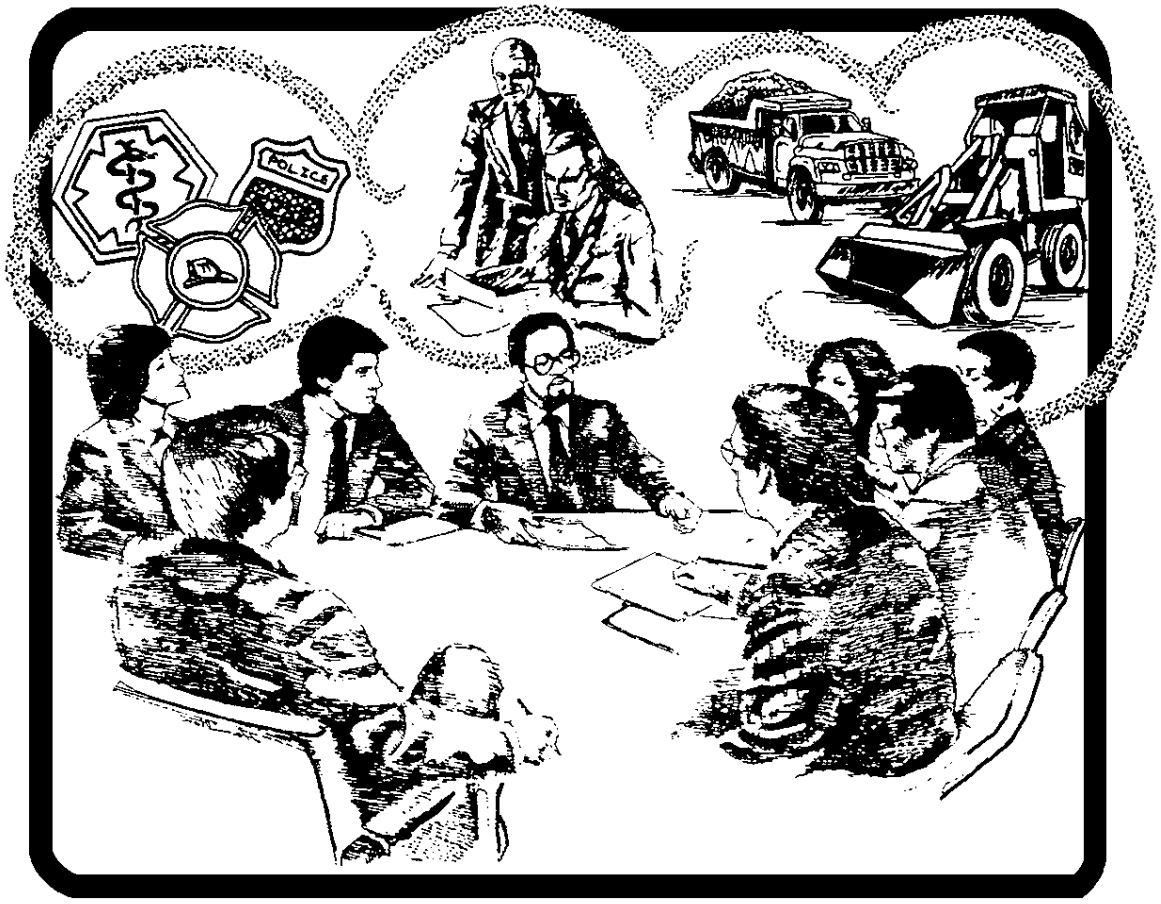
FEDERAL EMERGENCY MANAGEMENT AGENCY **SM 170.2/OCTOBER 1997**
REISSUE/JANUARY 1989

GUIDE TO EMERGENCY MANAGEMENT EXERCISES

Exercise Design Course: Supplement



FEDERAL EMERGENCY MANAGEMENT AGENCY
EMERGENCY MANAGEMENT INSTITUTE

Guide To

EMERGENCY MANAGEMENT EXERCISES

Table of Contents

LIST OF FIGURES AND DIAGRAMS

Page

INTRODUCTION

The purpose of this guide is to present the concept of a comprehensive emergency management exercise program. This guide is also designed to help state and local governments develop, conduct, evaluate, and follow-up exercises. Such activity has been shown to be a practical, efficient, and proven way to improve the individual abilities of emergency service personnel and the overall capability of emergency management systems.

The basic premise is that exercises must meet the unique needs of the sponsoring jurisdiction. Exercises should be tailored to fit the individual community or other level of government. This is true whether you conduct a "packaged" exercise provided by an independent source, or develop your own. In either case they must be responsive to your specific objectives and to your jurisdiction's hazards and emergency response capabilities.

The basic assumptions of this guide are that:

1. Exercises are fundamentally good, beneficial, and worth the effort.

2. Not all jurisdictions have equal emergency management capabilities; therefore, emergency management exercises must meet varying needs.

3. Emergency management exercises are not one-shot deals; they are part of a jurisdiction's commitment to improving the overall emergency management program.

4. An exercise development program begins with a single exercise, but is a progressive commitment to improvement throughout the future.

5. The goal of an exercise program is to give every jurisdiction the capability to conduct exercises involving all parts of an integrated emergency management system.

The guide is divided into six sections. The first section defines the overall exercise program in terms of definition, purpose, scope, and participation; This section also identifies the five elements of an exercise program -- orientation seminars, drills, tabletop exercises, functional exercises, and full-scale exercises. Each of these elements are discussed in terms of reason, scope, and requirements. The rationale behind the development of an exercise program is presented, and the cyclical relationship between the elements is discussed.

Each of the remaining five sections focus on a particular step in the development of a comprehensive exercise program:

Step 1: Establishing the Base
Step 2: Exercise Development
Step 3: Exercise Conduct
Step 4: Exercise Evaluation and Critique
Step 5: Exercise Follow-up

Each of these five steps are presented with sufficient materials to enable you to develop, conduct, evaluate, and follow-up exercise within your own jurisdiction, hopefully within the context of a comprehensive exercise program.

DEFINING AN EXERCISE PROGRAM

Definitions

Before we begin to develop exercises, it is important that you understand that exercises are only a part of an overall exercise plan. There are several definitions that should be clearly stated.

Exercise

An activity designed to promote emergency preparedness; test or evaluate emergency operations plans, procedures or facilities; train personnel in emergency management duties; and demonstrate operational capability.

Exercises consist of the performance of duties, tasks or operations very similar to the way they would be performed in a real emergency. However, the exercise performance is in response to a simulated event. Therefore, they require input to emergency personnel that motivates a realistic action.

Testing

That specific function (when associated with an exercise or drill) which is designed to measure actual readiness capability of procedures, personnel, facilities, or equipment against required capabilities described in emergency operations plans.

Simulation

A tool to create the perception of a situation, event, or environment which will evoke responses similar to those that a real emergency would prompt.

Simulation attempts to approximate reality by using symbols, maps, drawings, scripts, or, in more elaborate exercises, film, videotapes, or computer graphics. The key to good simulation is the perception of realism by the individual or group being exercised.

PURPOSES OF AN EXERCISE PROGRAM

There are two kinds of outcomes of an exercise program. The first kind is individual training. Simply put, people practice their roles and get better at them. The exercise is a learning experience for individuals.

Second, there is an equally, if not more important result of exercising: improving the emergency management system in the jurisdiction.

This improvement does not come from conducting the exercise alone. It requires participants in the exercise to identify how things went, and to develop a list of RECOMMENDATIONS for improving of the emergency management system in the jurisdiction. This list of recommendations is, perhaps, the most valuable outcome of the exercise and can be an important input to the jurisdiction's multi-year development plan.

The fundamental PURPOSE of an exercise program is to improve operational readiness. In support of that goal, exercises can:

- Reveal planning weaknesses
- Reveal resource gaps
- Improve coordination
- Clarify roles and responsibilities
- Improve individual performance
- Gain public recognition of the emergency management program
- Motivate public officials to support the emergency program
- Build the confidence of emergency professionals
- Develop proficiency and confidence in participants
- Test plans and systems in "live" situations
- Enhance community capabilities for emergency management
- Foster cooperation among government agencies and private sector resources
- Increase general awareness of proficiencies and needs
- Help formulate public policy on community readiness posture
- Satisfy specific requirements of certain program areas (Radiological Emergency Preparedness, Radiological Defense and Emergency Operating Centers)
- Demonstrate utilization of the Emergency Management process, (the use of Emergency Management resources, the need for centralized operations, etc.)
- Increase state-local emergency management relationship

SCOPE OF AN EXERCISE PROGRAM

Any emergency action would benefit from a practice session. However, in this guide, we focus on developing operational capabilities in the functional areas defined by FEMA's Integrated Emergency Management System as common to all types of disasters and emergencies. The exercise development program promoted in this guide will lead to the exercising of the FEMA standards that are described in Civil Preparedness Guides 1-35 (local) and 1-36 (State). Check the current version of that guide for the most up-to-date statement of functions, standards, and criteria.

Exercising is the principal method of testing and validating a jurisdiction's capability to implement its emergency plan and perform in the functional standards set by FEMA. An exercise program will practice and test the FEMA standards periodically, either one at a time or collectively, depending on the nature of the exercise.

PARTICIPATION IN AN EXERCISE PROGRAM

Participation raises four considerations: Getting the chief executive involved, getting a team involved in exercise development, finding the most effective role for the emergency manager, and getting the departments and agencies involved as players.

Chief Executive

The most important component of participation in an exercise is the full support of the chief executive. Even if the chief executive does not play in the exercise, his or her authority and support are essential.

Many complex components go into making an exercise successful, but without the support of the chief executive of the jurisdiction, your exercise will be a long hard battle. Whether elected or appointed, the chief executive can get nearly instant and complete cooperation. Without that, putting on an exercise involving departments and agencies over which you personally have no authority can be very difficult.

So, plan well, work hard, and prepare the exercise creatively and thoroughly. But first get the support of the chief executive!

A Development Team

The staff numbers for, and of exercise development, vary as widely as do exercises themselves. Large jurisdictions may have personnel to assign to exercise development, while smaller jurisdictions may have only one person responsible for the exercise.

Whatever the formally assigned staff, following one principle seems to improve the exercise: USE A TEAM APPROACH.

In exercises that use previously prepared scenario materials, development time and effort will be less than in exercises developed by the jurisdiction. A smaller team can adapt the prepared exercises, but a team approach should still be used.

In jurisdictions choosing to develop exercises, an exercise development team might be officially assigned by the chief executive to put on the exercise. More likely, a couple of staff members will be responsible for developing the exercise and they will use the skills and expertise of other departments and agencies in planning the exercise. Consideration should be given to exercise assistance in the form of pre-exercise drills and scenario development, exercise control and critique from state emergency managers, or from local emergency program managers in adjacent communities. All these suggestions serve to draw on available expertise to make the exercise realistic. That is the purpose of a team approach.

The Emergency Manager

There is little question that the emergency manager should be a player in the exercise.

The question then is, who is going to plan and develop the exercise?

In jurisdictions where staffing permits, the emergency manager can assign personnel to develop and conduct the exercise and then leave them alone. The emergency manager should have the same information as other department heads participating, but no more.

In jurisdictions where the emergency manager is the entire staff, he or she will have to play a dual role. First, as motivator of exercise development, the manager can try to get supporting staff assigned from another agency. Even if that succeeds, however, the manager will be responsible for the development of the exercise.

Second, although he or she is familiar with the exercise, the manager in a small jurisdiction is also a player. The emergency manager's role lends itself to partial participation in the exercise. Although familiar with the flow of the exercise, the manager can negotiate and coordinate, can provide decision support of the chief executive, and can approve resource allocation without damaging the realistic atmosphere of the exercise.

Departments and Agencies

Each jurisdiction will determine what agencies and organizations participate in each exercise. The participants may range from exclusively government agencies to the inclusion of voluntary organizations and business and industry. In general, the most effective exercises will include all the participants who would have responsibilities in a real emergency.

For example, exercising the communication function would probably include government communications systems and personnel, amateur radio operators, and any commercial or industrial communication systems that might be called upon. The

evacuation function might include private voluntary agencies that provide shelter, warning agencies, transportation companies, etc. In short, an effective exercise will have to include all of the organizations and personnel who would respond in a real emergency operation, as either participants or simulated inputs.

FIVE ELEMENTS OF AN EXERCISE PROGRAM

Before you can begin to exercise, you must understand the relationship of certain elements to the entire program. This guide presents five elements of an exercise program -- only three of which are actually considered exercises.

Let's begin with the first element, the orientation seminar. The orientation seminar is characterized by low stress, little attention to real time, lower level of preparatory effort, and only rough attempts to simulate reality. The focus is on training and familiarization with roles, procedures, responsibilities, and personalities in the jurisdiction's emergency management system. They are usually informal, in a conference room environment, and designed to elicit constructive discussion by the participants as they attempt to examine the jurisdiction's emergency management policy, and then resolve problems based on existing emergency operations plans. The general purpose is for participants to evaluate plans and procedures and to resolve questions of coordination and assignment of responsibilities in a non-threatening format and under minimum stress.

The second element, drills, are characterized by activity that tests, develops, or maintains skills in a single emergency response procedure. The focus is limited, and drills are considered as part of necessary ongoing training.

These two elements, in their normal format, do not satisfy FEMA program office requirements for exercise. However, they are important preparatory efforts for the next three exercise program elements -- tabletop, functional, and full-scale exercises.

The third element of an exercise program is the tabletop exercise. The tabletop presents a simulated emergency situation, and is intended to evaluate plans and procedures, and to resolve questions of coordination and assignments of responsibility. Tabletop exercises are not concerned with time pressures, stress, or actual simulation of specific events.

The fourth element, functional exercises, are intended to test or evaluate the capability of an individual function, or complex activity with a function. It is only applicable where the activity or function can be effectively evaluated in isolation from other emergency

management activity. An example would be an exercise of the Direction and Control function. In this example you could test and evaluate the centralized emergency operations capability and timely response of one or more units of government under a stress environment. It would be centered in an EOC, or interim EOC, and simulate the use of outside activity and resource.

In contrast to this, the fifth element or full-scale exercise is intended to evaluate the operational capability of emergency management systems in an interactive manner over a substantial period of time. It involves the testing of a major portion of the basic elements existing within emergency operations, plans, and organizations in a stressful environment.

In the sections below, each of the five elements of an exercise program all described in three contexts: the "reasons" for conducting that type of exercise, the "scope" of participation required, and the "requirements" for effective conduct.

Orientation Seminars

The orientation seminar is exactly what the name implies: an orientation to a plan, procedure, organization, or idea. The seminar is relatively easy to conduct and serves the dual purpose of familiarization and motivation. The orientation seminar involves bringing together those with a role or interest in a plan, problem, or procedure. The variety of methods available to conduct the orientation include lecture, film, slides or other visuals, and panel discussion.

Uses made of the orientation seminar generally focus on something new, as illustrated in the following checklist of reasons for an orientation seminar.

Reasons for Orientation Seminars

- No previous exercise of an emergency agency or function
- New plan, SOP, annex, or appendices
- New staff or leadership

Scope

- Hazard: High profile
- Agencies: All that have an emergency management role
- Number of Participants: One or two for each function or service (police, fire, communications, warning, etc.)
- Personnel Involved: Management, policy, coordination, operations staff
- Types of Actions: Walk through, role identification, negotiation
- Degree of Realism: None

Requirements

- Exercise Experience: None
- Staff Preparation: Minimal
- Preparation Time: Two weeks
- Skills: Leadership planning
- Materials: Paper plan
- Stimulus: Lecturer/Facilitator
- Physical Facilities: Sizable conference room
- Communication Facilities: None
- Support: Chief executive officer, all service chiefs, key operations staff

Drills

A drill is an activity that tests, develops, or maintains skills in a single emergency response procedure (communication drills, fire drills, command post drills, etc.) A drill usually involves actual field response, activation of emergency communications networks, and equipment and apparatus that would be used in a real emergency. The effectiveness of a drill is its focus on a single, or relatively limited, portion of the overall emergency management system in order to evaluate and improve it.

Reasons for Drills

- Tests single emergency response function
- Involves actual field response
- Enables agency to practice/test single procedure or function under realistic conditions

Scope

- Hazard: Any that highlight procedure being tested
- Agencies: All emergency management personnel/agencies
- Number of Participants: Depends on procedure/function being tested
- Personnel Involved: Coordination, operations, and response personnel
- Types of Actions: Actual simulated response, decision-making, resource allocation
- Degree of Realism: Live transmission of simulated messages

Requirements

- Exercise Experience: Orientation
- Staff Preparation: Some experience, understanding of the function of agency being tested
- Preparation Time: One month

- Skills: Good understanding of single component being tested
- Materials: SOP's, functional annex being tested
- Stimulus: Actual message being transmitted plus written
- Physical Facilities: Field scene or EOC
- Communication Facilities: Radio, phone, other if appropriate
- Support: Involvement of agency or function being tested

Tabletop Exercises

A tabletop exercise is an activity in which elected and appointed officials and key agency staff are presented with simulated emergency situations without time constraints. It is usually informal, in a conference room environment, and designed to elicit constructive discussion by the participants as they attempt to examine and then resolve problems based on existing emergency operations plans. The purpose is for participants to evaluate plans and procedures and to resolve questions of coordination and assignment of responsibilities in a nonthreatening format with minimum stress.

The tabletop, in its simplest form, begins with a simulated event that is usually described in a narrative with optional accompanying maps, charts, etc. The purpose of these materials is to create for the players an emergency management "scene" to which they will respond. Response is made to a set of problems related to the emergency scene. Discussion takes place among the participants to solve the problems presented using the resources available to them. The tabletop exercise is a deliberate attempt to examine basic emergency management planning and resource allocation problems without concern for time pressures, stress, or actual simulation of specific events. Individuals are encouraged to discuss decisions in depth and the emphasis is on slow-paced problem solving rather than rapid, spontaneous decision-making.

A more sophisticated form of the tabletop exercise still requires the preparation of a narrative description of an event; however, messages distributed to the players provide the actual stimulus for responses. In this way, the tabletop can assume two components of the higher level exercises. First, messages can be given to individuals or to small groups for decisions. This contrasts with the more basic approach where the entire assembled group collectively resolves problems. Second, messages can be given simultaneously. This raises the need for coordination among individuals or groups, thus increasing the realism of the exercise.

Even with this increased dimension of realism through messages, the tabletop exercise strives to keep levels of stress and frustration low. There is no time schedule for sending messages; when a decision is made or action taken, the next message is given. Similarly, there is no rigid schedule for the entire exercise. If a problem arises, the controller can stop the exercise to straighten it out. If a message is particularly perplexing, it can be discussed by the whole group.

Reasons for Tabletop Exercise

- New plan, SOP, annex, or appendices
- New key staff or chief executive
- Practice problem solving as a group
- Increase familiarity of chief executive with staff techniques
- Gain experience in staff interpersonal relations
- Staff role coordination
- Examine a specific case or problem that presents a risk to the jurisdiction
- Evaluate the validity of a plan or annex
- Familiarize agencies with their roles and possible role conflicts
- Examine manpower allocation contingencies
- New, potentially hazardous facility operations
- New industrial risk perceived
- New mutual aid agreement with other jurisdictions
- For more advanced tabletops:
  - -- Familiarize players with more sophisticated techniques of exercising
  - -- Test individual or group message interpretation
  - -- Test message handling procedures
  - -- Observe information sharing
  - -- Assess interagency coordination capabilities
  - -- Highlight the importance of the coordination function
  - -- Train individuals or groups in negotiation and resource allocation

Scope

- Hazards: Any priority
- Agencies: All agencies with a policy, planning, or response role
- Number of Participants: One or two for each emergency function
- Personnel Involved: Policy/coordination/operations managers
- Types of Actions: Problem solving, brainstorming, resource allocation decision-making, task coordination
- Degree of Realism: Situation set up by a scenario narrative (low key messages)

Requirements

- Exercise Experience: None
- Staff Preparation: Minimal
- Preparation Time: One month
- Skills: Leading group discussion, materials development
- Materials: Situation narrative and problems
- Stimulus: Problems, written/oral messages
- Physical Facilities: General purpose room, conference table
- Communications Facilities: None
- Support: Chief executive and key service chiefs

Functional Exercises

A functional exercise is an activity designed to test or evaluate the capability of an individual function, or complex activity within a function. It is applicable where the activity is capable of being effectively evaluated in isolation from other emergency management activity.

The functional exercise is one of the goals of an emergency management exercise program. These exercises are fully simulated, using messages that can be either written, or transmitted by telephone or radio, or both. The functional exercise creates stress by increasing the frequency of messages, intensity of activity, the complexity of decisions, and/or the requirements for coordination.

The problems the messages/directives evoke are complex and realistic. Responses must be rapid and effective. In short, the functional exercise simulates the reality of operations in any functional area to the maximum degree.

The functional exercise takes more preparation time than the tabletop, may require a significant allocation of resources, and a major commitment from the service chief having responsibility for the function(s) involved.

Reasons for Functional Exercises

- Evaluation of any function or complex activity
- Observe (in the D&C function), the physical capabilities of the EOC or command center
- Reinforce established policies and procedures
- Help with hospital accreditation
- Test deployment of seldom used resources
- Evaluate resource adequacy

Scope

- Hazards: Any that highlight function
- Agencies: Active and involved
- Number of Participants: Few to several disparate multi-agency
- Type of Actions: Decision-making, coordination, communications
- Degree of Realism: Intense, fully simulated message

Requirements

- Exercise experience: Completion of progressively complex series
- Preparation staff: Team with considerable experience and functional expertise
- Preparation Time: Three months (variable by function)
- Skills: Promotion, logistics, simulation
- Materials: Messages written; simulated transmission
- Physical Facilities: Appropriate exercise environment, simulation facilities
- Communications Facilities: Telephone and selected radio
- Support: Key service chief(s) and/or department head(s)

Full-Scale Exercises

A full-scale exercise is intended to evaluate the operational capability of emergency management systems in an interactive manner over a substantial period of time. It involves the testing of a major portion of the basic elements existing within emergency operations plans and organizations in a stress environment. This type of exercise includes the mobilization of personnel and resources and the actual movement of emergency workers, equipment, and resources required to demonstrate coordination and response capability.

Full-scale exercises add an integration and coordination component to the functional exercise. They do not substitute for simulation, rather they complement it. Events and messages are complex and detailed. Many are prescripted and scheduled while others may be input dynamically by controllers in response to the flow of the exercise.

Full-scale exercises greatly expand the scope and visibility of the exercise program. As a result, a full-scale exercise done well can result in substantial improvement in public attention and credibility. At the same time, a poorly conducted exercise can jeopardize the credibility of the emergency management program. Full-scale exercises should be the culmination of an exercise development program that has grown with the capacity of the jurisdiction to conduct exercises in an ongoing cycle of progressively more in-depth evaluation.

Reasons for Full-Scale Exercises

- Build a positive relationship with an emergency service director
- Draw media and community attention to emergency management
- Coordination of information
- Test communications
- Evaluate interagency cooperation
- Practice negotiation
- Resource and manpower allocation
- Test message handling

Scope

- Hazards: Highest priority
- Agencies: Active and involved
- Number of Participants: Few to several disparate functions
- Personnel Involved: Policy, coordination, operations
- Types of Actions: Direction and control, field operations, field command posts, coordination, negotiation
- Degree of Realism: Intense, live transmission of simulated messages

Requirements

- Exercise Experience: Functional exercises and multiple drills
- Preparation Staff: Functional, tabletop and drill experience
- Preparation Time: Over three months
- Skills: MSEL writing, simulation development
- Stimulus: Messages, actual transmission and written
- Physical Facilities: EOC, field locations, simulation room
- Communications Facilities: Radio, telephone
- Support: Chief executive, key service chiefs and media

AN EXERCISE CYCLE

As you have seen in the previous section, there are five elements of an exercise program. Of those five, orientation seminars are considered a foundation necessary to lay the groundwork for future emergency management exercise efforts. Similarly, drills are also important in contributing to the success of exercises.

An exercise development program is based on the premise that you must crawl before you can walk, or walk before you can run. The surest route to failure is to take on an actual exercise before you are ready. The last three program elements -- tabletop, functional, and full-scale exercises -- are designed with progressive complexity. Each one requires more preparation time, more personnel, and more planning than the preceding exercise. Each one also uses more sophisticated simulation techniques to increase the realism of the exercise.

An exercise development program, therefore, is a commitment to progressively more challenging exercises over a period of time. This form of long-range planning for exercises helps bolster the essential parts of an emergency management program:

- Commitment of officials
- Familiarity with techniques
- Motivation among personnel
- Operating skills
- Confidence in results
- Positive anticipation of the next exercise

In parallel with the development of the exercise program itself, there is overall preparedness which revolves around planning, resource identification, training, exercising, evaluation, upgrading plans, etc.

Developing an exercise program involves the same skills and tasks as planning other parts of your emergency program. It involves selecting some long-range goals for the program and sticking to them throughout a cycle of exercises. You can certainly benefit from any exercise, but you will benefit most from a series of exercises that move your jurisdiction closer to an established goal.

There are certainly many ways you could go about achieving this goal, and an exercise development program is critical in any system. Take a look at the following table. The time period is merely suggestive. You may be able to speed it up -- but don't try to skip any steps.

AN EXERCISE DEVELOPMENT PROGRAM SCHEDULE			
EXERCISE TYPE	PURPOSE	PARTICIPANTS	SCHEDULE
Orientation	Review plans and procedures with Mental Health	Emergency Management Staff, Mental Health Association	1st month
Orientation	Communications	Emergency Management Staff, RACES, Hams, etc.	2nd month
Tabletop	Problems faced in flood, evacuation and sheltering	Emergency Management Staff, Mental Health, Shelter Managers, RACES, Hams, etc.	4th month
Orientation	Increased church group involvement and awareness	Emergency Management Staff, Clergy, Laymen	5th month
Drill	Communications	RACES, Hams, etc.	7th month
Tabletop	Media roles in promoting/controlling voluntary participation	Emergency Management Staff, Media Representatives, Clergy, Mental Health Association	8th month
Tabletop	Volunteer help in a slow-building flood	Emergency Management Staff, Clergy, Mental Health, Shelter Managers, RACES, Hams, Media Representatives	12th month
Functional	Problems in evacuation manpower allocation	Emergency Management Staff, Fire, Police	15th month
Full Scale	Evacuation, shelter, and relocation in a spring river flood	Emergency Management Staff, Fire, Police, Mental Health, Shelter Managers, RACES, Hams, Clergy, Media, etc. State Emergency Office	18th month

In the first month, an orientation seminar is held with the mental health workers. Later, the volunteer communicators have an orientation seminar. Then, mental health workers and radio operators are combined in a tabletop exercise.

Clergy are given an orientation in the fifth month in anticipation of bringing them together with the media and mental health association in a later tabletop of volunteer control and enlistment, a key problem uncovered in this jurisdiction.

In the seventh month, communications are tested in a drill. Participants include RACES and Ham operators, and other communications personnel.

At this point, the least familiar personnel have had at least two orientation experiences, all in anticipation of a twelfth-month tabletop involving all concerned in volunteer help in a flood.

Missing at the twelfth-month tabletop were the emergency services themselves, police and fire. Their needs are not for orientation or close involvement in managing volunteers. Their needs are for a refresher on evacuation procedures and manpower allocation. A 15th-month functional exercise brings familiarity with flood evacuation.

All this has been building to the 18th-month full-scale exercise. The full-scale is the culmination of this part of exercise development. Everyone plays. The volunteers, who a year before would have been lost and without direction, are now practiced in their roles. They fall right in beside the skilled (and recently re-familiarized) police and fire. Everyone knows his or her job and does it effectively. Volunteers have become an integral part of the evacuation, shelter, and relocation of people during a simulated spring river flood. One phase of the jurisdiction's emergency management program works effectively in the only realistic test of its operations available --short of a real flood. When it comes, they will be ready.

If your jurisdiction can say the same thing about its emergency management system, then your program, too, is on its way to success.

When you have arrived at the capacity to design and conduct a functional and full-scale exercise, you do not abandon the less taxing orientation seminars, drills, and tabletop exercises. They become part of an ever expanding exercise program, broadening the number of functions that may be tested and the number of agencies, and even jurisdictions, that may participate.

The shorter orientation seminars and tabletop exercise are designed to identify policy issues of problems that should be resolved prior to conducting functional exercises. These

training and problem-solving efforts should be conducted by agencies as soon as a plan is completed or modified. They focus on specific problems. For example, receiving and caring for evacuees or movement of people out of a hazard area. Depending on the number of agencies involved and the pace of the planning effort, this series of single jurisdiction efforts may occur over a period of several months or a period of one or more years.

As capabilities expand, problems of multi-jurisdictional concern can be added and discussion or tabletop exercises should be conducted involving representatives of all jurisdictions involved. This multi-jurisdictional exercise will focus on problems and issues of interjurisdictional coordination and decision-making. The results of these exercises should be used to modify and improve the plan.

Next in the sequence of exercises are the more realistic functional exercises conducted after the series of training and problem-solving exercises described above is completed. Each jurisdiction should conduct a series of functional exercises in which all other jurisdictions are stimulated. There may be a series of single-jurisdiction exercises spread over several months. Each jurisdiction would focus on the implementation of the plan for its own special functional problem areas.

Finally, following the series of single-jurisdiction functional exercises, all jurisdictions in the region that might have to work together in a disaster should participate in an all-day multijurisdictional exercise. The focus of this exercise would be on interjurisdictional coordination in the implementation of functional plans. The results of the single-jurisdictional exercises may be used to develop inputs for the multijurisdictional exercise. Plans should be revised and improved based on the evaluation of the exercises.

After the initial series of functional exercises, the jurisdictions may proceed to conduct full-scale exercises. The decision to conduct such exercises will depend on personnel availability and the need for a movement of personnel and equipment to more thoroughly test the plan.

It is expected that the sequence of exercises described above would begin immediately after completion of a jurisdiction's plan. It may be appropriate for jurisdictions whose plan was previously developed and exercised to begin at another point in the sequence. Of course, other factors such as exercise experience, personnel availability, and funding, will also enter into the decision regarding the type of exercise to conduct. If a crisis should develop that might lead to implementation of the plans, exercising would be an effective means of improving operational readiness during the crisis period.

Throughout this period of progressively more complex exercises, orientation seminars, drills, and tabletop exercises are used to enhance the understanding and broaden the participation of the emergency community. When a functional exercise results in a changed plan, that change should become the subject of the orientation seminars, drills, or tabletop exercises. These are far less costly in money and time, and will result in greater understanding of the changed plan -- long before its testing in a more complex exercise.

An exercise development program leading to a long-range exercise planning cycle is the mark of a growing and improving emergency program. Not only is the program becoming more effective, but the conduct of exercises also will become more efficient. As a result, the jurisdiction will be able to develop more complex exercises with greater ease -- all the while building a stronger emergency management program.

STEP 1: ESTABLISHING THE BASE

Before you launch an exercise, groundwork must be laid to make certain that the exercise you select is appropriate for your community.

Getting ready to exercise involves several tasks. They need not take you a long period of time, and they can be done largely at your desk or with the help of a couple of other people. But they are as important to the success of the exercise as anything else suggested in this guide. To establish a firm and consistent base for your exercise, you will need to:

A. Review the current emergency plan
B. Conduct a needs assessment
C. Assess your capability to conduct an exercise
D. Define the exercise scope
E. Select an exercise type
F. Address costs and liabilities
G. Develop a statement of purpose
H. Announce the exercise -- the directive

Each of these tasks are described in the following sections.

A. REVIEWING THE CURRENT EMERGENCY PLAN

The emergency plan for your jurisdiction is the starting point for any exercise.

Exercises are designed to motivate personnel to think or act very similarly to how they would in a real event. Because the emergency plan is a description of what personnel in government should do in the event of an emergency, it is the place to begin to discover what and how you should be exercising. While the exercise tests performance, it is the plan that describes the ideal performance: What resources, personnel, and procedures will be used to resolve problems created by an emergency? To design an exercise that simulates a real emergency, you must know what responses are planned. Exercises are built upon the emergency plan.

The review of the emergency plan is one of a series of steps that you will take in developing an exercise. Whether you use a prepared scenario or design your own, the objectives, events, participants, and evaluation will all develop your emergency plan review.

Doing this assessment will help you select an exercise and objectives that will contribute most to improving the emergency management program. It will help you best define the purpose of the exercise in order to obtain the support of the jurisdiction's chief executive.

Conducting this assessment is not difficult or time-consuming, but it can help you get started with an exercise especially if you have never conducted one before. This is designed to be a desktop assessment. It is up to you whether you seek more detailed information from others.

The assessment suggested here should be adapted to your own needs. It is generally designed to help you uncover the most important component of selecting an exercise: the REASONS for exercising. Examine the assessment tool suggested on page 26. Use it, or the one included in the appendix, to analyze your community. In the following section you will use the information you provide to help define the proper scope of an exercise for your community. Then you will see how your definition of need for exercising will relate to your capability to develop an exercise in order to help you select the most appropriate exercise for your jurisdiction.

B. CONDUCTING A NEEDS ASSESSMENT

The reasons for doing an exercise are extremely important in selecting both the type of exercise and the specific objectives.

The table on the following page shows one way to assess the reasons you have for exercising. The facilities, personnel, plans, and activities listed in the lefthand column are suggestive of the many components of the jurisdiction's emergency system that can be exercised. You can delete these or add others as they fit your jurisdiction. Across the top are five categories to consider when reviewing the components. You might try a checkmark if any or all of the five categories are appropriate, or, a date can be useful.

The purpose of completing this table is to identify the components of the emergency management system that are the highest priority candidates for exercising. The table helps you check the status of emergency components against two important reasons for exercise: newness and insufficient use.

THE NEED FOR EXERCISES

Mark the status of your emergency program in these and other areas to identify those most in need of exercising.

	New	Updated	Exercised	Used in Emergency	N/A
Emergency Operations Plan					
Plan Annex(es)					
Appendices					
Standard Operating Procedures					
Resource List (Jurisdiction-owned)					
Maps, displays					
Reporting Requirements					
Notification Procedures					
Mutual Aid Pacts					
Policy-Making Officials					
Coordination Personnel					
Operations Staff					
Voluntary Organizations					
EOC/Command Center					
Communication Facility					
Warning Systems					
Utility Disaster Preparedness					
Industrial Disaster Preparedness					
Damage Assessment Techniques					

C. ASSESSING YOUR CAPABILITY TO CONDUCT AN EXERCISE

Another important part of choosing an exercise is whether you have the skills, resources, manpower, and support to conduct an exercise. Among the types of exercises, the requirements vary widely as you will see in their descriptions.

The questions below concern the important requirements that exercises have. There are sure to be others, but these at least point out the level of effort and other requirements placed on the locality that begins an emergency management exercise program.

SUGGESTED QUESTIONS ABOUT CAPABILITY TO CONDUCT AN EXERCISE

1. What and when was your organization's last exercise? _____

   _____

2. What exercise experience is available in your community?
   Yourself _____

   _____

   Staff _____

   _____

   _____

3. How much preparation time can you reasonably expect to have allocated to developing an exercise?
   Actual person days_____ Elapsed time to exercise _____

4. What manpower can you reasonably expect to have devoted to developing an exercise? List their names and person days available.
   Own staff _____

   Other agencies _____

   Volunteers _____

   State Emergency Office_____

5. What skills can that manpower provide? List names of staff providing the skills.

[ ] Planning _____, _____, _____
[ ] Logistics _____, _____, _____
[ ] Promotion _____, _____, _____
[ ] Materials _____, _____, _____
[ ] Scenarios _____, _____, _____
[ ] Other _____, _____, _____
[ ] _____, _____, _____

6. What physical facilities do you use when you conduct an emergency operation? Note whether they would be available for the exercise.

_____
_____
_____

7. What communication facilities and systems do you use in a real emergency? Note whether they would be available for the exercise.

_____
_____
_____

8. What are the expected attitudes of the chief executive and emergency service directors toward the exercise?

Chief Executive _____
Emergency Service Directors_____
_____

D. DEFINING THE EXERCISE SCOPE

Defining the SCOPE of the exercise involves analyzing six conditions relating to your community and your emergency program. These six conditions are:

- Operations
- Agencies involved
- Personnel
- Hazard
- Geographical area
- Degree of realism

Operations involve the type of behaviors you plan for the players. Are you testing notification, communication, resource allocation, plan user competency, or what?

The importance of defining the operations should be readily recognized. You cannot very well have operations that include triage in an orientation seminar, for example.

The agencies involved are those that you might expect would become involved in performing the actions you want exercised.

The personnel are those you want present at the exercise. Selecting an exercise type has helped you identify what combination of policy coordination or operations people you want as players.

The hazard involves selecting a high priority problem. (Meeting CCA Guidelines also may be a consideration when selecting a hazard.)

The geographical area involves a logical place where that hazard could strike. Later in this guide you will see how maps are useful exercise material.

Degree of realism refers to the amount of stress, complexity, and time pressures you want in the exercise. As you will see later, exercises vary in the amount of realism they provide in simulation, from none to very realistic. You will have to decide how realistic you want to make the exercise early in the planning.

In defining scope, you are laying the basis for the exercise. This definition of exercise scope can be a desktop analysis. The following list of information is provided as a tool to help you assess the scope of the exercise you have in mind.

SUGGESTED QUESTIONS TO DEFINE THE SCOPE OF THE EXERCISE

1. Using CPG 1-35, identify the highest priority natural, man-made or attack hazards in your community.

   _____ _____ _____ _____

2. Identify the geographical areas or subdivisions most vulnerable to these high priority emergencies.

   _____ _____ _____ _____

3. List the agencies of the jurisdiction from "most" to "least" in the three categories below:

Frequently in operation	Experienced with major disasters	Participation with emergency management program
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

4. The types of personnel you want to have in the exercise are:
   [ ] Policy-making -- (elected officials, department heads)
   [ ] Coordination -- (managers, EOC representatives, department deputies)
   [ ] Operations -- (field personnel, headquarters staff level)
   [ ] Public representatives -- (media)

5. The type(s) of operations you want participants to engage in include(s):

   _____

   _____

   _____

   _____

6. Check the degrees of stress, complexity and time pressure you wish to instill in the exercise.

	High	Medium	Low
Stress			
Complexity			
Time Pressures			
Communication Mode			

The purpose of including information about the community in your scope definition is to help you make a judgment about the most useful exercise. After considering the above questions, you should be able to combine the conditions (hazard, agency, actions, etc.) into the most beneficial exercise for the jurisdiction. As you will see shortly, this will become a good, quick way of describing to the chief executive exactly what it is that you will be exercising. The definition of scope of an exercise might read like this.

OPERATIONS	Flood stage monitoring, evacuation warning, relocation of school children, and shelter of evacuees
AGENCIES INVOLVED	Fire, Emergency Management, Public Works, Health Department, Red Cross, Public Schools, State
PERSONNEL	Department or Agency heads or their deputies
HAZARD	Flash flood
GEOGRAPHICAL AREAS	Planter's Street Bridge to Route I-740
DEGREE OF REALISM	The exercise will be instructional with only a modest amount of stress introduced

E. SELECTING AN EXERCISE TYPE

In the following section, you will make use of the desktop assessment suggested by the questions. The purpose of the preceding assessment was to get you thinking about the kind of exercise you want and the capability present in your jurisdiction to conduct that exercise. The following section is a comparison and review of the five elements of an exercise program. Each of them is increasingly complex and will require your jurisdiction to have a greater exercise capability. You may already have that capability through previous exercises or you may have to develop it. Either way, examining the comparisons of the five elements should help you interpret your own needs analysis, capability assessment, and scope definition completed earlier.

Where you need to do a higher level exercise, but only have the experience and capability to do less complex exercises, you will have to embark on an exercise development program to achieve those capabilities. If your assessment points to an exercise for which you have too little time or staff, now is the time to deal with the problem, not later.

All of these assessments should be completed before you or the jurisdiction has been committed to the exercise by the chief executive's directive. Now is the time to assure exercise success by selecting an exercise appropriate to other needs and capabilities.

REASONS FOR CONDUCTING THE FIVE ELEMENTS OF A COMMUNITY EXERCISE PROGRAM				
ORIENTATION	DRILL	TABLETOP	FUNCTIONAL	FULL-SCALE
No Previous exercise No recent operations New plan New procedure New staff, leadership New nuclear facility New industrial risk New mutual aid agreement	Equipment capabilities Response time Personnel training Interagency cooperation Resource and manpower capabilities	Practice group problem solving Executive familiarity Specific case study Examine manpower contingencies Test group message interpretation Observe information sharing Assess interagency coordination Training personnel in negotiation	Evaluate any function Observe physical facilities use Reinforce established policies and procedures Hospital accreditation Test seldom-used resources Measure resource adequacy Inter-jurisdictional relations	Information analysis Interagency cooperation Policy formulation Negotiation Resource and manpower allocation Media attention Equipment capabilities Personnel and equipment locations Inter-jurisdictional relations

SCOPE CHARACTERISTICS OF FIVE ELEMENTS OF AN EXERCISE PROGRAM					
	ORIENTATION	DRILL	TABLETOP	FUNCTIONAL	FULL-SCALE
HAZARDS	High profile	Any priority	Any priority	To highlight function	Highest priority
AGENCIES	Less active; less involved	Active and Involved	Less and medium active and involved	Active and involved	Active and involved
NUMBER OF ON-GOING ACTIVITIES	Single functions	Single procedure or functions	One or two functions	Few to several disparate functions	Few to several disparate functions
PERSONNEL INVOLVED	Coordination operations	Coordination operations	Policy, coordination, operations	Policy, coordination	Policy, coordination, operations
TYPES OF ACTIVITY	Walk through; identify roles and responsibility	Fire operations; field command post; decision-making	Problem solving; brain-storming; resource allocation task coordination	Decision-making policy making; negotiation; coordination; communication	Field operations; field command post; coordination; negotiation
DEGREE OF REALISM	None	Live transmission of simulated messages	Scene setting with scenario narrative and low-key messages	Intense, fully simulated messages	Intense, live transmission of simulated messages

REQUIREMENTS FOR EACH ELEMENT OF A COMMUNITY EXERCISE PROGRAM					
	ORIENTATION SEMINAR	DRILL	TABLETOP	FUNCTIONAL	FULL-SCALE
EXERCISE EXPERIENCE	None	Orientation	Orientation	Series of progressively complex tabletops	Functional exercises and many drills
PREPARATION STAFF	Minimal	Some experience understanding of the function of Agency being tested	Minimal with little experience	Team with one-two leaders and considerable experience	Functional, tabletop drill experience
PREPARATION TIME	Two weeks	One month	One month	Three months	More than three months
SKILLS	Leadership planning	Good understanding of single component being tested	Group process materials development	Promotions; logistics simulation	MSEL writing, simulation, development
MATERIALS	Proper plan	SOP's Functional Annex being exercised	Narrative, problems, and low-key messages	Charts, displays, maps and messages	Moulage, victim tags, field simulation equipment
STIMULUS METHODS	Lecturer, facilitator	Actual message transmission plus written	Problems; messages; low-key, no transmission	Written message, some simulated transmission	Actual message transmission plus written
PHYSICAL FACILITIES	Conference Room	Field scene or EOC	Player room and minimal simulation facility	Player room, simulation room, communication (option)	EOC plus field scene and communication
COMMUNICATION FACILITIES	None	Radio, phone if appropriate	None	Telephone and selected radio	Radio, phone
SUPPORT NECESSARY	Good among coordination personnel	Involvement of agency or function being exercised	Good among coordination personnel	Excellent chief executive and service chiefs	Chief executive service chiefs, media

F. ADDRESSING COSTS AND LIABILITIES

The period of early planning is also the time to address the costs and liabilities of the exercise. Liabilities need to be recognized most often in field exercises. Check the jurisdiction's insurance coverage for an exercise. Cost of personnel equipment, and such miscellaneous items as coffee also must be planned. Will individual agencies expect reimbursement for overtime if the exercise is on a weekend or evening? If the exercise supports a hospital certification exercise or nuclear facility exercise, can the jurisdiction be reimbursed for its costs? These questions need to be examined during planning.

