needed, the Red Cross will be advised by the Director of Local Response to begin de-activation with final de-activation orders coming from Red Cross Headquarters.

F. RELOCATION CENTER OPERATION

To help you understand the actual operation of a Relocation Center, imagine yourself as a person who must evacuate.

- Getting to the Center

It's 6:30 PM Friday evening in August and you're sitting outside your house in Rocky Point. You hear a siren sounding for about three minutes. You enter your house with your family and tune your radio to WALK FM 97.5. The announcer states that there is a Site Area Emergency at Shoreham. At present you are told to stay indoors, close your windows and doors and turn off your air conditioner. You go to your basement and listen to the subsequent broadcasts. After an hour and 35 minutes, you are told that Zone F should

evacuate. You know that this is your zone and you know what to bring with you because you have reviewed the Emergency Brochure sent by LILCO and you were told again over EBS. The broadcast announces that all three primary Relocation Centers are open. Your center is the University at Stony Brook. Beforehand, you've decided to go to a Relocation Center rather than a motel or friend's house. On your way to your Relocation Center, you see LERO workers guiding traffic at some intersections and entrance lanes.

- Arriving at the Relocation Center

When you get to the University Sheltering Area, it is already in full operation. At the center, some LERO workers are directing traffic and others are helping to park cars. After you are told where to go, there is a sign directing all evacuees to a separate monitoring and decontamination area. This operation is headed by a LERO person titled the Decontamination Leader. They perform two contamination checks on you. First they check for any surface contamination by running a probe over your clothes, hands and shoes. In this case, you are declared "surface clean," but if you weren't "surface clean," you would be asked to go to a shower area and wash. You would be given a clean set of coveralls and checked again. Since most contamination will simply wash off, you should come out clean. Finally, after being declared "surface clean," all people are checked once more. This check is for thyroid contamination which is done by holding a probe on the front of the neck and taking a reading. Excessive thyroid contamination is extremely remote, but if your thyroid were excessively contaminated, you would be sent to a hospital for medication and treatment.

- At the Relocation Center

You've made it through both checks "clean" and are told to go register at the shelter area. Red Cross personnel at the registration area record some family information and assist you in obtaining bedding, meals, counseling, information, nursing and recreation. While you are there, LERO monitoring people will check you car for any surface contamination. If any is found, you'll be informed and then LERO personnel will wash the contamination off at the center using soap and water.

Your Relocation Center will operate a minimum of 12 hours even if the emergency is over sooner. The center will remain open until the evacuated areas are declared safe for re-entry. The facility operators will be preparing a "Memorandum of Understanding" that for emergencies, part of their facility will be dedicated to just the emergency and nothing else.

One thing may happen to you at a center is that you may be asked to join an Advisory Council. This is a citizens' group of people sheltered in the center who are organized to help solve problems. They may assist the Manager and his volunteers to set up cots, aid the elderly, provide entertainment or organize clean up.

When you permanently leave the center, you will be asked to fill out a notification of discharge. This is just a brief record of your stay so the Red Cross knows everything has gone well and that you have permanently left.

G. TYPES OF RECORDS THAT ARE KEPT AT A CENTER

There are five basic types of records that will be maintained.

1. Registration Form - Kept by the Red Cross to keep track of who is staying in the center.
2. Contamination Record - Kept by LERO to know who has gone through contamination checks and who has gone through any decontamination steps.
3. Disbursing Order - Kept by the Red Cross for purchasing or renting equipment or supplies.
4. Daily Report - Kept by the Red Cross to know how many people are staying at the center at any given time.
5. Notification of Discharge - Kept by the Red Cross to know who has permanently left the center.

SUMMARY

Public Relocation Centers are set up to temporarily house the evacuated population of the EPZ. There are three main and two backup centers.

Main Centers

Suffolk County Community College
SUNY at Stony Brook
Islip Boces

Backup Centers

SUNY at Farmingdale
St. Joseph's College

Enough centers are available to accommodate the entire EPZ population (plus transients). These public centers are activated by the Red Cross as needed. Each center serves the three main functions of mass care, social services and radiological monitoring and decontamination.

The American Red Cross (ARC) will operate the Public Relocation Centers and will have a Relocation Center Manager in charge at each center. In the EOC, the Relocation Center Coordinator from the Red Cross will oversee the activation and operation of all the centers. A center will remain open a minimum of 12 hours and will be de-activated by Red Cross headquarters when advised by the Director of Local Response.

The kinds of services the Red Cross will supply include:

- Accommodations (cots and bedding)
- Meals and cooking
- Counseling and information
- Nursing
- Supplies
- Record keeping

LERO will provide drinking water, portable toilets and backup supplies through the Sanitary Support group. LERO will also provide security as needed and will do all the radiological monitoring and decontamination for every evacuee at the center in an area separate from the shelter area. Evacuees in a center may be asked to form an advisory council to help with center operations.

PART II - THE LERO RELOCATION CENTER

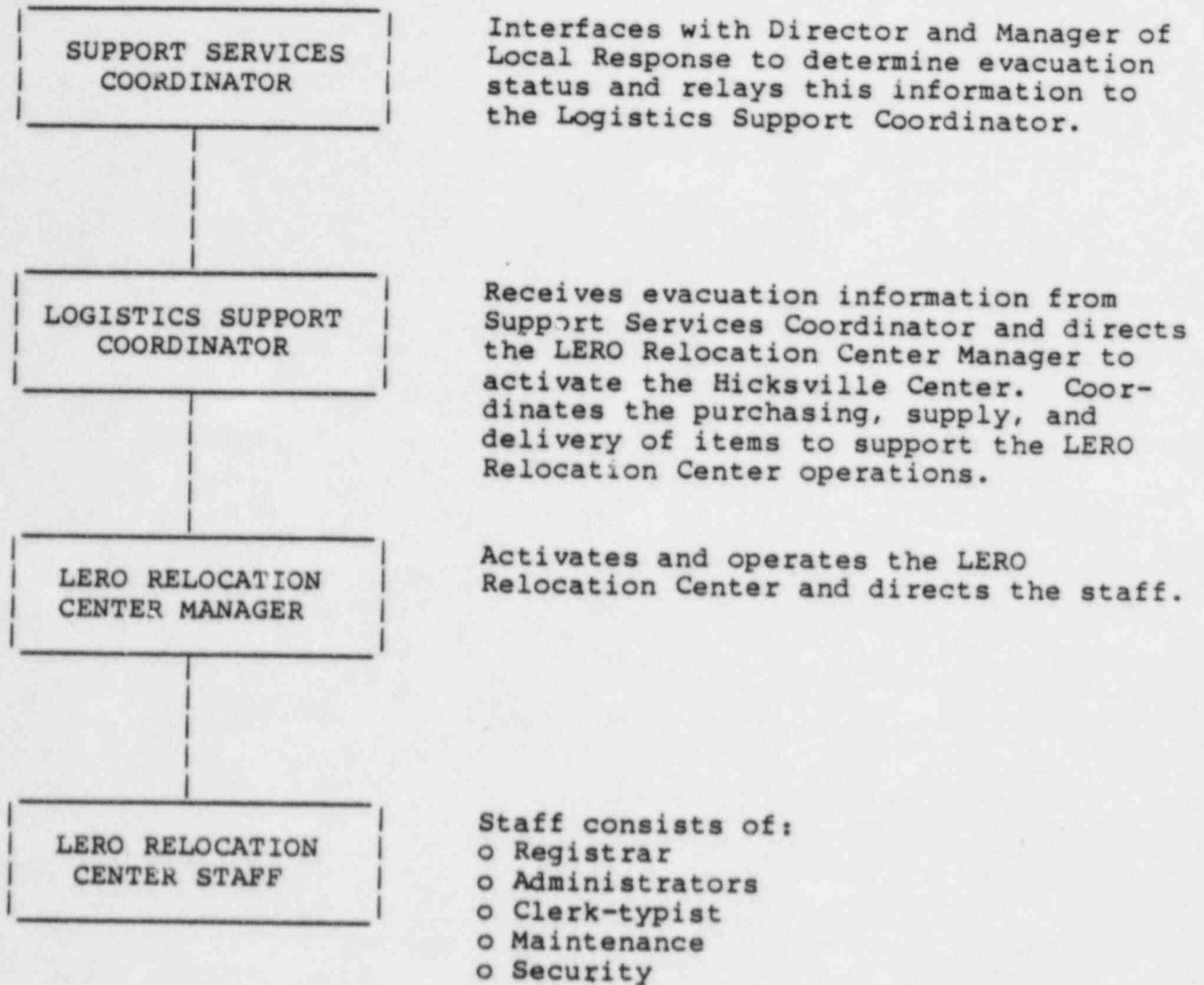
A. LERO RELOCATION CENTER BASICS

The LERO Relocation Center, located at the Hicksville Operations Center, will serve much the same function as a Public Relocation Center. There are, however, some fundamental differences.

The LERO Relocation Center is provided to temporarily house LERO workers and their families. The entire staff of administrators, registrars, security, maintenance, and manager will be made up of LILCO employees. Also, LILCO will provide all equipment and supplies needed for the LERO Relocation Center. Another difference is that there will be no monitoring or decontamination capability at the Hicksville center. LERO field workers going off duty will always report to the Emergency Worker Decontamination Area at the local EOC for their contamination and exposure checkout. If there has been a possibility of exposure, families of LERO workers or non-activated LERO workers who will be evacuating will first be directed to one of the main Public Relocation Centers for a contamination and exposure checkout. They will then be sent to the Hicksville center.

B. RESPONSIBILITIES

The LERO Relocation Center Manager will be responsible for the activation and total operation of the LERO Relocation Center. He reports to the Logistics Support Coordinator who gives the activation orders. The organization chart below should help to clarify the reporting chain and will show some duties next to the title box.



C. LERO RELOCATION CENTER OPERATION

Following is a list of activities to be performed by the LERO Relocation Center Manager and staff.

Initial Activities and Set Up of the Hicksville Center

The Director of Local Response has given evacuation recommendations which will be relayed to the Logistics Support Director through the Support Services Coordinator.

The Logistics Support Coordinator will direct the LERO Relocation Center Manager to begin activation of the LERO Relocation Center.

The LERO Relocation Center Coordinator and staff will be notified in accordance with OPIP 3.3.2, "Notification of Emergency Response Personnel." The Logistics Support Coordinator and LERO Relocation Center Manager will be notified by pager at an Alert and will report to the EOC and Hicksville Center, respectively.

The following actions will be performed by the Relocation Center Manager and staff:

- Open the building for use.
- Establish and maintain close contact with the Logistics Support Coordinator at the EOC, giving progress reports and daily counts of persons sheltered at the Center.
- Arrange the building for the LERO Relocation Center operation.

- Arrange for identification of the Relocation Center Staff.
- Inventory supplies and equipment.
- Order additional supplies and equipment for the center only through the Logistics Support Coordinator at the EOC, as needed. Typical supplies are shown on the following page.
- Verify that safety and fire regulations in the Relocation Center are being enforced.
- Verify that security protection provided through the Security Coordinator at the local EOC is adequate.
- Arrange for the maintenance of records for all borrowed and purchased equipment, staff schedules, time sheets, etc.
- Ensure that adequate communications exist.

Essential Non-Medical Supplies and Equipment for
LERO Relocation Center

The following list is designed to serve as a guide only. Many of these items may not be needed immediately and should be obtained only as required.

GENERAL

Cots, blankets, and other bedding
Table
Chairs
Trash cans
Emergency lighting (if required)
Candles
Loud speaker (if required)
Telephone(s)
Radios
Comfort kits (if available)
Toilet paper
Paper cups and towels

OFFICE SUPPLIES

Tablets or steno pads
3" x 5" cards for registration
File folders
Paper clips
Transparent tape
Pens and pencils
Stapler and staples
Carbon paper
Rubber Bands
Typewriter

IDENTIFICATION

Arm bands
Other identification as
available and appropriate

CLEANING

Mops and brooms
Buckets
Cleansing powder and detergent
Rags
Nonpoisonous disinfectant
Sweeping compound

OTHER

Any miscellaneous supplies and equipment such as cardboard, felt tip pens, tape, poster paint, thumbtacks, nails, hammer, etc. may be obtained as needed.

FIGURE 1

LERO RELOCATION CENTER

REGISTRATION FORM

Last Name: _____ Address: _____

City: _____ State: _____

Names: _____ Age: _____

Man

Woman

Children Living at Home

Family Member(s) Not in Center

Name: _____

LERO Assignment: _____

Location: _____ Contact Telephone No. _____

Date Left Center _____

Time Left Center _____

Post-emergency Address: _____

City: _____ State: _____

Telephone No: _____

Operations at the Center

Relocation Center personnel will staff the registration area and distribute Center Registration Forms to each LERO worker or family member (see Figure 1).

Completed forms will be presented to the Center Registrar immediately for processing.

The Registrar will review the completed forms, assign individuals to quarters within the Center, as appropriate, and issue proper identification (ID).

A cumulative record should be maintained of the number of evacuees accommodated at the Center and adjusted accordingly as persons are discharged from the facility (see the Daily Center Record/Report, Figure 2).

FIGURE 2

DAILY CENTER RECORD/REPORT

Center: _____

Location: _____

Report No.: _____ Date: _____

Number of persons sheltered: _____

Breakfast: _____ Lunch: _____ Supper: _____

Number of persons requiring medical, nursing, or first aid treatment:

Sent to Hospital: _____

Treated in Center Emergency Aid Station: _____

Comments:

Center Manager

All resource material and records will be stored at the Hicksville Operations Center in a secure area provided for under the direction of the LERO Relocation Center Manager.

Just prior to leaving the Center, evacuees will notify the registration desk and receive a notification of discharge. A copy of this discharge will be sent to the Relocation Center Manager.

Deactivating the Center

The Center Manager, who is the facility's coordinator, will be notified by the Logistics Support Coordinator to deactivate. The Center Manager will inform all persons that it is safe to reenter the evacuated area. Key personnel will be instructed to help evacuees prepare to check out so that they may return home.

Before departure, each person will be required to stop by the registration desk to check out and receive a notification of discharge verifying that he/she has been released from the Center. After all persons have been discharged, the Center Manager will instruct the staff to begin dismantling the facility.

All major items of equipment in the Housing Section such as beds/cots, bedding, etc., will be dismantled and either consolidated for storage or returned to their original location.

Cooking utensils and kitchen equipment will be packed in containers and placed in the storage area set aside for this purpose. Registration supplies and equipment should be packed in their original containers and stored. The Registration Forms should be packed and forwarded to the LERO Relocation Center Manager for analysis.

After the Center is closed, the Manager will prepare the following reports for submission to the Logistics Support Coordinator.

- A list of all equipment borrowed from government sources with notation and/or instructions regarding disposition.
- A list of all borrowed equipment with signed receipts attached.
- A report of loss or damage to borrowed equipment or to the building.
- A list of outstanding bills covering direct purchases and any other commitments such as hourly wages paid for extra help hired to clean the Center, etc.
- A list of volunteers including evacuees who volunteer their services and the number of hours worked.
- After equipment has been stored and inventory records completed to the satisfaction of the Center Manager, the staff will be permitted to return to their pre-mobilization assignments.
- The Center Manager will make a final post-deactivation survey check to make certain the building is in the same condition in which it was found.

SUMMARY

The LERO Relocation Center is in the Hicksville Operations Center. It has been set up to accommodate any LERO workers and their family desiring temporary shelter during the activation of LERO. It offers the same basic services as a Public Relocation Center, such as meals, sleeping accommodations and bathroom facilities. It differs from the Public Relocation Center in the following ways:

1. The entire staff, including the LERO Relocation Center Manager, will be LILCO employees.
2. All supplies and equipment will come from LILCO.
3. There will be no monitoring and decontamination. Families will be directed to public relocation centers first for monitoring.
4. Activation orders will come from the Logistics Support Coordinator. The head of the Center is called the LERO Relocation Center Manager.

After the Center is set up, several important things should be accomplished. They are:

1. Establish and maintain good communications with the EOC.
2. Ensure that fire safety rules are carried out.
3. Ensure security is adequate and that LERO Center workers are identified.
4. Maintain records of evacuees using the "Registration Form" and the "Daily Record Report."

MODULE 7

RELOCATION CENTER OPERATIONS

MODULE REVIEW

PART I

Name: _____

LERO Title: _____

Company Title: _____

1. List the three major functions of a Relocation Center.

1. _____
2. _____
3. _____

2. Since only 20% of the people in the EPZ may go to Relocation Centers, there is only enough space available in the Relocation Center to house 20% of the EPZ population.

True or False

3. Who (by LERO title) directs the activation of all Relocation Centers?

- a. Support Services Coordinator
- b. Evacuation Coordinator
- c. Health Services Coordinator
- d. Relocation Center Coordinator

4. How does the general public know which Relocation Center to go to?
 - a. By radio broadcast
 - b. From the emergency brochure
 - c. It is not a planned necessity that they know this
 - d. They will be told while on an evacuation route

5. Where is the Relocation Center Coordinator located?
 - a. Staging area
 - b. Various Relocation Centers
 - c. Emergency News Center
 - d. Local EOC

6. List the three main and two backup locations for Public Relocation Centers.

Main Centers

1. _____
2. _____
3. _____

Backup Centers

1. _____
2. _____

7. When will a center be activated?
- During a Site Area Emergency
 - Whenever sheltering within the EPZ is required
 - If evacuation appears imminent
 - At the start of a radiological release
8. Who, by title, coordinates the activities of all the Relocation Centers?
- _____
9. Who, by title, is in charge at a Relocation Center?
- _____
10. List five services available at a Relocation Center.
- _____
 - _____
 - _____
 - _____
 - _____
11. Who, by title, located in the EOC acts as the main liaison between the American Red Cross and LERO?
- _____
12. What role does the American Red Cross play in monitoring and decontamination?
- _____

13. What is the essential role LERO plays in assisting the American Red Cross in their operation of a Relocation Center?

- a. Sanitary support and supplies
- b. Registration and counseling
- c. Nursing and medical
- d. Management

14. Who, by title, directs the monitoring and decontamination work at a Relocation Center?

15. There are various areas of responsibility at a Relocation Center as shown below. Indicate next to each function who has primary responsibility (LERO or ARC).

- a. Relocation Center Manager _____
- b. Registration _____
- c. Decontamination _____
- d. Food Services _____
- e. Information _____
- f. Radiological Monitoring _____
- g. Security _____
- h. Counseling _____
- i. Sanitation _____
- j. Treating Injuries _____
- k. Supplies _____

16. Who, by title, notifies the facility manager that it should be activated?

17. Who makes up an Advisory Council at a Relocation Center?
- a. LERO personnel
 - b. Red Cross personnel
 - c. Management personnel
 - d. Evacuees
18. What is the minimum time a Relocation Center will be operating?
- a. 36 hours
 - b. 12 hours
 - c. 29 hours
 - d. no minimum time
19. How long will a shelter remain operating?
- a. Until the emergency is over
 - b. Until there are only a few evacuating people left in the center
 - c. When the facility is needed for its normal function
 - d. Until the evacuated area is declared safe for re-entry

20. Put a check next to the following which will not be supplied by the Red Cross.

- a. _____ Bedding
- b. _____ Cooked food
- c. _____ Drinking water
- d. _____ Trash removal
- e. _____ Maintenance
- f. _____ Laundry
- g. _____ Change of clothes for contaminated people.
- h. _____ Relocation assistance

21. Who provides the order to the Relocation Center Manager to de-activate?

- a. ARC headquarters
- b. NRC
- c. EBS
- d. FEMA

MODULE 7

RELOCATION CENTER OPERATIONS

MODULE REVIEW

PART II

Name: _____

LERO Title: _____

Company Title: _____

1. The LERO Relocation Center is located at:

- a. The Brentwood Center
- b. The Local EOC
- c. Several locations
- d. The Hicksville Operations Center

2. The majority of the LERO Relocation Center Staff will be LILCO employees with some Red Cross assistance available at the EOC.

True or False

3. The LERO Relocation Center will have bathrooms and showers used for decontamination.

True or False

4. The Red Cross will not be using their vendor contacts or warehouses to provide consumer supplies, such as food, to the LERO Relocation Center.

True or False

5. The LERO Relocation Center is for LERO workers and their families.

True or False

6. Who directly gives the activation order to the LERO Relocation Center Manager?

- a. Logistics Support Coordinator
- b. Support Services Coordinator
- c. Evacuation Coordinator
- d. Manager of Local Response
- e. Relocation Center Coordinator

7. Name two forms maintained for records of evacuees at the LERO Relocation Center.

- 1. _____
- 2. _____

8. Who receives a copy of all the LERO Relocation Center Registration Forms for analysis?

- a. Security
- b. LERO Relocation Center Manager
- c. The Evacuation Group
- d. The Red Cross

9. Supplies for the LERO Relocation Center will be ordered exclusively through the EOC.

True or False

10. Because of limited time, requests for additional security should be channeled directly to the LILCO security division instead of through the Security Coordinator at the local EOC.

True or False

LERO

TRAINING PROGRAM

EMERGENCY COMMUNICATIONS

MODULE NO. 8

This module applies to all LERO members.

Your Name _____

LERO Title _____

Company Title _____

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Training Objectives	ii
Introduction	1
A. Initial Notification	3
B. LERO Activation	7
C. LERO Communications Network	7
D. Public Notification	11
Summary	12

TRAINING OBJECTIVES

At the conclusion of the Emergency Communications portion of the LERO Training Program, the trainee will be able to:

- A. List the four emergency communications requirements of the Local Emergency Response Organization
- B. Identify the emergency communications system used to satisfy each emergency communications requirement
- C. Describe the function of each emergency communications system

and be able to demonstrate this understanding by:

- D. Defining initial notification
- E. Listing and describing the primary and secondary emergency communications systems used in initial notification
- F. Describing the two emergency communications systems used to notify LERO members
- G. Explaining how the general public is notified
- H. Describing all the emergency communications systems used in public notification

INTRODUCTION

In the unlikely event of a radiological incident at the Shoreham Nuclear Power Station, it is important that adequate communications be maintained between all emergency response groups. Should actions become necessary, both onsite and offsite response organizations would implement specific communications procedures to support efforts to protect the health and safety of the general public.

During an incident at Shoreham, offsite authorities, including LERO, must be notified that an emergency is in progress. For an immediate emergency, notification will come from the plant control room. However, further notifications will come from either the Technical Support Center (TSC) or the Emergency Operations Facility (EOF). By Site Communicator, we refer to a communicator at any of those three locations. Note, the EOF is not located at the site.

The LERO contact offsite is the Customer Service Operator in Hicksville. However, when the EOC is activated, the Local EOC Radiological Emergency Communications System (RECS) Communicator will receive the initial notification.

Initial notification is made through RECS. If this system fails, the LILCO Notification Radio System would be used as backup.

The second phase of notification is the activation of LERO. LERO personnel may be put on standby or requested to report to their pre-assigned locations depending on the level of the emergency. LERO activation is initiated with a paging system and then continues with commercial telephone calls.

The third phase of notification is the LERO communications network. The continuous flow of information between the onsite response facilities and the Local EOC is critical to the functioning of the emergency response system. The Local EOC must have dependable two-way communications with:

- All LERO Coordinators inside the EPZ
- Federal, state, and local agencies
- Hospitals, fire and rescue/dispatch stations, and ambulance dispatch stations
- Other outside agencies participating in the emergency effort

The LERO communication systems that satisfy these requirements are:

- Dedicated phone lines
- Commercial telephones
- The LILCO Emergency Radio System
- Telefax machines

The final phase is communicating protective actions that need to be taken by the general public. Sirens will be sounded to notify the community to listen to the local Emergency Broadcast System radio station (WALK). WALK will broadcast updates on the emergency effort. In addition to WALK, EBS other radio stations in the area will echo each WALK broadcast. The public, through brochures that will have been distributed before the emergency, will have been advised to listen to WALK if they hear sirens.

The effective and efficient communication of information between LERO members and between LERO and the general public is of paramount importance in order to help the public achieve a good emergency response. Public safety in an emergency is perhaps more the result of good information flow between LERO members and the public than almost any other factor.

A. INITIAL NOTIFICATION**Radiological Emergency Communications System (RECS)**

RECS is the primary means of 24-hour per day notification. It is used to notify LERO and state and county authorities. RECS is a "hot line" network of twelve telephones. There is one RECS telephone in each of the following facilities:

- Plant Control Room*
- Technical Support Center
- EOF
- LILCO Customer Service Office, Hicksville*
- Local EOC, Brentwood
- New York State EOC, Albany
- New York State Health Department, Albany
- New York State Warning Point, Albany*
- New York State Southern District Office, Poughkeepsie
- Suffolk County Police Communications Center*
- Suffolk County Department of Emergency Preparedness

*Monitored on a 24-hour per day basis.

RECS is like a dedicated line system in that it is completely independent of the commercial telephone circuit. This means it is not subject to switching office overloads.

In addition, there is no dialing involved in RECS. When one party in the network picks up his RECS line, all the other telephones in the network ring. RECS is activated by lifting one of the receivers and depressing its manual ring down button. During an emergency, the Site Communicator will pick up the RECS line and notify LERO and other officials at other RECS locations.

To avoid confusion when all the parties pick up their RECS lines, a procedure has been established to control the flow of information:

- Site Communicator

First, the Site Communicator will depress the ring down button and release. After the ring stops, the Communicator will lift the telephone and announce: "This is to report an incident at the Shoreham Nuclear Power Station. Stand by for roll call." The Communicator will then proceed with the roll call.

"EMERGENCY OPERATIONS FACILITY"

"TECHNICAL SUPPORT CENTER"

"LILCO CUSTOMER SERVICE"

"LOCAL EOC"

"NEW YORK STATE EOC"

"NEW YORK STATE WARNING POINT, ALBANY"

"NEW YORK STATE HEALTH DEPARTMENT"

"NEW YORK STATE SOUTHERN DISTRICT OFFICE"

"SUFFOLK COUNTY POLICE COMMUNICATIONS CENTER"

"SUFFOLK COUNTY DEPARTMENT OF EMERGENCY PREPAREDNESS"

The operator will pause after each facility is called and wait for a response.

After the roll call is complete, the Site Communicator will read the initial Notification Fact Sheet over the RECS lines. The communicator will then repeat the roll call, adding: "Do you copy?" after each station call.

Next, the Site Communicator will sign off by saying: "Long Island Lighting Company out at (time) local and (date)."

Finally, the Site Communicator will record the names of the parties informed on the Information Log Sheet.

- RECS Communicator

At this point, the Local EOC has not been activated and the Customer Service Operator is receiving all initial notification. The Customer Service Operator will respond to the RECS roll call with: "This is the Customer Service Operator." When the roll call is complete, the Customer Service Operator will complete the Notification Fact Sheet with the information provided by the Site RECS Communicator and ask the Site Communicator to repeat any missed information.

Let's assume the Local EOC in Brentwood is activated and you, the RECS Communicator, come on duty.

First, you must ask the Customer Service Operator to send all General Information sheets received from the Site Communicator to the Local EOC by telefax. Make sure the Customer Service Operator has your telefax phone number.

Second, at the request of the Manager of Local Response, you will use the RECS line to inform onsite and offsite authorities about the transition from LILCO Customer Service to the EOC. Just like the Site Communicator, you will perform a roll call using the following text:

"This is the Local EOC RECS Communicator. At the direction of the Manager of Local Response, responsibility for receiving further notification from Shoreham is now transferred from the Customer Service Operator to the Local EOC."

From this point on, you will respond to the roll call from the Shoreham Nuclear Power Station Communicator with:

"This is the Local EOC RECS Communicator."

This communications link will be maintained until the emergency situation is over.

The LILCO Notification Radio System

A backup radio communication network known as the LILCO Notification Radio System has been established should the RECS fail. This system uses the Electric System Operations (ESO) frequency between the site and the LILCO Customer Service Office. Equipment for transmitting and receiving messages over the ESO frequency is located at:

- The Plant Control Room
- The Technical Support Center
- The Emergency Operations Facility
- The Electric Systems Operations Office in Hicksville
- The Local EOC in Brentwood

This radio system is monitored 24 hours per day in Hicksville by Electric Systems Operations with direct access to the LILCO Customer Service Office. The site radio is manned by the Control Room Communicator. Should this system require activation due to land line communications problems experienced at

Shoreham, the Customer Service dispatcher would access RECS and the commercial telephone system to relay information from the plant to the New York State Office of Disaster Preparedness or other organizations.

B. LERO ACTIVATION

The LILCO Paging System

Key LERO staff and lead personnel from outside supporting agencies will carry pagers. They will be notified of an emergency through the LILCO paging system. When the paging system is activated each pager will sound a distinct signal that shows a digital display.

If you have a pager, you would report to a pre-assigned location or stay on standby, depending on the digital readout. Each numerical display indicates the emergency level and your specific action. Refer to Module 5, LERO Notification, for more details on emergency levels and digital readouts.

Commercial Telephone

Those LERO members who do not carry pagers will be notified of an emergency by commercial telephone using a system through which some LERO members who are notified by pager notify other LERO members by telephone.

C. LERO COMMUNICATIONS NETWORK

There are four LERO Communication Systems:

- Dedicated telephone lines
- Commercial telephones

- The LILCO Emergency Radio System
- Telefax machines

Dedicated Telephone Lines

Dedicated telephone lines provide communication capabilities between key LERO staff members. These lines are outside the commercial telephone network and therefore are not subject to telephone switching office overload.

Dedicated lines are similar to RECS lines, except only two telephones are connected per line. If a telephone is picked up at one end, the telephone rings at the other end.

There are six dedicated telephone lines:

- Local EOC to the Emergency Broadcast Station WALK Radio
- Local EOC to EOF Response Manager
- Local EOC to EOF Dose Assessment Staff
- Local EOC to Brookhaven National Laboratory
- Local EOC to Brookhaven Substation
- Local EOC to Emergency News Center

Commercial Telephone System

Commercial telephones are mainly a backup emergency communication system. However, they are used as the primary communications line to:

- Nassau County
- Hospitals
- The U.S. Coast Guard

To ensure dependable communications, LILCO has requested priority service maintenance from the New York Telephone Company for restoring service provided to the following facilities:

- Local EOC
- LILCO EOF
- LILCO Shoreham site
- Brookhaven National Laboratory

LILCO Emergency Radio System

The LILCO Emergency Radio System provides communications capabilities between Emergency Response Coordinators at the Local EOC and field emergency response personnel. There are four radio frequencies and each is used by one of the following groups and locations:

- Field survey teams
- Road crew and evacuation route spotters
- Staging locations, bus transfer points, and traffic guides
- Ambulance and fire/rescue dispatch stations

The Local EOC is equipped with four radio base stations that transmit and receive on five individual frequencies. Mobile radios for communications between the field and the EOC are provided at central locations such as transfer points.

Hospitals, ambulances, fire and rescue vehicles are equipped with their own radios which are used in day-to-day operations. These emergency agencies will be coordinated through their normal radio frequencies. The Emergency Medical Services Radio network provides a backup communications capability to hospitals via dispatching stations.

LERO coordinators will have direct radio or telephone communications with all normal dispatch locations.

Telefax Machines

All the communications systems reviewed so far are used primarily for voice or sound communication. The telefax machines are used mainly for transmitting and receiving data. The telefax is a device that transmits and receives written or graphic information between locations. When an 8-1/2" x 11" page is inserted in the telefax machine, the information on the page is coded and rapidly transmitted through the commercial telephone system. The telefax machine receiving the information decodes the sound arriving through the telephone and prints it out.

If an emergency were to occur at Shoreham, plant data forms would be filled out in the Plant Control Room and transmitted, by voice, to the Customer Service Operator. When the EOC is activated and the EOC RECS Communicator takes over the responsibility of receiving all further notifications from Shoreham, all previously received plant data forms will be transmitted to the EOC by the Customer Service Operator. Furthermore, telefax machines may be used to transmit information between any of the following response facilities:

- The Plant Control Room
- The TSC
- The EOF
- The ENC
- The Local EOC

D. PUBLIC NOTIFICATION

Sirens

A system of 89 sirens mounted throughout the 10-mile EPZ will be used to provide the initial public notification. Through an extensive education program, residents will be informed to tune to the Emergency Broadcast System when the sirens are sounded.

In the event of an immediate Site Area or General Emergency, the sirens are activated from the Plant Control Room. If the tone encoder in the Control Room malfunctions, a security guard is sent to the Brookhaven Substation to activate the sirens.

In the event of an upgraded Site Area or General Emergency, the Director of Local Response at the EOC will activate the sirens. If the tone encoder in the EOC fails to operate, a security guard will be dispatched to the Brookhaven Substation to actuate the sirens.

To activate the sirens from the Brookhaven Substation, a series of codes are keyed into a code encoder which is connected to a transmitter. Upon receiving the correct codes, this transmitter sends a signal which activates all the sirens.

There is a tone encoder in the Plant Control Room and in the Local EOC in Brentwood. These tone encoders are connected to the transmitter in the Brookhaven Substation via commercial telephone. Activating the sirens from these two locations is done in the same manner as activating the sirens from the Brookhaven Substation.

Tone Alert Radio System

Tone alert radios are automatically activated by a unique signal sent from the Local Emergency Broadcast System radio station (WALK) prior to the broadcast of the EBS message. These special radios are provided to well over 100 special facilities in the EPZ such as schools, hospitals, ambulance and fire rescue corps, nursing homes, and major employers.

Mobile Public Address System

In the event of a siren malfunction, mobile public address systems mounted on vehicles can be used to notify those members of the public affected by the malfunction to tune to the Emergency Broadcast System.

SUMMARY

There are four basic communication requirements associated with LERO:

- Initial notification
- LERO activation
- LERO communications network
- Public notification

There are eight communications systems to meet these requirements:

- The Radiological Emergency Communications System
- The LILCO Notification Radio System
- The Paging System
- The Prompt Notification System

- Dedicated telephone lines
- Commercial telephones
- The LILCO Emergency Radio System
- Telefax machines

The first emergency communications action is initial notification. The Site Communicator notifies LERO and other offsite authorities of an emergency at Shoreham.

The primary means of around-the-clock initial notification is known as RECS. The RECS system is a hotline network consisting of twelve telephones. The system may be activated from any of those twelve lines.

Once the Local EOC has been activated, the LERO RECS Communicator becomes responsible for receiving all notifications from Shoreham.

The LILCO Notification Radio System is used as backup to the RECS lines. The LILCO Notification Radio System relies on the Electric Systems Operations frequency.

LERO notification and activation are accomplished through the LILCO paging system and commercial telephones.

The LERO Coordinators keep in touch with all responding groups and agencies through four LERO communications systems:

- Dedicated telephone lines
- Commercial telephones
- The LILCO Emergency Broadcast System
- Telefax machines

During the public notification phase of emergency communications, a system of 89 sirens mounted throughout the 10-mile EPZ will be used to alert the public. Mobile public address systems mounted on vehicles will be used as a backup route alerting system if any of the sirens fail.

Tone alert radios have also been installed at hospitals, nursing homes, schools, and the facilities of major employers. These special radios are always tuned to the Emergency Broadcast System Station, WALK.

WORKBOOK NO. 8

EMERGENCY COMMUNICATIONS

MODULE REVIEW

Name: _____

LERO Title: _____

Company Title: _____

1. Draw a line connecting the emergency communications system in Group A to the emergency communications requirements in Group B.

Group A

RECS
LILCO paging system
Dedicated lines
Tone Alert Radios

Group B

Public notification
LERO communications
LERO notification
Initial notification

2. The primary means of 24-hour notification between Shoreham and LERO is: (circle one)
 - a. The LILCO paging system
 - b. The Radiological Emergency Communications System
 - c. Dedicated lines
 - d. Commercial lines
3. The LILCO notification radio system is used as backup communication between which facilities? (circle one)
 - a. Shoreham Control Room and TSC
 - b. Plant Control Room and LILCO Customer Service
 - c. EOF and TSC
 - d. EOC and LILCO Customer Service
 - e. All of the above

4. What two systems are used to notify LERO personnel in an emergency?

1. _____
2. _____

5. Upon notification, those carrying pagers will either go on standby or report to a pre-assigned location. How do they know which action to take?

6. The dedicated telephone line system is similar to which of the following systems? (circle one)

- a. RECS
- b. Paging system
- c. LILCO Notification Radio System
- d. LILCO emergency radio system
- e. Commercial telephone system

7. A telephone company switching overload will: (circle one)

- a. Completely disrupt
- b. Not affect
- c. Partially disrupt

the dedicated telephone line system.

8. How many facilities are connected per dedicated line? (circle one)
- a. 4
 - b. 6
 - c. 2
 - d. 3
9. All dedicated lines are between the EOC and other facilities, except for one dedicated line between: (circle one)
- a. The ENC and WALK radio station
 - b. The EOF and the TSC
 - c. LILCO Customer Service and WALK radio system
 - d. Suffolk County Police and the ENC
10. The commercial telephone system is available at: (circle one)
- a. The EOC and Shoreham only
 - b. All the facilities
 - c. Only those facilities outside the EPZ
 - d. None of the above
11. The commercial telephone system cannot be used as an alternate communication system.
- True or False

12. New York Telephone has been requested to give LILCO priority in restoring service to which of the following facilities?
(circle one)
- a. EOC, EOF, Shoreham and Brookhaven
 - b. EOC, TSC, WALK, Customer Service
 - c. EOC only
 - d. None of the above
13. The LILCO emergency radio system is used to communicate between: (circle one)
- a. Local EOC and field emergency response personnel
 - b. Plant Control Room and Local EOC
 - c. EOF and TSC
 - d. Customer Service and EOC
14. Which of the following is used as a backup communications system for hospitals? (circle one)
- a. Emergency Medical Radio Service Network
 - b. Hospital Communications System
 - c. LILCO Notification Radio System
15. The telefax machines link: (circle one)
- a. Brookhaven National Laboratory, ENC, EOF
 - b. EOC, EOF and ENC
 - c. TSC, EOF
 - d. All of the above

16. Which type of information is transmitted on the telefax machines? (circle one)
- a. Environmental monitoring data
 - b. Plant status, release information, dose projections
 - c. Protective action recommendations and public information
 - d. All of the above
17. Sirens are used for: (circle one)
- a. Notifying the LERO organization
 - b. Alerting the general public inside the EPZ
 - c. Notifying police, fire, hospitals
 - d. None of the above
18. The devices used in the public notification system are: (circle one)
- a. Pagers, CB radios, telephones
 - b. Sirens, tone activated radios, mobile public address system
 - c. RECS lines, dedicated lines, telefax machines
 - d. None of the above

LERO

TRAINING PROGRAM

PERSONNEL DOSIMETRY

MODULE NO. 9

SECTION I

Radiation Exposure Control

This module applies to all LERO members.

Your Name _____

LERO Title _____

Company Title _____

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Training Objectives	ii
Introduction	1
A. Exposure Control	2
- External Control	
- Internal Control	
- Proper Operating Techniques	
B. Emergency Worker Exposure Limits	5
C. Dosimetry	7
D. Record Maintenance and Control	8
Summary	9

TRAINING OBJECTIVES

The objectives of this portion of the LERO Training Program are to familiarize each emergency worker with methods used to control exposure to radiation. The following topics will be covered:

- A. Emergency workers' responsibility to help minimize their exposure
- B. The ALARA ("As Low As Reasonably Achievable") principle
- C. Using time, distance and shielding to control external exposure
- D. Using the drug potassium iodide to control internal exposure
- E. Using protective clothing to control the spread of contamination
- F. Exposure limits for emergency workers
- G. Using dosimeters to minimize exposure
- H. Keeping records to monitor exposure

INTRODUCTION

It is difficult to identify a single human activity which does not involve some risk. Exposure to radiation is no different. It is well known that exposures as high as 500 Rem can cause illness or death if received over a few hours time. Short-term exposures in the range of 100 Rem will cause cancer in a small percentage of the population. The risks become less with decreases in the dose. At less than 25 Rem, observable effects are hard to detect, are minor, and of short duration. At less than 1 Rem (1,000 mRem), effects are extremely hard to detect which makes it difficult to assess the risks.

Because of the uncertainties, it has become a worldwide policy to minimize risks by keeping any exposure as low as reasonably achievable. The acronym ALARA is commonly used to refer to this principle.

LERO will try to keep exposures received by emergency workers low by monitoring and projecting dose levels, by planning response actions, by teaching workers proper techniques, and by issuing dosimeters and by maintaining exposure records. The individual emergency worker has the capability to control his/her dose level. Each worker can minimize his/her risks by practicing proper exposure control techniques, by wearing dosimeters and by keeping exposure limits in mind at all times.

A. EXPOSURE CONTROL

Radiation exposure can be minimized by employing proper external and internal radiation control, protective equipment, and operating techniques.

External Radiation Control

Time, distance and shielding are the three most important factors in minimizing external radiation exposure.

Time: One way to limit exposure is to spend the least amount of time possible in a radiation area. Emergency workers should not stay in the Emergency Planning Zone any longer than necessary to complete their jobs.

Distance: The exposure rate decreases with distance from the source of radiation. You can reduce your exposure by keeping as much distance as possible between you and the source. For example, the farther you are from the plume, the lower your dose will be.

Stand back from a contaminated car if you are only observing or recording data. Never walk or drive through a contaminated area if you do not have a job to perform there. Take the long way around.

Shielding: Shielding consists of placing material between the source of radiation and yourself. The material will absorb some of the radiation and reduce the amount that reaches you. The effectiveness of a material as a shield depends on the type of radiation. When shielding for gamma and beta radiation, the thicker or more dense the material the more effective it will be in reducing exposure.

During an emergency, both the general population and the emergency workers may be requested to take shelter. This involves using buildings, cars or other enclosed structures to shield people from external exposure to the gamma and beta radiation from the plume. Sheltering is one of the most effective methods of radiation protection.

Internal Radiation Control

Internal contamination is the result of radioactive materials entering the body by ingestion, inhalation, or absorption of a solution through the skin or an open wound. Some of these materials would be immediately exhaled and some would be eventually passed out of the body in the urine and feces. Others might be concentrated by the body in a particular organ. For example, radioiodines, which are radioactive forms of iodine, could be released from the plant during an accident and would become concentrated in the thyroid gland if inhaled.

The best way to control internal radiation exposure is to prevent the entry of radioactive materials into the body. NEVER EAT, DRINK OR SMOKE in an area which may be contaminated.

The drug potassium iodide can be used to minimize internal exposure from radioiodines. The body has a natural tendency to concentrate iodine in the thyroid gland. However, there is a limit to the amount of iodine the gland can hold. The excess is passed from the body.

If there were an accident at the plant which resulted in a release of radioactivity to the atmosphere, radioiodines could be part of the release. If these radioiodines were inhaled, the body would concentrate them in the thyroid gland. This would

result in internal exposure until the radioactive material was cleared from the body by an individual's metabolism and by radioactive decay.

If, during an accident, it is determined that there is a potential for workers to receive a high thyroid absorbed dose from inhalation or ingestion of radioiodines, emergency workers may be requested to take potassium iodide tablets. The purpose of the drug is to saturate the thyroid with a non-radioactive form of iodine first so that any radioactive isotopes of iodine inhaled or ingested later will be passed out of the body. Only those workers who have no known allergic reaction to iodine will be administered potassium iodide tablets.

Proper Operating Techniques

You can keep both your internal and external exposure low by taking care not to spread contamination to either yourself or your clothing. Both proper operating techniques and good sense are ways to accomplish this goal.

Always wear gloves when handling potentially contaminated equipment. Wear protective clothing when working in an area that may be contaminated. Use radiation detection devices to identify radiation areas. Remain upstream of the waterspray being used in decontamination operations. Don't take non-essential items into a contaminated area. Use procedures designed to minimize your stay-time and exposure. An organized response takes less time to implement, so make sure that you know your job.

Detailed procedures have been developed to identify proper operational methods. Drills and exercises will be conducted periodically to identify and correct procedural difficulties and equipment problems and to ensure that each individual involved understands the proper response to an emergency situation.

B. EMERGENCY WORKER EXPOSURE LIMITS

Exposure limits have been developed which identify the maximum exposure LERO emergency workers will be allowed to receive without special authorization.

**LERO EXPOSURE GUIDE LIMITS
FOR EMERGENCY WORKERS**

5 Rem to whole body

25 Rem to the thyroid gland

These limits are based on the EPA document entitled "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents," EPA 520/1-75-001 (September, 1975).

The EPA document recommends 5 Rem to the whole body and 25 Rem to the thyroid gland as the exposure limits for the general public during an emergency. For emergency workers, the EPA recommends 25 Rem to the whole body and 125 Rem to the thyroid gland. LERO worker exposure limits are 5 Rem to the whole body and 25 Rem to the thyroid gland, which is the same as the limits recommended by the EPA for the general public.

Emergency response actions will be planned and administratively controlled so that workers can keep their exposures within these limits. If a worker's exposure is approaching 3.5 Rem, his/her dispatcher or coordinator will be informed so reassignment to a task where he/she will not receive additional exposure can be made.

Exposures in excess of 5 Rem to the whole body are highly unlikely and will only be incurred on a voluntary basis. A LERO emergency worker will be allowed to receive exposure in excess of the exposure limits only if either a substantial reductions of public exposure can be achieved or it is necessary to perform a life- saving mission. Exposures in excess of the limits must be authorized by the Director of Local Response.

EXPOSURE IN EXCESS OF THE LERO EXPOSURE LIMITS SHALL BE AUTHORIZED AS FOLLOWS

1. If, performing a task will result in a SUBSTANTIAL REDUCTION in the PUBLIC'S EXPOSURE to radiation, then a worker may be allowed to receive a maximum exposure of:

25 Rem to the whole body
125 Rem to the thyroid gland

2. If there is no time for adequate planning and protection and the duty involves a LIFE SAVING ACTIVITY, then a worker may be allowed to receive a maximum exposure of:

75 Rem to the whole body
No limit on to the thyroid gland

C. DOSIMETRY

As an emergency worker, you can minimize your risks by keeping your exposure below the recommended limits by using dosimeters.

A dosimeter is an instrument which detects and measures accumulated radiation exposure. Emergency workers will be issued two types of dosimeters. The first, the direct-reading dosimeter, has a scale which can be seen by placing the lens to the eye and pointing the other end towards a light source. The second, the thermoluminescent dosimeter (TLD badge) must be read using special equipment. Each emergency worker will receive two direct-reading dosimeters (range 0-200 mRem and a 0-5 Rem) and one TLD badge.

Record Keepers at both the staging areas and at the EOC Emergency Worker Decontamination Facility will be responsible for issuing dosimeters. Each emergency worker's responsibility is to wear the dosimeters when required and to keep track of accumulated exposure by checking the direct-reading dosimeters at least every 15 minutes.

It is important that you read your dosimeters often to ensure that you are not exceeding the recommended limits. If you read your dosimeter and you have received 3.5 Rem, contact your dispatcher or coordinator and prepare to leave your post. As soon as possible, you will be reassigned to a job where you will receive less exposure. If your dosimeter reads 5.0 Rem, leave the area immediately and report to the Emergency Worker Decontamination Facility at the EOC.

D. RECORD MAINTENANCE AND CONTROL

Record Keepers are also responsible for maintaining emergency worker exposure records. For each emergency worker who receives dosimeters, the following forms must be filled out:

- A Daily Dose Record Card
- A Permanent Dose Record Form, and
- A Log Out/Log In Form

Each emergency worker will fill out the personal information portion of the Daily Dose Record Card and the Permanent Dose Record Form. The Record Keepers are responsible for entering, on all three forms, any information relating to the dosimeters or the worker's mission.

All emergency workers will carry their Daily Dose Record Card and a copy of their Permanent Dose Record Form during their assignments. The original Permanent Dose Record Form and the Log Out/Log In Form will be forwarded to the Decontamination Facility at the EOC. Record Keepers at that facility will collect each worker's dosimeters and see that the final direct-reading dosimeter readings are entered onto each worker's Daily Dose Record Card, both copies of the Permanent Dose Record Form and the Log Out/Log In Form. Each worker will keep the Daily Dose Record Card and a copy of the Permanent Dose Record Form.

TLD badges will be processed at either the EOC or at Brookhaven National Laboratory. As the results become available, a Record Keeper at the EOC will enter the data onto each worker's Permanent Dose Record Form. In addition, the daily doses of all workers will be compiled and recorded on a Radiation Whole Body Exposure Record Form.

These forms and records will be used to keep track of the total exposure you receive as an emergency worker. The Radiation Whole Body Exposure Record will also be used to identify workers who are nearing the LERO exposure limits. Each time this record is updated, the Record Keeper will keep a list of all workers who have exceeded 1 Rem per day or 3 Rem total. The Record Keepers at the Decontamination Facility, who are responsible for filling out each worker's forms when dosimeters are turned in, will keep a similar list. These names must be brought to the attention of the Dosimetry Coordinator as soon as possible. It is his responsibility to see that the dispatcher or coordinator of each worker is informed of that worker's exposure. As soon as possible, these workers will be reassigned to jobs where they will receive less exposure.

The records should also be used by workers to monitor their own exposure. Since workers carry their own exposure records and direct-reading dosimeters with them, they will always have their total exposure available to them.

SUMMARY

The best way to reduce the risk from radiation exposure is to keep that exposure As Low As Reasonably Achievable. Radiation exposure can be minimized by employing proper external and internal radiation control, protective equipment and operating techniques.

External exposure can be controlled through time, distance and shielding. Internal exposure can be controlled by taking care not to ingest radioactive materials.

It's important to participate in drills and exercises so that you can practice the proper responses to an emergency situation.

The LERO exposure limits for emergency workers are designed to minimize the risk from exposure. These limits are 5 Rem to the whole body and 25 Rem to the thyroid gland. Remember, these limits may only be exceeded if a substantial reduction of public exposure can be obtained or to perform a life-saving mission, and to do so requires the authorization of the Director of Local Response. Exposures in excess of the limits will be voluntary.

Each emergency worker who may be exposed to radiation will be issued dosimeters. Dosimetry Record Keepers will issue dosimeters and maintain records of the exposure accumulated by each worker.

If you are issued dosimeters, use them properly. Check your direct-reading dosimeters at least every 15 minutes. It is your responsibility to monitor your exposure.

By making proper use of dosimetry, by remembering the LERO exposure limits, and by using safe radiological work habits, each emergency worker can keep his/her risk to a minimum.

LERO

TRAINING PROGRAM

WORKBOOK NO. 9

RADIATION EXPOSURE CONTROL

SECTION I REVIEW

Name: _____

LERO Title: _____

Company Title: _____

1. One way to keep your exposure low and thereby minimize your risks is to practice ALARA. ALARA stands for:

2. External exposure to radiation can be minimized by proper use of _____, _____ and _____.

3. What are the two ways to control internal radiation exposure?
 - a. Do not eat, drink, or smoke in a contaminated area.
 - b. Wear dosimeters
 - c. Take potassium iodide tablets.

4. You can minimize the spread of contamination by:
 - a. Wearing dosimeters
 - b. Handling contaminated equipment with your bare hands
 - c. Wearing protective clothing

5. A dosimeter is an instrument which detects and measures _____ radiation exposure.
6. The LERO emergency worker exposure limit for whole body exposure is:
- a. 25 Rem
 - b. 1 Rem/day
 - c. 3 Rem
 - d. 5 Rem
 - e. 5 Rem/day
7. The LERO emergency worker exposure limit for thyroid exposure is:
- a. 1 Rem/day
 - b. 3 Rem
 - c. 5 Rem/day
 - d. 25 Rem
8. Exposures in excess of the LERO exposure limits will only occur on a voluntary basis and require the authorization of the Director of Local Response.
- True or False
9. The Record Keepers at the Emergency Worker Decontamination Facility are to inform the Dosimetry Coordinator of all workers with exposures in excess of _____ Rem/day or _____ Rem total.
10. Name one reason a worker may be requested to receive exposure in excess of the LERO exposure limits.

PERSONNEL DOSIMETRY

MODULE NO. 9

SECTION II

Radiation Detection Instruments

This module applies to all LERO members.

Your Name _____

LERO Title _____

Company Title _____

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Training Objectives	ii
Introduction	1
A. Personnel Dosimeters	2
- Direct-Reading Dosimeters	
- Zeroing a Direct-Reading Dosimeter	
- Thermoluminescent Dosimeters	
- Difference Between Direct-Reading and TLD Dosimeters	
- How to Wear Dosimeters	
- Proper Handling of Dosimeters	
B. Count Rate Meters and Radiation Detection Probes	6
Summary	7

TRAINING OBJECTIVES

At the conclusion of the "Radiation Detection Instruments" section of the LERO training program, you will be familiar with:

- A. Types of dosimeters
- B. Differences between a TLD badge and a direct-reading dosimeter
- C. Reading a direct-reading dosimeter
- D. Charging a direct-reading dosimeter
- E. Wearing and handling dosimeters
- F. Count rate meters and radiation detection probes

INTRODUCTION

Radiation cannot be seen, smelled, tasted, or felt. However, it can easily be detected with portable and semiportable instruments which can detect levels far below what is considered to be hazardous. This workbook will concentrate on the capabilities and operation of the various instruments which LERO emergency workers will use to monitor radiation.

A. PERSONNEL DOSIMETERS

Personnel dosimeters are small, light-weight radiation detection instruments which measure accumulated exposure in Roentgens or milliRoentgens.

If, as a LERO worker, you might be exposed to radiation, you will be issued two types of personnel dosimeters: a direct-reading dosimeter and a thermoluminescent dosimeter, or TLD badge.

- Direct-Reading Dosimeters

A direct-reading dosimeter provides an instantaneous reading of accumulated exposure to gamma radiation. It consists of a radiation-sensitive chamber, a quartz fiber meter, and a magnifying lens to read the fiber image off a background scale.

Direct-reading dosimeters are used primarily to prevent over-exposure by measuring a person's exposure to radiation. Each emergency worker will be issued two direct-reading dosimeters, one with a scale ranging from 0-200 milli-Roentgens and the other from 0-5 Roentgens. As you'll remember from page 6 of the Radiation Protection Section, for emergency planning purposes, the terms Roentgen and Rem can be used interchangeably. The unit "Rem" should be used when entering exposure information on any records.

You can read the dosimeter by holding the lens to your eye and pointing the other end at a light source. You will see a scale. Readings from the scale are accurate to within plus or minus 10% of actual exposure.

It is very important to monitor your accumulated radiation exposure by checking your direct-reading dosimeters at least every 15 minutes.

- Zeroing a Direct-Reading Dosimeter

A dosimeter charger is an instrument used to set the hairline on the direct-reading dosimeter scale to zero. Directions for using the charger are printed on the top. Ideally, each direct-reading dosimeter will be set to zero by a Record Keeper before being issued to a worker. However, if there are many emergency workers requiring dosimetry, some workers may need to zero their own dosimeters.

The charger can be used to read the dosimeter as well as to set the hairline to zero. To read a dosimeter, place it lightly on the "CHARGING CONTACT." Do not press the dosimeter down on the charging contact. Press the "PUSH ROD" down to illuminate the scale.

To zero the dosimeter, press the dosimeter down firmly on the "CHARGING CONTACT." Use the "ZEROING KNOB" to adjust the hairline to zero. Release the pressure and read the dosimeter. The hairline will jump slightly when you release the pressure. To compensate, set the hairline slightly to the left or right of zero.