Costs are incurred for every stage in exercise development and conduct, from plan review and needs assessment to monitoring follow-up. These costs consist of staff salaries, equipment and materials use, expendable materials and equipment, and contract services. The following table suggests one format for analyzing these costs, a task which needs to be done before approaching the chief executive for the directive to announce the exercise.

Government employees should have their emergency management responsibilities reflected in their job descriptions. Time for participation in training, planning and exercising should be set aside by each employee with a potential or designated emergency management responsibility. A balance of reliance on volunteers and designated government employees is suggested.

The costs for this routine participation in exercises should be recognized by government officials.

GOVERNMENT/LOCALITY:

DETAILED INVOLVEMENT	TOTAL STAFF INVOL.	STAFF DAYS USED	ASSOCIATED RECURRING STAFF COSTS	ASSOCIATED ONE-TIME STAFF COSTS	TYPICAL DAILY SAL & EXP. OF PARTICIP.	NON-EXPEND. EQUIP/MAT. COSTS (EXER SPECIFIC)	EXPENDABLE EQUIP/MAT. COSTS (EXER SPECIFIC)	SERVICES COSTS (EXER SPECIFIC)
Development of:								
Needs assessment								
Capability assessment								
Statement of purpose								
Exercise requirements (type)								
Objectives (initial)								
Refined objectives								
General problem								
Narrative								
Sequence of events list								
Messages								
Administrative planning								
SUBTOTAL								
Training of:								
Controllers								
Observers								
Evaluators								
Simulators								
Players								
SUBTOTAL								
Preparation of:								
Maps								
Charts								
Directories								
Forms								
SUBTOTAL								

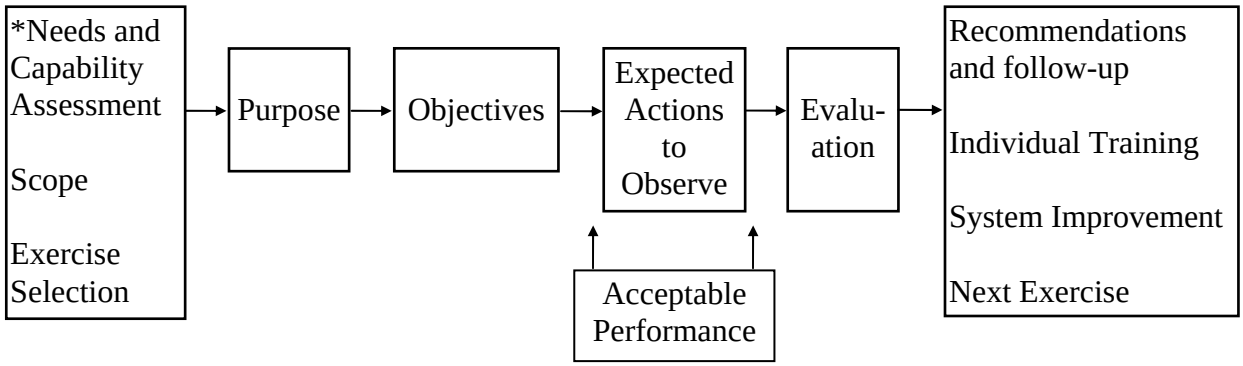
	TOTAL STAFF INVOL.	STAFF DAYS USED	ASSOCIATED RECURRING STAFF COSTS	ASSOCIATED ONE-TIME STAFF COSTS	TYPICAL DAILY SAL & EXP. OF PARTICIP.	NON-EXPEND. EQUIP/MAT. COSTS (EXER SPECIFIC)	EXPENDABLE EQUIP/MAT. COSTS (EXER SPECIFIC)	SERVICES COSTS (EXER SPECIFIC)
Procurement of:								
EOC space								
Peripheral facilities								
Transportation								
Special comm. equip.								
Other equip. services								
SUBTOTAL								
Participation of:								
Players								
Evaluators								
Observers								
Controllers								
Simulators								
SUBTOTAL								
Follow-up:								
Critique								
Evaluation								
Formal Report								
Remedial action sched.								
SUBTOTAL								
TOTALS								

G. DEVELOPING THE STATEMENT OF PURPOSE

The last step to accomplish before announcing the exercise is to develop a statement of purpose. A statement of purpose clearly and briefly states what you plan to accomplish by conducting the exercise. Developing the purpose statement, therefore, is an extremely important task that influences the entire exercise.

This guide suggests you consider describing your purpose in two parts. First, there is the general purpose statement that you develop out of the scope of the exercise. Second, there are objectives that you use to specify exactly what is expected of exercise participants. The specific objectives suggest actions or decisions that will take place in the exercise. These actions or decisions taken by players are what is observed by evaluators and discussed in the critique. Thus, purpose and objectives are important all the way through the exercise.

The following diagram shows the development and use of the purpose throughout the exercise. (As you use this guide, you will become familiar with all these parts of exercise design.)



* Civil Preparedness Guide 1-35 should be used to assist in this process.

Developing a statement of purpose is part of the process you follow to get the exercise started. The purpose should be included as part of the letter sent by the chief executive announcing the exercise.

A purpose statement is written largely from the exercise scope. In the scope example, flood stage monitoring, evacuation warning relocation of school children, and shelter were the four key operations.

A statement of purpose using the scope description on page 24 might read:

The purpose of the proposed emergency management exercise is to improve the following emergency operations:

1. Flood stage monitoring
2. Evacuation warning
3. Relocation of school children
4. Shelter management

by involving the Department or Agency heads or their deputies from:

1. Emergency Management
2. Fire Department
3. Public Works
4. Health Department
5. Red Cross
6. Public Schools

In a simulated flash flood occurring at the Planter's Street Bridge to Route I-740.

This purpose statement is all that is necessary at this stage in the development of the exercise. It serves to clarify for the chief executive and potential participants why the exercise is being conducted. Most importantly, it takes you to the next part of exercise preparation -- commitment by the executive to hold the exercise.

H. ANNOUNCING THE EXERCISE: THE DIRECTIVE

In developing the exercise, you cannot put too much effort into establishing a clear and influential authority for conducting the exercise. This means working with the highest possible official in the jurisdiction to get his or her active support for the exercise. It also means having a state or local ordinance that establishes the basis for the exercise. If you don't have one, formulate one and have it passed first.

The whole purpose of the above activities is to give your exercise the professionalism it requires for success right from the very beginning. This professionalism is even more important when you expose the idea for the exercise, first to your boss and, shortly thereafter, to the chief

executive of your organization or jurisdiction. Having the results of your early preparation activities in hand will give you good credibility with the executive. You can make your presentation clear and concise with the following statements of:

- Need for the exercise
- Capability to conduct (experience, personnel, costs)
- Type of exercise selected
- Scope of the exercise, including agencies, hazard, etc.
- Purpose that will be achieved

Your goal in making this presentation is to obtain the most visible form of support for the exercise from the highest authority available. This support comes in the form of an EMERGENCY MANAGEMENT EXERCISE DIRECTIVE.

The directive authorizes the emergency manager to conduct the exercise. It is the main way to obtain the participation of department heads. Clearly, the directive needs the maximum clout possible to get support and participation from other emergency service directors, department and agency heads, and neighboring companies or jurisdictions if necessary.

Gaining the support of the executive is not always a simple task. There are ways, however, to make the job a little easier. You might try either a “carrot” or a “stick” approach The “stick” to drive support by the executive is one of liability. Making a conscientious effort to practice and improve the emergency plan can protect the jurisdiction from lawsuits. The “carrot” approach involves building a positive, rewarding exercise program. This guide began with the statement that exercises are not one-time shows. They are part of the jurisdiction's commitment to improving the whole emergency program. For now, we suggest that the executive will be more receptive to being part of a program of proven, consistent, and goal-oriented exercises than to an exercise that is brought up as a new idea. The support of the executive is directly dependent on the number, frequency, and quality of your exercises. So, don't complain about lack of support. Do something about it, beginning with the basic exercises to build the confidence of the executive in the success of the exercise program.

When it finally comes to writing the exercise directive for the executive of your jurisdiction, some of the items you might want to suggest for inclusion are:

- Statement of purpose
- Participating agencies
- Personnel responsible for exercise development
- Date of the exercise

The inclusion of the last item, date, will depend on the degree of surprise you desire. This guide does not recommend totally unannounced, surprise exercises. At a minimum, a range of dates is an alternative to specifying a single day. Some indication of the date is necessary to allow agency personnel the opportunity to digest the statement of purpose and refine procedures. The nature of the emergency or parts of the scenario should generally not be provided in the directive.

A final word of caution on selecting the date: Check the community calendar. Make sure you don't conflict with a major football game or other event. That will reduce participation.

The following is an example of an exercise directive. The nature of the emergency or parts of the scenario should generally not be provided in the directive. In the directive, note that the actual location of the exercise has been deleted from the purpose statement.

Once you have the directive, the exercise is official. You will need to turn your attention to developing the exercise, the subject of the next section of this guide.

SAMPLE EXERCISE DIRECTIVE

February 23, 19XX

TO: All Agency Directors

FROM: Robert W. Williams
Chief Administrative Officer

SUBJECT: Disaster Exercise

A simulated disaster exercise has been scheduled for sometime in the week of May 11-18, 19XX. Your agency is requested to participate as called for in local ordinance XXXX.

The purpose of the proposed emergency management exercise is to improve the following emergency operations:

1. Flood stage monitoring
2. Evacuation warning
3. Relocation of school children
4. Shelter management

by involving the Department or Agency heads or their deputies from:

1. Emergency Management
2. Fire Department
3. Public Works
4. Health Department
5. Red Cross
6. Public Schools

in a simulated flash flood.

The Emergency Management Office is the coordinator for the exercise. They will be contacting you to make necessary arrangements for the development and conduct of the disaster exercise. For purposes of realism and interest, details of the exercise situation will not be made known prior to the exercise.

STEP 2: EXERCISE DEVELOPMENT

With the authority of the chief executive behind your exercise, you will face a variety of tasks that must be completed to successfully develop any exercise. You will need to:

A. Identify Resources
B. Plan the Exercise
C. Develop Simulation Materials
D. Prepare Facilities, Create Displays and Materials, and Consider Exercise Logistics
E. Identify, Select, and Train Staff

Each of these tasks will be addressed in the following sections.

A. IDENTIFYING RESOURCES

The issuing of a directive by the chief executive represents a decision to exercise an emergency plan that initiates an extensive process of preparing for the exercise. This process involves diverse tasks ranging from designing the exercise to arranging detailed administrative and logistical matters. Planning the exercise requires the effort of a dedicated team led by the exercise director.

Exercise Director

The exercise director has overall responsibility for organizing the exercise. The exercise director will organize and lead the exercise design team and assign tasks to its members. The director will take the lead in arranging for participation and in managing all administrative and logistical matters associated with the exercise. In a multijurisdictional exercise, the director may need assistants or liaison persons from each jurisdiction to help coordinate the many details of exercise preparation.

The summary outline on page 45 presents the responsibilities of the exercise director. The checklist includes deadlines for completing each task in one of the more complex exercises. The deadlines are based on the minimum time that would be required for a typical jurisdiction. The initial planning meeting should be conducted at least three months prior to the exercise for a single jurisdiction exercise. It will be necessary to hold the initial planning meeting even earlier for a multijurisdictional exercise. The lead role of the Exercise Director will continue through the actual conduct of the exercise and development of the post-exercise evaluation report.

It is essential to have an experienced and capable individual to fill the important role of the exercise director. The exercise director must be an individual who can devote a considerable amount of time over a several-month time period to the many steps involved in pulling together all of the necessary elements for a successful exercise. The director should be familiar with the plan to be exercised and have a good understanding of the participating emergency response organizations. However, the director should not be a principal or key operational member of the emergency organization being exercised. The key members should all be participants in the exercise.

Exercise Design Team

The exercise design team will assist the exercise director in developing the exercise content and procedures. Specifically, they will determine exercise objectives, tailor the pre-exercise scenario, and develop the Master Sequence of Events List (MSEL) and the exercise messages associated with the MSEL.

Members of the design team should also assist in the development and distribution of various pre-exercise materials and assist in conducting pre-exercise training sessions. Ultimately, members of the team would be good candidates to function as either simulators or controllers during the conduct of the exercise.

EXERCISE DIRECTOR CHECKLIST (SUMMARY)	
Deadline for Completion	Activity
Before the Exercise	
3 months prior	• Hold initial planning meeting.
2-1/2 months prior	• Brief government officials. • Arrange for facilities. • Determine simulation structure. • Convene and brief exercise design team.
2 months prior	• Review and finalize exercise scenario.
1-1/2 months prior	• Obtain exercise materials. • Prepare ideas for scripted messages.
1 month prior	• Review messages with exercise design team.
3 weeks prior	• Prepare intelligence briefing for participants.
1 week prior	• Prepare exercise facility.
2-4 days prior	• Conduct training session for participants. • Train supervisors.
Day of Exercise	• Conduct intelligence briefing for participants • Perform pre-exercise check. • Supervise the exercise.
After the Exercise 1 week after 2 weeks after 3 weeks after	• Prepare exercise final report. • Review exercise report. • Submit recommendations.

The following is a summary outline of the major activities of the exercise design team.

If at all possible, the exercise design team should include a representative from each of the participating jurisdictions in a multijurisdictional exercise and from the key departments in a single jurisdictional exercise. This will help to ensure a coordinated exercise. The size of the design teams will vary depending on the number of participating jurisdictions or agencies. When there is a large number of participants, it may be necessary to select a small core team which can draw on representatives of other participating jurisdictions or agencies as needed. Some additional technical and administrative support may be required for typing, printing, and other mechanical aspects of preparing exercise materials.

EXERCISE DESIGN TEAM CHECKLIST	
Deadline for Completion	Activity
Before the Exercise 2-1/2 months prior	• Attend exercise director's briefing.
2 months prior	• Develop/review exercise procedures. • Arrange simulation. • Arrange participation. • Review exercise scenario.
1-1/2 months prior	• Prepare participant information packet. • Prepare operational data.
1 month prior	• Review exercise evaluation forms. • Print forms. • Prepare scripted messages.
2 weeks prior	• Integrate scripted messages into time schedule. • Develop training sessions.
2-4 days prior	• Assist in conducting training sessions.

Sustaining Support for the Exercise

Maintaining the support of the chief executive and local governing board of the jurisdiction(s) that will participate in the exercise is critical. Their support will ease the way and encourage cooperation of the many individuals and agencies who must be involved in planning, conducting, and evaluating the exercise.

To obtain this support, it may be desirable to present periodic briefings on the exercise to appropriate officials. As a minimum, they should be informed of the objectives and scope of the exercise and the importance of the exercise for maintaining emergency preparedness.

Selecting Participants and Facilities

The emergency plan to be exercised is the most authoritative guide to establish who the participants should be for the exercise. Generally, the participants should be those personnel (not alternates) who would function in that capacity in the event of an actual emergency. The inclusion of alternates is sometimes necessary and understandable. In general, however, the commitment by a community to conduct an exercise should include commitment from the appropriate staff members to participate in the actual conduct of the exercise.

To the extent possible, participant facilities provided for the exercise should be within the same facility and in the same operational configuration that would occur in an actual emergency. Displays (maps, status boards, etc.) should be brought up to date and made operable for the exercise. Similarly, participant work spaces should be predesignated and working supplies made available. Usually, a standard message form will be available. Some of the scripted input to be used in the exercise will undoubtedly already been reproduced onto these forms. Therefore, no special or new form should be introduced without first coordinating with the exercise director.

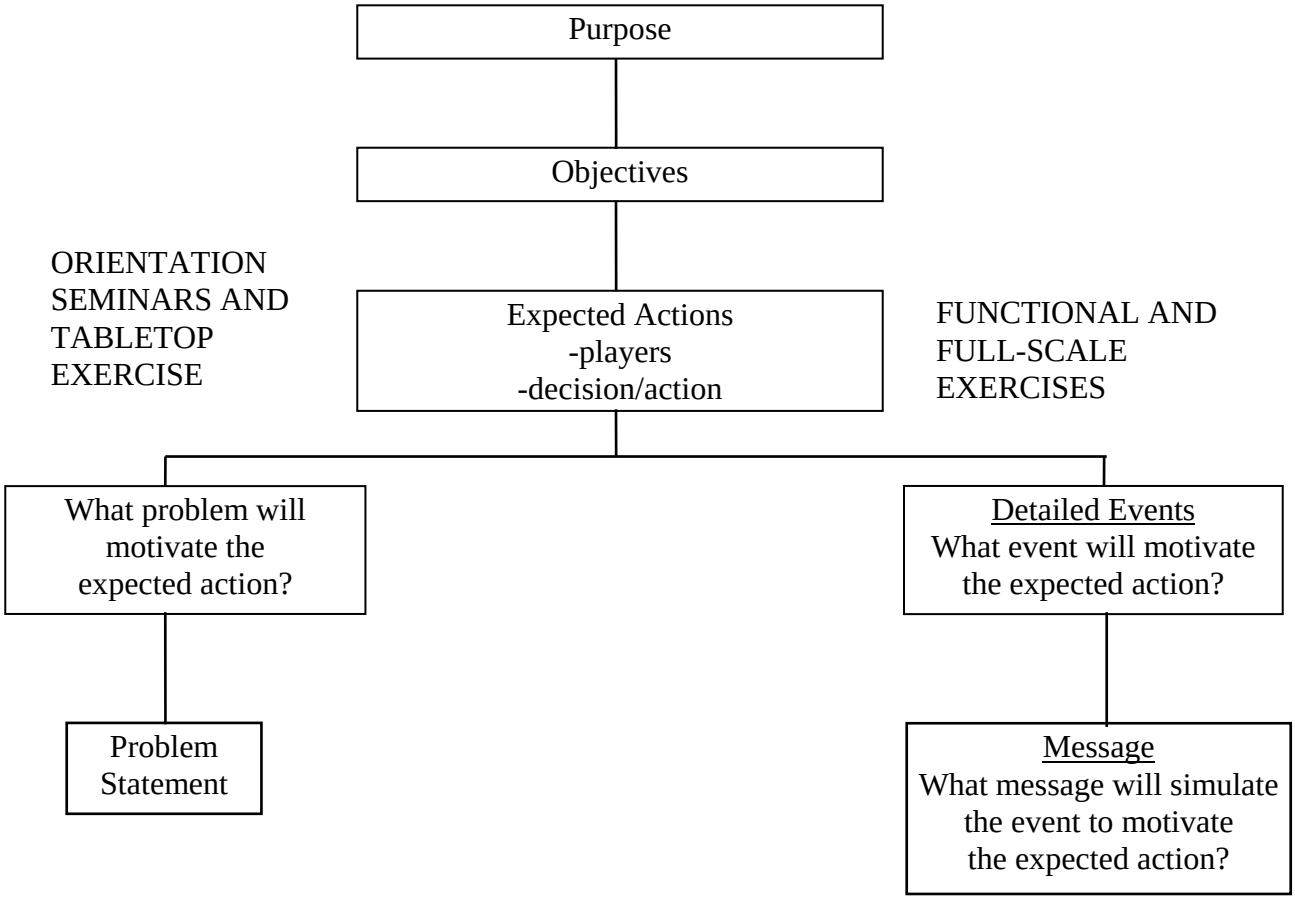
B. PLANNING THE EXERCISE

With the directive in hand and an exercise design team assigned, the tasks turn to exercise development planning. Without an effective plan, a complex exercise will be extremely difficult to achieve. The period for which you are planning may be only a few weeks (for an orientation or tabletop) or it may be for six months (for a full-scale exercise). This section suggests some planning techniques that will help you effectively coordinate any of the exercises.

Defining Objectives

The statement of purpose explained to the chief executive and (through the directive) to department heads what the exercise would achieve. A purpose statement is not, however, sufficient to plan the details of the exercise. From the purpose, objectives must be written.

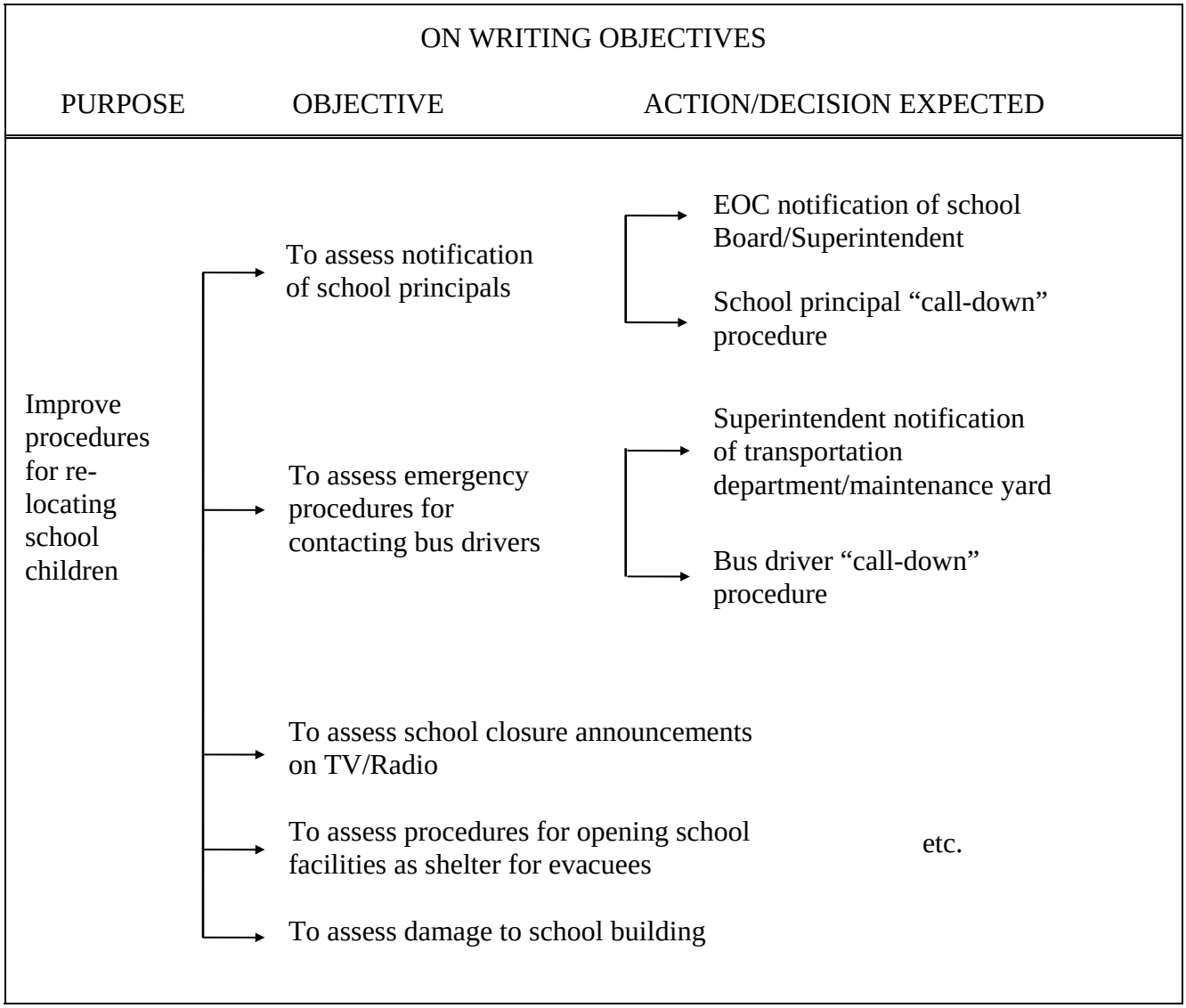
The following diagram shows how objectives are used. They are essential for defining the actions expected of the players. These expected actions, in turn, lead to the development of problem statements for orientation seminars and detailed event sequences and messages for tabletop and functional exercises. You will learn more about writing problem statements and messages in a later section. For now, the diagram illustrates that the success of later actions and decisions in the exercise program begin with carefully written objectives.



Look at the expected actions developed from one item in the purpose statement. You can see that, for two reasons, this is the heart of the exercise. First, the actions help you write a message or problem statement that will motivate the players to take the action. Second, the actions help evaluators observe players to see if they have taken the action. If expected actions are properly performed, then no improvements are necessary. If the actions are improperly performed, then RECOMMENDATIONS for FOLLOW-UP improvement will be produced.

One final point about expected actions: LOOK FIRST IN YOUR PLAN. Expected actions are standard operating procedures that may be included in sufficient detail in your plan to be used exactly as written in the plan.

ON WRITING OBJECTIVES



Tasks and Scheduling

Exercise planning consists of two specific parts: assigning tasks and scheduling.

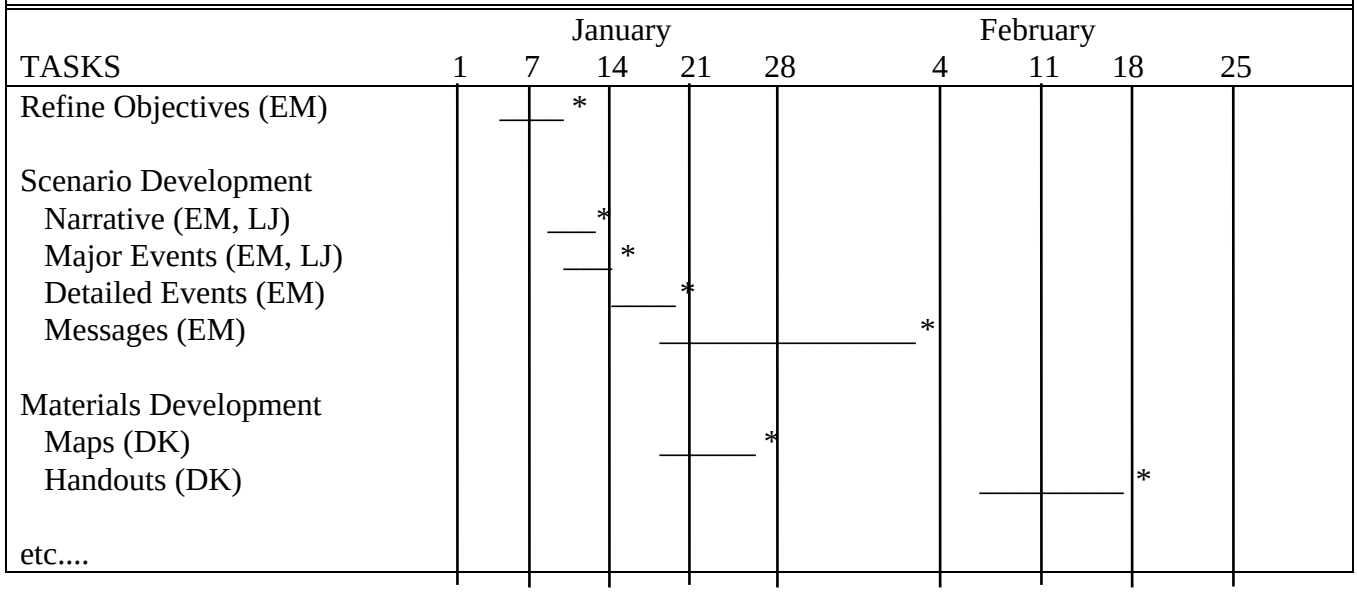
The exercise must be planned with the same thoroughness as any major organizational effort. While there are many useful tools available to help plan, one of the more traditional ones is well suited to graphically depicting the relationship of tasks to time --- the essence of exercise planning. This tool is the GANTT CHART.

A Gantt chart displays time across the top and a sequence of tasks down the left-hand side. The schedule of activity is illustrated by bars that extend along the time lines. The length of the bar indicates the duration of the activity, its starting and ending times. Tasks can be grouped as illustrated with supporting subtasks also scheduled. Depending on the number of subtasks, a separate summary Gantt chart of all major tasks may be a useful tool.

The allocation of staff to complete tasks can be indicated by names or initials in the left column with the tasks, as illustrated.

Time on the Gantt chart can be given in days, weeks, or months. It can be in actual time or time to the event.

EXERCISE SCHEDULE AND TASKS



You will note immediately that the type of exercise and approach you are taking will considerably alter the time frame and task complexity of the exercise. In the illustration above, for example, if you are using a prepared scenario, the one-month "Scenario Development" set of tasks will be easily collapsed into several days.

Work Plans

Another planning technique that can be used alone or with the Gantt chart is a WORK PLAN. The work plan sets out in a brief narrative format exactly what will be accomplished through a period of time. The work plan illustrated on the page 53 notes a DATE when the described ACTIVITY will take place, the PERSON RESPONSIBLE for the tasks, and assorted REMARKS.

SAMPLE EXERCISE WORK PLAN

Jones County Proposed Date of Exercise: January, 1988

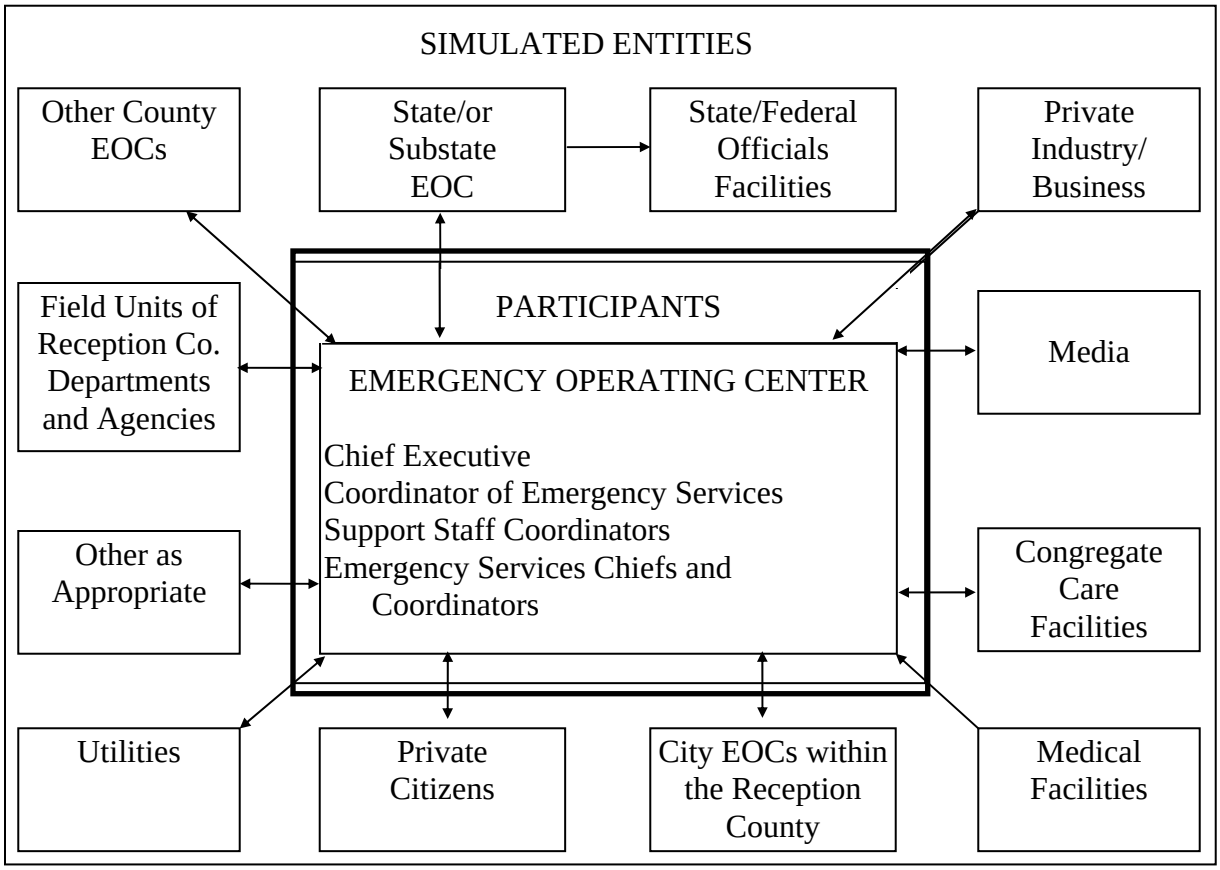
DATE	ACTIVITY	REMARKS
June 1987	Study and update local Hazard Analysis; Study and update local resource availability listings.	Check with local agency heads.
July 1987	Meet with local officials to assist in determination of exercise needs; gain approval/support of local officials (can be accomplished via briefing of local officials).	Check with State Emergency Office for possible assistance where necessary; Check with NOAA.
August 5, 1987	Determination of exercise type in concert with local officials.	
August 10, 1987	Initial exercise objectives set; copies sent to appropriate agency heads to gain concurrence; suspense date for return set.	Coordinate with agency heads for those agencies participation.
August 14, 1987	Return of exercise objectives from apropos agency heads; meet with governing officials to set date(s) for exercise.	Coordinate with agency heads.
Sept. 1, 1987	Prepare rough draft of major sequence of events based upon finished objectives; mail out draft to apropos officials. Major sequence draft returned and revised. Appoint exercise design committee over signature of local governmental officials. Committee meetings to design exercise; exercise package completed; schedule positional instruction, ETC., ETC.	If appropriate, ensure State Emergency Management Office approval and or workman's compensation approvals are complete. Obtain exercise design "go-ahead" from officials; set committee meeting date.

C. DEVELOPING SIMULATION MATERIALS

With the directive in hand, an exercise design team assigned, and a plan developed, the tasks in exercise development turn to those of preparing. This preparation could take as little as a couple of weeks or as long as six months, depending on the type of exercise activity number of agencies, number of jurisdictions, and availability of appropriate prepared scenarios. The listed tasks described in the sections that follow begin with your carefully planned schedule of tasks, and conclude with the training of staff during the last hours before exercise conduct.

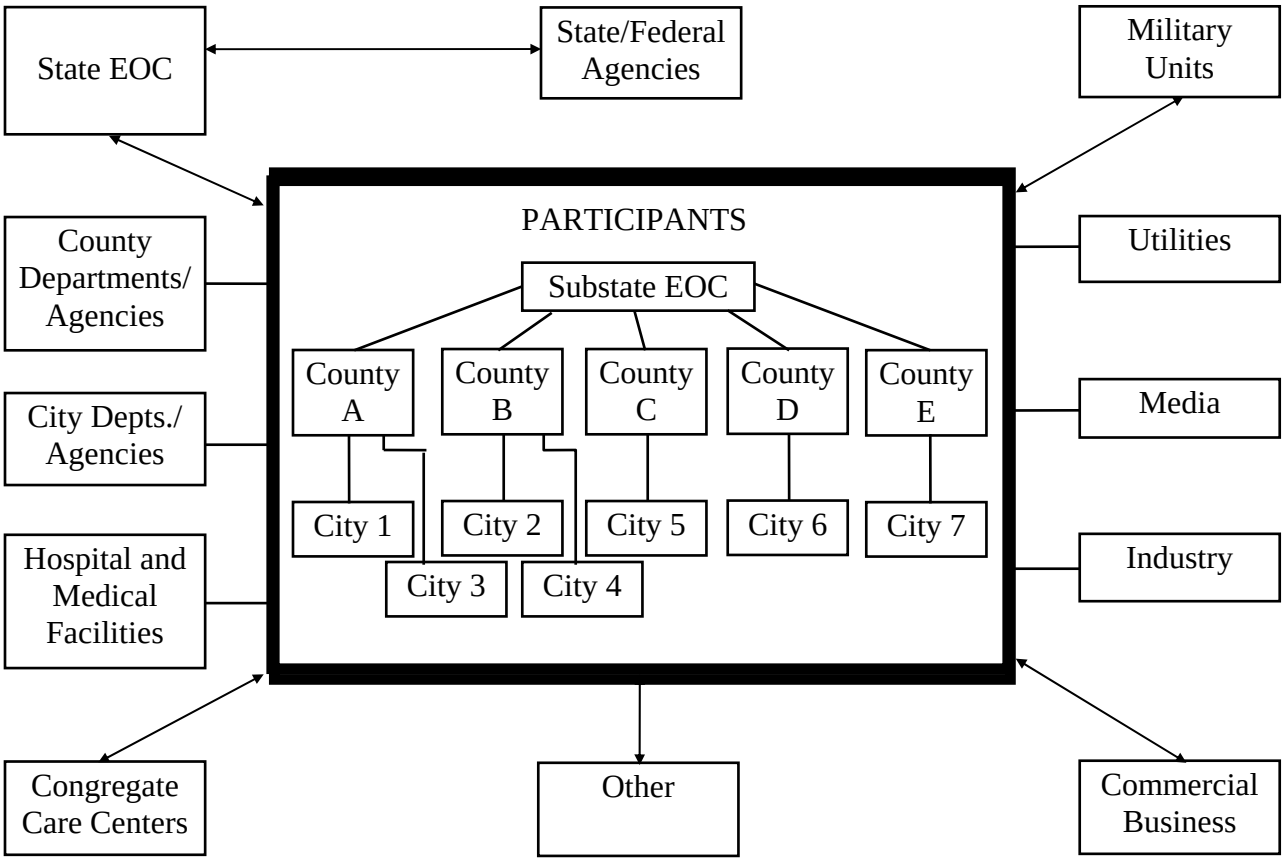
Designing the Simulation Concept

Now that you have a clear picture of the exercise purpose and objectives, you need to deal with the design of the simulation concept. This involves determining who will be involved in the simulation and what, in fact, will be simulated.



The above illustration shows a county or local EOC in which the full EOC staff participates while all other agencies (outside the heavy line) are simulated.

SIMULATED ENTITIES



The second illustration is a complex, multijurisdictional exercise in which many counties and cities are players and simulated agencies include the military and all other departments and agencies.

In designing the simulation concept, you will have to determine what agencies participate and what units of government or the private sector are simulated. When you have done so, you can turn to the next step in simulation development, the scenario narrative.

Development of Simulation Materials

Exercise materials consist of a package of all the words, maps, displays or other materials that are used to simulate an emergency for the purpose of exercising emergency management/service organizations. The exercise package consists of four parts. The first three are present for all exercise activity; the last one differs according to the type of exercise activity. These four parts are described in the following sections.

1. SCENARIO NARRATIVE -- sets the scene for the simulated event and briefly describes what has happened up to the time of the exercise. As illustrated in the sample scenario packages, the narrative is usually from one to five paragraphs.

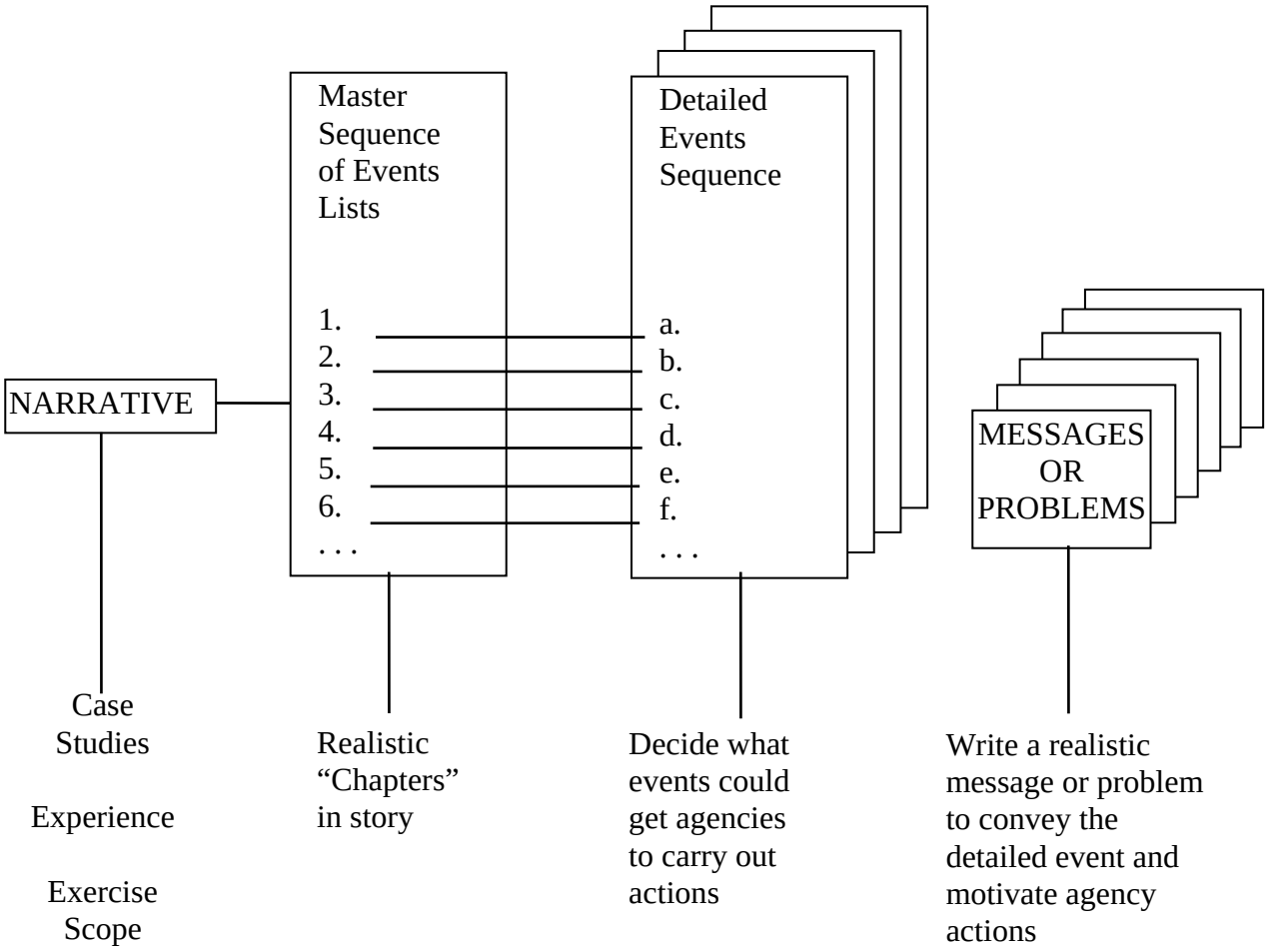
2. MAJOR SEQUENCE OF EVENTS LIST -- itemizes the events from the beginning of the exercise to the conclusion that will result in emergency service actions in response to those events.

3. DETAILED SEQUENCE OF EVENTS -- list details for each major event.

4. PROBLEMS AND MESSAGES -- are the actual simulation transmissions that players get. In a discussion exercise, these are problems. In a tabletop exercise, these are low-key messages. In an emergency operations simulation, these are the most realistic messages possible.

The process for developing these simulation materials is depicted in the following flow chart. The chart illustrates the way that the exercise scope, type, and objectives are combined with a knowledge of the jurisdiction to produce a scenario.

EXERCISE MATERIALS



Writing Scenario Narratives

The narrative should get the participants in the mood for the exercise. They need to be motivated to play. Let it build up to a dramatic point, if possible. It sets the stage and brings them right up to the minute the exercise begins. That may be difficult in the case of an unexpected event. There the narrative may be shorter, or may devote more time to the environment of the emergency (nearby school, other chemicals stored, rush hour approaching, etc.) to get some intensity of feeling into the narrative.

Think of the narrative as the first chapter of a mystery novel. It captures the attention of the players and makes them want to go on. It sets the stage for later action. In a mystery novel, the lights go out. A murder is committed. We know the main characters -- the players in your exercise. The rest of the novel (and the exercise) is the carrying out of a plan to reach the conclusion the authors (and exercise designers) want.

SAMPLE HURRICANE SCENARIO

NARRATIVE

National Weather Service National Hurricane Center issues information on the formation of a storm off the southern U.S. coast that appears to have hurricane potential. Tropical storm Anne is renamed Hurricane Anne and NWS issues Hurricane Watch for a three-state area on U.S. coast. Wind velocity and northwest movement over last day have decreased, but overnight change in direction to steady northwest line calls for an immediate Hurricane Warning for five coastal counties of state. Winds of 80 mph are predicted with high water expected to reach 12 - 15 feet over high tide. Low-lying, newly developed resort areas and heavy influx of visiting weekend campers have been advised to evacuate the area. Access bridges to barrier islands are narrow and could become impassable with 15-foot water height.