CAUTION: Do not press the "PUSH ROD" while charging the dosimeter. The "PUSH ROD" only turns on the light which will already be on while you are charging the dosimeter. Pressing the "PUSH ROD" while charging the dosimeter could cause damage.

Dosimeter chargers will be stored with the personnel dosimeters. The chargers use one size D 1-1/2 volt battery. The batteries will be stored separately from the chargers and must be installed before using. The case can easily be opened by turning the screw on the bottom of the charger. Each charger comes with a small spare lightbulb.

- Thermoluminescent Dosimeters

More commonly called a TLD badge, this dosimeter is used to measure exposure to beta particles and gamma rays. It consists of a small piece of plastic-like crystal. If the crystal is exposed to radiation, then heated, it will give off light. The amount of light it gives off is proportionate to the amount of radiation to which it was exposed. To be read, a TLD requires a special device called a TLD reader.

The TLD is more accurate than a direct-reading dosimeter, providing a cross check on the direct-reading dosimeter measurements. It is the only device that is accepted by the State of New York as a legal record for worker exposure.

- Differences Between Direct-Reading and TLD Dosimeters

Three important differences between direct-reading dosimeters and thermoluminescent dosimeters (TLDs) are:

1. TLDs measure beta and gamma radiation. Direct-reading dosimeters measure gamma radiation only.

2. A TLD reading can be performed only once. Taking a reading from the TLD prevents further measurements from being taken. Direct-reading dosimeter readings can be taken repeatedly as long as the dosimeter has not been re-zeroed.
3. You can take readings yourself from your direct-reading dosimeters. TLDs can only be read by a laboratory technician using a TLD reader.

- How to Wear Dosimeters

You must wear your dosimeters on the upper part of your body. Each dosimeter has a clip for attaching it to a shirt collar or pocket. Wear all three dosimeters side by side.

If you are issued dosimeters, it is extremely important to wear them to maintain an accurate record of your accumulated exposure. While LILCO will make every effort to ensure that you are protected and that your exposure is kept to a minimum, part of the responsibility for keeping your exposure below the Protective Action Guide limits is yours. This objective can only be met if you wear your dosimeters.

- Proper Handling of Dosimeters

Be careful not to drop or bump either of your direct-reading dosimeters. This may damage the quartz fiber meters so they will no longer accurately record exposure. Direct-reading dosimeters should never be allowed to get wet. You can wear them inside your clothing to prevent them from getting wet.

Similar care should be taken with the TLD badge. If the badge comes apart, the crystals inside could be lost. Don't try to put the badge back together yourself. If any of your dosimeters become damaged, contact your dispatcher or coordinator for a replacement as soon as possible.

B. COUNT RATE METERS AND RADIATION DETECTION PROBES

Count rate meters and radiation detection probes are used to monitor for contamination. A radiation detection probe responds to radiation by producing an electrical pulse each time it interacts with a beta particle or a gamma ray. The meter keeps count of the number of pulses generated and displays the number of counts per unit of time.

LERO Radiation Monitoring Personnel will use the Eberline RM-14 count rate meter. The RM-14 is a small, compact count rate meter which can be operated either on an AC line or by a 6-volt battery. It will be used with an HP-270 Geiger Muller radiation detection probe. The amount of radiation detected is displayed on the meter in terms of counts per minute (CPM).

Monitoring Personnel will use the RM-14 w/HP-270 probe to scan for internal contamination in people (from inhalation or ingestion of radioiodines) or for external contamination on people, vehicles, and equipment. Monitoring for contamination will take place at the three evacuee decontamination facilities and at the Emergency Worker Decontamination Facility.

SUMMARY

Radiation can readily be detected using a variety of portable and semi-portable instruments. LERO personnel will use two types of radiation detection instruments -- personnel dosimeters and survey meters.

Personnel dosimeters are used to measure accumulated radiation exposure. Each LERO worker who may receive exposure will be issued two direct-reading dosimeters (range 0-200 milliRoentgens and 0-5 Roentgens) and one TLD badge.

Direct-reading dosimeters are used by workers themselves to monitor personal exposure to gamma radiation. TLD badges measure exposure to beta and gamma radiation. They can be read only by using a special device called a TLD reader. Both readings from the direct-reading dosimeters and TLD badges become part of permanent exposure records.

If you are issued dosimeters, wear them together on the upper part of your chest. Handle them properly. Don't drop or damage your dosimeters.

Some LERO workers (Monitoring and Decontamination Personnel) will use RM-14 count rate meters with HP-270 probes to monitor people, vehicles, and equipment for contamination. Radiation interacts with the probe and produces electrical pulses. The number of pulses per minute are displayed on the meter.

By properly using the radiation detection instruments, LERO personnel can minimize their exposure to radiation and reduce their risks. By using survey meters to monitor evacuees for contamination, LERO Monitoring Personnel will also be helping to reduce the exposure received by members of the public.

MODULE 9

RADIATION DETECTION INSTRUMENTS

SECTION II REVIEW

Name: _____

LERO Title: _____

Company Title: _____

1. The two types of radiation detection instruments which LERO personnel will use are:

- 1. _____
- 2. _____

2. Who should wear dosimeters?

3. Name the three dosimeters which each worker requiring dosimeters.

- 1. _____
- 2. _____
- 3. _____

4. Answer true or false.

_____ Dosimeters should be worn at waist level.

_____ A TLD badge can be read by the emergency worker.

_____ The reading from a TLD badge is acceptable by the State of New York as a legal exposure record.

_____ A direct-reading dosimeter can only be read once.

_____ The reading from a TLD badge will be in milli-Roentgens per hour.

5. A _____ is an instrument which can be used either to read a direct-reading dosimeter or to set the quartz fiber on the dosimeter scale to zero.
6. An RM-14 count rate meter with an HP-270 probe will be used for what purpose by LERO Monitoring Personnel?
7. Which part of an RM-14 count rate meter w/HP-270 probe detects radiation, the probe or the meter?

PERSONNEL DOSIMETRY

MODULE NO. 9

SECTION III-A

Dosimeter Distribution and Record Maintenance

This module applies to all LERO members except the Dosimetry Record Keepers.

Your Name _____

LERO Title _____

Company Title _____

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Training Objectives	ii
Introduction	1
A. Dosimetry Record Keepers - Staging Areas and Decontamination Facilities - Actions and Responsibilities	2
B. Emergency Workers - Actions and Responsibilities	3
C. Dosimetry Record Keepers - Emergency Worker Decontamination Facility - Actions and Responsibilities - Lost or Broken Dosimeters	5
D. Dosimetry Coordinator - Emergency Operations Center - Actions and Responsibilities	6
E. Director of Local Response - Emergency Operations Center - Actions and Responsibilities	7
F. Radiation Health Coordinator - Actions and Responsibilities	7
Summary	8
APPENDICES	
Appendix A - Examples of Required Forms and Records	

TRAINING OBJECTIVES

At the conclusion of the Dosimeter Distribution and Record Maintenance portion of the LERO training program, the trainee will:

- A. Understand his/her specific responsibilities relating to dosimeters and record maintenance
- B. Know where and how dosimeters are issued
- C. Be familiar with required forms and records related to dosimetry

INTRODUCTION

The purpose of this section is to outline the responsibilities of workers who will issue or wear dosimeters, authorize exposure, and maintain exposure records.

The duties of each of the following personnel will be discussed:

1. The Dosimetry Record Keepers at the staging areas and decontamination facilities
2. Emergency workers who wear dosimeters
3. The Dosimetry Record Keepers at the Emergency Worker Decontamination Facility
4. The Dosimetry Coordinator
5. The Director of Local Response
6. The Radiation Health Coordinator

A. DOSIMETRY RECORD KEEPERS - STAGING AREAS AND DECONTAMINATION FACILITIES - ACTIONS AND RESPONSIBILITIES

Dosimetry Record Keepers at the staging areas and at the decontamination facilities will be responsible for distributing dosimeters. A supply of dosimeters, direct-reading dosimeter chargers, forms, and stationary will be available at each distribution location. The Record Keepers will use tables and chairs available at each location to set up an area from which to distribute dosimeters.

The Record Keepers will zero the direct-reading dosimeters before issuing them.

When you report to receive dosimeters, a Record Keeper will have you fill out the personal information required on the following two forms:

- Daily Dose Record Card
- Permanent Dose Record Form

The Record Keeper will fill in any information relating to your dosimeters or to your mission on both forms and on a Log Out/Log In Form. Before you leave the distribution area, you will receive from the Record Keeper two direct-reading dosimeters (Ranges 0-200 mR and 0-5 R), one TLD badge, your Daily Dose Record Card, and a copy of your Permanent Dose Record Form. Your original Permanent Dose Record Form and the Log Out/Log In Form will be forwarded to the Dosimetry Coordinator at the EOC.

The Record Keepers will also be reminding you how to handle and wear your dosimeters, how often to check your exposure, at what exposure level you should call your coordinator or dispatcher,

and when you should report to the Emergency Worker Decontamination Facility. The Record Keepers will also remind you to report to the Emergency Worker Decontamination Facility if you lose or break your dosimeters.

B. EMERGENCY WORKERS - ACTIONS AND RESPONSIBILITIES

This section explains what you must do to obtain your dosimeters and describes your responsibilities concerning radiation exposure records.

Dosimeters will be available at all staging areas and decontamination facilities. All emergency workers requiring dosimetry will be reporting to one of these locations. Upon arriving at your assigned reporting location, inform your coordinator or dispatcher of your arrival. He will inform you if you will need dosimeters.

NOTE: If you will be going into the Emergency Planning Zone or working around contamination and you have not been directed to get dosimeters, talk with either your coordinator or dispatcher, the Record Keepers, or the Dosimetry Coordinator before leaving your reporting location to make sure that you were not just overlooked.

Next, find the Dosimetry Record Keepers and complete the following actions before leaving the dosimeter distribution area:

1. Fill in your name, address, and Social Security number on your Emergency Worker Daily Dose Record Card.

2. Fill in your name, sex, date of birth, Social Security number, and home address on the Emergency Worker Permanent Dose Record Form.
3. Obtain the following dosimeters from the record keeper:
 - One Direct-Reading Dosimeter -- Range: 0-200 mR
 - One Direct-Reading Dosimeter -- Range: 0-5 R
 - One TLD badge

NOTE: Check the eyepiece of each direct-reading dosimeter for scratches or any other problems which could prevent you from reading the scale. If the dosimeter is unreadable, inform the Record Keeper, and obtain a replacement.

4. Before leaving the staging area, make sure you have a copy of your Permanent Dose Record Form and your Daily Dose Record Card. You'll give both the form and the card to the Record Keeper at the Emergency Worker Decontamination Facility, for entry of your accumulated exposure on both.
5. Remember to check your direct-reading dosimeters at least every 15 minutes. Call your coordinator or dispatcher if:
 - You drop or damage your dosimeters
 - Your 0-200 mR direct-reading dosimeter goes off scale
 - Your 0-5 R direct-reading dosimeter reads 3.5 R or higher

6. At 3.5 R, prepare to leave your post. Continue to check your 0-5 R dosimeter often. If you have not been replaced and your dosimeter reads 5 R, leave the area and report to the Emergency Worker Decontamination Center.

C. DOSIMETRY RECORD KEEPERS - EMERGENCY WORKER DECONTAMINATION FACILITY - ACTIONS AND RESPONSIBILITIES

Dosimetry Record Keepers at the Emergency Worker Decontamination Facility are responsible for reading each emergency worker's direct-reading dosimeters and entering the readings on the following forms:

- Daily Dose Record Card (carried by worker)
- Original Permanent Dose Record Form (forwarded from the distribution area)
- Copy of Permanent Dose Record Form (carried by worker)
- Log Out/Log In Form (forwarded from the distribution area)

The Daily Dose Record Card and the worker's copy of the Permanent Dose Record Form will be returned to him/her. The rest of the completed forms and TLD badges are forwarded to the Dosimetry Coordinator at the EOC.

The Record Keepers will inform the Dosimetry Coordinator of all emergency workers who have received exposures in excess of 1 Rem/day or 3 Rem total. The TLD badges of these workers will be collected by the Record Keepers for immediate processing and the workers will be reassigned to tasks where they will not receive additional exposure.

Record Keepers at the Decontamination Facility will also be responsible for estimating the dose for emergency workers who have lost or damaged their dosimeters.

An estimate of the worker's dose will be obtained by multiplying the dose rate in the area where the worker was assigned (obtained from the Environmental Assessment Coordinator) by the length of time the worker was in the area. This estimate will be compared to the dose measured by the TLD badge or the direct-reading dosimeters if either are available. Any estimates will also be compared with exposures received by other workers in the same area.

If the estimated dose is greater than 1 Rem/day or 3 Rem total, the Record Keepers will inform the Dosimetry Coordinators. If the estimated dose is greater than 5 Rem, the Director of Local Response will be informed and an Emergency Exposure Authorization Form will be filled out.

D. DOSIMETRY COORDINATOR - EMERGENCY OPERATIONS CENTER - ACTIONS AND RESPONSIBILITIES

The Dosimetry Coordinator is responsible for:

1. Implementing the Dosimetry and Exposure Control Procedure (OPIP 3.9.1) under the direction of the Radiation Health Coordinator.
2. Assigning responsibility for compiling daily dose information on all workers from their Permanent Dose Record Forms and entering it on the Radiation Whole Body Exposure Record.

3. Ensuring that all TLD badges are forwarded to the Radiation Health Coordinator for processing at either the EOC or at Brookhaven National Laboratory.
4. Obtaining from the Record Keepers at the Emergency Worker Decontamination Facility a list of all workers who have reached or exceeded either 1 Rem/day or 3 Rem total and asking their coordinator or dispatcher withhold them from assignments where there is potential for further exposure.
5. Obtaining Emergency Exposure Authorization Forms from EOC Record Keepers if exposures in excess of the LERO exposure limits are to be incurred, and obtaining the signatures of both the Radiation Health Coordinator and the Director of Local Response on these forms.
6. Maintaining files of all Permanent Dose Record Forms, Log Out/Log In Forms, and Emergency Exposure Authorization Forms received from the staging areas and the decontamination facilities.

E. THE DIRECTOR OF LOCAL RESPONSE - ACTIONS AND RESPONSIBILITIES

The Director of Local Response must authorize all exposures greater than LERO exposure limits by signing and dating the Emergency Exposure Authorization Forms. This form will be available from the Dosimetry Coordinator or the Record Keepers.

F. THE RADIATION HEALTH COORDINATOR - ACTIONS AND RESPONSIBILITIES

1. The Radiation Health Coordinator, by directing the Dosimetry Coordinator, is responsible for implementing the Dosimetry and Exposure Control Procedure (OPIP 3.9.1).

2. The Radiation Health Coordinator must sign and date all Emergency Exposure Authorization Forms.

SUMMARY

The Dosimetry Record Keepers at the staging areas and decontamination facilities are responsible for issuing dosimeters to emergency workers. This will include zeroing and distributing the dosimeters, filling out the proper forms, and forwarding the paper work to the EOC and the Emergency Worker Decontamination Facility.

Emergency workers are responsible for making sure they have the proper dosimeters, filling out the personal information portions of the appropriate forms, wearing and handling the dosimeters properly, and bringing the dosimeters and proper forms to the Decontamination Facility after they complete a mission.

The Dosimetry Record Keepers at the EOC Decontamination Facility are responsible for collecting dosimeters, entering the direct-reading dosimeter information on the appropriate forms, forwarding TLD badges to the Dosimetry Coordinator at the EOC, and informing him of all personnel exposures exceeding 1 Rem per day or 3 Rem total.

The Dosimetry Coordinator, under the direction of the Radiation Health Coordinator, is responsible for implementing the Dosimetry and Exposure Control Procedure (OPIP 3.9.1). He/she will receive all completed forms and insure all TLD badges are processed. The Dosimetry Coordinator is also responsible for collecting the names

of all emergency workers who show up at the Decontamination Facility with exposures in excess of 1 Rem/day or 3 Rem total. He/she must contact the coordinator or dispatcher of each of these workers and request their reassignment.

The Director of Local Response must authorize all exposures in excess of the LERO exposure limits.

MONITORING AND DECONTAMINATION

MODULE NO. 10

SECTION I

Radiological Monitoring and Decontamination
of People, Vehicles and Equipment

This module applies to:

- Decontamination Coordinator
- Decontamination Leader
- Monitoring Personnel
- Decontamination Personnel

Your Name _____

LERO Title _____

Company Title _____

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Training Objectives	ii
Introduction	1
A. Operation of a Monitoring/Decontamination Facility	2
B. Setup of a Monitoring/Decontamination Facility	3
C. Monitoring People for External Contamination	5
D. Decontamination of People	8
E. Monitoring People for Internal Contamination -- Thyroid Scans	10
F. Treatment of Contaminated Injuries	11
G. Transporting Contaminated People to Hospitals	12
H. Monitoring of Vehicles	14
I. Decontamination of Vehicles	15
J. Monitoring and Decontamination of Equipment	18
Summary	19
 <u>Figures</u>	
1. Generalized Floor Plan for a Decontamination Center	4
 <u>Appendices</u>	
Appendix A RM 14 Count Rate Meter with the HP-270 Radiation Detection Probe	21
Appendix B Contamination Report Forms	28
Appendix C List of Hospitals Capable of Treating Contaminated Injured Individuals	33

TRAINING OBJECTIVES

At the conclusion of the Radiological Monitoring and Decontamination of People, Vehicles and Equipment portion of the LERO Training Program, the trainee will know:

- A. How to set up a monitoring/decontamination facility
- B. How to monitor people, vehicles and equipment for contamination
- C. What forms must be filled out
- D. How people, vehicles and equipment will be decontaminated
- E. How to perform a thyroid scan
- F. When a person will be sent to a hospital
- G. How to treat a contaminated injury

INTRODUCTION

In the unlikely event that there is an accident at the Shoreham Nuclear Power Station which results in a significant release of radioactive material to the environment, monitoring and decontamination facilities will be provided for emergency workers, evacuees, and their vehicles. Monitoring and decontamination procedures will be initiated if either an evacuation is ordered or emergency response personnel have been deployed into the Emergency Planning Zone (EPZ).

Monitoring and decontamination of evacuees and their vehicles will be provided at the following relocation centers:

- State University of New York in Stony Brook, New York
- BOCES in Islip, New York
- Suffolk County Community College in Selden, New York

A monitoring and decontamination facility will be provided for emergency workers and their vehicles at the Local Emergency Operations Center at the LILCO Brentwood Operations Facility.

A. OPERATION OF A MONITORING/DECONTAMINATION FACILITY

Each person, vehicle, or piece of equipment which has been inside the EPZ will be checked to verify that they are free of contamination. Upon arrival at the facility, vehicles will be quickly scanned and directed to either the "clean" or contaminated parking areas. The people will be directed, by signs and security personnel, along a controlled route to a monitoring station.

A radiation detection instrument sensitive enough to distinguish contamination from background radiation will be used for radiation monitoring. The background radiation level must be measured before people, vehicles or pieces of equipment are monitored.

If measurements indicate the presence of contamination, various soap and water techniques will be used to remove the radioactive particles. The person or piece of equipment will be monitored after each decontamination attempt. The process is repeated until either decontamination is successful or until it is clear that additional methods must be used.

People who are not easily decontaminated using soap, water, and a scrub brush will be taken to a medical facility where additional methods will be used. Vehicles or equipment which are still contaminated after washing will be set aside in the contaminated parking area. Further decontamination efforts will be made when practical.

B. SETUP OF A MONITORING/DECONTAMINATION FACILITY

The Record Keepers, Monitors and Decontamination Personnel are responsible for setting up decontamination facilities at each relocation center and at the EOC in Brentwood.

Figure 1 illustrates a generalized floor plan for a decontamination facility. However, the physical size and shape of the actual facilities will determine the placement of monitoring, recording, and decontamination stations.

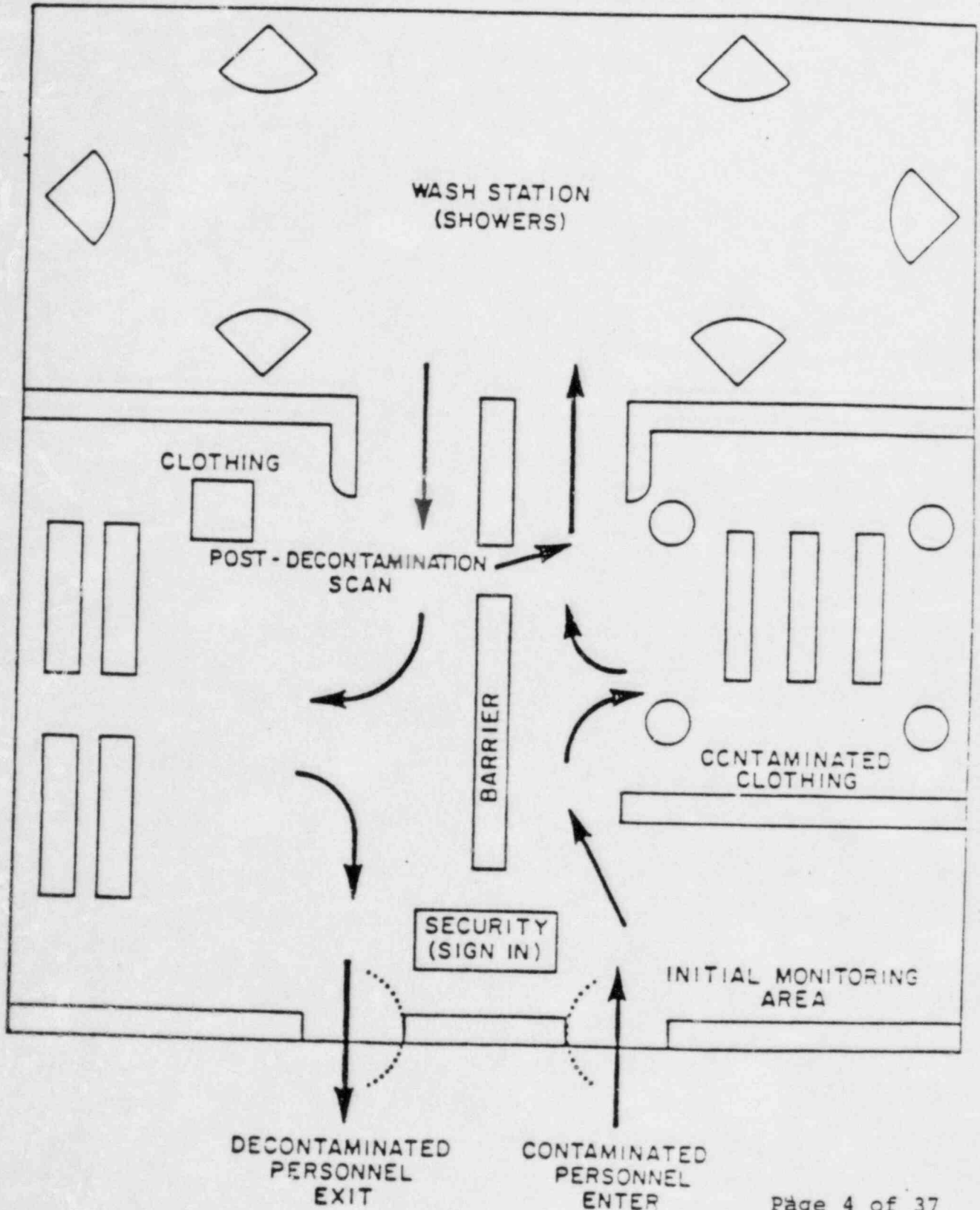
There are two main guidelines for setting up a facility:

Simplicity - The flow of traffic and people should be in a straight line whenever possible. Turns, separation barriers and intersections should be used to distinguish individual activities or stations. Traffic cones, tables, chairs, ropes and railings should be used to mark off patterns of movement for both people and vehicles. The facility should be set up so that contaminated people can be rapidly identified and moved to the decontamination stations without delay and without contaminating others.

Isolation - Once contaminated people or vehicles have been identified by monitoring, they are to be kept isolated. Move people to decontamination stations along a well-marked and controlled route. Contaminated people should not be allowed to enter any non-contaminated, or "clean areas," nor should clean people be allowed to walk along the controlled route. Vehicles should be moved along controlled routes to the contaminated parking area.

FIGURE 1

GENERALIZED FLOOR PLAN FOR A DECONTAMINATION CENTER



People who have been in the EPZ are to be checked for contamination. Have them enter the building and follow a controlled route to a monitoring station. Ideally, the station should be close to the contaminated parking area. It should have enough space to hold a large number of people, and should be blocked off from "clean areas" by rope, doors, chairs, or other barriers.

At each location where monitoring and decontamination will take place, a locked storage area will contain all the supplies necessary to set up a facility. The supplies will include ropes, radioactivity warning tape, and traffic cones for use in marking boundaries. Count rate meters with probes, soap, brushes, Exposure Record Forms and clean coveralls will also be among the supplies.

C. MONITORING PEOPLE FOR EXTERNAL CONTAMINATION

Monitoring personnel should use the following procedure to monitor people for contamination.

1. Obtain an RM-14 count rate meter w/HP-270 probe from the supplies. Check the calibration date and perform a pre-operational test of the survey instrument (see Appendix A).
2. Once you are certain that the meter is working, measure the background radiation level in the area where monitoring will occur. Typically, background will be 10-15 counts per minute. Contamination is considered to be present on people when the average meter reading is at least 50 CPM above background. Set the alarm point for the meter at background plus 50 CPM.

CAUTION: Contact the Decontamination Leader if the average background is greater than 50 CPM; it may be necessary to move the monitoring station to insure that accurate readings can be obtained.

3. Use an RM-14 count rate meter w/HP-270 probe to perform a whole body scan. Be sure that the probe shield is open.
4. Ask the person to stand with arms and legs spread apart.
5. Hold the probe about 1/2 inch from the body. Scan the entire body slowly. Pay particular attention to the feet (including bottoms of shoes), knees, elbows, nose, mouth, ears, hair, hands or any place where contamination might collect.
6. Take a minimum of 90 seconds to monitor each person.
7. If the instrument responds with a reading above background, hold at that location for 15 seconds to determine if contamination is present. Contamination is present when the average meter reading is greater than 50 CPM above background.
8. If contamination of the mouth or nose is detected, perform a smear or swipe test (depending on available supplies) to monitor for transferrable alpha, beta or gamma contamination as follows:

Smear Test - Rub filter paper or absorbent tissue paper over the area (mouth or nostrils).

Swipe Test - Dip a cotton swab, applicator or strip of filter paper in distilled water. Swab the nostril or the mouth as necessary. Use a new swab for each nostril and for the mouth.

Measure the smears/swipes with the RM-14 w/HP 270 probe to obtain a crude estimate of the radioactivity.

Place the smears/swipes in an envelope labeled with the:

- Emergency worker's or evacuee's name
- Date
- Type and location of smear/swipe
- Counts per minute
- Detection instrument serial number
- Monitor's name

Forward smears/swipes to the Decontamination Coordinator at the EOC for analysis.

9. If contamination on clothing is detected, survey the skin after having the person remove the clothing. Place the clothing in bags provided for containing contaminated articles. Label the bag and place it in a contamination canister for future decontamination. Issue clean coveralls to the individual.
10. If a person is contaminated, monitoring personnel will fill out Part III of the Evacuee or Emergency Worker Exposure Record (see examples in Appendix B). Dosimetry Record Keepers will assist if they are available. Direct the person to the decontamination area. Have the paper work transferred to the decontamination area personnel by a non-contaminated person.

11. If a person is not contaminated:

- a. Fill in the appropriate information on the Evacuee or Emergency Worker Exposure Record.
- b. Direct the person to the monitor performing thyroid scans. Give the person his/her Exposure Record to hand to the monitor.
- c. Direct the person to leave the decontamination area through the "clean exit."

D. DECONTAMINATION OF PEOPLE

Decontamination personnel will be available to:

- Advise contaminated people on proper washing techniques. If you are assigned this responsibility, instruct them to pay particular attention to areas where contamination was found and to isolated areas of the body.
- Describe the shower layout. Explain how to proceed through each stage and point out that posted placards also provide instructions.
- Start with method one for first-time decontamination. Proceed to methods two through four if method one fails after three attempts. Attempt decontamination using a given method three times before proceeding to the next method.

Methods:

1. Wash with warm water and mild soap. Use a soft scrub brush. Be very careful not to scratch or scrape the skin. Rinse thoroughly with luke warm water.
2. Clean area with a waterless hand cleaner and rinse.
3. Make a paste with a detergent and scrub gently taking care not to scratch or erode the skin. Rinse the area thoroughly with water.
4. Wash contaminated area carefully with lava soap. Take care when scrubbing not to scratch or erode the skin. Rinse thoroughly.

Monitor the person for contamination after each washing.

NOTE: If, after twelve attempts to wash, the meter still reads 50 CPM above background, contact the Decontamination Coordinator for instructions on sending the individual to a hospital where medical personnel will use more sophisticated decontamination techniques.

IF THE INDIVIDUAL IS DECONTAMINATED

- Complete the Emergency Worker or Evacuee Exposure Record.
- Direct the person to obtain a thyroid scan and to give his/her Exposure Record to the Monitoring Personnel performing the scan.

- Have him/her leave the decontamination area by the "clean exit."

E. MONITORING PEOPLE FOR INTERNAL CONTAMINATION -- THYROID SCAN

A thyroid scan should be performed after the whole body scan is complete and the person is determined to be free of surface contamination. The thyroid scan determines whether there is a significant amount of radioiodine in the person's thyroid gland.

To perform a scan:

1. Obtain an RM-14 count rate meter w/HP-270 probe from the supplies. Check the calibration date and perform a pre-operational test of the survey instrument (see Appendix A).
2. Place the RM-14 w/HP 270 probe sideways on the person's neck between the Adam's Apple and the top of the collar bone. The shield on the probe should be closed. Hold probe in place for at least 5 seconds.
3. Observe the average meter reading (CPM over a five-second period). Record the results on either the Emergency Worker or Evacuee Exposure form.
4. Contamination of the thyroid is indicated when the CPM exceed 150. If contamination is detected, contact the Decontamination Coordinator for instructions. He will arrange to transport the person to a hospital.

5. Direct evacuees who are free of contamination to a Red Cross Representative for further care. Emergency workers who are free of contamination will either be reassigned or released from duty.

6. Periodically send completed exposure records to the Radiation Health Coordinator.

F. TREATMENT OF CONTAMINATED INJURIES

People with injuries will receive preferential monitoring and treatment over those who are not injured. People needing urgent medical attention will be sent to hospitals capable of handling contaminated patients. The Decontamination Coordinator will contact the Ambulance and Hospital Coordinators to request an ambulance.

IMPORTANT!

**LIFESAVING MEDICAL ATTENTION TAKES
PRECEDENCE OVER DECONTAMINATION.**

An attempt will be made to decontaminate minor wounds. Begin cleaning the wound in a manner similar to cleaning an ordinary, dirt-laden wound:

1. Flush the wound with warm water and a mild soap. Do not rub the wound as this may embed the material.

2. Remonitor the wound after washing. If clean (less than 50 CPM above background), apply a light dressing.

3. If wound is still contaminated, cover with a light dressing for protection and to prevent spread of contamination. Inform the Decontamination Coordinator. He will arrange to transport the person to a hospital for further decontamination by medical personnel.

Routine medical first aid will be administered to non-contaminated people with minor injuries by the American Red Cross.

G. TRANSPORT OF CONTAMINATED PEOPLE TO HOSPITALS

There are three conditions under which a contaminated individual will be sent to hospital. They are:

1. If a person has surface contamination which ordinary washing will not remove, (in excess of 50 CPM).
2. If a person has been found to have excessive thyroid contamination (in excess of 150 CPM).
3. If an emergency worker or evacuee is injured and requires hospital treatment.

Family members of an individual transported to a hospital will be informed of the patients location and condition.

Requests for ambulances should be made through the Decontamination Coordinator at the Local EOC. The Decontamination Coordinator will contact the Ambulance Coordinator and the Hospital Coordinator to request the dispatch of an ambulance and the use of hospital facilities. The Ambulance Coordinator will summon the ambulance to the proper location by contacting the designated ambulance representative.

The Hospital Coordinator will select and notify an appropriate hospital from the list on file (see Appendix C) and inform the Ambulance Coordinator of the choice. The Ambulance Coordinator will inform ambulance personnel of the hospital to be used.

If time and the nature of the injury permit, survey the injured person before he/she is transported to a hospital. If contamination is present, wrap the person in blankets to contain the contamination. Ambulance personnel should wear thermoluminescent dosimeters (TLDs), which can be obtained from Record Keepers at the staging areas or the decontamination facilities. Additionally, if available and time permits, either a decontamination or a monitoring person should accompany a contaminated patient to the hospital.

While the patient is en route to the hospital, ambulance personnel should contact the hospital with the following information:

- Their names and the patient's name
- Where they picked up the patient
- Nature of the injury
- Contamination level
- Estimated time of arrival

After delivering the injured person to the hospital, the ambulance crew will go to the Emergency Worker Decontamination Facility in Brentwood. At the facility, the personnel, the equipment, and the vehicle will be monitored for contamination.

H. MONITORING VEHICLES

Each vehicle that arrives at a relocation center or the Emergency Worker Decontamination Facility from the EPZ will be monitored for contamination. Arriving vehicles will be quickly scanned, then directed to either the "clean" or contaminated parking areas.

Monitoring Personnel responsible for scanning vehicles should:

1. Obtain an RM-14 count rate meter w/HP-270 probe from the supplies. Check the calibration date and perform a pre-operational test of the survey instrument (see Appendix A).
2. Before any potentially contaminated vehicles arrive in the monitoring or decontamination areas, determine the background radiation level in these areas. A vehicle is considered contaminated if the meter registers 180 CPM above background. (Set the alarm point of the meter to background + 180 CPM.)

IMPORTANT: If the background radiation level is 50 CPM or greater, contact the Decontamination Coordinator for possible relocation of the facility.

3. When surveying a vehicle, hold the probe approximately 1/2 inch from the surface of the vehicle. Take care not to contaminate the probe or the meter by touching the vehicle with either. When surveying the exterior of a vehicle, pay particular attention to horizontal surfaces (hood, roof, trunk) and areas that are most likely to contact contaminated objects (e.g., tires and doorhandles).

Survey the accessible interior surfaces of the vehicle, again, paying special attention to areas that are most likely to be contaminated (e.g., steering wheel, brake pedal, driver's seat).

4. Vehicles will be monitored by pairs of monitoring personnel as they arrive. The tires and wheel wells, the door handles, and the hood will be quickly scanned.

If the vehicle is contaminated:

- a. Direct the driver to leave the car with the ignition key, in the contaminated parking area.
- b. Monitoring personnel will perform a thorough scan of the vehicle, both inside and out. The readings for all contaminated sections will be clearly recorded on a Vehicle Contamination Report (refer to Appendix B).
- c. The vehicle, along with its Contamination Report will be turned over to the Vehicle Decontamination personnel.

If the vehicle is not contaminated, direct the driver to park the vehicle in the "clean" area of the parking lot.

I. DECONTAMINATION OF VEHICLES

Decontamination Personnel who remove contamination from vehicles should:

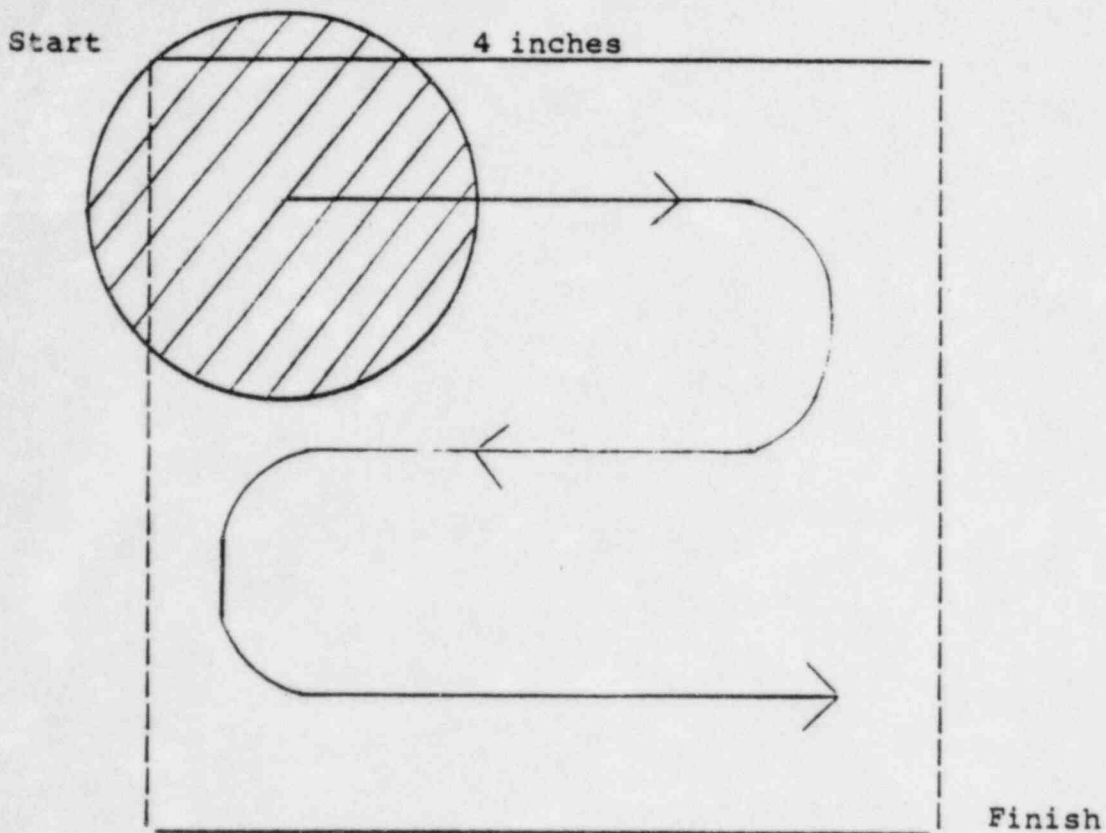
1. Wear protective clothing such as gloves and raingear to prevent personal contamination. These will be available in the LERO supply area.

2. Obtain the Vehicle Contamination Report from the Monitoring Personnel and review the locations of contamination on the vehicle.
3. For smooth painted surfaces, such as the exterior surface of an automobile, wipe down using a wet gauze pad or sponge.

CAUTION

ALWAYS CLEAN FROM AREA OF LEAST CONTAMINATION TOWARD AREA OF HIGHEST CONTAMINATION.

4. For upholstery and other similar surfaces, vacuum clean first. Then clean carefully with a mild detergent or solvent solution.
5. For rough surfaces such as the plank floor of a truck, first try to decontaminate the area by carefully sweeping and vacuuming.
6. After completing a decontamination cycle, take a 4" x 4" smear of all areas where contamination was present. A smear consists of wiping a 4" x 4" area with a piece of filter paper. Use a continuous motion to take the smear.



Count each smear with an RM-14 count rate meter w/HP-270 probe to determine if, where, and how much contamination still exists. The vehicle is considered contaminated if the smear reads 180 CPM above background. Dispose of the filter in the barrel reserved for contaminated waste.

7. If the vehicles is clean, release it for unrestricted use. Complete the Vehicle Contamination Report. Move the vehicle to the "clean" parking area. Keep a copy of the Vehicle Contamination Report with the vehicle.

8. If the vehicle is still contaminated, try again to decontaminate it only if it is essential to use the vehicle. Otherwise, move the vehicles to the "contaminated parking area." Leave a copy of the Vehicle Contamination Record inside for updating when further decontamination can be attempted.

9. If three attempts to decontaminate an essential vehicle all fail, move the vehicle to the "contaminated vehicle parking area" along with a copy of the report. Inform the Decontamination Leader of the problem.
10. When time allows, transmit the completed original Vehicle Contamination Reports to the Radiation Health Coordinator.
11. All rags, sponges and other materials used to decontaminate vehicles will become contaminated in the process. Disposable materials should be placed in the barrels provided for contaminated waste. Equipment, such as vacuum cleaners, should be set aside in a controlled area until they can be decontaminated.

J. MONITORING AND DECONTAMINATION OF EQUIPMENT

All equipment used by an emergency worker in the EPZ will be left with the vehicle to be checked for contamination. Equipment will be considered contaminated at readings of 180 CPM or greater above background.

Monitoring will be done using an RM-14 count rate meter w/HP-270 probe. Scan slowly with the probe held about 1/2 inch from the surface of the equipment. The shield on the probe should be open.

An equipment contamination report must be filled in for every piece of equipment monitored. If the equipment is clean, release it for use and send the completed report to the Radiation Health Coordinator. If the equipment is contaminated, turn it and the report over to the decontamination personnel.

Depending on the equipment, attempt decontamination by washing it with soap, water and a scrub brush or by vacuuming it. Take smears if possible; otherwise scan the equipment with the RM-14 count rate meter w/HP-270 probe. If it is decontaminated, release it for unrestricted use, otherwise either bag and label it or cover it with plastic or a blanket to control any loose surface contamination. Set it in a controlled area until there is time to try additional decontamination techniques.

NOTE: Contact the Decontamination Leader for instructions if you cannot decontaminate a necessary piece of equipment.

SUMMARY

In the event of a release of radioactive material from the plant, radiation monitoring and decontamination facilities will be provided for evacuees and emergency workers. Contaminated evacuees will be monitored and decontaminated at relocation centers and contaminated emergency workers at the Emergency Worker Decontamination Facility in Brentwood.

It will be assumed that people, equipment, and vehicles which have been inside the EPZ are contaminated until they have been monitored and determined otherwise. Monitoring personnel will scan each person, vehicle, and piece of equipment using an RM-14 count rate meter w/HP-270 probe.

The facility should be set up to rapidly identify and isolate contaminated people. People will be considered contaminated at meter readings of 50 CPM or greater above background. Decontamination personnel will be available to instruct individuals on techniques for washing. If three attempts to wash away the contamination fail, the person will be taken to a medical facility where trained personnel will use additional methods.

While an attempt shall be made to decontaminate minor cuts or abrasions, people with life-threatening injuries will be transported to a hospital which is capable of handling contaminated injured people.

After it has been determined that a person is "clean" of contamination, he/she will receive a thyroid scan. If an RM-14 count rate meter w/HP-270 probe reads equal to or greater than 150 CPM, the person will be sent to a hospital. Otherwise, the person will be released as "clean." An Exposure Report will be filled out and sent to the Radiation Health Coordinator for filing.

Vehicles will be monitored and a Vehicle Contamination Report will be filled out. Vehicles will be considered contaminated at meter readings of 180 CPM or greater above background. Contaminated vehicles will be turned over to the decontamination personnel along with the Vehicle Contamination Report. If the contamination cannot be removed by washing, the vehicle will be parked in the contaminated parking area and a copy of the report placed inside. Once a vehicle is monitored and found "clean," it can be released for unrestricted use. A copy of the Vehicle Contamination Report should stay with the vehicle. The original will be sent to the Radiation Health Coordinator.

APPENDIX ARM-14 COUNT RATE METER WITH THE HP-270 RADIATION DETECTION PROBE

This appendix contains the information needed to perform an operational check on an RM-14 count rate meter with an HP-270 radiation detection probe. The subjects presented are:

- A. Count Rate Meters and Radiation Detection Probes
- B. RM-14 Count Rate Meter
 - Audible and Visual Alarms
 - Meter Response
 - Power Source
 - Battery Check Procedure
- C. HP-270 Geiger Muller Radiation Detection Probe
- D. Operating the RM-14 with HP-270 Probe

APPENDIX A
(continued)

RM-14 COUNT RATE METER WITH THE HP-270 RADIATION DETECTION PROBE

A. COUNT RATE METERS AND RADIATION DETECTION PROBES

Count rate meters and radiation detection probes are used to monitor for contamination. The probe responds to radiation by producing an electrical pulse each time it interacts with a beta particle or a gamma ray. The meter keeps count of the number of pulses generated and displays the number of counts per unit of time.

B. RM-14 COUNT RATE METER

LERO Radiation Monitoring Personnel will use the Eberline RM-14 count rate meter. The RM-14 is a small, compact count rate meter which can be operated either on an AC line or by a 6-volt battery. It will be used with an HP-270 Geiger Muller radiation detection probe. Figure A-1 illustrates the front panel of the RM-14 count rate meter.

The radiation count rate is read on a meter located on the right side of the front panel of the RM-14. The scale runs from 0-500 CPM (counts per minute). A switch (bottom front, second from the left) allows you to select multipliers for 1, 10, and 100 times the CPM shown on the scale. This yields 500, 5,000, and 50,000 CPM full scale. When monitoring for contamination, begin with the multiplier set for 1.

APPENDIX A
(continued)

RM-14 COUNT RATE METER WITH THE HP-270 RADIATION DETECTION PROBE

On the left side of the front panel there is an internally mounted speaker. One click is heard per count of detected radiation. A volume control knob is located on the bottom far left of the front panel.

- Audible and Visual Alarms

The RM-14 meter can be set to alarm at a given count rate. The alarm is set by using the control knob on the rear panel. The alarm point can be set from 1/10 the scale to over full scale. The audible alarm consists of a 1,000 Hz tone on the speaker. This alarm is independent of the volume control. A red light on the front panel will also come on when the alarm trips. The alarm will stay on until the reset button (front panel, bottom center) has been pushed.

- Meter Response

On the bottom right of the front panel is a response switch. When set to "fast," the meter will respond in 2.2 seconds. When set to "slow," the meter takes 22 seconds to measure 90% of the final reading. For monitoring purposes, this switch should be set to "fast" response.

APPENDIX A
(continued)

COUNT RATE AND RADIATION DETECTION PROBES

- Power Source

The RM-14 meter will operate either from a 110-volt AC current or a 6-volt 900 mA-hour Gel type battery. The battery is continuously trickle-charged when the RM-14 is plugged into an AC line.

The RM-14 can be operated for 50 hours on a fully-charged battery away from an AC line. It takes approximately 50 hours to charge a fully discharged battery with the meter off.

- Battery Check Procedure

The RM-14 will not work properly, even when plugged into a 110-volt AC line, unless the battery checks out. To check the battery, set the selector switch (lower front panel, second from left) to the "BATT" position. The meter should read in the "BATT OK" range. If the battery checks low, replace it and check the new battery. If the instrument still fails the battery test, contact the Decontamination Leader for further instructions.

APPENDIX A
(continued)

COUNT RATE AND RADIATION DETECTION PROBES

C. HP-270 GEIGER MULLER RADIATION DETECTION PROBE

The probe is what actually detects radioactivity. The meter only amplifies the electrical pulses generated by the probe and displays the data. The probe that will be used to monitor people, vehicles, and equipment for contamination is the HP-270 Geiger Muller radiation detection probe. The cable from the probe plugs into the lower far right of the front panel of the RM-14 meter.

The probe has a sleeve which can be opened to reveal part of the detector. With the sleeve in the open position, the probe will detect both beta and gamma radiation. If the sleeve is closed, the probe is shielded from beta radiation and will detect only gamma radiation.

D. OPERATING THE RM-14 WITH HP-270 PROBE

The RM-14 count rate meter and the HP-270 probe will be stored separately. You should check both instruments before using for any signs of physical damage. Check the calibration due date on the meter. If the date is past the calibration date, inform the Decontamination Leader. Otherwise, plug the cord from the probe

APPENDIX A
(continued)

COUNT RATE AND RADIATION DETECTION PROBES

into the appropriate socket on the front panel of the RM-14 meter (bottom right). If the unit is to be operated off AC current, plug the unit in. The "AC ON" light on the front panel should then light up.

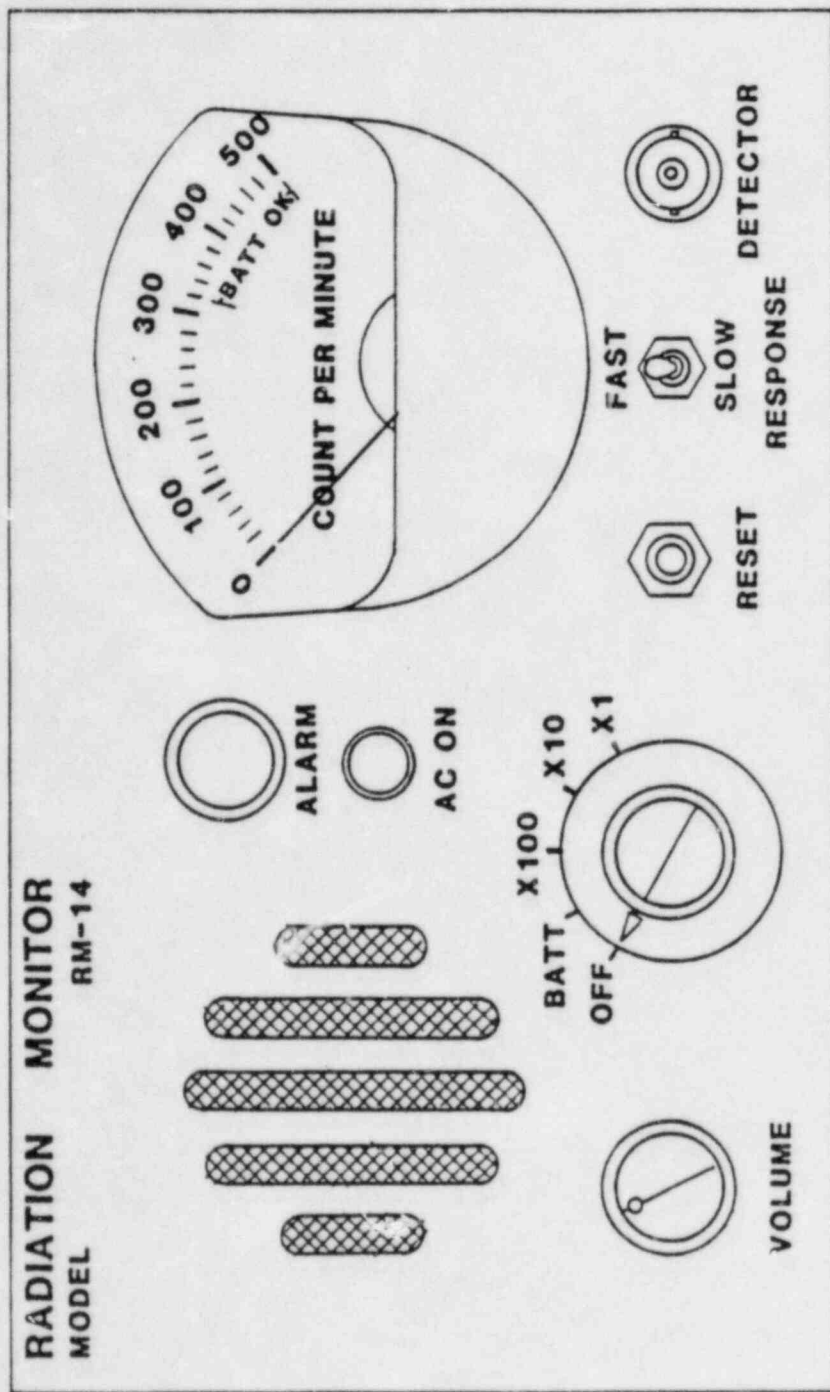
Next, turn the selector switch to the "BATT" position. If the battery checks out, test the alarm. If the battery charge is low, it should be charged. If the new battery fails the test, inform the Decontamination Leader and follow his/her instructions. Do not use a unit which has a low charge on the battery. It will not work properly even when plugged into an AC line.

If the battery is properly charged, proceed to test the alarm. Rotate the "ALARM SET" knob counterclockwise until the audible alarm sounds and the "ALARM" light comes on. Push the reset button to turn off the alarm.

The unit should now be ready to use.