Hurricane Anne, considered a very dangerous hurricane with high winds and an accompanying storm surge, will hit a population area of between 5,000-25,000 in coastal communities and further inland. Emergency services personnel, including the local leadership who know their EOC procedures, have a plan for the locality that they can follow during the watch stage, the warning stage, the response stage, and the recovery stage.

Following the Hurricane Watch, emergency services personnel notified elected officials and agency heads that the jurisdiction was within the watch area. News media were also alerted and encouraged to broadcast the notice. When the warning of landfall within 24 hours was given, the emergency manager placed his staff on alert, but did not activate the EOC. He has asked all appropriate emergency service personnel (on his staff and from other services) to meet at 07:30, approximately four hours after the warning was given. On its present course, the hurricane would make landfall at approximately 23:30. Flood stage from rising tides and tidal surge could, however, impact on bridges by 16:00. All appropriate staff and emergency personnel are now in attendance.

Read through the previous sample hurricane scenario. As you do so, think about what it says to the exercise players -- what information does it provide? To write your own narrative, try the following procedures:

1. Using the “Narrative Checklist”, write down one or two words that come to mind as responses to the checklist question.

2. Take each of the keyword answers you wrote and turn it into a brief sentence.

3. Now, read those sentences aloud, adding whatever comes into your mind that expands on the sentences. Read all the way through without writing anything.

4. Now, go back and add the additional ideas you had when you were reading aloud.

5. With a little polishing, you have a pretty good, complete narrative.

NARRATIVE CHECKLIST

[ ] What event?
[ ] How did you find out?
[ ] Was there advance warning?
[ ] What time?
[ ] What happens in sequence?
[ ] Does the event move geographically?
[ ] Where?
[ ] How fast, strong, deep, dangerous?
[ ] What response has been taken?
[ ] What damage is already reported?
[ ] What is predicted for future?

Master Sequence of Events List

The next part of an exercise package is a listing of all the events that are likely to occur in a particular hazardous incident. These should be based on case studies or operations plans. You will try items that are not too far-out or unlikely. These should be factual basics that call for realistic action to be taken by emergency services.

We suggest that the MSEL be developed in two steps, beginning with a list of major events and then moving to more detailed events. Look over the sample on the following page and see how it flows from the narrative written in the previous section.

SAMPLE MAJOR EVENTS SEQUENCE

1. State of emergency declared
2. Evacuation ordered
3. Flood stage reached
4. Hurricane makes landfall
5. Power, utilities lost
6. Tornadoes spotted
7. Shelters damaged
8. Gas, sewer leaks
9. Heavy rains continue
10. Debris jam at major bridges
11. Water system contaminated
12. Mop-up begins
13. Request state aid
14. Request Governor's Disaster Declaration for federal assistance

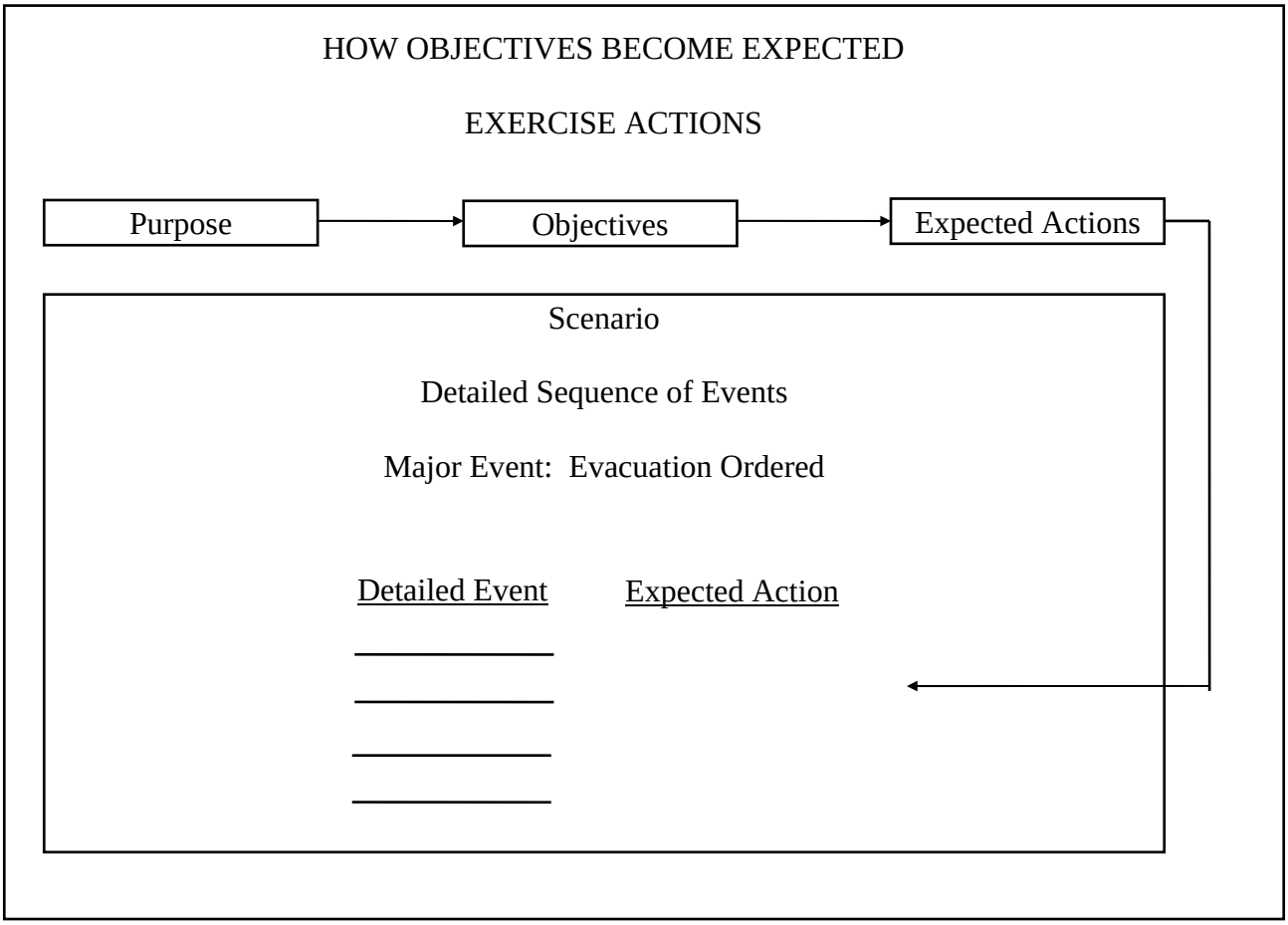
Looking at the major events, you see that the events begin with the evacuation, the next event to follow what is described in the narrative. You'll also see that the events are not all of the same "level". Some are big (evacuation advised) while others are smaller (gas, sewer leaks). Think of the events as high points in a sequence, or maybe notable events. Their purpose is to exercise part of the community plan and/or operations. Therefore, the major events can be developed from your purpose statement. For example, number 2 will test all the evacuation and warning procedures. Number 5 looks at providing emergency power, liaison with utilities, helping hospitals and other critical facilities. Number 8 suggests a secondary disaster potential that will require allocation of resources to prevent explosion or fire. Number 9 just adds to the burden by keeping flooding at a peak longer, thus trying resources of shelters. Number 10 calls for emergency debris removal to prevent damage to bridges; it brings in public works department or other agency, perhaps private contractor. Number 11 tests health department, provision of emergency water supply.

So, in summary, think of the major events as chapters in the story you are telling. Try thinking of Chapter 1 as "Ordering the Evacuation," Chapter 2 as "Providing Emergency Drinking Water," etc. Then the detailed sequence of events will give you the chance to fill out the hows and whys of deciding to give drinking water, procuring it, transporting it, distributing it, etc.

Developing Detailed Events

From the major events, you need to further specify detailed events to create the MSEL. The purpose of more detailed events is to prompt messages (in functional and full-scale exercises) or problems (in the orientation seminars and tabletop exercises) that motivate action.

The goal in developing detailed events for the MSEL is to link simulation to action. We suggest a two-column format for developing this link. In the left column, put the detailed events of your MSEL. In the right column you move closer to turning objectives into an exercise by identifying expected actions that the messages should prompt. This process is illustrated below and described in the following pages.



You'll recall from the previous section on objectives that the purpose statement was refined into specific objectives that have expected actions associated with them. These are the actions you want players to perform in the exercise.

How do you get players to perform these actions?

It is a two-part process:

1. Select the major event in which the action should occur.

2. Think of an event (detailed event) that would motivate the action.

To see how this works in practice, let's return to the earlier example of the evacuation procedures. Among the major events (shown on page 61), the logical one for including evacuation is “evacuation ordered.” Now, in this “chapter” on evacuation, ask yourself what detailed events would result in the expected actions shown in the previous table, “On Writing Objectives.”

Specifically, how can we get the EOC to examine the needs of special facilities? What event will get the nursing home “call down” procedure started? What will get the bus drivers alerted?

All of these may be included in one detailed event, or it might take a few to motivate these responses. For example, the National Weather Service's warning of possible flooding in a low-lying area should begin to act on evacuation. If even more time passes, an order from the police should prompt contact of bus drivers and evacuation.

Thus, the detailed events you might add to the “chapter” on evacuation might include: NWS Warning, Sirens Sound, Transportation Ordered. Actions prompted by the NWS warning and the sirens sounding would include notifying nursing homes plus a variety of other actions expected of other agencies.

SAMPLE DETAILED SEQUENCE OF EVENTS MAJOR EVENT: EVACUATION ORDERED	
Detailed Events	Expected Actions
National Weather Service Issues warning to evacuate low-lying areas	Initiate warning procedures in area. Evaluate EOC alert status. Alert bus company/public transit authority. Examine list of all special facilities (nursing homes, handicapped, etc.) that might require assistance. Alert Fire and/or Police for possible door-to-door public warning.
Sirens sound	Police, fire and other public officials on street should be able to inform public about specific facts on warning. Hospitals coordinate their evacuation plans. Evacuation routes and destinations announced to media for broadcast.
Transportation ordered	"Call-down" lists for Transportation used by nursing home officials to effect evacuation.

In the detailed events above and elsewhere in this guide, you will see expected actions suggested for several agencies. When you are preparing expected actions, however, you will only have a few agencies as defined in your exercise scope and statement of purpose.

A convenient way to design your exercise is shown in the "Expected Actions Planning Sheet." On the sheet you can list several detailed events. Across the top, enter the agencies or players participating in your exercise. In the spaces opposite each detailed event, note the expected action, if any. Remember, for each event there may be actions for a few agencies or only one. It all depends on the standard operating procedures developed in your emergency plan for responding to a detailed event.

Following the planning sheet are some additional illustrations of detailed events and expected actions that focus on three primary exercise participants:
fire, emergency management, and public works.

Expected Actions Planning Sheet					
DETAILED EVENT	EXPECTED ACTION OF EXERCISE AGENCY OR PLAYER				
	Em. Mgr.	Fire	Police	Health	etc.

SAMPLE DETAILED SEQUENCE OF EVENTS MAJOR EVENT: FLOOD STAGE REACHED	
Detailed Events	Expected Actions
People stranded en route to inland shelters; abandoned cars swept away by floodwaters	Management level decision needed on whether to deploy search and rescue personnel when hurricane has yet to strike; question of fire/rescue personnel safety. Also question of manpower resource allocation and availability of search and rescue equipment (boats, helicopter or other).
NWS reports that winds will increase to 50-70 mph within next hour. Landfall within two hours.	Information does not necessarily prompt a decision, but is important in question of personnel safety.
Utilities (water, power, gas) threatened	May require policy decision on shutting down public utilities. If so, may require broadcast of advisory to public and emergency management notification to special facilities (hospitals, nursing homes, etc.) to test emergency power. Emergency management may alert health department to begin monitoring water contamination potential. Emergency water supply for area may be considered.
Several highway bridges have buildup of debris at base	May require deployment of manpower to carry out protective measures to avoid full debris jam and possible damage to bridge. (Probably must also measure safety consideration in this pre-landfall period).
Height of water endangers key highway bridge leading from low-lying areas	Could cause evaluation of safety of bridge. Message could come from observer on scene, NWS automated flood stage warning devices, own local flood warning mechanisms, etc.

SAMPLE DETAILED SEQUENCE OF EVENTS
(CONTINUED)

Detailed Events	Expected Actions
-----CONTROLLER NOTES -----Scenario requires that bridge close at this point. Insert events if it has not.	Exercise has determined that it wants bridge closed. If a decision is not made to close bridge, force it with spontaneous messages. Bridge must close in order for vertical evacuation to be tested.
-----Scenario requires that broadcast warnings change instructions to using vertical evacuation shelters rather than evacuating.	Exercise wants to isolate people in low-lying areas and test ability to deal with them there.
People leaving cars as much as 1/2 mile from nearest high-rise shelter	Vertical evacuation assumes that people will walk a distance; therefore, no response is needed.
Inland shelters expected to function for at least five days	Based on past experience, or perhaps a NWS prediction of slow recession of flood waters, recognition taking hold that shelters will function for fairly long period. Probably will prompt actions by Red Cross (or other voluntary agency) to assure adequacy of supplies. Might result in mutual aid.
A few shelters lose utilities; water supply especially short	Decision may be necessary on evacuating from those shelters. Emergency management may begin coordinating allocation of emergency generators, providing portable sanitation facilities and water may be considered. Negotiation with voluntary agencies on other shelter availability. Contact transportation resources about moving people to other shelters.
Area-wide utilities out, brought down by dangerously high winds	Contact exists only by radio to shelters and among emergency personnel. Probably will end all efforts in freeing log jam or search and rescue.

Note that this major event doesn't really have a beginning, but rather, it is a continuation of previous events. But, as a piece of the scenario it has a definite part to play. First, it is challenging emergency responders to deploy with the consideration of safety--the hurricane still has not hit at this point. Here, actually putting the event timing in the scenario will be important to helping make decisions in the scenario (for example, the NWS announcement of winds in one hour and landfall in two hours).

You might also note how this event is brought to a close Having utilities out ends contact and discussion with shelters. The utilities went down when the high winds arrived, effectively ending any kind of operations on debris clearance from bridges or search and rescue. This "chapter" in your story is brought to a close, but the next chapter will take up items like use of ham radio operators for emergency communications, emergency generator deployment, etc.

Control points in the master sequence of events list are actions that must be taken by players or else the exercise cannot proceed as planned. These important actions or decision must be monitored by the controller and/or simulators to make absolutely certain that they happen.

In the sample detailed events, note the control point that requires that the bridge be closed. Any future events will depend on this event. Later events are, in fact, the result of a prior decision. Clearly, people cannot be reported to be leaving their cars if the bridge is not closed. All the rest of the scenario that tests vertical evacuation plans will be out of place unless broadcast evacuation instructions are changed to vertical shelters (as the second control point instructs).

Control points are placed between two events. They instruct that a decision within the situation will have to be made. It further instructs the simulator to insert additional events, as necessary, to effectively force the decision to be made.

The MSEL in the sample scenarios provides general descriptions, not actual messages. These general descriptions are meant to prompt exercise writers in localities to tailor the events. Thus, in the example above, the report of water endangering the bridge roadway is general. Local scenario writers decide whether that information came from an observer, some NWS automated flood warning device, or their own flood stage monitoring system, depending on your own knowledge of the community and the objectives.

Some of the questions you might ask yourself to help suggest detailed events and their possible results (right column) are listed below.

- Who's involved? Is it a question for managers, operations personnel, or government policy makers (mayor, department heads, etc.)?

- Who's at risk? What services do people or property need?
- Who takes action: government, private sector, volunteers?
- What resources are needed? And where will they come from?
- How long will it take?
- What are the anticipated problems?
- What is the desirable outcome?

Now that you have completed the most difficult part of exercise development detailed events and expected actions, you can proceed to the final listing of the MSEL.

On the next page is a sample format for the MSEL as used by FEMA in one of the prepared exercise packages that you can request from the FEMA regions. You will note several additional columns in addition to the two important ones of detailed event and expected response. These include:

Input Time--exactly when the event should occur in the scripting of the exercise.

Event Number--sequential numbering of events, optionally including a segmentation by major event as indicated by the letter/number combination.

To--the organization or agency to which the event will be directed in its message form.

Method--for introducing the event information, including written messages, telephone, and controller inputs.

Library Number--the numbering of MSEL items as they are developed to form a body of events from which exercise designers can choose, then sequence, into the final MSEL.

MASTER SEQUENCE OF EVENTS FOR EIGHT-HOUR HAZARD EXERCISE

DAY 1 - MOVEMENT PERIOD Hazard C

Input Time	Event No.	To	Method*	Lib. No.	Event	Sample Respo
1100	M-0	All	C	2	Transition Situation Report - Alert Period to Movement Period	All D&C staff ackn developments in th areas as mentioned Report and prepare appropriate action.
1110	M-1	D&C	T	117	Governor issues order to begin evacuation.	All Direction and C review their duties responsibilities for period and direct in the movement plan
1110	M-2	M&H	T	530	Hazard area nursing home reports on the number of patients, staff, and medical supplies which are ready to be transferred to the reception area. Transportation is needed as soon as possible.	Request transportat Resources and Sup how to allocate the reception area med
1110	M-3	Law	T	333	Hazard county reports that reception county still needs more volunteers who can be trained to function as traffic control personnel.	Report situation to Training Coordinat to send any spare p reception county.
1110	M-4#	PIO	T	917	City switchboard is jammed with calls for information on evacuation (destination, routes, security, belongings).	Coordinate with me information and urg tie up phone lines.

*W - Written Message # Key Event
T - Telephone
C - Coordinator

Writing Problems and Messages

The last step in developing the simulation involves problems (for orientation activities) and messages (for tabletop, functional, and full-scale exercises). These are the actual materials that are submitted to the players to stimulate their actions. Problems can be presented orally by the seminar leader or they might be written down and handed out. In addition to the narrative and questions, problems might be accompanied by a map of the area where the emergency occurs or other supporting documents. Some suggestions of these will be found in the section on displays and materials.

Similarly, messages can be provided to the players in a variety of ways. In the section on communicating in an elaborate exercise, you will see how to transmit messages in writing and by telephone and radio. In addition, you will see how to simulate telephone and radio transmission if you don't have those facilities available to you.

Problems usually accompany a brief narrative and are developed from the master sequence of events. Their purpose is to initiate discussion among responsible officials. Below, three sample narratives and problem statements illustrate ways that problems can be presented.

Hurricane Tabletop

NARRATIVE

The National Weather Service has issued a hurricane watch for a three-state area on the U.S. coast. Wind velocity and northwest movement continue to indicate that the hurricane is heading for your community. Late last night a hurricane warning for a five-county area was given. Winds of more than 80 mph are predicted with high water expected to reach 12-15 feet over high tide.

You are in the emergency operations center several hours before expected landfall when a radio report comes in that a camper and a bus have had an accident on the causeway linking the mainland and low-lying, newly developed barrier islands. The summer residents and weekend campers, advised to evacuate the area, are in the midst of a huge and growing traffic jam. In a few hours, the bridge will be impassable because high water is expected.

PROBLEMS

1. You take a call from the chairman of the county board of commissioners who wants to know how you are going to protect all those people.

2. Channel 12 television is in the outer office, the receptionist reports.

3. The county emergency plan gives responsibility to the fire service to use fire and rescue boats to evacuate anyone who reports a medical emergency to the mainland hospital, you are reminded in a call from the fire chief. Has coordination with the Coast Guard taken place?

Radiological Emergency Tabletop

NARRATIVE

March 26, 7:00 PM: City police call to advise that a child has found a plastic radium marker in the Northside Recreation Center, a four-acre waterfront park and playground in a residential section of the city. The recreation center is on the site of a former military landfill. The patrolman dispatched to the child's home reported that a visual search of the area where the marker was found did not turn up any additional markers. You arrange for the area to be surveyed with radiation detection instruments in the morning.

March 27, 8:00 AM: The radiological officer in charge of the survey team reports finding about 30 more markers and several pieces of radioactive wire and metal at the recreation center. Survey readings indicate further presence of radioactive material over an area "two or three hundred feet in diameter."

PROBLEMS

1. Is there anything else you would have done prior to this time? If so, what?

2. What action would you take now?

Rural Flash Flood Tabletop

NARRATIVE

August 5: Heavy rain continues throughout state and an additional two to four inches is forecast for the next 24-hour period. At 9 AM, the National Weather Service issues a flash flood warning for your county.

Telephone communication with Holiday Lake Campground is out of service. A sheriff's deputy is dispatched to Holiday Lake to evaluate the situation and assist in evacuation. While en route to the camp at 9:30 AM, the sheriff's deputy calls in the following report: Accident at the Intersection of Routes 626 and 723 involving two buses carrying children from the camp. Approximately 30 children on each bus. Buses left road and rolled over; one on its side, the other upside down. Many injuries apparent and most will need assistance in evacuating the buses. Smoke coming from the engine of one of the buses. Send all the help you can.

PROBLEMS

What are your actions, responsibilities, and considerations with regard to the following:

1. Upon receipt of warning
2. Activation and staffing of EOC
3. Initial disaster report
4. Evacuation and shelter of victims
5. Commitment of local resources
6. Declaration of a local emergency
7. Request for outside assistance
8. Public information

Messages are required to communicate detailed events to exercise participants. One message may represent an event or several messages may be needed to notify players of the event. In later sections of this guide, you will learn about message forms and see the important components of a message. For now, consider the four variables in a message shown in the following table. Not all variables will be explicitly stated in every message, but they should be kept in mind as you write because these variables form the classic definition of communication: "who, sends what, to whom, with what effect."

VARIABLES IN A MESSAGE	
Source of Message (who)	This should raise question of who sent message and how credible is the source. Did sender actually see event or is it hearsay? Raises question of the need to verify information.
Method of Transmission (sends)	How is the message getting to the recipient? Phone, radio, word of mouth, etc.
Content of Message (what)	Is it complete? Does it provide all necessary information to make the decision?
Recipient/Referral Course (to whom)	If first recipient is not the decision-maker, what course does message then have to take? Question is, how many interpretations of message will there be before a decision is made?

All of these things will influence

ACTION (effect)

that is, one of at least four choices

VERIFICATION	_____	information gathering
CONSIDERATION	_____	discussion, negotiation with others, consultation of plan
DEFERRAL	_____	put action on priority list
DECISION	_____	deploy or deny resources

The purpose of a message is to evoke response. This response can come from both extremely simple messages ("FIRE") and detailed or complex ones. When writing messages, consider the impact of varying any of the four components. For example, give only partial information to prompt information gathering, make the source unreliable to encourage confirmation. The use of these key variables is suggested in the following examples.

MESSAGE EXAMPLES

FROM: Police TO: EOC Police Staff

Cab door of trailer truck has been forced open and driver has been removed. Shipping papers indicate hydrochloric acid being transported. Acid flowing into sewers. Attempts to open rear trailer door ongoing.

FROM: Environmental Protection (Field) TO: EOC Environmental Staff

Resident managers of apartments in area request information concerning safety of drinking water, water in swimming pools and dwellings, after evacuees are allowed to return to homes.

FROM: EOC Fire Staff TO: Fire/Rescue Communications

Weather Service reports winds in an east-northeast direction at 10 to 15 mph with gusts of 20 to 25 mph. Forecast for continued rain with possible thunderstorms with strong gusting winds during the storm of up to 45 mph. Current temperature 82 degrees.

FROM: Local Emergency Manager TO: State EOC

This is Dave Henderson, I need to speak to the Director. I want to report flash flooding on the East River in town of Williamsville, Brainard and Pottstown. I need assistance in evacuating citizens who are stranded in flooding. We don't have sufficient manpower for all we have to do. Since the crest is nearing Louisville, I could use assistance in evacuating Louisville. Can you help me?

FROM: Mayor TO: County EOC

I'm Eldorado's Mayor Henry Pitkins. We are preparing to save the town in the floodplain area. We want to sandbag that area. Do you know where we can get sandbags around here? Also, we'll need additional people once we get the sandbags and we could use some more heavy equipment to dike up the area.

FROM: Susan Tucker TO: Township Fire PIO

My name is Susan Tucker. I'm a reporter for the Daily Kennebec Journal. You give me a flood situation report for Augusta, Howell, Gardner, and the lakes in this area?

FROM: Environmental Protection (Field) TO: Headquarters

Need an additional 100 bags of absorbent material and catch gate to control flow of diesel fuel downstream. What is ETA of State Water Resources Administration?

FROM: EOC Communications Officer TO: Emergency Manager

A local ham radio operator who's a member of my club called and said he monitored the state emergency office asking about the amount of damage we've sustained and whether they can help.

FROM: Public Works (Field) TO: Public Works (EOC)

Lady needs help getting a tree off her car so she can get it out of driveway. Can we help?

As you can see from the examples above, there are no "rules" on message writing. Similarly, there are no guarantees of success. One hint, however, may be useful: Practice with the messages. Read them through a couple of times with someone familiar with the agency involved. This is where the exercise development team approach pays off. Ask: Does the message motivate the expected action? If it does, then you probably have a successful message.

Alternatives to Self-Developed Exercises

Preparing a community to manage emergencies and preparing for an emergency management exercise can be accomplished in a step-by-step manner, as stated throughout this guide, by formulating public policy, planning committee meetings and other training and drills. There are other approaches, which FEMA is currently using, that provide an alternative to the self-developed exercise. The first of these is exercise-based training courses while the second is the development and distribution of packaged exercises.

The primary exercise-based training course currently used by FEMA is the Integrated Emergency Management Course (IEMC) format. Over a period of several days, this course accomplishes at least five important emergency management objectives: it provides agency/specific briefings; mini-preparatory exercises that are both self-contained and weave through the course agenda of a final large exercise; conducts a large multi-agency real-time exercise; creates a teamwork environment; and provides a critique by both the participants and an outside control group.

In summary, the IEMC format is an experiential vehicle which:

1. Transfers information/knowledge in a classroom mode;

2. Applies knowledge gained in #1 to an exercise situation/event; and

3. Interweaves "1" and "2" in a series of consecutive, mutually dependent events in a limited time frame.

An exercise activity may, by comparison, be:

1. A program validation event which could be done with or via an IEMC format; or

2. A training activity; or

3. A mechanism for plan/capability improvement; or

4. A public awareness/information program, etc.

However, an exercise and a training event such as the IEMC are neither mutually exclusive or hierarchical. They can be closely linked events in support of the IEMS (Integrated Emergency Management System). Therefore, while exercise may exist alone, an IEMC, as conducted by FEMA, requires an exercise as part of the course.

The second alternative to completely developing your own exercise lies in prepackaged exercises.

FEMA and many state and local governments have developed exercise packages of prepared material which, in many instances, will help you minimize exercise development time and effort. These exercise materials must be tailored to fit the specific needs and characteristics of the jurisdiction(s) to be exercised. These materials should be reviewed and tailored by the exercise design team.

Together, packaged exercises, the Integrated Emergency Management Course, and self-developed exercises represent all the components of an exercise program for your community. Each part works together to produce an effective and reliable emergency management system.

D. PREPARING FACILITIES, CREATING DISPLAY, AND MATERIALS AND EXERCISE LOGISTICS

This section describes the physical facilities, displays and materials, and exercise logistics.

Physical Facilities

The physical facilities for the different types of exercises will vary greatly, but, in any exercise, a key question to address is: Where do the exercise players work?

This guide offers one piece of advice on this question: Exercise where you operate. The exercise is intended to simulate reality. The responses of players are planned to be as similar as possible to those that would occur in a real event. Therefore, if you normally handle an emergency in the mayor's office, in an EOC, in the public works department, or anywhere else, then exercise there.

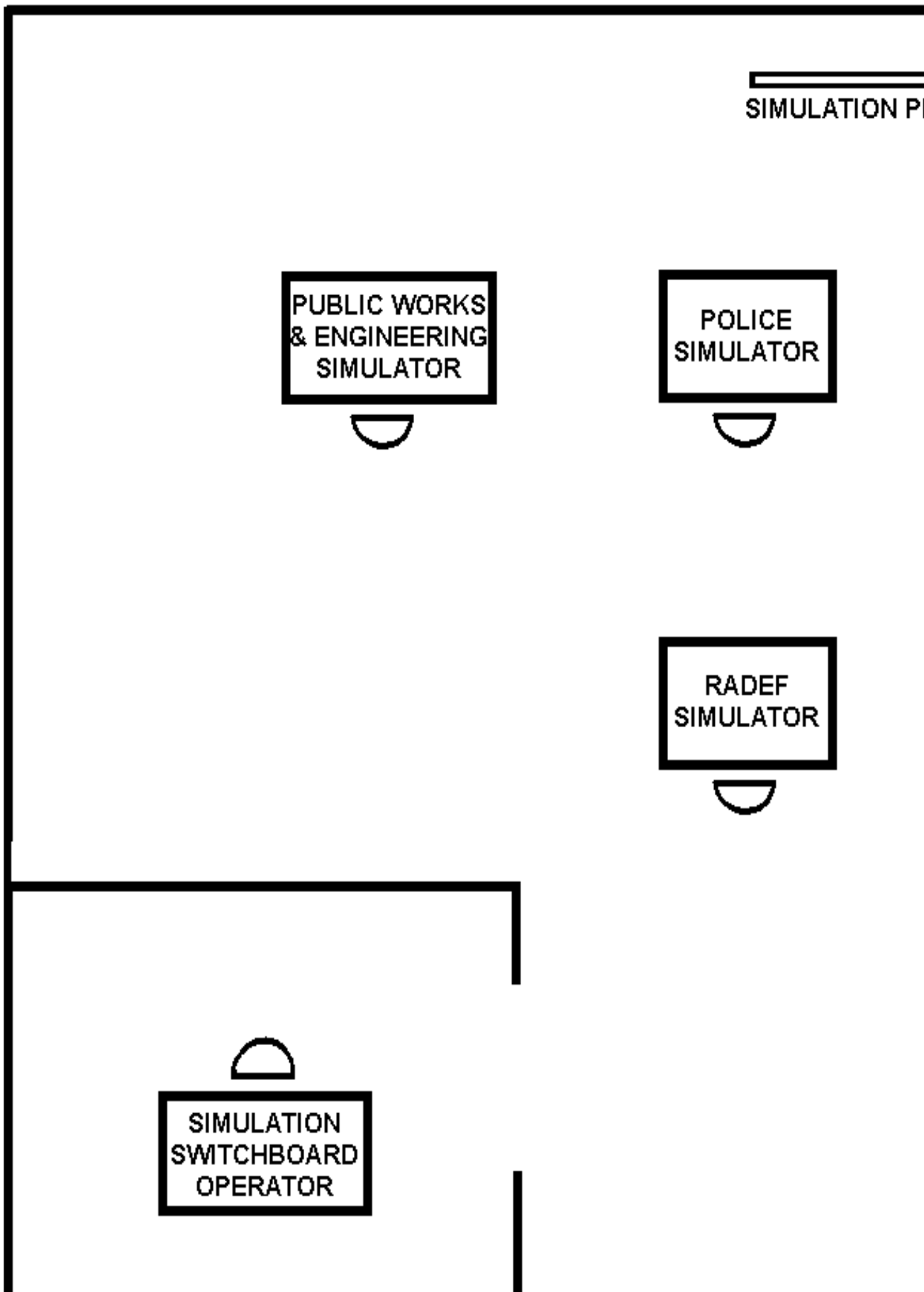
The complaint about this approach may be that there are not enough phones, or chairs, or restrooms. If that is the case, find it out in an exercise, not an emergency. If you can't practice there, don't expect to conduct an emergency there.

Given the advice to exercise where you operate, the checklist in this section suggests the kind of considerations you need to make in setting up physical facilities for different exercises. The list of considerations is divided into those for the room in which players work and the support facilities necessary to simulate the outside world for the players. Nearly all of the considerations for the players are also appropriate for the staff working in support facilities.

The physical facilities layout illustrated on the next page is for an elaborate functional exercise. Two rooms are shown: the simulation room and the direction and control players' operation room. You will note the variety of maps available to the players and the designated

assignments of the simulators. Two forms of communication between players and simulators are shown: telephone and written messages. The message controller has all the prescripted messages and distributes some of them by messenger. At the same time, other prescripted messages are input to the players by telephone. As the exercise progresses, players will make contact with the simulators to obtain information.

The layout of the players' operations room shown here is only illustrative. There are many different ways to set up an operations center. There are no rules about such facilities except: Exercise the way you operate. Do not set up a facility according to this or any other suggestions unless you plan to use that same setup in a real emergency. Adapt the physical facilities illustration to your own jurisdiction.


SIMULATION P
PUBLIC WORKS & ENGINEERING SIMULATOR
POLICE SIMULATOR
RADEF SIMULATOR
SIMULATION SWITCHBOARD OPERATOR

PHYSICAL REQUIREMENTS FOR EXERCISES					
	ORIENTA-TION	DRILL	TABLE-TOP	FUNC-TIONAL	FULL-SCALE
Player's Location					
[ ] Clear work surfaces	X	X	X	X	X
[ ] Sufficient Work Space	X	X	X	X	X
[ ] Visual access to necessary displays	X	X	X	X	X
[ ] Pencils, paper	X	X	X	X	X
[ ] Parking	X	X	X	X	X
[ ] Refreshments/food	X	X	X	X	X
[ ] Restrooms	X	X	X	X	X
[ ] Name cards	X	X	X	X	X
[ ] Easel, flip chart	X	X	X	X	X
[ ] Observer space	X	X	X	X	X
[ ] Ventilation	X	X	X	X	X
Support Facilities					
[ ] Simulation Room		X		X	X
[ ] Message Center		X		X	X
[ ] Control Center		X		X	X
[ ] Communication equipment		X		X	X

Support facilities merit a special note at this point for those considering a functional or field exercise.

The simulation room is almost a requirement if more than one or two agencies or emergency functions are being exercised. In the room, all the simulators must be comfortably situated to send, receive, and track messages and other communications with the players. If telephones or radios are to be used, they must be available. If message traffic is to be sent by hand, the simulation room must be near the players' room. In a simple exercise, telephones can be eliminated and the room can be as simply designed as necessary. Generally, for a staff of eight to ten simulators, a room of 500 square feet is adequate.

The message center is a clearinghouse for messages. It serves to distribute messages to the appropriate agencies/players. The size of the exercise will determine whether this support facility is necessary. Messages can just as easily be handed directly to a player or left at his or her position at a table. The message center sometimes is used to simulate a communications center, but unless one of the objectives of the exercise is to test message referral, the message center may not be necessary.

The control center is another support facility that is probably only necessary in the largest of exercises. Unless a number of controllers is used, exercises operate quite successfully without a special area designated for control.

Communications equipment is often attractive when full simulation is the goal. Simulators can use telephones and radio contact, with those communication forms constituting as much as 25% - 30% of all message traffic in some exercises. However, the problem of developing telephone banks for the simulators and telephone overload for the players when working in compressed time requires emergency managers to make careful, perhaps selective, use of electronic communication. Compounding this is the possibility of communication equipment breakdown, thus leading to the advice of some emergency managers to leave communications for a drill.

The exercise planners will have to balance these considerations. Exercises have been successfully conducted using written messages exclusively. Similarly, telephone banks for simulators can be developed with a little effort, and amateur radio groups (RACES, for example) seem eager to offer their services in exercises.

VARYING MESSAGE INPUTS WHEN YOU DON'T HAVE PHONES

When you don't have telephones, you need not be limited to just passing paper messages. It is easy, and important, to use a variety of communication formats in an exercise. Written messages are just one. Without the actual equipment, a telephone call can be simulated in an exercise by having the message sender walk over to the receiver and whisper in his or her ear. Likewise, if a player wants to make a phone call to a simulator, raising a hand can signal the simulator to come to the player to talk. Speaker phones or radio can be simulated by a person speaking aloud to the players. So you see, with a little effort a wide range of communication can take place, even without all the equipment usually necessary.

Displays and Materials

Displays and materials constitute the visual devices used in the exercise. Both have the purpose of aiding the simulation of a realistic event. Displays are large maps, charts, or lists available for players, staff, or both to see. Materials are forms, such as message forms, or other visuals that are usually reproduced on paper. Whether for individual or group use, the purpose is the same: To provide details for the scenario and keep track of subsequent actions taken in the exercise.

The advice offered in this guide for displays and materials is the same as that offered for physical facilities: Use what you use every day.

If you have a map of the county, use it. Don't begin with the assumption that you need a new map because you are having an exercise. Let the map be tested in the exercise. You'll find out quickly enough whether you need a new map.

Similarly, don't develop an entirely new message form just for the exercise. Use the one you use every day, adapting it as necessary to meet the needs of the exercise message system.

Of the many ways to display critical information, the three discussed here range from inexpensive, completely manual systems to relatively expensive data processing systems. These three are manual displays (charts and maps), overhead projectors, and computers.

Charts and maps can be either magnetic, plastic overlay, or both. This is the least expensive and most flexible display medium. Charts and maps are easy to store, use, and relocate when necessary. However, there are several disadvantages. Wall charts are often difficult to keep current in the hectic early activity of operations when the data they are designed to display is most needed. Wall charts are also easily obstructed by normal room traffic. When a chart is filled, it must be erased, thus losing data on earlier activities. However, erasure can be compensated for by taking instant photographs of the chart at given intervals.

Alone or in combination with other charts, overhead projectors (viewgraphs) can be used to record important information. The plastic sheets used with the projector can be saved and reproduced for the record, thus avoiding lost data as the operations proceed. However, such projectors may require a low light level that may interfere with other important activities. They can also be frequently obscured by passing traffic in a busy room. When an overhead projector is used, it should probably be reserved for the problem log and a backup chart should be available if the power or projector itself fails. In any case, it would be used in conjunction with a map, either with plastic overlay or with magnetic symbols.

Computers provide excellent storage, display, and printing capabilities. They can store emergency plans, SOPs, checklists, and resource files; can manipulate figures; and produce reports and public information releases. If a jurisdiction has the resources to purchase dedicated microcomputers, or can use space on a larger computer already owned by the jurisdiction, this approach to displays and data storage problems may solve many of the problems associated with the manual techniques discussed above. It should be remembered, however, that computers depend on reliable and consistent power. If you choose this alternative be sure to thoroughly test the systems on generator power, and have backup manual systems in case of failure of the system or the emergency generator that is expected to power it.

Among the useful displays and materials you may want to consider are maps, various charts, message forms, and a telephone directory. If you are doing a functional exercise, the following is a description of several displays and materials you might consider.

Types of Charts

An important function performed in an Emergency Operating Center is the accumulation and sharing of information. To ensure coordinated and timely emergency response, visual displays allow everyone to quickly comprehend what actions have been taken and what resources are available. Display needs will vary with the nature and scope of the exercise, but the following charts should be considered. Some displays are for use by only the exercise staff.

Problem and Event Log

All major problems that are reported can be entered on the log as they are received. One way to make a reusable log is a large, plastic-covered board with columns for problem number, nature of problem, response assignment, response, and remarks. A written, typed or facsimile copy of incoming messages should be kept by the message controller A large events display board for posting major events should be available for all in the EOC to review. This display is also useful for EOC shift change briefings.

Damage Assessment Chart

The damage assessment chart contains columns showing cities in the county reporting damage, time of report, and extent of the reported damage. Like the problem and event log, a reusable plastic-covered board is handy, but ordinary flipchart pages will work just fine.

Medical Facility Chart

The medical information that may be useful would include the current status of permanent and temporary medial facilities; including location, beds available, blood and other critical supply needs, manpower requirements, and communications links. It is particularly important to note locations of temporary medical facilities so that the public information officer and other EOC players can instruct the public on where to seek help.

Fallout Shelter Status Chart

The fallout shelter status chart includes information on location and capacity of shelter; current loading; status of food, water, and medical stocks; name of shelter manager; and communications links.

Congregate Care Facility Chart

The Red Cross, Salvation Army or government social services agency is sometimes responsible for maintaining the congregate care facility chart, which includes information on shelter locations, spaces still available, and communications links.

Law Enforcement Resources Chart

The law enforcement chart provides information on numbers and locations of sworn, reserve, and auxiliary manpower, as well as status of mutual aid units. The chart can be used in conjunction with a map to provide complete visual detail on where all forces are at any time.

Fire Resources Chart

The fire resources chart displays deployment and availability of fire units and status of fire mutual aid forms. Like the law enforcement chart, use of a companion map makes for an effective display.

Transportation Resources Chart

This chart is used for maintaining current status and availability of all public and private transportation.

Master Sequence of Events List

This chart is for the exercise controller's/simulator's use only. It depicts the detailed sequence of events developed as part of the scenario. The chart (on paper or as a large display) is used by all exercise staff (controller, simulators, evaluators) to monitor the progress of the exercise in order to keep it on schedule and on track.

Simulation Plotting Map

This map is used to depict prescripted input exercise information. Coded markers may be used to depict actions taken by the various types of agencies, including: police, fire, medical/health, public works, utilities, and Red Cross/voluntary agencies.

Organization Charts

These charts are an option for the players, but may be especially useful for staff as a means of anticipating what agencies should be coordinating or reporting other agencies. They can be another useful tool to keep track of action in the exercise.

Maps

Maps provide detail and context to a scenario. They may be used throughout the exercise to position equipment or to determine the nearest facilities for resource deployment. Maps are useful in all types of exercises and may be reproduced on paper for individual use or displayed on a wall. Acetate overlays will allow you to mark off areas or monitoring points, etc., and reuse the map. Since updating will be done throughout the exercise, make sure that the map is securely positioned or fastened to the wall. Even in a discussion exercise, maps reproduced and included with the scenario narrative provide useful information and give players a clearer picture of the simulated event.

A tremendous number of maps is potentially useful in a real emergency and an exercise. Beginning on the next page is a checklist of possible maps to consider using. You will probably want to choose carefully because maps can be expensive and time-consuming as described in the following section.

POSSIBLE MAPS FOR YOUR EXERCISE
• City map • County map • State map • Weather map • Transportation routes closed or impeded • Areas of major damage • Medical treatment facilities • Floodplain inundation areas • Limits of evacuation area, control points • Crisis relocation evacuation routes • Utility system maps • Rolling power blackout block assignments • Fault line, soil, and landslide potential • Dams and potential flood zones • Locations of hazardous materials manufacture or storage

The best maps are those that you can get quickly and easily and that will serve your purpose. Before trying to make your own maps, try local municipal agencies such as the City Planning Commission, Department of Highways, Engineering Department, Public Works Department, etc., since their maps might be available in a size you can use.

The maps should be simple and should contain streets and street names and major geographic features. Zoning maps, special use maps, and those which tend to overemphasize arteries of travel should be avoided. Line work and lettering should be sharp. Maps that will undergo a 50 percent photographic reduction and/or enlargement will provide the best results. Small maps (e.g., 4" x 5") when enlarged become difficult to read.

Multi-colored maps should be avoided if at all possible. Some colors do not lend themselves to the photographic process. A photo lab technician should be consulted for details on how to obtain the best product if nothing else is available. Copyrighted maps will require a copyright release from the publisher. Frequently a publisher who has a civic responsibility will do so without requesting a fee.