APPENDIX A

FIGURE A-1



APPENDIX BCONTAMINATION REPORT FORMS

This appendix contains examples of the following contamination report forms:

- Evacuee Exposure Record
- Emergency Worker Exposure Record
- Vehicle Contamination Report
- Equipment Contamination Report

APPENDIX B

EVACUEE EXPOSURE RECORD

I. REGISTRATION (EVACUEE-PLEASE PRINT)

DATE _____ TIME _____ DECONTAMINATION CENTER _____

1. NAME _____
 (LAST) (FIRST) (MIDDLE INI.)

2. AGE _____ 3. SEX MALE FEMALE 4. PREGNANT YES NO

5. HOME ADDRESS _____

6. CITY _____ 7. STATE _____ 8. ZIP CODE _____

9. TELEPHONE NUMBER (HOME) () () () - () () ()

10. TELEPHONE NUMBER (BUSINESS) () () () - () () ()

11. SOCIAL SECURITY NUMBER () () () - () () - () () ()

12. HI TAKEN YES NO 13. TIME INITIAL DOSE WAS TAKEN _____

14. DATE INITIAL DOSE WAS TAKEN _____ 15. HOW MANY DAYS HI TAKEN _____

II. BRIEFLY DESCRIBE YOUR WHEREABOUTS AND ACTIVITIES.
 INCLUDE AMOUNT OF TIME SPENT AT EACH LOCATION.

LOCATION	INDOORS/OUTDOORS	TIME SPENT (HRS)	ACTIVITY	OFFICIAL USE ONLY
1. _____	<input type="checkbox"/> <input type="checkbox"/>	_____	_____	_____
2. _____	<input type="checkbox"/> <input type="checkbox"/>	_____	_____	_____
3. _____	<input type="checkbox"/> <input type="checkbox"/>	_____	_____	_____
4. _____	<input type="checkbox"/> <input type="checkbox"/>	_____	_____	_____
5. _____	<input type="checkbox"/> <input type="checkbox"/>	_____	_____	_____

III. PERSONNEL MONITORING (TO BE COMPLETED BY CENTER PERSONNEL)

MONITORING INSTRUMENT(S)	BACKGROUND		MON / hr		cpm	
	INITIAL COUNT	RANGE BACKGROUND	COUNTS AFTER DECONTAMINATION ABOVE	BACKGROUND	MON / hr	cpm
WHOLE BODY	_____	_____	_____	_____	_____	_____
FEET	_____	_____	_____	_____	_____	_____
HANDS	_____	_____	_____	_____	_____	_____
THYROID	_____	_____	_____	_____	_____	_____

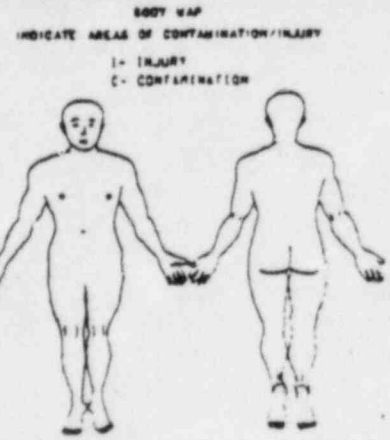
CHECK DECONTAMINATION METHOD(S) USED: WASH ALL EXPOSED AREAS: _____ MONITORING PERSONNEL INITIALS _____

USING (CHECK ALL METHODS USED): SHOWER - WIDESPREAD _____

WARM WATER _____

MILD SOAP AND WATER _____

MILD DETERGENT AND WATER HEAVY LATHER 30" BRUSH _____



- CHECK APPROPRIATE INITIAL ACTION:
- INDIVIDUAL DECONTAMINATED
 - INDIVIDUAL SENT TO _____ HOSPITAL
 - INJURY _____
 - THYROID CONTAMINATION ABOVE 0.05mCi/gm OR 100cpm
 - ABOVE BACKGROUND
 - CONTINUED WHOLE BODY CONTAMINATION ABOVE 100cpm
 - ABOVE BACKGROUND
 - CONTAMINATED

APPENDIX B

EMERGENCY WORKER EXPOSURE RECORD

I. REGISTRATION (EMERGENCY WORKER-PLEASE PRINT)

DATE _____ TIME _____ DECONTAMINATION CENTER _____

1. NAME (LAST) _____ (FIRST) _____ (MIDDLE INIT.) _____

2. AGE _____ 3. SEX MALE FEMALE 4. PREGNANT YES NO

5. HOME ADDRESS _____

6. CITY _____ 7. STATE _____ 8. ZIP CODE _____

9. TELEPHONE NUMBER (HOME) () () - () () () ()

10. TELEPHONE NUMBER (BUSINESS) () () - () () () ()

11. SOCIAL SECURITY NUMBER () () - () () - () () ()

12. HI TAKEN YES NO 13. TIME INITIAL DOSE WAS TAKEN _____

14. DATE INITIAL DOSE WAS TAKEN _____ 15. HOW MANY DAYS HI TAKEN _____

II. BRIEFLY DESCRIBE FOUR WHEREABOUTS AND ACTIVITIES. INCLUDE AMOUNT OF TIME SPENT AT EACH LOCATION.

LOCATION	INDOORS/OUTDOORS	TIME SPENT (HRS)	ACTIVITY
1. _____	<input type="checkbox"/> <input type="checkbox"/>	_____	_____
2. _____	<input type="checkbox"/> <input type="checkbox"/>	_____	_____
3. _____	<input type="checkbox"/> <input type="checkbox"/>	_____	_____
4. _____	<input type="checkbox"/> <input type="checkbox"/>	_____	_____
5. _____	<input type="checkbox"/> <input type="checkbox"/>	_____	_____

OFFICIAL USE ONLY

III. PERSONNEL MONITORING (TO BE COMPLETED BY CENTER PERSONNEL)

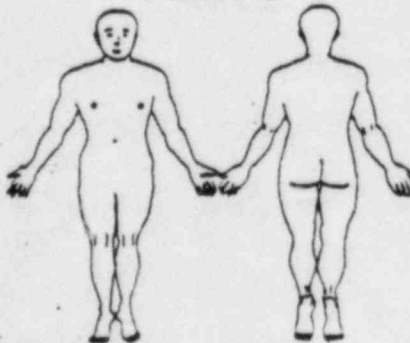
MONITORING	MONITORING INSTRUMENT(S)		BACKGROUND				COUNTS AFTER DECONTAMINATION ABOVE BACKGROUND (TYPE INSTRUMENT)			
	INITIAL COUNT (MINUS 30-SEC. DR)		mR/hr	cpm	mR/hr	cpm	mR/hr	cpm	mR/hr	cpm
WHOLE BODY										
FEET										
HANDS										
THYROID										

CHECK DECONTAMINATION METHOD(S) USED: WASH (ISOLATED AREAS) MONITORING PERSONNEL INITIALS _____

USING (CHECK ALL METHODS USED): SHOWER (WIDESPREAD)

WARM WATER MILD SOAP AND WATER MILD DETERGENT AND WATER HEAVY LATHER, SOFT BRUSH

BODY MAP
INDICATE AREAS OF CONTAMINATION/INJURY
I- INJURY
C- CONTAMINATION



CHECK APPROPRIATE FINAL ACTION

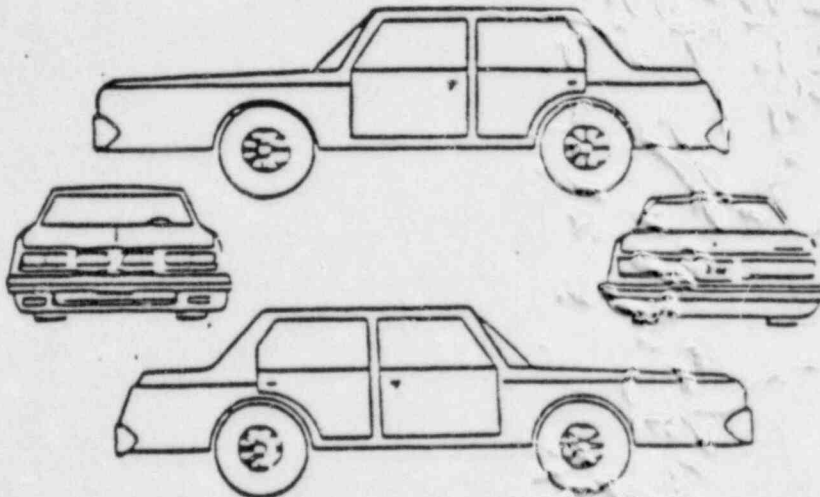
- INDIVIDUAL DECONTAMINATED
- INDIVIDUAL SENT TO _____ HOSPITAL
- INJURY
- THYROID CONTAMINATION ABOVE 0.5mR/hr OR 15cpm ABOVE BACKGROUND
- CONTINUED WHOLE BODY CONTAMINATION ABOVE 50 cpm ABOVE BACKGROUND
- INITIALS _____

APPENDIX B VEHICLE CONTAMINATION REPORT

License # _____ State _____
 Name of Driver _____
 Address (if Non-LERO) _____
 Number Street City State Zip

INITIAL SURVEY RESULTS

Instrument Used: Model No. _____ S/N _____ Probe Type _____
 Date _____ Time _____ Surveyed by _____



_____ Clear - Authorized for Release from Site
 _____ Contamination Detected - Release Denied

COMMENTS

Signature _____

POST-DECONTAMINATION SURVEY RESULTS

Decontaminated by _____ Name _____ Date _____ Time _____

Decontamination Methods Used: _____

Post-Decontamination Survey Results: _____

Instrument Used: _____ Date _____ Time _____

Followup Action Required: _____ None _____ Special Followup (Specify) _____

Send Completed Form to Radiation _____ Coordinator _____

APPENDIX B

EQUIPMENT CONTAMINATION REPORT

OWNER'S NAME _____

LERO ORGANIZATION _____

EQUIPMENT DESCRIPTION _____

MODEL NO. _____ S/N _____

INITIAL SURVEY RESULTS

INSTRUMENT USED: MODEL NO. _____ S/N _____ PROBE TYPE _____

DATE _____ TIME _____ SURVEYED BY _____

_____ Clear - Authorized for Release from Site

_____ Contamination Detected - Release Denied

COMMENTS

POST DECONTAMINATION SURVEY RESULTS

Decontaminated by _____
Name Date Time

Decontaminated Methods Used: _____

Post-Decontamination Survey Results _____

Instrument Used: _____ Date _____ Time _____
Model No. S/N Probe Type

Followup Action Required: _____ None _____ Special Followup (Specify)

Send Completed Form to Radiation Health Coordinator

APPENDIX CLIST OF HOSPITALS CAPABLE OF TREATING
CONTAMINATED INJURED INDIVIDUALSAREA CODE 516

Nassau County Medical Center
2201 Hempstead Turnpike
East Meadow, New York 11514
(516) 542-0123

Mercy Hospital
1000 North Village
Rockville Centre, New York 11570
(516) 255-2530

North Shore University Hospital
300 Community Drive
Manhasset, New York 11030
(516) 562-4050

AREA CODE 212

The Staten Island Hospital
475 Seaview Avenue
Staten Island, New York 10305
(212) 390-9000

State University of New York
Downstate Medical Center
450 Clarkson Avenue
Brooklyn, New York 11203
(212) 270-1000

Beth Israel Medical Center
10 Nathan D. Periman Place
New York, New York 10003
(212) 420-2000

Lutheran Medical Center
150 55th Street
Brooklyn, New York 11220
(212) 630-7000

Lenox Hill Hospital
100 East 77th Street
New York, New York 10021
(212) 794-5121

The New York Hospital
525 East 68th Street
New York, New York 10021
(212) 472-5892

Montefiore Hospital and
Medical Center
111 East 210th Street
Bronx, New York 10467
(212) 920-6671

APPENDIX C
(continued)LIST OF HOSPITALS CAPABLE OF TREATING
CONTAMINATED INJURED INDIVIDUALSAREA CODE 914

Vassar Brothers Hospital
28 Reade Place
Poughkeepsie, New York 12601
(914) 454-8500

Good Samaritan Hospital
Suffern, New York 10901
(914) 357-3300

Cornwall Hospital
Laural Avenue
Cornwall, New York 12518
(914) 534-7711

Phelps Memorial Hospital Center
North Tarrytown, New York 10591
(914) 631-5100

Benedictine Hospital
105 Mary's Avenue
Kingston, New York 12401
(914) 338-2500

Nyack Hospital
North Midland Avenue
Nyack, New York 10960
(914) 358-6200

New Rochelle Hospital Medical Center
16 Guion Place
New Rochelle, New York 10802
(914) 632-5000

AREA CODE 607

The Hospital
Sidney, New York 13838
(607) 563-3512

Arnot-Ogden Memorial Hospital
Elmira, New York 14901
(607) 737-4100

St. Joseph's Hospital
555 East Market Street
Elmira, New York 14902
(607) 733-6541

Tompkins Community Hospital
1285 Trumansburg Road
Ithaca, New York 14850
(607) 274-4011

Our Lady of Lourdes Memorial Hospital
169 Riverside Drive
Binghamton, New York 13905
(607) 798-5111

APPENDIX C
(continued)LIST OF HOSPITALS CAPABLE OF TREATING
CONTAMINATED INJURED INDIVIDUALSAREA CODE 518

St. Mary's Hospital
1300 Massachusetts Avenue
Troy, New York 12180
(518) 272-5000

Mary McClellan Hospital
Cambridge, New York 12816
(518) 677-2611

Amsterdam Memorial Hospital
Amsterdam, New York 12010
(518) 842-3100

Ellis Hospital
1101 Nott Street
Schenectady, New York 12308
(518) 382-4124

Albany Medical Center Hospital
New Scotland Avenue
Albany, New York 12208
(518) 445-3125

Samaritan Hospital
2215 Burdett Avenue
Troy, New York 12180
(518) 271-3300

Saint Mary's Hospital
427 Guy Park Avenue
Amsterdam, New York 12010
(518) 842-1900

Columbia Memorial Hospital
71 Prospect Avenue
Hudson, New York 12534
(518) 828-7601

St. Elizabeth Hospital
2209 Genesee Street
Utica, New York 13501
(518) 798-8111

AREA CODE 315

State University Hospital of
the Upstate Medical Center
750 East Adams Street
Syracuse, New York 13210
(315) 473-4240

The Faxton Hospital
1676 Sunset Avenue
Utica, New York 13502
(315) 732-3101

APPENDIX C
(continued)LIST OF HOSPITALS CAPABLE OF TREATING
CONTAMINATED INJURED INDIVIDUALSAREA CODE 315
(continued)

Carthage Area Hospital
West Street Road
Carthage, New York 13619
(315) 493-1000

Little Falls Hospital
140 Burwell Street
Little Falls, New York 13365
(315) 424-5111

Community General Hospital
Broad Road
Syracuse, New York
(315) 492-5011

Oswego Hospital
110 West Sixth Street
Oswego, New York 13126
(315) 349-5511

St. James Mercy Hospital
411 Canisteo Street
Hornell, New York
(315) 324-3900

St. Joseph's Hospital Health Center
301 Prospect Avenue
Syracuse, New York 13203
(315) 424-5111

AREA CODE 716

WCA Hospital
207 Foote Avenue
Jamestown, New York 14701
(716) 484-7440

Erie County Medical Center
462 Grider Street
Buffalo, New York 14215
(716) 898-3000

Park Ridge Hospital
1555 Long Pond Road
Rochester, New York 14626
(716) 225-7150

Mercy Hospital of Buffalo
565 Abbott Road
Buffalo, New York 14220
(716) 826-7000

APPENDIX C
(continued)

LIST OF HOSPITALS CAPABLE OF TREATING
CONTAMINATED INJURED INDIVIDUALS

AREA CODE 716

Genesee Memorial Hospital
127 North Street
Batavia, New York 14020
(716) 343-6030

St. Jerome Hospital
16 Bank Street
Batavia, New York 14020
(716) 343-3131

Jamestown General Hospital
51 Glasgow Avenue
Jamestown, New York 14701
(716) 484-1161

Lake Shore Hospital
Routes 5 and 20
Irving, New York 14081
(716) 934-2654

WORKBOOK NO. 10

MONITORING AND DECONTAMINATION PROCEDURES

SECTION I REVIEW

Name: _____

LERO Title: _____

Company Title: _____

1. Indicate whether the statement is true or false.

- _____ a. Only one in every ten evacuees will be monitored for contamination.
- _____ b. Emergency workers will be monitored at the relocation centers as well as at the EOC Decontamination Facility.
- _____ c. People are monitored for thyroid contamination only after they have been monitored and found free of surface contamination.
- _____ d. People who have been monitored and found clean will be directed to leave the monitoring/ decontamination area through the same door that newly arrived unmonitored people are using to enter.
- _____ e. People who are monitored and found free of surface contamination do not need to receive a thyroid scan.

2. At what meter reading are the following items considered contaminated?
- a. People _____
 - b. Thyroid gland _____
 - c. Vehicles and equipment _____
3. The shield on the probes should be in what position when monitoring for surface contamination?
4. The shield on the probe should be in what position when monitoring for thyroid gland contamination?
5. What four methods will people use to remove contamination?
- 1. _____
 - 2. _____
 - 3. _____
 - 4. _____
6. Each of the methods mentioned in question 5 is to be tried how many times before moving on to the next method?
7. How far should the probe be held from the surface being scanned?
8. Whom should you notify immediately if contamination is found on a person?

9. How should you treat a contaminated minor wound (scratch or scrape)?

10. Should the ambulance crew taking a contaminated patient to the hospital wear dosimeters? (circle one)

Yes or No

MONITORING AND DECONTAMINATION

MODULE NO. 10

SECTION II

Potassium Iodide Distribution

This module applies to:

- Decontamination Coordinator
- Decontamination Leader
- Monitoring Personnel
- Decontamination Personnel

Your Name _____

LERO Title _____

Company Title _____

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Training Objectives	ii
Introduction	1
A. Potassium Iodide Distribution	2
- Radiation Health Coordinator - Actions and Responsibilities	2
- Monitoring Personnel - Actions and Responsibilities	3
B. Medical Precautions	5
Summary	5
<u>Appendices</u>	
Appendix A Worksheets and Graphs for Use in Calculating the Projected Dose to the Thyroid	7
Appendix B Examples of Records and Forms	12

TRAINING OBJECTIVES

At the conclusion of the "Potassium Iodide Distribution" section of the LERO Training Program, you will understand:

- A. Why potassium iodide is administered
- B. Who administers the tablets
- C. What forms must be filed
- D. Possible medical side effects

INTRODUCTION

Each person's thyroid gland needs certain forms of iodine to work properly. The body takes iodine from foods like fish and iodized salt and stores what it needs in the thyroid. Any excess is normally passed out of the body as waste.

If an accident at Shoreham resulted in a release of radioactivity into the environment, radioactive iodines (radioiodines) would be present in the plume. If a person breathed or swallowed the radioiodines, the body would concentrate them in the thyroid gland. The radioiodines would be an internal source of radiation until they decayed. Damage resulting from this internal source of exposure might not show itself for years.

To reduce the risks that may result from a concentration of radioiodines in the thyroid, potassium iodide tablets will be given to emergency workers whose thyroid dose may be 10 Rem or greater. By saturating the thyroid with a non-harmful form of iodine prior to exposure to radioiodines, the amount of radioiodines that can enter the gland is reduced. The drug is not harmful to most people, but it has been known to cause an allergic reaction in some. As a result, only people who have never had an allergic reaction to iodine should take potassium iodide. Emergency workers will be screened to identify those people who have had allergic reactions. Taking the drug will be voluntary, and each worker must sign a consent form before receiving it.

A. POTASSIUM IODIDE DISTRIBUTION

The Radiation Health Coordinator is responsible for calculating the projected dose to the thyroid gland. If the projected dose is 10 Rem or greater, he/she will inform the Health Services Coordinator of the need to issue potassium iodide. If the Health Services Coordinator agrees, the Radiation Health Coordinator will implement the Potassium Iodide Distribution procedure (OPIP 3.6.2).

- Radiation Health Coordinator - Actions and Responsibilities

The Radiation Health Coordinator is responsible for:

1. Calculating the projected dose to the thyroid using the worksheet provided in the Potassium Iodide Distribution procedure. (A sample worksheet is presented in Appendix A.)
2. Obtaining authorization from the Health Services Coordinator to distribute potassium iodide.
3. Directing the Decontamination Coordinator to begin distribution of the potassium iodide from the:
 - Local Emergency Operations Center
 - Port Jefferson Staging Area
 - Riverhead Staging Area
 - Patchogue Staging Area
 - Any other appropriate location

4. Informing the Decontamination Coordinator of which emergency workers should receive potassium iodide and having him/her send monitoring personnel to the staging areas.
5. Contacting other LERO functional coordinators to ensure that all emergency workers who need potassium iodide are directed to report to a distribution location. Emergency workers who have already taken the drug will replace those in the EPZ who need to take it. If a replacement is not available, the worker will be instructed to leave his post and report to a potassium iodide distribution location to receive the drug.
6. Making provisions for the continued administration of potassium iodide if LERO is deactivated before a worker receives ten doses.

- Monitoring Personnel - Actions and Responsibilities

Monitoring Personnel should:

1. Report to the location where you will be administering potassium iodide, taking with you an operational RM-14 w/HP-270 probe.
2. Remove potassium iodide bottles from their storage containers in the LERO supply area at the EOC and the staging areas and verify that the tablets have not exceeded their shelf life. If they have exceeded shelf life, inform the Decontamination Coordinator or the Radiation Health Coordinator. They will obtain additional potassium iodide tablets.

3. Ask each worker who is designated by the Radiation Health Coordinator to receive potassium iodide if he/she has ever had an allergic reaction to iodine. Administer potassium iodide only to those people who are designated to receive it and who indicate that they have never had an allergic reaction to iodine. Instruct the workers to take one tablet per day for ten days. Direct anyone who has had an allergic reaction to immediately contact their functional coordinator so they can be reassigned.
4. Remind workers that the use of potassium iodide is strictly voluntary. If they agree to take the drug, have them sign a consent form and fill in their name, Social Security number, LILCO employee number, and mission on a Potassium Iodide Record Sheet (see Appendix B).
5. Monitor each worker's thyroid by placing the probe (shield closed) horizontally on the neck between the Adam's Apple and the top of the collar bone. Hold the probe in place for at least 5 seconds while observing the meter.
6. Record the average number of counts per minute and the time, date, and your initials (as the person administering the potassium iodide) on the record sheet.
7. Record on the record sheet the location where the worker should report the next day to receive the next tablet.
8. Give a copy of the record sheet to the worker and retain the original on file. Forward completed consent forms and record sheets to the Health Services Coordinator at

the EOC if LERO is activated. If LERO has been deactivated, send completed forms to the LILCO Emergency Planning Coordinator.

B. MEDICAL PRECAUTIONS

Side effects are unlikely because of the low dose and the short time (ten days) a worker would take potassium iodide. Side effects are more common if higher doses are taken for a long time. You should be careful not to take more than the recommended dose or take it for longer than you are told.

Possible side effects include skin rashes, swelling of the salivary glands, a metallic taste in the mouth, sore gums, symptoms of a head cold, upset stomach, or diarrhea. A few people have more serious allergic symptoms, including fever, joint pains, swelling of parts of the face and body, or severe shortness of breath, which could require immediate medical attention. A rare reaction is either over- or under-activity or swelling of the thyroid gland.

You should be sure to report any illness or reaction you think might be caused by potassium iodide to the Health Services Coordinator (if LERO is activated) or to the LILCO Emergency Planning Coordinator (if LERO has been de-activated).

SUMMARY

Potassium iodide will be administered on a voluntary basis to those emergency workers who have a projected dose of 10 Rem or greater to their thyroid from inhaling radioactive iodines. A person's thyroid will only hold a certain amount of iodine. By saturating the thyroid with a relatively harmless form of iodine, the amount of radioiodines which can be concentrated in the thyroid is greatly reduced.

The Radiation Health Coordinator is responsible for calculating the projected dose to the thyroid and for implementing the Potassium Iodide Distribution procedure. The Health Services Coordinator must authorize the distribution of potassium iodide. Monitoring personnel will administer the tablets, perform thyroid scans, and fill in and file consent forms and record sheets.

Each worker who agrees to receive potassium iodide will receive one tablet a day for 10 days. They will have a thyroid scan each time they receive a tablet. If a worker has an allergic reaction to the drug, he/she should contact the LERO Health Services Coordinator or, if LERO has been de-activated, the LILCO Emergency Planning Coordinator.

APPENDIX AWORKSHEETS AND GRAPHS FOR USE IN CALCULATING
PROJECTED DOSE TO THE THYROID

This appendix contains copies of the following worksheets and graphs:

- Potassium Iodide Worksheet
- Thyroid Graph
- Gamma Exposure Rate Graph

APPENDIX A

POTASSIUM IODIDE WORKSHEET

1. Location surveyed or area entered _____
2. Task: _____ Date _____ Time _____
3. Team members _____

3. I-131 concentration in the affected area: _____ uCi/cc
4. Protection factor (see table below): _____

<u>TYPE UNIT</u>	<u>MODE*</u>	<u>PROTECTION FACTOR</u>
Facepiece, half-mask	CF	1000
Facepiece, half-mask	D	10
Facepiece, full	CF	2000
Facepiece, full	D	50
Facepiece, full	PD	2000

*The mode symbols are defined as follows:

CF = continuous flow

D = demand

PD = pressure demand (i.e., always positive pressure)

APPENDIX A

POTASSIUM IODIDE WORKSHEET
(continued)

5. a. Inhaled I-131 concentration

Item 3/item 4 = _____ uCi/cc

NOTE: If I-131 concentration data is unavailable, record gamma exposure rate below.

- b. Gamma Exposure Rate = _____ mr/hr

6. Length of time individual(s) will be or was in affected area = _____ minutes.

7. Projected thyroid dose (use a, b, or c in that order).

- a. Using item 5a and 6, locate the thyroid dose on the thyroid graph (Attachment 2). Circle one below:

Thyroid dose greater than/equal/less than 10 rem

- b. Thyroid dose commitment = _____ rem (obtained from OPIP 3.5.2 - Assessment and Dose Projection)

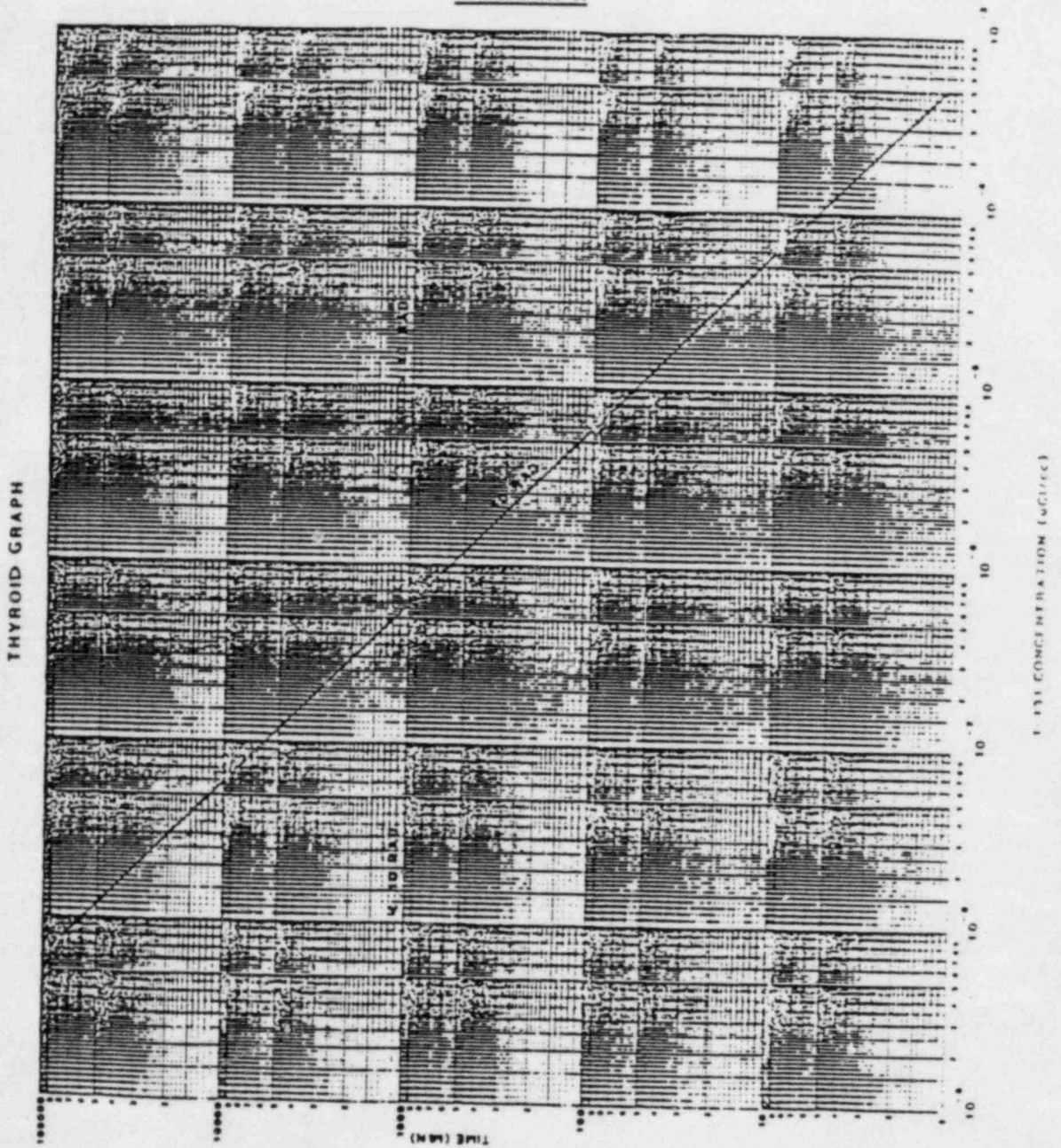
- c. Using items 5b and 6, locate the thyroid dose on the gamma exposure rate graph (Attachment 3).

Adult thyroid dose = _____ rem

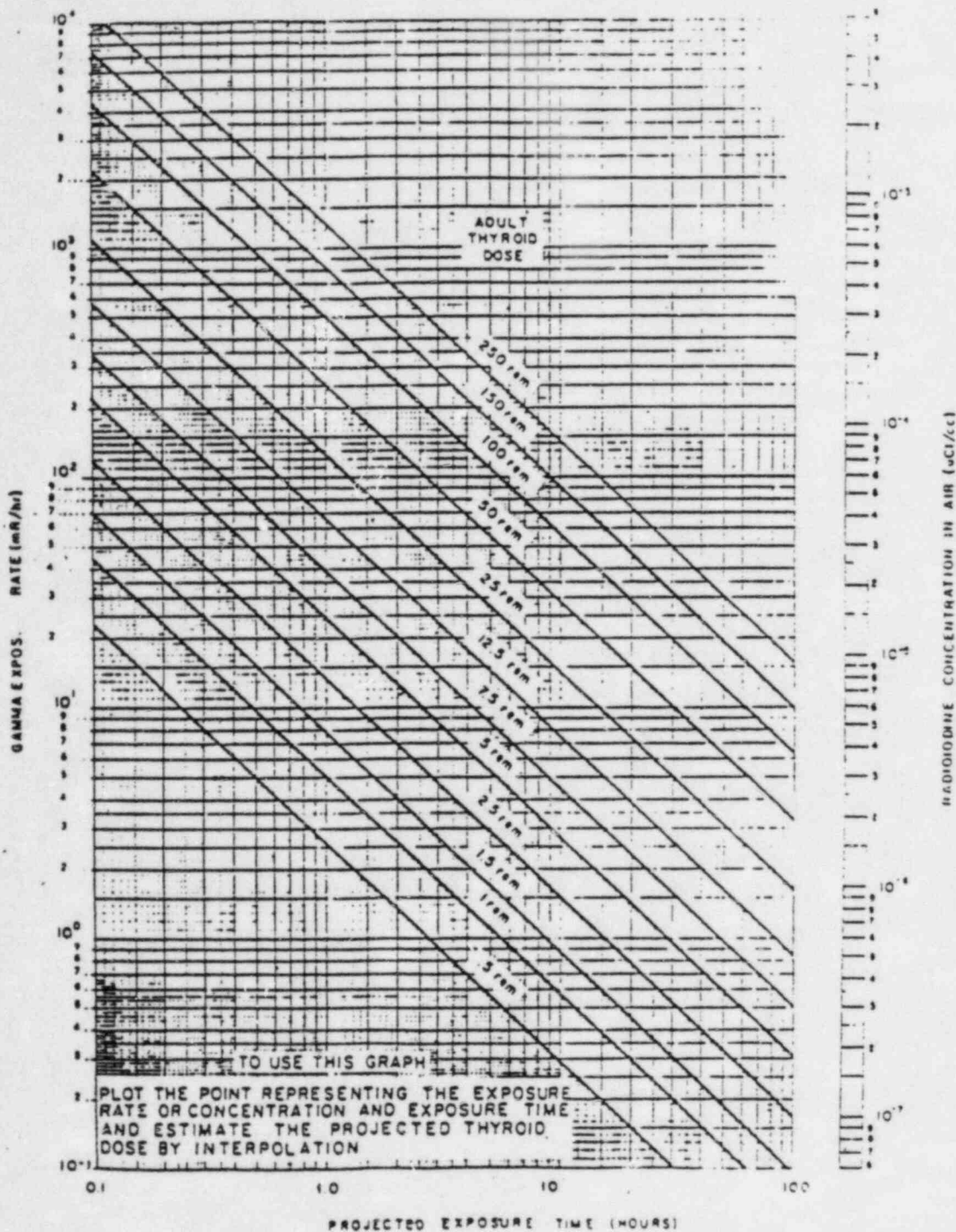
8. If thyroid absorbed dose to an individual(s) is projected to be or is greater than 10 rem, initiate potassium iodide tablet distribution.

When completed, copies of this form should be forwarded to the Health Services Coordinator.

APPENDIX A



APPENDIX A GAMMA EXPOSURE RATE GRAPH



APPENDIX BEXAMPLES OF RECORDS AND FORMS

This appendix contains examples of the following records and forms:

- Potassium Iodide Consent Form
- Potassium Iodide Record Sheet

APPENDIX B

POTASSIUM IODIDE CONSENT FORM

I _____ volunteer to receive 130 milligrams per day for the next 10 days of the thyroid blocking agent potassium iodide. I have been informed by a representative of LERO that this drug will block the absorption of radio-iodine by my thyroid and thereby reduce the exposure to radiation of the thyroid; that potassium iodide does not reduce the uptake of other radioactive materials by the body; nor, does it provide protection against exposure from external radiation.

Signature _____

Date _____

When completed, copies of this form should be forwarded to the LERO Health Services Coordinator (if LERO is activated) or the LILCO EPC (if LERO is not activated).

APPENDIX B

POTASSIUM IODIDE RECORD SHEET

Name _____ SSN _____
Employee No. _____ Department _____

CAUTION
IF YOU FEEL SICK, REPORT YOUR CONDITION TO
THE LERO HEALTH SERVICES COORDINATOR.

You have just received 130 mgs. of the thyroid blocking agent KI. In order to be most effective you should receive an additional nine (9) doses over the next 9 days. Each day for the next 9 days, take this form and report to the _____ for a thyroid count and another KI pill.

	<u>Date</u>	<u>Thyroid Count Results</u> (Date, Time, Initials)	<u>130 mg KI Tablet</u> <u>Administered</u> (Date, Time, Initials)
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____
7.	_____	_____	_____
8.	_____	_____	_____
9.	_____	_____	_____
10.	_____	_____	_____

When completed, copies of this form should be forwarded to the LERO Health Services Coordinator (if LERO is activated) or the LILCO EPC (if LERO is not activated).

LERO

TRAINING PROGRAM

WORKBOOK NO. 10

MONITORING AND DECONTAMINATION

SECTION II REVIEW

Name: _____

LERO Title: _____

Company Title: _____

1. Who authorizes distribution of potassium iodide?

2. Who is responsible for ensuring that the potassium iodide is administered when required?

3. The body will _____ iodines in the thyroid gland because the thyroid needs iodines in order to work properly.

4. There is an upper limit on the amount of iodine the thyroid gland can use.

True or False

5. _____ are nondesirable forms of iodines which, if inhaled or ingested and concentrated in the thyroid gland, would become internal sources of radiation.

6. Potassium iodide will be administered when the projected dose to the thyroid gland is _____.

7. Who will administer potassium iodide?
- a. Record keepers
 - b. Monitoring personnel
 - c. Road crews
 - d. Traffic guides
8. How many tablets will be administered?
- a. 1 tablet
 - b. 10 tablets at one time
 - c. 1 tablet every other day for two weeks
 - d. 1 tablet every day for 10 days
9. A thyroid scan will be done each time a worker is given a tablet.

True or False

10. The drug potassium iodide will be taken by workers strictly on a voluntary basis.

True or False

11. A worker should not take potassium iodide if he/she has previously had an allergic reaction to iodine.

True or False

12. If a worker feels ill after ingesting potassium iodide, he/she should contact _____ if LERO is activated and _____ if LERO has been de-activated.

CONTAMINATED/INJURED INDIVIDUALS

MODULE NO. 11

This module applies to:

- o Health Services Coordinator
- o Emergency Medical/Public Services Coordinator
- o Ambulance Coordinator
- o Hospital Coordinator
- o Ambulance Personnel

Your Name _____

LERJ Title _____

Company Title _____

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Training Objectives	
Introduction	1
A. Organization	2
B. Emergency Medical Response	3
C. Precautions to Prevent Spread of Contamination	4
D. Transportation and Recovery	5
Summary	

TRAINING OBJECTIVES

At the conclusion of the Contaminated/Injured Individuals portion of the LERO Training Program, the trainee will:

- A. Have a clear understanding that priority should be given to emergency first-aid and medical treatment before dealing with contamination
- B. Be able to identify the LERO Coordinator responsible for requesting ambulance assistance
- C. Know how to handle an injured person who may be contaminated
- D. Know what precautions to take to prevent the spread of contamination
- E. Know what protective equipment to wear during an emergency
- F. Know what hospital to transport the victim to
- G. Know where to report after delivering the victim to the hospital

INTRODUCTION

Should an emergency occur at the Shoreham Nuclear Power Station, which involved the release of radiation, concurrently with an accident involving physical injury to a person within the 10-mile EPZ, it may be necessary for LERO to initiate an emergency medical response. This emergency medical response would differ only slightly from a response which did not account for an emergency at Shoreham.

The difference here lies with the potential for the injured person to be radiologically contaminated. Although the contamination itself would not pose a threat to health, a severe open wound should be checked for contamination as soon as is practical. You should also be aware of precautions to be taken to prevent the spread of contamination.

The Local Offsite Radiological Emergency Response Plan contains within it, agreements which LILCO has entered into with both volunteer and private ambulance companies. These companies will provide Emergency Medical Services to the extent that may be necessary during an emergency at Shoreham.

These services could be required not only within the 10-mile EPZ, but also anywhere between the EPZ and the public relocation centers. Because of the extensive area of coverage, the plan identifies many ambulance companies both in Suffolk and Nassau Counties.

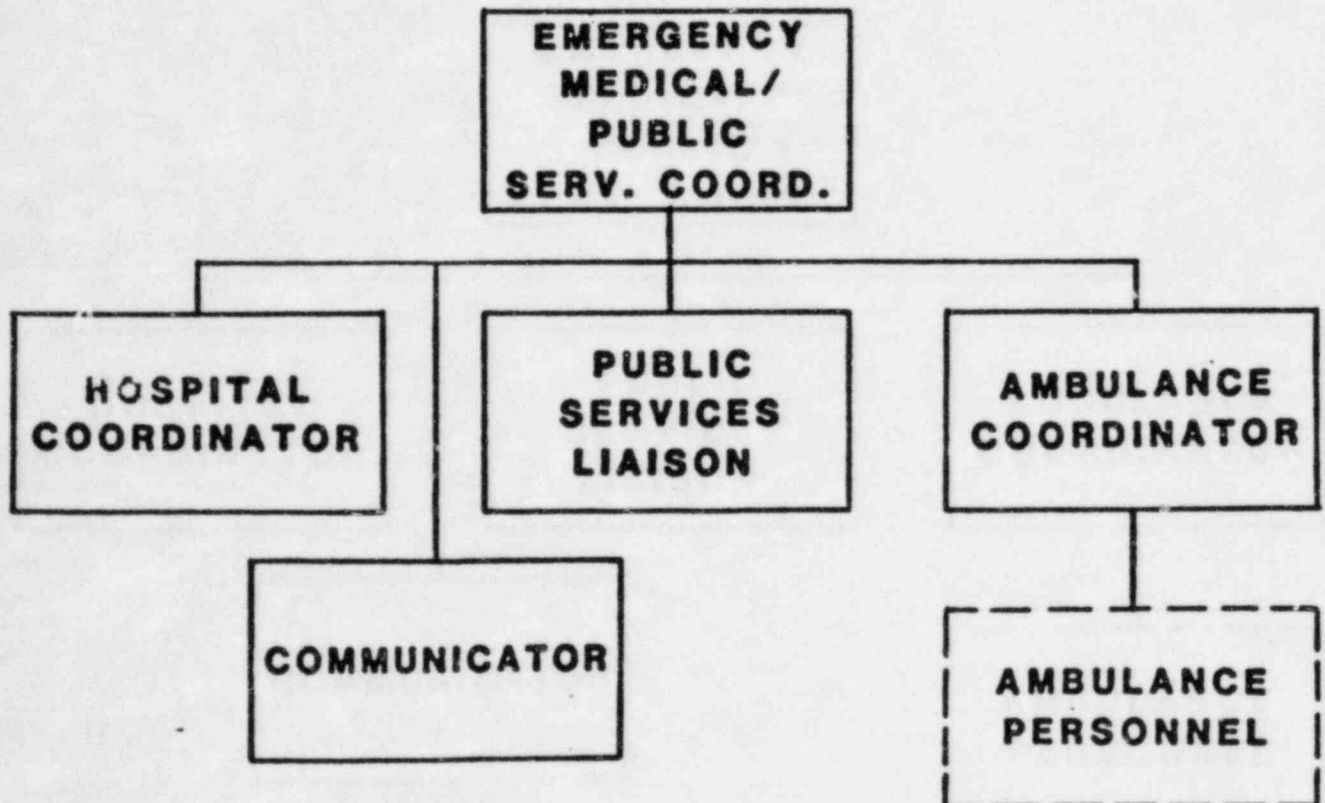
A. ORGANIZATION

Requests for ambulance assistance are handled by the Ambulance Coordinator at the Local EOC. It is the Ambulance Coordinator who is responsible for coordinating all requests for ambulance assistance and for contacting the appropriate ambulance companies to request that they respond to any emergency involving personal

The Ambulance Coordinator is also responsible for coordinating a receiving hospital for the injured with the Hospital Coordinator, who is also located at the Local EOC.

The Ambulance Coordinator belongs to the LERO Emergency Medical and Public Service Group, and reports directly to the group coordinator.

The Emergency Medical and Public Services Coordinator is one of the three functional coordinators who report to the Health Services Coordinator.



B. EMERGENCY MEDICAL RESPONSE

If you are required to respond to an emergency which may involve a potentially contaminated injured person, you should respond as follows:

- First, don your rain gear and personal dosimetry, which will have been previously issued to your ambulance company.
- Upon arrival at the scene of the incident, determine the number of injured people and the extent of injuries and radio the hospital with the information.

NOTE: Put on surgical gloves to prevent your hands from becoming contaminated.

- Then, provide emergency first-aid or other medical therapy first. This should take precedence over any monitoring or decontamination actions.
- If time and the situation permit, secure as much pertinent information about the patient as possible from either the patient or others in the area.
- If an open wound is involved and the victim is stabilized, the wound should be monitored for contamination. This operation is performed with a radiation count rate meter and probe. The wound should be monitored in the following manner:
 - o First remove all clothing around the wound.
 - o Then survey the skin around the wound and the wound for contamination with the meter probe, trying to locate the general area of contamination. Make sure that you record all survey results.

- o If contamination is found, clean the wound in the same manner as you would clean a dirt-laden wound.
- o After washing, remonitor the wound. If contamination is still present, try to pinpoint the specific area of contamination.

NOTE: Initial removal of all possible traces of contamination may not be realistic, but initial efforts will reduce any hazard until professional assistance can be obtained.

- o After the wound has been cleaned, cover it with a clean dressing, using roller gauze bandage to hold the dressing in place. Do not use an adhesive for this purpose.

C. PRECAUTIONS TO PREVENT SPREAD OF CONTAMINATION

Before placing the victim on the stretcher, cover the stretcher with a blanket, and wrap the victim in the blanket so as to limit the spread of any contamination.

Also cover the floor of the ambulance with paper or cloth sheeting or herculite to limit any contamination of the interior of the vehicle.

Next, collect all instruments and materials used to treat the victim, and place them in containers or a wrapping so that they can be monitored for contamination. It is also necessary that you collect any human waste or vomitus so that it can be frozen and stored for future analysis.

Then, remove your surgical gloves and place them in containers so that they can be monitored and disposed.

D. TRANSPORTATION AND RECOVERY

At this point, unless you were otherwise notified, transport the victim to the State University of New York University Hospital at Stony Brook.

While enroute, radio the hospital and give them all the available information on the victim including your radiation survey results.

After delivering the victim to the hospital, ambulance personnel should proceed to the decontamination center at the Local EOC in Brentwood. Here, they will be monitored for contamination by monitoring personnel and if necessary, decontaminated. In addition, their vehicle and equipment will also be monitored for contamination.

SUMMARY

- All requests for ambulance assistance should be directed to the Ambulance Coordinator at the EOC.
- The Ambulance Coordinator, who is part of the Emergency Medical and Public Services Group, will contact an appropriate ambulance company and request their assistance.
- Ambulance personnel will don their protective equipment and proceed immediately to the accident scene as directed.
- Upon arrival, remember to treat all medical symptoms first. Contamination is a secondary complication.

- Monitor an open wound for contamination and clean it as if it were dirt-laden.

- Take precautions to prevent the spread of any existing contamination and collect any materials which may assist physicians in evaluating the victims condition.

- Upon delivery of the victim to the hospital, proceed to the Local EOC in Brentwood so that you and your equipment can be monitored and, if necessary, decontaminated.

LERO TRAINING PROGRAM

WORKBOOK NO. 11

CONTAMINATED/INJURED INDIVIDUALS

MODULE REVIEW

Name: _____

LERO Title: _____

Company Title: _____

True or False

- _____ 1. Anyone injured during an evacuation, which resulted from an emergency at Shoreham, will be contaminated.
- _____ 2. Should a person be injured during an emergency at Shoreham, emergency first-aid or other medical therapy should take precedence over any monitoring or decontamination actions.
- _____ 3. The Hospital Coordinator is responsible for contacting appropriate ambulance companies to request that they respond to any emergency involving personal injury.
- _____ 4. The Ambulance Coordinator is responsible for coordinating a receiving hospital with the Hospital Coordinator.
- _____ 5. The Ambulance Coordinator belongs to the Emergency Medical and Public Services Group.

LERO

TRAINING PROGRAM

- _____ 6. The only protective equipment used by ambulance personnel during an emergency medical response are rain gear and dosimetry.
- _____ 7. Before stabilizing the victim, monitor for contamination.
- _____ 8. Immediately after washing a contaminated wound, apply a clean dressing.
- _____ 9. Do not move the victim until all traces of contamination are removed.
- _____ 10. Do not use adhesive to hold the dressing in place.
- _____ 11. Covering the interior of the ambulance with cloth sheeting or herculite is done to prevent infection.
- _____ 12. All instruments and materials used to treat the victim should be collected and stored so that they can be monitored for contamination.
- _____ 13. Unless told otherwise, transport the victim to Central Suffolk Hospital in Riverhead.
- _____ 14. Once you have delivered the victim to the hospital, your emergency task is completed and you should report back to your dispatcher.

LERO

TRAINING PROGRAM

TRAFFIC CONTROL

MODULE NO. 12

LERO personnel who should complete this workbook:

- o Director of Local Response
- o Manager of Local Response
- o Public Information Coordinator
- o Public Information Staff
- o Evacuation Coordinator
- o Traffic Control Coordinator
- o Evacuation Route Coordinator
- o Traffic Control Group Communicators
- o Road Logistics Coordinator
- o Traffic Control Point Coordinator
- o Staging Area Coordinators
- o Traffic Guide Coordinators
- o Traffic Guides
- o Road Crews
- o Evacuation Route Spotters

Your Name _____

LERO Title _____

Company Title _____

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Training Objectives	ii
Introduction	1
A. The Evacuation Group	2
B. The Traffic Control Group	7
- Traffic Control Coordinator	7
- Traffic Control Point Coordinator	11
- Road Logistics Coordinator	15
- Evacuation Route Coordinator	19
- Traffic Guides	22
- Road Crew	28
- Evacuation Route Spotters	32
 <u>FIGURES</u>	
1. Local Emergency Response Organization	3
2. Special Facilities Evacuation Group	4
3. Transportation Group	6
4. Traffic Control Group	9
 <u>Tables</u>	
1. Traffic Control Posts	13
2. Patrol Routes	17

TRAINING OBJECTIVES

At the conclusion of this workbook, the trainee should be able to:

- A. List the emergency classes at which Traffic Control members are notified and know when and where to report.
- B. Know how many zones are in the EPZ.
- C. State the groups within the Evacuation Group.
- D. List the people in Traffic Control who report to the Local EOC and know at what level of emergency they report.
- E. Understand the operations and activities of the three field groups and their coordinators when evacuation is ordered.
- F. State the types of dosimeters field members will use and what kinds of protection can be taken to minimize radiation exposure.
- G. List what field members do after their deployment is over.
- H. Understand the reporting chain within Traffic Control.
- I. Briefly explain what occurs at Staging Areas.
- J. Know how Traffic Control is notified and what to do when notified.
- K. State by title who has and who does not have pagers within Traffic Control.

INTRODUCTION

As you remember from the first presentation, the Nuclear Regulatory Commission has set certain standards to classify nuclear power plant emergencies. There are four emergency classes which increase in severity. They are:

- o Unusual Event
- o Alert
- o Site Area Emergency
- o General Emergency

The Unusual Event class has no radiation release. The Alert class has no or very small radiation releases. The Site Area Emergency may involve and the General Emergency will definitely involve some degree of radiation releases offsite. When there is a potential or actual release of radiation, the Director of Local Response will analyze the conditions and may recommend some form of sheltering and/or evacuation in the Emergency Planning Zone or EPZ. Sheltering will be the protection recommended in the majority of cases.

However, in extremely rare cases, some evacuation may be recommended. Evacuation in any case will be most likely only for a portion of the population in the EPZ. The EPZ is divided into 19 zones where one or more complete zones may be asked to evacuate.

To help the evacuation from the Shoreham EPZ go smoothly, LERO has an Evacuation Group.

A. THE EVACUATION GROUP

Figure 1 shows the Evacuation Group with the rest of LERO.

Notice that it has three main groups:

- o The Transportation Group
- o The Special Evacuation Group
- o The Traffic Control Group

Before we get into the details of the Traffic Control Group and what they do, let's briefly describe the other two groups.

The Special Facilities Evacuation Group

The Special Facilities Evacuation Group assists in the evacuation of hospitals or nursing homes and other similar facilities or helps individuals with special needs, such as the handicapped, to evacuate. They also have a group of Route Alert Drivers who drive routes and use Public Address Systems to alert people in areas of siren malfunction. The Special Facilities Evacuation Coordinator is in charge of this group.

FIGURE 1

LOCAL EMERGENCY RESPONSE ORGANIZATION

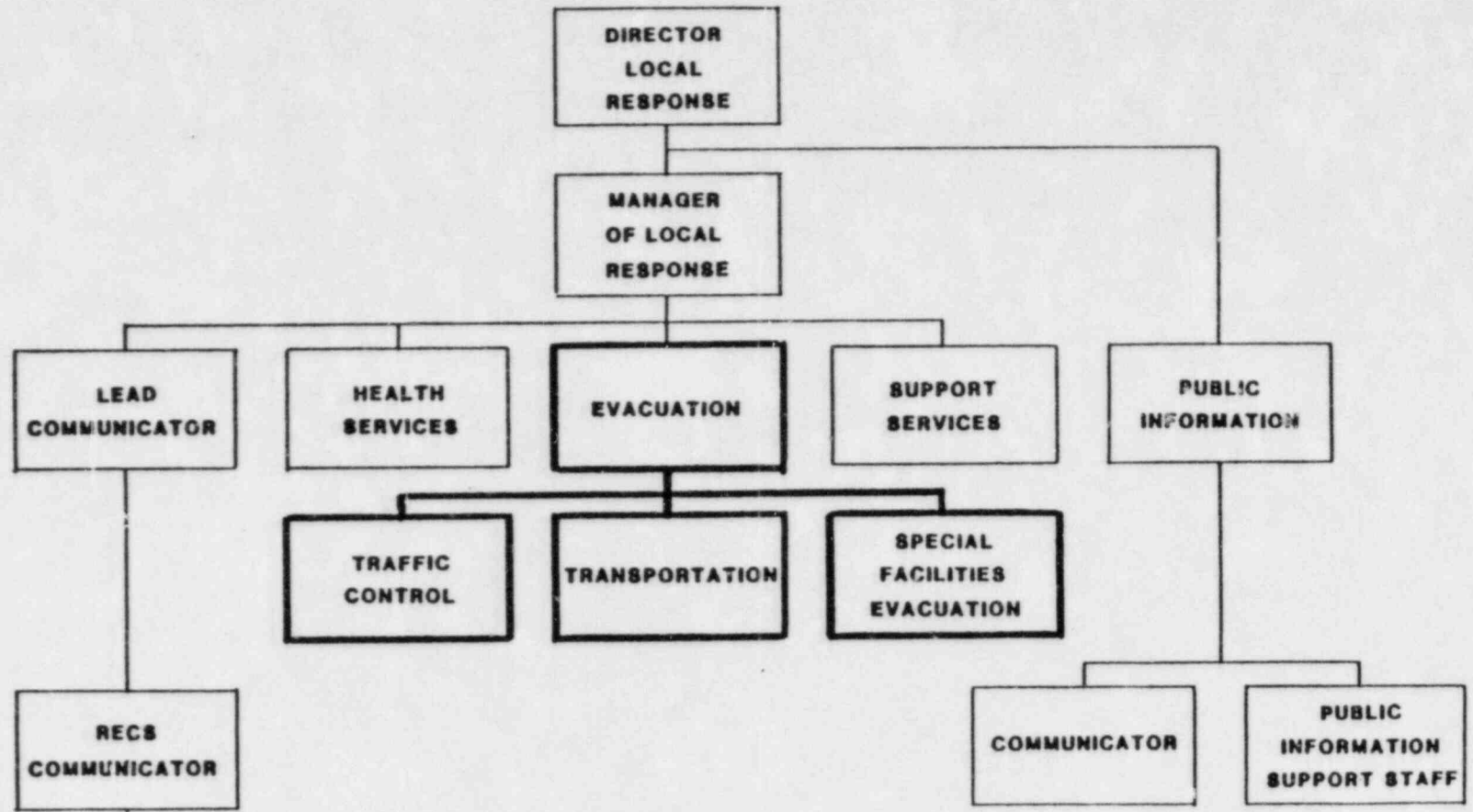
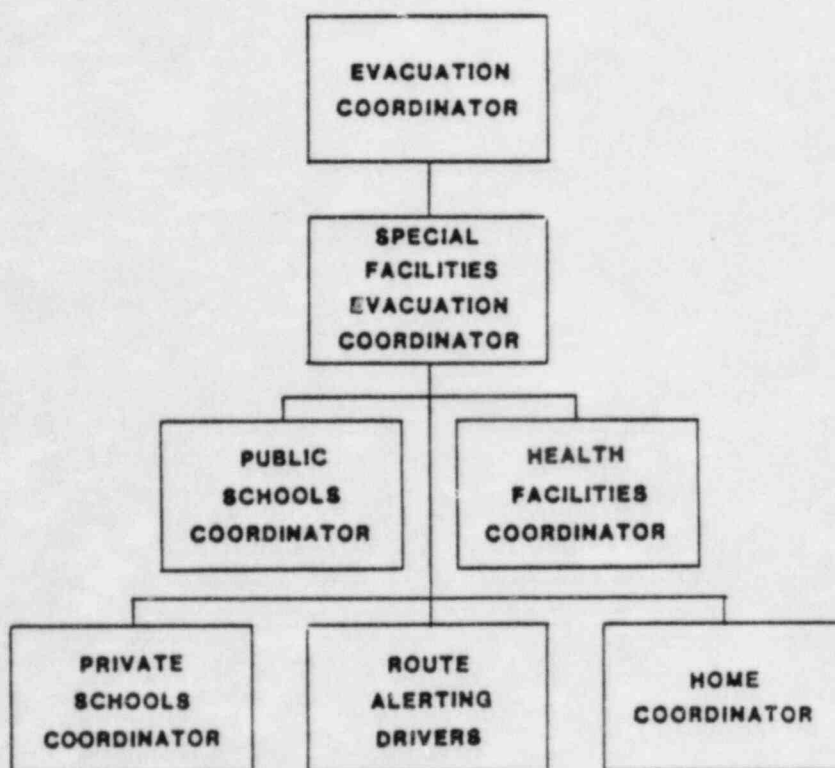


FIGURE 2

**LOCAL EMERGENCY RESPONSE ORGANIZATION
SPECIAL FACILITIES EVACUATION GROUP**



The Transportation Group

The Transportation Group is headed by the Transportation Support Coordinator. They will operate buses to pick up those people who should evacuate, but who don't have their own transportation. There are networks of bus routes to be driven by the drivers so that pick up spots are no more than 1/2 mile from any given residence. The people picked up will be brought to Relocation Centers.

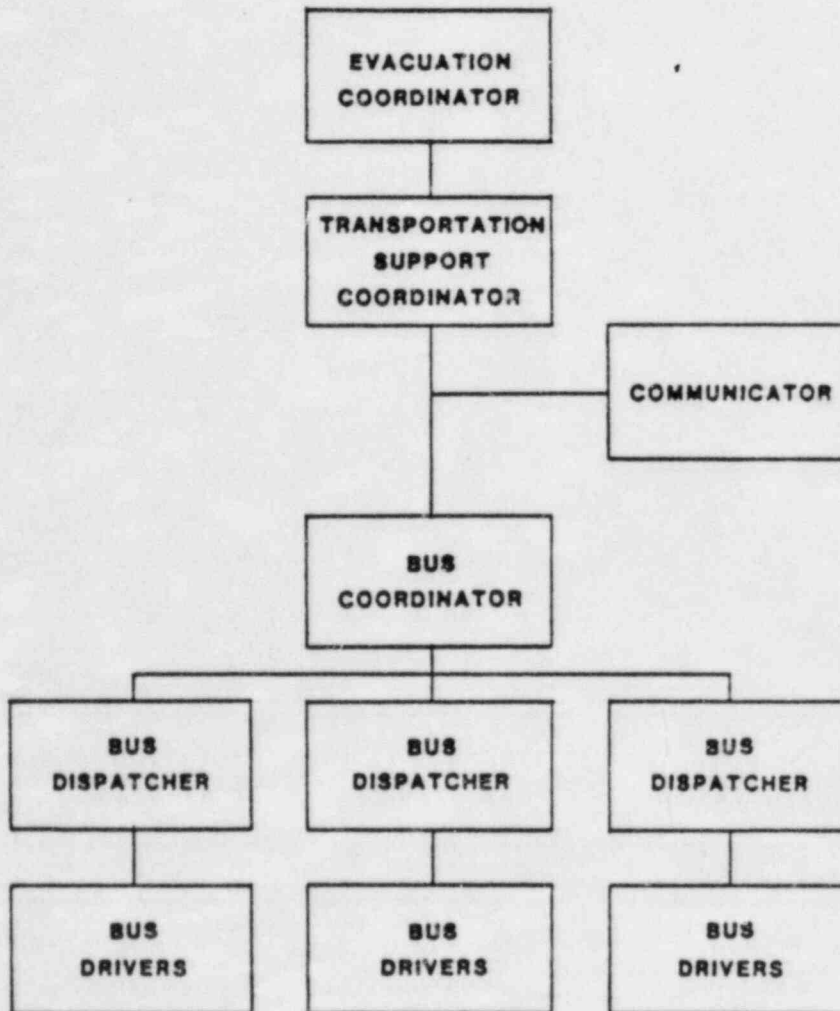
To summarize, sheltering is the most likely protective action to be taken. Evacuation is very unlikely.

Even though the entire EPZ could be evacuated, it is likely that only a few of the 19 zones would be required to evacuate.

The Evacuation Group within LERO provides busing, traffic control, route alerting and help with special evacuations.

FIGURE 3

TRANSPORTATION GROUP



B. THE TRAFFIC CONTROL GROUP

Our discussion will start at the top of the Traffic Control Group and work down. For each person or group, the discussion will start with the basic job description, then how they get notified and mobilized. Each person or group will then get a step-by-step description of what they do during an emergency. It should be remembered that even though all the coordinators and the required number of field group members will be notified and report as per procedure, a smaller group of field people may actually be mobilized. This initial notification and reporting in of large numbers of people is done to allow for the possible evacuation of the entire EPZ and all 19 zones simultaneously. In most cases, only one or a few of the 19 zones would need evacuation, thus requiring a reduced number of field personnel.

- Traffic Control Coordinator

o Job Description

The Traffic Control Coordinator is in charge of the entire Traffic Control operation. He reports to the Evacuation Coordinator and has five people reporting directly to him. They are:

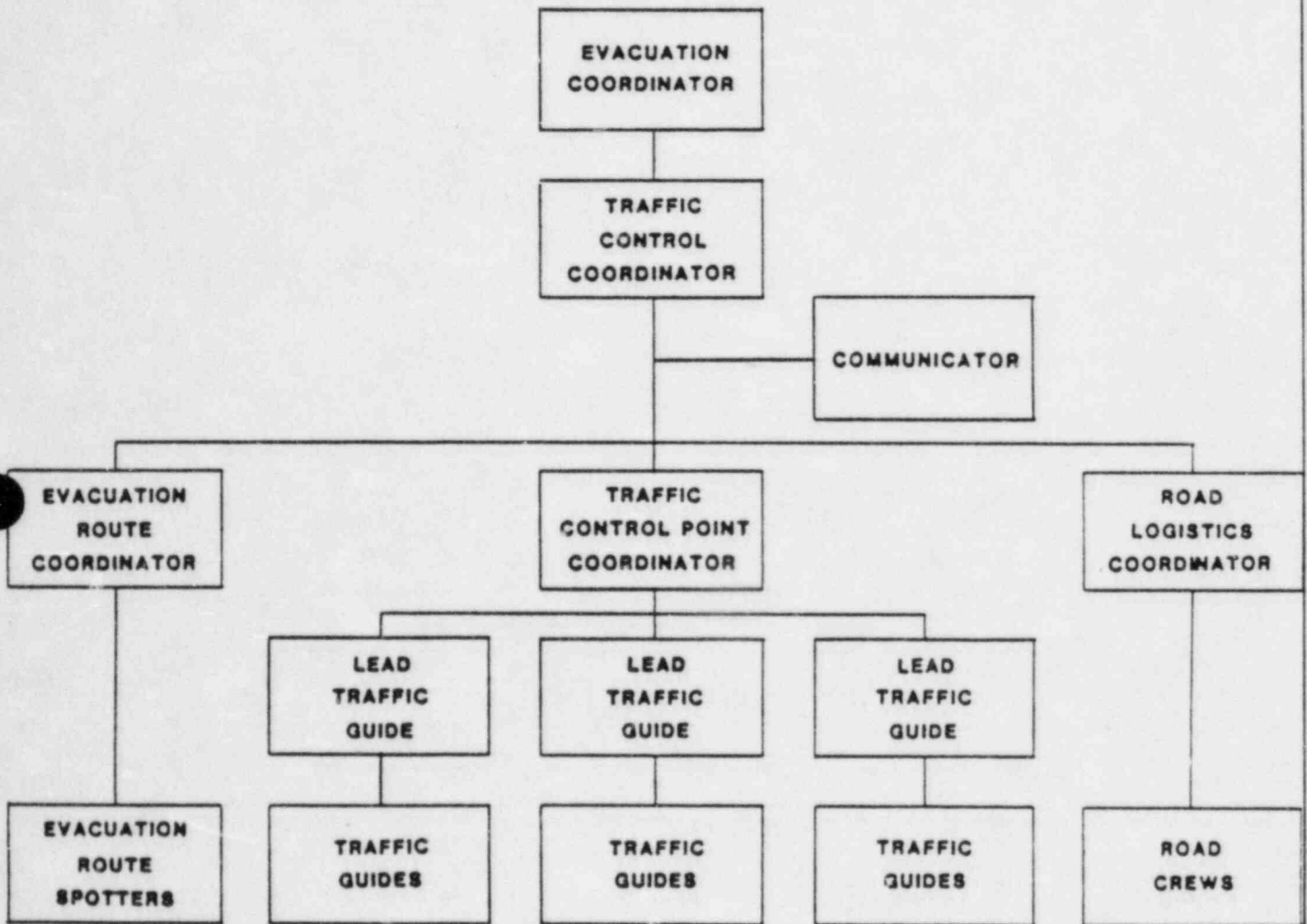
- a. The Traffic Control Point Coordinator
- b. The Road Logistics Coordinator
- c. The Evacuation Route Coordinator
- d. Two Communicators

o Notification and Mobilization

The Traffic Control Coordinator will not be notified for an Unusual Event. He is notified for an Alert, Site Area Emergency and General Emergency and reports to the EOC when paged.

FIGURE 4

TRAFFIC CONTROL GROUP



- o What the Traffic Control Coordinator Does
 - a. After arriving at the Local Emergency Operations Center (EOC), confer with the Evacuation Coordinator on the current status of the emergency. Discuss the possibilities and scope of evacuation with him and the three Traffic Control Group Coordinators (the Road Logistics Coordinator, Traffic Control Point Coordinator and Evacuation Route Coordinator).
 - b. If evacuation is recommended, obtain the details such as:
 - 1. Emergency class
 - 2. Zones affected
 - 3. Duration of radiation release
 - 4. Doses expected offsite
 - 5. What route will be used for a Site Evacuation
 - c. Make sure that your coordinators have all the necessary information and that it is correct.
 - d. After you are sure that your coordinators are properly informed, direct them to begin Traffic Control operations for the affected zones.
 - e. During the course of the emergency, communicate with your coordinators to keep them briefed and to keep yourself informed.
 - f. Provide status updates on Traffic Control operations to the Evacuation Coordinator or other LERO management.

g. When Traffic Control operations are complete, conduct a briefing with your coordinators and provide a report to the Evacuation Coordinator.

- Traffic Control Point Coordinator

o Your Job Description

The Traffic Control Point Coordinator is in charge of the Traffic Guides. He reports to the Traffic Control Coordinator and will have all the Traffic Guides reporting to him through the Lead Traffic Guides.

As mentioned in the video presentation, the Traffic Guides are stationed at pre-designated road intersections and entrance ways to assist in the flow of traffic.

o Notification and Mobilization

The Traffic Control Point Coordinator has a pager and reports to the EOC when notified of an Alert, Site Area Emergency and General Emergency. He is not notified for an Unusual Event.

o What the Traffic Control Point Coordinator Does

- a. After arriving at the Emergency Operations Center, obtain briefing from the Traffic Control Coordinator on the current status of the emergency.
- b. If evacuation is recommended, verify the zones to be evacuated with the Traffic Control Coordinator.

- c. After the zones are verified, determine the number of posts to be activated. In the EOC there is a copy of OPIP 3.6.3, "Traffic Control" which has the list of posts to be manned for each zone that is evacuated. Take time now to examine the sample from this list shown on the next page.

TRAFFIC CONTROL POSTS

POST #	LOCATION	ZONE(S)	STRATEGY	NUMBER OF TRAFFIC GUIDES
7	Ridge Rd. @ Whiskey Rd.	F	PREVENT traffic from proceeding east on Whiskey Rd. DIRECT all traffic south on Ridge Rd.	1
8	CR 46 @ Whiskey Rd.	B with A	DIRECT eastbound traffic to southbound on William Floyd Pkwy. Use southbound shoulder as entrance ramp, if necessary.	1
9	Rt. 25 @ Ridge Rd.	F	DIRECT 50% of southbound traffic west and 50% south. FACILITATE westbound through movement on Rt. 25. PREVENT traffic from proceeding east on Rt. 25. Redirect eastbound traffic south down residential streets.	2
10	Rt. 25 @ Wading River Manor Rd.	C or D	DIRECT eastbound traffic on Rt. 25 southbound on Wading River Manor Rd. DIRECT southbound traffic on Wading River Manor Rd. to continue south. DIRECT northbound Wading River Manor Rd. traffic (if any) west on Rt. 25.	2

NOTE: Notice that the list has the posts numbered and gives their location. Instructions that tell how many Traffic Guides are needed are given for the Traffic Guides at each location. Each Traffic Guide sent out to a post will be given equipment, along with a copy of the Traffic Control Procedure which has this list attached.

- d. To dispatch the Traffic Guides, have a Traffic Control Communicator telephone the Staging Area nearest the zones to be evacuated. Request that the required number of Traffic Guides be deployed and relay the traffic post numbers to be activated. Then request a status report following their deployment.
- e. Maintain a status of the Traffic Guide deployment to keep yourself and the Traffic Control Coordinator informed. All Traffic Guides will relay their information to their Lead Traffic Guide, who will relay it to the EOC. All messages from the EOC for Traffic Guides will first be relayed to the Lead Traffic Guide who will radio the information to them.
- f. If the area to be evacuated increases, request additional deployment of Traffic Guides from the Lead Traffic Guide at the appropriate Staging Area.
- g. During their deployment, Traffic Guides will provide updates to the Lead Traffic Guide on traffic conditions. The Lead Traffic Guide will report this information to the EOC. If there are reports of unexpected heavy or light traffic, this could be a sign of an accident, road blockage or other

difficulty. Relay the messages of traffic flow problems to the Traffic Control Coordinator. He will then direct the coordinator of the Route Spotters or Road Crew to investigate the problems.

- h. Keep the deployed Traffic Guides informed of the status of the emergency. Inform them when emergency classes change, evacuation plans alter or routes change and of Route Spotter investigations and Road Crew work.
- i. Especially keep the Lead Traffic Guides informed of radiological conditions. If it becomes known that a traffic control post lies in an area where the Traffic Guides will get 5R or more, then inform the appropriate Lead Traffic Guide to radio the Traffic Guide at that post to abandon the area. The Traffic Control Coordinator will keep you informed of the expected doses for a zone and what posts should be abandoned.
- j. When Traffic Guides complete their assignments, have them report to the Emergency Worker Decontamination Center in Brentwood for their contamination check. Then hold a briefing with them to prepare a report for the Traffic Control Coordinator.

- Road Logistics Coordinator

o Your Job Description

The Road Logistics Coordinator is in charge of the Road Crews. He reports to the Traffic Control Coordinator and

will have all the Road Crew personnel reporting to him. The Road Crews are dispatched to clear blockages to the flow of evacuation traffic.

o Notification and Mobilization

The Road Logistics Coordinator will not be notified for an Unusual Event. He will be notified for an Alert, Site Area Emergency, or a General Emergency and reports to the EOC when paged.

o What the Road Logistics Coordinator Does

- a. After arriving at the Emergency Operations Center, get briefed by the Traffic Control Coordinator on the current status of the emergency.
- b. If evacuation is ordered, verify the zones to be evacuated with the Traffic Control Coordinator and determine the priority routes for Road Crew deployment. The Traffic Control Procedure contains a two page listing of patrol routes which correspond to the affected zones. The following page has a sample from this list.
- c. To dispatch the Road Crew, have a Traffic Control Communicator telephone the Lead Traffic Guide at the Staging Area nearest the zones to be evacuated. Provide the dispatching information and request a status report following their deployment.
- d. Maintain a status of Road Crew deployment to keep yourself and the Traffic Control Coordinator informed.

PATROL ROUTES

NOTE: The following roadways represent major evacuation routes which require constant patrolling during an evacuation. The stated objective is to keep these routes clear of obstructions and report any problem encountered along a route. Where possible, disabled vehicles should be pushed clear of the travel lanes. Radio for truck or any other assistance required. (Route numbers begin with 151 to avoid confusion with traffic control post numbers.)

Route #	Roadway(s)	Patrol Section(s)	Zone(s)
151	Wading River Manor Road	From Route 25 to Route 495	C or I
152	Edwards Avenue	From Route 495 to Route 25	E or D or I or J or P
	Route 25	From Edwards Avenue to Route 495	
	Route 495	From Route 25 to Edwards Avenue	
(Note: These three roads are designed to be patrolled as a single loop by one car.)			
153A	William Floyd Parkway	From Route 25A to Route 495	A or B or C or G or H
153B		From Route 495 to Route 27	M or N
154A	CR 21	From Route 25A to Mill Road	F or G or M
154B		From Mill Road to Route 27	M

- e. If the area to be evacuated increases in size, request additional deployment of Road Crew members from the appropriate Staging Area.
- f. During the deployment of Road Crews, they will report the status of traffic and Road Crew clearing work directly to the Communicator at the EOC. Relay this information to the other Traffic Control Point Coordinator, Evacuation Route Coordinator and Traffic Control Coordinator.
- g. Keep the deployed Road Crews informed of the status of the emergency. Inform them of the status of the evacuation, emergency class changes, evacuation plan alterations and route changes.
- h. Keep the Road Crew informed of radiological conditions. If it becomes known that a Road Crew member will be in an area where he could receive a dose of 5R or more, assign the person to a different area. The Traffic Control Coordinator will keep you informed of the offsite doses that are expected.
- i. When Road Crews are done, have them report to the EOC for their contamination checks. Hold a briefing with them to prepare a report for the Traffic Control Coordinator.

- Evacuation Route Coordinator

o Your Job Description

The Evacuation Route Coordinator is in charge of the six Evacuation Route Spotters and reports to the Traffic Control Coordinator. The Route Spotters drive the evacuation routes to discover and report traffic flow problems and their causes.

o Notification and Mobilization

The Evacuation Route Coordinator is not notified for an Unusual Event. He is notified by pager for an Alert, Site Area Emergency or General Emergency and reports to the EOC when paged.

o What the Evacuation Route Coordinator Does

- a. After arriving at the Emergency Operations Center, get briefed by the Traffic Control Coordinator on the current status of the emergency.
- b. If evacuation is ordered, verify the zones to be evacuated with the Traffic Control Coordinator and by observing the status boards in the EOC.
- c. To dispatch the Route Spotters, have a Traffic Control Coordinator telephone the Lead Traffic Guide at the Staging Area nearest the zones to be evacuated. Relay the zones to be surveyed and request a status report following their deployment (see page 17 for an example

of the priority route listing shown from the Traffic Control Procedure). Notice that the routes are specific for the zones that are affected.

- d. If additional zones need evacuation, contact the appropriate Staging Area and request additional spotters. Since there are only six spotters, a Lead Traffic Guide may recruit additional spotters from other groups waiting for deployment at the Staging Area. If other spotters have to be recruited, talk with the Traffic Control Coordinator first.
- e. Keep informed of the status of Route Spotters. If they report road blockages, notify the Road Logistics Coordinator who will dispatch a Road Crew to clear them. There may also be specific requests from the Road Crews or Traffic Guides to investigate traffic problems. When these requests come in, determine the closest available Route Spotter and dispatch him to the suspected trouble area to investigate. Route Spotters will communicate directly with the Traffic Control Communicator in the EOC.
- f. Keep Route Spotters informed of the status of the emergency. Especially keep them informed of radiological conditions. The Traffic Control Coordinator will inform you of zones or routes which could have high levels of radiation. If you are informed that the radiation is excessive to the emergency worker for a particular area, radio the Route Spotters to abandon the route in that area and to not return to the area unless specifically instructed to do so.

- g. When a Route Spotter is done with a zone, instruct him to repeat the route or go to another route. When you are informed that Traffic Control operation is complete, call in your spotters to the EOC. Brief them there after they get their contamination checks.

Before we go on to the field groups, let's summarize the important points about the coordinators in Traffic Control.

- o The Traffic Control Coordinator is in charge of the whole Traffic Control group. He reports to the Evacuation Coordinator. He gives information and activation orders to his coordinators who activate and direct the three field groups.
- o The Traffic Control Point Coordinator directs the Traffic Guides.
- o The Road Logistics Coordinator directs the members of the Road Crew.
- o The Evacuation Route Coordinator directs the Evacuation Route Spotters.
- o Each of the three field group coordinators have certain things in common, as shown below:

- a. Notification:

All coordinators are notified by pager. None of the coordinators is notified for an Unusual Event. They are notified for an Alert, Site Area Emergency and General Emergency and report to the Local EOC when paged.

b. At the EOC:

Each coordinator gets briefed by the Traffic Control Coordinator, and verifies the zones to be evacuated. To dispatch field teams, have one of the Communicators telephone the Lead Traffic Guide at the appropriate Staging Area and relay the information and direction.

c. When field teams are deployed:

Keep in constant communication on their progress and inform them of the evacuation status. Remember to inform the field members when they themselves should evacuate because of excessive radiation exposure. Traffic Guides communicate through the Lead Traffic Guide at their Staging Area. The Road Crew and the Route Spotters communicate directly with the EOC.

d. When field members are done:

Call in the field members to the EOC for their contamination checks. Then hold a briefing session.

- Traffic Guides

o Your Job Description

Of all the designated Traffic Guides, about 75% will be activated during an emergency, and the remainder will be backups. Three Traffic Guides are designated "Lead Traffic Guides" with one stationed in each Staging Area.

Traffic Guides are dispatched from Staging Areas to man traffic control posts. At a post, they will direct traffic to assist the flow of vehicles at intersections and entrance ways. Traffic Guides report to the Lead Traffic Guide at a Staging Area and communicate with him when in the field.

o Notification and Mobilization

Eighteen of the Traffic Guides (three Lead Traffic Guides and 15 others) have pagers. None of the Traffic Guides is notified for an Unusual Event. These 18 are paged for an Alert, Site Area Emergency, or General Emergency. For an Alert, the Lead Traffic Guides report to their assigned Staging Area. The 15 others with pagers just stay on standby. For a Site Area Emergency or General Emergency, the three Lead Traffic Guides report to the Staging Areas and the other 15 will notify and call in about 190 Traffic Guides. Each Traffic Guide with a pager has a list of Traffic Guides to call. Out of each list, only the first 11 or 12 Traffic Guides that are reached will be notified and called in. All the notified Traffic Guides, including the 15 with pagers will report to one of the three pre-assigned Staging Areas.

o What a Traffic Guide Does

- a. After finishing their calls, the 15 paged Traffic Guides will report to their assigned Staging Area along with the other guides they have reached. All traffic guides will drive to the Staging Area in their own vehicles.

- b. When you get to a Staging Area, a security guard will check off your name on a roster.
- c. After being checked in at the Staging Area, all personnel will be told where to pick up their dosimeters. When you get your dosimeters, immediately put them on. You will get a 0-200 mR dosimeter, a 0-5 R dosimeter and a TLD badge. Clip these to an outside shirt or coat pocket.
- d. At the Staging Area, the Lead Traffic Guide will coordinate the assembly and brief the Traffic Guides.

The six steps below discuss the job of the Lead Traffic Guide.

1. The Lead Traffic Guide at a staging area oversees the assembly, briefing and deployment of the Traffic Guides, Road Crew and Route Spotters.
2. The Lead Traffic Guide obtains the roster from security. Using the roster, he notifies the three coordinators in the FOC on the manpower status of the field groups.
3. He receives notification from the Coordinators in the EOC on the emergency status. If there will be an evacuation, he is told what zones and traffic control posts will be involved, what routes should be used and what deployment areas should be covered.

4. After being informed, he briefs the field member on the evacuation details and assigns posts, routes and deployment areas.
 5. He distributes the equipment and emergency packets.
 6. He then remains at the staging area and keeps in contact with the EOC coordinators on the deployment status of the field groups.
 7. He will be the communication contact for receiving and sending all information to the deployed Traffic Guides and will be the contact for relaying all traffic guide information to and from the EOC.
- e. The Traffic Guides, after being assembled and briefed, will get their emergency equipment and kit. The kit has a packet which contains maps, the Traffic Control procedure (OPIP 3.6.3) and a Traffic Guide checklist. This checklist provides each Traffic Guide with a step-by-step process on what to do from the time they get their packets to the time their assignment is over.

Take the time now to read the Traffic Guide checklist shown on the next two pages.

TRAFFIC GUIDE PROCEDURE

1. Inventory emergency packets before going to the traffic control point. Equipment consists of:
 - a. Packet containing:
 - Traffic control procedure
 - Traffic control point maps
 - b. Emergency vest
 - c. Flashlight, flares
 - d. Traffic cones
 - e. Standard rain gear
2. Receive dosimetry, consisting of 1 direct-reading dosimeter (0-200 mR), 1 direct-reading dosimeter (0-5 R) and 1 thermoluminescent dosimeter (TLD). Make sure these are put on immediately.
3. Complete Part I of all dosimetry forms required, retaining a Daily Dose Record Card and a copy of a Permanent Dose Record Form.
4. Attend the Lead Traffic Guide evacuation briefing to receive direction on your assignment.
5. Pick up mobile radios and check operation of units. If radios should break down, use a commercial telephone or proceed to another radio-equipped location.
6. Upon arrival at the traffic control point, put on emergency safety vest. Make sure dosimeters are placed on clothing. Do not try to tamper with traffic signals. Leave them in their present mode.
7. Place the LERO vehicle so that its physical location will achieve the desired control strategy and avoid interference with the desired traffic flow. Use of the traffic cones will assist in this task for detouring of vehicles. Approaching emergency vehicles and buses are to be given priority right of way.
8. If County or other police arrive at your post, turn over control to them. Brief them on the strategy of the control post and any problems that have arisen during the emergency.

TRAFFIC GUIDE PROCEDURE
(continued)

Remain with them throughout the duration of the assignment to provide radiological dose information and communications to the EOC. Request police accompany you to the Emergency Worker Decontamination Center at the completion of the assignment.

9. Contact the Lead Traffic Guide at the Staging Area upon the following conditions:
 - a. Upon initially establishing your control post.
 - b. If traffic flow through your intersection stalls.
 - c. If road blockage requires a Road Crew.
 - d. If there is no traffic on your assigned route.
10. Upon arrival of the LERO Evacuation Route Spotters, indicate any problems that are occurring at the traffic control point.
11. If informed by the Lead Traffic Guide that you are downwind of a release, put on your standard rain gear. Read your direct reading dosimeters at 15 minute intervals.
12. If readings go beyond the scale on the 0-200 mR dosimeter, inform the Lead Traffic Guide and read the 0-5 R dosimeter.
13. At a reading of 3.5 R, inform the Lead Traffic Guide of your dosimeter readings. Make sure traffic cones are properly set up to detour traffic correctly. Leave post when instructed or at 5 R, whichever occurs first.
 - a. Report to the Emergency Worker Decontamination Center at the Local EOC in Brentwood for monitoring and possible decontamination.
 - b. After completion of the Decontamination Center Check in, report to the Traffic Control Point Coordinator for a briefing.
14. When informed by the Lead Traffic Guide that emergency operations have ended, dismantle traffic control post and return to the Emergency Worker Decontamination Center at the Local EOC for monitoring and decontamination. Report to the Traffic Control Point Coordinator for a final briefing.

- Road Crews

o Your Job Description

All Road Crews will be deployed from the Staging Areas in company trucks to waiting points along evacuation routes. From these waiting points, they will be dispatched to clear road blockages. Road Crews report to the Lead Traffic Guide at the Staging Area and will report to and communicate with the Road Logistics Coordinator at the EOC when in the field.

o Notification and Mobilization

Three of the Road Crew members have pagers. None of the Road Crew members are notified for an Unusual Event. These three are paged for an Alert, Site Area Emergency and General Emergency. For an Alert, the three just stay on standby. But for a Site Area Emergency or General Emergency, the three Road Crew members will notify and call in about 27 additional Road Crew members. Each Road Crew member with a pager has a list of 15 Road Crew members to call. Out of each list of 15, only the first 9 that are reached will be notified and called in. All the notified Road Crew members including the three with pagers will report to one of three pre-assigned Staging Areas. One of the Road Crew members with a pager will also notify and call in three Route Spotters.

o What a Road Crew Member Does

- a. The paged Road Crew members, after finishing their calls, will report to their assigned Staging Area along with the other members that they have reached. They will drive to the Staging Area in their own vehicles.
- b. When you get to a Staging Area, a security guard will check off your name on a roster.
- c. After being checked in at the Staging Area, all personnel will be told where to pick up their dosimeters. When you get your dosimeters, immediately put them on. You will get a 0-200 mR dosimeter, a 0-5 R dosimeter and a TLD. Clip these to an outside shirt or coat pocket.
- d. At the Staging Area the Lead Traffic Guide will coordinate the assembly and preparation of the Road Crew.
- e. Road Crew members, after being assembled and briefed, will be assigned a vehicle and given their emergency equipment and kit. The kit has a packet which contains maps, the Traffic Control procedure (OPIP 3.6.3) and a Road Crew checklist. This checklist provides each Road Crew with a step-by-step process on what to do from the time they get their packets to the time their assignment is over.

Take time now to read the Road Crew Checklist shown on the next two pages.

ROAD CREW PROCEDURE

1. Inventory emergency packets before being deployed to designated locations along evacuation routes. Packets should contain:
 - a. Traffic control procedure
 - b. Traffic control point maps
 - c. Emergency vest
 - d. Flashlight, flares
 - e. Traffic cones
 - f. Standard rain gear
2. Receive dosimetry, consisting of 1 direct-reading dosimeter (0-200 mR), 1 direct-reading dosimeter (and 0-5 R) and 1 thermoluminescent dosimeter (TLD). Make sure these are put on immediately.
3. Complete Part I of all dosimetry forms required, retaining a Daily Dose Record Card and a copy of a Permanent Dose Record Form.
4. Attend the Lead Traffic Guide evacuation briefing to receive direction on your assignment.
5. Pick up mobile radios and check operation of units. If radios should break down, use a commercial telephone or proceed to another radio-equipped location.
6. Leave for predesignated locations along evacuation routes, watching for road impediments that have to be moved.
7. If problems arise, contact the Road Logistics Coordinator via radio at the Local EOC immediately.
8. If informed by the Road Logistics Coordinator that you are downwind of a release, put on your standard rain gear. Read your direct-reading dosimeters every 15 minutes.
9. If readings go beyond the scale on the 0-200 mR dosimeter, inform the Road Logistics Coordinator and read the 0-5 R dosimeter.

ROAD CREW PROCEDURE
(continued)

10. At a reading of 3.5 R, inform the Road Logistics Coordinator of your dosimeter readings and prepare to leave your post. If directed to leave your post, or at a reading of 5 R, whichever occurs first, return to the Local EOC/Emergency Worker Decontamination Center at Brentwood for monitoring and possible decontamination.

11. When informed by the Road Logistics Coordinator that emergency operations have ended, return to the Emergency Worker Decontamination Center at the Local EOC for monitoring and decontamination. Report to the Road Logistics Coordinator for a final briefing.

f. When a road blockage is encountered, notify the Road Logistics Coordinator in the EOC. Try to locate the driver of the blocking vehicle to inform him that you are going to move the vehicle. Offer to bring the driver to a transfer point where he may get a bus to a Relocation Center. The vehicle should be moved off the road and beyond the shoulder if possible. If the driver protests, use discretion to convince him of the importance of clearing the road. If the driver cannot be located, the vehicle should still be moved.

- Evacuation Route Spotters

o Your Job Description

The Route Spotters are deployed from the Staging Areas to check the evacuation traffic progress and to investigate problems in the flow of traffic. Route Spotters report to the Lead Traffic Guide at the Staging Area and report to and communicate with the Evacuation Route Coordinator at the EOC when in the field.

o Notification and Mobilization

The six Route Spotters will be notified and called in by a Road Crew member. This Road Crew member has a pager and is instructed to mobilize the Route Spotters for a Site Area Emergency, or General Emergency. This Road Crew member uses a list of Route Spotters and notifies and calls in the first six he contacts.

o What a Route Spotter Does

- a. Of the six Route Spotters, two will report to each one of the Staging Areas. They drive to the Staging Areas in their own vehicles.
- b. When you get to a Staging Area, a security guard will check off your name on a roster.
- c. After being checked in at the Staging Area, all personnel will be told where to pick up their dosimeters. When you get your dosimeters, immediately put them on. You will get a 0-200 mR dosimeter, a 0-5 R dosimeter and a TLD. Clip these to an outside shirt or coat pocket.
- d. At the Staging Area, the Lead Traffic Guide will coordinate the assembly and preparation of the Route Spotters.
- e. Route Spotters, after being assembled and briefed, will be given their emergency equipment and kit. The kit has a packet which contains maps, the Traffic Control procedure (OPIP 3.6.3) and an Evacuation Route Spotter Checklist. This checklist provides each Route Spotter with a step-by-step process on what to do from the time they get their packet to the time their deployment assignment is over. Take time now to read the Evacuation Route Spotter Checklist shown on the next two pages.

EVACUATION ROUTE SPOTTER PROCEDURE

1. Inventory emergency packets before going out on the road. These packets should contain:
 - a. Evacuation route and traffic control point maps
 - b. Standard rain gear
 - c. Flashlight, flares
 - d. Traffic cones
2. Receive dosimetry, consisting of 2 direct-reading dosimeters (0-200 mR and 0-5 R) and 1 thermoluminescent dosimeter (TLD). Make sure these are put on immediately.
3. Complete Part I of all dosimetry forms required, retaining a Daily Dose Record Card and a copy of a Permanent Dose Record Form.
4. Attend the Lead Traffic Guide evacuation briefing to receive direction on your assignment.
5. Pick up mobile radios and check operation of units. If radios should break down, use a commercial telephone or proceed to another radio-equipped location.
6. Leave for the evacuation route/EPZ area and survey the zone.
7. Contact the Evacuation Route Coordinator at the Local EOC every 30 minutes via radio to keep him up-to-date on conditions in the areas that you have surveyed. If any problems are observed, contact the Evacuation Route Coordinator immediately.
8. If informed by the Evacuation Route Coordinator that you are downwind of a release, put on your standard rain gear. Read your dosimeters every 15 minutes.
9. If readings go beyond the scale on the 0-200 mR dosimeter, inform the Evacuation Route Coordinator and read the 0-5 R dosimeter.

EVACUATION ROUTE SPOTTER PROCEDURE
(continued)

10. At a reading of 3.5 R, inform the Evacuation Route Coordinator of your dosimeter readings and prepare to leave your post. If directed to leave your post, or at a reading of 5 R, whichever occurs first, return to the Local EOC/Emergency Worker Decontamination Center at Brentwood for monitoring and possible decontamination.
11. When informed by the Evacuation Route Coordinator that emergency operations have ended, return to the Emergency Worker Decontamination Center at the Local EOC for monitoring and decontamination. Report to the Evacuation Route Coordinator for a final briefing.

Now, let's summarize the jobs of the field members.

The three field groups are:

- The Traffic Guides reporting to the Traffic Control Point Coordinator
 - The Road Crew reporting to the Road Logistics Coordinator
 - The Evacuation Route Spotters reporting to the Evacuation Route Coordinator
-
- o All the field members report to an assigned Staging Area for a Site Area Emergency, or General Emergency. Members having pagers will notify the other members to report using notification lists. Those members with pagers are also notified at an Alert to be on standby, except the three Lead Traffic Guides who report in to their Staging Areas during this stage. The Lead Traffic Guide at each Staging Area will assemble and brief the field members and distribute their equipment and emergency packets. The Lead Traffic Guides will be the communication contact for relaying messages to and from the deployed Traffic Guides.
 - o The Traffic Guides direct evacuating traffic at pre-assigned traffic control posts.
 - o The Road Crew clears blockages on evacuation routes.
 - o The Route Spotters scan specified evacuation routes to investigate causes of road blockages.

All the field members report back to the Local EOC when called in or when their field assignment is over. At the EOC, they first go to the Emergency Worker Decontamination Center to be checked to determine if they have received any radiation exposure or are contaminated. If contaminated, they will be decontaminated. Next, all field personnel will go to a briefing with their coordinator.

By now, you have seen a video presentation on Traffic Control and have read through this workbook. OPIP (Offsite Plan Implementing Procedure) Number 3.6.3, "Traffic Control," can be read for further information.

MODULE 12

TRAFFIC CONTROL

MODULE REVIEW

Name: _____

LERO Title: _____

Company Title: _____

1. Fill in a letter indicating to who the individual or group directly reports. Hint: A letter may be used more than once.

Reports to:

Route Spotter	_____	a. Evacuation Route Coordinator
Traffic Control	_____	b. Traffic Control Coordinator
Coordinator		c. Director of Local Response
Evacuation Coordinator	_____	d. Traffic Control Point
Road Crew	_____	Coordinator
Road Logistics Coordinator	_____	e. Road Logistics Coordinator
Communicator	_____	f. Evacuation Coordinator
Lead Traffic Guide	_____	
Traffic Control Point	_____	
Coordinator		
Evacuation Route	_____	
Coordinator		
Traffic Guide	_____	

2. For which two emergency classes do all the field members report?

1. _____

2. _____

3. Evacuation is the more likely and preferred protection than sheltering.

True or False

4. How many zones are in the EPZ?

a. 10

b. 9

c. 6

d. 19

5. The evacuation group is made up of Traffic Control, Transportation and Special Facilities Evacuation.

True or False

6. Traffic Control will transport school children.

True or False

7. List four people within Traffic Control who report to the Local EOC by title.

1. _____
2. _____
3. _____
4. _____

8. At what class of emergency do the people in question 7 report?

9. Where does the Traffic Control Point Coordinator get the list of Traffic Control posts?

10. Where does the Traffic Guide get the list of Traffic Control posts?

11. At what potential radiation dose level should field members evacuate their deployed area?

_____ R

12. What will field members be instructed to do when there is a potential low level radiation exposure. Hint: Involves doing something with an equipment item but not a dosimeter.

13. Where do field members report after their field assignment?

14. What two things occur with field members after they report in to question 13's answer.

1. _____

2. _____

15. Who in Traffic Control is notified for an Unusual Event?

16. Who directly coordinates the field members at a Staging Area?

- a. Staging Area Coordinator
- b. Traffic Control Point Coordinator
- c. Communicator
- d. Lead Traffic Guide

17. What should a Traffic Guide do when the police arrive where they are deployed? Hint: Details in checklist.

- a. Provide them with direction and guidance so they may follow you.
- b. Yield to their direction first.
- c. Attempt to work jointly with them.
- d. Continue your operation until informed by the EOC to yield to their orders.

18. Match the Traffic Control group with their job.

- | | | |
|--------------------------|-------|--|
| Evacuation Route Spotter | _____ | a. Directs cars at control posts |
| Traffic Guide | _____ | b. Removes disabled car off roads |
| Road Crew | _____ | c. Looks for road blockages and traffic problems |

19. What dosimeters do field members receive?

1. _____
2. _____
3. _____

20. How often should dosimeters be checked when in the field?

- a. Every half hour
- b. Every hour
- c. Four times
- d. Twice
- e. Every 15 minutes

21. How many Traffic Guides have pagers?

22. How many Traffic Guides does the Lead Traffic Guide notify to report in?

- a. 30
- b. 15
- c. 20
- d. None

23. Lead Traffic Guides have pagers.

True or False

24. Lead Traffic Guides are on standby for an Alert.

True or False

25. Evacuation routes and zones to be evacuated may change during the course of an emergency.

True or False

26. All of the field members that are on a call list will be notified by the callers.

True or False

27. Match the communication contact with the deployed field group:

Field Group

Communication Contact

Route Spotter _____

Road Crew _____

Traffic Guide _____

a. Lead Traffic Guide

b. Road Logistics Coordinator

c. Staging Area Coordinator

d. Evacuation Route Coordinator

e. Traffic Control Point Coordinator

SPECIAL EVACUATIONS

MODULE NO. 13

This module applies to:

- o Director of Local Response
- o Manager of Local Response
- o Evacuation Coordinator
- o Coordinator of Public Information
- o Public Information Support Staff
- o Emergency Medical/Public Service Coordinator
- o Ambulance Coordinator
- o Ambulance Personnel
- o Transportation Support Coordinator
- o Bus Coordinator
- o Bus Dispatcher
- o Bus Drivers
- o Special Facilities Evacuation Coordinator
- o Public Schools Coordinator
- o Private Schools Coordinator
- o Health Facilities Coordinator
- o Home Coordinator

Your Name _____

LERO Title _____

Company Title _____

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Training Objectives	ii
Introduction	1
A. Organization	2
B. Mobilization	6
C. Special Evacuations Procedure	9
Summary	18
 <u>Figures</u>	
1. Coordination and Information Flow	3
2. Mobilization	8
3. Invalid/Disabled Evacuation Listing	11
4. Health Care Facility Evacuation Listing	14
5. School Evacuation Listing	17

TRAINING OBJECTIVES

At the completion of this module, the student should:

- A. Have an understanding of the methods involved in carrying out special evacuation activities
- B. Know the LERO staff positions which are involved in supporting special evacuation actions
- C. Be familiar with the three types of special evacuations
- D. Know how the notification and mobilization of LERO members involved in special evacuations occurs
- E. Have an understanding of the actions outlined in OPIP 3.6.5, "Special Evacuations" procedure

INTRODUCTION

The communities which surround the Shoreham Nuclear Power Station are like most other communities around the country. There are people of all ages, backgrounds and occupations residing within the ten mile Emergency Planning Zone. In developing an emergency response plan and implementing procedures to protect the health and safety of all those in the ten mile Emergency Planning Zone, numerous types of situations must be addressed and planned for well in advance of any potential incident. Within the communities around Shoreham are some individuals that will require special attention and assistance should an evacuation ever be recommended as the protective action required in response to an accident at Shoreham.

The Special Evacuations Procedure OPIP 3.6.5 provides special attention and assistance for the following groups:

- Invalid or disabled people living in private homes within the 10-mile EPZ
- Hospitals, nursing homes and other health care facilities within the 10-mile EPZ
- Certain public and private schools under special circumstances

In order to effectively respond to the needs of these groups during an emergency, all the involved LERO members and LERO supporting organizations must be aware of their responsibilities as outlined in the Special Evacuation Procedure. This workbook module, in conjunction with the videotape Special Evacuations, should prepare you to carry out the actions of the Special Evacuation process.

A. ORGANIZATION

Within the Local Emergency Response Organization structure, there are certain positions which have been given responsibilities related to the Special Evacuation process. Some of these positions are devoted entirely to this task, others have additional duties that must be accomplished in addition to supporting the Special Evacuations effort.

Figure 1 illustrates the positions within LERO which have responsibilities associated with Special Evacuations. Refer back to this figure often as you progress through this module. To see how these positions fit into the overall LERO structure, turn back to workbook Module 2.1, Site Specific, which provides the "overall" LERO organization charts.

The Director of Local Response has the ultimate responsibility for protecting the health and safety of residents and transients within the EPZ. It is the Director of Local Response who will make the final decision to initiate an evacuation of a zone or zones, based upon the input and recommendations received from the Radiation Health Coordinator and other non-LERO authorities.

Upon determining that an evacuation is required, the Director of Local Response will direct the Manager of Local Response to implement evacuation efforts for the affected zones. The Manager of Local Response, acting as a focal point for the coordination of all LERO activities, will direct the senior LERO Coordinators in initiating evacuation activities.

The Senior Coordinator directly responsible for evacuation implementation is the Evacuation Coordinator. The Evacuation Coordinator directs and coordinates a segment of LERO which is responsible for carrying out response actions related to:

- o Traffic guidance
- o Evacuation transportation
- o Special evacuations

The Evacuation Coordinator reports to the Manager of Local Response with the responsibility of keeping the Manager informed of the status of the activities in each of the above three areas. The Evacuation Coordinator is responsible for ensuring that all activities under his direction are carried out rapidly and that there exists at all times a ready reserve of manpower and resources.

Reporting to the Evacuation Coordinator are three functional coordinators, one of which, the Special Facilities Evacuation Coordinator, coordinates the Special Evacuations activities. The Special Facilities Evacuation Coordinator oversees the actions of four specialized coordinators in carrying out the directions of OPIP 3.6.5, Special Evacuations.

These four specialized coordinators

- o Home Coordinator
- o Health Facilities Coordinator
- o Public Schools Coordinator
- o Private Schools Coordinator

provide notifications, communications and coordination for the Special Evacuations efforts for public schools, private schools, health care facilities and invalid/disabled individuals needing special transportation.

As specific transportation needs are identified by the above four coordinators, the Bus Coordinator and Ambulance Coordinator are involved in the Special Evacuation process and act to dispatch the appropriate number of buses, medical transport vehicles or ambulances as the situation dictates.

Bus drivers, medical transport personnel and ambulance crews respond to the facility assigned by the Bus and Ambulance Coordinators, and work with the Facility Operator to assist in the evacuation of the facility.

Summary

The following individuals have responsibilities related to Special Evacuations.

- o Director of Local Response - decision making to initiate evacuations
- o Manager of Local Response - implementing the decisions of the Director
- o Evacuation Coordinator - directing the overall evacuation efforts
- o Special Facilities Evacuation Coordinator - directing the special evacuations activities
- o Home Coordinator, Health Facilities Coordinator, Public Schools Coordinator and Private Schools Coordinator - providing notification, communications and coordination of select areas within the Special Evacuation process
- o Ambulance and Bus Coordinators - working closely with the above coordinators and dispatching ambulances and buses as necessary
- o Bus Drivers, Medical Transport Personnel and Ambulance Crews - providing transportation assistance working with facility operators to evacuate their facility

B. MOBILIZATION

In the event an incident were to occur at Shoreham, the Local Emergency Response Organization must be mobilized to staff the Local EOC and the three staging areas. To accomplish mobilization in as short a time as possible, the mobilization process employs a system of personal pagers, carried by key individuals, and a telephone callout network.

Refer back to workbook Module 2.2, "LERO Notification", for explanations on the pagers and telephone callouts.

The chart (Figure 2) on page ____ indicates how individuals involved in Special Evacuations will be notified, at what emergency classification level they will be required to respond and where they will report.

A quick response during the LERO mobilization phase is essential to achieving a successful Special Evacuation operation. You must know how you will be notified, what to do when notified and where to report. After reading this workbook module and Module 2.2, "LERO Notification", if you are still unsure about how you fit into this process ask your classroom instructor for more clarification.

FIGURE 2
MOBILIZATION

<u>POSITION</u>	<u>METHOD OF NOTIFICATION</u>	<u>EMERGENCY CLASSIFICATION WHEN NOTIFIED</u>	<u>REPORTING LOCATION</u>
Director of Local Response	Pager	Unusual Event and above*	Local EOC
Manager of Local Response	Pager	Unusual Event and above*	Local EOC
Evacuation Coordinator	Pager	Unusual Event and above*	Local EOC
Special Facilities Evacuation Coordinator	Pager	Alert and above	Local EOC
Home Coordinator	Pager	Alert and above	Local EOC
Health Facilities Coordinator	Pager	Alert and above	Local EOC
Public Schools Coordinator	Pager	Alert and above	Local EOC
Private Schools Coordinator	Pager	Alert and above	Local EOC
Ambulance Coordinator	Pager	Alert and above	Local EOC
Bus Coordinator	Pager	Alert and above	Local EOC
Bus Dispatchers and Bus Drivers	Pager or Telephone Callout	Site Area or General Emergency	Staging Area

*Standby only

C. SPECIAL EVACUATIONS PROCEDURE

All emergency response actions which are complex, involve numerous personnel and require multiple steps to accomplish are detailed in the SNPS Local Offsite Radiological Emergency Response Plan Implementing Procedures. The Special Evacuation process is one of these complex responses and is incorporated in the Implementing Procedures as OPIP 3.6.5, "Special Evacuations". Individuals involved in responding to Special Evacuations will have become familiar with this process during training, but should refer often to this procedure to verify that they are taking the appropriate actions in the proper sequence. In particular, the following LERO staff members should be following this procedure step-by-step as they coordinate the response actions:

- o Special Facilities Evacuation Coordinator
- o Home Coordinator
- o Health Facilities Coordinator
- o Public Schools Coordinator
- o Private Schools Coordinator
- o Bus Coordinator
- o Ambulance Coordinator

The Special Evacuations procedure is broken down into three sections for ease of understanding and implementation. The three sections are:

- o Evacuation of Invalid/Disabled
- o Evacuation of Health Care Facilities
- o Evacuation of Schools

The remainder of this workbook module will address individually each of these three processes.

Should an accident occur which dictates the need to initiate an evacuation, the Director of Local Response will issue a directive to the Evacuation Coordinator to commence evacuation actions for the affected zones. The Evacuation Coordinator will, in turn, direct the Special Facilities Evacuation Coordinator to initiate evacuation actions for all the special care cases within the affected zones.

Invalid/Disabled

For the invalid/disabled cases, there are primarily two LERO members in the Local EOC working in conjunction with ambulance personnel who are responsible for ensuring the evacuation actions are accomplished.

The Home Coordinator, under direction of the Special Facilities Evacuation Coordinator, follows the steps outlined in OPIP 3.6.5, "Special Evacuations". The Home Coordinator will refer to Attachment 1, "Invalid/Disabled Evacuation Listing" (see Figure 3) and identify all the listings for the zones being affected. The Home Coordinator forwards a copy of the listings identified to the Ambulance Coordinator.

Working in unison, the Home Coordinator will attempt to contact each person on the listing (should it become necessary to contact large numbers of individuals, additional callers can be provided from the LERO Administrative Support Group), while at the same time the Ambulance Coordinator will request that ambulance crews or medical transports be dispatched to the residences. Both will keep track of their actions to ensure

OPIP 3.0-3
Page 13 of 19
Attachment 1
Page 1 of 2

FIGURE 3

INVALID/DISABLED EVACUATION LISTING

ZONE _____
(SAMPLE)

	Individual's Name	Individual's Address/ Phone Number	Special Care Required in Transport	Evacuation Point Destination Point (Reception Hospital)	Time Contact Was Made/Time Ambulance Was Dispatched
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					

Rev. 0
5/3/83

that attempts have been made to contact all individuals and have ambulances or medical transport vans dispatched. Ambulance crews and medical transport personnel will, upon receiving an assignment, proceed to the nearest Staging Area to receive dosimetry then move on to the assigned residence. The ambulance crews and medical transport personnel will contact the Local EOC either upon arrival at the Reception Hospital where the individual is to be relocated or upon arriving at the assigned residence and finding it vacant.

In all cases, if an individual's name appears on the Invalid/Disabled Evacuation Listing, an ambulance crew or medical transport personnel will be dispatched (even if the Home Coordinator cannot get a response over the phone) and will physically verify that the residence is vacant. Ambulance crews and medical transport personnel will be reassigned until all invalid/disabled individuals have been evacuated.

Health Care Facilities

Essentially, there are three types of Health Care Facilities which exist within ten miles of Shoreham.

- o Handicapped Care Facilities
- o Nursing Homes and
- o Hospitals

Each presents a different set of circumstances. Handicapped Care Facilities are expected to provide most of their own transportation for their patients, but will require special relocation facilities. Nursing Homes will require both bus and ambulance transportation assistance, as well as, special relocation facilities. Hospitals, due to their very nature,

present the large degree of coordination and support. All of the hospitals of concern are situated at the outermost edges of the ten mile Emergency Planning Zone. It is fully anticipated that sheltering will be the preferred protective action method in dealing with these facilities. But in the highly unlikely event that they must be evacuated, buses, ambulances and the Long Island Railroad will be utilized.

Just as in dealing with the invalid/disabled individuals, the Special Facilities Evacuation Coordinator will receive the directive to initiate evacuation actions for the affected zones from the Evacuation Coordinator. The Special Facilities Evacuation Coordinator will, in turn, direct the Health Facilities Coordinator to proceed with the steps detailed in OPIP 3.6.5. There are primarily three members of LERO working in the Local EOC who are responsible for implementing the health facility evacuation actions, working closely in coordinating their actions and providing direction to the bus drivers and ambulance personnel in the field. They are:

- o The Health Facilities Coordinator
- o The Ambulance Coordinator
- o The Bus Coordinator

The Health Facilities Coordinator, referring to the "Health Care Facilities Evacuation Listing", Attachment 2 to OPIP 3.6.5 (see Figure 4) identifies the facilities within the zones to be evacuated.

Next, the Health Facilities Coordinator contacts each facility and establishes their transportation requirements and completes the transportation requirements portion of the attachment. Copies of the completed attachment are forwarded to the Bus

CEIP 3.6-3
Page 13 of 19
Attachment 2
Page 1 of 4

FIGURE 4

HEALTH CARE FACILITIES EVACUATION LISTING

HANDICAPPED FACILITIES

Facility	Address	Phone Number	Zone Designation	Transportation Requirements	Relocation Facility	Time of Initial Contact/Time of Evacuation Confirmation
a. Association for the Help of Retarded Children					Suffolk Developmental Center	
b. United Cerebral Palsy					Suffolk Developmental Center	
c. Stockton Residence						
d. Maryhaven Center of Hope			Q			

Rev. 0
5/3/83

Coordinator and the Ambulance Coordinator. The Bus and Ambulance Coordinators, using the information provided on the Health Care Facilities Evacuation Listing, direct the dispatching of ambulance crews, medical transport personnel and bus drivers to the Health Care Facilities indicated on the listing.

While the ambulance and bus dispatching efforts are underway, the Health Facilities Coordinator contacts the appropriate special relocation facilities and instructs them to prepare to receive the evacuees. Ambulance crews and bus drivers proceed to their assigned Health Care Facility, after receiving their dosimetry, and assist the Facility Operators in transporting their patients to the Special Relocation Facility. Ambulance crews and bus drivers will continue to make trips, shuttling patients to the Special Relocation Facility until all the patients have been relocated. Upon completion of the evacuation process for a facility, the ambulance crews and bus drivers report in to the Local EOC via phone or radio and are reassigned, to meet the needs of the situation.

Public and Private Schools

Schools within New York State including those within the ten mile EPZ, should have in existence an emergency plan that provide emergency response instructions to the school's staff during snowstorms, fires, chemical spills and radiological accidents. In most cases, the preferred method of response is to institute an early emergency dismissal of the students. In such cases, the normal bus transportation routine is initiated and radio messages, as well as phone calls are instituted to alert the parents of students who do not normally ride buses to and from school.

Early dismissal will also be the response for an accident at Shoreham. Procedurally, the school systems around Shoreham are notified and asked to discuss their students at the Alert level in response to a developing situation at Shoreham. Such actions will help to ensure that students are back in the parents' custody prior to an accident's development to the point of requiring an evacuation. However, to ensure that schools are capable of fulfilling their emergency response plan responsibilities during an accident at Shoreham, particularly in the highly unlikely event of a very rapidly escalating emergency, response actions to be initiated by LERO Local EOC staff members have been incorporated into the "Special Evacuation" procedures.

There are two Local EOC staff members designated to work with the school authorities during an emergency, the Public Schools Coordinator and the Private Schools Coordinator. Should an event at Shoreham escalate so quickly that an early dismissal of students would not be possible for certain schools located close to the station, the Public and Private School Coordinators will contact each school listed on the "School Evacuation Listing", Attachment 3 of OPIP 3.6.5 (see Figure 5) and make a determination of their need for assistance.

Based upon discussions with school authorities, the Public and Private School Coordinators complete the transportation assistance requirements portion of the School Evacuation Listing, and provide a copy to the Bus Coordinator.

The Bus Coordinator, in turn, dispatches buses to the schools based on the needs on the listing. The Relocation Center Coordinator will be alerted by the Public and Private School Coordinators to prepare for the arrival of the students at the

OPIP 3-6-3
Page 19 of 19
Attachment 3
Page 1 of 1

FIGURE 5

SCHOOL EVACUATION LISTING
(continued)

SHOREHAM WADING RIVER CENTRAL SCHOOL DISTRICT

School	Address	Phone Number	Zone Designation	Transportation Requirements	Relocation Facility	Time of Initial Contact/Time of Evacuation Confirmation
Biercliffe Road School			A		Suffolk County Community College	
Miller Avenue School			A		Suffolk County Community College	
Shoreham - Wading River Middle School			B		Suffolk County Community College	
Shoreham - Wading River High School			C		Suffolk County Community College	
Wading River School			D		Suffolk County Community College	

SUBSIST SCHOOLS

School	Address	Phone Number	Zone Designation	Transportation Requirements	Relocation Facility	Time of Initial Contact/Time of Evacuation Confirmation
Wading River Cooperative Play School			C		Suffolk County Community College	
St. John's Nursery School			E		Suffolk County Community College	
St. Annina's Nursery School			F		Suffolk County Community College	

Rev. 0
5/7/83

Relocation Center at Suffolk County Community College. Parents of these students will have been informed of these actions through the EBS broadcasts.

When all the invalid/disabled individuals and Health Care Facilities patients have been evacuated and the schools are emptied of all their students, the special evacuations process is complete.

Summary

The Special Evacuation process is covered in detail in OPIP 3.6.5, "Special Evacuations" found in the SNPS Local Offsite Radiological Emergency Response Plan Implementing Procedures.