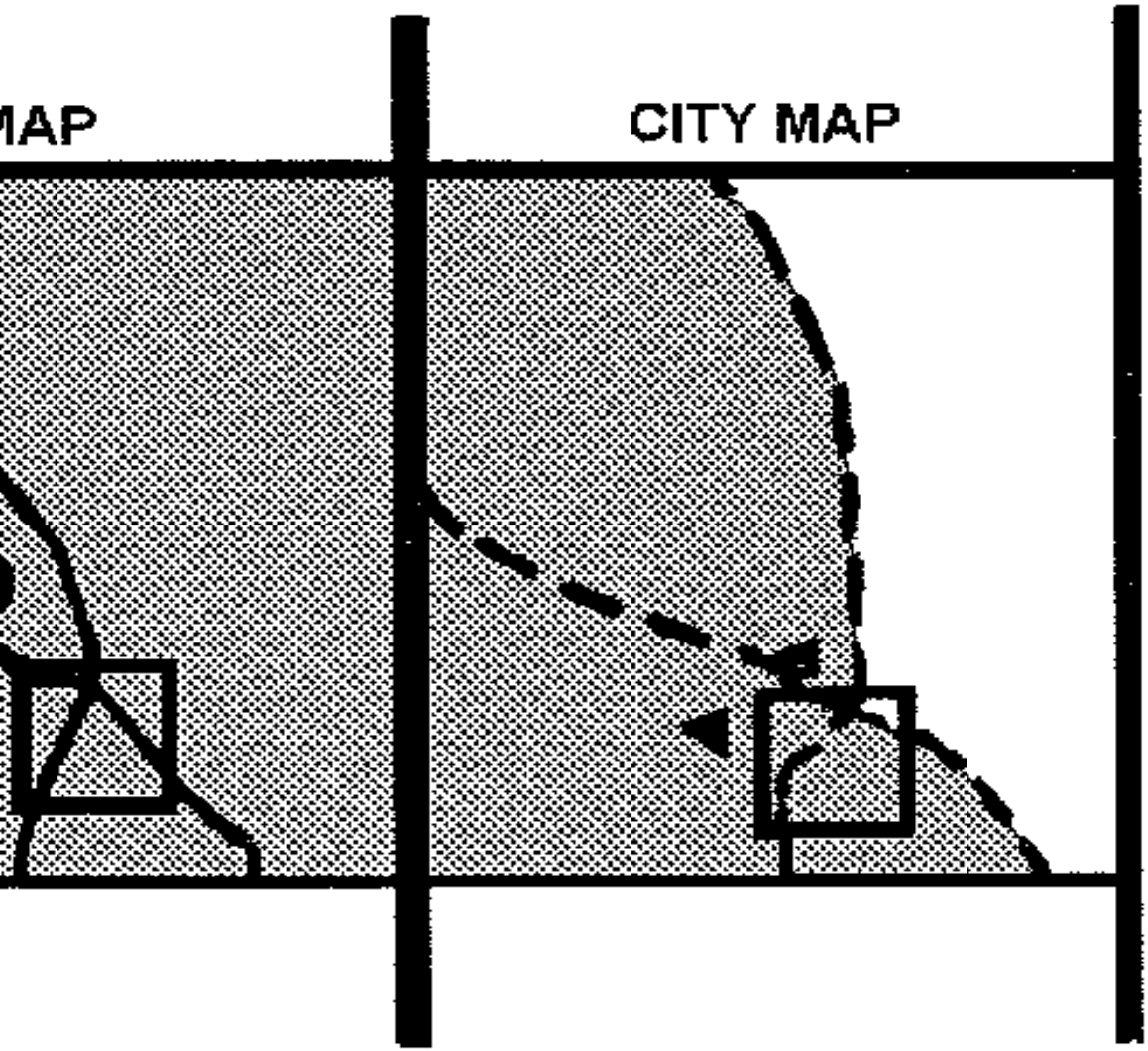
Frequently, maps are produced with such special overprinting as underground water lines. The agency which produced the map may be able to provide a copy of the base map without the overprinting.

After the base maps have been selected, they need to be prepared for photographic printing if you plan to reproduce them for several exercise players. Maps should be mounted with rubber cement on white illustration board, and the image area to be reproduced specified with corner ticks. Smudges and unwanted features should be painted over with white opaque fluid. To obtain the maximum enlargement, the overall dimensions of the maps can be reduced by trimming off excess marginal data. If the map is not oriented north-south, the old border should be removed and the map reoriented. The map dimension may be further reduced by relocating the legend, title, and scale closer to the body of the map.

When constructing the corner tick marks, care should be taken to make sure that the ratio of width to height of the image area is the same as your map enlargement (that is, 5:4 for a display 5' x 4'). In addition, it is usually advisable to remove all border lines so that the map, when mounted, bleeds off all four edges. Otherwise, the border lines serve to emphasize errors in mounting and printing.

Whenever any map is reduced or enlarged, care should be taken to make sure that the resulting scale indicators are correct. If the original map contained a bar scale, this will reduce or enlarge along with the map data and the resulting scale will be correctly indicated on the printed copies. However, if the original indicates its scale in inches (e.g., 1" = 4 miles), these scale Indicators should be removed. If no indication of map scale remains, a bar scale should be constructed on the original before printing. Try to have all maps developed in the same scale.

You will probably want large maps for hanging on the wall and small maps for use by players at tables. One basic printing process begins with a map being used to produce a 21" x 18" film negative of the original. With the printer, determine what enlargement is appropriate. If the map needs to be produced in two halves, make a vertical splice. Make as many wall maps as necessary for the exercise. Then, from the same negative produce a film positive at 21" x 18". You can then make sufficient prints at 21" x 18" for each active participant. These preceding instructions are just suggestions; you should discuss the details with a printer.



◄ LOCATION OF MAJOR EMERGENCY

Telephone Directory

A Telephone Directory is necessary in elaborate exercises where a simulation room represents all government and private sector offices. Players will need the exercise telephone directory to be able to contact the right simulated office. The directory should also include phone numbers for other players. There is not reason for the telephone directory to be any more elaborate than a typed page with three columns for players' names, role titles, and phone numbers.

Messages

Message Forms are a common means of exchanging information in an exercise. Message forms should be adapted from the existing message forms used by the jurisdiction. As a result, there is no prescribed form. However, there are certain parts to a message form that have proven useful; they are shown below.

- Sender
- Receiver
- Time
- Message Number
- Text of Message
- Action Taken Notes

Some jurisdictions have expanded from these basic to include sections on the agency the task was assigned to, agencies coordinated with, decision reviewed by, and communications transmission priority. Some forms include a space for the date, but this is probably unnecessary given the short duration of most exercises.

The following form illustrates a very straightforward message that includes only the basic facts.

DISASTE

<ME

TO:

M

NO:

CONTENT:

Another message form that is easy to use is made from carbonless reproducing paper. Each form has three sheets attached: white, yellow, and pink. Writing on the top one makes a duplicate of your comments on the others. The message sender can keep the pink form as a record of his or her request. The receiver responds on the white form, keeping the yellow as a record of his or her response. The white form is returned to the sender.

Telephone will be the primary means of communication in the exercise. Depending upon the physical location of the simulators, it may be possible to use existing telephones during the exercise. It may, however, be necessary to install special lines and extensions to provide the necessary communication links. In some facilities, where a central switching system is used, an operator may handle all incoming and outgoing calls. It is strongly recommended that a special exercise directory of applicable telephone numbers be prepared for participants' use. Such a directory should also include communications instructions or procedures to be followed during the exercise. These procedures should be carefully defined in the exercise briefing to ensure that the participants have a clear understanding of them. The briefing should also include a communications check to assure that the telephones are working.

Radio communications during an exercise must be precisely planned to eliminate inadvertent reception of exercise transmission. It is often preferable to use low power handi-talkie (personal portable) sets in lieu of established base stations. While not as convenient as the regular radio, they produce essentially the same effect and are relatively easy to set up. For those jurisdictions that frequently conduct exercises, simulated radio systems (using wire lines) or commercially available intercom systems can be inexpensively developed for training purposes. During actual emergencies, these systems can be used to reduce internal loading on telephone communication systems.

Information in an Exercise

Based on wide experience and research into the use of information in exercises, this guide offers the following observations:

- The message form can be a deadly device, slowing the progress of the exercise to the speed of handwriting. Remember, exercising is not a writing assignment, but a thinking and acting assignment. If, in reality, a person would pick up the phone to respond, then don't make them write an elaborate message. The flow of the exercise is more important than a detailed written message.

- Telephone procedures can be unbelievably poor. Frequently, neither the person talking or the topic of conversation will be identified. Frequent misunderstandings occur from shifts of topics within a conversation, without accurate identification of the topic.

- "Echoing" conversation material also reduces the speed of telephone conversations. An example: the first speaker says, "There's a fire at Fifth and Main," with the second saying, "A fire"? The first, "Yes, a fire." The second, "At Fifth and Main"? The first, "Yes, a fire at Fifth and Main."

- Less credence is placed on display information than on other forms of communication. Many instances occur in which displayed information was immediately and directly available, but telephone inquiries were still made.

- Regardless of the display configuration, the players will show a remarkable ability to identify and concentrate on problems of major importance, while postponing attention on the routine problems.

E. IDENTIFYING, SELECTING, AND TRAINING STAFF

The exercise staff is the group of people who actually put on the exercise.

Staffing the exercise will depend on the resources available and the nature of the exercise. In a small jurisdiction, one or two people may perform all three of the staff roles discussed in this section. In a large jurisdiction in a major exercise, entire teams of several people may be necessary for each of the three staff roles.

In planning your exercise, you will have to determine what resources can be allocated to each of these jobs. The three staff roles are:

Controller Monitors the flow of the exercise and supervises the input of messages.

Simulator Creates the simulated emergency by sending prescripted messages and/or spontaneous messages to players.

Evaluator Observes the actions and decisions of the exercise to later report what went well and what did not go well.

As seen in the following table, in basic exercise one person can perform all roles. As exercises increase in complexity, staffing must also increase.

STAFF IN DIFFERENT EXERCISES			
EXERCISE	CONTROLLER	SIMULATOR	EVALUATOR
ORIENTATION SEMINAR	one person, emergency manager	none-done through written materials	one person or controller or participants themselves
DRILL	one person, agency director	one at field or EOC location	one person
TABLETOP EXERCISE	one person, emergency manager	none-done with written scenario narrative and other materials	one observer for every 2-3 agencies represented
FUNCTIONAL EXERCISE	master controller and additional controllers in each location as required	one for each 1-2 agencies	one observer for every 1-2 agencies
FULL-SCALE EXERCISE	master controller EOC controller, and additional ones for each location	one for each 1-2 agencies, one at field site, one at other sites as necessary	1-2 observers in EOC, 1-2 at each site

The Controller Role

The controller's purpose is to make certain that the exercise is conducted according to the objectives, the scenario, and the Master Sequence of Events List (MSEL). The primary responsibility of the controller is to make certain that the exercise goes according to plan so that the objectives can be achieved.

To the extent possible, exercise controllers should be drawn from the exercise design team. Because they are both already familiar with the exercise, they are best suited to functioning in the controller's role.

In larger, multijurisdictional exercises, the exercise controller should be kept separate from both the exercise director and simulator role to allow total dedication to the control function. It is desirable to have an exercise controller in place at each participating exercise location.

In addition to closely monitoring the exercise play, controllers will also be responsible for developing the content of debriefing sessions from Problem and Key Event Response Logs. They may also be involved in the subsequent analyses of the exercise.

Duties of the controller during the exercise include:

- Monitoring the sequence of events to make certain the exercise is proceeding according to plan
- Maintaining order and professionalism throughout the exercise
- Acting as simulator for unanticipated events or resource requirements
- Discarding messages to slow down exercise
- Adding messages to increase pace
- Checking action decisions to make certain that they keep the exercise on course

The controllers can usually be drawn from the exercise development team. Because developers are already familiar with the exercise, they are well suited to the task of keeping the exercise flowing toward the anticipated conclusion.

Training

Controllers need to be trained in several different areas. If they have been drawn exclusively from exercise developers, then the amount of training will be minimized. The six items below suggest the general tasks for which controllers need to be prepared. In the three seminars, this role will usually be the emergency manager's. In advanced exercises, there will be several controllers with the team headed by a master controller.

- Monitoring sequence of events
- Monitoring message flow
- Controlling spontaneous inputs by simulators
- Coordinating information among simulators
- Responding to unplanned situations
- Monitoring overall conduct of exercise

The controllers should have the Master Sequence of Events List, messages, and a copy of the objectives to thoroughly prepare for the exercise.

The Simulator Role

Simulators create an artificial reality through the delivery of prescripted and spontaneous messages to players in order to evoke player reactions similar to those occurring in a real emergency. In doing this, simulators are responsible for the minute-to-minute flow of the exercise.

The role of simulator in the exercise is to portray a part or all of the "outside environment" to the EOC participants. The simulator in a dynamic interactive exercise must be able to play the role or roles as designated. Simulators should be familiar with the workings of the agencies/personnel they are representing, and, where possible, they should be selected from those agencies to be simulated.

The simulators will be responsible for all the "outside" actions taken by an agency. They will input events into the exercise play via radio, telephone, or written message, and respond to inquiries and/or outgoing directives pertaining to those events. Once given directives, they will be required to follow through (in a real-time mode) and implement the directives in a professional manner.

Should the implementation of an EOC directive to the field result in secondary events, the simulators must dynamically insert these events into the exercise play.

The duties of the simulator include:

- Simulating all actions taken by an agency
- Sending prescripted messages representing that agency according to scheduled time in the sequence of events
- Responding to unanticipated actions by players with spontaneous messages
- Informing controller of any possible deviations from scenario

Staffing

Staffing the role of simulator becomes necessary only in the more advanced activities (tabletop, functional, and full-scale exercise). In smaller orientation seminars, simulation is adequately handled with written or other materials. People become necessary as simulators

when player responses produce the need to spontaneously simulate an agency action or physical event in order to keep the exercise realistic and on track. Examples of such requirements might be when a player asks for more information or when a decision taken is not logically linked to the next event in the scenario. At either of those points, the simulator must respond spontaneously.

The requirement of spontaneous response creates two considerations in selecting simulators:

First, they need to know the organization they are simulating. To respond intelligently (i.e., realistically) they must have a good knowledge of the agency they represent.

Second, training for simulators is important. They must be fully aware of the sequence of events and familiar with messages in order to know when to create their own messages and when to let the prescripted course of events take place.

In selecting simulators for an exercise, the following guidelines are suggested:

- Wherever possible, simulators should be drawn from the agencies they will portray.
- In some cases, it may be necessary for simulator personnel to overrule their real-life superior's decisions and actions during the exercise. Personnel selected as simulators must be comfortable with this role. (This point should be stressed in simulator training and during the exercise briefing).
- Select members of the exercise design team as simulators whenever possible.
- Personnel assigned key participant or operational roles in the emergency plan being exercised should not be selected as simulators.
- Select only those people who will be available for the required simulation training and the exercises, and who are most likely to adhere to the objectives.

When there are several simulators, it may be necessary to designate a simulation coordinator to assure the overall flow of the simulation.

Training

Simulator training focuses on the ability to insert prescripted messages at the right time and to respond to events with spontaneous messages. The training should include familiarization with:

- Objectives of the exercise
- Message forms and flows
- Content of the complete set of messages
- Creating spontaneous messages
- Coordination with other simulators
- Accuracy, timeliness, and realism of responses
- Working with the controller

This relatively short list of training needs for simulators assumes that simulators are already very familiar with the workings of the agencies they simulate. For someone to be trained from scratch about fire department procedures is an unreasonable and unnecessary level of effort and should be avoided.

Grouping Simulators

It is generally desirable to establish functional groups of simulators to provide greater flexibility of operation and possibly reduce the total number of simulators required. Each group may consist of one or more simulators and will be responsible for simulating specific nonparticipating activities. A simulation supervisor responsible for the overall simulation activity should be designated.

A suggested group alignment is outlined in the following chart (this configuration may, of course, be modified to meet local needs).

Group A will consist of simulators representing government agencies that are not participating in the exercise (e.g., state and county EOCs and EOCs of other cities). Simulators categorized as Group B will personify the agencies and departments of the participating jurisdictions that are not taking an active part in the exercise (e.g., field units of hazard city departments such as police and fire departments). Group C simulators will represent private organizations affected by the plan but not actively engaged in the exercise (e.g., commercial business, media, etc.).

EXAMPLE OF SIMULATOR GROUPINGS		
Group A Nonparticipating Government(s)	Group B Participating Jurisdiction	Group C Other Private Facilities/Individuals
One or two persons simulating: • State or State Area EOC • County EOC • Other city EOC(s) • State/Federal offices facilities within the county	Representative of Hazard City departments and agencies including: • County Departments • Medical/Health • Care and Shelter • Resources and Support They will simulate all field units of Hazard City departments and agencies (e.g., police, fire, public works, and others). Medical and Health will also simulate private medical facilities. Resources and Support will also simulate private utilities.	One or two persons simulating: • Industries • Commercial Business • Media • Private Citizens

Numbers of Simulators

A precise simulators-to-participants ratio cannot be established. Several factors influence the number of simulators to be assigned:

- The communication links and methods used. (For example, if only one telephone line is available, the number of simulators can usually be reduced).

- The knowledge and understanding of the agencies being simulated. (Use of individuals with a good working knowledge of several departments will tend to decrease the number of simulators required).

- Realistic portrayal of multiple agencies. (A single simulator representing too many agencies would detract from the authenticity of the exercise).

While the number of participants is a factor, the primary consideration governing the number of simulators will be the communication channels available.

The following table provides a rough guideline to the minimum number of simulators required for a two-day and eight-hour exercise. This table assumes that all three simulation groups are located in a central facility. In eight-hour exercises, the simulation supervisor may also act as simulator and group simulators may assist other groups as available or required.

MINIMUM SIMULATORS REQUIRED					
	Supervisor	Group A	Group B	Group C	Total
2-day	1	2	4	2	9
8-hour	1	1	3	1	6

The Evaluator Role

The purpose of the critique or evaluation role is to observe the exercise and report afterwards on what went well and did not go well. The main responsibility of evaluators is to monitor the decisions made in the exercise and report on them. Specific duties of evaluators include:

- Helping develop objectives that can be evaluated.
- Attending a training session prior to the exercise.
- Preparing for the exercise by studying a few documents about the jurisdiction and the exercise itself.
- Observing the parts of the exercise they will evaluate.
- Attending the post-exercise debriefing and incorporating comments from the players into their overall evaluation.
- Preparing brief written comments about the exercise that will be included in the final evaluation and recommendation report prepared by the emergency manager.

Staffing

The critique group will vary in size according to the number of players monitored. Members of the critique group can come from within the jurisdiction or from neighboring jurisdictions. Each agency might provide a group member to observe its agency staff operation, or members could come from agencies not involved in the exercise.

In deciding whether agency personnel should observe their colleagues, you must consider the problem of bias. One way to avoid this is to use emergency managers from neighboring jurisdictions as critique team members. This will require more effort in training to familiarize other managers with the intricacies of your jurisdiction's program, but it will also build rapport with neighbors. Using a state emergency official is also a good way of getting an experienced observer and keeping the state updated on actions in your program.

Training

The success of the critique group, whether colleagues or neighbors, will depend on training. It may take as much as half a day to thoroughly familiarize evaluators with the jurisdiction's plans and procedures, and with the exercise objectives and messages.

The most frequent difficulty in critiquing comes from evaluators who become involved in following the exercise rather than doing their job. Therefore, the group members should be well-briefed on the exercise and know the detailed sequence of events. They should know exactly what to expect and be looking for the events they need to evaluate. To accomplish this, one approach used is to bring all critique team members together for a training session two days before the exercise. Areas to be covered in the training session should include:

- Objectives of the exercise
- Participating agencies
- Message flow procedures
- Specific operations or decisions to observe
- Procedure for debriefing
- Preparation of evaluation report

To provide sufficient background to evaluators, especially if they are not familiar with the emergency procedures in the jurisdiction, the following items may be useful for them to study:

- Emergency Plan
- Annexes covering specific exercise functions
- Organizational Structural Chart
- Complete set of all exercises messages

Monitoring Exercise Flow

Evaluators, simulators, and the controller must work as a team if the exercise is to go smoothly and achieve its objectives. The key to this relationship is planning.

The planning for the evaluators begins with the objectives: what is the exercise designed to achieve? There you will find the job of the evaluators defined clearly. The exercise design team members must be able to tell each evaluator what they are looking for and where to look. You'll find more details in the section on “What to Evaluate”.

The planning for the controller and simulators begins with the “control points” described previously. The control points tell you exactly what important actions should be taken. In the same fashion, each simulator knows what specific expected actions he or she is looking for. These must be monitored carefully to make certain that each individual action is moving each layer toward the next major control point. When the exercise begins to when a control point is missed, the exercise can go astray. It is the job of the simulators and controller, working closely together and talking throughout the exercise, to make certain the exercise stays on target.

STEP 3: EXERCISE CONDUCT

The day of the exercise is the culmination of all your planning. You will conduct the exercise using any of a variety of methods. As you have seen in earlier sections, exercise program activities build on each other. The techniques of orientation seminars are useful in later exercises, for example, as an initial participant briefing for a functional exercise. Therefore, this guide suggests that the experienced designer should review the tips included for all the different elements of emergency management program.

In the following pages orientation seminars, drills, and each of the three exercises will be examined with suggestions on their conduct: beginning the activity, methods for conducting, and sustaining action.

CONDUCTING ORIENTATION SEMINARS

Beginning an orientation seminar is like any other regularly scheduled meeting: attendees arrive and introductory comments on the purpose and actions anticipated are made.

Methods vary widely for orienting individuals to a plan, procedure, or idea. A LECTURE, for example, given by the plan developer, a government official, or an industrial expert can effectively get the message across. FILMS, SLIDES, or VIDEOTAPES are available from the Federal Emergency Management Agency, U.S. Geological Survey, National Weather Service, as well as some states and voluntary organizations. Some localities have even videotaped past exercises that would be useful to review. Well-planned PANELS with diverse viewpoints are effective and stimulating.

TALK-THROUGHS involve a sequential discussion of roles and responsibilities in a plan, annex, or set of procedures. The technique involves assembling personnel from agencies with a part to play in the plan or procedure. With the plan in front of them, the talk-through is begun with the initiation of the plan. One by one, participants describe (a) the steps they take to implement the plan and (b) the agencies they contact during implementation. Other participants follow along and interject comments. For example, when they feel their agency should have been contacted or when they have a resource that would have been of use. From beginning to end of the procedure, a talk-through offers the chance to identify gaps, overlaps, and inconsistencies while developing some personal familiarity among personnel.

BRAINSTORMING employs materials similar to those of problem resolution. The approach taken to resolving problems, however, varies. Brainstorming requires everyone to enter into “idea getting” rather than “idea evaluating”. Its purpose is to come up with a solution in a free-thinking format of total involvement by all participants. The process requires everyone to join in by suggesting any idea related to solving the problem. Any judgment about the value of the idea is suspended. If it is a good idea, others will “hitchhike”, adding to it and expanding

the idea. If it is an inappropriate suggestion, the group simply does not follow up. There is no criticism. There is no justification or explanation. The problem passes from one participant to another (in a round robin) with everyone throwing out ideas that are new or additions to previous ideas. The goal is to explore all the possible alternatives rather than restrict the focus by expanding on any single idea or direction.

A CASE STUDY discussion differs from the two previous methods by reporting on an actual emergency incident. The purpose is to seek lessons learned applicable to the jurisdiction. The case is reviewed by a moderator or read individually by participants. Questions can then be raised for discussion about the actions taken in the case or, perhaps, the actions participants would take if faced with a similar incident. Cases are available from many sources, ranging from those you could construct from newspaper accounts, to after-action reports of local or state agencies, to those prepared by federal oversight agencies, such as the National Transportation Safety Board.

Sustaining action in an orientation seminar is largely a responsibility of the leader or moderator. In a lecture, the seminar leader needs to keep the lecturer from going on too long. In a panel, the moderator needs to keep crisp and to the point. Films or slides need to be reviewed and used selectively if parts are inappropriate.

Variety is also useful in sustaining action. Visual aids (flip charts, overhead projectors, etc.) provide variety, as do question and answer periods. Combining lecture and panel discussion also results in a varied and stimulating format.

CONDUCTING DRILLS

Beginning a drill will more than likely depend on the type of drill being conducted. For example, a command post drill would require the personnel of the emergency service that are participants in the drill to report to the designated drill site. There, a “visual narrative” is displayed before them in the form of a mock emergency to which they would respond. Command post equipment such as vans, command boards, and other needed supplies should be available.

Methods will vary widely from the practice of simple operational procedures to more elaborate communication and command post drills. A general briefing, setting the scene and reviewing the purpose and objectives of the drill should be conducted by the drill designer. Operational procedures should be reviewed before the drill if they are to be tested. Safety precautions should be considered and reviewed with the participants. In some films, slides, or videotapes can be utilized to set the scene for a drill.

Sustaining action includes both planned and spontaneous messages based on the actions of the participants. In most cases, such as when procedures are being tested, little or no communication from the drill designers would be required. In more advanced drills interaction between the drill designers and participants may be necessary.

CONDUCTING TABLETOP EXERCISES

It is useful to begin a tabletop exercise with an exercise briefing period to orient the participants and simulators. Included in the introduction will be a summary of the objectives, discussion and clarification of ground rules, message routing and communication procedures, and any special information on simulation procedures which may affect participant and simulator actions during the session.

The second part of the exercise briefing is an intelligence briefing given by either the exercise controller or a simulator who will simulate the person on the EOC staff who would normally advise others of the crisis simulation. This briefing consists of presenting the scenario narrative prepared by the exercise design team. All participant questions pertaining to the intelligence and situation briefing will be handled by the controller or simulator.

At the completion of the intelligence briefing, the controller will announce that the exercise is beginning. The exercise controller will begin the exercise by introducing the first problem to the participants.

Methods for the tabletop divide into two categories: basic and advanced. Basic tabletops seek to solve problems in a group. Advanced tabletops introduce messages.

In PROBLEM RESOLUTION, the scene set by the scenario materials is usually made up. The scene describes an event or emergency incident and brings the discussion participants up to the simulated present time. The materials either provide all the details about the imaginary jurisdiction involved or allow players to use their knowledge of local resources as the context. Players then apply their knowledge and skills to a list of problems that might appear at the end of the narrative or that are verbally presented one at a time by the seminar leader. Problems can be discussed as a group and resolution generally agreed upon and summarized by the leader.

In the advanced tabletop exercises, play revolves around delivery of prescripted messages to players. Play can follow two courses. All players can evaluate the same message and announce their actions or decisions at the conclusion of a “round”. Discussion might then take place or another message could be given. A second technique treats players individually. Each gets the messages intended for the agency he or she represents and makes decision. When a decision is completed, another message is handled. Players are left alone to individually seek out information and coordinate decisions with other players.

The exercise controller will normally introduce problems one at a time in the form of a written message. Participants will discuss the issues raised by the problem, using the appropriate plan for guidance and direction. They will determine what, if any, additional information is required and request that information from the controller (or the simulators by

telephone if direct communication is being used). Participants will then take some action on the problem. Action can be in the form of a written directive or an indication to the controller that the appropriate jurisdictional plan does not supply adequate guidance or direction for them to follow in resolving the problem.

Simulators will use their own emergency plans as major guidance in generating responses to the participant questions. Simulators should respond to all requests as soon as is feasible.

The controller will monitor the participant discussion and assist in guiding the discussion if any such action is necessary. Each problem will have a recommended time frame for participant action. If the controller sees that excessive time is being used on a problem situation, they may elect to terminate the discussion and move on to another problem. The exercise controller will also determine if time should be extended.

At the completion of participant action on a given problem (or while participants await a response on an inquiry to a previous problem), the controller will input another problem. It is recommended that the participants in these exercises work on only one problem at a time.

The controller and simulators (if used) will maintain a Problem Log and make appropriate notations concerning the participant actions, adequacy of the plan to provide participants with guidance and direction, and any other problems which come up during the exercise.

The tabletop exercise is better suited to exercising single emergency management functions or a very few functions. Training in decision-making and resource allocation are good uses of the tabletop.

Sustaining action in a basic tabletop continues to be an important function of the leader or moderator. Techniques are available, however, to assist the leader. First, the scenario narrative or case can be developed in event stages. That is, the initial narrative may involve warning. A later one could deal with search and rescue. In this way, more than one narrative can be to sustain action.

Second, the progression of problems that the participants address is a natural way to modify or improve the flow of action in the seminar. Problems can be added or deleted to alter speed of consideration.

Third, combining methods also offers the opportunity to vary action in the seminar. Problem resolution might give way to brainstorming for a single difficult problem. Or, a case study might precede a scenario narrative to allow participants to utilize the case lessons learned.

Sustaining action in an advanced tabletop exercise is largely dependent upon message flow. Sending multiple messages can increase pace; delaying messages decreases pace. In general, spontaneous messages are used in a tabletop when free play has resulted in events or actions developing in the exercise that were not anticipated by the designers. You must be careful to control free play so that it supports the objectives of the exercise. All it takes to bring the free play back on track is a word from the controller. Do not hesitate to control the exercise tightly.

As you can see, sustaining action important. The tabletop is basically low-stress with emphasis on training, and controlling action are equally still training. It is low-key, not testing. Knowing when to suspend action is as useful as knowing how to sustain action. The controller or leader needs to watch carefully for signs of frustration among players. If difficulty arises, messages back up, or a problem causes conflict among players, stop the exercise. Reach into your experience as a discussion leader and help players talk about their situation. Engage in construction problem solving. The tabletop is designed to be one step along the way to functional and full-scale exercises. Avoid a bad experience with the exercises by keeping in mind the low-key nature of the tabletop.

It is recommended that an EOC be used for the exercises because the EOC provides the most realistic setting for the exercise; the various plans, displays and maps are available on the premises. However, any conference facility that will comfortably accommodate the number of participants in a face-to-face setting will be adequate.

Copies of the appropriate emergency plan(s) must be available for reference, as should maps and other displays that would typically be available in the EOC and that may be necessary for reference during discussion periods. If direct phone or radio communications are not available, message forms will be required. Copies of blank message forms should also be available for requesting additional information, issuing directives, etc. It is recommended that there be a recorder to document the actions taken by the participants. These recorded actions will serve as a reference for the exercise evaluation.

CONDUCTING FUNCTIONAL EXERCISES

Beginning a functional exercise will depend on its objectives. If an objective is to test the notification system, then a “NO-NOTICE” exercise is useful. In this, participants will know only that an approximate time frame is scheduled for the exercise (anywhere from one day to several weeks). The exact moment of the exercise will be a surprise, allowing the exercise designers to observe how effectively notification and assembly at the command point take place during, for example, lunchtime. In most exercises where notification is unimportant, the exercise time will be announced as would any meeting.

The success of an exercise depends largely on the participants having a clear and consistent understanding of what is expected of them. Many exercises fail because the ground rules or simulation techniques to be used during the exercise are inadequately explained. To ensure that all exercise objectives and procedures are understood, participants should be briefed before the start of the exercise.

The briefing should include a statement and discussion of the exercise objectives, the simulated time period in which the exercise is to be conducted, a description of the simulated environment, recording requirements, and an outline of the procedures and ground rules to be employed. The outline of procedures should clearly specify the participating agencies and the internal and external nonparticipating agencies and services. This briefing should be held immediately before the start time of the exercise.

The briefer the briefing, the better. Distracting "administrative notes" on location of rest rooms, time of lunch, and parking locations are best handled in a written note included with exercise materials. In designing the conduct of the exercise, ask at every opportunity: "Will this distract from the atmosphere of a real emergency?" Avoid everything that does.

Methods are exclusively those of delivery and reaction to simulated messages that represent to the participants the emergency created by the exercise designers. Messages can arrive on paper, by telephone, or by radio. Messages are directed specifically to individuals or agencies who then are responsible for coordinating any responses with other players.

The value of the exercise will depend on the extent to which the participants are successful in carrying out their functions as if it were a real emergency. Exercise participants should be encouraged to think of each input of a message as an actual event. From the general message input, participants should determine the expected consequences or effects, coordinate internally and externally with whomever they deem necessary, and take the appropriate action.

Participants should be encouraged to treat simulated communications outages, damages or failure of equipment, logistical limitations, and personnel losses as if they were actually occurring. These types of situations, which cause a degraded environment, have a particular value because they place added stress on the system and will more effectively test its ability to cope in times of emergencies.

Functional exercises use two methods of message delivery: prescripted messages and spontaneous messages developed by simulators. Where applicable, a simulation room permits a considerable advantage over the tabletop exercise in that messages can be dynamically modified to suit the evolving nature of the exercise. In a tabletop, with no or few simulators and limited control manpower, this is not possible. But with several simulators, this method becomes an exciting way to constantly modify the exercise to the needs and skills of the players.

Sustaining action through planning is one way to approach a key goal of scenario and message development for the functional exercise: having everyone who is involved active throughout the entire exercise. This requires careful planning and review of the message flow throughout the exercise.

A procedure is available to help you chart the message flow to see if in multi-functional exercises any group is being ignored. One way of doing this is illustrated in the following chart.

PLANNING AN EVEN FLOW OF MESSAGES

Check the times when messages are scheduled for delivery to each agency.

	PARTICIPATING AGENCY OR ORGANIZATION						
Time	Fire	EMS	Public Works	EOC	Exec	School	
Exercise Start							
10:00	✓	✓	✓				
10:03							
10:06		✓		✓			
10:09	✓			✓			
10:12			✓	✓		✓	
10:15		✓			✓	✓	
etc.							

Use the chart to plan the flow of messages throughout the exercise. Down the left column are three- to five-minute intervals of time for the length of the exercise. Across the top are all the participating organizations. Sort your messages by the organization receiving and check in the boxes of the chart the times an agency or organization receives a message. You will quickly see the gaps and overloads in your message flow.

Simulator Role

In order to create a real-life environment, simulators act as, and on behalf of, the involved agencies and services which would normally interact with the exercise participants. Simulators make inputs into the exercise that are representative of these agencies and services. Some of the inputs are scripted in advance, while others will be contingent upon an event occurring during the exercise. Simulators must be prepared to reply to participant questions based on information provided them in the training materials and in the exercise briefing. As experience is gained, functional exercise can become as complex from the players' perspective as full-scale exercises.

Simulators should take care to ensure that key events are kept active in the exercise. For example, an exercise participant may not recognize the importance of a key event input. He may put it aside without taking action, take an inappropriate action (e.g., giving the event a low priority), or delay action. As a consequence, the value of the key event as an indicator of system performance is greatly reduced. In such cases, the simulator (or exercise controller) should strive to cause the participant to retrieve the event and act on it. It may only be necessary for the simulator to call and inquire why no action has been initiated. In some cases it may be necessary to improvise a situation that would call attention to the lack of action in response to the event. When all else fails, it may even be necessary to reintroduce the event. Ensuring that key events are given full and timely attention will require ingenuity on the part of the simulator.

Control Role

The exercise controllers monitor message inputs and participants' responses. Scheduled messages that become invalidated by a participant action before they are input must be deleted by the controller. In these cases, the controller informs the simulator that the scheduled message should not be input. An example would be a request by a simulator for fire fighting equipment when the fire chief has already sent equipment into the area. In multijurisdictional exercises, controllers at each location must follow the exercise play closely and advise other controllers of any changes in stress situations at one location which may affect exercise play at another location.

Another type of input that is not prescripted is the dynamic input inserted into the system by simulators, based upon the participants' reaction and actions to other input. Care must be taken in selecting these kinds of input so that they do not invalidate or conflict with other prescripted messages. When this occurs, exercise controllers must be informed of the necessary change.

Assuring a Smooth Flow of Messages

Dealing with overloads is fairly easy. First, review your objectives. Throw away any messages that do not contribute to the objectives. Second, make certain that all the messages are accurately assigned to an agency. Reassign the message if it could be used by another agency. Third, divide the cluster of overloaded messages into two piles -- those essential to the flow of the exercise and those “nice to have”. You will want to get rid of some from the latter group.

Gaps are harder to handle. Look at the agencies with gaps and see if they have been unintentionally ignored. If so, add messages. It may be, however, that the agency simply has little to do during a period of time. In that case, you will have to add a side event, a special planning requirement, a secondary emergency, or a distracting message. These may come from a supply of optional messages or messages may be generated spontaneously. The purpose of these is to keep exercise activity at the proper level. Boredom is a contagious disease. One inactive agency can distract others and bring down the intensity of the exercise. Avoid boredom by creating OPTIONAL MESSAGES.

- Side events are routine actions an agency would have to continue throughout an emergency. The health department could receive a call about a well that smells of sewage. A routine traffic accident can stress police and fire. An unrelated heart attack victim can be reported. The purpose of side events is to test resource allocation and priority setting.

- Special planning requirements would cause an inactive agency to engage in some type of short-term preparedness activity. For example, hospitals could run a test of emergency generators or public works could notify all drivers of possible overtime hours coming up.

- Secondary emergencies develop out of the main flow of exercise events. If the tornado spotters or amateur radio groups have a gap in activity, another (secondary) tornado can be reported to keep those groups involved. Similarly, utility outages, water main breaks, gas leaks and emergency vehicle accidents all can run parallel to the main course of the exercise and keep one or more agencies involved between their own major exercise events.

- Misdirected messages are useful at any time, but especially so during a lull in activity for an agency. A misdirected message should not be handled by the receiving agency. The purpose is to see if the agency will identify the misdirected message and forward it to the proper agency. During a gap in activity, misdirected messages can provide a meaningful measure of an agency's clarity of role definition

Sustaining action through spontaneous messages is a second technique used in functional exercise. There will come a time in the flow of messages when controllers have to live by their wits to keep the exercise activity high and on course. Many different problems can arise and solutions can be found, but it may help to keep the three described next in mind.

PROBLEMS AND SOLUTIONS FOR SUSTAINING ACTION	
PROBLEMS	SOLUTIONS
LAGGING PACE--It is possible that there will be insufficient messages. Decisions may be made faster than anticipated and the exercise may get well ahead of schedule.	SPEED AND INSERT- - If responses are made faster than anticipated by nearly all the participants, resulting in people sitting around waiting for the next message, then speed up the flow of messages. You'll finish sooner than expected and learn an important lesson on pacing. If, however, only a few of the players are responding quickly and have time on their hands, then insert spontaneous messages. Throw them additional problems to handle to bring their pace back in line with other agencies.
FRANTIC PACE- -You may have packed too many messages and too many decisions into the exercise, resulting in a frantic pace. This is often a problem when compacted (simulated) time offers only minutes for a half-day deliberation. If an early decision takes more time than planned, messages may build up, resulting in a frantic attempt to "catch up" to schedule.	SPONTANEOUS RESCHEDULING- -When one or more players face a nearly impossible pace, it may benefit the entire exercise to remove messages. This can be done selectively for one player or across the board for all agencies. The most dangerous time for the frantic pace is early in the exercise. Reschedule early to avoid the last minute rush to completion. You will want to pull optional messages in the middle of the exercise rather than have players rush through important decisions toward the end. But, a final consideration in a frantic pace is whether you want such a pace? Removing messages to create a good "show" will not benefit actual emergency response. One potential benefit of a frantic pace may be the assignment of more department or agency personnel to the EOC. A realistic frantic pace in an exercise may illustrate the importance of properly staffing the command center.

PROBLEMS AND SOLUTIONS FOR SUSTAINING ACTION Continued	
PROBLEMS	SOLUTIONS
AVOIDING DIVERGENCE--The exercise that you have so carefully planned probably has a dozen or more points where it can get off track. For example, the decision to evacuate must be made by a specific time or the exercise cannot proceed because later exercise events assume the evacuation has begun. In the section of this guidebook on writing scenarios, you will learn how to pinpoint these crucial decisions. The problem is in getting them made if the players don't make the decision in time.	FROM HINTS TO FORCE-- If a major checkpoint has been reached and the decision is yet to be made, an additional message can be given to provide a "hint" about the decision. A not-too-subtle hint might be "The mayor (or governor/city manager executive, etc.) just telephoned inquiring about the need for evacuation." If this doesn't result the desired action, the controller can always "force" the decision by talking with the player and simply, stating that a decision to evacuate should be made now. Defer any discussion on why the decision was not made until the critique.

Skip-Time Procedures

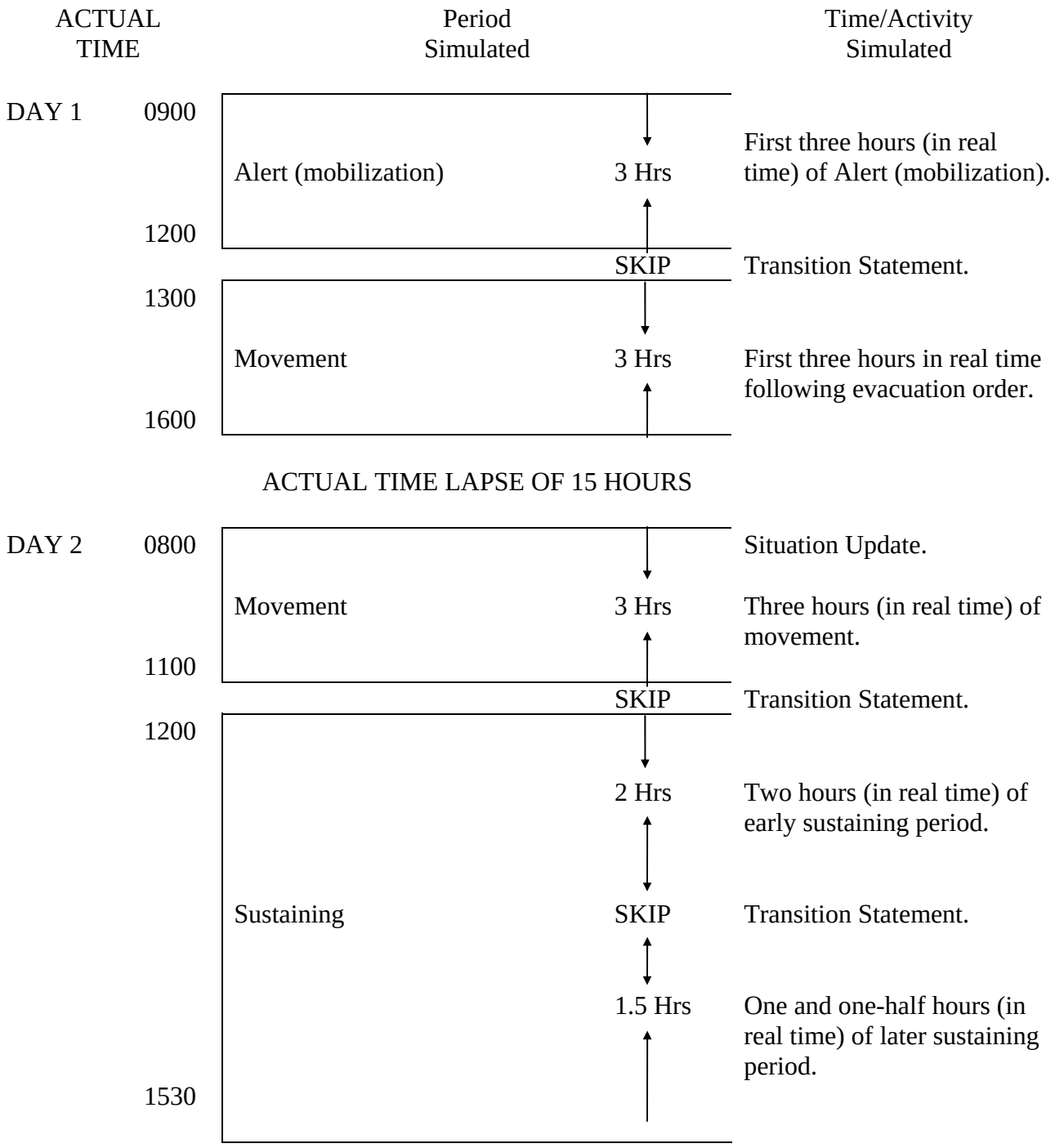
Functional exercises can depict events and situations that would actually occur over an extended time period (one to two weeks or more). In order to include the several distinct phases of the emergency in an eight-hour two-day exercise, it will be necessary, from time to time, to stop the exercise and advance hours or days ahead, depending upon the particular exercise. These skip-time transitions are kept to the minimum necessary to cover the scope of the exercise and usually coincide with a natural break point during a given exercise session.

The exercise controller is responsible for managing the skip-time transitions and preparing transition updates to be presented to the participants before resuming the exercise.

Simulation displays will be updated by the simulators to reflect the results of the previous events and participant actions. Actions ordered at a skip-time transition point that would have been undertaken during the transition period will be indicated as accomplished on the transition date.

The schedule for a two-day exercise showing the skip-time procedure is outlined on the following chart.