In providing for the invalid/disabled:

- Attachment 1 of OPIP 3.6.5 is the "Invalid/Disabled Evacuation Listing" which provides names, addresses and details for all those requiring assistance.
- The Home Coordinator and Ambulance Coordinator located at the Local EOC, work closely in directing the evacuation efforts for these people.
- Ambulance crews and medical transportation personnel are directed to the homes of the disabled and provide transportation to reception hospitals.

- Each residence listed on the Invalid/Disabled Evacuation Listing will have an ambulance dispatched to it, whether or not telephone contact can be established.

Health Care Facilities will require both buses and ambulances as a means of transportation.

- The Health Facilities Coordinator, Bus Coordinator and Ambulance Coordinator are involved in the direction of evacuation efforts for the affected Health Care Facilities.
- Attachment 2 of OPIP 3.6.5 is the Health Care Facilities Evacuation Listing which provides the names, locations and associated Relocation Facilities for all of the Health Care Facilities within the ten mile EPZ.
- Ambulance crews, medical transport personnel and bus drivers work with the Health Care Facilities Operator until all patients from a facility have been relocated.

Schools within the ten mile EPZ, like all NY State Schools, should have their own emergency plans for their facility.

Under all but the most severe type of an incident at Shoreham, the schools are expected to institute an early dismissal program, returning the students to the parents custody.

The Public and Private Schools Coordinators, located at the Local EOC are LERO's representatives and points of contact with school authorities.

In the highly unlikely event that early dismissal of students is not reasonable for selected schools close to Shoreham, assistance will be made available to the school authorities in the form of supplemental buses and drivers.

Evacuation of selected schools will result in those students being relocated to the Suffolk County Community College Relocation Center. Parents of students will have been notified of these actions through the EBS broadcast system.

MODULE 13
SPECIAL EVACUATIONS
MODULE REVIEW

Name: _____

LERO Title: _____

Company Title: _____

1. Special Evacuation provisions have been developed for residents and facilities around the SNPS outward to a distance of:
(circle the correct number)

- a. 2 miles
- b. 5 miles
- c. 10 miles
- d. 15 miles

2. The _____ has the ultimate
(LERO Title)
responsibility for protecting the health and safety of
residents and transients within the EPZ.

3. The Senior LERO Coordinator directly responsible for
implementation of evacuation activities is the Evacuation
Coordinator.

True or False

4. The Special Facilities Evacuation Coordinator coordinates the LERO response actions directly related to Special Evacuations and oversees the actions of four specialized coordinators located in the Local EOC. List the four specialized coordinators.

1. _____
2. _____
3. _____
4. _____

5. Which two coordinators work closely with the above four coordinators to provide ambulance and bus transportation assistance? (circle the correct answer)

- a. Bus Coordinator and Hospital Coordinator
- b. Ambulance Coordinator and Bus Coordinator
- c. Public Services Liaison and Ambulance Coordinator
- d. Bus Dispatcher and Logistics Support Coordinator

6. Indicate how you will be notified to report to your emergency work location. (circle the correct answer)

- a. Tone Alert Radio
- b. Telephone
- c. Siren System
- d. Personal Pager

7. OPIP 3.6.5, "Special Evacuations" is one of many procedures detailing the response activities of LERO and can be found in a document titled:

8. List the three Special Evacuation processes covered in OPIP 3.6.5, "Special Evacuations".

1. _____
2. _____
3. _____

9. Which two LERO staff members are primarily involved in evacuation coordination for Invalid/Disabled individuals?
(circle the correct answer)

- a. Special Facilities Evacuation Coordinator and Bus Coordinator
- b. Health Facilities Coordinator and Ambulance Coordinator
- c. Bus Coordinator and Home Coordinator
- d. Ambulance Coordinator and Home Coordinator

10. Attachment 1 to OPIP 3.6.5, "Special Evacuations" provides a listing of all Invalid/Disabled individuals requiring assistance.

True or False

11. There are primarily three members of LERO working in the Local EOC who are responsible for coordinating evacuation actions for Health Care Facilities. List them.

1. _____
2. _____
3. _____

12. Hospital and nursing home patients will be transported to the normal Public Relocation Centers.

True or False

13. Schools in New York State have their own emergency plans which detail their actions to many different emergency situations. The normal anticipated response to an incident at Shoreham would require the schools to institute _____ procedures for their students.

14. The two primary LERO staff members responsible for working with local school officials during an emergency are: (circle the correct answer)

- a. Director of Local Response and Evacuation Coordinator
- b. Evacuation Coordinator and Home Coordinator
- c. Public Schools Coordinator and Private Schools Coordinator
- d. Health Facilities Coordinator and Public Schools Coordinator

15. Indicate who you report to in the LERO structure.

TRANSPORTATION COORDINATION

MODULE NO. 14

This module applies to:

- | | |
|--|---|
| <input type="checkbox"/> Director of Local Response | <input type="checkbox"/> Transportation Support Coordinator |
| <input type="checkbox"/> Manager of Local Response | <input type="checkbox"/> Staging Area Coordinator |
| <input type="checkbox"/> Evacuation Coordinator | <input type="checkbox"/> Bus Coordinator |
| <input type="checkbox"/> Coordinator of Public Information | <input type="checkbox"/> Transfer Point Coordinators |
| <input type="checkbox"/> Public Information Staff | <input type="checkbox"/> Bus Dispatchers |
| | <input type="checkbox"/> Bus Drivers |

Your Name _____

LERO Title _____

Company Title _____

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Training Objectives	ii
Introduction	1
A. Overview	2
B. Evacuation - Transportation Coordination	2
C. The LERO Participants	5
- Transportation Support Coordinator	7
- Bus Coordinator	8
- Transportation Support Communicator	11
- Bus Dispatchers	11
- Bus Drivers and Transfer Point Coordinators	15
D. Emergency Packets	19
- Bus Driver Packets	19
- Transfer Point Coordinator Kits	20
E. Notification of Transportation Coordination Personnel	22
- Paging	23
- Telephoning	23
<u>Attachments</u>	
1. Bus Company Listings	25
2. Bus Driver Procedure	26
3. Transfer Point Coordinator Procedure	28
4. Bus Route Listings	30

TRAINING OBJECTIVES

The objective of the Transportation Coordination workbook is to provide a detailed description of the roles LERO members in this group will assume if an incident at the Shoreham Nuclear Power Station were to occur. Topics to be covered in this workbook are:

- A. The LERO members who are part of this group
- B. Where these LERO members report in an emergency
- C. Methods of transporting the public out of the Emergency Planning Zone (EPZ) during an emergency
- D. Where the public will be waiting for evacuation buses
- E. The use of Bus Dispatchers and Transfer Point Coordinators to dispatch buses
- F. What happens at a Transfer Point
- G. The use of Emergency Packets by Bus Drivers and Transfer Point Coordinators
- H. What Bus Drivers do when they finish their routes

INTRODUCTION

The LERO members who are part of the Transportation Coordination Group will be responsible for a portion of the public evacuation efforts in the 10-mile EPZ around the Shoreham Nuclear Power Station. They are responsible for evacuating people who have no special evacuation needs, but can easily board a bus to leave the affected zone(s).

This module will describe the methods used by the Transportation Coordination Group to bring community members to safety if an evacuation becomes necessary.

A. OVERVIEW

Before any nuclear power plant goes into operation, plans are made to notify and protect the public if an emergency at the plant were to occur. This includes evacuating residents, workers and people who may be traveling through the 10-mile Emergency Planning Zone (or EPZ) around the plant.

Evacuating people from the EPZ will be done by three groups. These groups will each have specific functions to carry out. The Transportation Coordination Group will assist in evacuating those people who:

- do not have their own transportation
- are not handicapped and do not require special transportation considerations, and
- are not in health care facilities

The following pages describe what will happen if an evacuation becomes necessary. Specific responsibilities of Transportation Coordination Personnel will follow.

B. EVACUATION - TRANSPORTATION COORDINATION

Upon notification that an evacuation is ordered, the Transportation Coordination Group will already have mobilized to begin their jobs. They will transport community members out of the zone (or zones) that are in danger of receiving radiation.

Bus Drivers and Transfer Point Coordinators will report to central locations, called Staging Areas. Here they will find out which zones must be evacuated. Upon the notice that an evacuation is to begin, Bus Drivers will be told to go to bus company garages, man a bus, and drive to a designated Transfer Point. At this Transfer Point, the Bus Drivers will be told to stay at the Transfer Point or will be dispatched to evacuation routes. The Transfer Point Coordinator provides these instructions.

Buses must report and be dispatched from a central point, called the Transfer Point. The area around the plant, as you will recall, has been broken up into zones. Zones have different populations, and therefore, one zone may require more buses for evacuation than another zone. Dispatching buses at predetermined time intervals allows for a more efficient evacuation.

Once the Bus Driver drives his route and picks up passengers, he proceeds back to the Transfer Point when his bus becomes full or when he finishes his route. As he arrives at the Transfer Point, the Bus Driver will either be directed to: 1) pick up more evacuees on his route through the zone, 2) proceed to a Relocation Center with passengers if it is his last trip through the zone or 3) aid in transporting other evacuees, such as school children or hospital patients, out of the EPZ.

If evacuees are instructed to get off buses at the Transfer Point, they will board another bus. This bus will take them to the Relocation Center (outside of the 10-mile EPZ) that has been designated for that zone.

When Bus Drivers have been told they are finished with their evacuation routes, they must go to the Local EOC in Brentwood. At the EOC, they will be monitored and decontaminated, if necessary. Upon decontamination, Bus Drivers will return buses to appropriate garages and are finished with their duties unless notified otherwise by the Bus Dispatcher.

Summary

1. Residents in the communities in the EPZ being evacuated by this group are those without their own transportation and are not handicapped or in health care facilities.
2. As an evacuation is declared, Bus Drivers will be given information at the Staging Areas on which routes to drive.
3. When directed to do so, Bus Drivers will drive to bus company garages. Bus Drivers will man buses and proceed to Transfer Points. Transfer Point Coordinators will go to their designated Transfer Points.
4. At the Transfer Point, the Bus Drivers will be told when to proceed on their route. When the route has been driven and the bus becomes full, the Driver will report back to the Transfer Point.
5. When the bus arrives at the Transfer Point, the passengers will unload, and the Driver will drive the route again. Or, upon direction from the Transfer Point Coordinator, he will take passengers directly to the Relocation Center.

6. Passengers unloaded at the Transfer Points will be taken to Relocation Centers by other Bus Drivers.
7. As Bus Drivers have completed transportation needs, they report to the EOC for monitoring and decontamination. After this have been accomplished, Drivers will return buses to garages, unless otherwise instructed.

C. THE LERO PARTICIPANTS

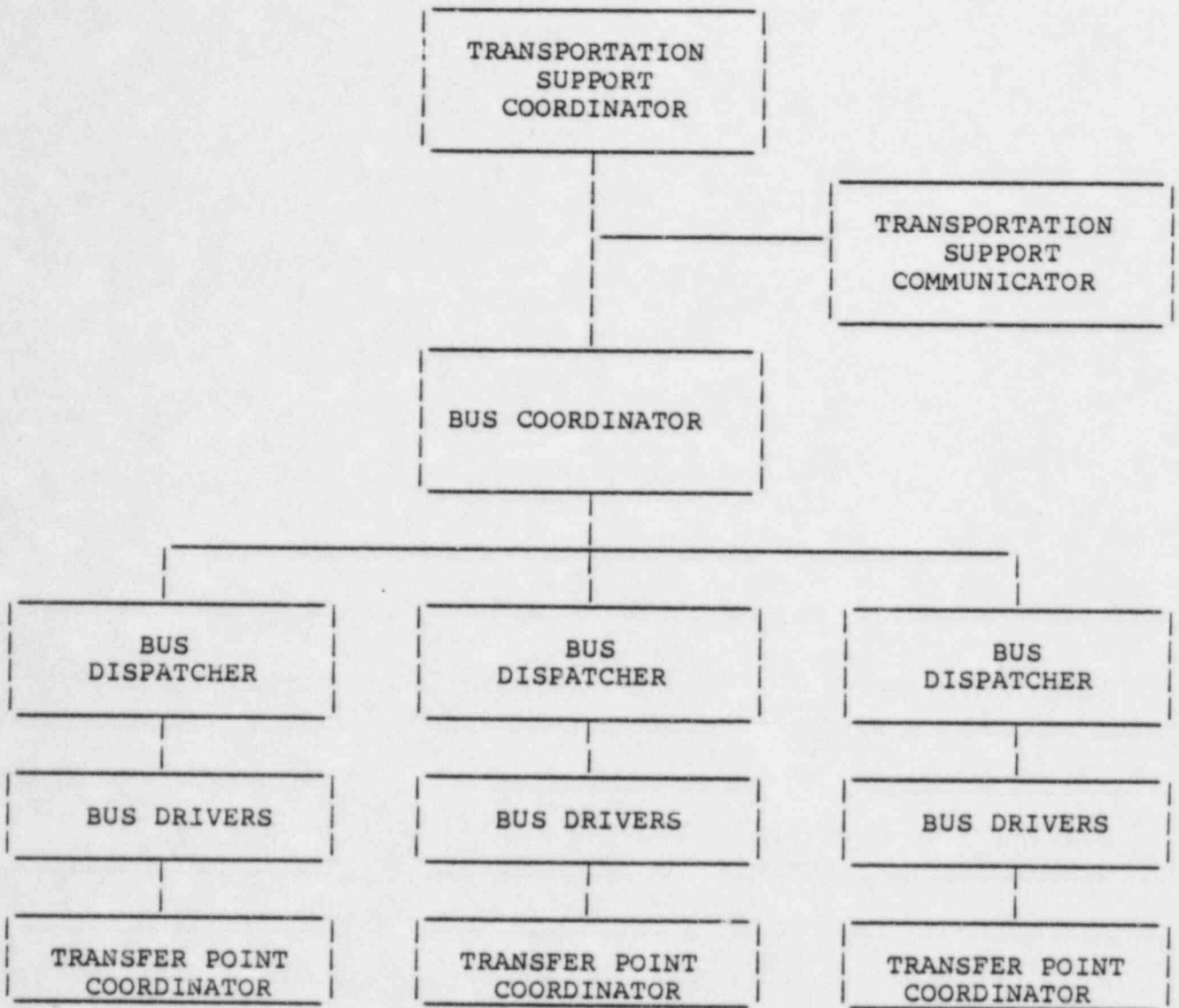
The previous section describes the evacuation methods for the Transportation Group. This general description did not include all titles of personnel in the Transportation Coordination Group. This section will describe, in detail, the responsibilities of each person in the group.

The title of each LERO member in this group will be one of the following:

- Transportation Support Coordinator
- Transportation Support Communicator
- Bus Coordinator
- Bus Dispatchers
- Bus Drivers
- Transfer Point Coordinators

Staging Area Coordinators will also be mentioned as they assist Bus Drivers in preparing for the evacuation.

The organization chart for this group of personnel looks like this:



These people will be working together to transport members out of the communities that must be evacuated.

- Transportation Support Coordinator

The Transportation Support Coordinator will head up this group. He will oversee this portion of the evacuation operation to make sure the activities under his direction are occurring quickly. He will also make sure responses happen in the proper time sequence to make the effort effective.

Personnel (such as Bus Drivers) and equipment (such as buses) that are necessary to carry out these jobs are also his responsibility in that he must make sure they are available when needed. The Transportation Support Coordinator will, when he has been directed to do so by the Evacuation Coordinator, tell the Bus Coordinator that dispatching of Bus Drivers can begin. He will verify:

- o the zones to be evacuated and
- o the protective action recommendations that have been prescribed for Bus Drivers by the Radiation Health Coordinator.

As he gathers information from other LERO members, he will look at the needs for personnel and equipment. He will then delegate to those who report to him the various tasks which arise from this assessment.

The Transportation Support Coordinator reports to the Evacuation Coordinator and gives him status reports on the coordination and progress of bus transportation.

The Transportation Support Coordinator, upon notification of an Alert, Site Area Emergency or General Emergency will report for duty at the Local EOC in Brentwood. Here he will be in close contact with the Transportation Support Communicator and Bus Coordinator.

- Bus Coordinator

The Bus Coordinator, who reports to the Transportation Support Coordinator, is responsible for making sure enough buses are available for the evacuation. As an evacuation is declared, he will be told by the Transportation Support Coordinator when he must contact bus companies to assess the numbers of buses available from each company. He will do this by using the Bus Company Listing (Attachment 1) and ask for the number of buses immediately available for use from each company. He then tells the Bus Company how many drivers will be arriving to pick up buses. The Bus Coordinator will continue this process until the number of buses needed have been located.

The Bus Coordinator will determine the zone(s) that must be evacuated by viewing Status Boards at the EOC or questioning the Transportation Support Coordinator. He will be directed by the Transportation Support Coordinator to have Bus Drivers dispatched to begin evacuations. To have Drivers dispatched, he will call the Bus Dispatcher at the Staging Area(s) nearest the zone(s) to be evacuated, and request that Drivers be sent to buses to begin the evacuation.

During the entire process, he will make sure information has been relayed between the Staging Area (the place where Bus Drivers meet when they report for duty) and the Local EOC. The Bus Coordinator will provide status reports on all of these activities to the Transportation Support Coordinator. When the evacuation has been completed, he will inform the Transportation Support Coordinator.

It is possible that the Bus Coordinator may be needed to assist in providing transportation (buses) in another area of evacuation, particularly for public and private schools. If it became necessary, the Public and/or Private School Coordinators would provide a listing of transportation requirements to the Bus Coordinator. He would then assist them by having buses dispatched to the schools which need them.

The Bus Coordinator will report for duty at the Local EOC when an Alert, Site Area Emergency or General Emergency has been declared.

The responsibilities of the Transportation Support Coordinator and Bus Coordinator are to initiate the actual transportation portion of the evacuation. These duties are carried out from the EOC. Except for this group's communicator, remaining personnel in this group will be performing duties outside of the EOC. A summary of the responsibilities of these two previously described positions follows.

Summary- Transportation Support Coordinator

1. This person oversees the Transportation Support Group and reports to the Evacuation Coordinator.
2. He will make sure responses happen in the proper sequence and that personnel and equipment are available.
3. The Transportation Support Coordinator will tell the Bus Coordinator when Bus Drivers can be dispatched.
4. He will delegate work to those in his group as appropriate.
5. The Transportation Support Coordinator reports for duty at the EOC at an Alert, Site Area Emergency or General Emergency.

- Bus Coordinator

1. This person reports to the Transportation Support Coordinator and makes sure enough buses are available to support the evacuation. He will contact the bus companies to do this.
2. The Bus Coordinator will look at the routes to be driven in zone(s) to be evacuated, and notify Bus Dispatchers when to send out Bus Drivers.

3. He will relay this information from the EOC to the Staging Area and provide status reports to the Transportation Support Coordinator.
4. If needed, he will be asked to assist in other areas of evacuation such as schools.
5. The Bus Coordinator will report for duty at the EOC if an Alert, Site Area Emergency or General Emergency is declared.

- Transportation Support Communicator

The Transportation Support Communicator will provide for the communication needs of this group. As he mans his radio in the Local EOC, he will make sure that messages between field members are received. He will do this with any other messages that must be relayed from the EOC, or any other location, to members of the Transportation Coordination Group. He will report to the Transportation Support Coordinator and receive directions from him when messages are to be relayed. If, however, his communications equipment at the EOC malfunctions, he will go to the Lead Communicator to have the problem resolved.

The Transportation Support Communicator will report to the EOC upon notification of an Alert, Site Area Emergency or General Emergency.

- Bus Dispatchers

As stated before, the field members of the Transportation Coordination Group will be carrying out the actual transpor-

tation activities of the evacuation. These LERO members are the Bus Drivers and the Transfer Point Coordinators, and they will be directed by the Bus Dispatchers.

When the Bus Dispatcher (one at each Staging Area) arrives for duty, he will establish contact with the Bus Coordinator at the Local EOC. When a Bus Dispatcher receives notification from the Bus Coordinator on the zone(s) to be evacuated, the Bus Dispatcher will outline the routes that must be covered for the Bus Drivers. If there are any other requirements or special instructions that must be given to Drivers (or Transfer Point Coordinators), the Bus Dispatcher will convey the messages.

Once the evacuation is to begin, the Bus Dispatchers will direct the Bus Drivers on which bus companies to go to. Before Drivers leave, they must have in their possession - and the Bus Dispatcher must verify this - all of the items in the Route Map Packets for Bus Drivers. Route Map Packets contain:

- o Information on zones that are to be evacuated
- o Bus route maps
- o Transfer Points for the zones
- o Driving instructions from the Transfer Point to the designated Relocation Center
- o Bus Driver Procedure
- o Schools that are in a zone

Transfer Point Coordinators will also be dispatched by the Bus Dispatchers at the same time Bus Drivers are told to begin their duties. As Transfer Point Coordinators report to their Transfer Points, they will make contact with the

Bus Dispatchers using their two-way radios. The Bus Dispatcher will keep in contact with the Transfer Point Coordinators to assure there are enough buses to support the evacuation activities.

Like the evacuation Bus Drivers, Transfer Point Coordinators will be given emergency packages to carry out their jobs. These packages are called Transfer Point Coordinator Kits and they will be given out by the Bus Dispatcher to each Transfer Point Coordinator. Kits will include:

- o Route maps
- o A two-way radio
- o Bus Company listings
- o Bus Route listings

Transfer Point Coordinator Kits and Bus Driver Route Map Packages will be discussed in more detail later on in the workbook.

The Bus Dispatchers report to their preassigned Staging Areas for duty at a Site Area Emergency and a General Emergency. When an Alert has been declared, Bus Dispatchers will be notified and shall remain on standby.

Summary

- Transportation Support Communicator

1. This LERO member handles the communication needs of the Transportation Support Group between field members and the EOC or any other location.

2. He will take direction from the Transportation Support Coordinator.
3. The Transportation Support Communicator will go to the Lead Communicator to have problems resolved if his equipment malfunctions.
4. He will report to the EOC upon being notified of an Alert, Site Area Emergency or General Emergency.

- Bus Dispatchers

1. Bus Dispatchers will dispatch all needed Bus Drivers and Transfer Point Coordinators from the Staging Areas.
2. They will give out Emergency Packages to use as zones are evacuated. They must verify that all Drivers and Transfer Point Coordinators have these before leaving the Staging Area.
3. The Bus Dispatcher will receive notice from the Bus Coordinator 1) when to begin evacuation operations, and 2) which bus companies to dispatch Bus Drivers to.
4. As Transfer Point Coordinators are dispatched to the Transfer Points, the Bus Dispatcher will keep in contact with them to assure there are enough buses.
5. The Bus Dispatchers report to the Bus Coordinator and will arrange additional transportation needs with him.

6. The Bus Dispatchers report for duty to Staging Areas for a Site Area or General Emergency. They will be on standby during an Alert.

- Bus Drivers and Transfer Point Coordinators

Bus Drivers and Transfer Point Coordinators in the Transportation Coordination Group will be involved in the actual transporting of evacuees out of the 10-mile EPZ.

Bus Drivers and Transfer Point Coordinators will report to their preassigned Staging Areas when notified of a Site Area or General Emergency. (Selected Drivers will be on standby if an Alert is declared.) As they arrive at the Staging Areas, they will be assembled and given a briefing by the Bus Dispatcher regarding:

- o specific bus route assignments
- o bus companies where buses may be obtained
- o zones to be evacuated
- o any other specific instructions they would need to know

Upon arrival at the Staging Area, they will receive dosimeters from the Staging Area Coordinators, and a short briefing on protective action measures. Emergency Packages will be distributed to the Bus Drivers and the Transfer Point Coordinators by the Bus Dispatcher at each Staging Area before dispatching begins. The Emergency Packages are provided to assist these LERO members in carrying out their responsibilities.

Once the Bus Dispatcher is told to begin the evacuation, Bus Drivers will go to pick up buses and Transfer Point Coordinators will go directly to their predesignated Transfer Points. (The Transfer Point is the location that becomes a temporary depot to transfer evacuees to other buses to be brought to Relocation Centers outside of the 10-mile EPZ.) As evacuation Bus Drivers get to their buses, they will follow the steps as outlined in Attachment 2, Bus Driver Procedure (from Offsite Plan Implementing Procedure 3.6.4 - Bus Routes). The Bus Driver will check the bus for gas and oil and drive the bus to the Transfer Point and be dispatched or wait at the Transfer Point. The Drivers that are dispatched to evacuate residents:

- o will run the designated route and pick up anyone waiting at street intersections along the route
- o return to the Transfer Point when the bus becomes full or when the route has been completed
- o receive instructions from the Transfer Point Coordinator to run the route again, or
- o if it is the Bus Driver's last run through the zone, go directly to the Relocation Center after picking up passengers. (The Transfer Point Coordinator will tell the Drivers which is their last run.)

As passengers get off buses at the Transfer Point, they will be instructed to board another bus that will take them to a Relocation Center designated for that evacuated area. These buses will be waiting at the Transfer Point specifically for this purpose. They will shuttle evacuees to the Relocation Center throughout the evacuation process. Attachment 2 also describes the actions to take if you are notified of a downwind release in your direction. (Bus Drivers throughout

the evacuation process will be able to keep in touch with the Transfer Point Coordinator and Bus Dispatcher as each bus will be equipped with a 2-way radio.)

The Bus Drivers will complete their evacuation routes and duties, and report to the Local EOC for radiation monitoring. Once Drivers and their vehicles are free of contamination, they will take their buses back to the Bus Company garages.

Transfer Point Coordinators are dispatched to Transfer Points at the same time Bus Drivers are dispatched to bus company garages. They will go directly to their designated Transfer Point and await the arrival of Bus Drivers. As the Drivers arrive - and using the Bus Route Listings and the Transfer Point Coordinator Kit - he will dispatch buses into the affected area at the appropriate time intervals. He will also keep some buses at the Transfer Point to shuttle evacuees from the Transfer Point to the Relocation Center.

The Transfer Point Coordinator (using his mobile radio) will keep the Bus Dispatcher (at the Staging Area) informed of the activities at the Transfer Point, including the relaying of the number of discharged passengers. The Transfer Point Coordinator Procedure, Attachment 3 (also from OPIP 3.6.4 - Bus Routes) outlines the steps to take if a downwind release occurs. Like the evacuation Bus Drivers, Transfer Point Coordinators will go to the Local EOC for radiological monitoring.

Summary- Bus Drivers

1. Bus Drivers will report for duty if a Site Area or General Emergency has been declared. Selected Drivers will be on standby if an Alert is declared.
2. Some Bus Drivers will be driving buses to evacuate residents from their homes while others take evacuees from Transfer Points to Relocation Centers.
3. All Bus Drivers and Transfer Point Coordinators will be given Emergency Packages to assist them in their assignments. They will also be given personnel dosimeters at the Staging Areas.
4. Evacuating Bus Drivers will drive to bus company garages upon instruction from the Bus Dispatcher. Transfer Point Coordinators will report to Transfer Points upon instruction from the Bus Dispatcher.
5. The Transfer Point is the location that becomes a temporary depot to transfer evacuees from one bus to another bus to be brought to a Relocation Center.
6. Transfer Point Coordinators will dispatch Bus Drivers from Transfer Points in accordance with Bus Route Listings according to predesignated time intervals for each affected area.
7. Evacuating Bus Drivers will take all evacuees to Transfer Points unless instructed otherwise by the Transfer Point Coordinator.

8. When Bus Drivers have finished evacuating the community and when they have been told to do so, they shall report to the EOC for monitoring and decontamination if it is necessary. When this has been completed, they shall drive buses back to bus company garages.

D. EMERGENCY PACKETS

When Bus Drivers report to Staging Areas, each will receive an emergency packet. The Bus Dispatcher will assure each Bus Driver has one before leaving the Staging Area.

Following is a discussion of what items are included in Bus Driver Packets and how they are used to carry out Bus Driver responsibilities.

- Bus Driver Packets for Evacuating Bus Drivers

For the appropriate zone, these will contain:

o Route Maps

Route Maps are road maps showing the evacuation roads to be driven in a particular zone. The starting point (the Transfer Point) and the direction the route must be driven is marked.

o School List

The School List is provided to each Bus Driver in case transportation assistance is needed by schools near or within the evacuation area. Buses can proceed to schools by routes marked on maps.

- o Driving Instructions to Relocation Centers

The Relocation Center designated for each zone will be named, and a route to proceed to it will be marked on a road map.

- o Bus Driver Procedure

The Bus Driver Procedure (for example see Attachment 2) states a step-by-step method for what must be done when the evacuating Bus Drivers report for duty. It includes steps on checking for all items necessary and a reminder to wear dosimeters.

- Transfer Point Coordinator Kits

These kits will have items similar to the Bus Driver Packets. For the appropriate zones, they will contain:

- o Route Maps

Route Maps are road maps showing the roads to be driven to get to the Transfer Points.

- o Two-Way Radio

This is provided so contact can be kept with the Bus Dispatcher and Bus Drivers to receive information and give/get instructions while proceeding with the evacuation.

o Transfer Point Coordinator Procedure

This checklist (for example, see Attachment 3) will provide a step-by-step method for what must be done when carrying out the Transfer Point Coordinator role. The checklist includes a reminder to wear dosimeters.

o Bus Route Listings

Bus Route Listings are needed by the Transfer Point Coordinator. They will state the number of buses needed to evacuate each zone, and at what time intervals to dispatch buses into the zone. The number of buses needed to provide service from the Transfer Point to the Relocation Center is also stated. For an example of this listing, see Attachment 4 at the end of this workbook.

Summary

- Bus Driver Packets

1. Each Bus Driver and Transfer Point Coordinator will receive an Emergency Packet (Bus Driver Packet or Transfer Point Coordinator Kit) at the Staging Area. The checklist in each will also include a reminder to wear dosimeters.
2. Each package will contain route maps, with directions to Relocation Centers and Transfer Points showing the roads to be driven from the Staging Areas.
3. School listings will also be provided if additional transportation assistance is required.

4. Radios are provided for Transfer Point Coordinators to keep in contact with the Bus Dispatcher and Bus Drivers.
5. Bus Route Listings for the Transfer Point Coordinators state the number of buses needed and the time intervals for dispatching buses from Transfer Points.

E. NOTIFICATION OF TRANSPORTATION COORDINATION PERSONNEL

The following will briefly sum up when Transportation Coordination Personnel are notified to report for duty or to be on standby if an emergency occurs at the SNPS.

During an Alert the only people who are on standby are the:

- Bus Dispatchers
- Bus Drivers
- Transfer Point Coordinators

Those who report for duty at the EOC on notice of an Alert are the:

- Transportation Support Corodinator
- Transportation Support Communicator
- Bus Coordinator

During a Site Area Emergency or General Emergency, ALL will report for duty. These locations, as you will recall, are as follows:

- Reporting for duty at Staging Areas:
 - o Bus Drivers
 - o Transfer Point Coordinators
 - o Bus Dispatchers

- Reporting for duty at the Local EOC:
 - o Transportation Support Coordinator
 - o Transportation Support Communicator
 - o Bus Coordinator

- Paging

Some individuals in the group are notified with pagers. The Transportation Support Coordinator, Transportation Support Communicator and the Bus Coordinator shall be contacted using the Group Tone 2 pagers. If an Alert has occurred, the numbers "2222" will appear on the pager, "3333" will signify a Site Area Emergency and "4444" a General Emergency.

The Bus Dispatchers and selected Bus Drivers will receive Group Tone 3 pagers. An Alert will be indicated by "2255," and "3333" means a Site Area Emergency. The numbers "4444" signify a General Emergency. The remaining Bus Drivers will be notified by telephone by the selected Bus Drivers who have been paged.

- Telephone

The telephone process (to notify remaining Bus Drivers) works like this: There are 21 selected Bus Drivers who are paged. Each Bus Driver has a list of 20 people who can be

contacted during an emergency. As an emergency is declared that requires drivers to report for duty, the Bus Driver who has been paged will contact people from his list until 13 are reached and can report. (NOTE: One Bus Driver will have to contact 14 other drivers.) When he is calling, he shall tell the Drivers contacted to report for duty at their predesignated Staging Areas if a Site Area or General Emergency has been declared.

Summary

- Notification Methods

1. During an ALERT, selected Bus Drivers and Bus Dispatchers are on STANDBY. The Transportation Support Coordinator and Communicator and the Bus Coordinator REPORT FOR DUTY.
2. All personnel REPORT FOR DUTY if a SITE AREA or GENERAL EMERGENCY occurs.
3. Bus Drivers, Transfer Point Coordinators and Bus Dispatchers report to their predesignated Staging Areas. The Transportation Support Coordinator and Communicator and Bus Coordinator report to the EOC for duty.
4. The Transportation Support Coordinator and Communicator and Bus Coordinator are notified using Group Tone 2 pagers.
5. Bus Dispatchers and the selected 21 Bus Drivers are notified using Group Tone 3 pagers. Remaining Bus Drivers will be contacted by telephone, until enough from each group can report for duty.

ATTACHMENT 1

BUS COMPANY LISTINGS

<u>Bus Company</u>	<u>Address</u>	<u>Phone Numbers</u> <u>Business / Home</u>	<u>No. of Buses Available</u> <u>Potential / Actual</u>	<u>Zones to be Served</u>
--------------------	----------------	--	--	---------------------------

ATTACHMENT 2

BUS DRIVER PROCEDURE

1. Check bus driver packets before departure from Staging Area. These packets should contain the following items pertaining to the zone assigned:
 - o Route map
 - o Listing of schools within zone
 - o Driving instructions from transfer point to Relocation Center
2. Receive dosimetry equipment consisting of 1 direct-reading dosimeter (0-200mR), 1 direct-reading dosimeter (0-5R) and 1 thermoluminescent dosimeter. Make sure to don these immediately.
3. Complete Part I of all dosimetry forms, retaining the Daily Dose Record Card and a copy of the Permanent Dose Record Form.
4. Proceed to Bus Company garages.
5. Check bus for gas and oil.
6. Report to designated transfer point for dispatching.

NOTE

SCHOOL EVACUATIONS TAKE PRIORITY.

7. Run the designated route and pick up anyone needing transportation.
8. If informed by the Transfer Point Coordinator that you are downwind of a release, begin reading your direct-reading dosimeters at 15-minute intervals.

ATTACHMENT 2
(continued)

BUS DRIVER PROCEDURE

9. If readings go beyond the scale on the 0-200 mR dosimeter, inform the Transfer Point Coordinator and read the 0-5 R dosimeter.
10. At a reading of 3.5 R, inform the Transfer Point Coordinator of dosimeter reading, request further instructions and prepare to be relieved. When directed to leave the EPZ, or at a reading of 5 R, whichever occurs first, drive your bus to the Relocation Center, drop off evacuees and report to the Emergency Worker Decontamination Center at Brentwood for monitoring and possible decontamination.
11. If the bus should become loaded to maximum capacity and the route has not yet been completed, proceed to transfer point.
12. Receive instructions from Transfer Point Coordinator whether to proceed through route again or to proceed directly to Relocation Center.
13. After unloading the bus, call the Bus Dispatcher at the Staging Area for further instructions.
14. If task is complete, Bus Driver is instructed to drive bus to Emergency Worker Decontamination Facility for vehicle/personnel monitoring/decontamination.

ATTACHMENT 3

TRANSFER POINT COORDINATOR PROCEDURE

1. Inventory Transfer Point Coordinator kits before departure from the Staging Area. These kits should contain:
 - o Route Maps
 - o A two-way radio
 - o Bus company listing
 - o Transfer point listing
 - o Segments of Attachment 4 according to designated zones
2. Receive dosimetry equipment consisting of 1 direct-reading dosimeter (0-5 R, 0-200 mR) and a thermoluminescent dosimeter. Make sure to don these immediately.
3. Complete Part I of all dosimetry forms required, retaining a Daily Dose Record Card and a copy of the Permanent Dose Record Form.
4. Report to assigned transfer point and begin coordinating bus operations.
5. Dispatch buses in accordance with Attachment 4 for appropriate zone.
6. Establish communications with Bus Dispatcher and report evacuation progress of Bus Drivers.
7. If mobile radio should break down, use a commercial telephone line or proceed to a location where there is another radio.
8. Inform Bus Drivers, when it is their last run, to proceed directly to the Relocation Centers.
9. Keep Bus Dispatcher informed of the number of discharged passengers needing transportation to Relocation Centers.
10. Inform discharged passengers that they will soon be taken to a Relocation Center outside of the 10-mile EPZ.

ATTACHMENT 3
(continued)

TRANSFER POINT COORDINATOR PROCEDURE

11. If informed by the Bus Coordinator of a downwind release in your direction, don standard rain gear and begin reading dosimeters at 15 minute intervals.
12. If readings go beyond the scale on the 0-200 mR dosimeter, inform the Bus Coordinator and read the 0-5R dosimeter.
13. At a reading of 3.5R, inform Bus Coordinator of dosimeter readings and request further instructions and prepare to be relieved. When directed to leave your post, or at a reading of 5R, whichever occurs first, return to the Local EOC/Emergency Worker Decontamination Center at Brentwood for monitoring and possible decontamination.

ATTACHMENT 4

BUS ROUTE LISTINGS
BUS ROUTE SUMMARY TABLE

Bus Route	Transfer Point	Route Time	Mean Headway	No. of Buses	Bus Trips	Passenger Service Capacity
A1	Longwood High School	70	10	6	11	440
B1	Longwood High School	60	10	5	10	400
C1	Longwood High School	70	30	3	4	160
C2	Longwood High School	100	20	3	4	160
D1	Longwood High School	100	100	1	2	80
E1	Longwood High School	70	10	5	9	360
F1	Miller Place High School	90	20	4	7	280
F2	Miller Place High School	75	10	8	15	600
F3	Miller Place High School	50	10	5	14	560
F4	Miller Place High School	40	10	4	14	560
F5	Miller Place High School	50	10	3	9	360
G1	Middle Island School	50	20	3	5	200
G2	Middle Island School	50	20	3	5	200
G3	Middle Island School	100	20	5	5	200
G4	Miller Place High School	75	20	3	6	240
H1	South Street School	90	30	3	4	160
I1	South Street School	140	30	2	2	80
I2	South Street School	100	30	2	2	80
J1	South Street School	100	20	4	6	240
KA1	New Lane Memorial Elementary	120	10	22	22	880
KB1	New Lane Memorial Elementary	75	10	14	22	880
K2	New Lane Memorial Elementary	100	10	18	22	880
K3	Ward Melville High School	70	10	14	24	960
K4	Ward Melville High School	70	10	4	8	320
K5	Ward Melville High School	90	10	5	7	280
L1	Hampton Ave. Elementary	90	20	5	6	240
L2	Hampton Ave. Elementary	100	20	5	6	240
L3	Hampton Ave. Elementary	50	20	3	6	240

ATTACHMENT 4
(continued)

BUS ROUTE LISTINGS

HIGH OCCUPANCY VEHICLE CONSIDERATIONS FOR ZONE P

Estimated Service Demand: 265 persons

Route Time: (See Zone map for bus routing; Fig. 24.1.*)

Route No. P1	1 hour 15 minutes
Route No. P2	1 hour 40 minutes
Route No. P3	1 hour 15 minutes

Transfer Point: Mercy High School

Vehicles Required: 7 forty-passenger buses

Zone Accommodation: To provide service on Route P1, buses will be dispatched from the transfer point at 40 minute headways. Predicated on route time plus unloading time, 2 buses will be required for a total of 3 trips.

To provide service on Route P2, buses will be dispatched from the transfer point at 40 minute headways. Predicated on route time plus unloading time, 2 buses will be required for a total of 3 trips.

To provide service on Route P3, buses will be dispatched from the transfer point at 40 minute headways. Predicated on route time plus unloading time, 2 buses will be required for a total of 3 trips.

* In Appendix A, Evacuation Plan

WORKBOOK NO. 14

TRANSPORTATION COORDINATION

MODULE REVIEW

Name: _____

LERO Title: _____

Company Title: _____

1. At what facility do Bus Drivers and Transfer Point Coordinators receive information about their routes?

2. When Bus Drivers pick up buses at bus company garages, they proceed to the _____.

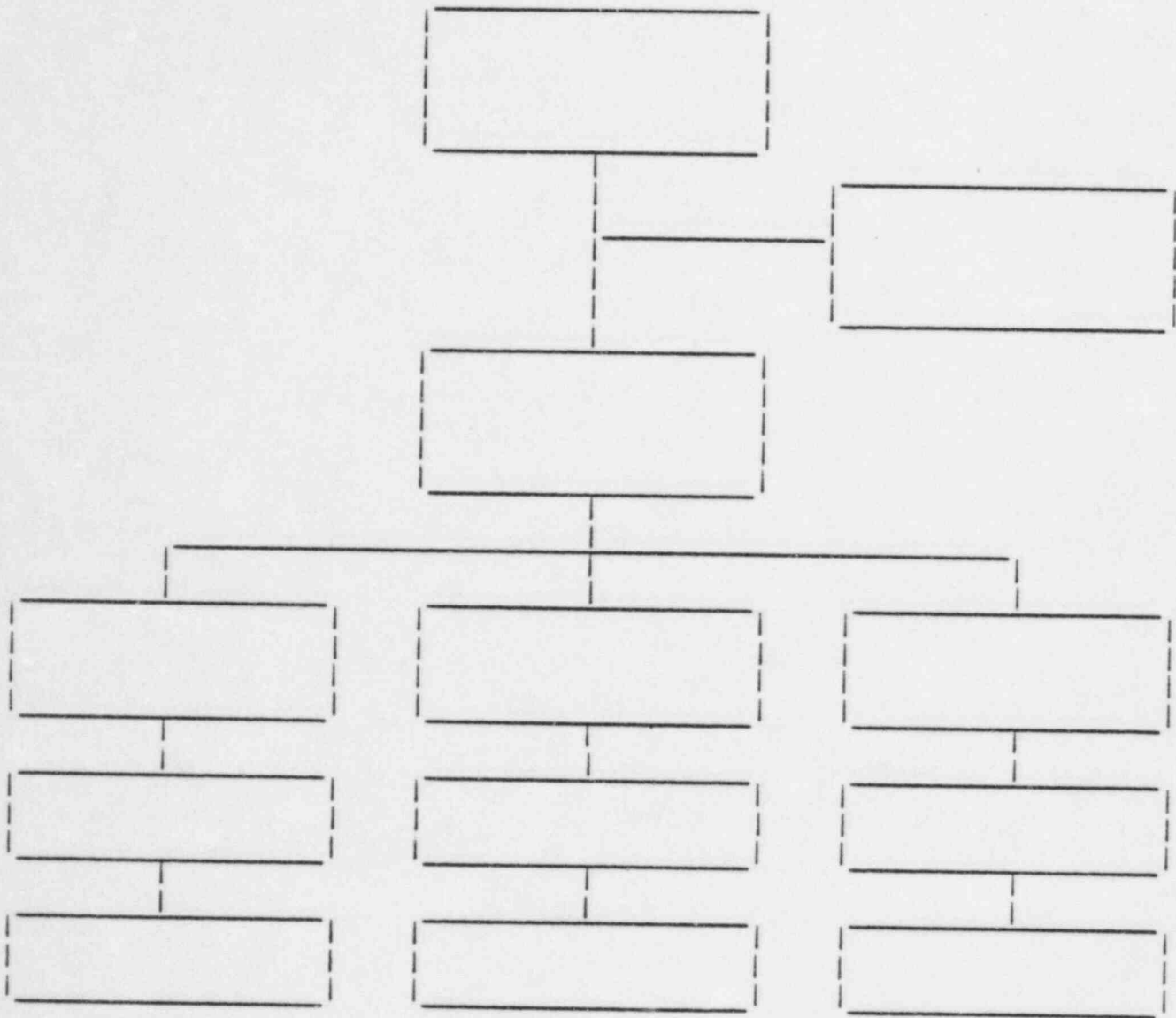
3. After picking up evacuees and arriving at Transfer Points, Bus Drivers could be directed to _____ or _____.

4. Evacuees that have been discharged at the Transfer Points will be taken to a Relocation Center by another bus.

True or False

5. When Bus Drivers have finished their duties, they shall report to the Local EOC in Brentwood for _____ and _____.

6. Fill in the organization chart as it applies to the Transportation Coordination Group.



7. Name three responsibilities of the Transportation Support Coordinator.

1. _____
2. _____
3. _____

8. Name three responsibilities of the Bus Coordinator.

1. _____
2. _____
3. _____

9. What is the main responsibility of the Transportation Support Communicator?

10. When the Bus Dispatcher arrives at the Staging Area to report for duty, he establishes contact with the Bus Coordinator at the EOC.

True or False

11. The Bus Dispatcher hands out and verifies that all Bus Drivers and Transfer Point Coordinators receive Emergency Packets.

True or False

12. Who tells the Bus Dispatcher to begin evacuation operations?

13. The Bus Dispatchers report to the _____.

14. Who supplies Bus Drivers at the Staging Areas with personnel dosimeters?

- a. Staging Area Coordinators
- b. Director of Local Response
- c. Radiation Health Coordinator

15. All Drivers will be dispatched to bus company garages upon instruction from the _____ at the Staging Area.

16. Transfer Point Coordinators will dispatch Bus Drivers from Transfer Points at time intervals as stated on _____.

17. What is a Transfer Point?

18. Name three components of the Bus Driver Packet and briefly explain each one.

- 1. _____
- 2. _____
- 3. _____

19. Name three components of the Transfer Point Coordinator Kit and briefly explain each one.

- 1. _____
- 2. _____
- 3. _____

LERO SECURITY

MODULE NO. 16

This module applies to:

- | | |
|---|--|
| <input type="checkbox"/> Director of Local Response | <input type="checkbox"/> Security Coordinator |
| <input type="checkbox"/> Manager of Local Response | <input type="checkbox"/> EOC Security |
| <input type="checkbox"/> Support Services Coordinator | <input type="checkbox"/> Security (Relocation Centers) |

Your Name _____

LERO Title _____

Company Title _____

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Training Objectives	ii
Introduction	1
A. Security Organization	2
B. Security Operations at the Local Emergency Operations Center	2
C. Security Operations at the Relocation Centers	3
D. Security Operations at the Emergency Worker Decontamination Facility	4
Summary	5

INTRODUCTION

The services which will be provided by the LERO Security Personnel are best characterized by comparing them with similar actions which take place at an airport.

At an airline terminal, traffic guides direct the arriving and departing traffic into and out of the terminal area in an orderly and efficient manner, minimizing the amount of time anyone must spend getting in and out of the terminal. Passengers arriving at the terminal may be provided assistance by airline guides or other information personnel. They also provide assistance at arrival and departure gates to people needing directions or possibly requiring medical attention.

Friends or family of the passengers may gather around the gate areas to see the passengers off. However, security guards may restrict entry to only those who hold valid airline tickets.

LERO Security Personnel will perform similar services. At the Relocation Centers and EOC, Security Personnel will assist arriving people by directing them where to park their cars and where to go to be processed into the center. At the Local Emergency Operations Center, security will assure that only authorized LERO emergency personnel and visitors gain access.

A. SECURITY ORGANIZATION

LERO Security Personnel are part of the Support Services Group which is under the direction of the Support Services Coordinator. The Security Coordinator, who reports to the Support Services Coordinator, is responsible for coordinating the activities of the security staff and ensuring that sufficient manpower is available. The Security Coordinator will be located at the Local EOC.

B. SECURITY OPERATIONS AT THE LOCAL EMERGENCY OPERATIONS CENTER

Upon notification that the Emergency Operations Center (EOC) is to be activated, LILCO Brentwood Security personnel will establish and maintain a security post in the lobby at the main entrance. They will maintain the post until relieved by LERO Security. Upon the arrival of LERO Security, additional security posts will be established in accordance with the Security Procedure (OPIP 4.1.3).

Security will maintain an Emergency Personnel Log In/Log Out Form to allow properly identified personnel to be processed into the facility. Brentwood Security will maintain on file a list of all authorized EOC emergency personnel. Each of these people will be carrying LERO identification. Upon display of appropriate identification, security will provide the person with an EOC photo-identification badge and direct him/her to sign the Log In/Log Out Form. The photo-identification badge must be worn at all times while the person is in the EOC.

Legitimate visitors may arrive, who require entry to support the emergency response. In this case, the Security Coordinator will request authorization from the appropriate LERO Coordinator

(dependent on the visitors reason for entry) and, upon obtaining it, will grant access to the visitor and provide him/her with a visitors photo-identification badge.

Security will be responsible for assuring that operations in the EOC are not disrupted by the news media or curiosity seekers. All inquiries for information from persons outside the emergency response organization shall be directed to the Emergency News Center.

LERO Security Personnel are to maintain order at the Local EOC. However, if a disturbance appears to be of a serious nature and threatens the security of the EOC, Security personnel should call the Suffolk County Police. A direct link to the Suffolk County Police Headquarters in Yaphank can be utilized by calling 345-5000 and asking for the duty officer.

A security post will be maintained at the entrance to the Local EOC until the facility is deactivated. Should Suffolk County Police arrive to help, LERO Security personnel should provide them with assistance as needed.

C. SECURITY OPERATIONS AT THE RELOCATION CENTERS

Public relocation centers will be opened to provide shelter for evacuees in the event that an evacuation is initiated for a zone or zones within the 10-mile Emergency Planning Zone. LERO Security Personnel will be available at the relocation centers to provide assistance to the arriving evacuees.

Several LERO Security people will be stationed in the parking lot to direct parking of the arriving vehicles. More Security Personnel will be located at the entrances to the center to

direct the evacuees to the Monitoring/Decontamination Personnel. Inside the facility, security will provide assistance as needed to the American Red Cross staff.

Upon arriving at the relocation center, Security Personnel should report to the Decontamination Leader. He will assign them to a location where assistance is needed most.

Security Personnel must receive dosimeters from the Record Keepers before reporting to their assigned location. Remember, to obtain:

- One direct-reading dosimeter (range 0-200 mR)
- One direct-reading dosimeter (range 0-5 R)
- One thermoluminescent dosimeter (TLD badge)

Security Personnel at the relocation centers must wear dosimeters since they may be exposed to radiation if any of the arriving evacuees are contaminated.

D. SECURITY OPERATIONS AT THE EMERGENCY WORKER DECONTAMINATION FACILITY

The services provided by security at the Emergency Worker Decontamination Facility are similar to those provided by security at the relocation centers. Security Personnel will direct emergency workers to the parking areas and to the monitoring/decontamination stations.

Upon arriving at the facility, Security Personnel should see the Security Coordinator for instructions. Before reporting to their assigned job location, they should obtain the following dosimeters from the Record Keepers:

- One direct-reading dosimeter (range 0-200 mR)
- One direct-reading dosimeter (range 0-5 R)
- One thermoluminescent dosimeter (TLD badge)

Security Personnel must wear dosimetry since they may be exposed to radiation if any of the emergency workers arriving at the facility are contaminated.

SUMMARY

The LERO Security staff, under the direction of the Security Coordinator, are part of the Support Services Group. The Security Coordinator, located at the EOC, reports to the Security Services Coordinator.

Security Personnel located at the Local Emergency Operations Center will control access to the facility, limiting it to those who have LERO identification or are authorized visitors.

At relocation centers, security will provide assistance to evacuees by directing them to parking spaces, guiding them to monitoring/decontamination stations, providing directions within the relocation centers and assisting the American Red Cross as needed. At the Emergency Worker Decontamination Facility, Security Personnel will provide directions and assistance to arriving emergency workers.

MODULE NO. 16

LERO SECURITY

MODULE REVIEW

Name: _____

LERO Title: _____

Company Title: _____

True or False

- _____ 1. LERO Security Personnel are part of the Health Services Group.
- _____ 2. The Security Staff reports to the Security Coordinator at the Emergency Operations Center.
- _____ 3. LILCO Brentwood Security will initially establish a security post in the lobby of the Local EOC.
- _____ 4. LERO Security Personnel will establish security posts at each relocation center.
- _____ 5. Only emergency personnel carrying LERO identification badges will be allowed access to the EOC.
- _____ 6. Each person entering or exiting the EOC must sign a Log In/Log Out Form.
- _____ 7. Representatives of the news media will be given free access to the Local EOC.

- _____ 8. LERO Security Personnel will be providing directions and assistance to emergency workers arriving at the relocation centers.

- _____ 9. LERO Security Personnel at the relocation centers will be directing arriving evacuees to parking locations.

- _____ 10. LERO Security Personnel should report to the Decontamination Leader upon arrival at the relocation centers.

- _____ 11. LERO Security Personnel assisting arriving evacuees at the relocation centers must wear dosimetry.

- _____ 12. LERO Security Personnel will monitor arriving evacuees for contamination.

COMMAND & CONTROL

MODULE NO. 17

This module applies to:

- o Director of Local Response
- o Manager of Local Response
- o Health Services Coordinator
- o Evacuation Coordinator
- o Lead Communicator
- o Support Services Coordinator
- o Coordinator of Public Information

Your Name _____

LERO Title _____

Company Title _____

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Training Objectives	iii
Introduction	1
A. Emergency Plan and Implementing Procedures	5
B. Emergency Classification	7
C. Emergency Response Facilities	11
D. Emergency Organization	19
E. Manpower and Timing	26
F. Communications	34
G. Emergency Planning Zones	35
H. Dose Assessment	43
I. Protective Actions	54
J. Emergency Response Management	73
K. Public Information & Public Notification	89

TABLE OF CONTENTS
(Continued)

<u>Figures</u>	<u>Page</u>
1. Local Emergency Operations Center	13
2. Local Emergency Operations Center Functional Layout	14 - 15
3. Local Emergency Response Organization	21 - 24
4. Persons/Groups/Organizations Notified For Standby or Mobilization:	
Unusual Event	27
Alert	28 - 30
Site Area Emergency	31 - 33
5. Plume Exposure Pathway EPZ	36
6. Ingestion Exposure Pathway EPZ	37
7. Zones Within 10-Mile EPZ	41
8. Dose Projection Basis	48
9. Plume Releases	49
10. Atmospheric Dispersion Process	50
11. Action and Health Effects vs. Exposure Pathways	64
12. Protective and Restoration Actions for Nuclear Incidents in Airborne Releases	79
13. Initiation Times for Protective Actions	80

TRAINING OBJECTIVES

At the completion of this module the individual should have a complete understanding of the following areas of emergency planning and be able to demonstrate this understanding by:

- A. Explaining the need for emergency planning and describing the basic purpose and objectives of the SNPS Local Offsite Radiological Emergency Response Plan and associated implementing procedures.
- B. Listing and describing the four emergency classifications, ranking them in order of their relative severity and indicating protective actions linked to the classification.
- C. Explaining the basic assessment, corrective and protective actions for the four emergency classifications; including discussions on dose assessment field teams, potassium iodide, and staging area/emergency worker decontamination facilities.
- D. Listing the location, name, and purpose of the LERO Emergency Response Facilities.
- E. Stating the basic manpower and timing considerations for key LERO personnel and how they are activated in relation to the emergency classification.
- F. Describing the communications capabilities of LERO.
- G. Explaining the concept, purpose, and distances related to the plume exposure and ingestion exposure pathway emergency planning zones.
- H. Stating the values and associated actions for the plume exposure pathway protective action guidelines, recalling general protective action responses for the ingestion pathway.
- I. Recalling the basic concepts of operation for the public notification and information processes.

INTRODUCTION

What is emergency planning? It is as the term implies, just that, planning emergency response organizations, developing procedures, laying out support facilities, training personnel, and stockpiling equipment to be able to effectively respond to emergency events.

Whether it is in the commercial nuclear power industry or any other field, the best planning efforts can only account for the known possible accident contingencies. However, with the proper emergency planning program as a foundation, with an emergency organization developed and trained to respond for the expected events, then flexibility and adaptability will exist to judge and enact the necessary alterations to cope with the unexpected.

Within the general framework of any emergency response, a number of possible alternatives for action are usually available. The basic criterion to employ, however, is to minimize the number of possible responses so that available resources are expended only on viable solutions and actions for the emergency response. A well-defined emergency preparedness program drastically reduces the ineffectual demands on resources that are not needed or that thwart the overall recovery effort. To this end, the SNPS Local Offsite Radiological Emergency Response Plan has been devised to effectively coordinate an immediate response to a broad spectrum of emergency situations. It provides answers to such questions as:

- How would the public be protected from an incident at SNPS?
- Who would be notified?
- What are the proper responses for offsite emergency personnel?

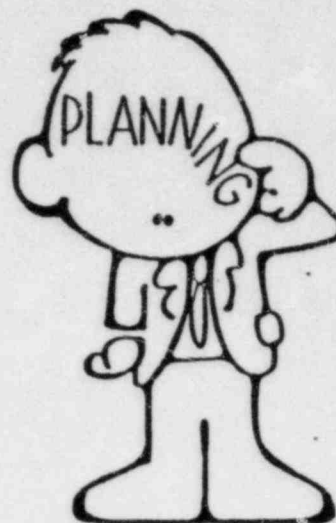
- What protective actions are justified for various emergency situations?

It is your responsibility as one of the senior LERO members to ensure that the resources of LERO are properly applied and managed to achieve a successful solution to the accident situation at hand. In order to effectively manage an organization as large and complex as LERO, it is necessary for you to have a well-rounded understanding of LERO, the Emergency Response Plan and its Implementing Procedures, and your responsibility within the accident management process. This workbook module is designed to provide you with an overview of the key facets of the offsite emergency planning efforts related to LERO. In addition, you should refer often to the SNPS Local Offsite Radiological Emergency Response Plan and the Implementing Procedures to acquire an understanding of the commitments and concepts established for implementing a response by LERO.

**SENECA'S PROVERB DEMONSTRATES THE NECESSITY
FOR AN EMERGENCY PLANNING OBJECTIVE**

**IF A MAN DOES NOT KNOW WHAT HARBOR
HE'S HEADED FOR, NO WIND IS THE RIGHT ONE ---**





MURPHY'S EIGHTH LAW REQUIRES

PLANNING

WHATEVER YOU SET OUT TO DO,
SOMETHING ELSE MUST BE DONE FIRST

.... ESPECIALLY IN AN EMERGENCY

A. EMERGENCY PLAN AND IMPLEMENTING PROCEDURES

The purpose of an emergency plan is to provide a mechanism to be utilized in making decisions in the event of an emergency and to ensure that the necessary personnel, equipment, supplies, and essential services are available to implement those decisions should they be required.

The objectives of the SNPS Local Offsite Radiological Emergency Response Plan are to:

- Establish an effective method to activate and mobilize an emergency organization to direct and conduct the emergency response activities.
- Outline a method to evaluate and recommend protective actions.
- Outline the most effective course of action required to safeguard the general public and emergency workers.
- Establish the interface between emergency response locations and organizations.
- Provide for the maintenance of the emergency preparedness program.

The SNPS Local Offsite Radiological Emergency Response Plan is divided into five chapters:

- o Chapter 1 - Introduction
- o Chapter 2 - Organization
- o Chapter 3 - Concept of Operation
- o Chapter 4 - Facilities & Equipment
- o Chapter 5 - Maintenance of the Planning Effort

Before moving on in this module, spend some time with your copy of the Emergency Plan. Become familiar with its layout and the information it provides. This document can be an excellent reference source to you, both during the training program and when responding as a senior member of LERO.

Where the Emergency Plan outlines the concepts and commitments to be employed in carrying out the offsite responsibilities for emergency planning, the SNPS Local Offsite Radiological Emergency Response Plan Implementing Procedures provide the detailed, step-by-step instructions for carrying out the concepts and commitments of the Emergency Plan.

As indicated earlier, the Emergency Plan may be considered a reference document which can be referred to during a response; however, the Implementing Procedures must be utilized by all responding LERO members to ensure all actions are carried out correctly and in the proper sequence. As a senior LERO member, one of your primary responsibilities is to ensure that all members of your group are familiar with their respective procedures and that the procedures are out and in use during any LERO response.

Again, before moving on, take time now and familiarize yourself with your copy of the Implementing Procedures. Pay particular attention to the procedures that relate to your group's activities.

MODULE 17

EMERGENCY PLAN & IMPLEMENTING PROCEDURES

MODULE REVIEW

PART 1

Name: _____

LERO Title: _____

Company Title: _____

1. The SNPS Local Offsite Radiological Emergency Response Plan provides the concepts and philosophies of LERO, whereas the Implementing Procedures provide the detailed step-by-step instructions to be followed by LERO members in carrying out their actions.

True or False

2. Which chapter of the Emergency Plan provides information related to the protective actions employed by LERO?
 - a. Chapter 1, Section 1.3
 - b. Chapter 3, Section 3.6
 - c. Chapter 4, Section 4.3
 - d. Chapter 5, Section 5.1
3. Indicate which Implementing Procedure details the process for controlling documents and records at the Local EOC.

OPIP - _____

4. A foldout map showing the 10 EPZ and the 19 zones within the EPZ can be found in

OPIP - _____

5. Your responsibility as a senior LERO member is to ensure that all members of your group have memorized the steps listed in the Implementing Procedures so that the Implementing Procedures can be used only occasionally to refresh their memory during an emergency.

True or False

B. EMERGENCY CLASSIFICATION METHODOLOGY

As a result of the Three Mile Island emergency, a standardized emergency classification system was devised to facilitate effective communication between the various responding emergency organizations. Onsite and offsite plans and procedures are written so that required response actions are keyed to the emergency classification. By using the emergency classification system, plant operators can communicate the level of seriousness of an emergency to non-technical oriented emergency response personnel without having to describe the specific equipment problem.

Chapter 3, Section 3.2, of the SNPS Local Offsite Radiological Emergency Response Plan discusses the emergency classification system as it relates to LERO.

There are four emergency classifications. They are, in order of increasing severity: Notification of Unusual Event, Alert, Site Area Emergency, and General Emergency.

A brief description of each classification follows.

Notification of Unusual Event is the occurrence of an event or events which indicate a potential degradation of the level of safety of the plant.

Generally speaking, an unusual event involves no abnormal release of radioactive material.

The purpose of the unusual event classification is to:

- Provide current information when unusual events or occurrences transpire.

- Assure that the first step in any response of the emergency organization is carried out.
- Provide for periodic testing of emergency communications.

Alert is the occurrence of an event or events which involve an actual or potential substantial degradation of the level of safety of the plant.

This level of classification may include events involving a limited release of radiation onsite.

The purpose of the alert classification is to:

- Provide current status information to offsite authorities and agencies.
- Assure that emergency personnel are readily available to respond if the situation becomes more serious.
- Provide testing of response center activation.

Site Area Emergency is the occurrence of an event or events which involve actual or likely major failures of plant functions needed to protect the public.

This classification includes the type of events where there may be some radiation exposure to the "near site" public.

The purpose of the site area emergency classification is to:

- Provide current information for, and clarification with, offsite authorities and the public.

- Assure that emergency response centers are manned.
- Assure that personnel required for evacuation of "near site" areas are at their duty stations.
- Assure that radiation monitoring field teams can be dispatched both onsite and offsite.
- Provide for testing of response capabilities of the entire emergency organization.

General Emergency is the occurrence of an event or events which involves actual or imminent core degradation and/or the potential for loss of containment integrity with a large radioactive release potential.

This classification includes events where large amounts of radioactive material could be released causing a hazard to the general public.

The purpose of the general emergency classification is to:

- Provide current information for, and consultation with, offsite authorities and the public.
- Recommend and implement pre-determined protective actions for the public.
- Provide continuous monitoring of the situation.
- Initiate additional measures as indicated by event releases or potential releases.

It is important for you, as a senior LERO member, to have an appreciation for the difference in magnitude of the severity of an incident associated with each of these classifications.

Look again at the types of events which fall into each classification. For an unusual event, you should note that no abnormal release of radioactive material is involved. For an alert, any release of radiation must be limited to an area onsite. Only when the situation progresses to a Site Area or General Emergency is there an actual radiation release potential which involves offsite consequences and protective actions.

It should also be pointed out that it is quite possible to find the nuclear power plant in any of the four classification situations with there having been no release of radiation. Examples of this type of situation would be fires of varying degree or earthquakes of varying magnitude requiring classification of the event from an Unusual Event through a General Emergency, based on their involvement or magnitude.

As a senior LERO member, you need to become very familiar with this emergency classification system. While progressing through the remainder of this workbook module, and in fact the remainder of the training program, pay particular attention to the various actions and activities that are keyed to each of the four classification levels.

MODULE 17

EMERGENCY CLASSIFICATION

MODULE REVIEW

PART 2

Name: _____

LERO Title: _____

Company Title: _____

1. What advantage is derived by having a standardized emergency classification system in place as part of the overall emergency planning effort?

2. List the four emergency classes in increasing order of severity.

3. At what classification level could you expect to have the potential for radiological releases impacting the general public?

4. It is not possible to reach a site area emergency without having radiological releases in progress.

True or False

5. Which section of Chapter 3 in the Emergency Plan provides information related to the emergency classification system?

- a. Section 3.7
- b. Section 3.3
- c. Section 3.2
- d. Section 3.6

C. EMERGENCY RESPONSE FACILITIES

Local Emergency Operations Center (EOC)

The Local Emergency Operations Center is located on the second floor of the LILCO Brentwood Operations Facility. On a day-to-day basis, this facility is used to carry out normal LILCO business activities. During an incident at SNPS, however, a portion of the building is converted to act as the Local EOC.

The Local EOC serves the following functions:

- Provides LERO management and technical support to LERO staff and field teams during an emergency.
- Coordinates radiological and environmental assessments.
- Acts to make determination on public protective actions.
- Serves as the focal point for emergency communications activities.
- Aids in the coordination of emergency response activities of all responding offsite agencies.

Activation of the Local EOC is necessary at an alert or higher classification. The Director of Local Response, at his discretion, may elect to activate the facility at an unusual event if the situation warrants. The videotape presentation "EOC Activation" provides a good overview of the facility activation process and is incorporated as part of your training program.

Figure 1 illustrates the basic floor plan for the EOC. Figure 2 provides a more detailed functional layout of the facility.

To minimize the possibility of interruptions or interference from the news media or curiosity seekers, facility access control is established at the EOC.

Staging Areas

To enhance the ability of LERO to respond to the needs within the 10-mile EPZ in as rapid a fashion as possible, three locations have been designated as LERO Staging Areas:

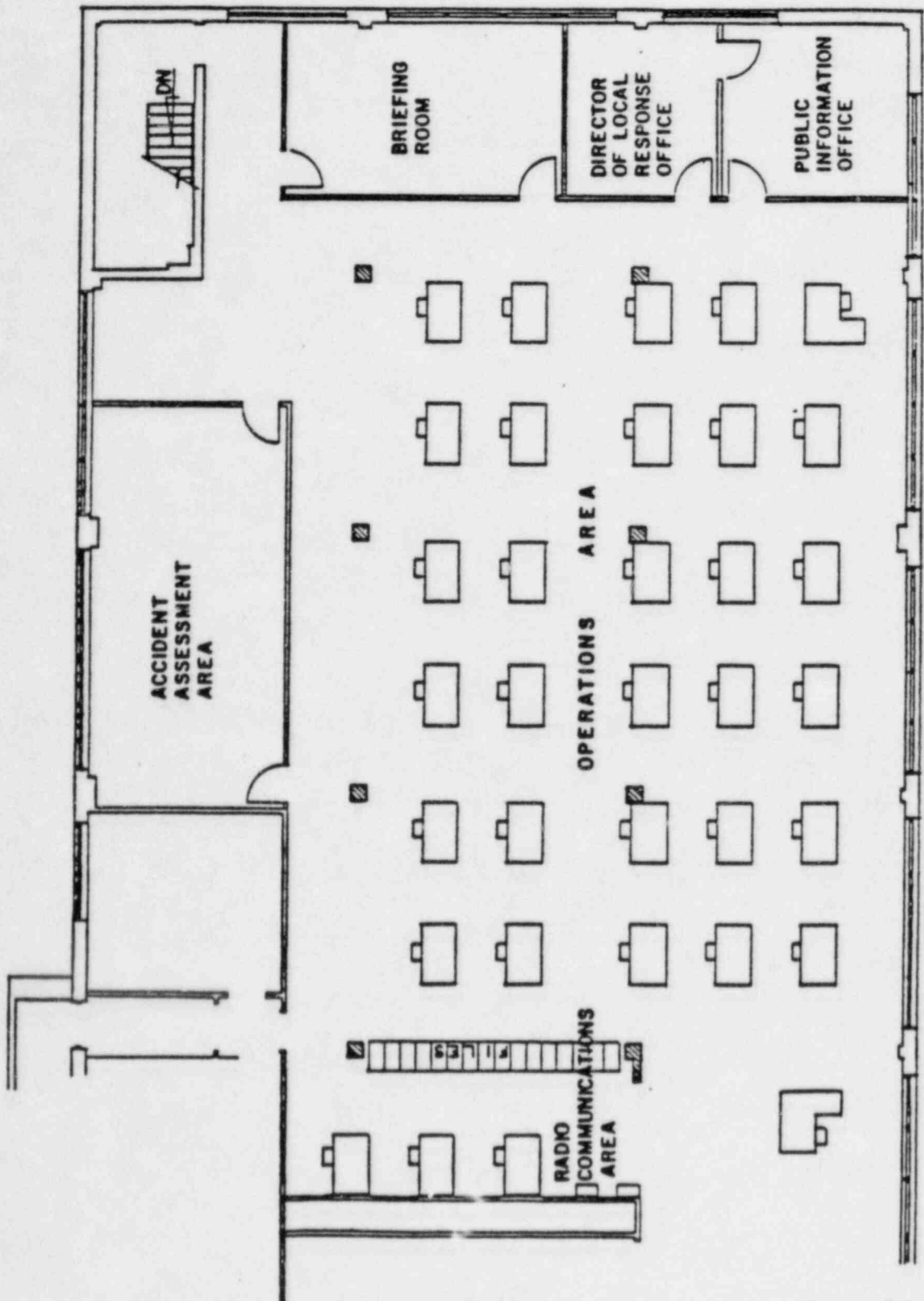
- Port Jefferson Power Station
- Riverhead District Office
- Patchogue District Office

Each of these locations is staffed with the following LERO personnel and their supervisors.

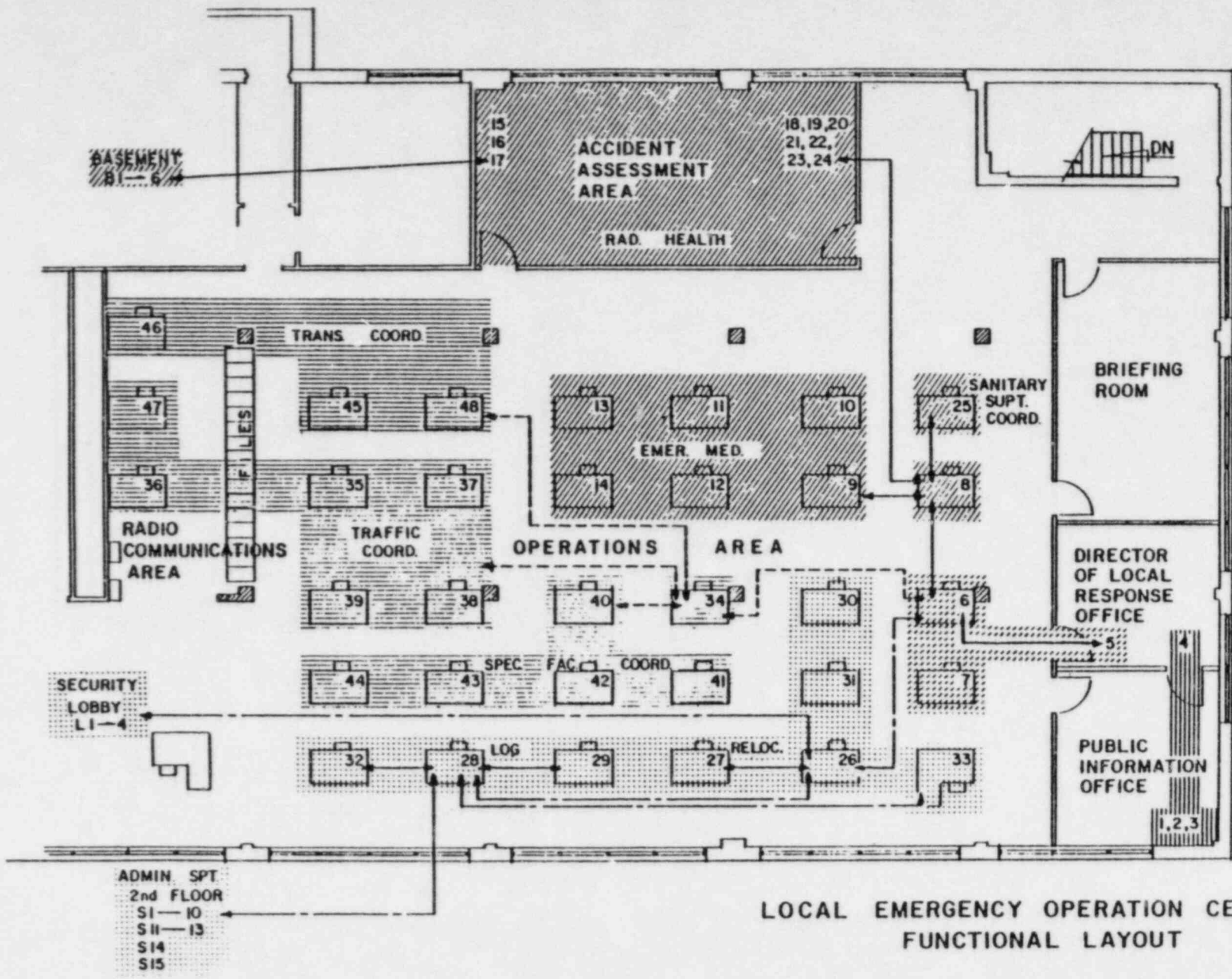
- Traffic Guides
- Road Crews
- Bus Drivers
- Route Alerters

These are the types of personnel which must enter into the EPZ to carry out their specialized emergency response functions. By pre-positioning these people and their equipment at the perimeter of the zone, rapid response can be assured at the event they must be deployed.

FIGURE 1



LOCAL EMERGENCY OPERATION CENTER



LOCAL EMERGENCY OPERATION CENTER FUNCTIONAL LAYOUT

FIGURE 2

FIGURE 2
 LOCAL EMERGENCY OPERATION CENTER
 FUNCTIONAL LAYOUT

- | | |
|---|---|
| 1. Coordinator of Public Information | 30. Administrative Support |
| 2. Public Information Support Staff | 31. Administrative Support |
| 3. Public Information Support Staff | 32. Administrative Support |
| 4. Communicator | 33. Administrative Support |
| 5. Director of Local Response | 34. Evacuation Coordinator |
| 6. Manager of Local Response | 35. Traffic Control Coordinator |
| 7. Lead Communicator | 36. Communicator-Traffic Control |
| 8. Health Services Coordinator | 37. Traffic Control Point Coordinator |
| 9. Emergency Medical/Public Service Coordinator | 38. Road Logistics Coordinator |
| 10. Hospital Coordinator | 39. Evacuation Route Coordinator |
| 11. Public Service Liaison | 40. Special Facilities Evacuation Coordinator |
| 12. Ambulance Coordinator | 41. Public Schools Coordinator |
| 13. Communicator Ambulance | 42. Private Schools Coordinator |
| 14. Communicator Public Service | 43. Health Facilities Coordinator |
| 15. Radiation Health Coordinator | 44. Home Coordinator |
| 16. Dosimetry Coordinator | 45. Transportation Support Coordinator |
| 17. Decontamination Coordinator | 46. Communicator-Transportation Support |
| 18. Communicator | 47. Communicator-Traffic Control |
| 19. Communicator | 48. Bus Coordinator |
| 20. Communicator | B 1-6 Decontamination Workers |
| 21. Environmental Assessment Coordinator | S 1-10 Administrative Support |
| 22. Dose Assessment Staff | S 11-13 Materials Purchasing Personnel |
| 23. Dose Assessment Staff | S 14 Maintenance Representative |
| 24. Environmental Assessment Coordinator | S 15 N.Y. Telephone Representative |
| 25. Sanitary Support Coordinator | L 2-4 Security Personnel |
| 26. Support Services Coordinator | |
| 27. Relocation Center Coordinator | |
| 28. Logistics Support Coordinator | |
| 29. Administrative Support | |

Emergency Worker Decontamination Center

As a result of deploying LERO field personnel to positions inside the 10-mile EPZ, the possibility of exposure to radiation and radiological contamination must be addressed. To accommodate field personnel returning from their assignments a radiological monitoring and decontamination facility will be established at the Brentwood Operations Facility, separate from the Local EOC. The Decontamination Center will be staffed by LERO Radiological Monitoring and Decontamination personnel.

Returning LERO personnel will have their personal radiological dosimetry processed at this center; they will be monitored to ensure that they have not become contaminated, and their vehicles and equipment will be checked for contamination as well. If contamination is found, the individual will be taken through a decontamination process at the center.

Emergency News Center (ENC)

An Emergency News Center will be established at the Old Mill Inn in Ronkonkoma and will function as the "single source" news outlet for LERO. News releases and press briefings related to the progress of offsite emergency response activities will be conducted at the news center. The Coordinator of Public Information will be the senior LERO representative at the ENC. Representatives of LILCO's onsite emergency organization, along with state and federal representatives, will also share this facility and work together, ensuring that accurate, timely, and coordinated information is available for release.

Relocation Centers

Facilities have been identified to provide mass care and social services for evacuees in the event of a radiological emergency at SNPS necessitating the evacuation of the general public. The American Red Cross is responsible for the staffing and operation of the centers. To assist the American Red Cross, security personnel from LERO are assigned to report to each center that will be activated.

In addition to the services provided by the American Red Cross, LERO Radiological Monitoring and Decontamination personnel will establish an Evacuee Monitoring and Decontamination Station at each Relocation Center. Arriving evacuees will be monitored to ensure that they have not been exposed to radiological contaminants. Should an individual be identified as being contaminated, they will be decontaminated at this facility.

Typical types of services provided at a relocation center are:

- Family registration
- Housing
- Feeding
- Personal counseling
- Health
- Recreation

The three primary relocation centers associated with LERO are:

- SUNY at Stony Brook
- BOCES at Islip
- SCCC at Selden

Backup facilities to be utilized in the event of facility unavailability or upon reaching capacity of one of the primary centers:

- SUNY at Farmingdale
- St. Joseph's College at Patchogue

As a senior member of LERO, it is important to know the location of each emergency facility, its capacity and capabilities, and who is responsible for its staffing and operation.

Section 4 of the Emergency Plan provides information and details related to LERO's facilities and equipment.

Procedures OPIP 3.8.1, 4.1.1, 4.2.1, and 5.3.1 provide details related to activation, operation, and maintenance of the emergency facilities and equipment. Take some time now to familiarize yourself with the content of these procedures.

MODULE 17

EMERGENCY RESPONSE FACILITIES

MODULE REVIEW

PART 3

Name: _____

LERO Title: _____

Company Title: _____

1. Where is the Local EOC located?

Town: _____

Bldg. Title: _____

2. Procedurally, when must the Local EOC be activated?

- a. General Emergency
- b. Alert
- c. Site Area
- d. When SNPS requests

3. What advantage does the staging area concept provide?

- a. Immediate access to the EPZ for select LERO personnel
- b. Storage of emergency equipment close to the EPZ
- c. Pre-designated reporting locations for LERO personnel
- d. All of the above

4. What radiological protection functions are provided by the Emergency Worker Decontamination Facility?

5. Press briefings and news releases are made from _____ located at the Old Mill Inn in _____.

D. EMERGENCY ORGANIZATION STRUCTURE

Why is it necessary to identify the offsite emergency organization in advance of an incident at SNPS?

Identification in advance provides:

- Insurance that sufficient personnel are always available to support emergency response actions.
- Pre-identification of who will report to each of the emergency response facilities.
- Adequate training for emergency response personnel and development of a teamwork approach to emergency response activities.
- Pre-determined responsibilities and activities for each organizational group so that that group can immediately assume a useful role in the response.

The Local Emergency Response Organization is comprised of personnel from several organizations combining to implement the concepts outlined in the SNPS Local Offsite Radiological Emergency Response Plan. In addition to the employees from LILCO, personnel from the following organizations also play a role in a LERO response.

- Department of Energy
- American Red Cross
- Local Ambulance and Medical Transport Operators
- U.S. Coast Guard
- WALK Radio

Figure 3 represents the LERO organization structure. When looking at this chart, note that the organization has been subdivided into three distinct major groups:

- Health Services Group
- Support Services Group
- Evacuation Group

By arranging specific LERO job functions into such groupings, the ability for LERO personnel to interact within that grouping when carrying out an emergency response activity, such as an evacuation, is more readily accomplished.

For example, the Evacuation Coordinator has reporting to him the necessary personnel trained and equipped to carry out the evacuation process from traffic control and transportation assistance to special facilities evacuation assistance. The same type of structuring can be seen for the other groups as well.

The organization has been developed in such a manner that as you move lower into the structure, you find more specialization toward a specific emergency response function. This provides the necessary management overview of particular tasks at the upper end of the management structure. Although it may appear at first that there is an excess amount of management at the upper levels, it is important when dealing with difficult, comprehensive, rapid responses related to emergency conditions that it is mandatory to have key individuals who do not involve themselves directly in completing the tasks at hand. Your position and responsibility as a senior LERO member is to stand back, evaluate the situation, ensure that the proper decisions

LOCAL EMERGENCY RESPONSE ORGANIZATION

PAGE 1 OF 4

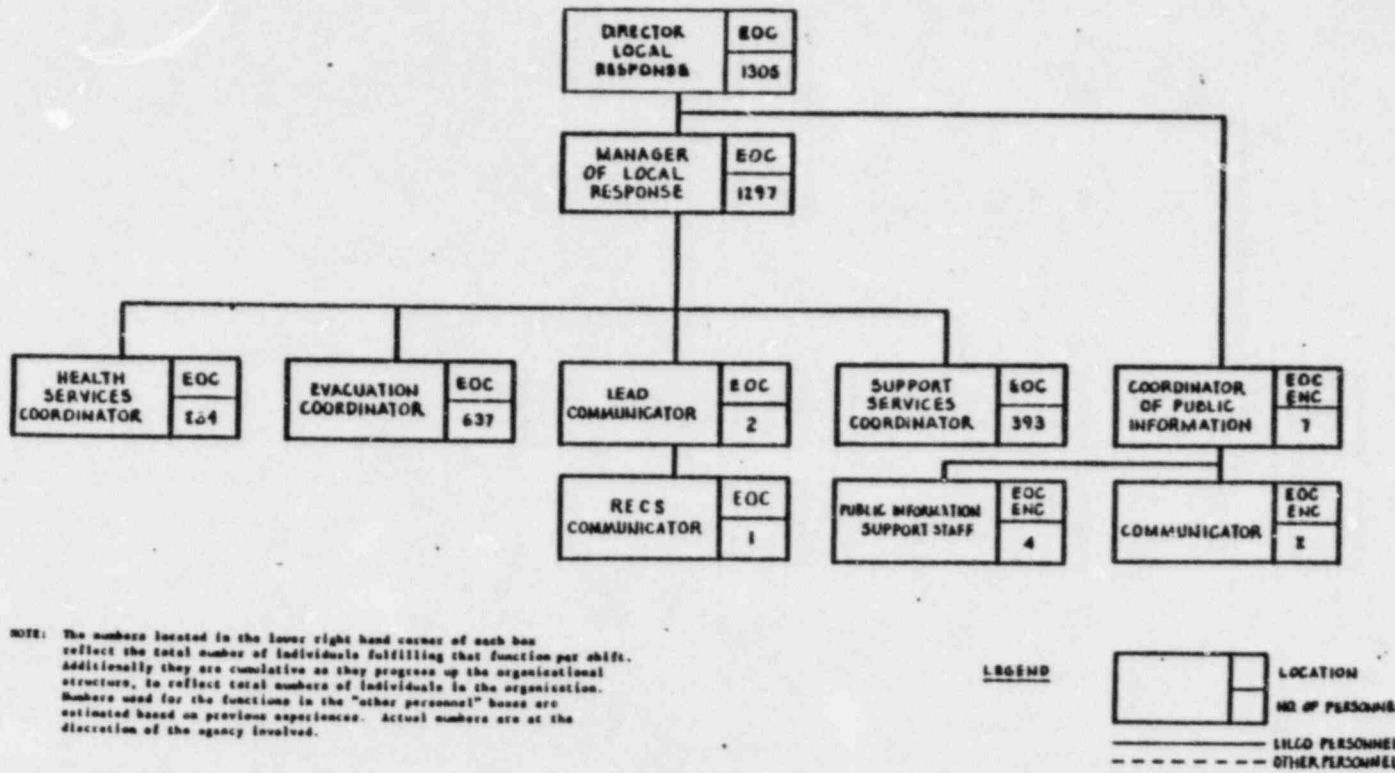


FIGURE 3

LOCAL EMERGENCY RESPONSE ORGANIZATION

PAGE 2 OF 4

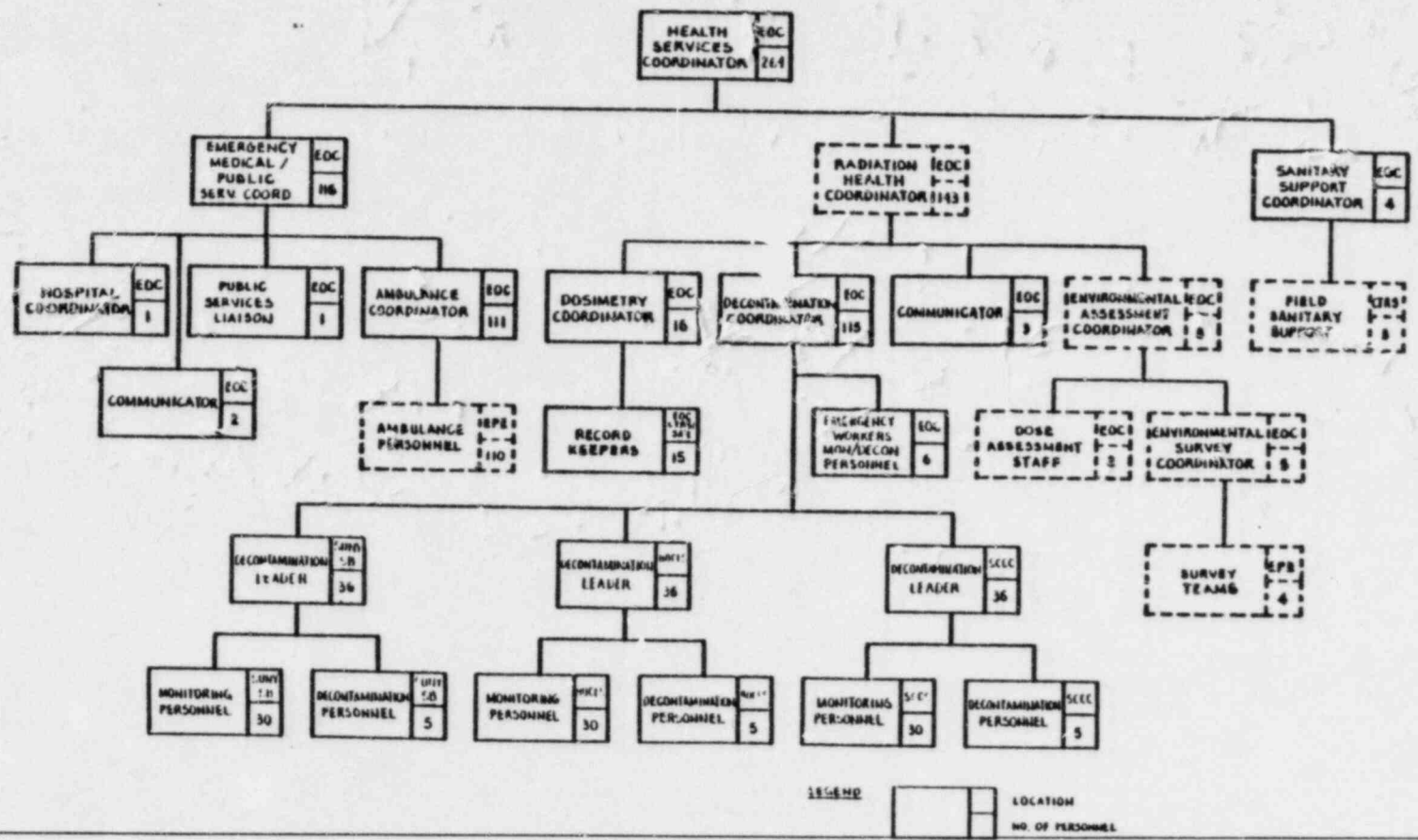


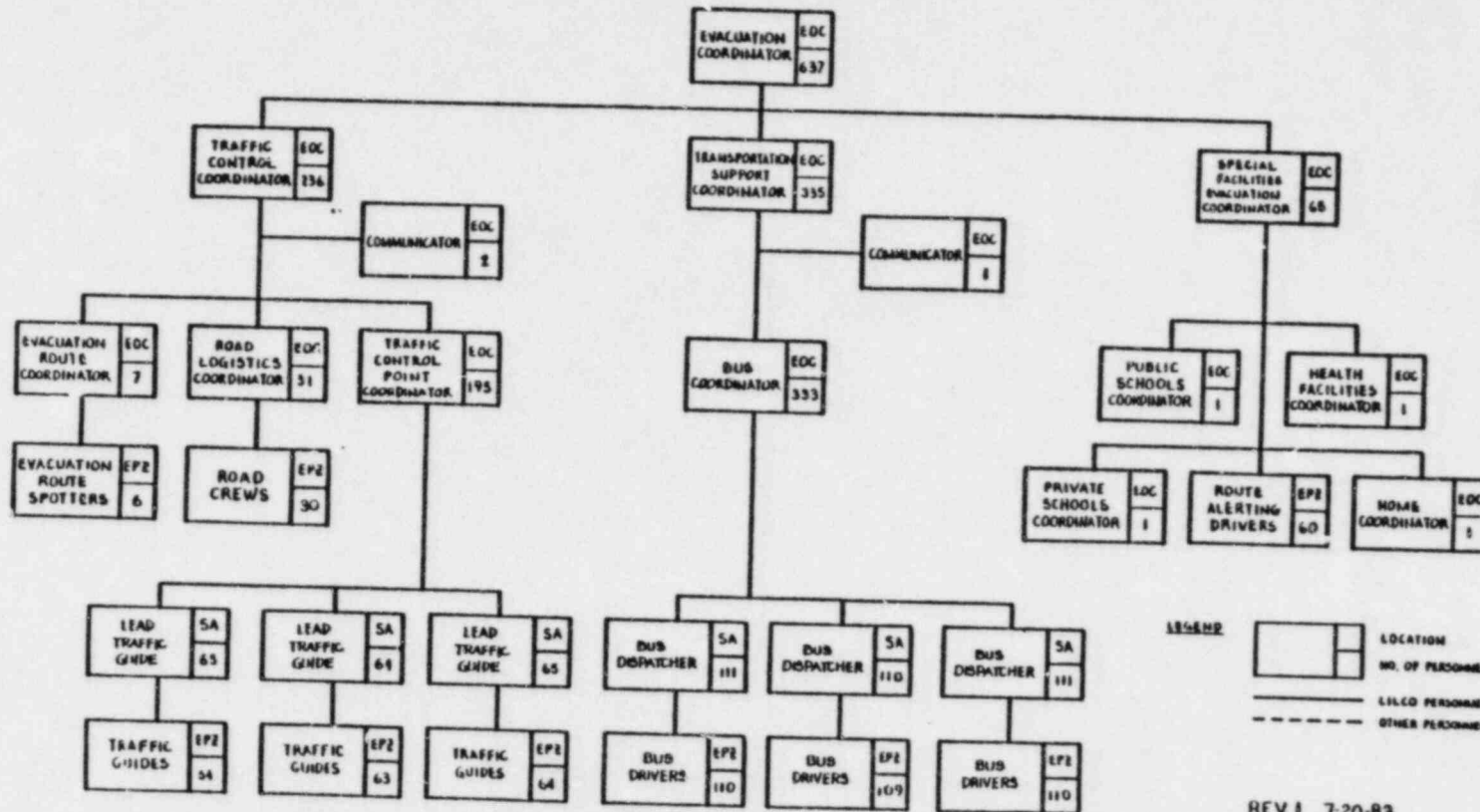
FIGURE 3

LEGEND

 	LOCATION
 	NO. OF PERSONNEL
 	LILCO PERSONNEL
 	OTHER PERSONNEL

LOCAL EMERGENCY RESPONSE ORGANIZATION

PAGE 3 OF 4



LEGEND

	LOCATION
	NO. OF PERSONNEL
	LILCO PERSONNEL
	OTHER PERSONNEL

REV. 1 7-20-83

FIGURE 3

LOCAL EMERGENCY RESPONSE ORGANIZATION

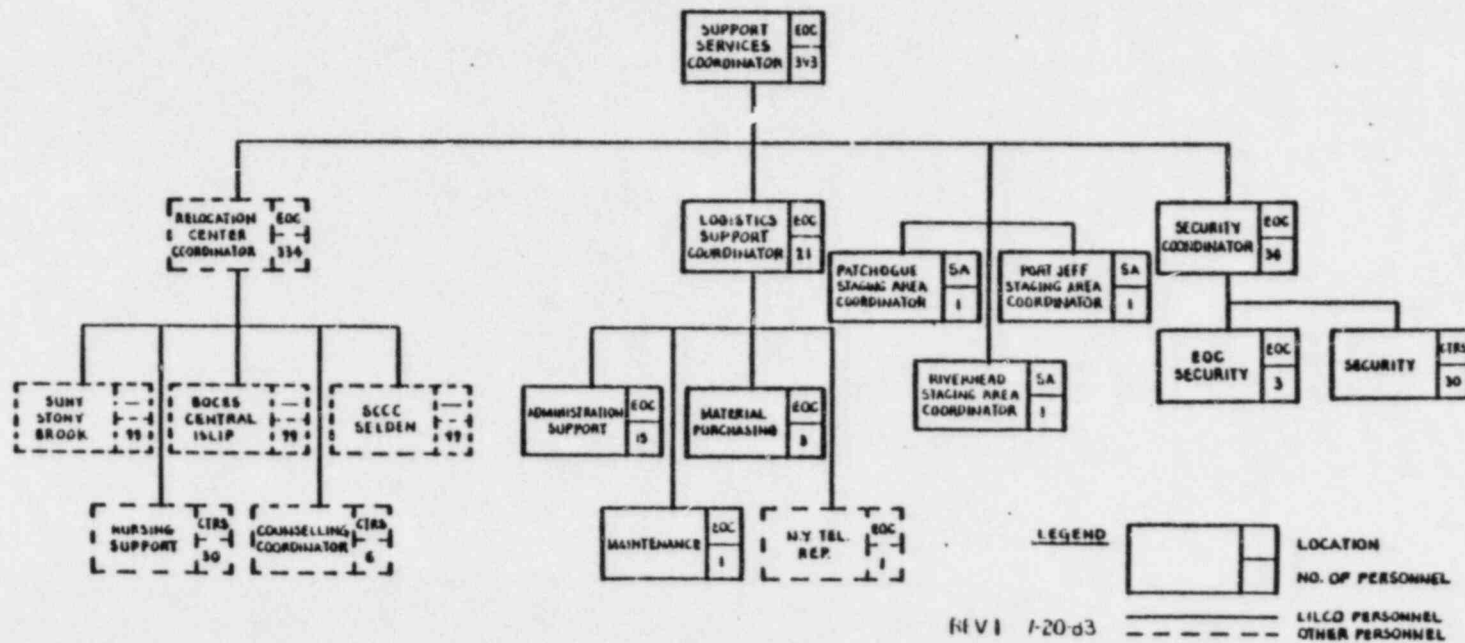


FIGURE 3

have been derived, and then oversee the activities of your group to ensure that a coordinated response is being carried out as efficiently as possible. Being a senior LERO member, you must not become involved in the accomplishment of the very specific tasks assigned within your group. You must divorce your self from doing the actual work to allow yourself to stand back, observe, and manage.

Chapter 4 of the Emergency Plan details the emergency organization and the supporting agencies associated with a response by LERO.

Implementing Procedure OPIP 2.1.1 provides a listing by specific organization title of the responsibilities of each LERO position.

Ensure that you familiarize yourself with the information in the Emergency Plan and Implementing Procedure before moving on in this workbook module.

LERO

TRAINING PROGRAM

MODULE 17

EMERGENCY ORGANIZATION

MODULE REVIEW

PART 4

Name: _____

LERO Title: _____

Company Title: _____

1. List three outside organizations involved in supporting LERO during an emergency.

2. List the three major groups within LERO.

3. Indicate which chapter in the Emergency Plan discusses the emergency organization.

- a. Chapter 5
- b. Chapter 1
- c. Chapter 3
- d. Chapter 4

LERO

TRAINING PROGRAM

E. MANPOWER AND TIMING

In order to effectively implement the required emergency response actions in a timely manner, the necessary LERO personnel must be mobilized and in place at their respective emergency facilities in advance of any required response activities.

Figure 4 provides a compilation of the LERO staff positions and the emergency classification at which these positions will be mobilized to respond to their pre-designated emergency facility.

The notification process which enables rapid mobilization is covered in Workbook Module 2.2 and the videotape presentation, "LERO Notification."

Chapter 3, Section 3.3, of your Emergency Plan and Implementing Procedures OPIP 3.3.2 and 3.3.3 provide detailed descriptions of the notification and mobilization process. Review this information at this time.

As a senior LERO member, you should know when the various members of your group are notified and when they are mobilized. Note that this process is keyed to the various emergency classification levels, such that when you are informed that an alert or site area emergency has been declared, you can relate which members of your group you can expect to be responding to the Local EOC, one of the staging areas, or one of the Relocation Centers. Your ability to manage accident response actions requires you to be able to factor into your decisions such items as mobilization and response times for your group.

PERSONS/GROUPS/ORGANIZATIONS NOTIFIED FOR STANDBY OR MOBILIZATION - UNUSUAL EVENT

Note: Individuals marked with asterisk (*) report to their pre-assigned duty stations when notified. All others remain on standby status.

Emergency Class	Responsible Notifier	LILCO	Persons/Groups/Organizations Notified
Unusual Event	Customer Service Operator	Director of Local Response Manager of Local Response Coordinator of Public Information Lead Communicator Health Services Coordinator Evacuation Coordinator Support Services Coordinator	Brookhaven National Laboratory Other Organizations

PERSONS/GROUPS/ORGANIZATIONS NOTIFIED FOR STANDBY OR MOBILIZATION - ALEXI

Note: Individuals marked with asterisk (*) report to their pre-assigned duty stations when notified. All others remain on standby status

Emergency Class	Responsible Notifier	Persons/Groups/Organizations Notified	Other Organizations
Alert	Customer Service Operator	LILCO Director of Local Response* Manager of Local Response* Coordinator of Public Information* Public Information Communicator* Public Information Support Staff* Lead Communicator* Health Services Coordinator* Emergency Medical/Public Services Coord.* Emergency Medical/Public Services Coord.* Hospital Coordinator* Public Services Liaison* Ambulance Coordinator* Radiation Health Communicator* Dosimetry Coordinator* EOC Dosimetry Record Keepers* Dosimetry Record Keepers* Decontamination Coordinator* Decontamination Center Decontamination Leader Relocation Center Monitoring Personnel Relocation Center Decontamination Personnel Decontamination of Ea. Workers Personnel	Brookhaven National Laboratory BNL Security Station Relocation Center Coordinator (ABC)*

PERSONS/GROUPS/ORGANIZATIONS NOTIFIED FOR STANDBY OR MOBILIZATION - ALERT

Note: Individuals marked with asterisk (*) report to their pre-assigned duty stations when notified. All others remain on standby status

Emergency Class	Responsible Notifier	Persons/Groups/Organizations Notified	Other Organizations
Alert (Cont'd.)	Cust. Serv. Operator (Cont'd)	LILCO Evacuation Coordinator* Traffic Control Coordinator* Traffic Control Communicators* Traffic Control Point Coordinator* Sanitary Support Coordinator* Lead Traffic Guides Traffic Guides Road Logistics Coordinator* Road Crews Evacuation Route Coordinator* Evacuation Route Spotters Special Facilities Evacuation Coord.* Public Schools Coordinator* Private Schools Coordinator* Health Facilities Coordinator* Home Coordinators* Route Alert Drivers Transportation Support Coordinator* Transportation Support Communicator* Bus Coordinators Bus Dispatcher Bus Drivers Support Services Coordinators* Staging Area Coordinators Logistics Support Coordinator* Administration Support Material Purchasing* Maintenance Coordinator* Security Coordinator* EOC Security* Relocation Centers Security	Brookhaven National Laboratory

PERSONS/GROUPS/ORGANIZATIONS NOTIFIED FOR STANDBY OR MOBILIZATION - ALERT

Note: Individuals marked with asterisk (*) report to their pre-assigned duty stations when notified. All others remain on standby status

Emergency Class	Responsible Notifier	LILCO	Persons/Groups/Organizations Notified	Other Organizations
Alert (Cont'd)	BNL Security Station		Brookhaven National Laboratory	
			Radiation Health Coordinator* Environmental Assessment Coordinator*	
			Dose Assessment Staff* Environmental Survey Coord.* Survey Teams*	
				WALK Radio (ENS)*
				State of Connecticut Massau County
	Coordinator of Public Information			N.Y. Telephone Representative
	Director of Local Response			Federal Aviation Administration U. S. Coast Guard
	Support Services Coordinator			
	Evacuation Coordinator			

PERSONS/GROUPS/ORGANIZATIONS NOTIFIED FOR STANDBY OR MOBILIZATION - SITE AREA EMERGENCY

Note: Individuals marked with asterisk (*) report to their pre-assigned duty stations when notified. All others remain on standby status

Emergency Class Site Area Emerg.	Responsible Notifier Customer Service Operator (Lead Communicator at EOC if activated)	LILCO Director of Local Response* Manager of Local Response Coordinator of Public Information* Public Information Communicator* Public Information Support Staff* Lead Communicator* Health Services Coordinator* Emergency Medical/Public Service Coord.* Emergency Medical/Public Service Coord.* Hospital Coordinators* Public Services Liaison* Ambulance Coordinator* Radiation Health Communicator* Dosimetry Coordinator* Dosimetry Record Keepers* Decontamination Coordinators* Relocation Center Decontamination Leader* Relocation Center Monitoring Personnel* Relocation Center Decontamination Personnel* Decontamination of Em. Workers Personnel* Sanitary Support Coordinators* Evacuation Coordinator* Traffic Control Coordinator*	Persons/Groups/Organizations Notified Brookhaven National Laboratory BNL Security Station	Other Organizations

LERO TRAINING PROGRAM

PERSONS/GROUPS/ORGANIZATIONS NOTIFIED FOR STANDBY OR MOBILIZATION - SITE AREA EMERGENCY

Note: Individuals marked with asterisk (*) report to their pre-assigned duty stations when notified. All others remain on standby status.

Emergency Class	Responsible Motifier	LILCO	Persons/Groups/Organizations Notified	Other Organizations
Site Area Emerg. (Con'd)	Customer Service Operator (Lead Communicator at EOC if activated (Cont'd))		Traffic Control Communicator* Traffic Control Point Coord.* Lead Traffic Guides* Road Logistics Coordinator* Road Crews* Evacuation Route Coordinator* Evacuation Route Spotters* Special Facilities Evacuation Coordinator* Public Schools Coordinator* Private Schools Coordinator* Health Facilities Coordinator* Home Coordinator* Route Alerting Drivers* Transportation Support Coord.* Transportation Support Comm.* Bus Coordinator* Bus Dispatcher* Bus Drivers* Support Services Coordinator* Staging Area Coordinators* Logistics Support Coordinators* Administration Support* Maintenance Coordinator* Materials Purchasing* Security Coordinator* EOC Security* Relocation Centers Security	Brookhaven National Laboratory

PERSONS/GROUPS/ORGANIZATIONS NOTIFIED FOR STANDBY ON MOBILIZATION-SITE AREA EMERGENCY

Note: Individuals marked with asterisk (*) report to their pre-assigned duty stations when notified. All others remain on standby status

Emergency Class	Responsible Notifier	LILOD	Persons/Groups/Organizations Notified	Other Organizations
Site Area Emerg. (Cont'd)	BHL Security (Cont'd)		Brookhaven National Laboratory	
	Support Services - Coordinator		Radiation Health Coordinator* Environmental Assessment Coord.* Dose Assessment Staff* Environmental Survey Coord* Survey Teams*	Relocation Center Coordinators* N.Y. Telephone Representative*
	Relocation center Coordinator			SUNY, Stony Brook Emerg. Staff ROCS Center, Ialig Emerg. Staff SUNY, Farmingdale Emerg. Staff Nursing Support Staff Counseling Coordinator
	Director of Local Response			State of Connecticut Nassau County
	Coordinator of Public Information			WALK Radio (EBS)*
	Emergency Medical/Public Services Coordinator			Ambulance/Fire & Rescue Corps. Hospitals (Medical Support)
	Evacuation Coordinator			Federal Aviation Administration U.S. Coast Guard

MODULE 17

MANPOWER AND TIMING

MODULE REVIEW

PART 5

Name: _____

LERO Title: _____

Company Title: _____

1. Indicate which of these LERO positions is mobilized or activated at an alert.

- a. Director of Local Response _____
- b. Traffice Guide _____
- c. Evacuation Coordinator _____
- d. Ambulance Coordinator _____

2. Which Implementing Procedure provides the detailed information which covers the mobilization of LERO?

- a. OPIP 3.3.2
- b. OPIP 4.1.1
- c. OPIP 3.8.1
- d. OPIP 3.3.3

3. Why is a good understanding of LERO mobilization important to you as a senior LERO member?

LERO

TRAINING PROGRAM

F. COMMUNICATIONS

Probably the single most important aspect involved in any emergency response is having the ability to communicate rapidly and effectively. Whether it is in face-to-face communications with another individual at your facility or over communication lines spanning tens of miles to an individual in another response organization, relaying the proper information in an understandable and usable manner is critical.

Workbook Module 2.6 and the videotape entitled "Communications" provides you with a description of the communications hardware capabilities that exist for LERO.

The point to be made is this workbook module is that in order for you, as a senior LERO member, to effectively carry out required emergency management activities you must have the capability to relay to your personnel the information and directions they require to take action. To do this effectively everyone involved must be speaking the same technical or emergency response language.

In your Emergency Plan you will find a section termed Glossary and Acronyms, its located in Chapter 1 section 1.3. This is a good place to start. You should review all of the terms listed there and become familiar with their meaning.

Whenever involved in a LERO response ensure that you use the proper terminology and encourage the members of your group to do the same.

LERO

TRAINING PROGRAM

MODULE 17

COMMUNICATIONS

MODULE REVIEW

PART 6

Name: _____

LERO Title: _____

Company Title: _____

1. Define the following terms

- a. Contamination (Radiological) _____
- b. Isotopes _____
- c. Radioactive Action Guide _____
- d. Site Boundary _____
- e. Special Facility _____
- f. Transient Population _____
- g. Whole Body Exposure _____

2. List the full names for each of the following acroynms and abbreviations.

- a. DRD _____
- b. KI _____
- c. PAG _____
- d. TLD _____
- e. ARC _____
- f. EBS _____

LERO

TRAINING PROGRAM

G. EMERGENCY PLANNING ZONES

Emergency Planning Zones (EPZ) are defined as the areas for which planning is required to assure that prompt and effective actions can be taken to protect the public in the event of an accident.

Two primary areas have been designated for the purpose of development and implementation of emergency planning criteria, they are:

<u>EPZ</u>	<u>Critical Organ and Exposure Pathway</u>	<u>EPZ Radius</u>
Plume Exposure Pathway	Whole Body (External) Thyroid (Inhalation) Other Organs (Inhalation)	About 10 miles
Ingestion Exposure Pathway	Thyroid, Whole Body, Bone Marrow (Ingestion)	About 50 miles

Refer to Figures 5 and 6 for maps relating these zones to the SNPS.

There are several reactor siting planning terms that are sometimes interrelated with emergency planning concepts which you should be aware of.

Reactor siting criteria terms:

Exclusion Area is that area surrounding the reactor in which the licensee has the authority to determine all activities. The SNPS exclusion area boundary corresponds to a 1,000-foot radius from the centerline of the reactor.