SKIP-TIME DIAGRAM FOR A TWO-DAY EXERCISE



CONDUCTING FULL-SCALE EXERCISES

Beginning the full-scale exercise occurs exactly as it does in the functional exercise. In addition, however, the personnel of the emergency service (or services) that are conducting the field component must proceed to the assigned location. There, a "visual narrative" is displayed before them in the form of a mock emergency to which they respond.

Methods for the full-scale exercise include all those occurring at the EOC or command center. Added to these are the on-scene, mock emergency use of simulated "victims" search and rescue requirements, equipment deployment, and actual resource and manpower allocation. In general the methods employed at the scene serve as an input to the simulation taking place at the EOC. However, medical plans, hospitals, emergency medical systems, fire service deployment and other localized emergency operations do not usually require centralized command from the EOC. They do require coordination with officials at the command center. Your job in a full-scale exercise, therefore, includes creating all the messages necessary for the functional exercise plus coordinating or managing the field deployment of one or more emergency services.

Sustaining action includes the planned and spontaneous messages of the functional exercise, but adds one additional element: actions (or controller inputs) from the field. A field command post can be used quite constructively as part of the message input to the EOC. The field command post can be written into the scenario and have a set of prescripted messages that could be transmitted directly from the field by radio for added realism. Or, the field command post controller can monitor the sequence of events of the functional exercise while controlling the drill.

Emergency Call-Off Procedures

In any exercise a real emergency might occur. Especially in a full-scale exercise, you must always keep in reserve sufficient personnel to handle routine problems--from a fire to ordinary telephone calls to the emergency office.

In addition, every exercise should have a planned call-off procedure that will result In the prompt return of personnel and equipment of full duty status. This procedure should consist of a code word or statement from the exercise controller that the exercise has been terminated and that personnel should report to their regular duty positions. All radio traffic, as well, will return to normal. These procedures should also be tested.

STEP 4: EXERCISE EVALUATION AND CRITIQUE

A realistic exercise provides the best opportunity for a jurisdiction to evaluate its emergency plan and its overall preparedness to conduct an evacuation under emergency conditions. The extent and depth of the evaluation to be undertaken is determined by the participating jurisdiction(s). Controllers' evaluations and observations may suffice for many exercises, while additional analysis by objective observers may be needed for others. This chapter addresses the various elements of the evaluation process.

Reasons you need to evaluate exercise performance are:

(1) To identify needed improvements in the plan;

(2) To identify needed improvements in the emergency management system;

(3) to identify needed training/staffing deficiencies;

(4) To observe whether the exercise has achieved its objectives; and

(5) To identify needed operations equipment.

Early in this guide, an answer was offered to the question “What will I get from an exercise?” The answer had two parts -- individual training and improving the emergency management system. That is, people improve just by practicing, but the system improves by identifying needed changes and then making them. In order to identify those improvements, you need to evaluate the exercise.

What to Evaluate - Actions to be Observed Identified

Evaluate what you set out to achieve in the exercise.

Right from the beginning, this guide stressed the development of objectives for the exercise that met the needs of the jurisdiction. Stressed were objectives stated clearly and precisely because only then would it be possible to know when the objectives had been achieved. Evaluation is the way you find out whether objectives have been achieved. Therefore, you evaluate the attainment of objectives by observing the actions of players.

Evaluation really begins in the early stages of exercise development when objectives are planned. If your objectives involve resource allocation by agencies, then be prepared to evaluate communication between the agencies the final resources allocated.

In refining and expanding exercise objectives, the general objectives were broken into small parts. These specific objectives were, in turn, used to describe specific actions or decisions that the players would make during the exercise. It is these actions or decisions that become the focus of evaluation during the exercise.

Being prepared to evaluate requires planning for the observation of the actions and decisions taken by players. One approach you might use involves four steps:

- Recall the specific objectives of the exercise, the detailed actions, and the actions or decisions they suggested.

- Identify the players expected to take the actions or decisions as those who should be observed.

- Locate evaluators in a position to observe players and actions.

- Brief the evaluators on what actions or decisions are expected.

The following table might be used as a checklist for doing these four steps. In the example shown, the purpose is "to determine the need for updating and revising disaster plans of the County Public Schools." Illustrated are some of the specific objectives that could support this purpose. The columns to the right provide the <u>who</u>, <u>what</u>, <u>where</u>, and <u>when</u> of the evaluation.

KNOWING WHAT TO EVALUATE				
OBJECTIVE	ACTION/DECISION	PLAYERS	WHERE	TIME
Notify principals of each school	Activate "call-down" procedure	Superintendent	In EOC, school player	10:15
Emergency contact of bus drivers	"Call-down" procedure-phone	Transportation Supervisor	EOC, school player	11:05
School closure announcements on TV/Radio	Message preparation and distribution routine	Superintendent, Emergency Manager, Media	EOC, media player	11:10
Open cafeteria and gym for shelter	Notification of media, opening and supplying of facilities	Superintendent, Facilities	EOC, school player	12:20

Mechanics of Observation

In order to effectively observe events in complex or less-complex exercises; evaluators, simulators, and controllers have to track response actions of participants. This is made easier by the designation of certain events, prior to the exercise, as "key events". These are events that most directly test the objectives of the exercise and which should be watched most carefully. To aid in the monitoring of key events and the tracking of problems in the exercise, two formats are suggested.

Monitoring Response to Key Events

Most exercise scenarios include a number of events specifically designed to stress selected elements of the plan. These are termed "key events." Pay special attention to these events. Input messages related to designated key events are delivered to participants whose responses are recorded. These responses and reactions are subsequently evaluated to isolate those factors that indicate deficiencies (or strengths) in the plan and in the level of preparedness to operate under the plan. The use of key event monitoring tends to introduce a degree of control into the exercise that actually increases the overall rigor of the exercise. This can potentially improve the response obtained from the evaluation techniques and the quality of the training experienced by participants. It is a critical component of the evaluation process.

Specifically, key events are designed to stress a system in a manner that sheds light on the adequacy of the system to operate as designed. In stressing the emergency preparedness system, the stress is applied to determine whether the plan can guide operations effectively in functional areas associated with evacuation. For example, the movement function can be stressed to varying extents by temporarily closing an evacuation route (by reporting a minor accident). The stress can be made greater by blocking the route for an extended time (by designating an accident), or even permanently (by reporting roadway damage). The amount of rerouting required, the number of deaths and injuries that have to be handled, and the need to communicate rerouting information to the public all potentially contribute to the amount of stress imposed by such an event.

As another example, the direction and control function can be stressed by eliminating an important communications channel (by reporting the failure of a telephone company circuit or of a piece of radio equipment). As in the previous example, the level of stress introduced can be heightened by increasing the scope of the outage (by reporting the failure of an entire telephone company facility or government radio facility).

Ideally, key events are developed as part of the overall effort to develop an exercise scenario, master sequence of events list (MSEL), and other exercise materials. As a practical matter, if the MSEL has already been developed for an exercise, the key events can often be selected directly from the MSEL. If, however, the MSEL does not yield enough key events, it may be necessary to develop additional events which have the desired characteristics for key events. These additional events must then be integrated into the overall exercise by adjusting the exercise scenario, MSEL, and other instruments.

In general, the MSEL should provide for the introduction of only one key event at a time. This will allow the exercise controller and simulators to devote appropriate attention to each key event to ensure that each key event is responded to adequately by the system and that all responses by exercise participants are noted.

When a key event is input, the exercise controller, simulators,, and evaluators monitor the participants' responses to the events. All responses should be noted on a Key Event Response Form. This form provides for multiple responses from several positions within the EOC as well as for responses from outside the EOC (either from other EOCs in a multijurisdictional exercise or from simulators in a single jurisdictional exercise).

Key Event Response Form

Event No. _____ Scheduled Date/Time _____

Initially
Input To _____ Actual Date/Time _____

Response Date/Time	Position Responding	Action Taken

When to Evaluate

This guide suggests that you conduct an immediate post-exercise critique followed by a more detailed evaluation report. The following table illustrates the key points in this approach, showing that using only one or the other will lead to an incomplete review of the exercise.

	IMMEDIATE CRITIQUE	EVALUATION REPORT
WHEN*	As soon as exercise ends	One - three weeks later
WHO*	Players only, with controller as discussion leader	Evaluators write report, players review it
FORMAT*	Two minutes per player to describe learning experience and problems; written (unsigned) form returned in two days	Written report from observations and other data is circulated to key players who later convene for discussion
RESULT	Player satisfaction that managers listen to results; data for evaluators' report	Meeting to review report and agreement on recommendations for follow-up improvements
ADVANTAGES	Players are assembled; memories fresh; policy-makers may attend; high motivation to contribute	Time for thoughtful recommendations, more reasoned discussion. Written report gains status as an action document. Overall review of objectives, recommendations reflect view of many participants
DISADVANTAGES	Fatigue, frustration; perhaps conflicting discussions; can lead to gripe session; difficult to get broad picture of whole exercise	Problems fade with memories; too much refinement/summarization; difficult to reassemble group

* Specific criteria and parameters have been established for certain mandated exercises (e.g., REP program) and override these general suggestions.

Problem Log

The Problem Log allows participants, controllers, and simulators to note and document potential problems associated with responses as they occur during an exercise. These potential problems are then analyzed in a debriefing session to determine which ones are serious enough to require corrective action and to determine their source(s) plan, preparedness, training, or simulation).

While the exercise is in progress, controllers, simulators, and participants should record on the Problem Log any observed action that may possibly create a problem. It should be understood by all those taking part in the exercise that what may be perceived during the exercise as a potential problem attributable to either plan inadequacy or insufficient preparedness may actually be a participant or simulator error. Entries in the Problem Log will be evaluated after the exercise to determine whether a problem really exists, the extent and source of the problem, and corrective action where applicable.

To eliminate unnecessary duplication, problems encountered as a result of key event monitoring should be noted only on the Key Event Response Form and not on the Problem Log. This procedure should be stressed in the instructions to controllers and simulators. The briefing for participants should encourage liberal use of the Problem Log to record any and all potential problems.

Each problem entered on the Log should be identified by the time of the observation and the event number (if known). A separate column is provided for each of these identifiers. A column is also provided to record the results of an initial evaluation of the reported problem. Ultimately, this information will be used to identify entries that do not constitute a real problem and problems so minor that no further analysis is warranted. The analysis column can also be used as a source for classifying problems subject to further, more extensive, analysis. A suggested coding scheme that may be used to classify problems is shown here.

NP - Not a problem

MP - Minor problem not requiring further analysis

PE - Participant error

SE - Simulator error

PI - Problem arising from plan inadequacy

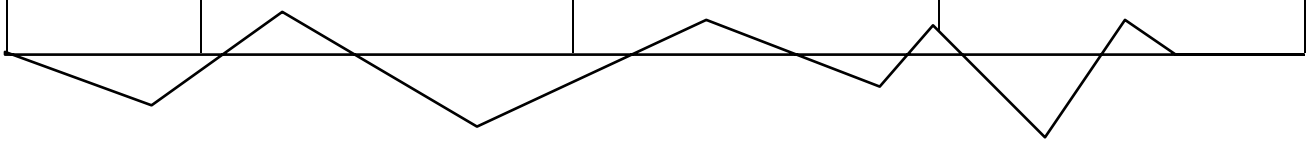
IP - Problem arising from inadequate preparedness

PROBLEM LOG

Name _____ Date _____

Exercise Assignment _____ Tel. No. _____

Time	MESSAGE LIBRARY NO. (if known)	PROBLEM	ANALYSIS (Leave Blank)



Critique

Evaluation Tools

Questionnaires are an excellent source for obtaining detailed insights from participants on the adequacy of the plan, level of training required, and functional information which might otherwise go unnoticed. Often, personnel who hesitate to enter into group discussions will contribute significant information in response to a questionnaire. To be effective, participant questionnaires should be carefully prepared, pretested, and administered while participants are still in place at the conclusion of the exercise.

Immediately after an exercise has been completed, evaluation questionnaires can be distributed to all participants. The purpose is to obtain information from participants about their experiences during the exercise and their perceptions of the exercise. Multiple questionnaires, each treating a different aspect of the exercise, can be used to obtain a broad spectrum of responses in the shortest amount of time.

Evaluation can be anything from a narrative answer, to a question (What did you think of the notification procedures?), to some form of numerical evaluation.

A personnel critique sheet or evaluation questionnaire is an effective way to get comments from participants that they might be unwilling to share in a public meeting.

The critique sheet can be divided into two parts: an evaluation of performance in the exercise and recommendations for the future. One example of a quick checkoff rating scale is shown in the box.

Very Good	_____
Good	_____
Satisfactory	_____
Poor	_____
Very Poor	_____

Combining a narrative answer with a numerical evaluation yields the most useful information for evaluation report writers. Therefore, in addition to specific action or decision evaluations, you may want to include several open-ended questions about the exercise performance in general. Questions that call for in-depth comments ("What was good or bad about the notification procedure?") could be a good source of lessons learned. The FEMA-prepared exercises available to you contain many examples of additional questions.

Recommendations for the future are the whole reason for doing the exercise. They are vital to building an improved emergency management system for the future. Players should be encouraged to make recommendations for problems raised in the exercise. One format for helping players associate recommendations with their evaluations is shown on the following chart.

XYZ County 19XX Exercise
Critique Sheet

Name (optional) _____

Agency (optional) _____

Please check the evaluation you feel best indicates the quality of performance in the left column. Then provide a reason for that rating. (Note: Do not give as a reason for notification being poor was that it was late. Be specific. Why was it late? Give a reason.) In the right column, give your recommendation for improving performance in the future.

EVALUATION	REASONS	RECOMMENDATION
Subject _____ Very Good _____ Good _____ Poor _____ Very Poor _____		
Subject _____ Very Good _____ Good _____ Poor _____ Very Poor _____		
Subject _____ Very Good _____ Good _____ Poor _____ Very Poor _____		
Subject _____ Very Good _____ Good _____ Poor _____ Very Poor _____		

Participant Debriefing*

At the close of the exercise, after participant evaluation questionnaires have been completed and picked up, a formal exercise debriefing should be conducted. Debriefing attendees should include participant staff, exercise controller(s), and simulation supervisor. It is not generally necessary for all simulators to participate in the debriefing. Exercise controller (or the evaluator if one has been designated) should lead the debriefing. A debriefing recorder should be assigned to maintain a debriefing log.

Prior to the start of the debriefing, the controller should collect the problem logs. While the participants are filling out their evaluation questionnaires, the controller should review these logs and make an initial assessment of reported problems to determine several key operational issues which should be the focus of the debriefing.

As the start of the debriefing, the controller should restate the exercise objectives and recap the exercise format and scope. Subsequently, the controller should isolate those problem issues that can be traced to simulation or exercise design. These issues will be noted but eliminated from further discussion in the debriefing.

The controller should then review the key problem issues, complied from the problem logs, that clearly relate to the adequacy of the plan or the jurisdiction's preparedness. Participants are encouraged to discuss freely each of these problems and add to them as appropriate. A fixed amount of time should be allocated for the discussion. Generally, an hour is enough to go through the major problems.

The role of the controller is to stimulate and encourage an open discussion, prompting all attending participants to provide information and cutting off unproductive discussions. Generally, he should limit his own remarks during the discussion to those necessary to keep the discussion from wandering. He can do this by summarizing and clarifying when a topic has been exhausted or is digressing. However, discretion will be necessary to ensure that all ideas have been given a fair, unbiased hearing, and to avoid individual monopolization of the discussion without being negative or unnecessarily personal.

It should be stressed that the purpose of the debriefing is to examine the operational and management problems revealed during the course of the exercise. It should be clearly stated that it is not the intent to fix blame, rate individual performance, or argue about who made mistakes.

The end product of the debriefing should be a list of clearly stated problems for consideration and eventual resolution. The debriefing log (maintained by a recorder appointed by the controller) is a simple but effective way to capture the major points of the debriefing discussion. It provides space for a brief statement of the problem, the recommended action made during the debriefing, and which individual or agency should have responsibility for follow-up.

* This procedure is not recommended for graded REP exercises such as those required by 44 CFR 350.

A Warning About the Immediate Critique

The purpose of the immediate post-exercise critique is to examine the actions and decisions of the players. You want players to provide comments on performance. However, no matter how hard you try, players are going to want to critique the exercise itself. Be careful. It can EASILY turn into a series of comments about the way, the exercise was run: too long, too short, too many or too few messages, or the lack of coffee. In general, you should try to avoid this, but you probably won't succeed. In fact, it may well serve a purpose in allowing them to express frustrations. Your goal should be to keep players on track as much as possible. Tell them that review of the exercise is the job of the exercise designers. Assure the players that their comments will be encouraged at another time. But at the critique, quickly get them back on the topic -- their performance, not that of the exercise.

On the following page is a brief exercise critique. It should be given to participants to get their recommendations for improving the exercise itself. To keep formal performance debriefing moving, you might reference this form as a way participants will be able to comment on the exercise.

EXERCISE CRITIQUE FORM

Please take a few minutes to fill out this form. Your opinions and suggestions will help us prepare better exercises in the future.

1. Please rate the overall exercise on the scale below:

1	2	3	4	5	6	7	8	9	10
Very Poor									Very Good

2. Compared to previous exercises, this one was:

1	2	3	4	5	6	7	8	9	10
Very Poor									Very Good

3. Did the exercise effectively simulate the emergency environment and emergency response activities? Yes _____ No _____

If no, briefly explain why: _____

_____

_____

4. Did the problems presented in the exercise adequately test readiness capability to implement the plan? Yes No __

If no, briefly explain why: _____

_____

_____

5. The following problems should be deleted or revised:

_____

_____

_____

6. I suggest you add the following problems for the next exercise.

7. Please add any other comments or criticisms below.

Evaluation Report

The evaluation report will vary as much among jurisdictions as exercises. While this guide will suggest some of the items you might want to include in an evaluation report, only one item is absolutely necessary: RECOMMENDATIONS.

Without recommendations for improving components of the emergency management system, your exercise is just practice for the people involved. Certainly, they will have benefited from practice as a training tool, but the system itself needs to know what and how to improve. Those are your exercise recommendations.

The EVALUATION REPORT presents an analysis of needed improvements in the emergency management system based on an examination of players' conduct during the exercise. It is framed by the exercise objectives. A useful format for writing the report is to use the objectives as subheadings in the report. An analysis of what went well and what did not go well can then be developed from five sources of information:

- Evaluators' group observations
- Players' debriefing comments
- Players' written critiques
- Comments received from controller and/or simulators
- Any subsequent clarification or discussion with players

Debriefing of the control staff is usually conducted the day after the exercise and is the starting point for developing the evaluation report. At that time a schedule and tasks for completing the report will be defined and assigned. The analytical steps related to post-exercise evaluation are outlined below.

Step 1: Perform Preliminary Assessment

In this step, all inputs are sorted and classified. Specifically, Problem Logs should be reviewed to differentiate between significant problems and minor or inappropriate problem reports. These latter minor problems and those classified as simulator errors should be discarded. In addition, the Debriefing Log and completed questionnaires should be reviewed for suggestions. Discussion comments and questionnaire inputs of little value should be discarded. This step will almost certainly be iterative; obviously, minor or erroneous information can be discarded, but some marginal inputs will be temporarily maintained and discarded later in the evaluation process as appropriate.

Step 2: Construct a Sequenced/Categorized List of Inputs

Entries in Problem Logs and Key Event Response Forms are arranged by time sequence, starting with the earliest time in the exercise and proceeding to the end of the exercise. In addition, these entries are categorized by the function exercised (e.g., Direction and Control, Reception and Care, etc.). All times are correlated with times in the MSEL.

Step 3: Construct Flow Diagrams on Key Events

It may be desirable to construct a simple flow diagram of each of the key events. This diagram can be used to track the processing of a key event through the system. Each diagram should show all positions that acted in response to a key event in ordered time sequence, showing the approximate time of each step in the processing. Flow diagrams should also reference entries in the lists prepared in Step 2.

Step 4: Analyze Problems

Using all the available information, the controller should analyze the problems to determine those that should be eliminated and those that can be resolved by changing the plan or by improving preparedness to operate under the plan. If a Debriefing Log was made out, it will provide additional specifics associated with the plan and preparedness improvements. If necessary, participants may be contacted to obtain amplifying information to more clearly define problems and their solutions.

Step 5: Formulate Corrective Measures

In this step, corrective measures are recommended for each plan or preparedness problem identified in Step 4. If the problem stems from the plan, the portions of the plan needing revision are identified and appropriate revisions are outlined. If the problem stems from inadequate levels of preparedness, measures are recommended to increase preparedness under the plan. Obviously, all corrective measures are subject to applicable review and approval processes in the jurisdiction involved.

Reviewing the Draft Report

The evaluation report needs to be the subject of review and discussion. It should not be seen as an edict handed down by the evaluators. Rather, the best recommendations -- those with the greatest chance of being implemented -- are those that all involved agencies can agree on. As a result, the DRAFT EVALUATION REPORT should be prepared for discussion at a meeting of some or all of the players involved in the exercise. At this meeting, the focus is on developing consensus about which recommendations should be implemented and their priorities. In preparing for this meeting, the evaluation group might consider the following items:

- Physical setting conducive to participation
- Agenda separating parts of the exercise into units for discussion (probably grouped by objectives)
- Ability to record comments of participants
- Participant interaction
- Consensus on recommendations (if possible)
- Summary of recommendations by chairperson
- Heavy emphasis on follow-up to implement recommendations

Preparing the Final Report

The FINAL EVALUATION REPORT is often used as a way to summarize the entire exercise process. As such, it is useful as a planning tool for future exercises. The following list, given in priority order, may be appropriate for your exercise report:

- Recommendations
- Objectives
- Evaluation group report
- Summary of critique session
- Exercise development group
- Participant personnel and agencies
- Directive, announcements, handouts
- Scenario narrative
- Major and detailed events sequence

Putting the recommendations and other "end products" at the front of the evaluation report is important because they are central to improving the emergency management system. The remainder, although very useful to later exercise designers, is secondary to well-presented recommendations.

On the following page is a box showing one format for preparing recommendations. It begins with the SUBJECT of the recommendations which could be taken directly from the exercise objectives. The PROBLEM observed in the exercise is then described, followed by the ACTION REQUIRED. Assignments and a schedule are then made. An evaluation report that begins with a series of recommendations like this is a powerful tool for improving the emergency management system.

SAMPLE RECOMMENDATION

SUBJECT: Emergency Authorities

PROBLEM DESCRIPTION During the exercise, it was discovered that the Public Works Department lacked sufficient authority to remove tree limbs and other debris from the property of certain manufacturing plants. As a result, resumption of plant operations was delayed and the economy of the community may have suffered.

ACTION REQUIRED: An ordinance should be prepared and submitted to permit the Public Works Department to carry out this work on a reimbursable basis after (a) the declaration of an emergency and (b) the certification that Public Works equipment is no longer necessary to life-saving and property protection efforts carried out by the government.

ACTION OFFICE: Public Works Department of and City Attorney.

PROPOSED COMPLETION DATE: Within two months.

SUBMITTED BY: J. S. Johnson, Director, Public Works.

STEP 5: EXERCISE FOLLOW-UP

Just as an exercise without recommendations makes the exercise incomplete, recommendations without FOLLOW-UP will keep their jurisdiction from getting the full benefit of the exercise.

Follow-up is one of the most neglected areas of exercise development. This guide suggests three techniques for you to ensure that follow-up occurs in your emergency management system.

- Use the exercise to establish goals for the Multi-Year Development Plan (see Civil Preparedness Guide 1-35 (local) or 1-36 (State)).

- Clearly assign tasks, schedules, and responsibility for each recommended improvement.

- Monitor the progress of implementing recommended improvements.

- Build testing of improvements into the next exercise.

The best way to start implementing improvements in the emergency management system is to take advantage of the local chief executive's interest in the exercise program. Draft a memorandum for the chief executive's signature to all exercise participants. It should thank them for their participation and make specific assignments for follow-up actions. An outline of the follow-up memorandum appears on the next page:

Outline for Memo on
Exercise Follow-up Actions

TO: All exercise participants and any other local government people who are expected to undertake activities as a result of the exercise.

FROM: Community's chief executive

CONTENTS:

1. Thanks for participation.
2. General success of exercise.
3. Follow-up assignments
   -- action/recommendation
   -- assigned to
   -- date by which completed
   -- report progress to whom, when.

MONITOR: The Emergency Program Manager will bird-dog follow-up and brief chief executive.

Monitoring follow-up can be a time-consuming job. Making certain that recommendations are implemented is a task requiring tact and a good working relationship with other agency heads. You will know how best to achieve follow-up monitoring in your jurisdiction. Whatever monitoring method is selected, it is important that the executive's memorandum specifically make the assignment to provide authority to the monitor.

One useful way to keep everyone up to date on the progress of follow-up tasks is the "Emergency Management Exercise Follow-up Schedule". Copies of the schedule should be provided to exercise participants. Additionally, a wall chart can be posted in the office of the emergency manager or chief executive.

19XX EMERGENCY MANAGEMENT EXERCISE FOLLOW-UP SCHEDULE		
FOLLOW-UP TASK	ASSIGNED TO	SCHEDULE
New “call-down” list	Transportation Director	Immediate
Updated shelter locator map	Shelter Manager	Three months
Drill on principal notification	School Superintendent	Within three months
etc.	etc.	etc.

In addition to helping monitor follow-up, the schedule format is virtually an outline of actions that could be included in the next exercise.

Building the recommended improvements into the next exercise is perhaps the surest way to make certain they are implemented. It is probably not necessary to create a retest of every objective. Rather, pick a few recommendations that would illustrate improvements and include those in a future exercise.

APPENDIX

Throughout this guide there has been a variety of different charts and forms. In the Introduction we suggested you use them to make notes about your jurisdiction. Now that you have completed working your way through the guide, it is time to begin working your way toward your next exercise.

On the following pages are reproductions and adaptations of the forms that have been used throughout the guide. Make copies of them or change them, but use them!

THE NEED FOR EXERCISES

Mark the status of your emergency program in these and other areas to identify those most in need of exercising.

	NEW	UPDATED	EXERCISED	USED IN EMERGENCY	N/A
Emergency Operations Plan					
Plan Annex(es)					
Appendices					
Standard Operating Procedures					
Resource List (jurisdiction owned)					
Maps, Displays					
Reporting Requirements					
Notification Procedures					
Mutual Aid Pacts					
Policy-Making Office					
Coordination Personnel					
Operations Staff					
Voluntary Organizations					
EOC/Command Center					
Communication Facility					
Warning Systems					
Utility Disaster Preparedness					
Industrial Disaster Preparedness					
Damage Assessment Techniques					

CAPABILITY TO CONDUCT AN EXERCISE

Another important part of choosing an exercise is whether you have the skills, resources, manpower, and support to conduct an exercise. The requirements vary widely according to the type of exercise.

The questions below concern important exercise requirements. There are sure to be others, but these at least point out the level of effort and other requirements placed on the locality.

SUGGESTED QUESTIONS CONCERNING CAPABILITY TO CONDUCT AN EXERCISE

1. What and when was your organizations last exercise?_____ ,

   _____

2. What exercise experience is on your staff (or from borrowed staff)?

   Yourself_____

   _____

   Staff_____

   _____

3. How much preparation time can you reasonably expect to have allocated to developing an exercise?

   Actual person days _____ Elapsed time to exercise _____

4. What manpower can you reasonably expect to have devoted to developing an exercise? List their names and person days available.

   Own staff _____

   Other agencies _____

   Volunteers _____

5. What skills can that manpower provide? List names of staff providing the skills.

____ Planning _____, _____, _____

____ Logistics _____, _____, _____

____ Promotion _____, _____, _____

____ Materials _____, _____, _____

____ Scenarios _____, _____, _____

____ Other _____, _____, _____

____ _____, _____, _____

6. What physical facilities do you use when you conduct an emergency operation? Note whether they would be available for the exercise.

_____

_____

_____

7. What communication facilities and systems do you use in a real emergency? Note whether they would be available for the exercise.

_____

_____

_____

8. What is the expected attitude of the chief executive and emergency service directors to the exercise?

Chief Executive: _____

_____

Emergency Service Directors: _____

_____

SCENARIO DEVELOPMENT WORKSHEET/EXERCISE SCOPE

1. List the highest priority natural, man-made, or attack hazard in your community or company.

_____ _____ _____ _____

2. What geographical areas or subdivisions are most vulnerable to these high priority emergencies?

_____ _____ _____ _____

3. List the agencies/departments from "most" to "least" in the three categories below:

Frequently in Operation	Experienced with Major Disasters	Participation with Emergency Management Program
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

4. The type of personnel you want to have in the exercise are:

____ Policy making (elected officials, department heads)
____ Coordination (managers, EOC representatives, dept. deputies)
____ Operations (field personnel, headquarters staff level)
____ Public representatives (media)

5. The type(s) of operations you want participants to engage in include:
_____
_____
_____
_____

6. Check the degree of stress, complexity and time pressure you wish to instill in the exercise.

	High	Medium	Low
Stress	_____	_____	_____
Complexity	_____	_____	_____
Time Pressures	_____	_____	_____
Communication Mode	_____	_____	_____

EXPECTED ACTIONS
PLANNING SHEET

DETAILED EVENT	EXPECTED ACTION OF EXERCISE AGENCY OR PLAYER				
	Em. Mgr.	Fire	Police	Health	etc.

DISASTE

<ME

TO:

M

NO:

CONTENT:

PROPOSED EXERCISE PROGRAM

EXERCISE TYPE	PURPOSE	PARTICIPANTS	SCHEDULE

EXERCISE DEBRIEFING LOG		
Exercise	Recorder	Date
Problem Summary	Recommended Action	Resp. Agency/Person

KEY EVENT RESPONSE FORM

Event No. _____ Scheduled Date/Time _____

Initially
Input To _____ Actual Date/Time _____

Response Date/Time	Position Responding	Action Taken

PROBLEM LOG

Name _____ Date _____

Exercise Assignment _____ Tel. No. _____

TIME	MESSAGE LIBRARY NO. (if known)	PROBLEM	ANALYSIS (Leave Blank)

EXERCISE DEBRIEFING LOG		
Exercise	Recorder	Date
Problem Summary	Recommended Action	Resp. Ag

Date: _____

HAZARDOUS MATERIALS EXERCISE EVALUATION FORM

EVALUATOR NAME/TEAM LEADER:	EVALUATOR ASSIGNMENT/LOCATION:	EXERCISE NAME:

OBJECTIVE 1: INITIAL NOTIFICATION OF RESPONSE AGENCIES AND RESPONSE PERSONNEL

Demonstrate the ability to notify response agencies and to mobilize emergency personnel.

POINTS OF REVIEW

1. Which organization provided initial notification of the incident/accident?

   _____

   _____

2. When did this occur?

   _____

3. Which organizations/individuals received this notification? When?

   Organization/Individuals Time

   _____

   _____

   _____

   _____

4. Which notified organization(s) was responsible for notifying other necessary response elements?

   _____

5. Which organization provided notification of the incident/accident to external response support organizations?

   _____

6. If external response support notifications were made, indicate which organization/individual was contacted and the time of the notifications.

   Organizations/Individuals Contacted Time

   _____ _____

   _____ _____

   _____ _____

   _____ _____

Date: _____

HAZARDOUS MATERIALS EXERCISE EVALUATION FORM

EVALUATOR NAME/TEAM LEADER:	EVALUATOR ASSIGNMENT/LOCATION:	EXERCISE NAME:

OBJECTIVE 1: INITIAL NOTIFICATION OF RESPONSE AGENCIES AND RESPONSE PERSONNEL (CONTD)

7. Did the response organization mobilize initial response personnel?

   YES____ NO____ N/A____ N/O____ TIME____

8. If so, were the types and numbers of personnel mobilized related to the classification level of the emergency?

   YES____ NO____ N/A____ N/O____

9. If not, how were the types and numbers of personnel determined?

   _____

   _____

   _____

10. Through what means were the personnel mobilized?

    _____

    _____

    _____

11. At what time did the mobilization process start and end for the responding organizations and personnel?

Organization Mobilized	Start	End

12. At what time did the mobilized staff start arriving at their duty stations?

    _____

13. At what time were most of the key positions filled?

    _____

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

Date: _____

HAZARDOUS MATERIALS EXERCISE EVALUATION FORM

EVALUATOR NAME/TEAM LEADER:	EVALUATOR ASSIGNMENT/LOCATION:	EXERCISE NAME:

OBJECTIVE 2: DIRECTION AND CONTROL

Demonstrate the ability to direct, coordinate, and control emergency response activities through operations of an incident command system (ICS) and other direction and control structures.

POINTS OF REVIEW

1. Which position within the response organization did you evaluate?

   ___ Incident Commander
   ___ Emergency Management Director at EOC
   ___ Other designated personnel with leadership role in response organization (List _____)
   _____

2. Check those actions which the Incident Commander accomplished in accordance with its response plan:

   ___ established a visible command post
   ___ established communications with off-site organizations
   ___ provided information about the incident/accident to off-site response authorities
   ___ assumed responsibility for the management of operations at the incident/accident site by a site-specific IC
   ___ established an organizational structure for the management of on-scene response operations, including delegations of authority
   ___ coordinated with personnel at the EOC or other off-site response authorities
   ___ managed the ICS interface with the operations of Federal On-Scene Coordinator
   ___ provided direction and control by the IC to all organizations responsible for response actions at the incident/accident site

3. Check those actions which the Incident Commander/EMD/or other designated personnel with leadership role in the response organization accomplished:

   ___ issued instructions to staff on response operations
   ___ provided directions of adherence to the plan
   ___ coordinated with and disseminate information to offsite response organizations or any command of the offsite response effort
   ___ resolved conflicts
   ___ provided leadership in decision making
   ___ consulted with staff
   ___ provided needed authorities for emergency action
   ___ directed or coordinated with other response organizations

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

Date: _____

HAZARDOUS MATERIALS EXERCISE EVALUATION FORM

EVALUATOR NAME/TEAM LEADER:	EVALUATOR ASSIGNMENT/LOCATION:	EXERCISE NAME:

OBJECTIVE 3: INCIDENT ASSESSMENT

Demonstrate the ability to identify the hazardous material(s) involved in an incident/accident and to assess the hazards associated with the material involved during both the emergency and post-emergency phases.

POINTS OF REVIEW

1. Who performed the initial incident assessment?

   _____

2. Check the type of information that was obtained during the initial assessment.

   ___ type of container, package, etc. involved (List _____)
   ___ extent of damage
   ___ estimated quantity of material involved
   ___ shipping papers of MSDSs secured
   ___ placards, identification numbers, markings, labels
   ___ information from knowledgeable persons

3. Did the response organization consult various emergency response resources for initial response information?

   YES_____ NO_____ N/A_____
   N/O_____ TIME____

4. List which resources were consulted?

   _____

5. Check those organizations that were contacted for additional assistance or response information.

   ___ CHEMTREC
   ___ the shipper
   ___ the transportation company
   ___ facility management
   ___ outside experts
   ___ computer and/or manual databases
   ___ others _____

6. Did the response organization report the observed field data to other response units?

   YES_____ NO_____ N/A_____
   N/O_____ TIME____

7. If yes, to which organizations?

_____

Date: _____

HAZARDOUS MATERIALS EXERCISE EVALUATION FORM

EVALUATOR NAME/TEAM LEADER:	EVALUATOR ASSIGNMENT/LOCATION:	EXERCISE NAME:

OBJECTIVE 3: INCIDENT ASSESSMENT (CONTD)

8. Was the affected area secured?

   YES_____ NO_____ N/A_____
   N/O_____ TIME____

   If yes, by whom? _____

9. Who performed the ongoing incident assessment?

   _____

10. Did the response organization assess the potential hazards both at the affected site and to adjacent areas?

    YES_____ NO_____ N/A_____
    N/O_____

11. Check the following physical factors affecting the release that the response organization assessed.

    ___ the material state (liquid, gas, solid)
    ___ actual and projected release rate
    ___ direction of the material released in air or water
    the physical factors associated with the natural setting

12. Check the strategies the response organization used to assess hazards?

    ___ established a priority for monitoring airborne toxic substances
    ___ developed a strategy for monitoring and using direct reading instruments
    ___ maintained monitoring capabilities for the duration of the release
    ___ identified and responded to atmospheric and geographic conditions
    ___ obtained environmental samples
    ___ analyzed the samples
    ___ supplemented field monitoring data with risk assessment data that are based on various computer models

13. Who was responsible for field monitoring activities?

    _____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 3: INCIDENT ASSESSMENT (CONTD)

14. What procedures were implemented by the field monitoring teams?

_____

_____

_____

15. Did the response organization use the analysis of the field samples to guide decision makers in developing protective actions for the responders and for the general public?

YES_____ NO_____ N/A_____
N/O_____

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

Date: _____

HAZARDOUS MATERIALS EXERCISE EVALUATION FORM

EVALUATOR NAME/TEAM LEADER:	EVALUATOR ASSIGNMENT/LOCATION:	EXERCISE NAME:

OBJECTIVE 4: RESOURCE MANAGEMENT

Demonstrate the ability to mobilize and manage resources required for emergency response.

POINTS OF REVIEW

1. Did the response organization determine the resources that it required to respond to an incident/ accident?

   YES_____ NO_____ N/A_____ N/O_____

   How was this accomplished?

   _____

2. Was this process triggered by development of a strategy for containing the incident/accident?

   YES_____ NO_____

3. When did the organization start and finish this process of identifying the required resources?

   _____

4. Was this process completed in time to be supportive of the implementation of a response strategy?

   YES_____ NO_____

5. Did the organization contact local resource providers and request necessary resources?

   YES_____ NO_____ N/A_____ N/O_____

6. When did this process start and end?

   _____

7. Were these calls placed to a control cell or to actual providers?

   _____

   _____

8. If calls were made to actual providers, did the response organization use up-to-date and accurate lists of telephone numbers and points of contact?

   YES_____ NO_____ N/A_____ N/O_____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 4: RESOURCE MANAGEMENT (CONTD)

9. What types of resources were required?

_____

_____

10. Which local resource providers were contacted?

_____

_____

11. Did the organization contact external resource providers and request necessary resources?

YES_____ NO_____ N/A_____
N/O_____

12. When did this process start and end?

_____

13. Were these calls placed to a response cell or to providers?

_____

14. If calls were made to providers, did the response organization use up-to-date and accurate lists of telephone numbers and points of contact?

YES_____ NO_____ N/A_____
N/O_____ TIME_____

15. What types of resources were requested?

_____

_____

16. Which external organizations were contacted?

_____

17. Did any of the contacted <u>local resource providers</u> deploy any resources to the site of the incident/ accident?

YES_____ NO_____ N/A_____
N/O_____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 4: RESOURCE MANAGEMENT (CONTD)

18. Which providers? What resources? When did they arrive?

_____

_____

_____

19. Were they the resources requested?

YES_____ NO_____ N/A_____ N/O_____

20. Did any of the contacted external resource providers deploy any resources to the site of the incident/ accident?

YES_____ NO_____ N/A_____ N/O_____

21. Which providers? What resources? When did they arrive?

_____

_____

_____

22. Were they the resources requested?

_____

23. Did the IC demonstrate the capability to integrate any deployed external resources into the response effort?

YES_____ NO_____ N/A_____ N/O_____

24. Did the organization demonstrate procedures for securing replacement resources of

____ equipment
YES_____ NO_____
____ personnel
YES_____ NO_____
____ supplies

YES_____ NO_____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 4: RESOURCE MANAGEMENT (CONTD)

25. If the organization demonstrated procedures for any of the above did it contact the providers for additional resources?

    YES_____ NO_____ N/A_____
    N/O_____

26. Did the providers deploy any additional resources?

    YES_____ NO_____ N/A_____
    N/O_____

27. Which resources were deployed?

    _____

    _____

28. Did the organization demonstrate a shift change?

    YES_____ NO_____ N/A_____
    N/O_____ TIME_____

29. Was an individual/organization designated to keep record of resources expended?

    YES_____ NO_____ N/A_____
    N/O_____

30. Was an individual/organization designated to record expenditure of funds in support of the response?

    YES_____ NO_____ N/A_____
    N/O_____

31. Identify the individual(s)/organization(s) responsible for such recordkeeping.

    _____

    _____

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

Date: _____

HAZARDOUS MATERIALS EXERCISE EVALUATION FORM

EVALUATOR NAME/TEAM LEADER:	EVALUATOR ASSIGNMENT/LOCATION:	EXERCISE NAME:

OBJECTIVE 5: COMMUNICATIONS

Demonstrate the ability to establish and maintain communications essential to support response to a incident/accident.

POINTS OF REVIEW

1. Check those response units the Incident Commander (IC) established communications with:

   ___ the first responding units at the incident/accident site
   ___ field teams engaged in operations at the incident/accident location
   ___ all response organizations whose support is required by the IC
   ___ all newly arriving response organizations (including those from other jurisdictions)
   ___ the commanders of all major response organizations
   ___ off-site sources of advice and assistance in the identification of the hazardous materials, and the development and implementation of a strategy for containment, cleanup, and recovery
   other (List
   ___ _____)

2. Regarding the above response units, were the communications links maintained at a functioning level in support of the IC and the supporting response units?

   YES_____ NO_____ N/A_____
   N/O_____

3. Did the IC use the established communication linkages for the performance of his direction and control responsibilities?

   YES_____ NO_____ N/A_____
   N/O_____

4. Were the communications links between these locations able to handle all necessary traffic?

   YES_____ NO_____ N/A_____
   N/O_____

5. Did the EOC staff quickly establish and maintain effective communications throughout the response effort with the IC and response units under the direction of the EOC staff?

   YES_____ NO_____ N/A_____
   N/O_____

6. Were the communications links between these locations able to handle all necessary traffic?

YES_____ NO_____ N/A_____
N/O_____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 5: COMMUNICATIONS (CONTD)

7. Were response organizations functioning at locations removed from the IC and EOC able to develop effective lines of communication (to communicate with each other)?

   YES_____ NO_____ N/A_____
   N/O_____

8. Did the response organization use the communications system to provide direction and control to the organizations under their command?

   YES_____ NO_____ N/A_____
   N/O_____

9. Did the response organizations use the communication system to coordinate their activities with other organizations?

   YES_____ NO_____ N/A_____
   N/O_____

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

Date: _____

HAZARDOUS MATERIALS EXERCISE EVALUATION FORM

EVALUATOR NAME/TEAM LEADER:	EVALUATOR ASSIGNMENT/LOCATION:	EXERCISE NAME:

OBJECTIVE 6: FACILITIES, EQUIPMENT, AND DISPLAYS

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

POINTS OF REVIEW

1. Was this a fixed or mobile facility?

   _____

2. Describe the location and key features of this facility.

   _____

   _____

3. What emergency response functions were performed at this facility?

   _____

   _____

4. Did the facility accommodate the numbers of emergency personnel operating from this facility?

   YES_____ NO_____ N/A_____
   N/O_____

5. Was the facility adequate to support emergency operations?

   YES_____ NO_____ N/A_____
   N/O_____

6. Identify any facility needs that were not available, but necessary for the response operations.

   _____

   _____

7. Was access to the facility controlled?

   YES_____ NO_____ N/A_____
   N/O_____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 6: FACILITIES, EQUIPMENT, AND DISPLAYS (CONTD)

8. Check the equipment available at this facility.

___ telephone system
___ communications equipment
___ facsimile machine
___ copier machine
___ computer (for what purpose? _____)
___ backup power
___ other_____

9. Was the equipment adequate to support emergency operations?

YES_____ NO_____ N/A_____
N/O_____ TIME_____

10. Identify any equipment needs or deficiencies.

_____

_____

11. Check the displays available at this facility.

___ maps (types _____)
___ status boards (type of information recorded _____)
___ other (_____)

12. Were the displays updated in a timely manner?

YES_____ NO_____ N/A_____
N/O_____

13. Were the displays adequate to support emergency operations at this facility?

YES_____ NO_____ N/A_____
N/O_____

14. Identify any displays that were needed but not available at this facility.

_____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 6: FACILITIES, EQUIPMENT, AND DISPLAYS (CONTD)

15. Check those items identified on the maps:

    ___ familiar landmarks
    ___ boundaries
    ___ traffic/access control points
    ___ other (List _____)

16. Were reference materials available?

    YES_____ NO_____ N/A_____
    N/O_____

17. What types of reference materials were available?

    _____

    _____

18. Identify any reference materials that were needed but not available at this facility.

    _____

    _____

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

Date: _____

HAZARDOUS MATERIALS EXERCISE EVALUATION FORM

EVALUATOR NAME/TEAM LEADER:	EVALUATOR ASSIGNMENT/LOCATION:	EXERCISE NAME:

OBJECTIVE 7: ALERT AND NOTIFICATION OF THE PUBLIC

Demonstrate the ability to signal an alert and to provide emergency notifications containing information and instructions to the public.

POINTS OF REVIEW

1. Did the response organization issue a directive to activate the public alert system?

   YES_____ NO_____ N/A_____
   N/O_____ TIME____

2. Was the alert system activated?

   YES_____ NO_____ N/A_____
   N/O_____ TIME____

3. Through what means was alerting accomplished?

   ___ sirens
   ___ route alerting
   ___ other _____

4. When did alerting take place? (If this occurred more than once note all times.)

   _____

   _____

5. Did the response organization disseminate messages to notify the public of emergency instructions and information?

   YES_____ NO_____ N/A_____
   N/O_____ TIME_____

6. Check through which means notification was accomplished.

   ___ EBS
   ___ route alerting
   ___ other _____

7. When did notification take place? (If this occurred more than once note all times.)

   _____

8. Was notification accomplished in a timely manner?

YES_____ NO_____ N/A_____
N/O_____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 7: ALERT AND NOTIFICATION OF THE PUBLIC (CONTD)

9. Did the organization select prescripted notification messages for dissemination via EBS or other means?

   YES_____ NO_____ N/A_____
   N/O_____

10. Did the organization prepare ad hoc notification messages for dissemination via EBS or other means?

    YES_____ NO_____ N/A_____
    N/O_____

11. Check those items which were included in the notification messages.

    ___ contain accurate information about the incident/accident
    ___ describe protective actions clearly and succinctly
    ___ instruct the listener on the actions to be taken
    ___ identify the affected areas
    ___ emphasize the importance of taking these actions as promptly as possible

12. Did the organization provide alert and notification to members of special populations?

    YES_____ NO_____ N/A_____
    N/O_____ TIME_____

13. Check those special populations which were provided alert and notification.

    ___ hearing impaired
    ___ mobility impaired
    ___ visually impaired
    ___ schools
    ___ other _____

14. What means were employed for special population alert and notification?

    _____

    _____

    _____

15. Were copies of all logs and messages maintained? (Note: Obtain copies)

YES_____ NO_____ N/A_____
N/O_____

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

Date: _____

HAZARDOUS MATERIALS EXERCISE EVALUATION FORM

EVALUATOR NAME/TEAM LEADER:	EVALUATOR ASSIGNMENT/LOCATION:	EXERCISE NAME:

OBJECTIVE 8: EMERGENCY INFORMATION – MEDIA

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

POINTS OF REVIEW

1. Did the organization establish and use a primary information facility where principal organizations coordinated their activities and interacted with the media?

   YES_____ NO_____ N/A_____
   N/O_____ TIME_____

2. What organizations were represented?

   _____

   _____

   _____

3. Did the organizations designate a single spokesperson?

   YES_____ NO_____ N/A_____
   N/O_____ TIME_____

4. Did the spokesperson have access to all necessary information and technical staff?

   YES_____ NO_____ N/A_____
   N/O_____

5. Did the response organization respond to telephone inquires from the media?

   YES_____ NO_____ N/A_____
   N/O_____

6. Did the organization provide technically accurate information to the media?

   YES_____ NO_____ N/A_____
   N/O_____

7. Was the information provided to the media consistent with information provided in official notifications to the public?

   YES_____ NO_____ N/A_____
   N/O_____

8. Were briefing and press releases offered to the media after each major development in the incident/ accident?

YES_____ NO_____ N/A_____
N/O_____

Date: _____

HAZARDOUS MATERIALS EXERCISE EVALUATION FORM

EVALUATOR NAME/TEAM LEADER:	EVALUATOR ASSIGNMENT/LOCATION:	EXERCISE NAME:

OBJECTIVE 8: EMERGENCY INFORMATION – MEDIA (CONTD)

9. Note the times of briefings and/or press releases.

_____

_____

_____

10. Were disseminations of information to the media coordinated among the various Public Information Officers (PIOs)?

YES_____ NO_____ N/A_____
N/O_____

11. Was the information provided to the media in understandable language without use of unexplained technical jargon?

YES_____ NO_____ N/A_____
N/O_____

12. Was the information provided to the media on protective action recommendations (PAR) consistent with official messages containing PARs?

YES_____ NO_____ N/A_____
N/O_____

13. Was the information provided to the media internally consistent?

YES_____ NO_____ N/A_____
N/O_____

14. Did the organization monitor the media for the purpose of controlling rumors?

YES_____ NO_____ N/A_____
N/O_____

15. Did the organization use information developed from the monitoring of media in rumor control?

YES_____ NO_____ N/A_____
N/O_____

16. Did the response organization take measures to provide the media with information that would help control these rumors?

YES_____ NO_____ N/A_____
N/O_____

17. If yes, what measures?

_____

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 9: PROTECTIVE ACTIONS FOR THE PUBLIC

Demonstrate the capability to decide upon and direct the implementation of protective actions for the public.

POINTS OF REVIEW

1. Did the decision makers use data provided on the hazards posed by the material involved in the incident/accident to determine

   ___ the risk to public health and safety YES ____ NO _____
   ___ the protective actions necessary to reduce this risk? YES ____ NO _____

2. Did the response organization determine the geographical areas within which the public is at risk of exposure to the plume produced by the incident/accident?

   YES_____ NO_____ N/A_____
   N/O_____ TIME____

3. Did the response organization determine:

   ___ when the plume would reach the affected area YES ____ NO _____
   ___ how long the plume would remain over the affected area YES ____ NO _____
   ___ how persons could be exposed to the hazardous materials YES ____ NO _____
   ___ the potential harm that could come from such exposure YES ____ NO _____

4. Check which protective action was determined to provide the most effective protection from this potential exposure.

   ___ sheltering-in-place
   ___ evacuation
   ___ combination of sheltering and evacuation

5. Were protective action decisions communicated to public?

   YES_____ NO_____ N/A_____
   N/O_____ TIME____

6. Were protective action decisions coordinated through alert and notification strategies?

   YES_____ NO_____ N/A_____
   N/O_____

7. Did the response organization make appropriate adjustments in protective action strategies as conditions changed?

   YES_____ NO_____ N/A_____

N/O_____ TIME____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 9: PROTECTIVE ACTIONS FOR THE PUBLIC (CONTD)

8. Did the response organization issue directives to initiate the implementation of protective actions?

   YES_____ NO_____ N/A_____
   N/O_____ TIME____

9. Did the response organization monitor the results of the implementation efforts?

   YES_____ NO_____ N/A_____
   N/O_____

10. Did the response organization issue new directives as necessary to keep the implementation on track?

    YES_____ NO_____ N/A_____
    N/O_____ TIME____

11. What institutions/special populations did the response organization notify of the existence of an incident/accident?

    _____

    _____

12. Did the response organization proved protective action recommendations to the institutions/special populations?

    YES_____ NO_____ N/A_____
    N/O_____ TIME____

13. If yes, check the protective action recommendations which were made.

    ___ sheltering-in-place
    ___ evacuation
    ___ combination of sheltering and evacuation

14. If evacuation was recommended, did the response organization recommend evacuating schools to other locations outside of area of risk?

    YES_____ NO_____ N/A_____
    N/O_____ TIME____

15. Did the response organization provide assistance to special populations/institutions (e.g., hospitals, day care centers) in the accomplishment of protective actions?

YES_____ NO_____ N/A_____
N/O_____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 9: PROTECTIVE ACTIONS FOR THE PUBLIC (CONTD)

16. If so, check which special population(s).

___ hospitals (List _____)
___ day care centers (List _____)
___ mobility impaired
___ visually impaired
___ hearing impaired
___ other (List _____)

17. Were the residents of these institutions evacuated along preplanned routes?

YES_____ NO_____ N/A_____
N/O_____ TIME_____

18. What type of assistance was provided?

_____

_____

_____

19. Did the response organization <u>actually</u> contact the providers of special assistance?

YES_____ NO_____ N/A_____
N/O_____ TIME____

20. Were the providers <u>actually</u> deployed to the location requesting assistance?

YES_____ NO_____ N/A_____
N/O_____ TIME____

21. If yes, did the providers <u>actually</u> move from pickup points to specified reception centers?

YES_____ NO_____ N/A_____
N/O_____ TIME____

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

Date: _____

HAZARDOUS MATERIALS EXERCISE EVALUATION FORM

EVALUATOR NAME/TEAM LEADER:	EVALUATOR ASSIGNMENT/LOCATION:	EXERCISE NAME:

OBJECTIVE 10: RESPONSE PERSONNEL SAFETY

Demonstrate the ability to protect emergency responder health and safety.

POINTS OF REVIEW

1. Did the response organization establish and maintain one or more zones to regulate the movement of personnel in and out of the site?

   YES_____ NO_____ N/A_____
   N/O_____ TIME____

2. Did the response organization establish barriers around a restricted zone or "hot zone"?

   YES_____ NO_____ N/A_____
   N/O_____ TIME____

3. Were the boundaries of that zone clearly visible to all response personnel?

   YES_____ NO_____ N/A_____
   N/O_____

4. Did the response organization limit the number of personnel allowed in the restricted zone?

   YES_____ NO_____ N/A_____
   N/O_____

5. Did the response organization limit the amount of time each responder remained in the zone?

   YES_____ NO_____ N/A_____
   N/O_____

6. Did the response organization provide protective equipment and clothing to responders?

   YES_____ NO_____ N/A_____
   N/O_____

7. Was the type of equipment provided based on the organization's safety and health plan?

   YES_____ NO_____ N/A_____
   N/O_____

8. Did the response organization use the results of ongoing incident assessment to determine the level (Level A, B, or C) and types of protection to be provided to responders?

   YES_____ NO_____ N/A_____

N/O_____

9. Did the response organization ensure that no emergency worker entered the restricted zone without the required protective equipment and clothing?

YES_____ NO_____ N/A_____
N/O_____

Date: _____

HAZARDOUS MATERIALS EXERCISE EVALUATION FORM

EVALUATOR NAME/TEAM LEADER:	EVALUATOR ASSIGNMENT/LOCATION:	EXERCISE NAME:

OBJECTIVE 10: RESPONSE PERSONNEL SAFETY (CONTD)

10. Did the response organization establish and maintain rules for the use of protective equipment by responders while in the restricted zone?

    YES_____ NO_____ N/A_____
    N/O_____

11. Did response personnel operate within the restricted zone under the supervision of a safety officer?

    YES_____ NO_____ N/A_____
    N/O_____

12. Were fire fighters involved in operations beyond the initial stages of the incident/accident provided protective equipment which meets the criteria required by OSHA 29 CFR 1910.156(e)?

    YES_____ NO_____ N/A_____
    N/O_____

13. If appropriate equipment was available to responders, were response personnel trained in its safe and proper use?

    YES_____ NO_____ N/A_____
    N/O_____

14. Where communication links between the IC, the safety officer, and the site entry team adequate to support safe and effective response operation?

    YES_____ NO_____ N/A_____
    N/O_____

15. Did the safety officer have access to weather data?

    YES_____ NO_____ N/A_____
    N/O_____

16. By what means (status boards, etc.) was equipment and manpower tracked?

    _____

17. Did emergency responders with exposure to an actual or potential inhalation hazard wear positive pressure self-contained breathing apparatus while engaged in emergency response?

    YES_____ NO_____ N/A_____

N/O_____

18. Did the IC allow emergency responders to remove equipment referred to in 12 and 17 above?

YES_____ NO_____ N/A_____
N/O_____ TIME_____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 10: RESPONSE PERSONNEL SAFETY (CONTD)

19. Were operation in hazardous areas performed in the "buddy system"?

    YES_____ NO_____ N/A_____ N/O_____

20. Check those actions that the response organization provided to emergency workers:

    ___ emergency assistance
    ___ rescue
    ___ first aid
    ___ emergency medical transportation
    ___ other

21. Check those actions taken upon the departure of emergency response personnel from the restricted zone.

    ___ monitored for contamination
    ___ decontaminated
    ___ re-monitored

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

Date: _____

HAZARDOUS MATERIALS EXERCISE EVALUATION FORM

EVALUATOR NAME/TEAM LEADER:	EVALUATOR ASSIGNMENT/LOCATION:	EXERCISE NAME:

OBJECTIVE 11: TRAFFIC AND ACCESS CONTROL

Demonstrate the organizational ability and resources necessary to implement site security and to control evacuation traffic flow and access to evacuated and sheltered areas.

POINTS OF REVIEW

1. Was site security implemented at the incident/accident?

   YES_____ NO_____ N/A_____
   N/O_____ TIME_____

2. Who was responsible for implementing site security?

   _____

3. Were only authorized and necessary personnel allowed access to the incident/accident scene?

   YES_____ NO_____ N/A_____
   N/O_____

4. Check those actions included in site security procedures:

   ___ cordoning off the area with police tape or roadblocks
   ___ removing unauthorized vehicles and personnel to allow for easier access to the site by the response organization
   ___ diverting all unnecessary traffic away from the area of the incident/accident

5. Were traffic controllers actually deployed to designated traffic/access control points?

   YES_____ NO_____ N/A_____
   N/O_____ TIME_____

6. Was this deployment accomplished in a manner to facilitate traffic and access control?

   YES_____ NO_____ N/A_____
   N/O_____

7. Did the traffic/access controllers minimize delays?

   YES_____ NO_____ N/A_____
   N/O_____

8. Were the number of traffic and access control personnel and resources mobilized adequate to direct and control the evacuation traffic flow?

YES_____ NO_____ N/A_____

N/O_____ TIME_____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 11: TRAFFIC AND ACCESS CONTROL (CONTD)

9. Were maps provided to local law enforcement personnel depicting the affected area and evacuation routes?

   YES_____ NO_____ N/A_____
   N/O_____

10. In the event the protective action strategy was to shelter-in-place, did the traffic controllers control the access of personnel, equipment, etc. into and from the sheltered area?

    YES_____ NO_____ N/A_____
    N/O_____

11. Did traffic/access controllers limit and prevent access to evacuated or hazardous areas?

    YES_____ NO_____ N/A_____
    N/O_____

12. Did traffic/access controllers limit access to waterways, railways, and airspace in the affected area?

    YES_____ NO_____ N/A_____
    N/O_____

13. Did response organizations keep the traffic access control personnel informed of significant developments in the emergency situation?

    YES_____ NO_____ N/A_____
    N/O_____ TIME_____

14. How was this information provided to traffic and access control staff?

    _____

15. Check those areas in which traffic and access control personnel demonstrated accurate knowledge of their roles:

    ___ traffic control and access control
    ___ evacuation routes
    ___ destination points
    ___ location of reception centers
    ___ any relocation, recovery, and re-entry activities for which traffic and access control are pertinent

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 12: REGISTRATION, SCREENING, AND DECONTAMINATION OF PUBLIC

Demonstrate the ability to monitor and control hazardous materials decontamination of the public through an appropriate contamination screening, decontamination, and registration process.

POINTS OF REVIEW

1. Was a location for registration, screening, and decontamination of public activated by the response organization?

   YES_____ NO_____ N/A_____
   N/O_____ TIME_____

   Name of location: _____

2. Check those activities this facility was capable of performing:

   ___ screening or monitoring evacuees
   ___ decontaminating evacuees
   ___ registering evacuees

3. Check those activities this facility had adequate space for:

   ___ screening or monitoring evacuees
   ___ decontaminating evacuees
   ___ registering evacuees

Facilities

4. Did the response organization minimize possible contamination to the facility?

   YES_____ NO_____ N/A_____
   N/O_____

5. Did the response organization segregate "clean" from potentially contaminated areas?

   YES_____ NO_____ N/A_____
   N/O_____

6. Did the response organization separate males and females during the decontamination process?

   YES_____ NO_____ N/A_____
   N/O_____

Monitoring/Decontamination

7. Which organizations were responsible for:

___ screening or monitoring evacuees _____

___ decontaminating evacuees _____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 12: REGISTRATION, SCREENING, AND DECONTAMINATION OF PUBLIC (CONTD)

8. Was there sufficient staff to perform monitoring/decontamination?

   YES_____ NO_____ N/A_____
   N/O_____ TIME_____

9. Did the response organization detect contamination based on action levels appropriate for the hazardous material involved in the incident?

   YES_____ NO_____ N/A_____
   N/O_____

10. Were medical personnel present at the facility?

    YES_____ NO_____ N/A_____
    N/O_____

11. Did the response organization decontaminate evacuees through the use of procedures entailing removal and control of contaminated clothing and other articles and the use of shower facilities?

    YES_____ NO_____ N/A_____
    N/O_____

12. Did the response organization provide clothing for person(s) who did not have "clean" clothing with them?

    YES_____ NO_____ N/A_____
    N/O_____

13. Did the response organization re-monitor persons who where decontaminated?

    YES_____ NO_____ N/A_____
    N/O_____

14. Did the response organization store contaminated clothing to prevent further contamination of evacuees or "clean" clothes?

    YES_____ NO_____ N/A_____
    N/O_____

15. Did the response organizations refer significantly contaminated individuals who could not be adequately decontaminated to a medical facility?

    YES_____ NO_____ N/A_____

N/O_____

16. Did the response organization establish and maintain records for persons who are seriously contaminated?

YES_____ NO_____ N/A_____
N/O_____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 12: REGISTRATION, SCREENING, AND DECONTAMINATION OF PUBLIC (CONTD)

Registration

17. Which organization(s) was responsible for registering evacuees?

_____

18. Did the response organization register evacuees on a standardized form designed for evacuee registration?

YES_____ NO_____ N/A_____
N/O_____

19. Check those items recorded during the registration process.

___ name
___ address
___ results of monitoring
___ time of decontamination, if any
___ other _____

20. Did the response organization use the registration records as means for

___ locating and reuniting families YES ____ NO _____
___ provide a record of monitoring results. YES ____ NO _____

21. Did the response organization provide to a central location a list of those evacuees registered from all open reception centers?

YES_____ NO_____ N/A_____
N/O_____ TIME_____

Registration

22. Did the response organization monitor arriving vehicles for contamination?

YES_____ NO_____ N/A_____
N/O_____

23. Which organization(s) was responsible for monitoring and decontaminating vehicles?

_____

_____

Date: _____

HAZARDOUS MATERIALS EXERCISE EVALUATION FORM

EVALUATOR NAME/TEAM LEADER:	EVALUATOR ASSIGNMENT/LOCATION:	EXERCISE NAME:

OBJECTIVE 12: REGISTRATION, SCREENING, AND DECONTAMINATION OF PUBLIC (CONTD)

24. Did the response organization detect contamination based on action levels appropriate for the hazardous material(s) involved in the incident?

    YES_____ NO_____ N/A_____
    N/O_____

25. Check those actions performed by the response organization

    ___ segregated contaminated vehicles from clean vehicles
    ___ prevented contact of clean persons with contaminated vehicles

26. Was there sufficient parking for the anticipated number of evacuees?

    YES_____ NO_____ N/A_____
    N/O_____

27. Were the parking facilities adequate to isolate contaminated vehicles?

    YES_____ NO_____ N/A_____
    N/O_____

28. Where vehicles decontaminated immediately?

    YES_____ NO_____ N/A_____
    N/O_____

29. If no, were the vehicles parked and secured awaiting further equipment and instructions?

    YES_____ NO_____ N/A_____
    N/O_____

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 13: CONGREGATE CARE

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

POINTS OF REVIEW

1. Was a location for congregate care of the public activated by the response organization?

   YES_____ NO_____ N/A_____
   N/O_____ TIME_____

   Name of location: _____

2. Was there adequate space for the functions of this center?

   YES_____ NO_____ N/A_____
   N/O_____

3. Which organization was responsible for managing this center?

   _____

4. Was the manager capable of coordinating the limited resources of this center?

   YES_____ NO_____ N/A_____
   N/O_____

5. Was the manager knowledgeable about the capacity of this center?

   YES_____ NO_____ N/A_____
   N/O_____

6. Did the response organization keep the manager apprised of how many evacuees to expect?

   YES_____ NO_____ N/A_____
   N/O_____

7. Was the response organization capable of communicating with the manager?

   YES_____ NO_____ N/A_____
   N/O_____

8. If yes, through what type of communications system?

   _____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 13: CONGREGATE CARE (CONTD)

9. Check those services that the congregate care center provided to evacuees:

___ shelter
___ food
___ sanitation services
___ parking
___ secure storage for evacuee personnel belongings
___ family assistance
___ care for the disabled or other special needs
___ child care
___ medical care
___ first aid
___ other

10. Check those items that the manager had ready access to:

___ cots and blankets
___ drinking water
___ food
___ first aid supplies

11. Were these items available in sufficient quantities for the expected number of evacuees?

YES_____ NO_____ N/A_____
N/O_____

12. Were these supplies available at the center?

YES_____ NO_____ N/A_____
N/O_____

13. If no, what arrangements were made?

_____

_____

14. Were medical personnel available at the congregate care center?

YES_____ NO_____ N/A_____
N/O_____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 13: CONGREGATE CARE (CONTD)

15. Check those services provided by medical personnel.

    ___ first aid
    ___ crisis counseling
    ___ other (List_____)

16. Were police and fire and rescue units on hand to assist the manager with evacuee safety?

    YES_____ NO_____ N/A_____
    N/O_____

17. Did the manager provide accurate and up-to-date information to the evacuees concerning the status of the incident/accident?

    YES_____ NO_____ N/A_____
    N/O_____

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 14: EMERGENCY MEDICAL SERVICES

Demonstrate the adequacy of personnel, procedures, equipment, and vehicles for transporting contaminated and/or injured individuals, and the adequacy of medical personnel and facilities to support the operation.

POINTS OF REVIEW

1. Which organization(s) demonstrated this objective?

   _____

2. Did EMS personnel establish a protective zone around injured or contaminated individual(s)?

   YES_____ NO_____ N/A_____
   N/O_____ TIME_____

3. Were the EMS personnel aware of the hazardous material involved?

   YES_____ NO_____ N/A_____
   N/O_____ TIME_____

4. If yes, describe how the material(s) was identified and the material involved.

   _____

   _____

5. Did EMS personnel determine the nature and extent of the injuries?

   YES_____ NO_____ N/A_____
   N/O_____

6. Check those actions taken by the EMS personnel:

   ___ referred to an initial response resource for immediate first aid for injured patients
   ___ instituted emergency care using the triage concept
   ___ in case of contact with material, immediately flush the skin or eyes with running water for at least fifteen minutes
   ___ removed and isolated any contaminated clothing and shoes
   ___ kept the patient quiet and maintained normal body temperature

7. Did the EMS personnel take steps to limit contamination to:

   ___ other personnel YES _____ NO _____
   the vehicle YES NO

___ the facility/site YES _____ NO _____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 14: EMERGENCY MEDICAL SERVICES (CONTD)

8. Check those contamination control procedures used by the EMS personnel.

___ used gloves as protection against contamination
___ lined the interior and shielding the floor of the ambulance with a protective covering
___ wrapped the individual in a sealed sheet or blanket
___ other _____

9. After the injured individual(s) was delivered to a medical facility, were the following monitored for possible contamination?

___ the ambulance crew YES _____ NO _____
___ the ambulance YES _____ NO _____

10. Was decontamination of the EMS personnel or vehicle necessary?

YES_____ NO_____ N/A_____
N/O_____

11. If yes, describe the decontamination procedures.

_____

_____

12. Did the response organization know which ambulance services were designated to provide transportation for contaminated and/or injured persons?

YES_____ NO_____ N/A_____
N/O_____

13. Did the ambulance crew know which medical facility to transport the injured individual(s)?

YES_____ NO_____ N/A_____
N/O_____

14. Did the ambulance crew actually drive the individual(s) to the selected medical facility?

YES_____ NO_____ N/A_____
N/O_____

15. Did the ambulance crew maintain communications with

the response organization YES NO

___ the receiving medical facility YES _____ NO _____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 14: EMERGENCY MEDICAL SERVICES (CONTD)

16. Did the ambulance crew communicate the following information to the receiving medical facility?

___ information and data on the individual's physical condition including their assessment regarding internal or external contamination
___ vital signs
___ the type of hazardous materials involved in the accident
___ Material Safety Data Sheet (MSDS) information relating to hazardous material involved, if available
___ estimated time of arrival at the medical facility

17. Were the following medical staff present during the medical examination?

___ physician
___ nurse
___ toxicologist
___ other _____

18. Did the receiving medial facility have written procedures for dealing with potentially contaminated individuals?

YES_____ NO_____ N/A_____
N/O_____

19. Did the medical facility have MSDS information available on site?

YES_____ NO_____ N/A_____
N/O_____

20. Did the medical facility establish a controlled area where the injured individual(s) would be treated?

YES_____ NO_____ N/A_____
N/O_____ TIME_____

21. Check those procedures implemented by the medical facility to ensure the controlled area is isolated and self-contained?

___ all doors leading to the area remain closed
___ ventilation systems are filtered or independent of other systems within the medical facility
___ floors are covered to minimize contamination within the area
___ appropriate warning signs are in place
___ unnecessary equipment is either removed or covered
___ necessary equipment, including a portable x-ray machine, if applicable, is in place
___ a buffer zone separating the controlled area from the rest of the facility is established
medical facility staff who have direct contact with contaminated individuals take the necessary

precautions to avoid contact with the contamination

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 14: EMERGENCY MEDICAL SERVICES (CONTD)

22. Did the medical staff monitor and assess the injured individual(s) for contamination?

    YES_____ NO_____ N/A_____
    N/O_____

23. If yes, describe how this was demonstrated.

    _____

    _____

24. If more than one hazardous material was involved, did the medical staff treat the patient(s) with the proper priority of the materials involved?

    YES_____ NO_____ N/A_____
    N/O_____

25. Did a toxicologist analyze the sample from the injured individual(s)?

    YES_____ NO_____ N/A_____
    N/O_____ TIME_____

26. Were the results of the analysis transmitted to the attending medical staff?

    YES_____ NO_____ N/A_____
    N/O_____ TIME_____

27. Did the medical staff implement decontamination procedures for cleansing localized areas on the patient(s)?

    YES_____ NO_____ N/A_____
    N/O_____

28. Were antidotes or neutralizing chemicals used?

    YES_____ NO_____ N/A_____
    N/O_____

29. Describe the decontamination procedures.

    _____

    _____

30. Did the medical staff contain and store any waste solutions for disposal?

YES_____ NO_____ N/A_____
N/O_____

Date: _____

HAZARDOUS MATERIALS EXERCISE EVALUATION FORM

EVALUATOR NAME/TEAM LEADER:	EVALUATOR ASSIGNMENT/LOCATION:	EXERCISE NAME:

OBJECTIVE 14: EMERGENCY MEDICAL SERVICES (CONTD)

31. Did the medical staff maintain contamination control measures during and after treatment of the patient(s)?

    YES_____ NO_____ N/A_____
    N/O_____

32. Did the medical staff properly dispose of any contaminated waste clothing?

    YES_____ NO_____ N/A_____
    N/O_____

33. Did the medical staff properly decontaminate any instruments or medical paraphernalia?

    YES_____ NO_____ N/A_____
    N/O_____

34. Was the medical staff decontaminated before reentering the medical facility from the controlled area?

    YES_____ NO_____ N/A_____
    N/O_____

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 15: CONTAINMENT AND CLEANUP

Demonstrate the ability to implement appropriate measures for containment, recovery, and cleanup of a release of a hazardous material.

POINTS OF REVIEW

1. Was the source of the release controlled?

   YES_____ NO_____ N/A_____
   N/O_____ TIME_____

2. If yes, describe how this was accomplished.

   _____

   _____

3. Was the released material contained?

   YES_____ NO_____ N/A_____
   N/O_____ TIME_____

4. If yes, describe how this was accomplished.

   _____

   _____

5. Check those resources used to assist in containing the release.

   ___ DOT ERG
   ___ CHEMTREC
   ___ Shipper
   ___ Transporter
   Other _____

6. Did the response organization assess the impact of the control/containment strategies on public health and safety and the environment?

   YES_____ NO_____ N/A_____
   N/O_____

7. Did the response organization have available an up-to-date list of cleanup and disposal contractors?

   YES_____ NO_____ N/A_____

N/O_____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 15: CONTAINMENT AND CLEANUP (CONTD)

8. Did the response organization contact and secure cleanup and disposal contractors?

   YES_____ NO_____ N/A_____
   N/O_____ TIME_____

9. If yes, who made the contact?

   _____

10. What organization/company was contacted?

    _____

11. Did the response organization have available an updated list of RCRA disposal facilities?

    YES_____ NO_____ N/A_____
    N/O_____

12. Did the response organization contact the appropriate State agency offices for information on State requirements for hazardous waste disposal?

    YES_____ NO_____ N/A_____
    N/O_____ TIME_____

13. Who made the call?

    _____

14. Which State agency was contacted?

    _____

15. Was assistance requested?

    YES_____ NO_____ N/A_____
    N/O_____

16. Did the response organization implement controlled policies and strategies on reentry for

    ___ emergency response personnel YES _____ NO _____
    ___ evacuated population YES _____ NO _____
    ___ other (List_____)

17. Did the response organization notify the following of the reentry decision?

    all appropriate response organizations YES NO

___ those responsible for congregate care of evacuees YES ___ NO ___

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 15: CONTAINMENT AND CLEANUP (CONTD)

18. Did the response organization inform the public of the reentry decisions?

YES_____ NO_____ N/A_____
N/O_____ TIME_____

19. Check the information included in the messages to the public.

___ the safety of water
___ the safety of food
___ the general environment in the affected area

20. Did the response organization initiate traffic and access control?

YES_____ NO_____ N/A_____
N/O_____ TIME_____

21. Did the response organization provide transportation assistance if necessary?

YES_____ NO_____ N/A_____
N/O_____ TIME_____

22. Did the response organization implement policies on recovery?

YES_____ NO_____ N/A_____
N/O_____ TIME_____

23. Did the response organization establish needs for decontamination efforts?

YES_____ NO_____ N/A_____
N/O_____ TIME_____

24. Did the response organization restore vital services in the affected area?

YES_____ NO_____ N/A_____
N/O_____ TIME_____

25. Did the response organization prioritize the use of resources necessary for such restoration?

YES_____ NO_____ N/A_____
N/O_____ TIME_____

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 16: INCIDENT DOCUMENTATION AND INVESTIGATION

Demonstrate the ability to document a hazardous materials incident/accident and response.

POINTS OF REVIEW

1. Was an incident/accident debriefing meeting conducted?

   YES_____ NO_____ N/A_____
   N/O_____ TIME_____

2. Who was responsible for conducting the debriefing?

   _____

3. List the response personnel involved in the debriefing.

   _____

   _____

   _____

4. Was a time-line developed at the debriefing?

   YES_____ NO_____ N/A_____
   N/O_____

5. Was the incident/accident investigation initiated?

   YES_____ NO_____ N/A_____
   N/O_____

6. Who was responsible for the investigation?

   _____

7. Was the cause of the incident/accident determined?

   YES_____ NO_____ N/A_____
   N/O_____

8. Were response personnel logs and records used as part of the investigation?

   YES_____ NO_____ N/A_____
   N/O_____

9. Was incident/accident information from the media secured to aid in the investigation?

YES_____ NO_____ N/A_____
N/O_____

Date: _____		
HAZARDOUS MATERIALS EXERCISE EVALUATION FORM		
EVALUATOR NAME/TEAM LEADER:	**EVALUATOR ASSIGNMENT/LOCATION:**	**EXERCISE NAME:**

OBJECTIVE 16: INCIDENT DOCUMENTATION AND INVESTIGATION (CONTD)

10. Was the response to the incident/accident evaluated?

    YES_____ NO_____ N/A_____
    N/O_____

11. If yes, describe how the response was evaluated.

    _____

    _____

    _____

12. Check which recommendations were made.

    ___amend the plan
    ___provide training to responders
    ___conduct additional drills/exercises
    ___provide training to the public
    ___other (List_____)

13. Were plans initiated to document the response to the incident/accident in a written report?

    YES_____ NO_____ N/A_____
    N/O_____

14. Who was responsible for preparing the written report?

    _____

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

NARRATIVE NOTES AND OBSERVATIONS

OBJECTIVE NUMBER _____

This section presents an overview of the concept of exercise evaluation. It addresses the reasons for evaluation of exercises; the nature and purpose of exercise evaluation; the structure of exercise evaluation; and the results of exercises.

BASIS FOR EXERCISE EVALUATION

The first and most frequent basis for evaluation of an exercise is a determination on the part of State and local governments[1] that it would be useful to their hazardous materials emergency preparedness programs to have their performance in a hazardous material exercise evaluated. They may seek such an evaluation in order to increase the value of the exercise as a test of the adequacy and implementability of their response plan, as a measure of the adequacy of training efforts, or as an indicator of their general level of preparedness for response to a hazardous materials incident.

The second basis for evaluation of an exercise is the existence of a statutory requirement that a State or local government conduct evaluated hazardous materials exercises. For example, a statute in the State of Ohio requires that the State Emergency Response Commission (SERC) participate in an evaluated exercise each year with each Local Emergency Planning Committee (LEPC) located within the State.

The third basis for evaluation of an exercise is a joint decision by State, local governments, and the Federal Government that their mutual interests in greater hazardous materials emergency preparedness, arising from separate but interrelated legal foundations, would be promoted by the conduct of a joint evaluated exercise.

Identifying the Goals of Exercise Evaluation

It is critical that the organizations whose exercise performance will be evaluated develop a set of specific goals that they hope to achieve as a result of the exercise and as a result of the exercise evaluation.

---

[1]Throughout this Manual we have used the generic term State to refer to any State Agency with responsibility for hazardous materials emergency planning. This term refers to the State Emergency Response Commission (SERC) or the State Emergency Management Agency (the precise name of this organization will vary from state to state). The term local government refers to either the chief executive agency of the local jurisdiction (e.g., a county executive or a mayor), the local emergency management agency, or the Local Emergency Planning Committee (LEPC).

Some examples of exercise goals are:

- to test the implementability of these plans and procedures; and
- to train response personnel in the implementation of the response plans and procedures;
- to develop perspective on the current state of preparedness for response to hazardous materials emergencies.

The focus of these goals can be directly related to exercise evaluation. If the goal is to test the implementability of plans and procedures, the objectives of the exercise evaluation can be to develop data on the extent to which the participating organizations can accomplish emergency response functions through the implementation of their plans and procedures. If the goal is to gain perspective on the level of preparedness, the objectives of the exercise evaluation can be to provide an assessment of the current capabilities of the participating organizations to perform critical emergency response functions as required by scenario events.

The approach to exercise evaluation contained in this Manual and the companion HM-EEM is applicable primarily to those exercises with goals related to preparedness assessments.

ENHANCING THE VALUE OF EVALUATION EXERCISES THROUGH THE USE OF THE HM-EEM MANUAL AND HM-EEM

This Manual and the companion document, the HM-EEM, are designed to enhance the value of an evaluated exercise to participating organizations by increasing:

- the ability of the exercise participants and observers to select a set of performance standards by which the demonstration of the participating organizations can be assessed;
- the ability of the exercise evaluation team to conduct an evaluation based upon these standards and to convey its findings to the participating organizations in the context of these standards; and
- the ability of the evaluated organizations to translate the findings of the evaluation team into concrete improvements of plans and overall preparedness.

PERFORMANCE CRITERIA

This Manual establishes performance criteria for each of the exercise objectives. These criteria are presented in language such as “response organizations should demonstrate the capability to...” These criteria are contained in a set of evaluation elements which describe the functional

response capabilities that should be demonstrated by the participating response organization. These criteria provide the basis for a realistic assessment of hazardous materials emergency preparedness capabilities, as demonstrated in exercises. The exercise objectives are derived from planning elements contained within "NRT-1: Hazardous Materials Emergency Planning Guide" (March 1987), and other more recent preparedness guidance and regulations. Objectives 2 and 10 contain performance standards developed by OSHA, published in 29 CFR 1910.120 and 1910.156, and developed by EPA, published in 40 CFR, Part 311. (The use of these standards in exercise evaluations does not and should not be construed in any way as an enforcement action relative to these regulations, as enforcement is within the sole purview of the administering agency.)

The exercise evaluation objectives described within this Manual have a specific functional orientation related to emergency response. Location and/or organization considerations are linked to the 16 basic objectives through Appendix A: HM-EEM Objective and Organization/Location Cross-Reference. Given the linkage to the NRT-1 planning guidance, results of exercise evaluations using these materials can easily be translated into planning and procedural improvements. Ideally, this guidance will also facilitate a peer partnership and evaluation program between communities and among emergency preparedness and response disciplines.

State or local organizations may agree to adopt these criteria explicitly as the measure by which they judge the adequacy of their own preparedness capabilities. Alternatively organizations may agree to apply these criteria to their performance in a specific exercise in order to ascertain their current level of preparedness for hazardous materials emergencies. Additionally, organizations may elect to adapt or modify this guidance to suit their individual needs. The 16 objectives contained and described in the HM-EEM Manual and the HM-EEM Evaluation Forms should not be considered all inclusive -- some objectives may or may not apply in all scenarios, or to all participating organizations and locations. The key to objective-based evaluation using the HM-EEM Manual and Evaluation Forms is to recognize, separate, and use only those objectives applicable and necessary to the situation. There may be cases where objectives "unique" to particular community or geographic area need to be developed for particular exercises to augment the 16 HM-EEM objectives.

THE STRUCTURE OF AN EXERCISE EVALUATION

The HM-EEM Manual and HM-EEM Evaluation Forms provide a structure to the evaluation of a hazardous materials emergency exercise by:

- describing an exercise evaluation team;
- outlining the major activities to be completed by the director of that team;

- describing the process by which the observations of members of the evaluation team are translated into an exercise report designed to maximize the contribution of the exercise evaluation to improved hazardous materials emergency preparedness;
- presenting a standard set of exercise objectives; and
- presenting a standardized evaluation instrument - The Hazardous Materials-Exercise Evaluation Methodology (HM-EEM).

THE STRUCTURE OF AN EXERCISE EVALUATION TEAM

The Team Concept

Hazardous materials exercises are generally evaluated by a evaluation team, that is, a structured team of evaluators organized to accomplish an evaluation in a comprehensive and systematic manner.

Team Size and Composition

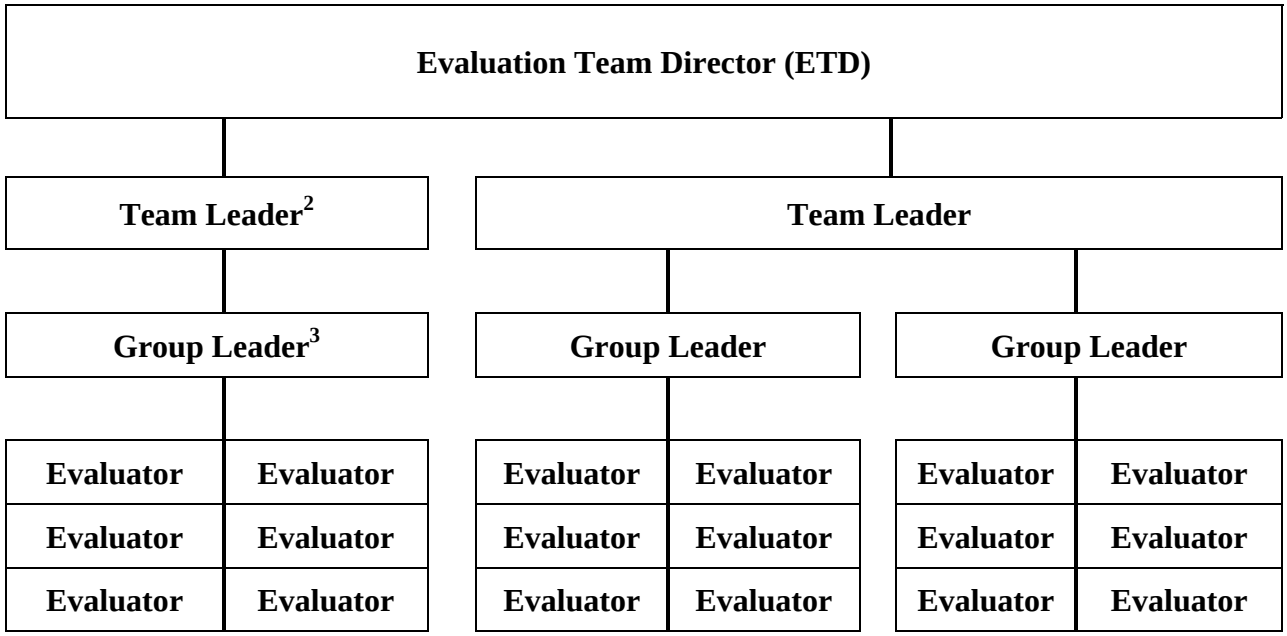
The size of an evaluation team is dependant upon several factors including:

- the type of exercise, (e.g., tabletop, functional, or full-scale);
- the purpose of the exercise;
- its size and complexity (i.e., the number of objectives demonstrated, the number of organizations participating, and the number of locations from which the objectives are demonstrated); and
- the availability of resources needed to conduct an evaluation.

As a general rule, the evaluation team should be large enough to provide for the evaluation of all objectives, organizations, and locations. In a relatively small exercise, with few organizations and a limited number of objectives and locations, a simple organizational structure with a single team leader and a number of evaluators who report directly to this leader will usually suffice.

In a full-scale exercise, in which a large number of objectives are demonstrated by multiple organizations at several locations, a more formal and complex structure is usually required. A typical structure of this type has a team director and a number of team leaders. The latter may direct the evaluation efforts of group leaders and evaluators. Such a team structure is depicted in Table 1.

TABLE 1: THE TEAM CONCEPT



[2] A team leader is responsible for a specific aspect of the exercise. For example, there may be two team leaders: one for State activities and one for Local activities. Or, in the case of multi-state or regional exercises, there may be a team leader for each participating organization. Team leaders may assign specific responsibilities to one or more group leaders.

[3] A group leader may be responsible for specific locations (e.g., different counties), or the evaluation of various functions (e.g., communications, incident assessment, etc.).

ACTIVITIES AND TASKS OF THE EVALUATION TEAM DIRECTOR

The responsibility of the Evaluation Team Director (ETD) is to complete two major activities and their associated tasks. These activities are to plan and manage preparations of the Exercise Evaluation Team, and to manage the development of the Exercise Evaluation Report. The tasks associated with these activities include:

ACTIVITY I: **PLAN AND MANAGE PREPARATIONS OF THE EXERCISE EVALUATION TEAM**	
Task One:	Determine the Scope of Exercise Evaluation
Task Two:	Determine the Evaluation Team Structure, Size, and Composition
Task Three:	Recruit the Evaluation Team Members
Task Four:	Determine the Exercise Team Schedule of Activities
Task Five:	Arrange for Logistics to Support Evaluation Team
Task Six:	Provide Materials to Evaluators
Task Seven:	Develop the Format and Table of Contents for the Exercise Evaluation Report
Task Eight:	Conduct Pre-Exercise Briefing

ACTIVITY II:

MANAGE THE DEVELOPMENT OF THE EXERCISE EVALUATION REPORT

Task One: Supervise the Evaluation of the Exercise

Task Two: Direct the Compilation of Evaluator Reports

Task Three: Coordinate the Identification of Exercise Issues

Task Four: Manage the Completion of HM-EEMs and Preparation of Narrative Summaries

Task Five: Manage the Preparation of the Exercise Evaluation Report

ACTIVITY I: PLAN AND MANAGE PREPARATIONS OF THE EXERCISE EVALUATION TEAM

Task One: Determine the Scope of Exercise Evaluation

This task is to be accomplished by the Evaluator Team Director (ETD) in coordination with the representatives of organizations participating in the exercise.