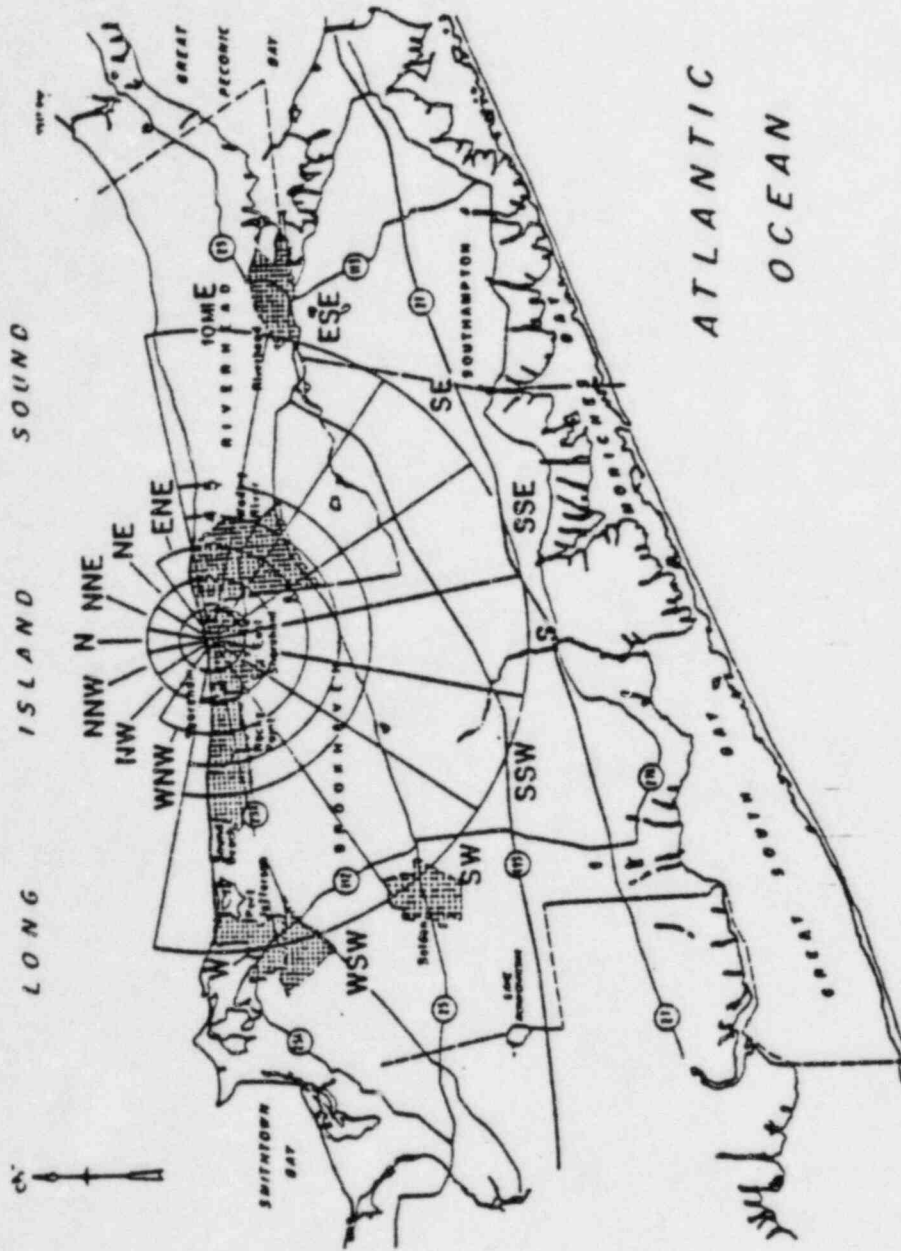


FIGURE 5
PLUME EXPOSURE PATHWAY EPZ

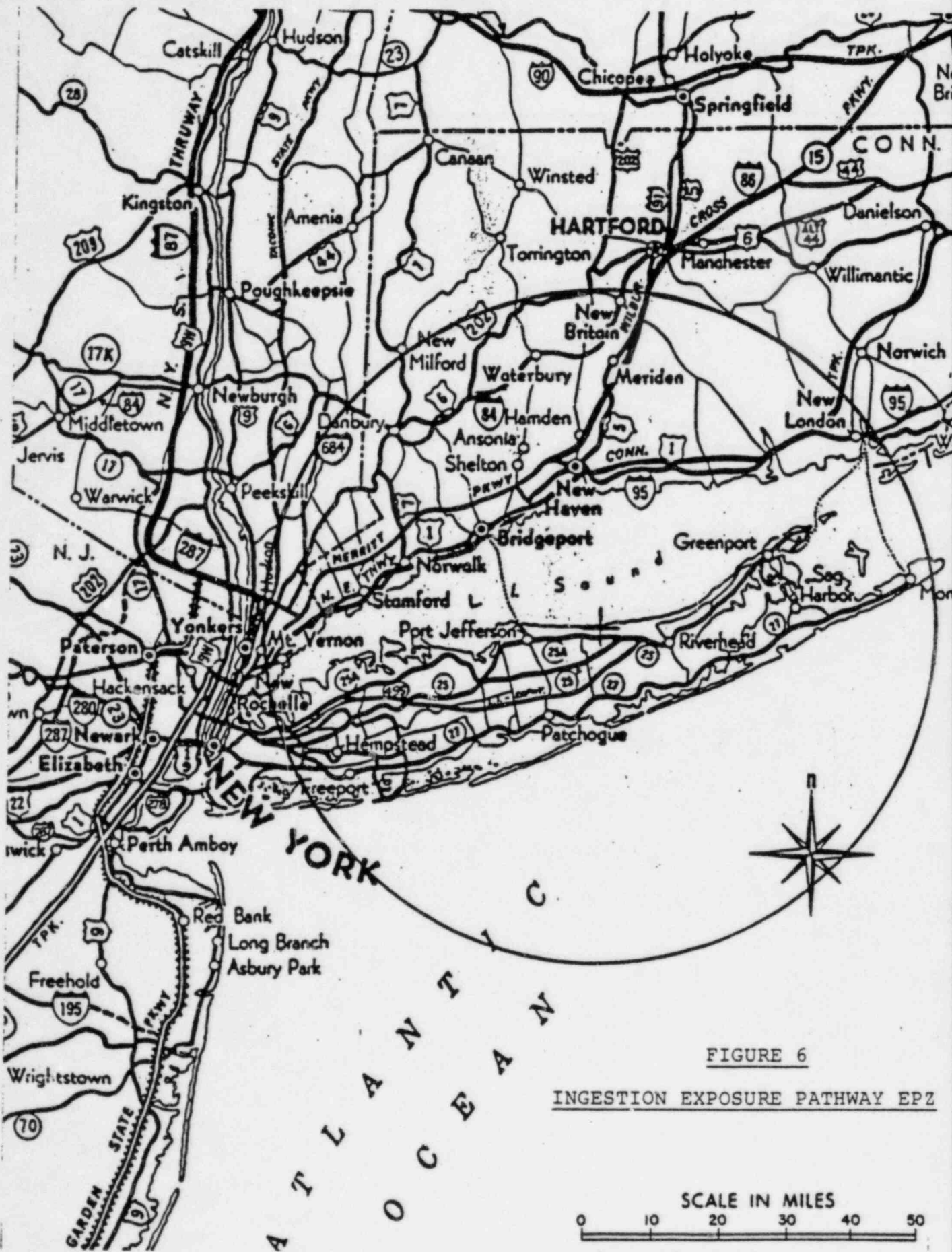
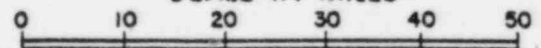


FIGURE 6

INGESTION EXPOSURE PATHWAY EPZ

SCALE IN MILES



Low Population Zone is that area immediately surrounding the exclusion area which contains residents; the total number and density are such that there is a reasonable probability that appropriate protective actions could be taken in their behalf in the event of a serious accident. The SNPS low population zone corresponds to an area within a two-mile radius of the reactor.

From these definitions, you should retain the facts that the exclusion area is a 1,000-foot radius around the reactor for which LILCO has total authority and that the low population zone is a radius of two miles around the reactor. These two terms may be used by onsite officials in their discussions with you.

Emergency planning criteria terms:

Plume Exposure Pathway is that area within a ten-mile radius of the SNPS reactor, where sheltering and/or evacuation is the immediate protective action to be recommended to the general public should a radiation release above protective action limits occur.

For the ten-mile EPZ, the size of the zone was based primarily on the following considerations:

- Projected doses from the traditional design basis accidents would not exceed protective action guideline levels outside the zone.
- Projected doses from most core melt sequences would not exceed protective action guideline levels outside the zone.
- For the worst core melt sequences, immediate life-threatening doses would generally not occur outside the zone.

- Detailed planning within ten miles would provide a substantial base for expansion of response efforts in the event that this proved necessary.

Ingestion Exposure Pathway is that area within a fifty-mile radius of the SNPS reactor where monitoring of crops, sheltering of livestock, or isolation of drinking water supplies may be the recommended protective actions should a radiation release produce contamination levels above protective action limits.

The basis for the concepts and size of the emergency planning zones was generated by a joint Nuclear Regulatory Commission and Environmental Protection Agency task force on emergency planning.

For the fifty-mile EPZ, the size of the zone was based primarily on the following considerations:

- The downwind range within which contamination will generally not exceed the protective action guides is limited to about fifty miles from a power plant because of wind shifts during the release or travel period.
- There may be conversion of atmospheric iodine (i.e., iodine suspended in the atmosphere for long time periods) to chemical forms which do not readily enter the ingestion pathway.
- Much of the particulate material in a radioactive plume would have been deposited on the ground within about fifty miles from the facility.
- The likelihood of exceeding ingestion pathway protective action guide levels at fifty miles is comparable to the

likelihood of exceeding plume exposure pathway protective action guide levels at ten miles.

As a senior LERO member, you should become very familiar with the concepts of the two emergency planning zones and their actual physical boundaries as they relate to SNPS and LERO.

To further facilitate the ability of LERO to institute protective measures within the ten-mile "plume exposure pathway" EPZ, this area has been further divided into 19 distinct zones (see Figure 7). The boundaries of these zones were based on easily identifiable roadways or political boundaries to which affected individuals, including transients, could easily relate. Each zone was given an alphabetical designation.

Chapter 1, Sections 1.1 and 1.2, of your Emergency Plan provides a description of the areas surrounding the SNPS and the emergency planning zones associated with a response by LERO.

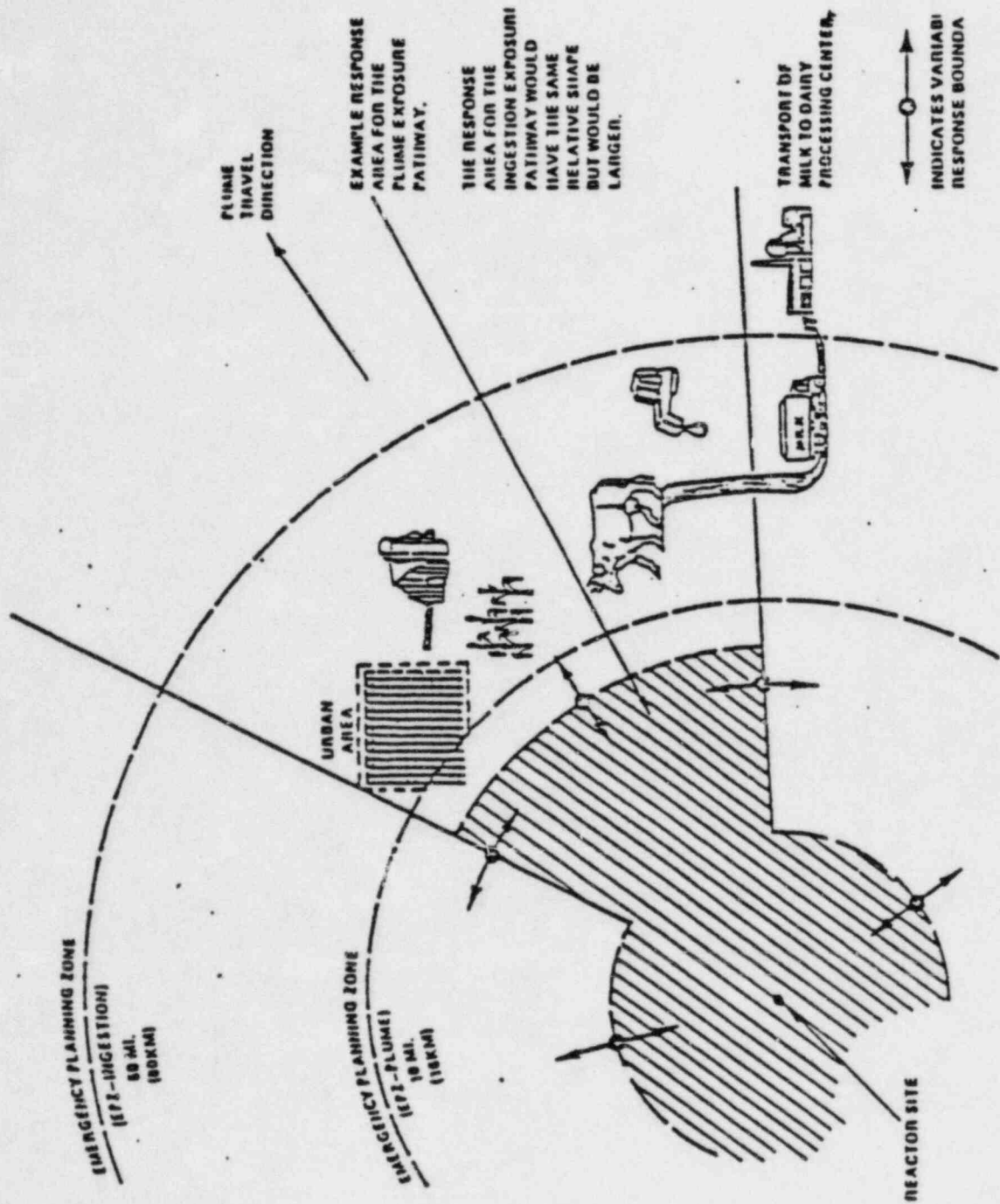
INSERT

FIGURE 7

MAP OF 19 ZONES WITHIN THE 10-MILE EPZ

LERO

TRAINING PROGRAM



LERO

TRAINING PROGRAM

MODULE 17

EMERGENCY PLANNING ZONES

MODULE REVIEW

PART 7

Name: _____

LERO Title: _____

Company Title: _____

1. Indicate the approximate radius for each planning zone.

Plume Exposure Pathway _____ miles

Ingestion Exposure Pathway _____ miles

Exclusion Area _____ feet

Low Population Zone _____ miles

2. The size of the Plume Exposure Pathway EPZ was determined based on the capability of an offsite organization to provide for the population's protection within that zone.

True or False

3. The Plume Exposure Pathway EPZ has been subdivided into _____ distinct zones based on political or territorial boundaries to aid in instituting protective measures.

H. DOSE ASSESSMENT

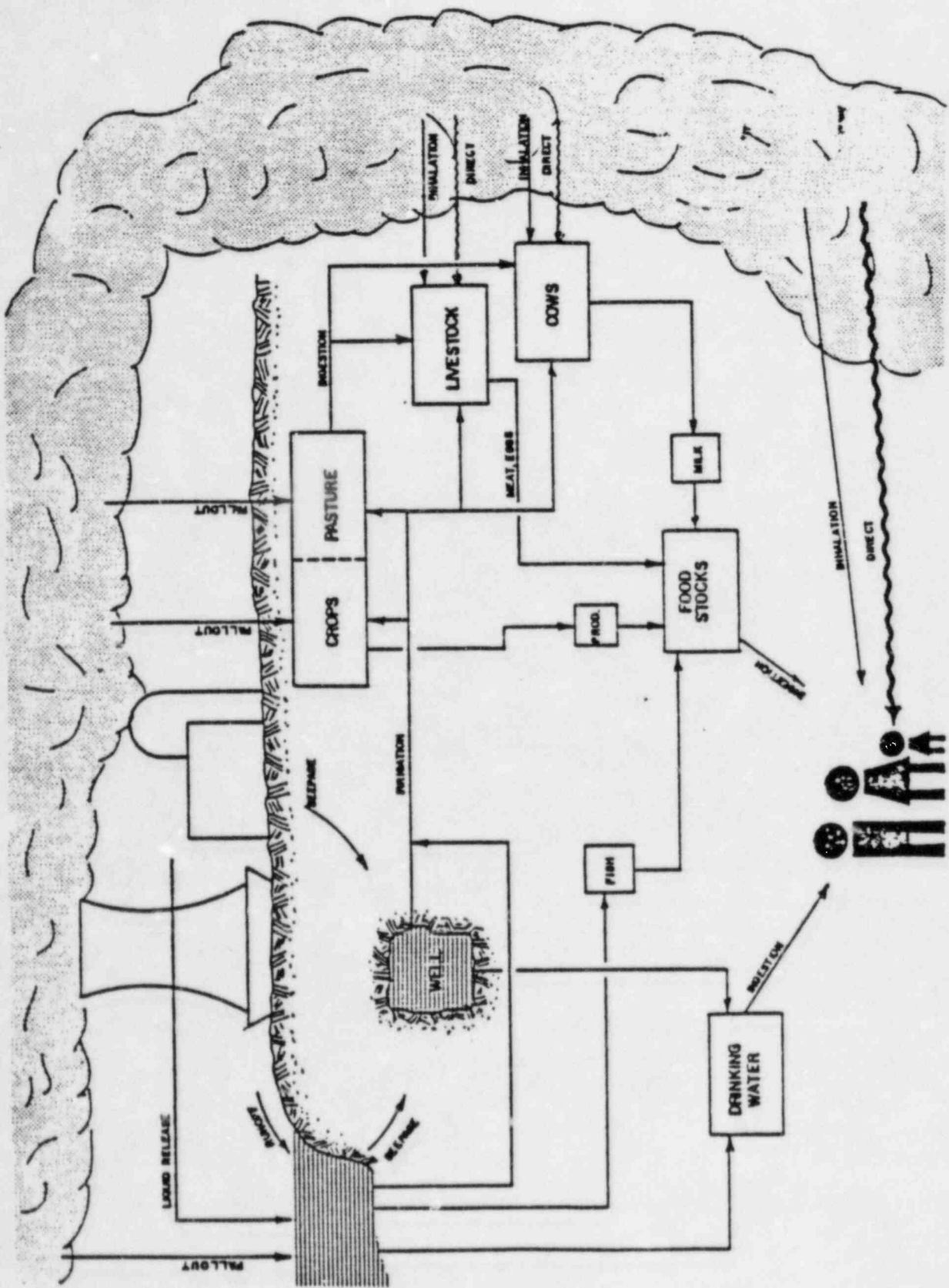
The dose assessment process is a major facet of the emergency response effort associated with an incident at SNPS. The process generally consists of two interrelated activities:

- Dose Projection
- Actual Dose Verification

Dose projection activities are normally conducted during the early phases of an emergency, when radiological field teams are not yet available. This process involves the utilization of radioactive release rate information, combined with meteorological data obtained from the plant to predict (or project) the anticipated radiological exposure rates expected to be incurred by the general population downwind from the plant over the period of the release.

Results from these dose projection activities are a key element to the determination of appropriate protective action recommendations that must be made to immediately protect the public within the plume exposure pathway. Latter doses which may be received from such sources as reentry operations, food ingestion pathways, or long-term exposure from ground level contamination are committed over a longer period of time and require different types of protective actions which allow more time in formulation and implementation. These exposures would be incurred both within the ten-mile EPZ and fifty-mile EPZ as well.

As radiological field monitoring teams become available, field monitoring readings are used to ascertain the actual radiological dose readings or to verify the projected values that were initially calculated. This process involves field



teams traveling downwind from the release taking both air sampler readings and general area readings using handheld radiological monitoring instruments. In addition, environmental sampling activities are conducted as personnel and equipment become available.

Within the Health Services Group, a select number of individuals have been designated to carry out the dose assessment activities for LERO.

LERO positions involved in dose assessment include:

- Radiation Health Coordinator
- Environmental Assessment Coordinator
- Dose Assessment Staff
- Environmental Survey Coordinator
- Survey Teams

These individuals specialize in the performance of making radiological dose projection and dose assessments and are well versed in the mechanics of performing these activities. (Refer back to the LERO organization charts presented earlier in this module.)

As a senior LERO member, you should be familiar with the basis for the dose projection activities and the factors which may affect the actual doses received from exposure to a radioactive plume. This knowledge will enable you to effectively utilize the information provided to you by the Dose Assessment Group.

Figure 8 indicates types of information which provide input into the dose projection calculations. Communications between the LERO Dose Assessment Group and the SNPS Dose Assessment Group

are established as soon as the Local EOC is activated. Dose projection data is constantly transmitted between the groups. Independent calculations are performed by each group and results are compared with any resultant discrepancies resolved.

In the early stages of an incident, the release rate information, plant condition information, and meteorological conditions are all tabulated by the SNPS Emergency Response Staff and relayed to the LERO Dose Assessment Group. This information is then utilized by the group to develop dose projection information.

The dose projection information forms the basis for the derivation of protective action recommendations. Initial protective action recommendations are therefore developed and may be implemented without the benefit of confirmation provided by actual field verification readings. Once the LERO Field Monitoring Teams are equipped and ready, the LERO Dose Assessment Group will direct the field teams to downwind locations to define the perimeter of the plume and determine actual readings. With actual field readings being available, new assessments will occur and new protective action recommendations may be developed.

In almost all cases, actual observed dose readings taken in the field will be magnitudes lower than the dose projected using the plant release rate information. This is true due to the inherently conservative methodology applied in developing the dose projection calculation formulas. (This is an important point for you to remember. As field readings come in, you could question their validity if you were not aware of the differences.)

Another important factor affecting the ability to accurately define the scope and magnitude of a radiological release is the meteorological conditions and the terrain in the area.

Figure 9 represents how the plume being released from the plant can be affected by varying atmospheric conditions. From this representation, you should be able to visualize how Field Monitoring Team readings may also be affected as a result. Depending upon the team's positioning, with respect to the plume, portions of the plume may be undetectable due to the distortion of the plume by the air currents.

Figure 10 lists four different methods by which a radioactive release may be dispersed as a result of meteorological processes. Each of these processes, in part or in whole, accounts for the gradual decline of the effects of a radiological release from SNPS as the plume progresses away from the release site. The remaining illustrations are provided to give you an understanding of the many factors which influence the actual distribution of the plume. In evaluating the results of field data presented by the Dose Assessment Group, you should be aware of these meteorological factors.

Chapter 3, Section 3.5, of your Emergency Plan provides a discussion on the conduct of dose assessment activities related to LERO. Implementing Procedure OPIP 3.5.2 provides the detailed step-by-step instructions utilized by the Dose Assessment Group in carrying out their activities.

FIGURE 8

DOSE PROJECTION BASIS

- PLANT CONDITIONS

SYSTEMS STATUS AND CONTAINMENT INTEGRITY
RADIATION MONITORING SYSTEM ALARMS

- RELEASE RATES

CONCENTRATION PER UNIT TIME

- METEOROLOGICAL CONDITIONS

WIND DIRECTION
WIND SPEED
PRECIPITATION
 ΔT OR STANDARD DEVIATION

- RADIOLOGICAL MEASUREMENTS

FIELD MONITOR READINGS

FIGURE 9

PLUME RELEASES

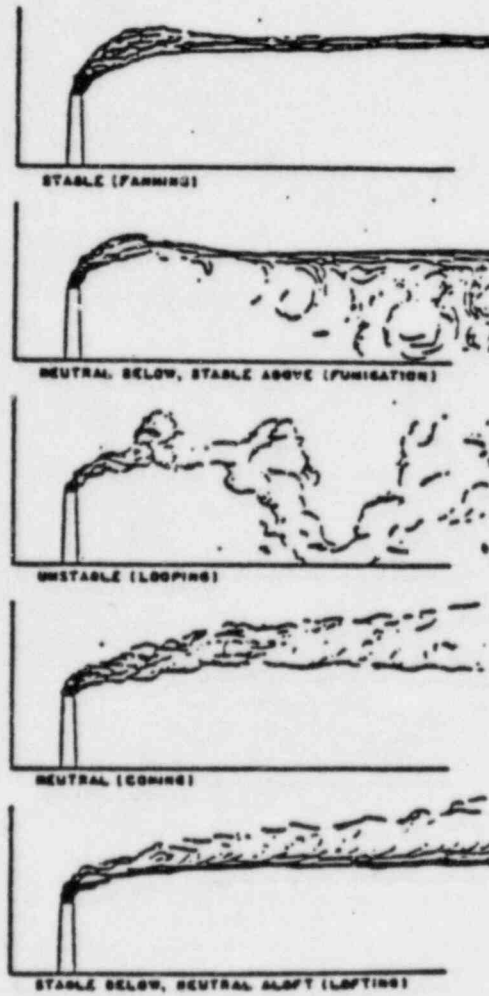


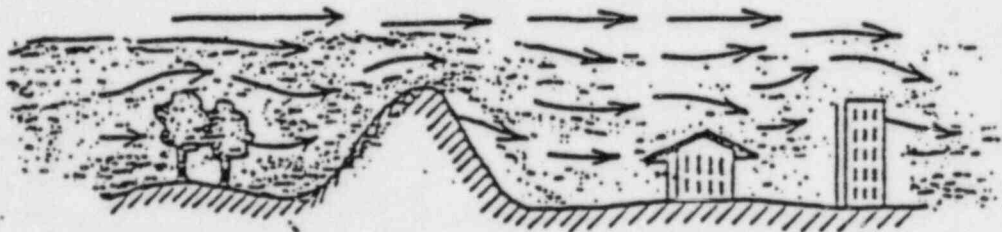
FIGURE 10

ATMOSPHERIC DISPERSION PROCESSES.

- - Mechanical mixing
- - Diffusion
- - Deposition (fallout)
- - Precipitation scavenging
(rainout)

WINDS AND MECHANICAL TURBULENCE

Weak winds usually flow smoothly over and around obstructions with little turbulence and only slow mixing.

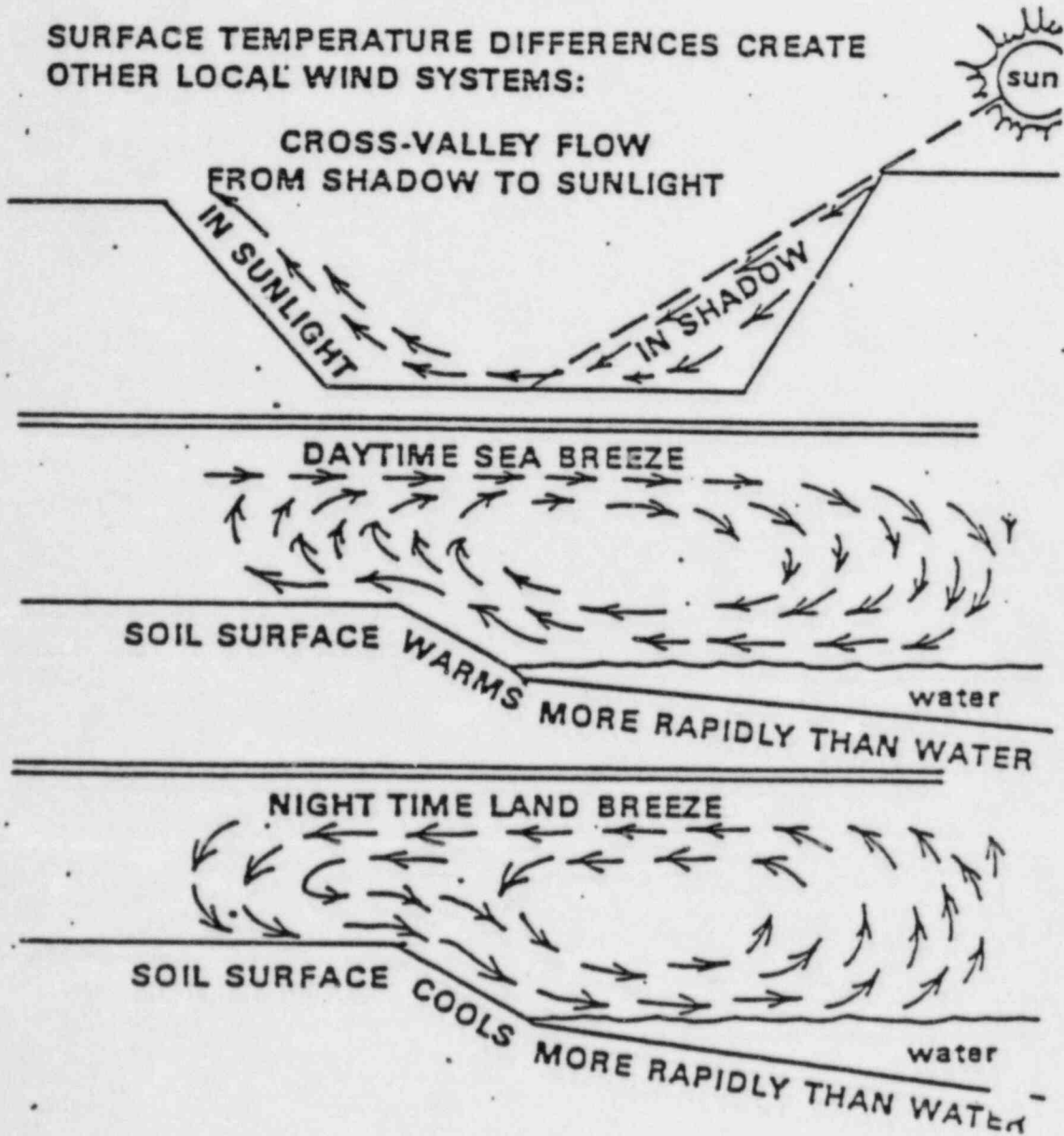


Strong winds often swirl around and over obstructions with many eddies that speed mixing and diffusion.



LOCAL WIND SYSTEMS

SURFACE TEMPERATURE DIFFERENCES CREATE OTHER LOCAL WIND SYSTEMS:

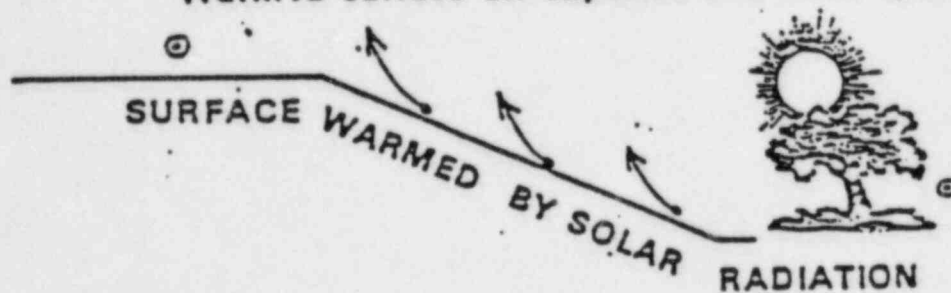


LOCAL WIND SYSTEMS

INFLUENCED BY GRAVITY OPERATING DIFFERENTLY
ON COLD (DENSE, HEAVY) AND WARM (LIGHT) AIR

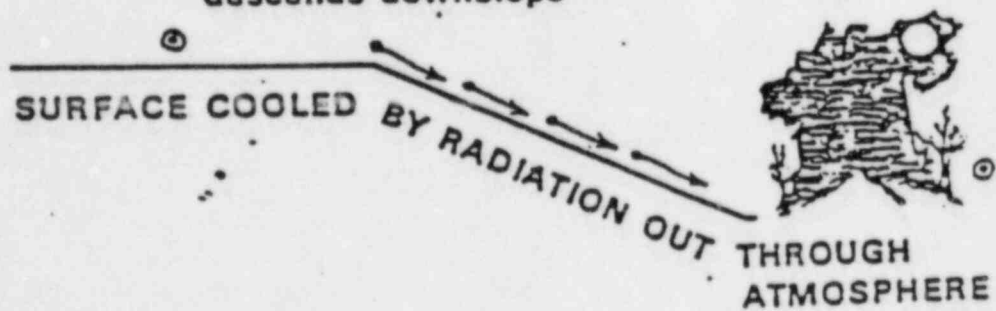
DAYTIME:

Warmed surface air expands and rises upslope



NIGHT TIME:

Cooled surface air becomes denser and
descends downslope



LERO

TRAINING PROGRAM

MODULE 17

DOSE ASSESSMENT

MODULE REVIEW

PART 8

Name: _____

LERO Title: _____

Company Title: _____

1. The two interrelated dose assessment activities are dose projection and dose verification.

True or False

2. Which LERO group is responsible for conducting dose assessment activities?
 - a. Support Services
 - b. Evacuation
 - c. Health Services

3. Radiation release rate information, plant condition information, and meteorological conditions provided by SNPS to the LERO Dose Assessment Group are utilized to conduct which function?

Dose Projection or Dose Verification

4. LERO Radiological Field Monitoring Teams are utilized to provide plume tracking, plume boundary definition, dose verification, and radiological environmental sampling.

True or False

5. List three factors which may affect the plume's shape and distribution.

I. PROTECTIVE ACTIONS

After a nuclear incident occurs, an estimate must be made of the radiation dose which affected population groups may potentially receive. This dose estimate is called the projected dose. A protective action is an action which is taken to avoid or reduce this projected dose when the benefits derived from such an action are sufficient to offset any undesirable features of the protective action.

The Protective Action Guides (PAGs) are the projected doses to the individuals in the population which warrants taking protective action. A Protective Action Guide under no circumstances implies an acceptable dose. Since the PAG is based on a projected dose from an incident already underway, it is used only in an ex post facto effort to minimize the risk from that event. The responses taken in a given situation should be based on PAGs and the spectrum of possible protective actions available at the time.

Protective Action Guides are the numerical projected doses which act as trigger points to initiate protective action.

PAGs are provided for three broad pathways of radiation exposure:

- Exposure from airborne radioactive releases - This type of exposure could occur within a short period following an incident as a result of inhalation of radioactive materials or from external whole body exposure.

Protective Action Guides (PAGs)

- Defined as the "projected" dose to an individual in the general public which warrants the initiation of emergency protective actions. "Projected" dose is the dose that would be received within a few days following the release if no protective actions are taken.
- Range from 1 to 5 rem for whole body dose
5 to 25 rem for thyroid dose

- Exposure through the food chain - This exposure will be from ingestion of contaminated foodstuff and water. It may commence shortly after the passage of airborne radioactive materials and may continue for a long or short time depending upon the radionuclides involved.

- Exposure from radioactive materials deposited on the ground - This exposure deals with a change in background radiation levels and exposure pathways may include inhalation, ingestion, and external whole body exposures.

Exposure to the airborne plume is related to the duration of a release into the atmosphere. While release durations as long as 30 days or more are theoretically possible, for emergency purposes, release durations of a few hours up to a few days are more realistic. Protective action to be taken for this pathway may include any or all of the following:

- Evacuation
- Respiratory protection
- Shelter
- Prophylaxis (thyroid protection)
- Controlled access

Restorative actions would then include:

- Reentry first by survey and decontamination teams
- Removal of respiratory protection
- Exit from shelters
- Terminating prophylactic measures
- Allowing free access by the population

Exposure through the food chain may be either short term or chronic, depending on the characteristics and half-lives of the radionuclides involved. Control of this pathway of exposure would be by:

- Control of access to contaminated animal feeds
- Decontamination of foodstuffs
- Diversion and storage to allow decay of short half-life radionuclides
- Destruction of contaminated foods

Exposure from materials deposited on the ground might also be either short term or chronic depending on the radionuclides involved. Protective actions would include:

- Evacuation
- Controlled access

Since the problem for ground contamination involves an increase in background levels, denial of access might continue for extended periods of time. Decontamination may then be the only action which will allow free access to, and utilization of, contaminated areas within a short time. Restorative actions would be:

- Decontamination
- Removal of access controls
- Reentry

As a senior LERO member, you may be called upon to provide insight into the problems involved in the identification of the magnitude of the release, possible exposure pathways to the

population at risk, how much time is available to take actions, what actions to take, and what the effects of the protective actions might be.

Accident Identification

The first problem to arise during an emergency will be that of identifying the type of incident and the magnitude of the release. Nuclear incidents may be extremely variable and may range from very small releases having no measurable consequences offsite to large scale releases possibly involving large populations and areas. Response must be appropriate to the incident reported.

One of the variables will be the source term, which refers to the characteristics and release rate of the radioactive material. The amounts and types of radionuclides available for release should be immediately calculable by the SNPS Onsite Dose Assessment Group. What is actually being released to the environment can be estimated but may not be confirmed for some time after the incident.

The magnitude and duration of the release may be estimated by onsite emergency response personnel from plant conditions or from knowledge of the type of incident that has occurred. However, the estimate may be highly uncertain and must be updated on the basis of onsite and offsite monitoring observations and the operational status of engineered safeguards.

The second major variable will be where the released material is expected to go. Meteorology and geography will affect this variable. Current meteorological conditions can be observed directly at the site and relevant locations. However, complete

meteorological data will never be available and extension of observed data must be made to predict the course of released material.

Current weather conditions may restrict the options for response, e.g., evacuation in a blizzard may be reduced or impossible. Weather forecasts have all of the inherent uncertainty of the current-condition estimates since they are derived from these.

Although it may be possible to detect releases and measure release rates at the site, information from environmental measurements will be needed to confirm any estimates made on the basis of onsite measurements. Detection and measurement at locations offsite are necessary to update and/or confirm predictions about the movement of the release in the environment.

The source term, meteorology, and geography parameters are utilized in making a prediction of the path and time profile for the release.

Exposure Pathways

The next decision after the determination of an accident situation is the identification of important pathways of radionuclides to the population. Exposure pathways of immediate importance and the time available to interrupt them can be decided to a large extent on the basis of emergency management judgments.

The single most important pathway during the emergency phase is by air. The air pathway will be via inhalation of either gases or particulates and whole body exposure to the plume. Released

gases will be either radioactive noble gases, organic iodides, inorganic iodides, or volatile inorganic materials. Particles will probably form by the condensation of vaporized material.

Water is a pathway for exposure by ingestion or immersion. Released material may enter the water directly or in the form of fallout or rainout followed by surface runoff. The immersion pathway of exposure is unlikely to have significance except in very specialized circumstances. Ingestion of water is probably only a minor pathway of exposure in the short run. However, the gastrointestinal system must be considered for longer term ingestion of contaminated drinking water.

Ingestion of food is an important exposure pathway. However, with the possible exception of drinking water, milk, and contaminated leafy vegetables, entry of released materials into food and passage along this pathway is delayed.

Characterization of release materials involved in air, water, and food pathways will not be done for some time after an accident. The initial decisions will have to be made on the basis of estimates incorporated in the Emergency Plan and Implementing Procedures and modified as actual field data becomes available.

Direct external whole body radiation exposure may be a hazard. Released material deposited in soil or water or suspended in air and material still at the site serve as sources of direct radiation, mostly by gamma and beta radiations. Although exposure rate may be measured directly at specific locations, the distribution must be estimated and the estimates updated on the basis of monitoring data. Fairly complete monitoring will be needed during implementation of restorative actions.

Soil contamination, in addition to providing part of the direct whole body exposure, also provides a contribution to the air pathway. Released material deposited on soil can be resuspended, thus possibly entering the air, water, and food pathways. Evaluation of these hazards will be particularly important in deciding appropriate actions during the restoration phase, e.g., level of decontamination needed.

Populations at Risk

The next consideration of importance is what population is to be protected. Prior judgment and planning based on the geography and demography of the area around the site and on critical pathways are essential to identifying populations at greatest risk.

The average population is made up of persons with varying sensitivities to radiation exposure and responses are generally keyed to the most sensitive.

1. For purposes of response actions, the general population should be evaluated on the basis of risk to individuals within the population. However, the population as a whole must also be considered in planning some responses on the basis of statistical risk of somatic and/or genetic effects.
2. Sensitive populations should be considered on a special basis. Children, including the fetus and unborn children, are generally more sensitive than healthy adults. For this reason, such members of the population may be selected either as the most sensitive receptors or as a special group for protection.

Radiation Effects

A final parameter which must be considered is radiation effects. These may fall into two categories, early or delayed, but are not mutually exclusive.

1. Early (acute) effects, occurring within 90 days, may include fatalities, symptoms of radiation sickness, or clinically detectable changes. Efforts to protect selected populations will extend to prevention of fatalities, minimization of symptoms of radiation sickness in radiation workers and public service personnel, and prevention of clinically detectable changes of uncertain significance in the rest of the population. The basis for decisions regarding early effects is not hard to justify because of the imminence of such effects. However, they must be made rapidly under conditions of competing needs to protect the public.
2. Delayed statistical effects (i.e., biological effects which can only be observed on a statistical basis) will occur at random in a population after exposure to released materials. These effects may be fatalities or disabilities of somatic or genetic origin. The incidence of these effects is estimated on the basis of statistical evaluation of epidemiological studies in groups of people who had been exposed to radiation. Decisions concerning statistical effects on populations will be more difficult because of the lack of immediacy of the effects. But in the long run, these effects might cause the greatest impact on the general population.

The response times, actions to consider, and possible health effects for each pathway are shown in Figure 11 for a typical population.

Effects on animals, vegetation, or buildings are also possible but may be controlled or alleviated to the extent that decontamination is employed or that destruction of the affected items is employed.

Chapter 3, Section 3.6, of your Emergency Plan details the philosophy and concepts employed by LERO in developing and initiating protective actions.

FIGURE 11

ACTION AND HEALTH EFFECTS VERSUS EXPOSURE PATHWAYS

<u>Exposure Pathway</u>	<u>Response Time</u>	<u>Action Available</u>	<u>Public Health Effects</u>
Air - Particulate Gas	Min - Hr	P	D
Water - Particulate			
Rainout	Hr - Da	P	D
Fallout	Min - Hr	P	D
Immersion	Day	P&R	D, E
Food - Milk	Da - Mo	P&R	D
Drinking Water	Hr - Mo	P&R	D
Beverages	Da - Mo	P&R	D
Foodstuffs	Da - Mo	P&R	D
Soil - Resuspension	Da	R	D
Direct	Min - Da	P&R	E, D
Direct - Facility	Min	P&R	E, D
Air	Min - Hr	P	E, D
Water	Hr	P&R	D, E

Actions: P - Protective
R - Restorative

Effects: E - Early
D - Delayed

Implementing Procedures OPIP 3.6.1 and 3.6.6 provide indepth guidance for protective actions related to the ten- and fifty-mile EPZs.

Take time now to read the material listed above and become very familiar with its content. In addition, the remaining pages in this section will provide an overview for summarizing the protective actions outlined in your procedures.

OFFSITE PROTECTIVE ACTIONS

Sheltering - Protective action advising the public to seek shelter in a permanent, reasonably airtight structure, such as a house, commercial building, or office building. The public could be instructed to close doors and windows and reduce outside air intake from heating or cooling systems.

Respiratory Protection - An advisory to people within the area to cover their noses and mouths with handkerchieves, cloth, or other protective materials and to limit air intake from heating or cooling systems if they are in an enclosed area. Respiratory protection is an action which may be used in conjunction with sheltering.

Potassium Iodide - The use of potassium iodide may be recommended for use by emergency workers within the risk area during an accident.

Access Control - A protective action that can be recommended in order to prevent undue radiological exposure to members of the public entering an evacuated area. Access control may be used as a separate action or in conjunction with other actions such as evacuation or sheltering.

Evacuation - An action that could be recommended to limit or prevent undue radiological exposure to members of the public. When an evacuation is recommended, all members of the public will be advised to leave the area until it has been determined that all danger has passed.

Protective Actions

Consideration Shall Be Given to Sheltering if:

- Release Is of Short Duration - Puff Release
- Evacuation Could Not Be Well Underway Prior to Expected Plume Arrival Due to:

Short Warning Time
High Winds
Foul Weather

Protective Actions

Consideration Shall Be Given to Evacuation If:

- A Release Is Expected to Occur with Projected Doses Approaching or Exceeding:
 - 1 REM Whole Body
 - 5 REM Child Thyroid
- Release Time Is Expected To Be Long
- Evacuation Can Be Well Underway Prior to Plume Arrival

SHELTER AS A PROTECTIVE ACTION**ADVANTAGES**

- Can provide significant reductions in whole body and inhalation doses.
- Relatively nondisruptive, rapid, and easy action to take.
- Risks of seeking shelter are small.
- Costs associated with sheltering are relatively small.
- Sheltering can be effectively used in conjunction with other protective actions such as evacuation.
- Can be more effective than other actions for reducing population exposures to releases of short duration.

CONSTRAINTS

- After 1 to 2 hours, shelter offers only minimal protection.
- Larger shelters (buildings) may not have any protective advantage for thyroid reduction because of large ventilation rate.
- Changes in indoor concentrations of gaseous and particulate material follow changes in outdoor concentrations with a short lag time.
- In general, shelter is only effective for whole body and thyroid dose reduction for low ventilation rates and for short time periods.

REPRESENTATIVE SHIELDING FACTORS FROM GAMMA CLOUD SOURCE

<u>LOCATION OR STRUCTURE</u>	<u>SHIELDING FACTOR^A</u>	<u>REPRESENTATIVE RANGE</u>
OUTSIDE	1.0	---
VEHICLES	1.0	---
WOOD-FRAME HOUSE (NO BASEMENT)	0.9	---
BASEMENT OF WOOD HOUSE	0.6	0.1 - 0.7
MASONRY HOUSE (NO BASEMENT)	0.6	0.4 - 0.7
BASEMENT OF MASONRY HOUSE	0.4	0.1 - 0.5
LARGE OFFICE OR INDUSTRIAL BUILDING	0.2	0.1 - 0.3

^ATHE RATIO OF THE DOSE RECEIVED INSIDE THE STRUCTURE TO THE DOSE THAT WOULD BE RECEIVED OUTSIDE THE STRUCTURE.

GUIDELINES FOR PROTECTION AGAINST INGESTION OF CONTAMINATION

I. Ground Contamination

A. Action Levels

1. Projected whole body dose above the ground greater than or equal to 1 Rem.
2. Ground contamination levels greater than or equal to 2,000 uCi/m² at t = 1 hr. post-accident.
3. Exposure rate greater than or equal to 12 mR/Hr at 1 meter above ground at t = 1 hr. post-accident.

B. Recommended Protective Actions

1. Evacuation of affected areas.
2. Restriction of entry to contaminated offsite areas until radiation level has decreased to state-approved levels.

II. Food and Water Contamination

A. Action Levels

Nuclide*	Concentration in Milk or Water		Total Intake via all Food and Water Pathways		Pasture Grass (Fresh Weight)	
	Preventive Level (uCi/l)	Emergency Level (uCi/l)	Preventive (uCi)	Emergency (uCi)	Preventive (uCi/kg)	Emergency (uCi/kg)
I-131 (Thyroid)	0.012	0.12	0.09	0.9	0.27	2.7
Cs-137 (Whole Body)	0.34	3.4	7.0	70	3.5	35
Sr-90 (Bone)	0.007	0.08	0.2	2.0	0.7	7.0
Sr-89 (Bone)	0.13	1.3	2.6	26	13	130

* If other nuclides are present, Regulatory Guide 1.109 will be used to calculate the dose to the critical organ(s). Infants are the critical segment of the population.

GUIDELINES FOR PROTECTION AGAINST INGESTION OF CONTAMINATION

(continued)

B. Recommended Protective Actions

Preventive

1. Removal of lactating dairy cows from contaminated pasture and substitution of uncontaminated stored feed.
2. Substitute source of uncontaminated water.
3. Withhold contaminated milk from market to allow radioactive decay.
4. Divert fluid milk to production of dry whole milk, butter, etc.

Emergency

Isolate food and water from its introduction into commerce after considering:

- a. Availability of other possible actions.
- b. Importance of particular food in nutrition.
- c. Time and effort to take action.
- d. Availability of other foods.

LERO

TRAINING PROGRAM

MODULE 17

PROTECTIVE ACTIONS

MODULE REVIEW

PART 9

Name: _____

LERO Title: _____

Company Title: _____

1. Define Protective Action Guide.

2. List the three board pathways for which PAGs are provided.

3. What types of controls may be instituted to control exposures through the food chain. List two.

4. During the initial stages of an incident, who is responsible for providing source term information.

- a. NRC staff
- b. LERO staff
- c. SNPS staff

5. The single most important exposure pathway during the early stages of an incident is:

- a. Water pathway
- b. Ingestion pathway
- c. Air pathway

6. Potassium iodide is considered as an option to be employed to aid in the protection of the general population.

True or False

7. When is evacuation considered to be a more desirable protective action than sheltering?

J. EMERGENCY RESPONSE MANAGEMENT

The time after the occurrence of an incident may be divided into three phases which are called:

- Emergency phase
- Protection phase
- Restoration phase

These phases are not necessarily distinct consecutive time periods, but they do serve to indicate the general nature of activities in a typical response sequence.

The emergency phase includes all those activities leading to initiation of protective actions. This phase involves assessment of the situations and is characterized by urgency in determining the need for protective action and getting the action initiated. In general, this may be considered to be the first few hours following notification of an incident and deals primarily with protection of the population from exposure to the airborne plume.

The most important step in emergency response is the prompt notification that an incident has occurred that could result in an offsite exposure such that there is a need for initiating protective action. It is SNPS staff's responsibility to notify offsite authorities that such an incident has occurred. It is important to be aware of who is to be notified, data to be provided, offsite measurements that will be made, and actions to be initiated at the site so that there will be a minimum time loss in starting implementation of protective action in the offsite area. SNPS operators have the initial responsibility for accident assessment. This includes prompt action necessary to evaluate public health and safety both onsite and offsite.

The sequence of events during the emergency phase includes the notification of responsible authorities, evaluation and recommendations for action, and warning of the public.

Immediately upon becoming aware that an incident has occurred that may result in exposure of the offsite population, a preliminary evaluation is made by the SNPS staff to determine the nature and potential magnitude of the incident. This evaluation determines potential exposure pathways, population at risk, and projected doses. At this time, projected doses may be estimated from monitoring data at the point of radionuclide release or from releases anticipated for particular types of nuclear incidents. The incident evaluation information is then presented to LERO authorities. If LERO had been notified earlier and had mobilized its resources, protective actions could be started immediately in predesignated areas or in the areas indicated by projected dose based on SNPS information. In the absence of detailed information from SNPS as indicated above, the implementing procedures provide for action in the immediate downwind area of the station based on notification that a substantial release has occurred or that plant conditions are such that a substantial release potential exists.

The next step is to gather additional information on radiation levels in the environment, meteorology, and environmental conditions. Further actions or modifications to actions already taken should be based on this data and Protective Action Guides.

The LERO Dose Assessment Group should continue to seek information on radionuclide releases and environmental monitoring data. In fact, an evaluation of such information, as well as exposure pathways, population at risk, dose projections, and PAGs occurs on a continuing basis in both the emergency and protection phases in order to modify protective actions as needed.

The protection phase begins with the initiation of protective action and continues until that action is terminated. Ideally, the protective action such as evacuation would be implemented before any population exposure. However, this may not be possible under certain circumstances, thus the action may not be initiated in time to avoid all of the projected dose, and some dose may be received during implementation of the action.

The restoration phase includes those actions taken to restore conditions to "normal." Restorative actions include the halting of protective actions, the lifting of restrictions, and possible decontamination procedures.

Types of Action

The action taken may be, as previously indicated, either protective or restorative.

The types of action which can be taken include:

1. Protective actions, such as evacuation, taking shelter in homes, controlling food and water distribution, prophylaxis (e.g., thyroid protection), or individual protective actions (e.g., gas masks, protective clothing, etc.)
2. Restorative action where everything is returned to "normal." This action includes lifting restrictions or halting activities initiated as protective actions. It also includes decontamination where necessary.

The actions to be taken should be evaluated and set in priority.

Goals of Protective Action

The ideal goal of protective action in an emergency is complete protection of the endangered population. However, various constraints may prevent attaining this ideal, so a more realistic goal is minimization of harmful effects.

In the case of an emergency involving a radiological hazard, efforts are directed towards minimizing:

1. Early somatic effects such as death within days or development of extensive symptoms of radiation sickness.
2. Delayed somatic affects, such as increased probability of death due to radiation-related cancer.
3. Genetic effects, such as increased prenatal mortality or increased probability of hereditary defects in future generations.

Constraints on Goal Attainment

The constraints which operate to prevent attaining the ideal goal include those of environmental, demographic, temporal, resource availability, and exposure duration.

Environmental constraints will include meteorological and geographic considerations. Protective action options may be restricted by severe weather conditions, windstorms, blizzards, tornatdoes, large accumulations of snow, etc. Options are also restricted by numbers, types, and directions of roads, and obstruction of easy egress from a site by geologic formations.

Options are further constrained by the density and distribution of population, the total size of the population involved, the age and health status of segments of the population, and other demographic considerations.

Temporal constraints will be present during all phases of protective action and some situations during restorative action. Time available for action may be a real constraint for evacuation of close-in populations, particularly in the case of short-term (puff) releases. After an incident, exposures of the population close to the site may occur before control of the situation is established. Even after a decision for action has been made, notification of the population and implementation of the action may require enough time such that substantial exposures occur.

Resources will be one of the largest constraints on viable options for action. Even the best intentioned responses will fail if the resources to implement actions are not available. Resources needed are fiscal, manpower, and equipment.

Each decision to take an action or extend an action will cause an incremental step increase in the necessary resources to support that action. All of these constraints must be considered in developing response operations so that the optimum protection of the public can be obtained with the least impact on available resources, commensurate with the goal of protective action.

Evaluation of Constraints

Senior LERO members involved in developing response actions must be thoroughly informed on what protective actions are available for limiting the radiation exposure of the general public during

a nuclear incident. There are, however, local constraints associated with each protective action which will influence the decision to implement a given protective action. Senior LERO members must also be familiar with and apply these constraints to any emergency situation. Ideally, it should be possible to balance these constraints in some analytical fashion which would place each constraint in its proper perspective on a common scale. Since many of the constraints cannot be qualified, you must use rational, subjective judgment in evaluating them.

Figures 12 and 13 list protective actions that are available for various types of reactor incidents as a function of approximate time periods following the incident, and the following discussion attempts to evaluate constraints such as costs, time, societal considerations, etc., that relate to each protective action. This information should be valuable to you in making the value judgments that are necessary to implement actions during an emergency.

Constraints on Evacuation

While evacuation may seem to be the protective action of choice following a nuclear incident at a fixed nuclear facility, constraints associated with a specific situation could render the evacuation ineffective or undesirable. Other optional protective actions, such as taking shelter, should be considered. You must take into consideration all local constraints to determine whether or not evacuation is a viable protective action for the given situation.

FIGURE 12

PROTECTIVE AND RESTORATIVE ACTIONS FOR NUCLEAR INCIDENTS IN AIRBORNE RELEASES

Nuclear Incident	Protection Phase			Restoration Phase (c)
	Approximate Time of Initiation			
	0-4 hr.	4-8 hr.	8 hr.	
Puff Release (a) - Gaseous or Gaseous and Particulate	1, 2, 3, 4, 5	3, 4, 5	3, 4, 5, 6, 7, 8	9, 10, 11
Continuous Release (b) - Gaseous or Gaseous and Particulate	1, 2, 3, 4, 5	1, 2, 3, 4, 5	1, 2, 3, 4, 5, 6, 7, 8	9, 10, 11

- | | |
|--|---|
| <ul style="list-style-type: none"> 1 Evacuation 2 Shelter 3 Access control 4 Respiratory protection for emergency workers 5 Thyroid protection for emergency workers 6 Pasture control 7 Milk control 8 Food and water control 9 Lift protection controls 10 Reentry 11 Decontamination | <ul style="list-style-type: none"> (a) Puff release - less than 2 hours (b) Continuous release - 2 hours or more (c) Restoration phase may be at any time as appropriate |
|--|---|

FIGURE 13

INITIATION TIMES FOR PROTECTIVE ACTIONS

Approximate Initiation Time	Exposure Pathway	Action to be Initiated
0-4 hours	Inhalation of gases or particulates	Evacuation, shelter, access control, respiratory protection, prophylaxis (thyroid protection)
	Direct radiation	Evacuation, shelter, access control
4-48 hours	Milk	Take cows off pasture, prevent cows from drinking surface water, quarantine contaminated milk
	Harvested fruits and vegetables	Wash all produce or impound produce
	Drinking water	Cut off contaminated supplies, substitute from other sources
	Unharvested produce	Delay harvest until approved
2-14 days	Harvested produce	Substitute uncontaminated produce
	Milk	Discard or divert to stored products, such as cheese
	Drinking water	Filter, demineralize

Effectiveness of Evacuation

The effectiveness of evacuation in limiting radiation dose is a function of the time required to evacuate. If a radioactive cloud is present, the dose will increase with the time of exposure; if the evacuation is completed before the cloud arrives, then evacuation is obviously 100 percent effective. You should be aware of these constraints in order to minimize their impact, thus maximizing the effectiveness of the evacuation.