The ETD coordinates with the participating agencies to determine the objectives to be demonstrated and evaluated during the exercise. In the event that the participating organizations have not decided on which objectives to demonstrate, the ETD should assist them in arriving at such objectives. Based upon which objectives will be demonstrated the ETD can determine how many and what type of evaluator expertise is needed to evaluate the exercise. As a general rule, a full-scale exercise should involve demonstration of at least the 16 objectives described in this Manual.

Based upon this coordination, the ETD determines which organizations and which locations will be demonstrating the objectives selected for the exercise.

The ETD identifies or determines the extent of play for the selected objectives. If the extent of play has already been determined by the participating organizations, the ETD needs only to

ascertain what has been determined for each objective. Otherwise the ETD needs to work with the participating organizations to determine the extent of play.[4] It is imperative that extent of play agreements are reached ahead of time because they may affect the number of people needed to evaluate or control the exercise.

Typically in the demonstration of the objectives, organizations will be attempting to carry out their emergency functions as they would be carried out in a real emergency, subject to the limitations of conducting them in an exercise or to their exercise specific goals and purposes. For example, a response organization may have new procedures that it wishes to test, which have not yet been formally incorporated into its plan, however, the extent of play agreement provides that the new procedures to be utilized during the exercise.

Extent of play agreements also specify the simulation allowed in demonstrating each objective. For example, the extent of play agreement may state that the responders will not actually fight a fire, rather they can respond to a scene with the proper equipment and personnel; or, EOCs in locations expecting minimal play will not fully activate, rather they must demonstrate the notification procedures and have someone present to answer calls.

Task Two: Determine the Evaluation Team Structure, Size and Composition

In this task, the ETD uses the information developed in Task One to determine a team structure that is the most appropriate to use for evaluating the particular exercise. The size of an evaluation team is dependent upon several factors such as the type of exercise, (e.g., tabletop, functional, or full-scale); the purpose of the exercise; its size and complexity (i.e., the number of objectives demonstrated, the number of organizations participating, and the number of locations from which the objectives are demonstrated); and the availability of resources needed to conduct an evaluation.

Task Three: Recruit the Evaluation Team Members

In the third task, the ETD recruits members of the evaluation team. The recruitment base for evaluators consists of emergency management or response personnel from neighboring jurisdictions, representatives from State agencies or even Federal agencies. Experience has shown that it is not advisable to assign the role of evaluators to personnel belonging to the organizations being evaluated.

In order to properly evaluate many of the exercise objectives, evaluators will need specific technical knowledge (e.g., the evaluator(s) assigned to Objective 2, Direction and Control will need to have a thorough understanding of the Incident Command System). The ETD needs to review the list of objectives to be demonstrated, determine the knowledge and experience

[4] Extent of play refers to the extent to which the objective will be demonstrated through the completion of response actions corresponding to those that would be accomplished in a real emergency.

required for each objective, and seek the services of evaluators with the requisite knowledge and experience.

Appendix C contains a matrix linking objective and the knowledge and experience of evaluators assigned to them. Appendix D contains a matrix linking objectives to organizations or locations.

Task Four: Determine the Exercise Team Schedule of Activities

This task entails the development of a schedule that provides the dates and timeframes for the following activities:

- conduct of the pre-exercise briefing;
- exercise activities; and
- preparation of the exercise evaluation report.

Task Five: Arrange for Logistics to Support Evaluation Team

This task entails the development of logistical arrangements in support of the evaluation team. These arrangements must provide for such matters as meeting facilities, lodging, and transportation arrangements. As a general rule these arrangements need to include securing the use of facilities for plenary team sessions immediately prior to and following the exercise. Unless the exercise is to be conducted at locations that cannot be reached from a central common location in an hour's drive, it is advisable to arrange for lodging for all members of the team in a single facility.

Task Six: Provide Materials to Evaluators

In this task, the ETD provides evaluators with a variety of materials that they will need to prepare for the evaluation effort. This is accomplished most effectively through the distribution of evaluator packets, containing information on such items as:

- scope of the exercise to be evaluated, including objectives to be demonstrated and extent of play agreements;
- structure of the evaluation team, including individual evaluator assignments;
- exercise scenario and controller inputs; [5]

[5] An exercise scenario is a sequential, narrative account of a hypothetical incident or accident. The scenario provides the catalyst for the exercise and is intended to introduce situations which will inspire responses, and thus allow demonstration of the exercise objectives. Most scenarios are initiated with an accident resulting in a release of, or the potential for a release of, a hazardous material.

- exercise ground rules; [6]
- relevant portions of Manual and EEM;
- copies of plans and procedures for assigned organizations pertinent to assigned objectives, including maps;
- portions of previous evaluation reports including description of issues and recommendations;
- exercise schedule, including schedule of post-exercise activities; and
- logistical information, location of meetings, lodging arrangements, etc.

Several of the items listed are to be secured by the ETD from the participating organizations, however, the last two items of information will have to be developed by the ETD.

Since plans and procedures are the basis for emergency response and review, the ETD should instruct evaluators to review and understand these plans and procedures in order to anticipate the responses that are likely to occur.

Task Seven: Develop the Format and Table of Contents for the Exercise Evaluation Report

In this task, the ETD, in coordination with the participating organizations, develops a format and approach to the exercise evaluation report. The ETD tries to ensure that the report will meet the established objectives of the exercise evaluation and meet the needs of the participating organizations.

Task Eight: Conduct Pre-Exercise Briefing

In this task, the ETD provides a pre-exercise briefing to the evaluation team. In this briefing the ETD needs to make sure that the evaluators understand all the items provided in the evaluator packet. The ETD may also need to brief the team of such matters as:

- recent and significant changes to the emergency plan;
- location-specific protocols;
- local geography; and
- local response structures.

[6] Exercise rules are a set of general rules on how the exercise will be conducted. Many of the same ground rules may apply in all hazardous materials exercises. Exercise rules define the role and authority of the chief controller(s), other controllers, exercise evaluators, and players. Other rules for exercise conduct may include safety guidelines or information on pertinent State or local laws or regulations that may affect exercise participants and their play. The rules may also include procedures for when and how to terminate an exercise and for giving precedence to real emergencies.

This type of training is typically completed prior to the start of the exercise, either as part of the pre-exercise briefing or in a separate session.

ACTIVITY II: MANAGE THE DEVELOPMENT OF THE EXERCISE EVALUATION REPORT

Task One: Supervise the Evaluation of the Exercise

The critical first step in the preparation of the Exercise Evaluation Report (EER) is the development of data on the performance of the participating organizations during the exercise play. In this task, the ETD monitors and supervises the data collection activities of the exercise evaluation team during the play of the exercise.

A major part of this task will be to coordinate with the exercise controllers on the progress of the exercise and to advise the exercise evaluation team of developments affecting their roles and responsibilities as data collectors. In addition, the ETD may be called upon to reassign evaluators to different objectives or locations if circumstances dictate.

Task Two: Direct the Compilation of Evaluator Reports

In this task, the ETD coordinates the activities of the team and group leaders, or individual evaluators to accomplish the completion of the evaluation forms and the preparation of narrative summaries.

In the completion of this task, the ETD may find it useful to conduct a post-exercise evaluator debriefing in which all members of the team can present their initial impressions of the demonstrated performance, fill in gaps in their data on such performance, and check their preliminary impressions with other team members. These meetings may involve the full exercise team or be limited to team and group leaders.

Task Three: Coordinate the Identification of Exercise Issues

In this task, the ETD coordinates with team and group leaders and individual evaluators to facilitate the identification of exercise issues (i.e., observed or identified problems in an organization's performance in the demonstration of exercise objectives). It is critical that the ETD participate and guide this process to ensure that the issues are described in a consistent manner across objectives and that all issues are directly related to observed performance in the context of the objectives of both the exercise and the exercise evaluation.

Task Four: <u>Manage the Completion of HM-EEMs and Preparation of Narrative Summaries</u>

In this task, the ETD works with team and group leaders and individual evaluators to make sure that all HM-EEM forms are completed and all Points of Review are addressed, if applicable. The ETD also makes sure that narrative summaries are complete and well written, providing descriptions of the major exercise issues and documenting both positive and problematic aspects of performance. The ETD works with the evaluators to collect the HM-EEM forms and narrative summaries for use in the development of the exercise evaluation report.

Task Five: <u>Manage the Preparation of the Exercise Evaluation Report</u>

In this task, the ETD directs the preparation of the exercise evaluation report. In most exercises, the ETD prepares and issues a draft exercise report. The report is based on the evaluators' narrative summaries and the material collected by the evaluators during the exercise. Typically, the draft report is reviewed by the exercise planners, evaluators, the state, and other participating community organizations prior to its release. After the draft report is thoroughly reviewed, the ETD issues a final report.

THE HAZARDOUS MATERIALS EXERCISE EVALUATOR

The purpose of this section is to describe the overall responsibilities of the hazardous materials evaluator. For the new evaluator especially, a brief description of the role of the evaluator and its relationship to others is beneficial in understanding the hazardous materials Exercise Process.

NRT-2, Developing a Hazardous Materials Exercise Program - A Handbook for State and Local Officials, defines the various roles of participants involved in exercises. Frequently used terms that identify these roles include: players, controllers, evaluators and observers. Generally, these terms are defined as follows:

PLAYERS *- are exercise participants who have assignments as members of an emergency response organization or team that will be committed to execute or support specific Federal, State or local efforts. These assignments can include saving lives, protecting property and public health, obtaining and managing resources, and maintaining public safety upon the occurrence of an oil or hazardous material spill or release. Players will make decisions and respond to scenario events in as realistic a manner as possible. All players should be familiar with the emergency response structure, functions, and procedures that they will be expected to perform.*

CONTROLLERS *- are those persons whose role is to ensure that the exercise objectives are sufficiently exercised to permit evaluation, that the level of activity keeps players occupied and challenged, and that the pace of the exercise proceeds according to the scenario.*

EVALUATORS *- are those persons assigned to each major playing element to observe the exercise and gather data. Their primary role is to observe actions taken by players and to record their observations. The evaluators' efforts provide the major portion of the documentation necessary to critique the exercise and produce an exercise report. The evaluators may also assist the controllers in keeping the exercise on track, but will not interfere with the players in the performance of their duties.*

OBSERVERS *- are typically part of an audience who are spectators only.*

Each person involved in an exercise plays an important role. The "players" are exercise participants who have assignments in an emergency response organization or team. Players make decisions and respond to the events of the scenario or simulated emergency.

"Controllers" help guide the scenario by interjecting control messages to ensure that exercise play conforms to the scenario. Controllers also keep players occupied and challenged and resolve exercise problems and monitor the safety of the exercise. During an exercise, controllers are generally assigned to particular emergency response functions and locations. Persons assigned to the role of controller may be from participating organizations. In many instances, exercise planners often serve as controllers.

In a hazardous materials exercise, "observers" might be emergency management or response personnel from the involved community or neighboring communities who are planning their own exercise and may benefit from observing from the sidelines.

THE EXERCISE PROCESS AND THE HAZARDOUS MATERIALS EVALUATOR

The previous section briefly discussed the different groups of people involved in a hazardous materials exercise. This section will discuss in greater detail the three phases of the exercise process and how an evaluator is involved in that process.

Evaluator activities are completed in three phases of an exercise: *during the pre-exercise phase, during the exercise phase,* and *during the post-exercise phase.* During all three phases of the exercise, the overall job of an evaluator is to serve as a *reporter.* Associated with each phase of an exercise, an "evaluator's" specific job as a reporter is: *conduct research, observe actions, and evaluate and report results.*

ACTIVITIES AND TASKS OF THE EVALUATOR

Throughout the three phases of a hazardous materials exercise the evaluator is to complete three major activities and their associated tasks. These three major activities and associated tasks are as follows:

PRE-EXERCISE PHASE

ACTIVITY I: RESEARCH AND PREPARE FOR THE EXERCISE

Task One: Receive and Review Evaluator Materials

Task Two: Review the Scope of Exercise

Task Three: Attend Pre-Exercise Briefing

EXERCISE PHASE

ACTIVITY II: CONDUCT THE EXERCISE

Task One: Observe Actions During the Exercise

Task Two: Follow Evaluator Guidelines

POST-EXERCISE PHASE

ACTIVITY III: REPORT THE RESULTS OF THE EXERCISE

Task One: Conduct After-Exercise Evaluator/Participants Interview

Task Two: Participate in After-Exercise Evaluator Debriefing

Task Three: Complete HM-EEM Forms and Narrative Summary

Task Four: Coordinate the Identification of Exercise Issues

Task Five: Attend After-Exercise Participants' Briefing

Task Six: Review Draft Exercise Report

ACTIVITY I: RESEARCH AND PREPARE FOR THE EXERCISE

In the pre-exercise phase, the evaluator's job is to *conduct research.* Thorough preparation by an evaluator will ensure an accurate and comprehensive evaluation of an exercise assignment. In doing research, an exercise evaluator must understand some basics about hazardous materials emergency preparedness and complete the following tasks:

Task One: <u>Receive Evaluator Materials</u>

In this task, the evaluator receives from the Exercise Team Director (ETD) an "evaluator packet" containing a variety of materials needed to prepare for the evaluation effort. Evaluator packets generally include information on such items as:

- scope of the exercise to be evaluated, including objectives to be demonstrated and extent of play agreements;
- structure of the evaluation team, including individual evaluator assignments;
- exercise scenario and controller inputs; [7]
- exercise ground rules; [8]
- relevant portions of HM-EEM Manual and HM-EEM;
- copies of plans and procedures for assigned organizations pertinent to assigned objectives, including maps;
- portions of previous evaluation reports including description of issues and recommendations;
- exercise schedule, including schedule of post exercise activities; and
- logistical information, location of meetings, lodging arrangements, etc.

Evaluators should review the information provided in the packet and make any necessary travel and lodging arrangements sufficiently in advance of the exercise.

Task Two: <u>Review the Scope of Exercise</u>

In this task, the evaluator needs to research the materials sent to them by the ETD. Evaluators need to:

- know what exercise objectives will be demonstrated;
- know which objectives the evaluator is responsible for evaluating;
- understand what extent of play agreements have been provided for; and
- review the exercise scenario and exercise rules.

---

[7] An exercise scenario is a sequential, narrative account of a hypothetical incident or accident. The scenario provides the catalyst for the exercise and is intended to introduce situations which will inspire responses, and thus allow demonstration of the exercise objectives. Most scenarios are initiated with an accident resulting in a release of, or the potential for a release of, a hazardous material.

[8] Exercise rules are a set of general rules on how the exercise will be conducted. Many of the same ground rules may apply in all hazardous materials exercises. Exercise rules define the role and authority of the chief controller(s), other controllers, exercise evaluators, and players. Other rules for exercise conduct may include safety guidelines or information on pertinent State or local laws or regulations that may affect exercise participants and their play. The rules may also include procedures for when and how to terminate an exercise and for giving precedence to real emergencies.

Since plans and procedures are the basis for emergency response and review, an evaluator should review and understand these plans and procedures in order to anticipate the responses that are likely to occur. Evaluators should be knowledgeable about the following:

- the plan's organization and concept of operations;
- the organization's primary response authority for the basic functions;
- the important acronyms used in the plan;
- the specific objectives relating to the evaluation of a location or emergency response function and expected responses based on the plans and procedures;
- the status of the plan development;
- the relationship between this exercise and the overall exercise program of the participating organizations; and
- any specific outcome or lessons learned from previous exercises that are being applied to this exercise.

Task Three: Attend Pre-Exercise Briefing

In this task, the evaluator, as part of the evaluation team, will attend a pre-exercise briefing. At the evaluators' briefing, the ETD address such topics as evaluator assignments, extent of play agreements, exercise ground rules, scenario, guidelines for completion of evaluation forms, evaluator protocol, and safety requirements. The ETD may also brief the team on such matters as:

- recent and significant changes to the emergency plan;
- location-specific protocols;
- local geography; and
- local response structures.

ACTIVITY II: CONDUCT THE EXERCISE

In the exercise phase, the evaluator's job is to *observe actions.* Observing actions generally occurs during the conduct of an exercise.

Task One: Observe Actions During the Exercise

The exercise will be conducted under the guidance of the exercise controllers. In this task the evaluator will observe the players' activities, make appropriate notes, record events, gather facts, times, and details relevant to the exercise, and collect copies of the records produced by exercise participants (e.g., sign-in sheets, logs, copies of EBS messages, press releases, and documentation records).

During the exercise, evaluators observe and record the *actions* of the players. Generally speaking, during the exercise phase, evaluators are "invisible" and do not interfere with exercise play, except for safety reasons.

Task Two: Follow Evaluator Guidelines

How evaluators present themselves at an exercise affects how successful they are in obtaining necessary information. In this task, the evaluator will follow the suggested guidelines with regard to:

- The evaluator's role and attitude;
- Dress and appearance at an exercise;
- Dealing with the media;
- The fine art of gathering information; and
- Actual emergencies.

The following tables provide some suggestions to commonly asked questions.

EVALUATOR'S ROLE

What is the evaluator's role at an exercise and how can the evaluator's function be best described?

- *The evaluator is much like an unobtrusive reporter; the evaluator is a good listener and is able to document facts without interfering with ongoing activities.*
- *The evaluator is often perceived by players as a guest; be courteous, professional; offerings of refreshments, lunch, and hospitality may be accepted graciously.*
- *Plan ahead, arriving at the specified location with the tools needed (e.g., pens, pencils, paper).*
- *Appropriate interaction with the exercise players helps to establish rapport with them and leads to accurate evaluations. As a professional, avoid ethnic, sexist, religious jokes or comments.*

DRESS AND APPEARANCE

What is acceptable clothing to wear at an exercise? Should evaluators wear a suit? And what if evaluators are evaluating field activities?

- *Evaluators will be on their feet for many hours -- so wear comfortable shoes.*
- *Evaluators should dress in a professional manner suitable to the evaluation activity.*
- *Bluejeans and similar leisurewear may be considered appropriate for field activities.*

MEDIA INTERACTIONS

If a reporter from the local newspaper or television station attempts to interview an evaluator what does he/she do?

- *All media inquires should be directed to the media center or the exercise chairperson. Generally, this telephone number is provided at the pre-exercise meeting.*
- *In all cases, an evaluator should never provide evaluation status information or express any personal opinions to the media during the course of the exercise.*
- *An evaluator should very simply state that they are not allowed to provide any information on the results of the exercise.*
- *If asked, provide the appropriate post-exercise meeting information.*

INFORMATION GATHERING VIA QUESTIONING

How does an evaluator find out information that is not obvious, like who a particular individual is talking to on the telephone?

- *Wait until there is a lull in the action.*
- *Do not interrupt the players in their response activities.*
- *If an evaluator does not observe specific aspects of an organization's performance, ask questions of the exercise players <u>after</u> the exercise.*
- *Be sure that questions do not prompt an appropriate response by the players that they normally might have overlooked.*
- *Work with the controller or other evaluators to obtain information.*

ACTUAL EMERGENCIES

Suppose a real emergency takes place during an exercise, what acceptable protocol should an evaluator follow?

- *Real emergencies take precedence over exercise activities.*
- *Document when the "break in the action" occurred.*
- *If the real emergency prevented completion of required activities, document it as such.*
- *Contact the exercise chairperson or team leader if unexpected problem occurs (e.g., credentials, obvious safety concerns) or an evaluator has a personal emergency.*

ACTIVITY III: REPORT THE RESULTS OF THE EXERCISE

In the post-exercise phase, the evaluator's job is to *evaluate and report the results.* Results are usually reported after the exercise and can be presented in one of two ways: written and oral. There are several other after-exercise tasks that an evaluator may be involved in including:

Task One: Conduct After-Exercise Evaluator/Participants Interview

In this task, the evaluator interviews exercise participants in order to gather information needed to complete their HM-EEM forms. This interview generally takes place immediately following the exercise. This time can also be used to solicit the participants' comments and suggestions concerning the exercise. Experience has shown that many exercise participants also evaluate their own performance during an exercise. They may provide the evaluator with additional information to clarify any questions.

At the direction of the ETD, evaluators may generally summarize their observations of the exercise play for the participants. In most cases, the participants are anxious to hear a brief summary of the positive aspects of their play and any indication of possible issues.

Task Two: Participate in After-Exercise Evaluator Debriefing

In this task, the evaluator participates in an evaluator debriefing usually conducted by the ETD. The evaluators meet (some may work with team members) to summarize their exercise observations and documentation and identify any exercise issues. This debriefing time is also used to exchange information with evaluators who watched the same activity at different locations. This exchange of information is critical to filling in the gaps in understanding. Evaluators also participate in the development of a time-line.[9]

Task Three: Complete HM-EEM Forms and Narrative Summary

Written results of an exercise are reported through the completion of HM-EEM forms and narrative summary. The information gathered through the use of the HM-EEM forms provides the data from which the narrative summary is written. Narrative summaries, which are frequently the foundation of the exercise report, provide a written description of the observed actions. Narrative summaries also address any issues identified during the course of the exercise and include recommendations for improvement. Exercise issues are any observed or identified problem in an organization's performance relating to a specific demonstration of an exercise

[9] A time-line or chronology of exercise events is compiled to provide a frame of reference for evaluating exercise performance and to evaluate time-sensitive actions (e.g., alert and notifications). Time-lines and evaluators' meetings are essential for determining the coordination between the various response organizations.

objective. In addition to written reports, results may be reported during oral briefings presented at various times and locations.

In this task, the evaluator completes the HM-EEM forms for each objective assigned to them. Evaluators complete each "point of review" and prepare a narrative summary for each objective. Much of the information for this narrative summary will come from the completed evaluation forms, but new information may become available at the evaluators' debriefing.

Complete and well-written Narrative Summaries:

- contain a concise description of how the objective was demonstrated;
- are written objectively, stating facts and observations;
- highlight positive aspects, as well as any problems identified;
- avoid opinions (e.g., I think they did a good job); and
- describe and document the issue(s) and recommend an approach for correcting the identified problem.

The completed evaluation forms and narrative summaries are generally submitted to a designated person, usually a group or team leader, shortly after the exercise. The leader reviews the completed forms and ascertains whether all appropriate data and information have been provided by the evaluator.

Task Four: Coordinate the Identification of Exercise Issues

In this task, the evaluator coordinates with the ETD and team and group leaders to identify any exercise issues (i.e., observed or identified problems in an organization's performance in the demonstration of exercise objectives). It is critical that the evaluator follow the guidelines provided by the ETD to ensure that the issues are described in a consistent manner across objectives and that all issues are directly related to observed performance in the context of the objectives of both the exercise and the exercise evaluation.

Task Five: Attend After-Exercise Participants' Briefing

In this task, the evaluator attends a briefing with the ETD and exercise participants to present a preliminary evaluation of the exercise. This meeting provides a means of summarizing and clarifying the results of the exercise. The participants usually present a critique of their own performance. Team leaders also present oral reports.

If an evaluator is requested to present an oral report, it should be brief, and include an overview of the highlights of the exercise, commendations for good performance, and a preliminary assessment of strengths and weaknesses.

Task Six: <u>Review Draft Exercise Report</u>

In this task, the evaluator, in addition to the exercise planners, the state and other participating community organizations, will be asked to review the draft report prior to its release. In most exercises, the ETD prepares a draft exercise report based on the evaluators' narrative summaries and the material collected by the evaluators during the exercise. After the draft report is thoroughly reviewed, a final report is issued by the ETD.

THE HAZARDOUS MATERIAL-EXERCISE EVALUATION METHODOLOGY (HM-EEM): AN INSTRUMENT FOR EXERCISE EVALUATION

The HM-EEM is an evaluation methodology consisting of a series of modules developed to facilitate evaluation of the performance of participating organizations on 16 major exercise objectives derived largely from the guidance contained in *NRT-1, Hazardous Materials Emergency Planning Guide.* The modules include evaluation forms which are structured to enable evaluators to gather information on the performance of participating organizations for each objective demonstrated at a particular location.

Each evaluation form contains a set of "Points of Review" and a "Narrative Summary" form. Once completed, the evaluation forms provide a composite set of data and information on the overall performance of all participating organizations on each demonstrated objective. These forms can also be reassembled to provide the foundation for an evaluation of the overall performance of all participating organizations on each of the demonstrated objectives. The HM-EEM has been designed as both a companion to the Manual and as a stand alone evaluation instrument. As a companion to the Manual the HM-EEM is to be used as a data gathering instrument by evaluators for the explicit purpose of collecting data that can be used to assess the performance of participating organizations in the context of 16 standard exercise objectives and their associated evaluation elements. As a stand alone document the HM-EEM provides a means for the collection of data on the performance of organizations and the compilation of a descriptive account of this performance.

HM-EEM STRUCTURE

There are several type of questions on the evaluation forms.

1. The "YES, NO, N/A, N/O or TIME" Question

One type of question requires a "YES, NO, N/A, N/O, or TIME" response on the part of the evaluator. An evaluator should answer the question based on the following guidelines:

- **"YES"** indicates a positive response based on actual observation.
- **"NO"** indicates a negative response based on actual observation.

- **"N/A" stands for "not applicable"** and should be used to designate that the indicated activity or function was not agreed to be demonstrated by an organization (either because the organization is not responsible for the activity or function under its emergency plan and procedures or scenario events did not require the organization to demonstrate the activity or function).
- **"N/O" stands for "not observed."** It may mean either that the activity did not occur or that it occurred but the evaluator did not observe it.
- **"TIME"** indicates when a particular activity demonstration occurred at the location being evaluated.

2. The Checklist Question

A second type of question is a checklist. These questions require the evaluator to indicate what items or systems were present at a particular location.

3. The Direct Response Question

A third type of question is the direct response question, such as "specify the organizations with which this assigned group communicated." Typically, these questions often require only a few words or phrases, however, in some cases, a detailed essay may be necessary.

4. The "Sub Point of Review" Question

Some of the "points of review" are followed by subpoints that require the evaluator to explain any negative assessments of performance. In responding to the questions posed by these subpoints, evaluators should describe their observations of demonstrated performance and provide documentation, if available.

STANDARD HAZARDOUS MATERIALS EXERCISE OBJECTIVES

OBJECTIVE 1:	**INITIAL NOTIFICATION OF RESPONSE AGENCIES AND RESPONSE PERSONNEL**
OBJECTIVE 2:	**DIRECTION AND CONTROL**
OBJECTIVE 3:	**INCIDENT ASSESSMENT**
OBJECTIVE 4:	**RESOURCE MANAGEMENT**
OBJECTIVE 5:	**COMMUNICATIONS**
OBJECTIVE 6:	**FACILITIES, EQUIPMENT, AND DISPLAYS**
OBJECTIVE 7:	**ALERT AND NOTIFICATION OF THE PUBLIC**
OBJECTIVE 8:	**EMERGENCY INFORMATION - MEDIA**
OBJECTIVE 9:	**PROTECTIVE ACTIONS FOR THE PUBLIC**
OBJECTIVE 10:	**RESPONSE PERSONNEL SAFETY**
OBJECTIVE 11:	**TRAFFIC AND ACCESS CONTROL**
OBJECTIVE 12:	**REGISTRATION, SCREENING, AND DECONTAMINATION OF PUBLIC**
OBJECTIVE 13:	**CONGREGATE CARE**
OBJECTIVE 14:	**EMERGENCY MEDICAL SERVICES**
OBJECTIVE 15:	**CONTAINMENT AND CLEANUP**
OBJECTIVE 16:	**INCIDENT DOCUMENTATION AND INVESTIGATION**

OBJECTIVE DESCRIPTIONS

OBJECTIVE 1: Demonstrate the ability to notify response agencies and to mobilize emergency personnel.

OBJECTIVE 2: Demonstrate the ability to direct, coordinate, and control emergency response activities through operations of an incident command system (ICS) and other direction and control structures.

OBJECTIVE 3: Demonstrate the ability to identify the hazardous material(s) involved in an incident/accident and to assess the hazards associated with the material involved during both the emergency and post-emergency phases.

OBJECTIVE 4: Demonstrate the ability to mobilize and manage resources required for emergency response.

OBJECTIVE 5: Demonstrate the ability to establish and maintain communications essential to support response to an incident/accident.

OBJECTIVE 6: Demonstrate the adequacy of facilities, equipment, displays, and other materials to support emergency operations.

OBJECTIVE 7: Demonstrate the ability to signal an alert and to provide emergency notifications containing information and instructions to the public.

OBJECTIVE 8: Demonstrate the ability to coordinate the development and dissemination of clear, accurate, and timely information to the media.

OBJECTIVE 9: Demonstrate the capability to decide upon and direct the implementation of protective actions for the public.

OBJECTIVE 10: Demonstrate the ability to protect emergency responder health and safety.

OBJECTIVE 11: Demonstrate the organizational ability and resources necessary to implement site security and to control evacuation traffic flow and access to evacuated and sheltered areas.

OBJECTIVE 12: Demonstrate the ability to monitor and control hazardous materials decontamination of the public through an appropriate contamination screening, decontamination, and registration process.

OBJECTIVE 13: Demonstrate the adequacy of procedures, facilities, equipment, and services the congregate care of evacuees.

OBJECTIVE 14: Demonstrate the adequacy of personnel, procedures, equipment, and vehicles for transporting contaminated and/or injured individuals, and the adequacy of medical personnel and facilities to support the operation.

OBJECTIVE 15: Demonstrate the ability to implement appropriate measures for containment, recovery, and cleanup of a release of a hazardous material.

OBJECTIVE 16: Demonstrate the ability to document a hazardous materials incident/accident and response.

OBJECTIVE 1:INITIAL NOTIFICATION OF RESPONSE AGENCIES AND RESPONSE PERSONNEL

OBJECTIVE

Demonstrate the ability to notify response agencies and to mobilize emergency personnel.

INTENT

This objective is derived from NRT-1, Planning Element C, Response Function 1: Initial Notification of Response Agencies. This objective provides a framework for the evaluation of an organization's ability to notify and mobilize designated response personnel.

This objective focuses on the following actions:

- notifying response agencies regarding the occurrence of a incident/accident
- mobilizing emergency response personnel

EVALUATION ELEMENTS

1. *All organizations that are needed to respond to an incident/accident, or to which notifications must be made, are notified.*

Explanation:

The response organization should demonstrate the capability to receive notification of an incident/accident from the party responsible for the incident/accident or from its own first responding unit. It should then demonstrate the capability to complete a notification call down of all organizations required for emergency response. In addition, it should demonstrate the capability to report the existence of the incident/accident to all external organizations (e.g., LEPC, SERC, etc.) to which it is legally required to report to of the type depicted in the exercise scenario.

2. The response organization effectively mobilizes emergency response personnel.

Explanation:

The response organization should demonstrate the capability to mobilize emergency response personnel upon receipt of notification of an incident/accident. It should demonstrate the capability to contact all response personnel promptly via use of a telephone call-down, pagers, or radios to inform them of the existence of an incident/accident and to direct them to report to emergency duty stations.

The response organization should demonstrate the availability and use of procedures that link the number and types of personnel to be mobilized to the emergency classification level of the situation. It should demonstrate the capability to secure the arrival of the mobilized personnel at their duty stations.

CLARIFICATION OF TERMS

Emergency Classification Level: refers to a designated level describing the general characteristics of an emergency resulting from an incident/accident of a hazardous material. Based upon NRT-1 the standard classification levels are:

- ***Potential Emergency Condition:*** refers to "an incident or threat of a release which can be controlled by the first response agencies and does not require evacuation of other than the involved structure or immediate outdoor area. The incident is confined to a small area and does not pose an immediate threat to life or property."

  Essentially, ***potential emergency condition*** indicates that conditions exist that could lead to a release of hazardous materials into the environment.

- ***Limited Emergency Condition:*** refers to "an incident involving a greater hazard or larger area which poses a potential threat to life or property, and which may require a limited evacuation of the surrounding area."

  Simplified***, limited emergency condition*** indicates that hazardous materials have been released into the environment, but only limited segments of the general public are expected to be endangered.

- ***Full Emergency Condition:*** refers to “an incident involving a severe hazard or a large area which poses an extreme threat to life and property and will probably require a large scale evacuation; or an incident requiring the expertise or resources of county, State, Federal, or private agencies/organizations.”

  Basically, ***full emergency condition*** indicates that hazardous materials have been released into the environment and present a significant threat to public health and safety.

OBJECTIVE 2:DIRECTION AND CONTROL

OBJECTIVE

Demonstrate the ability to direct, coordinate, and control emergency response activities through operations of an incident command system (ICS) and other direction and control structures.

INTENT

This objective is derived from: 1) NRT-1, Planning Element C, Response Function 2: Direction and Control, which provides that an effective emergency response depends upon the cooperative efforts of involved response organizations implementing the response plan; 2) established principles in emergency management concerning direction and control of emergency response operations; and 3) regulatory requirements at 29 CFR 1910.120 and 40 CFR Part 311 concerning the utilization of a site-specific incident command system.

This objective focuses on:

- establish and manage an ICS at the incident/accident site
- coordinate between the incident/accident site and the direction and control structures of other organizations involved in the response activities accomplished away from the incident/accident site (e.g., at an Emergency Operating Center [EOC])

Demonstration of this objective centers on the actions associated with ensuring that the various components of the response organization responsible for emergency operations at the location of the incident/accident carry out the necessary response actions in a coherent and coordinated manner (e.g., the issuance of directions to take measures to protect response personnel). The substance of these actions are addressed in other objectives (e.g., the accomplishment of actions associated with the protection of emergency response personnel is covered in Objective 10: Response Personnel Safety.)

EVALUATION ELEMENTS

1. *The organization establishes and uses an effective site-specific ICS for the management of its emergency response effort at the location of the incident/accident.*

Explanation:

The response organization at the incident/accident site should demonstrate the capability to accomplish the following actions, in accordance with its response plan:

- establish a visible command post
- establish communications with off-site organizations
- provide information about the incident/accident to off-site response authorities
- assume responsibility for the management of operations at the incident/accident site by a site-specific Incident Commander (IC) - This may include one or more assumptions of responsibility as the IC by arriving senior response officials, who assume command and replace lower ranking on-site officials
- establish an organizational structure for the management of on-scene response operations, including delegations of authority
- coordinate with personnel at the EOC or other off-site response authorities
- manage the ICS interface with the operations of Federal On-Scene Coordinator
- provide direction and control by the IC to all organizations responsible for response actions at the incident/accident site

The first four actions cited above are visible and concrete actions that should be readily observable. The provision of direction and control is less a set of specific actions than it is the cumulative effect of a set of interrelated actions. These actions may include the following:

- issue instructions to staff on response operations
- provide directions on adherence to the plan
- coordinate with and disseminate information to off-site response organizations any director of the off-site response effort
- resolve conflicts
- provide leadership in decision making
- consult with staff
- provide needed authorities for emergency action

2. *Under the direction of or in coordination with the IC, designated personnel with a leadership role in the response organizations provide direction and control to those elements of the overall response for which they are responsible.*

Explanation:

Designated personnel with leadership roles in off-site response organizations (e.g., Emergency Management Director [EMD]) should demonstrate the capability to provide direction and control to those elements of the off-site response structure which function under their leadership. These personnel are to demonstrate the capability to accomplish various activities such as:

- issue instructions to staff
- provide directions on adherence to the plan
- disseminate information
- resolve conflicts
- provide leadership in decision making
- consult with staff
- provide needed authorities for emergency action
- direct or coordinate with other response organizations

CLARIFICATION OF TERMS

Emergency Management Director: refers to the individual responsible for the management of the emergency response away from the incident/accident site.

Emergency Operations Center: refers to where department heads, government officers and officials, and volunteer disaster agencies gather to coordinate their response to an emergency.

Incident Commander: refers to the individual responsible for the management of all incident operations.

Incident Command System: refers to a system to manage the combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure with responsibility for the management of assigned resources to effectively accomplish stated objectives pertaining to an incident.

29 CFR 1910.120: refers to a regulation issued by the Occupation Health and Safety Administration (OSHA) on emergency response training for employees involved in operations with hazardous materials and hazardous waste.

40 CFR Part 311: refers to a regulation issued by the U.S. Environmental Protection Agency (EPA) on emergency response training for employees involved in operations with hazardous materials and hazardous waste.

OBJECTIVE 3:INCIDENT ASSESSMENT

OBJECTIVE

Demonstrate the ability to identify the hazardous material(s) involved in an incident/accident and to assess the hazards associated with the material involved during both the emergency and post-emergency phases.

INTENT

This objective is derived from NRT-1, Planning Element C, Response Function 12: Ongoing Incident Assessment. This objective provides a framework for the evaluation of an organization's ability to identify the hazardous material(s) involved in an incident/accident and to assess the hazards associated with the material during both the emergency and post-emergency phases.

This objective focuses on:

- the technical identification of materials
- the assessment of the associated hazards to the public health and safety

EVALUATION ELEMENTS

1. *The response organization demonstrates the technical capability to identify the material involved in an incident/accident.*

Explanation:

Identification of the material involved in an incident/accident is critical to a safe and effective emergency response. The response organization should demonstrate the capability of its designated initial response personnel (e.g., Hazmat Team, local police, or fire department) to complete an initial incident assessment of an incident/accident. The objective of an initial incident assessment is to maximize the safe recovery of information at the incident/accident site and to identify the material and the assess the hazards that may be involved. Those activities concerning protection of response personnel related to and approaching a scene are evaluated under Objective 10: Response Personnel Safety.

The response organization should demonstrate the capability to collect, at a minimum, the following information during the initial assessment:

- determine the type of container or package involved (e.g., tankcar [pressurized or non-pressurized], drum, tank trailer, small package, etc.)
- assess the extent of damage to the container or package
- estimate the quantity of material involved
- secure copies of the shipping papers (from trucks, trains, and vessels) or MSDSs (from fixed facilities)
- observe any placards, identification numbers, markings, or labels (DOT or NFPA 704M labeling systems) to assist in identifying the specific material, or at a minimum, the hazard class of the material involved
- obtain information from knowledgeable persons on the scene (truck driver, train crew, plant manager, etc.).

After evaluating information gathered during the initial incident assessment, the response organization should demonstrate the capability to consult various emergency response resources (e.g., DOT's Emergency Response Guide [ERG]) for initial response information before placing people and property at risk. Additional response information and assistance may be obtained by contacting other responsible agencies, the transporter, shipper and facility management, outside experts, CHEMTREC, and through the use of computer and manual data bases. The response organization should demonstrate the capability to report the observed field data to other response units.

During an exercise, it is not necessary to contact CHEMTREC because that organization may be busy responding to actual incidents/accidents across the country. However, as part of exercise play, the response organization should demonstrate the capability to actually contact other responsible agencies, the transporter, shipper, and facility management, as well as outside experts who are participating in the exercise. The response organization should also demonstrate the capability to actually obtain additional response information through the use of computer and manual data bases, as appropriate.

The response organization should demonstrate the capability to secure the affected area. Site security activities are generally performed by law enforcement personnel and are evaluated under Objective 11: Traffic and Access Control.

Those activities associated with strategies and decision making for containment of the spilled or release material are evaluated under Objective 14: Containment and Cleanup.

2. *The response organization demonstrates the capability to assess the hazard associated with the material involved in an incident/accident.*

Explanation:

Once the initial assessment has been completed and the spilled or released material has been identified, the response organization should demonstrate the capability to assess the potential hazards both at the affected site and to adjacent areas.

The response organization should demonstrate the capability to assess the physical factors affecting the release such as the material state (liquid, gas, solid), actual and projected release rate, and direction of the material released in air or water.

The physical factors associated with the natural setting and type of material being released at the accident site should guide the response organization in structuring the design of a field sampling plan and deployment of field monitoring teams. The response organization should demonstrate the capability to:

- establish a priority for monitoring airborne toxic substances
- develop a strategy for monitoring and using direct reading instruments
- maintain monitoring capabilities for the duration of the release
- identify and respond to atmospheric and geographic conditions
- obtain environmental samples
- analyze the samples
- supplement field monitoring data with risk assessment data that are based on various computer models (e.g., ARCHIE, CAMEO, etc.)

The response organization should demonstrate the capability to use the analysis of the field samples to guide decision makers in developing protective actions for the responders as well as for the general public. Those activities concerning the risk(s) associated with the spilled or release material and the potential for exposure to the public health and safety and the environment are evaluated under Objective 9: Protective Actions for the Public.

CLARIFICATION OF TERMS

Emergency Phase: refers to the initial phase of response actions, during which actions are taken in response to a threat of a release or a release in progress.

Incident/Accident: refers to a release or the potential for a release of a hazardous material.

Post-emergency Phase: refers to the phase of response actions, during which actions are taken after the release or the potential for a release has ceased.

OBJECTIVE 4:RESOURCE MANAGEMENT

OBJECTIVE

Demonstrate the ability to mobilize and manage resources required for emergency response.

INTENT

This objective is derived from NRT-1, Planning Element C, Response Function 6: Resource Management. This objective provides a framework for the evaluation of an organization's ability to determine and implement the resources required for responding to an incident.

This objective focuses on:

- the types and quantities of resources needed and available
- mobilizing internal and external resources
- managing resources

This objective may be demonstrated in the context of an exercise in which the response can be accomplished within a 12 hour period (i.e., in a limited time exercise) or in the context of an exercise in which the response is to be accomplished over a period lasting more than 12 hours and the resources initially mobilized for the response must be replaced or relieved.

EVALUATION ELEMENTS

1. *The response organization determines the types and quantities of resources required for response to the incident/accident.*

Explanation:

The response organization (in most cases this will be the site-specific Incident Commander [IC]) should demonstrate the capability to determine the resources, (e.g., equipment, supplies, personnel, and expertise) that it requires in order to respond effectively to the incident/accident. It should demonstrate that it can complete this activity in support of the implementation of a strategy for containment, clean-up, and recovery from an incident/accident. This means that the organization should be able to define the resource requirements based upon the response strategy and to accomplish the task in time to facilitate the implementation of the strategy. (For more on the development of this strategy see Objective 14.)

2. *The response organization effectively mobilizes internal resources in support of site-specific response operations.*

Explanation:

The response organization should demonstrate the availability and use of procedures through which the IC or an official at the Emergency Operating Center (EOC), can call upon local governmental agencies and the owners and operators of private sector resources, including the owner and operators of the facility or mode of transportation involved in the incident/accident, to provide the resources required for response. It should demonstrate that the procedures enable the person responsible for this activity to identify the potential sources of the required resources (i.e., equipment, supplies, and personnel) and to contact them promptly upon a determination that their assistance is required.

If the response organization has mutual aid agreements with other fire and police departments, it should demonstrate that it has the capability to call upon those organizations with whom such agreements exist. In this case, organizations may be expected to use formal procedures contained in response plans which provide substantial details on the types of resources that can be made available in this manner. For the purposes of this evaluation element, organizations that provide support to the response organization under mutual aid agreements are considered to be local resource providers.

Under optimum demonstration of this evaluation element, the local sources of required resources participate in the exercise. Under this situation the response organization should demonstrate the capability to confirm that these local sources have the requested resources and that they are able to commit them to the IC. In addition, it should demonstrate the capability to mobilize resources and deploy the resources to the incident/accident site. The effectiveness of the mobilized resources in the performance of response operations will be considered in other objectives, especially in Objective 14.

3. *The response organization effectively mobilizes external resources in support of site-specific response operations.*

Explanation:

The response organization should demonstrate the capability to contact State agencies, external private sources of assistance, such as the American Association of Railroads (AAR), and the Federal Government and to request from them the resources that it requires in support of site-specific response operations. For the purposes of the exercise, this can be demonstrated via calls to control cells or to actual contacts in participating organizations. The response organization should also demonstrate the availability of an up-to-date list of organizational contacts and

telephone numbers to facilitate the accomplishment of this activity, even if no calls are actually made to these contacts.

Under optimum demonstration, external resource providers should demonstrate the capability to participate in the exercise and deploy their mobilized resources to the incident/accident site, following receipt of calls from the response organization. If this occurs, the IC should demonstrate the capability to integrate these resources into the total pool of resources available for the response effort. The effectiveness of these resources in the conduct of actual response operations in the exercise will be evaluated under different objectives, especially Objective 14.