Risk of Death or Injury

If evacuation were likely to greatly increase an individual's risk of death or injury, this would act as a significant constraint on the use of evacuation as a protective action for a nuclear incident. Fortunately, examination of numerous evacuations indicate that risk of death or injury is not likely to be increased when evacuation is made by motor vehicle.

Seeking Shelter

The local constraints on seeking shelter as a protective action, such as time to take action, cost of taking the action, and societal considerations, intuitively tend to support taking such action since the cost in each case is relatively small. However, if one compares the effect of seeking shelter with some other action, such as evacuation on the basis of dose savings, it may be concluded that evacuation will save a far greater dose than seeking shelter. Generally, shelter provided by dwellings with windows and doors closed and ventilation turned off would provide good protection from inhalation of gases and vapors for a short period (i.e., one hour or less) but would be generally ineffective after about two hours due to natural ventilation of the shelter.

Not every constraint can be evaluated using established techniques; therefore, a certain amount of subjective judgment must be used. The important thing is that you be aware of the constraints associated with each action and that these constraints be balanced on whatever basis possible in order to arrive at a decision.

Prophylaxis (Thyroid Protection)

The uptake of inhaled or ingested radioiodine by the thyroid gland may be reduced by ingestion of stable iodine. The oral administration of about 100 milligrams of potassium iodide will result in sufficient accumulation of stable iodine in the thyroid to prevent significant uptake of radioiodine. Potassium iodide as a prophylaxis is only effective if the exposure of concern is from radioiodine and only if the stable iodine is administered before or shortly after the start of intake of radioiodine. All LERO emergency workers for areas possibly involving radioiodine contamination should receive this kind of thyroid protection.

Milk Control

In order to protect the population from exposure to ingestion of contaminated milk, LERO has two basic alternative actions, which are:

1. Cow-feed or pasture control to prevent the ingestion of radioactive materials by dairy cattle
2. Milk control either by diverting the milk or other uses that allow the radioactivity to decay before ingestion or by destroying the milk and substituting uncontaminated milk from other areas.

The optimum action would be to prevent, through pasture and feed control, contamination of the milk. This would be followed up by milk control only in contaminated areas where pasture and feed control were not carried out or were not adequate. Local constraints may reduce the acceptability or effectiveness of these two protective actions. The alternatives to taking these actions include:

1. Suggest voluntary avoidance of the use of contaminated milk by children and pregnant women. (Children are more sensitive than adults because of greater intake of milk and greater concentration within the thyroid.)
2. Administer stable iodine as discussed earlier under thyroid protection.

The local constraints on the control of dairy cow feed or pasture may include the following:

1. A shortage of uncontaminated feed.
2. A shortage of personnel to carry out feed and pasture controls in evacuated areas.
3. The short time available to implement feed and pasture controls over a large area may create communication problems and uncertainties as to the areas where pasture and feed control should be implemented.
4. The cost of the stored feed and the cost of transporting it to needed areas might be prohibitive.

Local constraints on the control of milk may include:

1. The shortage of nearby processing plants.
2. Inadequate storage capacity to wait for radioactive decay.
3. Objections to shipment of contaminated milk to other jurisdictions for processing.
4. Pollution from disposal of large volumes of milk.
5. Shortage of monitoring personnel and equipment for all milk producers.
6. Shortage of milk for critical users.
7. Costs associated with transporting, storage, or disposal of milk.

The dose to the thyroid of a child from drinking milk contaminated with radioiodine through the atmosphere-pasture-cow-milk exposure pathway may be hundreds of times the thyroid dose that would be received by the same child from breathing the air that caused the contamination of the pasture. Therefore, the size of the area over which milk might have to be controlled could be much larger than the size of the area that would be evacuated to prevent inhalation of the iodine.

All milk producers in the affected area should be restricted from using or distributing milk until monitored. If monitoring of all milk supplies is a constraint, monitoring efforts could be concentrated on milk supplies where pasture and feed control had been implemented and on the fringes of the contaminated area.

Food Control

Food exposed to airborne radioactive materials may become contaminated by deposition of radioiodine and particulate material. To avoid population exposure from ingestion of these materials, you should consider the following protective actions for short-term protection.

1. Prohibition on use of potentially contaminated food such as field and orchard crops and substitution from uncontaminated supplies.
2. Decontamination.

The primary constraint on the use of these controls will be the availability of adequate substitute supplies. If other supplies are not available, then it may be necessary to implement decontamination procedures. For protection beyond a few days where availability and cost constraints would be more critical, then decontamination may be more cost effective. The primary means of decontamination would be through washing and peeling (where appropriate) of fresh fruits and vegetables. The constraints on such procedures would be the ability to monitor the decontaminated items to assure adequate decontamination. Monitoring of food will likely be a much demanded service both by the individual farmer-consumer and by the distributor.

Other alternative controls would be to impound food stocks and store them to allow decay of radiation levels or destroy them to prevent consumption. The main constraint on these alternatives would be spoilage and the value of the food stocks in relation to the costs of storage or destruction.

Water Control

Water may be contaminated either by direct release of radionuclides to surface waters or by deposition from an atmospheric release. Water reservoirs supplied by land surface run-off or cisterns supplied by roof run-off would be most severely affected by atmospheric deposition, whereas reservoirs supplied from streams and lakes would be most affected by contaminated liquid effluents. Spring and well water should not be affected by an accidental release of radioactive material to the atmosphere or to waterways. However, springs or wells that appear muddy after a rain might be suspect and should be monitored after a rain if they are in the area receiving heavy deposition. Some accident scenarios involve fuel melting its way into the soil, and such a condition could contaminate underground water supplies.

The protective actions for water can be either to prevent contamination or decontamination of the water supply or to condemn the use of the water for consumption.

In the case of reservoirs supplied from surface or roof run-off, prevention of reservoir contamination would not be possible unless methods existed for diverting the run-off. Reservoirs receiving their supply from a stream or lake normally are filled through pumping and filtration stations which are controlled by operators. These stations could be shut off if the source of the water supply became contaminated.

This may also be true for food processors using a stream or lake directly for their water supply. Many reservoirs supply water to municipal systems through a filtration plant. Such a plant would tend to decontaminate the water supply and monitoring of

water after filtration would provide data that should be taken into consideration in the process of deciding whether or not to condemn the supply.

The constraints associated with restrictions on supplies to reservoirs or condemnation of water systems are related to the difficulties, hardships, and costs associated with the resulting shortage of water supplies. If it is determined that these protective actions may be appropriate for particular water systems, you should also identify the hardships that may result and plan methods for alternative supplies. These may include rationing of uncontaminated supplies, substitution of other beverages, importing water from other uncontaminated areas, and the designation of certain critical users that could be allowed to use contaminated supplies. These might be fire-water systems and process cooling systems.

Restorative Actions

The lifting of controls for protective actions may be justified on the basis of cost savings when the corresponding health risks have been adequately reduced. For example, the costs to the public and LERO in maintaining access control, pasture control, milk control, or food and water control will exceed the risk reduction value of these controls after some period and then the control should be lifted. The costs for maintaining these controls will be relatively constant with respect to time while their significance in reducing risk will decrease as the source of radionuclides is halted and the released nuclides disperse or decay away. Therefore, it may be desirable to lift controls even though some additional dose may be accrued.

Reentry

After evacuation, persons will be allowed to reenter the zone when the potential radiation risk has been averted or reduced to guide levels for members of the general population. However, it may be necessary for certain essential personnel to return even before the dose is reduced to these guide levels. In addition, reentry may be allowed earlier for less radiosensitive persons such as adult males who may need to return to their homes or jobs. The criteria for reentry will require a balancing of remaining radiation risk such as from ground contamination and the cost of disrupted services, lost income, etc., resulting from the evacuation. Time is not a constraint on reentry except as a factor in the cost of remaining out of the evacuated area.

Decontamination

The movement of radionuclides along several pathways involving milk, food, and water may result in prolonged contamination. Each of these elements may require processing to remove radioactive contaminants prior to consumption. In each case, the radionuclide concentrations would be reduced to levels "as low as practicable" commensurate with treatment costs.

Implementing Procedure OPIP 3.1.1, Command of Emergency Operations, details the steps to be taken by key LERO coordinators in implementing the response actions of the organization. Take time now to review this procedure.

MODULE 17

EMERGENCY RESPONSE MANAGEMENT

MODULE REVIEW

PART 10

Name: _____

LERO Title: _____

Company Title: _____

1. The dose assessment process is a one-time action or a constant reevaluation process performed by the LERO Dose Assessment Group at the Local EOC. (Circle the correct answer.)

2. The ideal goal of implementing protective actions in an emergency is complete protection of the endangered population.

True or False

3. List two constraints which could limit the protective action options available in response to an incident.

4. The effectiveness of an evacuation in limiting radiation dose is a function of the time required to evacuate.

True or False

5. List two types of protective actions that could be instituted for LERO emergency workers to reduce their exposure while carrying out their response actions.

K. PUBLIC INFORMATION AND PUBLIC NOTIFICATION

Modules 6 and 18 in your workbook cover the various aspects related to the systems and concepts dealing with LERO's ability to alert the general public to an incident and subsequently providing the public with pertinent emergency response related information. In addition to these workbooks modules, Chapter 3, Section 3.8, of your Emergency Plan outlines the concepts of LERO's Public Information Program. Implementing Procedures OPIP 3.8.1, 3.8.2, and 3.3.4 provided step-by-step details to initiate notification and information activities. Take time now to review this material.

LERO

TRAINING PROGRAM

PUBLIC INFORMATION

MODULE NO. 18

This module applies to:

- Director of Local Response
- Manager of Local Response
- Coordinator of Public Information
- Public Information Support Staff

Your Name _____

LERO Title _____

Company Title _____

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Training Objectives	ii
Introduction	1
A. Public Information	2
- Preparing for an Emergency	2
- Public Information During an Emergency	4
o Emergency News Center	4
o Rumor Control	5
B. LERO Members	7
- Coordinator of Public Information (PIO)	7
- Public Information Staff	11
- Communicators	12
C. Notification and Reporting of Public Information Personnel	13
- Coordinator of Public Information	13
- Public Information Staff	14
- Communicators	15
 <u>ATTACHMENTS</u>	
1. Sample Press Release	17
2. Emergency Caller Procedure	18

TRAINING OBJECTIVES

The objective of the Public Information workbook is to provide detailed descriptions of the duties and responsibilities of personnel in the Public Information Group. This workbook includes the following topics:

- A. The LERO members who are part of this group
- B. Where these LERO members report if an incident occurs at the SNPS
- C. The responsibilities of LERO Public Information members during an incident
- D. How the Coordinator of Public Information gathers information to make press releases and hold press conferences
- E. How the Public Information staff will control rumors and misinformation
- F. The role of the Emergency News Center

INTRODUCTION

Information concerning radiological emergencies at the Shoreham Nuclear Power Station (SNPS) must be disseminated to the public. It will be gathered, checked for accuracy, updated and methodically relayed to the public. The public will receive information before and during an incident through brochures, publicly displayed stickers, press conferences, news releases and emergency broadcast instructions. This information will be compiled and dispersed through a central point in LERO called the Public Information group.

The Public Information group will work together and prepare the most up-to-date facts about the emergency to keep the public informed. These personnel include the:

- Coordinator of Public Information (also referred to as the Public Information Officer or PIO)
- Public Information Staff
- Communicators assigned to the Public Information Group

A. PUBLIC INFORMATION

Public Information about a radiological emergency at the SNPS is essential to people in the EPZ. Public education about emergency planning will be an ongoing process. If an emergency were to occur, information would be provided to the public during the emergency so they may take appropriate protective response actions as instructed. The following will describe the background against which the Public Information group will perform their duties. Public information during an emergency is the most important factor in preparing the public for an emergency response.

- Preparing for an Emergency

Before an emergency, educational information will be available to people who may be in the EPZ at the time of an emergency. This includes residents, workers, and travelers or vacationers (referred to as transients) in the EPZ. Prior to information being distributed, a news item will be released telling residents they will be receiving brochures in the mail. This information, including the names and phone numbers of individuals to be contacted for more information, will include:

- o Educational information on radiation
- o The range of possible protective measures to be taken if it becomes necessary for the public to take protective actions
- o Special needs of the handicapped

Brochures will be mailed - one per household - to residents in the EPZ. There will be enough brochures supplied to apartment houses, etc. for distribution to tenants. Brochure follow-up will be conducted by LILCO with public service announcements and press releases.

As previously mentioned, information will be made available to transients. Like the information for residents, this will include the:

- o Emergency planning zones
- o Siren notification system
- o The emergency broadcasting system's role in an emergency
- o Protective actions the public may be advised to take
- o Relocation center locations
- o Evacuation routes

This information will be available from posters and stickers in many public places, such as hotels, gas stations and parks, as well as telephone book inserts.

The news media, prior to an emergency, will also be familiarized with utility emergency plans, radiation information and points of contact for the release of public information. They will be oriented to the location and operation of the Emergency News Center (ENC). This and the public awareness program will be reviewed and updated annually. The news media will be briefed on all updates and mailouts.

This advanced pre-emergency information program will inform the public to refer to WALK radio during an emergency. It will also familiarize them with the protective actions they may be advised to take in the event of an emergency at SNPS and provide a reference for use during an emergency. In addition, this information gives the public an overview of the types of hazards they may face during an incident at SNPS.

- Public Information During an Emergency

If an emergency has been declared at the SNPS, information must be quickly and accurately disseminated to the public. This must be done so the public can understand what is going on and take protective actions if it becomes necessary for them to do so.

o Emergency News Center

There is a control location where information about an emergency is to be prepared and disseminated. It is called the Emergency News Center (ENC), and it is located at the Old Mill Inn in Ronkonkoma. The information announced to the public is assembled here.

A member of the Public Information Staff will report to the ENC, where the Emergency News Manager (from the SNPS onsite organization) will set up a working communications office. The Coordinator of Public Information and Emergency News Manager will confer on a regular basis (using the dedicated phone from the ENC to the Local EOC at Brentwood) to ensure that accurate and consistent

emergency information is being discussed. They will discuss how the information will impact on the responsibilities of the agencies involved prior to public announcements.

Press conferences will be conducted from the ENC. An expert panel made up of private and public agencies and organization representatives will be available to answer questions the media may have. News briefings conducted here are to provide accurate and timely information and to prevent misinformation and rumors. This will also help to ensure public and media confidence.

o Rumor Control

The ENC shall also serve as the location for rumor control. The public can contact LILCO Customer District offices for information concerning the emergency response. Personnel at these locations will have been provided with up-to-date press releases to answer questions as the public calls. If they are asked questions they cannot answer, they will call the ENC where a coordinated rumor control point will be manned by representatives from LERO and the utility. The rumor control personnel will provide responses to these questions.

Summary

1. Public Information about emergency planning is an ongoing process. Information is given to the public both in preparation for and during an emergency.

2. Information distributed to prepare the public for an emergency is given to communities inside the EPZ. Prior to information release, a news release will announce the forthcoming materials.
3. The public will receive information about radiation, protective measures they may be asked to take, Emergency Planning Zones, the siren notification system and relocation center locations. Residents will be mailed brochures; transients will be informed by way of posters and stickers in public places.
4. The news media will be familiarized with utility plans and points of contact for the release of public information. They will be told of the location and operations at the Emergency News Center (ENC).
5. The Emergency News Center in the Old Mill Inn in Ronkonkoma is the central location from which information about the emergency is disseminated to the public. A working communications office will be set up there to keep in contact with the EOC. There will be a dedicated phone from the ENC to the EOC. Press conferences will be conducted from the ENC.
6. A rumor control point will be established by representatives from LERO and the utility at the ENC. LILCO Customer District offices will be set up such that these locations will be provided with up-to-date press releases. The public can contact the offices to get answers to questions they may have. If personnel assigned to these duties cannot answer any questions, they shall call the ENC for additional information from the Public Information staff.

B. LERO MEMBERS

- Coordinator of Public Information

The Coordinator of Public Information will, upon declaration of a Site Area Emergency, activate the Emergency Broadcast System if the Director of Local Response is not available. (This is explained in OPIP 3.8.2-EBS Activation, and Workbook Module 6, Public Notification.)

When the Emergency News Center is activated, the Coordinator of Public Information will send one Public Information staff member there. This person will confer with the Public Information staff, the LILCO Public Affairs personnel and others at the EOC to receive up-to-date information on a regular basis.

The Coordinator of Public Information must also prepare and disseminate press releases as appropriate for all classes of emergencies. When preparing the press release for public information, including EBS messages to be transmitted, he will:

- o Maintain contact with other LERO members in the EOC to get the most up-to-date information available regarding offsite emergency response
- o Prepare and verify the press release content
- o Assign a staff member, after the press release has been approved by the EOC, to distribute the press release to State and utility Public Information Officers at the ENC for their review

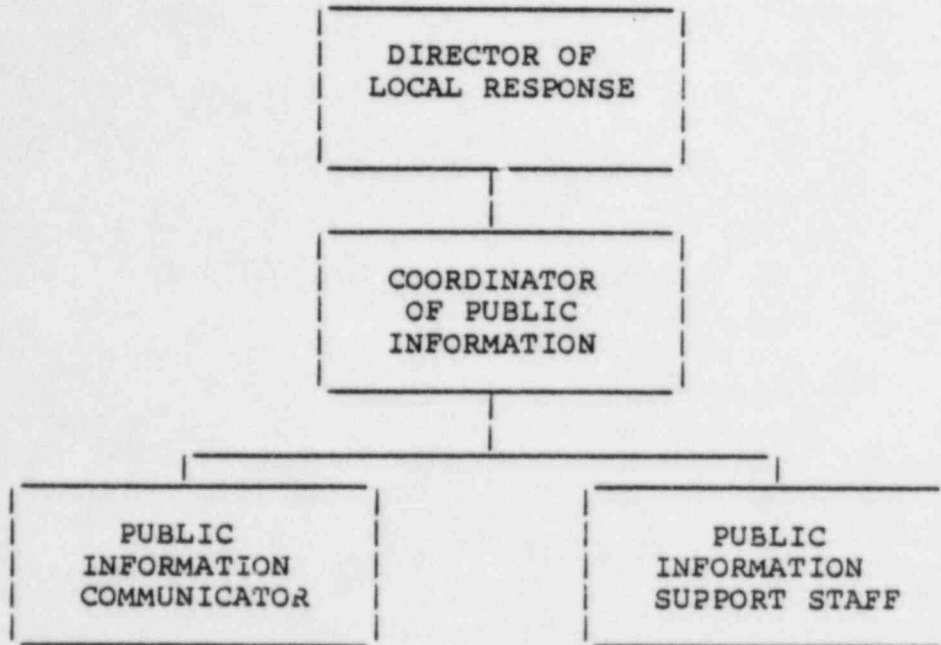
- o Obtain sign-off signatures on the press release
- o Incorporate any changes that must be made to the press release based on reviews
- o Distribute approved press releases by the appropriate means (telephone, telecopy, or hand) as required by circumstances, and transmit it to the ENC

Once press items have been released, the Coordinator of Public Information will assign personnel from his staff to monitor media and radio broadcasts for incorrect information. He will assist in controlling misinformation as information about the emergency is released; he will provide current information for rumor control personnel and will answer any questions regarding local response. In responding to rumor control, the Coordinator of Public Information will also assist in supplying information for press briefings that are to be held at the ENC Press Conference Area.

The Coordinator of Public Information will be working with the Public Information Staff. He will coordinate activities of this group and make sure the response activities under his direction are occurring rapidly. He must also ensure that activities under his direction are happening in the proper time sequence so that the response effort is effective.

Adequate reserves of manpower, supplies and equipment for this group are his responsibility in that they must be readily available. He will provide status reports to the Director of Local Response, and shall report directly to him.

The following organizational chart shows the Public Information Group, and includes the Director of Local Response to better show the chain of command of this group.



The responsibilities previously described apply to those actions which must be taken if an incident occurs at SNPS. Prior to an incident occurring at SNPS, other actions must be carried out in order for the public to be prepared for an emergency. Preparation for an emergency as it relates to public information is explained in Section A - Public Information - of this workbook.

Although they are not members of LERO, LILCO's Office of Public Affairs is responsible for educating the public of pre-emergency measures for Shoreham. They will assure that pre-emergency educational materials are provided on a continuous basis. This material is reviewed by Public Affairs and includes transient information (posters and stickers).

Before this information has been released to the public, a news item will be issued announcing its pending release. The news media will be briefed on all updates and mailouts of public information material. The briefing will include an annual orientation program to address nuclear energy and emergency planning.

Summary

1. The Coordinator of Public Information will be supported by the Public Information staff. Members of this staff will be in the EOC and one member will be at the ENC to assist in providing up-to-date information to the public.
2. The Coordinator of Public Information will prepare press releases for all classes of emergencies as appropriate. He must verify that information is up-to-date and current, and upon EOC approval, have it distributed to State and utility Public Information Officers (PIOs). State and utility PIOs will signoff on the press release to acknowledge its contents. Once changes have been made, the Coordinator of Public Information must have it distributed by the appropriate means to the press through the ENC.
3. The Coordinator of Public Information and staff will provide current information to aid in rumor control.
4. He will coordinate activities of the Public Information Staff and ensure adequate reserves of manpower, equipment and supplies.
5. The Coordinator of Public Information will report directly to the Director of Local Response and provide him with status reports.

- The Public Information Staff

The Public Information Staff will assist in the development of all public information materials. They will provide this assistance to the Coordinator of Public Information as materials are released to the public during an incident at SNPS.

If an incident is declared at the plant, the Public Information Staff will report to the EOC and the ENC. The Coordinator of Public Information will send one staff member to the ENC upon activation. This person will be responsible for keeping contact and relaying information between the EOC and ENC. He will use a dedicated phone line for this purpose.

The staff will assist in developing press releases at the EOC (see Attachment 1, Sample Press Release). They shall also assist the Public Information Staff at the ENC by supplying information that is needed during the course of any press conferences. Members of the Public Information staff will be assigned, by the Coordinator of Public Information, to monitor all media and radio broadcasts for incorrect information. As incorrect information is discovered, the staff will report it to the Coordinator of Public Information. Assistance will also be given to supply the Rumor Control personnel with the most correct information available. This assistance will be provided throughout the course of the emergency.

- Communicators

There will be two staff members assigned to handle communications for the Public Information Group and Public Information staff: one at the EOC and one at the ENC if both facilities have been activated.

The Communicators will use the dedicated telephone between the EOC and ENC to make sure messages between the two locations are received. The Communicator at the EOC will relay messages that are being sent to the Coordinator of Public Information or his staff from LERO members outside the EOC.

All of the staff members of the Public Information Group will report to the Coordinator of Public Information at the EOC, and will receive directions from him at this location. If communication equipment at the EOC or ENC malfunctions, the problems will be reported to the Lead Communicator so that they can be resolved.

Summary

1. During an emergency, the Public Information Staff will assist the Coordinator of Public Information in developing all public information materials. They will report directly to the Coordinator of Public Information.
2. The Public Information Staff will assist the Coordinator of Public Information by helping to prepare press releases and supplying the rumor control staff with the most correct information available.

3. The Public Information Staff, in conjunction with the utility Emergency News Center staff, will monitor all media and radio broadcasts.
4. One staff member will be sent to the ENC when it is activated.
5. Two staff members will be assigned to handle communications for the Public Information group between the EOC and the ENC when both are activated. They will use the dedicated telephone set up for this purpose.
6. All staff members will report to the Coordinator of Public Information. If there are problems with communications equipment, the Lead Communicator will be contacted to have problems resolved.

C. NOTIFICATION AND REPORTING OF PUBLIC INFORMATION PERSONNEL

- Coordinator of Public Information - Unusual Event

The Coordinator of Public Information may be required to report for duty at the EOC during an Unusual Event. If an Unusual Event has been declared, the EOC can be activated if the Director of Local Response makes the decision to do so. If the EOC has been activated, the Coordinator of Public Information shall be notified to report.

If the EOC has not been activated, the Coordinator of Public Information will be notified through the Group Tone 1 pager. He will contact the LILCO Emergency Communications Director or the Emergency Communications Liaison and the Director of Local Response and prepare a press release. If

an Unusual Event is declared, "1111" will appear on the pager.

Alert, Site Area Emergency, General Emergency

When any of these levels of emergency has been declared, the Coordinator of Public Information will report for duty at the EOC. For an Alert, the Coordinator of Public Information will be paged with the numbers "2222" appearing on his pager. For a Site Area Emergency or General Emergency, respectively, "3333" or "4444" will appear on the pager.

- Public Information Staff

The Public Information Staff is not required to be notified during an Unusual Event. However, when an Alert, Site Area Emergency or General Emergency has been declared, they will be notified to report for duty.

At the declaration of an Alert at SNPS, Group Tone 2 pagers are activated with a "2222" display. One member of the Public Information Staff will have a pager. As this person is notified, he will use his Emergency Caller Procedure from Offsite Plan Implementing Procedure 3.3.2 - Notification of Emergency Response Personnel (see Attachment 2 for a Sample Emergency Caller Procedure). The Emergency Caller Procedure requires that three of the people listed be contacted and report for duty at the EOC.

At the declaration of a Site Area or General Emergency, the Group Tone 2 pagers will display "3333" or "4444," respectively. The actions for notification of the rest of the Public Information Staff are the same as those for an Alert.

- Communicators

The Communicators for the Public Information Staff are not notified of an Unusual Event. They will be paged and report for duty at the declaration of an Alert, Site Area or General Emergency. The Communicator will report to the EOC.

Summary

1. The Coordinator of Public Information will be notified of an emergency at the SNPS through use of the Group Tone 1 pager.
2. The Coordinator of Public Information will report to the EOC during an Unusual Event if the Director of Local Response activates the EOC. If the EOC has not been activated, he will remain on standby.
3. If an Alert, Site Area Emergency or General Emergency has been declared, the Coordinator of Public Information will report for duty at the EOC. If the ENC has been activated, he shall send one staff member to it.
4. The Public Information Staff will be notified of an Alert, Site Area Emergency or General Emergency. A selected member will have a pager and then use an emergency caller list to notify remaining individuals. All will report to the EOC.

5. One member of the Public Information Staff will be sent by the Coordinator of Public Information to the ENC when it is activated.

6. The Communicators for the Public Information Group will be paged upon declaration of an Alert, Site Area Emergency or General Emergency and will report to the EOC.

ATTACHMENT 1

SAMPLE PRESS RELEASE

ALERT

Time aired: _____

Release from: Local EOC/Emergency News Center

Director of Local Response, (NAME), announced today that a malfunction at the Shoreham Nuclear Power Station resulted in the declaration of an ALERT emergency classification.

The malfunction, reported to the Local Emergency Response Organization at (TIME), involved _____ (DESCRIPTION OF MALFUNCTION)

No release of radiation is expected and the Long Island Lighting Company is currently correcting the problem.

The Local Emergency Response Organization has activated its Emergency Operations Center and will continue to monitor the incident until the malfunction is corrected.

According to the Local Health Services Coordinator, there is no danger to the public at this time. Local Emergency Response Organization officials will continue to be informed of conditions at the plant site until the problem has been corrected.

Updates of the situation at the plant may contain information specific to geographic areas around the plant and will be referred to by pre-designated emergency planning zones. If you live within ten miles of the plant and you do not know the designation of your emergency planning zone, refer to the Shoreham Nuclear Power Station Emergency Planning Brochure mailed to your home (or the special insert in the yellow/white pages of your telephone book). Posters with this information are posted at motels, gas stations, and other public places within a 10-mile radius of the plant.

LERO

TRAINING PROGRAM

WORKBOOK NO. 18

PUBLIC INFORMATION

MODULE REVIEW

Name: _____

LERO Title: _____

Company Title: _____

1. Public Information as it relates to an emergency at SNPS is divided into two categories, pre-emergency information and information supplied during an emergency.

True or False

2. Before pre-emergency public information is released, a _____ will announce the forthcoming materials.

3. Name three types of information the public will receive.

1. _____
2. _____
3. _____

4. Residents of the EPZ will receive public information prior to an emergency in the mail.

True or False

5. How will transients be informed of pre-emergency information that must be disseminated?

LERO TRAINING PROGRAM

6. What is the central location called where press conferences are conducted and information about an emergency is prepared to be disseminated?

7. What is the purpose of the rumor control point?

- a. prepare releases for EBS
- b. answer questions the public may have

8. Members of the Public Information Staff will be at the _____ and the _____ to assist the Coordinator of Public Information by providing him with up-to-date information.

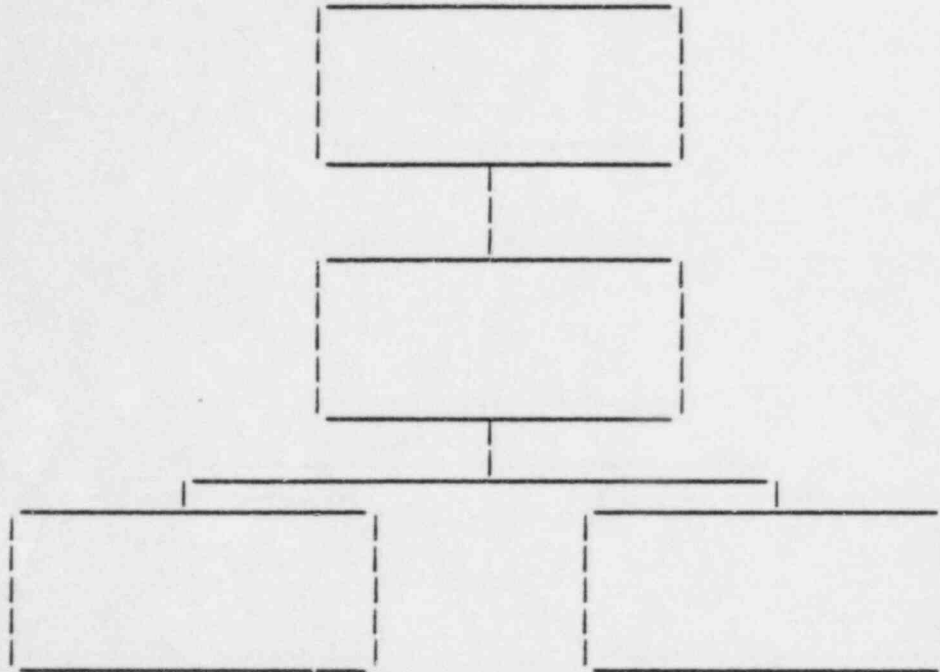
9. The Coordinator of Public Information will verify that information for press releases is up-to-date and current.

True or False

10. To whom does the Coordinator of Public Information report?

11. How does the Public Information Staff assist the Coordinator of Public Information during an emergency?

12. Fill in the following organizational chart as it applies to Public Information - LERO Personnel.



13. The Coordinator of Public Information will report to the EOC during an Unusual Event if it has been activated by the Director of Local Response.

True or False

14. To what facility do all Public Information Staff members report?

15. When the ENC is activated, one member of the Public Information Group will be told to go there.

True or False

APPENDIX A

EXAMPLES OF REQUIRED FORMS AND RECORDS

This appendix contains copies of the following forms and records:

- Emergency Worker Daily Dose Record Card
- Emergency Worker Permanent Dose Record Form
- Emergency Worker Log Out/Log In Form
- Radiation Whole Body Exposure Record
- Emergency Exposure Authorization Form

EMERGENCY WORKER PERMANENT DOSE RECORD FORM

I. IDENTIFICATION (PLEASE PRINT)

1. NAME _____
(LAST) (FIRST) (MIDDLE INITIAL)
2. SEX MALE FEMALE
3. DATE OF BIRTH ____ / ____ / ____
MONTH DAY YEAR
4. SOCIAL SECURITY NUMBER -- --
5. HOME ADDRESS _____
6. MISSION _____

II. EXPOSURE (RECORDED FROM POCKET DOSIMETER)

DATE	DIRECT-READING DOSIMETER SERIAL #	RANGE	DOSE (MR OR R)	
			DAILY	TOTAL

III. EXPOSURE (RECORDED FROM TLD)

DATE	TLD SERIAL NO.	DOSE (MR OR R)	
		DAILY	TOTAL

RADIATION WHOLE BODY EXPOSURE RECORD

Mission: _____
 Location: _____
 Exposure Date: _____

	Name (Print-Last, First, MI)	Social Security No.	Age (In Full Yrs.)	Dosimeter		Dosimeter Reading		Exposure (R/mR)
				Serial No.	Initial	Final		
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

EMERGENCY EXPOSURE AUTHORIZATION FORM

Employee _____

Social Security # _____

TLD Badge # _____

Present Accumulated Dose to Date _____

Increased Dose Limit

_____ (Rem) Whole Body

_____ (Rem) Skin

_____ (Rem) Thyroid

Approved: _____
Radiation Health Coordinator Date

Approved: _____
Director of Local Response Date

CAUTION

AUTHORIZE EXCESSIVE EXPOSURE AS FOLLOWS:

FOR LIFE SAVING ACTIVITIES WHERE THERE IS NO TIME FOR ADEQUATE PLANNING AND PROTECTION:

75 REM WHOLE BODY
NO LIMIT THYROID

FOR SUBSTANTIAL REDUCTION OF PUBLIC EXPOSURE WHERE THERE IS NO TIME FOR ADEQUATE PLANNING AND PROTECTION:

25 REM WHOLE BODY
125 REM THYROID

WORKBOOK NO. 9

RADIATION EXPOSURE CONTROL

SECTION III-A REVIEW

Name: _____

LERO Title: _____

Company Title: _____

1. Who is responsible for distributing dosimeters and maintaining exposure records?

2. Where will dosimeters be distributed?

1. _____

2. _____

3. Emergency workers will take what two forms with them when they leave to begin their tasks?

1. _____

2. _____

4. What three forms must the Record Keeper fill out for each worker who receives dosimetry?

1. _____

2. _____

3. _____

5. What form must be filled out if an emergency worker is expected to receive over 5 Rem?
6. Who must authorize all exposures above 5 Rem?
7. Each emergency worker must receive what three dosimeters?
1. _____
 2. _____
 3. _____
8. How often should direct-reading dosimeters be read by the emergency worker?
9. Under what three conditions should you contact your dispatcher or coordinator?
1. _____
 2. _____
 3. _____
10. If an emergency worker loses or breaks his/her dosimetry, he/she must report to the Dosimetry Record Keepers at the _____

ADMINISTRATION WORKBOOK

MODULE NO. 19

This module applies to:

- Support Services Coordinator
- Logistics Support Coordinator
- Administrative Support Personnel
- Material Purchasing Personnel

Your Name _____

LERO Title _____

Company Title _____

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Training Objectives	ii
Introduction	1
A. Overview	2
B. Administration Group	2
C. The LERO Participants	3
- The Logistics Support Coordinator	5
- Maintenance Coordinator	6
- Material Purchasing Staff	7
- Administrative Support Group	7
D. Notification of Administrative Personnel	11
<u>Attachments</u>	
1. Administrative Support Services	14
2. Emergency Caller Procedure #4 Material Processing	15
3. Emergency Caller Procedure #2 Administration Support #1	16
4. Emergency Caller Procedure #3 Administration Support #2	17

TRAINING OBJECTIVES

The objective of the Administration Workbook is to provide a detailed description of the roles that LERO administrative personnel will assume if an incident at the Shoreham Nuclear Power Station (SNPS) were to occur. At the completion of this workbook, the trainee will know:

- A. The LERO members who are part of this group
- B. Where these LERO members report during an emergency at SNPS
- C. When their responsibilities are carried out and who they are carried out for
- D. Where to gain support in carrying out these duties

INTRODUCTION

The LERO members who are part of the Administration Group will be responsible for carrying out administrative and logistical duties during an emergency at the Shoreham Nuclear Power Station. Administrative personnel will be assisting other LERO personnel at the Local EOC to provide typing and filing assistance, messenger service and the like, freeing them to focus attention on their assigned LERO responsibilities.

In addition to their clerical functions, the Administration Group will be actively involved in keeping logs and status boards up-to-date as the emergency response progresses. The Administration group must be flexible and their duties will be varied and change to meet the needs of personnel in the Local EOC.

A. OVERVIEW

Before any nuclear power plant goes into operation, emergency plans are developed to respond to any emergency arising at the station. In addition to assuring the safety of the public, emergency plans provide a planning basis which allows LERO members to respond quickly. Emergency plans also identify specific individual responsibilities within the overall emergency response organization.

To minimize distractions from their primary responsibilities, provisions have been made within LERO to include personnel that will assist the LERO staff members during an emergency by providing:

- Administrative and logistical functions
- Maintenance coordination for the Local EOC
- Items that must be purchased to support the emergency response activities

B. ADMINISTRATION GROUP

If an ALERT or higher class of emergency is declared at SNPS, it requires many LERO members to assemble at the Local EOC. These LERO members will perform many tasks, all of which will be necessary to respond to the emergency. There will be a great need for logistical support during and after the emergency.

What is logistical support? Simply stated, logistics are the details of an operation that must be performed to get a job done. This means that procurement, maintenance, and the administrative support necessary to assist in responding to a

SNPS emergency will be carried out by the Administration Group. As per Offsite Plan Implementing Procedure 2.1.1, Organization Implementation, the jobs mentioned such as typing, filing, log keeping, status board keeping, duplicating, purchasing, and securing materials or equipment and performing messenger duties will be responsibilities assigned to the LERO Administration Group.

The Logistics Support Coordinator heading this group will be assigning the administration personnel to perform these duties, as needed, at the EOC. For incidents with a long duration, adequate administrative support personnel have been identified to staff two 12-hour rotating shifts.

When notified, Administrative personnel shall use their own transportation to report to the Local EOC. As they report, members will be cleared through Local EOC Security and report to the Logistics Support Coordinator. The Logistics Support Coordinator, upon arrival, will report to the Support Services Coordinator, also located at the EOC.

As they report, Administration Group members will be assigned to work with other LERO personnel to perform administrative duties or they will be called upon to perform general duties as necessary. As you proceed through the remainder of this workbook, a more detailed explanation of each member's job is given.

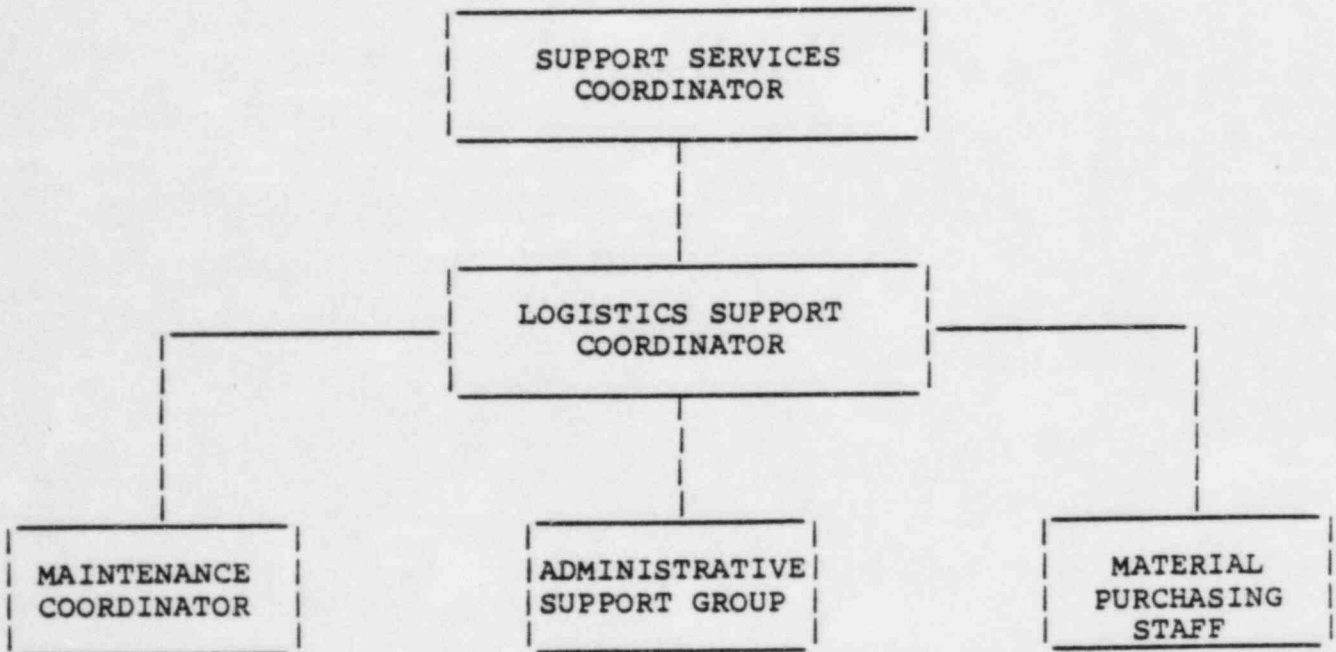
C. THE LERO PARTICIPANTS

The previous section described the types of duties that the various administrative personnel would be expected to perform. This section will describe, in detail, duties that are to be performed while administrative personnel are on duty at the EOC.

This workbook will deal with the duties of the:

- Logistics Support Coordinator
- Maintenance Coordinator
- Material Purchasing Staff
- Administrative Support Group

To get a better perspective of where these LERO members fit into their group, an organizational chart is presented below. Note that the Support Services Coordinator is not a member of this group, but has been shown on the chart to better explain the chain of command.



- Logistics Support Coordinator

The Logistics Support Coordinator will coordinate the administrative and logistical support for LERO at the Local EOC.

This coordination will be accomplished by directing the placement and utilization of the Administrative Group in the EOC. That is, LERO personnel at the EOC, when in need of administrative help, will be assigned personnel from this group to assist them. This could be in the areas of typing, filing, messenger service, status board keeping or log keeping. The Logistics Support Coordinator will coordinate these activities with the personnel to whom the Administration Group members are assigned .

The Logistics Support Coordinator will also confer with the Material Purchasing Staff to make himself aware of purchasing activities. As materials, equipment, and supplies are ordered for the LERO staff, the Logistics Support Coordinator will oversee the purchase of these items. He will make sure the LERO person/group ordering the item is contacted so arrangements are made in getting the items to them.

At the same time, the Logistics Support Coordinator will perform a similar function for maintenance that is needed at the Local EOC. If maintenance needs to be performed on any equipment or systems within the EOC, the Logistics Support Coordinator must make himself aware of the repairs. It should be noted that arrangements are in progress to have telephones at the Local EOC, serviced by a New York

Telephone Representative. He will monitor the progress of repairs. Also, keeping in contact with the Maintenance Coordinator will allow him to inform other personnel at the EOC of maintenance activities which may affect them.

Throughout the emergency, the Logistics Support Coordinator will provide status reports to the Support Service Coordinator on all of the activities he oversees. The Logistics Support Coordinator will maintain the necessary logs and documentation throughout his shift.

The Logistics Support Coordinator will report to the Local EOC for an Alert, Site Area, or General Emergency. He reports to the Support Services Coordinator.

- Maintenance Coordinator

The Maintenance Coordinator is responsible for seeing that repairs and maintenance are made in the Local EOC. This could be for lighting or electrical fixtures, plumbing, the computer system, etc.

The Maintenance Coordinator will arrange for any repairs to be made and keep bills and receipts resulting from the work done. He will arrange with Security at the EOC for incoming repair men to be cleared. During the entire process, he will keep the Logistics Support Coordinator up-to-date on all repair and maintenance work.

The Maintenance Coordinator reports to the Logistics Support Coordinator and will report for duty at the EOC during an Alert, Site Area, or General Emergency.

- Material Purchasing Staff

These people will be responsible for purchasing items or services needed by the LERO staff. Items to be purchased could range from clothes for emergency workers to paper and pens for the EOC, to renting vehicles to bring in supplies.

The purchasing or renting of items will include arranging for transportation of the items to the designated locations. Attachment 1, Administrative Support Services (from Section 3.11 - "Long Term Operations" - of the LERO Plan), shows a sample of various types of organizations where resources can be obtained.

Bills or receipts must be kept and filed. The Material Purchasing Staff will report to the Logistics Support Coordinator. They must keep him up-to-date on all purchasing activities.

The Material Purchasing Staff will report to the Local EOC when an Alert, Site Area Emergency, or General Emergency has been declared.

- Administrative Support Group

The Administrative Support Group will provide support to the LERO staff at the Local EOC. These people will provide such skills as typing, filing, duplicating, record keeping, messenger service, and status board keeping.

There will be many LERO members at the EOC. They will require assistance to keep logs of phone calls and messages, bills, receipts, forms, etc. Administrative Support Personnel may be individually assigned or assigned in groups to assist the other LERO members.

Any typing that is required at the EOC will be performed by the Administrative Support Group. Duplicating and distribution shall also be handled by this group under the direction of the Logistics Support Coordinator.

Members of the Administrative Support Group will report to the Local EOC when an Alert, Site Area Emergency, or General Emergency has been declared.

The notification of these LERO members will be discussed in a separate section, as not all members will report for the initial emergency response.

Summary

- Logistics Support Coordinator

- a. The Logistics Support Coordinator will supervise the activities of the Administration Group. This includes the Maintenance Coordinator, Material Purchasing Staff, and the Administrative Support Group.
- b. He will use information supplied to him by these people to keep the Support Services Coordinator up-to-date on these activities.

- c. The Logistics Support Coordinator must make himself aware of any maintenance activities being performed. Should these activities impact any other LERO members, he will make sure they are notified.
- d. He will confer with the Material Purchasing Staff to keep aware of their activities.
- e. The Logistics Support Coordinator will maintain necessary logs and documentation throughout his shift and shall assure that others do also.
- f. The Logistics Support Coordinator reports to the Local EOC if an Alert, Site Area Emergency, or General Emergency occurs.

- Maintenance Coordinator

- a. The Maintenance Coordinator sees that repairs and maintenance in the EOC are accomplished.
- b. He shall keep all bills and receipts for any work performed.
- c. He shall provide status reports to the Logistics Support Coordinator.
- d. The Maintenance Coordinator shall report to the EOC when an Alert, Site Area Emergency, or General Emergency occurs.

- Material Purchasing Staff

- a. These people are responsible for renting or buying goods and services for members of the LERO staff.
- b. The Purchasing Staff will purchase items as instructed by the Logistics Support Coordinator and maintain all bills and receipts.
- c. Transportation of items to their destination within LERO will be arranged by the Material Purchasing Staff. All bills and receipts will be filed.
- d. This group will report to the Local EOC when an Alert, Site Area Emergency, or General Emergency is declared.

- Administrative Support Groups

- a. This group will provide filing, typing, and duplicating services, and record and status board keeping to assist LERO members in the EOC.
- b. Members of the Administrative Support Group will be assigned to various LERO members in the Local EOC to assist them during the emergency or will be assigned duties as necessary.
- c. This group will report for duty at the Local EOC during an Alert, Site Area, or General Emergency.
- d. The Administration Support Group will report to the Logistics Support Coordinator.

D. NOTIFICATION OF ADMINISTRATIVE PERSONNEL

Notifying the members in the Administrative Group begins at an Alert class of emergency and is continued through a General Emergency. That is, Administrative personnel will be notified of an:

- Alert
- Site Area Emergency
- General Emergency

All contacted members will report to the Local EOC when notified of one of these emergencies.

These LERO personnel are notified of an emergency through a paging system or by telephone. If an Alert or higher emergency is declared, the Local EOC in Brentwood will be opened and the following people will be notified by the paging system.

- Logistics Support Coordinator
- One selected member of Material Purchasing
- Two selected Administrative Support Staff Members
- Maintenance Coordinator

The Logistics Support Coordinator and Maintenance Coordinator shall both go to the EOC for duty when paged.

The selected member of the Material Purchasing Staff and the two selected members of the Administrative Support Group will have additional responsibilities before reporting for duty.

Since all members of these two groups do not have pagers, the selected (paged) members are relied upon to notify the remaining number of personnel needed at the EOC.

An Emergency Caller Procedure has been set up for each selected member in Offsite Plan Implementing Procedure 3.3.2, Notification of Emergency Response Personnel. Attachments 2, 3, and 4 of this workbook are the procedures to be used in notifying group members. Once notification has been accomplished, the selected member will report to the EOC.

It should be noted that the selected Material Purchasing person notifying other Material Purchasing personnel is also required to notify the Sanitary Support Coordinator. This is shown on the Emergency Caller Procedure for Material Purchasing, Attachment 2 (from the Offsite Plan Implementing Procedure 3.3.2, Notification of Emergency Response Personnel).

The Administrative Support Staff has been broken into two groups for notification purposes; hence the need for two selected individuals to make notifications. One Administrative Support Caller shall notify seven individuals to report; the other shall notify six to report for duty (see Attachments 3 and 4) for initial notification purposes. These calling procedures are also from the Offsite Plan Implementing Procedure 3.3.2, Notification of Emergency Response Personnel.

Summary

- If an Alert, Site Area, or General Emergency is declared at SNPS, the Logistics Support Coordinator, Maintenance Coordinator, one predesignated member of the Material Purchasing Staff, and two predesignated members of the Administration Group will be paged.
- These LERC members shall be paged to be notified of an emergency.
- Members of the Material Purchasing Staff and members of the Administrative Support Group that are contacted and can report for duty will go to the Local EOC at an Alert, Site Area Emergency, or General Emergency. These particular members are notified by telephone.

ATTACHMENT 1

ADMINISTRATIVE SUPPORT SERVICES

RENT-A-CAR

- | | | |
|----|--|----------------|
| 1. | American International Rent-A-Car
Mac Arthur Airport
1630 Lakeland Avenue
Bohemia | (516) 981-1981 |
| 2. | Avis Rent-A-Car
Mac Arthur Airport
Bohemia | (516) 588-6633 |
| 3. | Hertz Rent-A-Car
Mac Arthur Airport
Ronkonkoma | (516) 585-9300 |
| 4. | Thrifty Rent-A-Car
3845 Veterans Memorial Highway
(1/2 Mile from Mac Arthur Airport) | (516) 981-3400 |

LIMOUSINE SERVICE

- | | | |
|----|--|----------------|
| 1. | L.I. Airport Limousine Service Corp.
25 Newton Place
Hauppauge | (516) 582-4077 |
| 2. | Winston Limousine Service Inc.
1650 Sycamore Avenue
Bohemia | (516) 567-0055 |

PORTABLE TOILETS

- | | | |
|----|---|----------------------------------|
| 1. | A & Z Toilet Rental
55 Walter Avenue
Hicksville | (516) 938-7979 |
| 2. | Sani-Lav
47 Allen Boulevard
Farmingdale | (516) 249-2440
(516) 420-0848 |

WATER & REFRIGERATOR RENTAL

- | | | |
|----|--|----------------|
| 1. | Great Bear Spring Co. Inc.
202 Miller Place
Hicksville | (516) 938-2500 |
| 2. | Cold Spring Water & Cooler Co.
115 S 2nd
Bayshore | (516) 242-0440 |

MODULE 19

ADMINISTRATION

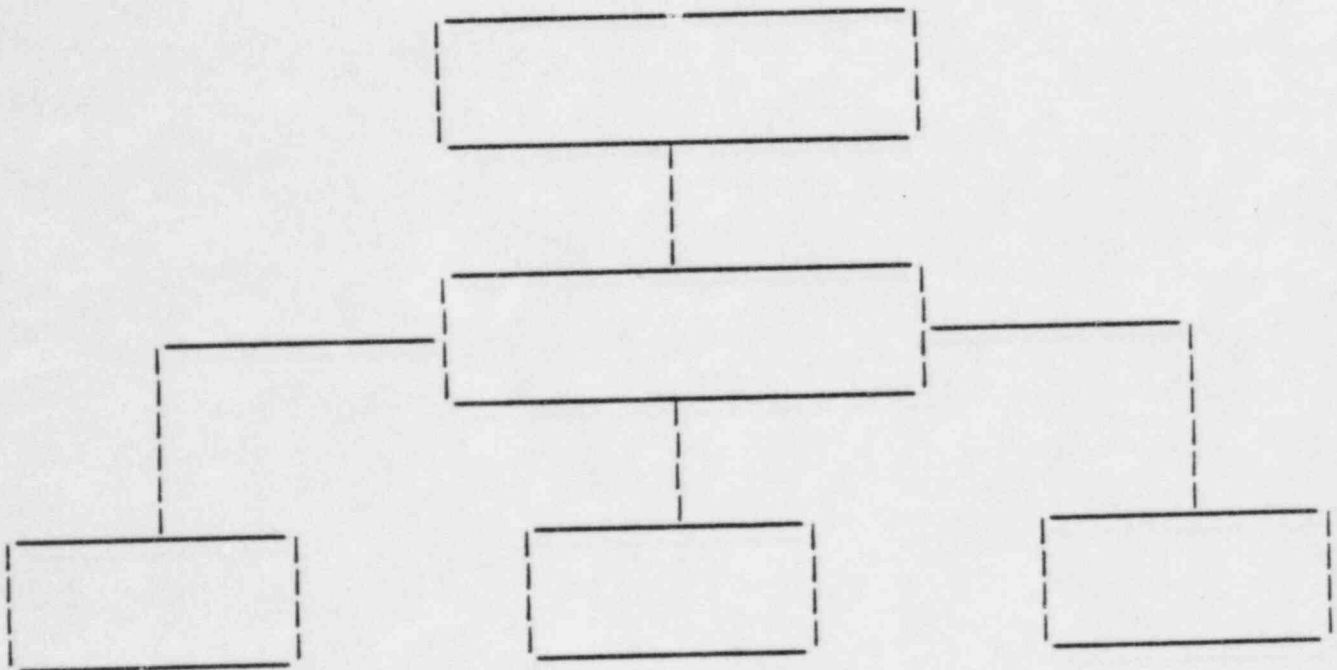
MODULE REVIEW

Name: _____

LERO Title: _____

Company Title: _____

1. Fill in the following organization chart as it applies to Administration - LERO personnel.



2. During what classes of emergency does the Logistics Support Coordinator report for duty?

3. Where does the Logistics Support Coordinator Report for duty?

4. Name four responsibilities of the Logistics Support Coordinator.

5. To whom does the Logistics Support Coordinator supply status reports?

6. At what facility does the Maintenance Coordinator see that maintenance and repairs are accomplished?

7. As a result of any repair work or maintenance performed, the Maintenance Coordinator will keep all _____ and _____.

8. The Maintenance Coordinator will supply the Support Services Coordinator with status reports.

True or False

9. What classes of emergencies does the Maintenance Coordinator report for duty at the EOC?

10. What are the main responsibilities of the Material Purchasing Staff?

11. The Material Purchasing Staff will maintain all _____ and _____ from any items or services purchased through the course of the emergency.

12. Arranging for transportation of items to their destination within LERO is the responsibility of the Material Purchasing Staff.

True or False

13. Members of the Material Purchasing Staff, when notified, report to the _____ upon declaration of an Alert, Site Area Emergency, or General Emergency.

14. To whom will the Administrative Support Group be assigned to work during an emergency?

15. Name four services the Administrative Support Group will provide at the EOC.

16. Where do members of the Administrative Support Group report to when they have been notified at the declaration of an Alert, Site Area Emergency, or General Emergency?

17. What members of the Administration Group will be paged if an Alert, Site Area Emergency, or General Emergency is declared?