4. *The response organization manages resources to sustain response operations for a protracted period of time.*

Explanation:

The response organization should demonstrate the capability to secure additional resources to replace resources that may be consumed or exhausted during lengthy response operations. In particular, the response organization should demonstrate the capability to staff critical positions on a 24-hour day basis for as long as necessary to support emergency operations. This can be demonstrated through the mobilization and functioning of a second shift.

This element may be demonstrated in exercises in which the response requires operations for more than 12 hours (this may be 12 hours real time, conducted over more than one day (real time), or in which the scenario provides for an advance of the clock to simulate a later day in which continued response operations are required.

CLARIFICATION OF TERMS

Local Resources: refers to all the resources that have been identified in the organization's emergency response plan as being under the organization's direct control and those resources controlled by other entities within the geographical boundaries of the jurisdiction, including those available through mutual aid agreements.

Mutual Aid Agreement: refers to an agreement between two or more jurisdictions or between a jurisdiction and one or more private entities in which the signatories promise to come to provide assistance to each other when such assistance is requested.

OBJECTIVE 5:COMMUNICATIONS

OBJECTIVE

Demonstrate the ability to establish and maintain communications essential to support response to a incident/accident.

INTENT

This objective is derived from NRT-1, Planning Element C, Response Function 3: Communications. This objective provides a framework for the evaluation of an organization's ability to establish and maintain communications throughout the response organization and between the response organization and supporting jurisdictions and organizations.

This objective focuses on:

- the Incident Commander (IC) establishing and maintaining communications among all response units
- the Emergency Operations Center (EOC) establishing and maintaining communications with all units under direction of the Emergency Management Director (EMD)
- the off-site response organization establishing and maintaining communications

EVALUATION ELEMENTS

1. *The response organization establishes and maintains communications among all units under the direction of the site-specific IC.*

Explanation:

The IC should demonstrate the capability to establish and maintain communications with units responding to the incident/accident. Among the units under the direction of the IC are:

- the first responding units at the incident/accident site
- field teams engaged in operations at the incident/accident location

- all response organizations whose support is required by the IC
- all newly arriving response organizations (including those from other jurisdictions)
- the commanders of all major response organizations
- off-site sources of advice and assistance in the identification of the hazardous materials, and the development and implementation of a strategy for containment, cleanup, and recovery

The IC should demonstrate the availability and effective use of communications systems and equipment in support of the performance of all direction and control activities for which the IC is responsible. (See Objective 2 for a description of these activities.)

2. *The EOC establishes and maintains communications with the IC and all organizational units under command of EOC staff.*

Explanation:

The response organization should demonstrate the capability that its EOC staff can establish and maintain communications with the IC. It should demonstrate that communications can be established quickly over dedicated communications lines and be maintained. It should demonstrate that the communications system can handle all necessary traffic between the two locations.

The EOC staff should demonstrate the capability to establish and maintain communications with response units under their direction and control. It should demonstrate the ability to use the communications system to provide direction and control to the organizations under their command. It should demonstrate the ability to use the communications system to coordinate their activities with other organizations with whom they must coordinate in order to perform their response functions.

3. *Elements of the response organization establish and maintain effective communications.*

Explanation:

Response organizations functioning at locations removed from both the site of the incident/accident and the EOC should demonstrate the ability to establish and maintain communications with other organizations as necessary to support the accomplishment of their emergency response functions.

CLARIFICATION OF TERMS

None.

OBJECTIVE 6:FACILITIES, EQUIPMENT, AND DISPLAYS

OBJECTIVE

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

INTENT

This objective provides a framework for the evaluation of an organization's ability to provide suitable operating facilities, equipment, and displays necessary for the conduct of efficient emergency response operations.

This objective focuses on:

- the facility from which emergency operations are conducted
- the equipment and displays supporting emergency operations

EVALUATION ELEMENTS

1. The facility is capable of supporting emergency operations.

Explanation:

The response organizations should demonstrate the availability of emergency facilities designed to support emergency operations. A facility may be either fixed and located in a building, center, or room(s), or mobile and operated out of mobile unit, or vehicle. For example, an Incident Commander (IC) may operate from a vehicle near the incident/accident. This vehicle could vary in type from a command post designed for such emergencies to a fire or other response vehicle. An Emergency Management Director (EMD) may operate from a fixed facility located in a room in the police department, fire station, county courthouse, or city hall.

The space and key features needed at a facility depend on the function(s) to be performed there. Key response functions can be significantly limited by an inadequate facility design or lack of essential facility features. Some features of a fixed facility may include: bathrooms, kitchen and sleeping facilities, shower facilities, and a backup power supply. Some features of a mobile facility may include: a mobile unit specifically designed with bathrooms, showers, desks, and

a backup power supply, or a fire truck or other type of response vehicle. At a minimum, a suitable facility should accommodate the numbers of emergency personnel activated in a response and facilitate the decision making of the leader of the response.

Whether fixed or mobile, the response organization should demonstrate the capability to control the access to and from the particular facility. Access control generally consists of a sign-in and out log at one entrance and a staff member assigned to this function.

2. The equipment and displays are sufficient to support emergency operations.

Explanation:

The response organization should demonstrate that the equipment available at an emergency facility from which emergency operations are conducted is commensurate with the role played by that facility in emergency operations. The specific equipment in each emergency facility will vary with organizational plans and the type of facility. Some examples of equipment available at a facility include: an adequate telephone system, communications equipment, maps, facsimile machine, copier, backup power, and computers.

Each facility used for emergency response should demonstrate the availability of status boards or some means of visually displaying information concerning key events (e.g., response level, chemical involved in accident) and related actions. The response organization should demonstrate the capability to update status boards in a timely manner in order for this information to be beneficial to emergency response personnel. This includes demonstration, as appropriate, of maps and displays showing the incident/accident site and affected areas. Maps should identify familiar landmarks and boundaries, and traffic/access control points. The response organization should demonstrate the availability of reference materials.

CLARIFICATION OF TERMS

Facility: refers to any building, center, room(s), mobile unit(s), or vehicle(s) designed and equipped to support emergency operations.

OBJECTIVE 7:ALERT AND NOTIFICATION OF THE PUBLIC

OBJECTIVE

Demonstrate the ability to signal an alert and to provide emergency notifications containing information and instructions to the public.

INTENT

This objective is derived from NRT-1, Planning Element C, Response Function 4: Warning Systems and Emergency Public Notification. This objective provides a framework for the evaluation of an organization's ability to promptly alert and notify the public in the event of a hazardous material incident/accident.

This objective focuses on the following:

- activating the warning system to alert the public
- providing emergency information and instructions to the public
- alerting and notifying the general public with special needs

EVALUATION ELEMENTS

1. The response organization provides prompt alert and notification to the general public.

Explanation:

The response organization should demonstrate the capability to activate the public alert system and to provide emergency instructions and information to the public via the EBS and other planned means such as route alerting.

The response organization should demonstrate the capability to complete the following sequential actions:

- issue a directive to activate the public alert system (typically this is the activation of the sirens and the deployment of teams responsible for route alerting)
- activate the alert system

- disseminate notification messages which provide information and instructions concerning the incident/accident (i.e., specific instructions to the public on protective actions to taken)

The response organization should demonstrate the capability to accomplish alert and notification once it has been determined that an incident/accident poses a threat to the population and that they need to be alerted and notified. It should demonstrate that this can be accomplished within a timeframe that ensures that the public can be notified of protective actions before such actions need to be taken.

2. *The response organization demonstrates the capability to select appropriate pre-scripted EBS messages or other notification messages or to compose ad hoc messages that provide the public with accurate and timely information and instructions.*

Explanation:

In most hazardous material emergencies, the response organization operates within very tight time constraints, which require very rapid alert and notification activities. This means that most response organizations need the capability to select and modify appropriate prescripted notification messages. The response organization should demonstrate the capability to disseminate messages that:

- contain accurate information about the incident/accident
- describe protective actions clearly and succinctly
- instruct the listener on the actions to be taken
- identify the affected areas (recognizable landmarks, route numbers, etc.)
- emphasize the importance of taking these actions as promptly as possible

3. *The response organization demonstrates the capability to provide alert and notification to members of the general public with special needs.*

Explanation:

Organizations should demonstrate the capability to provide alert and notification to members of special population groups (e.g., hearing impaired, visually impaired, mobility impaired, etc.) who may not be capable of receiving the alert and notification signals provided to the general public. Organizations should demonstrate the capability to accomplish alert and notification through alternate means such as tone alert radios, telecommunication devices for the deaf, and the use of a human network.

CLARIFICATION OF TERMS

Alert: refers to a process involving the sounding of a warning signal to the public concerning the existence of an emergency situation to which they may need to respond.

Notification: refers to a process involving the dissemination of the emergency and informational messages provided to the public regarding a hazardous materials incident/accident. This notification process should follow the alert.

Route Alerting: refers to a method of public alert and notification in which the alert signals and notifications are disseminated via equipment and staff which move through populated areas.

Special Populations: refers to individuals with special needs such as the hearing impaired, visually impaired, mobility impaired, school children, nursing home residents, etc.

OBJECTIVE 8:EMERGENCY INFORMATION - MEDIA

OBJECTIVE

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

INTENT

This objective is derived from NRT-1, Planning Element C, Response Function 5: Public Information/Community Relations. This objective provides a framework for the evaluation of an organization's ability to develop and disseminate information to the public in the event of a hazardous material incident/accident.

This objective focuses on:

- the process of presenting information to media representatives
- the contents of the information
- rumor control

This objective is closely related to Objective 7: Alert and Notification of the Public, which deals with the provision of emergency information and instructions directly to the public through the Emergency Broadcast System (EBS) or other appropriate means.

EVALUATION ELEMENTS

1. *Information is provided to the media in a coordinated manner consistent with provisions for the release of time-sensitive information.*

Explanation:

The response organization should demonstrate the capability to establish and use a primary information facility, often referred to as a "media center," where principal organizations can coordinate their activities and interact with the media. The response organization should demonstrate that they have a single designated spokesperson with access to all necessary information and technical staff. It should demonstrate the capability to respond to telephone inquiries from the media.

The response organization should demonstrate the capability to manage a joint information coordination process sufficient to ensure that information developed and disseminated by different organizations is technically accurate and consistent with official notifications to the public. It should demonstrate the capability to provide the media with information it requires in order to perform effectively in an emergency as a major means of getting emergency information to the public. It should demonstrate the capability to provide briefings and press releases shortly after initial emergency developments and periodically between subsequent developments.

The response organization should demonstrate that its various public information officers (PIO) or spokespersons can coordinate their activities prior to the release of information to the media.

2. *The response organization demonstrates the ability to provide accurate, clear, complete, and consistent information to the media.*

Explanation:

The response organization should demonstrate the capability to provide information to the media that meets the following conditions for consistency and clarity:

- information is to be presented in language that is understandable to the media and avoids use of unexplained technical jargon
- information on protective action recommendations (PAR) is consistent with official messages containing PARs
- information is internally consistent (i.e., each item of information and instructions contained in each message is consistent with each related item of information or instruction within the same dissemination).

3. *The response organization demonstrates the capability to take actions designed to control the spread of rumors that may impact on public health and safety.*

Explanation:

As an integral part of its efforts to use the media as an important means of providing emergency information to the public, the response organization should demonstrate the capability to take action designed to control the spread of rumors that could have an adverse impact on the ability and willingness of the public to take those protective actions necessary for their health and safety. The response organization should demonstrate the capability to monitor disseminations of information by the news media in order to identify rumors that could have a negative impact on public health and safety. It should also demonstrate the capability to take measures to provide the media with information that will help to control these rumors.

CLARIFICATION OF TERMS

Media Center: refers to a facility staffed by spokespersons from multiple response organizations for the purpose of providing a single designated point of contact with the media and to facilitate exchange of information among spokespersons from different organizations. This type of facility is also referred to as a Joint Public Information Center (JPIC), a Joint Information Center (JIC), a Joint News Center (JNC), or an Emergency News Center (ENC).

Public Information Officer: refers to a designated point of contact responsible for interface with the media or other appropriate agencies requiring information concerning the incident/accident.

OBJECTIVE 9:PROTECTION ACTIONS FOR THE PUBLIC

OBJECTIVE

Demonstrate the capability to decide upon and direct the implementation of protective actions for the public.

INTENT

This objective is derived from NRT-1, Planning Element C, Response Function 9: Personal Protection of Citizens. This objective provides a framework for the evaluation of an organization's ability to promptly assess the severity of the hazard, determine the actions to be recommended, and implement those actions for the protection of the public and special populations.

This objective focuses on:

- protective action decision making
- issuing directives necessary to initiate the implementation of protective actions
- supporting the implementation of protection action for special populations

The implementation of these selected protective actions is addressed in other objectives. Aspects of the implementation of evacuation and sheltering is covered in Objective 7, which addresses the issuance of instructions on protective actions. Objective 11 deals with traffic and access control. Objective 12 deals with monitoring and decontamination of evacuees.

This objective is closely related to Objective 3: Incident Assessment. Input from this objective is critical to decision making on protective actions.

EVALUATION ELEMENTS

1. *The response organization demonstrates the ability to make decisions on actions to protect the public from the risk of exposure to hazardous materials.*

Explanation:

The response organization should demonstrate the capability to provide the results of ongoing incident assessment to officials responsible for protective action decisions. These officials should demonstrate the capability to use data provided on the hazards posed by the material involved in the incident/accident to determine the risk to public health and safety and the protective actions necessary to reduce this risk.

The response organization should demonstrate the capability to determine the geographical areas within which the public is at risk of exposure to the plume produced by the incident/accident. It should demonstrate the capability to determine when the plume will reach the affected area, how long it will remain over the area, how persons could be exposed to the hazardous materials involved, and the potential harm that could come from such exposure.

Based upon these determinations the response organization should demonstrate the capability to determine which protective action (e.g., sheltering or evacuation, alone or in combination) would provide the most effective protection from this potential exposure.

The response organization should demonstrate the capability to revise the calculations described above as conditions change and to make appropriate adjustments in protective action strategies.

2. *The response organization demonstrates the capability to issue directives necessary to initiate and direct protective action implementation.*

Explanation:

The response organization should demonstrate the capability to issue directives to units of the response organization to initiate the implementation of protective actions. It should demonstrate the capability to monitor the results of the implementation efforts and to issue new directives as necessary to keep the implementation on track.

3. *The response organization demonstrates the capability to support the implementation of protective actions for special populations.*

Explanation:

The response organization should demonstrate the capability to notify school system and other institutional officials of the existence of an incident/accident and to provide protective action recommendations for evacuation or sheltering-in-place.

If evacuation is the recommended protective action, the response organization should demonstrate the capability to support the implementation the following actions:

- to evacuate schools to other locations outside of area of risk
- to provide assistance to special institutions such as hospitals and day care centers in the accomplishment of the necessary actions
- to move the residents of these institutions to relocation centers along preplanned routes
- to provide assistance to members of special populations who require assistance, including transportation, in carrying out protective action recommendations

If sheltering-in-place is the recommended protective action, the response organization should demonstrate the availability of plans and procedures for providing assistance to accomplish such actions.

The demonstration of the capability to evacuate special populations could be expanded to include the actual deployment and movement of some of the vehicles needed by members of special populations from pickup points to specified reception centers. If volunteers simulate persons needing medical evacuation, the demonstration should include the provision of assistance to persons in all phases of their evacuation.

CLARIFICATION OF TERMS

None.

OBJECTIVE 10: RESPONSE PERSONNEL SAFETY

OBJECTIVE

Demonstrate the ability to protect emergency responder health and safety.

INTENT

This objective is derived from NRT-1, Planning Element C, Response Function 8: Response Personnel Safety and the OSHA Final Rule on Hazardous Waste Operations and Emergency Response at 29 CFR 1910.120 and the EPA Rule 40 CFR Part 311 on the same subject, as well as the OSHA Rule 29 CFR 1910.156. This objective provides a framework for the evaluation of an organization's ability to protect the health and safety of personnel responding to a hazardous materials incident/accident.

This objective focuses on:

- site control
- response personnel safety
- emergency worker decontamination

EVALUATION ELEMENTS

1. *The response organization demonstrates the capability to establish and maintain a system of one or more zones at the location of an incident/accident.*

Explanation:

The response organization should demonstrate the capability to establish one or more zones and to regulate the movement of response personnel in and out of those zones. It should demonstrate the capability to establish barriers around a restricted zone or "hot zone" and to make the boundaries of that zone clearly visible to all response personnel. The response organization should also demonstrate the capability to limit the number of personnel allowed entrance into the restricted zone to a minimum required for effective response operations and to keep the amount of time that each responder remains in that zone to a minimum.

2. *The response organization demonstrates the capability to protect response personnel within the restricted zone.*

Explanation:

The response organization should demonstrate the capability to provide protective equipment and clothing to responders based upon the organization's safety and health plan. It should demonstrate the capability to use the results of ongoing incident assessment to determine the level (Level A, B, or C) and types of protection to be provided against identified hazards. It should demonstrate the capability to ensure that no emergency worker enters the restricted zone without the required protective equipment and clothing. It should demonstrate the capability to establish and maintain rules for the use of protective equipment by responders while in the restricted zone. It should demonstrate the capability to ensure that the operations of workers within the restricted zone are under the supervision of a safety officer, who has the authority to alter or suspend emergency operations as necessary to protect the workers.

The response organization should demonstrate that the personal protective equipment provided to fire fighters involved in operations beyond the initial stages of any incident/accident meets the criteria contained at 29 CFR 1910.156(e).

The response organization should demonstrate the capability to ensure that all emergency responders exposed to hazardous materials presenting an actual or potential inhalation hazard wear positive pressure self-contained breathing apparatus while engaged in emergency response, until the IC determines that conditions allow them to dispense with this equipment.

The response organization should demonstrate the capability to ensure that operations in hazardous areas are performed in the "buddy system", in groups of two or more.

The response organization should demonstrate the capability to provide emergency assistance, rescue, first aid, or emergency medical transportation to emergency workers.

3. *The response organization demonstrates the capability to decontaminate emergency workers.*

Explanation:

The response organization should demonstrate that it has the capability to monitor emergency response personnel for contamination by hazardous materials upon their departure from the restricted zone. It should demonstrate the capability to decontaminate emergency response personnel either before or after this monitoring. Some organizations may routinely decontaminate workers and then re-monitor to make sure that they are decontaminated.

CLARIFICATION OF TERMS

29 CFR 1910.120: refers to a regulation issued by the Occupation Health and Safety Administration (OSHA) on emergency response training for employees involved in operations with hazardous materials and hazardous waste.

29 CFR 1910.156: refers to a regulation issued by the Occupation Health and Safety Administration (OSHA) covering requirements for equipment and procedures for the protection of firefighters.

Restricted Zone: refers to an area to which authorized personnel may enter, but for which protective measures are mandatory to minimize exposure to hazardous materials, also known as "hot zone".

Safety Officer: refers to a person responsible for monitoring and assessing safety hazards or unsafe situations and developing measures for ensuring personnel safety.

40 CFR Part 311: refers to a regulation issued by the U.S. Environmental Protection Agency (EPA) on emergency response training for employees involved in operations with hazardous materials and hazardous waste.

OBJECTIVE 11:TRAFFIC AND ACCESS CONTROL

OBJECTIVE

Demonstrate the organizational ability and resources necessary to implement site security and to control evacuation traffic flow and access to evacuated and sheltered areas.

INTENT

This objective is derived from NRT-1, Planning Element C, Response Function 11: Law Enforcement. This objective provides a framework for the evaluation of an organization's ability to implement site security and protective actions to control and successfully complete an evacuation.

This objective focuses on:

- site security
- traffic and access control

Those activities concerning protection of traffic and access control personnel related to incident assessment and approaching a scene are evaluated under Objective 10: Response Personnel Safety.

EVALUATION ELEMENTS

1. *The response organization implements security procedures at the incident/accident site.*

Explanation:

Because of the risks associated with a hazardous materials incident/accident, the response organization should demonstrate the capability to implement security procedures at the site. Only personnel authorized and necessary to mitigate the incident should be allowed access to the site. The response organization should demonstrate the capability to establish site security through a variety of actions such as:

- cordoning off the area with police tape or roadblocks
- removing unauthorized vehicles and personnel to allow for easier access to the site by the response organization
- diverting all unnecessary traffic away from the area of the incident/accident for the safety of the citizens and to reduce unnecessary congestion

2. The response organization establishes and staffs traffic and access control points.

Explanation:

The ability to quickly establish effective traffic and access control will greatly aid in accomplishing an orderly evacuation, if it is necessary. The response organization should demonstrate the capability to deploy personnel to designated traffic and access control points in a timely manner through actual deployment, however, the progress of normal traffic movement should not be impeded.

The response organization should demonstrate the capability to mobilize an adequate number of personnel and resources necessary to direct and control the evacuation traffic flow. During an evacuation, traffic controllers should demonstrate the capability to minimize delays and to be aware of evacuation routes, reception or decontamination points, and reception centers. The response organization should demonstrate the capability to provide local law enforcement personnel with maps depicting the affected area and evacuation routes. In the event the protective action strategy is to shelter-in-place, the traffic controllers should demonstrate the capability to control the access of personnel, equipment, etc. into and from the sheltered area.

Following an evacuation, traffic/access controllers should demonstrate the capability to limit and prevent access to evacuated or hazardous areas, in order to reduce the risk of exposure and to safeguard private property in the area. In addition, personnel should demonstrate the capability to limit access to waterways, railways, and airspace in the affected area. Response organizations may mandate that access into evacuated areas be strictly controlled in order to protect valuable public and private property. These martial law measures are quickly lifted after normal law enforcement protection is available.

3. The response organization provides information to traffic and access control personnel.

Explanation:

The response organization should demonstrate the capability to keep field personnel informed of significant developments in the emergency situation. They should demonstrate the ability to communicate instructions to traffic and access control staff on actions to take when changes in protective actions strategies necessitate changes in evacuation patterns or in the area to which access in controlled.

4. Traffic and access control personnel demonstrate knowledge of their role.

Explanation:

Traffic and access control personnel should demonstrate accurate knowledge of their roles in the actual exercise play for the following:

- traffic control and access control
- evacuation routes
- location of reception centers
- any relocation, recovery, and re-entry activities for which traffic and access control are pertinent

Traffic and access control personnel's knowledge of protecting their own health and safety is covered under Objective 10: Response Personnel Safety.

CLARIFICATION OF TERMS

Martial Law: refers to the temporary emergency powers which can be given to law enforcement personnel, to protect the lives and property of citizens.

Traffic Controllers: refers to persons assigned to assist in facilitating traffic flow and to restrict access into potentially hazardous areas.

OBJECTIVE 12:REGISTRATION, SCREENING, AND DECONTAMINATION OF PUBLIC

OBJECTIVE

Demonstrate the ability to monitor and control hazardous materials decontamination of the public through an appropriate contamination screening, decontamination, and registration process.

INTENT

This objective is derived from NRT-1, Planning Element C, Response Function 13: Human Services. This objective provides a framework for the evaluation of an organization's ability to provide for hazardous materials monitoring, decontamination, and registration of evacuees at reception centers.

This objective focuses on the following aspects dealing with persons who may be evacuated from the affected area of a hazardous materials incident:

- contamination screening or monitoring
- decontamination
- registration

EVALUATION ELEMENTS

1. Facilities are available for screening, decontamination, and registration of evacuees.

Explanation:

As a result of a hazardous materials incident, people may be instructed to leave the affected area. If such a protective action is implemented, the response organization should demonstrate the availability of one or more "reception centers" or "personnel processing points."

Reception centers may be housed in variety of facilities such as a school or fire station or a mobile trailer set up in a parking lot. Regardless of the nature of the facility, the response organization should demonstrate the capability to provide adequate space for conducting the monitoring of evacuees, decontamination activities, and registration operations.

The response organization should demonstrate the capability to minimize possible contamination of the facility. It should demonstrate the capability to segregate "clean" from potentially contaminated areas. It should also demonstrate the capability to separate males and females during the decontamination process.

2. *The response organization implements its procedures for screening, decontamination, and control of contamination.*

Explanation:

The response organization should demonstrate the availability of sufficient staff, equipment, and procedures necessary to detect, decontaminate, and prevent cross-contamination. The response organization should demonstrate the capability to implement and utilize specific procedures and equipment in carrying out their tasks to screen and decontaminate evacuees.

The response organization should demonstrate the capability to process evacuees through the screening process in an orderly fashion. For example, evacuees should enter the reception center at one designated and controlled entrance. The evacuees should be asked several general questions related to what area they arrived from, how they are feeling physically, etc.

The response organization should demonstrate the use of procedures for determining if evacuees are contaminated. The response organization should demonstrate the capability to perform monitoring procedures. This may be accomplished by utilizing personnel from various response organizations such as the fire department, regional hazmat response teams, law enforcement or perhaps county or state personnel who have been activated. The response organization should also demonstrate the availability of medical personnel, to organize contaminated evacuees and begin decontamination procedures.

If an evacuee is found to be contaminated, the response organization should demonstrate the capability to decontaminate evacuees through the use of procedures entailing removal and control of contaminated clothing and other articles and the use of shower facilities. It should demonstrate the capability to contain the spread of contamination through such measures as segregating contaminated and uncontaminated persons, providing changes of clothing for persons who do not have uncontaminated clothing with them, and storing contaminated clothing to prevent further contamination of evacuees or "clean" clothes. It should demonstrate the capability to re-monitor persons who have been decontaminated.

The response organization should demonstrate the capability to refer significantly contaminated individuals who cannot be adequately decontaminated to a medical facility. It should demonstrate the capability to establish and maintain records for persons who are seriously contaminated.

3. *The response organization implements its procedures for registration.*

Explanation:

Following the screening, and if necessary, decontamination processes, the response organization should demonstrate the capability to register evacuees. This function may be managed by volunteer organizations such as the Red Cross, Salvation Army, a local civic or church group, or a county agency such as the Department of Human Services. Registration procedures generally include recording of vital information about each evacuee such as name, address, results of monitoring and time of decontamination if any. Typically this information is recorded on a standardized form designed for evacuee registration.

The response organization should demonstrate the capability to use the registration records as means for locating and reuniting families and providing a record of monitoring results. It should also demonstrate the capability to provide to a central location, a list of those evacuees registered from all open reception centers.

4. *Vehicles arriving at reception centers are monitored for contamination and decontaminated, as necessary.*

Explanation:

The response organization should demonstrate the availability of sufficient staff, equipment, and procedures necessary to detect, decontaminate, and prevent cross-contamination of vehicles arriving at the reception center. The response organization should demonstrate the capability to make a decision on each monitored vehicle, based on action levels appropriate for the hazardous material(s) involved in the incident/accident, whether it is or is not contaminated.

The response organization should demonstrate the capability to:

- segregate contaminated vehicles from clean vehicles
- prevent contact of clean persons with contaminated vehicles, and the decontamination process for vehicles
- provide sufficient parking for the anticipated number of evacuees and to isolate contaminated vehicles

The response organization should demonstrate the capability to either decontaminate the vehicles immediately, or because of the chemical(s) involved, park the vehicles and in a secured area awaiting further equipment and instructions on the proper procedures necessary to adequately clean the vehicles and at the same time manage the waste.

CLARIFICATION OF TERMS

Action Levels: refers to thresholds for contamination that trigger the need for decontamination.

Reception Center: refers to a facility where registration, monitoring, and decontamination of evacuees takes place.

OBJECTIVE 13: CONGREGATE CARE

OBJECTIVE

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

INTENT

This objective is derived from NRT-1, Planning Element C, Response Function 13: Human Services. This objective provides a framework for the evaluation of an organization's ability to make available and provide food, housing, medical care, and special information for individuals unable to continue their pre-incident living arrangements.

This objective focuses on the following aspects dealing with persons who may be evacuated from the affected area of a hazardous materials incident:

- congregate care
- essential services

EVALUATION ELEMENTS

1. Facilities are available for congregate care.

Explanation:

As a result of a hazardous materials incident, people may be instructed to leave the affected area. If such a protective action is implemented, the response organization should demonstrate the availability of one or more congregate care centers. In many instances the congregate care center may be located in a church or school facility.

The response organization should demonstrate the capability to manage the congregate care center. Typically these centers are managed by the Red Cross or other volunteer organization experienced in mass care operations. The center manager should demonstrate the capability to ensure the coordinated and efficient use of limited congregate care resources. The center manager should also demonstrate knowledge about the capacity of the congregate care center.

The response organization should demonstrate the capability to apprise the center manager of how many evacuees to expect. It should also demonstrate the capability to communicate with the center manager.

2. *The response organization implements procedures for essential services at the congregate care center.*

Explanation:

The response organization, through the center managers, should demonstrate the capability to provide a variety of essential services to evacuees. Congregate care centers should demonstrate the capability to provide the following services:

- shelter
- food
- sanitation services
- parking
- secure storage for evacuee personnel belongings
- family assistance
- the capability to care for the disabled or any other type of special needs
- child care
- medical care
- first aid

The response organization should also demonstrate the capability to re-register evacuees arriving from receptions centers and to use the registration records as means for locating and reuniting families.

The center manager should demonstrate the availability and ready access to sufficient quantities of cots and blankets, drinking water, food, and first aid supplies. Sometimes, these supplies are available at the center. Other times, arrangements are made with local food suppliers (grocery stores, fast food business) to deliver sufficient quantities of food to the center on an as needed basis. Sleeping supplies are often brought in from regional distribution points such as those maintained by the Red Cross.

The center manager should demonstrate the capability to have available at the center medical personnel to provide first aid and crisis counseling. The center manager should also demonstrate the capability to have police, fire, and rescue units on hand to assist the center manager with evacuee safety.

The center manager should demonstrate the capability to provide to the evacuees accurate and up-to-date information on the status of the incident/accident.

CLARIFICATION OF TERMS

Congregate Care Center: refers to a facility where food, shelter, medical care, and counseling are available to evacuees.

OBJECTIVE 14:EMERGENCY MEDICAL SERVICES

OBJECTIVE

Demonstrate the adequacy of personnel, procedures, equipment, and vehicles for transporting contaminated and/or injured individuals, and the adequacy of medical personnel and facilities to support the operation.

INTENT

This objective is derived from NRT-1, Planning Element C, Response Function 7: Health and Medical. This objective provides a framework for the evaluation of an organization's ability to provide emergency medical service and treatment during the response to a hazardous materials accident. It is critical that a response organization ensure that the injured, who may be contaminated, can receive appropriate medical care without unnecessary risk to the medical personnel and facilities used in treatment.

This objective focuses on the capabilities of the Emergency Medical Service (EMS) personnel to:

- determine the nature and extent of injury or contamination to an accident victim(s)
- implement appropriate contamination control measures
- identify and transport the victim(s) to an appropriate medical facility
- maintain communications with the receiving medical facility

and the receiving medical facility to:

- provide trained staff members at the facility
- prepare for the arrival of the patient(s) and establish appropriate contamination control
- determine whether the victim(s) has external or internal contamination and if necessary remove the external contamination
- maintain contamination control measures during and after treatment of patient(s)

EVALUATION ELEMENTS

1. *The nature and extent of injury or contamination to the person(s) involved in the incident/accident is determined.*

Explanation:

Upon arrival at the scene, the EMS personnel should demonstrate the capability to assess the situation and establish a protective zone around the injured or contaminated person(s). The EMS personnel should also determine from the response organization, if possible, the identity of the hazardous material involved and request for appropriate back-up support if necessary. For the purpose of the exercise, the EMS personnel should be provided information on the identity of the material involved so that the crew can proceed with determining the nature and extent of the injury.

At a minimum, the EMS personnel should demonstrate the capability to determine the nature and extent of the injury through a variety of actions such as:

- referring to an initial response resource (e.g., DOT Emergency Response Guidebook) for immediate first aid for injured patients
- instituting emergency care using the triage concept
- in case of contact with material, immediately flushing the skin or eyes with running water for at least fifteen minutes
- removing and isolating any contaminated clothing and shoes
- keeping the patient quiet and maintaining normal body temperature

2. *Emergency medical personnel implement contamination control measures.*

Explanation:

Ambulance and hospital personnel should demonstrate the capability to limit contamination to themselves and their vehicles/facilities. Controlling access to the area where the contaminated individual is being treated is the first step in limiting exposure.

The ambulance crew should also demonstrate the capability to implement contamination control procedures during transport of contaminated injured persons. Contamination control procedures may consist of:

- using gloves as protection against contamination
- lining the interior and shielding the floor of the ambulance with a protective covering
- wrapping the individual in a sealed sheet or blanket

After delivering a contaminated injured person to a designated receiving medical facility, the response organization should demonstrate the capability to monitor and, if necessary, decontaminate both the ambulance crew and the ambulance. Decontamination procedures may be necessary to ensure that neither the ambulance nor any member of the ambulance crew is allowed to return to regular service without contamination evaluation.

3. *The ambulance crew or central dispatcher demonstrates the capability to identify a medical facility the victim will be taken and promptly transports the victim.*

Explanation:

The response organization should demonstrate its knowledge of which ambulance services are designated to provide transportation for contaminated and/or injured persons. Often, these services are established through Memoranda of Understanding (MOU) between the response organization and the designated ambulance service(s).

Depending on the nature and extent of injury and the problems in the exercise scenario including the hazardous materials involved, it may be necessary for the ambulance crew or the response organization to determine which medical facility an injured individual is to be transported. Ambulance services and response organizations should demonstrate their knowledge of the names, available resources, participating hospitals, and locations of medical facilities equipped for care of such persons. Ambulance crews may actually demonstrate the ability to drive the individual to the selected medical facility.

4. *The ambulance crew maintains communications with the receiving medical facility.*

Explanation:

Adequate communications between emergency site personnel, ambulances, and hospitals are essential throughout an emergency response. So that advance preparations critical for receipt of a contaminated and/or injured individual can be initiated, the ambulance crew should demonstrate the capability to communicate with the receiving medical facility. Ambulance crews should demonstrate the capability to provide, at a minimum, the following information to the receiving medical facility:

- information and data on the individual's physical condition including their assessment regarding internal or external contamination
- vital signs
- the type of hazardous materials involved in the accident
- Material Safety Data Sheet (MSDS) information relating to hazardous material involved, if available
- estimated time of arrival at the medical facility

5. *The receiving medical facility completes effective preparations for arrival of the individual and sets up appropriate contamination control.*

Explanation:

The medical staff at the receiving facility should demonstrate the capability to implement written and established procedures to complete effective preparations for the injured individuals arrival. For example, the medical facility may activate and setup a controlled area where medical treatment will occur as well as implementing contamination control procedures for reception of the ambulance, the patient, other individuals from the controlled area, and facility staff.

The staff should also demonstrate the skills necessary to deal with a variety of chemicals located in their area. For this reason, Material Safety Data Sheet (MSDS) information may be of some use to an area's medical community during a fixed facility hazardous materials incident or the shipping papers in the event of a transportation incident/accident.

Depending upon the chemicals involved, the medical facilities providing medical services to the contaminated injured may find it necessary to secure the services of at least one physician, nurse, and toxicologist, who are experienced in evaluating and treating contaminated injured persons.

The receiving medical facility should also demonstrate the capability to implement procedures to ensure the controlled area is isolated and self-contained. These procedures may include the following actions:

- all doors leading to the area remain closed
- ventilation systems are filtered or independent of other systems within the medical facility
- floors are covered to minimize contamination within the area
- appropriate warning signs are in place
- unnecessary equipment is either removed or covered
- necessary equipment, including a portable x-ray machine, if applicable, is in place
- a buffer zone separating the controlled area from the rest of the facility is established
- medical facility staff who have direct contact with contaminated individuals take the necessary precautions to avoid contact with the contamination

6. *The medical facility staff determines if individual has external or internal contamination and, if necessary, removes the external contamination.*

Explanation:

The medical staff should demonstrate the capability to monitor contaminated injured individuals for external contamination by making an assessment based on the symptoms which are present. For example, medical staff may determine if wounds are contaminated by sampling of secretions and testing them for contamination. If more than one hazardous material was involved in the incident, medical staff should demonstrate the capability to treat the patient with proper priority of the materials involved.

The medical staff should demonstrate the capability to have a toxicologist analyze any samples from injured contaminated persons either at the facility or nearby laboratories and if such analysis is completed, transmit these results to the medical facility staff for use during examination of individuals. The medical facility staff should demonstrate the capability to maintain records of all screening instruments and samples taken.

The medical staff should demonstrate the capability to implement decontamination procedures for cleansing localized areas on the patient with appropriate solutions, such as antidotes and/or neutralizing chemicals. The medical staff should demonstrate the capability to appropriately contain and store these waste solutions for disposal at a later time.

7. *The medical staff maintains contamination control measures during and after treatment of patient.*

Explanation:

The medical staff should demonstrate the capability to implement procedures for disposal or decontamination of instruments, clothing, and medical paraphernalia. These procedures should include provisions to minimize the spread of contamination within the controlled area, other parts of the medical facility, on patients, and upon themselves. After decontaminating the individual, it may be necessary to transfer the injured person to a clean area within the facility in a way that precludes or minimizes the spread of contamination from the controlled area into other areas of the medical facility.

Medical personnel should demonstrate the capability to implement procedures to ensure they are not contaminated before reentering the medical facility from the controlled area. These procedures should include removing all personal protective clothing within the controlled area and monitoring for contamination all staff members and their equipment prior to entering buffer zones.

CLARIFICATION OF TERMS

Buffer Zone: refers to an area adjacent to a restricted zone, to which personnel may enter, but for which protective measures are recommended to minimize exposure to hazardous materials.

Restricted Zone: refers to an area to which authorized personnel may enter, but for which protective measures are mandatory to minimize exposure to hazardous materials.

Triage: is the process of sorting or selection of patients to determine priority of care to be rendered to each.

OBJECTIVE 15: CONTAINMENT AND CLEANUP

OBJECTIVE

Demonstrate the ability to implement appropriate measures for containment, recovery, and cleanup of a release of a hazardous material.

INTENT

This objective is derived from NRT-1, Planning Element D.1, Techniques for Spill Containment and Cleanup, and Planning Element D.2, Resources for Cleanup and Disposal. This objective provides a framework for the evaluation of an organization's ability to implement emergency response measures which are effective for containment, recovery, and cleanup of a spill or release.

This objective focuses on:

- spill control and containment
- resources for cleanup and disposal
- site decontamination
- reentry
- recovery

EVALUATION ELEMENTS

1. *The source of the release is controlled and the released material is contained.*

Explanation:

The response organization should demonstrate the capability to control the source of a release, contain the spilled material, and stabilize an incident/accident. Depending upon the source of leak, the response organization might employ various methods and procedures such as plugging the leak (utilizing various techniques) or turning off or repairing a leaking valve.

Containing the released material also may entail various methods and procedures depending on the type of material, the rate of the leak, the type of container, and the amount of material spilled.

Methods include diking, transferring the material to another container, foaming, adding absorption material, and neutralizing the material.

The response organization should demonstrate the availability of a succinct list of appropriate containment countermeasures for a variety of hazardous materials which may be present in a community either at fixed facilities or transported through the community. At a minimum, the response organization should demonstrate the availability of resources (i.e., DOT Emergency Response Guidebook, AAR Emergency Handling of Hazardous Materials in Surface Transportation, CHEMTREC, representative(s) from the facility or carrier/shipper) which will provide additional information on release containment.

The response organization should also demonstrate the capability to assess the impact of various control and containment strategies/actions on public health and safety and the environment (e.g., to allow a release material to burn or extinguish the fire and then deal with containing and disposing of the material).

2. Resources used for cleanup and disposal are available.

Explanation:

Generally, State regulatory agencies focus on clean up details. Federal Regional Response Team (RRT) agencies can provide assistance during the cleanup process. In many cases, it is the releaser's legal and financial responsibility to clean up the spill. The Federal OSC or other government official generally will monitor the clean up activities by the responsible party.

The response organization should demonstrate the capability to contact and readily secure cleanup and disposal contractors as well as any other organizations that may have available resources for use during a hazardous materials incident including personnel, materials, support services, and equipment. It should also demonstrate the availability of a detailed listing of:

- what type of resources are available (public and private)
- how much is stockpiled
- where it is located
- what steps are necessary to obtain the resources

During the exercise, the response organization should demonstrate the capability to actually contact these resources and request assistance.

3. Strategies for site decontamination and disposal of contaminated materials are implemented.

Explanation:

Disposal of hazardous materials or wastes is controlled by a number of laws and regulations mandated by Federal, State, county, municipal, and other units of government. Both CERCLA and RCRA regulate waste disposal and it is important that the clean up strategies reflect the requirements of these regulations for on-site disposal, transportation, and off-site disposal. The response organization should demonstrate the availability of an updated list of RCRA disposal facilities for possible use following an incident.

Many States and other units of government have regulations regarding transporting and ultimate disposal of hazardous wastes. Usually such regulations are similar and substantially equal to Federal regulations. The response organization should demonstrate the capability to contact the appropriate State agency offices for information on State requirements for hazardous waste disposal by actually placing telephone calls and requesting assistance.

4. Decisions for reentry are implemented.

Explanation:

Reentry of the population to the affected area following a hazardous materials incident is contingent upon determining the safety of the affected area. Reentry procedures may include controlled reentry of emergency workers during or towards the end of an incident for sampling or monitoring purposes. Reentry will also include the returning of evacuees to an affected area following a hazardous materials incident. The decision making activities associated with reentry are evaluated under Objective 9: Protective Actions for the Public.

The response organization should demonstrate the capability to implement, in a controlled manner, policies and strategies on reentry of the evacuated population. It should demonstrate the ability to notify all appropriate response organizations, including those responsible for congregate care of evacuees, or relaxation and reentry decision. It should demonstrate the ability to inform the public on the risk factors affecting the safety of water, food, and the general environment in the affected area. It should demonstrate the ability to initiate traffic and access control and provide transportation assistance necessary to ensure smooth implementation of decision.

During the exercise, the response organization may simulate, through discussions with appropriate staff, those actions required for implementation of reentry decisions. Primarily, activities demonstrated would involve communications and coordination.

5. *Decisions for recovery are implemented.*

Explanation:

Recovery involves the restoration of the affected area to its pre-emergency conditions. This may include water, food, and soil sampling and air monitoring. Recovery actions may include a description and distribution of the clean-up tasks, clean-up oversight responsibilities, and cost effectiveness studies. The decision making activities associated with recovery are evaluated under Objective 9: Protective Actions for the Public.

The response organization should demonstrate the capability to implement policies on recovery. It should demonstrate the capability to establish needs for decontamination efforts in areas with contamination. It should demonstrate the capability to establish priorities for decontamination of specific facilities and locations based on need for immediate use, service to a sensitive population, or other factors. It should also demonstrate the capability to restore vital services in the affected area and prioritize the use of resources necessary for such restoration.

During the exercise, the response organization may simulate, through discussions with appropriate staff, those actions required for implementation of recovery decisions. Primarily, activities demonstrated would involve communications and coordination.

CLARIFICATION OF TERMS

Reentry: refers to the return of evacuees to an affected area following a hazardous materials incident. Also may include the controlled reentry of emergency personnel during or towards the end of an incident for sampling or monitoring purposes.

Recovery: refers to the efforts involved and resources dedicated to returning an affected area to its pre-emergency condition.

OBJECTIVE 16:INCIDENT DOCUMENTATION AND INVESTIGATION

OBJECTIVE

Demonstrate the ability to document a hazardous materials incident/accident and response.

INTENT

This objective is derived from NRT-1, Planning Element E: Documentation and Investigative Follow-Up. This objective provides a framework for the evaluation of an organization's ability to accurately and completely document a hazardous materials incident/accident.

This objective focuses on:

- debriefing the response organization
- investigating the hazardous materials incident/accident
- evaluating the response to a hazardous materials incident/accident
- documenting the response to a hazardous materials incident/accident in a written report

EVALUATION ELEMENTS

1. *The response organization is debriefed immediately following the termination of a hazardous materials incident/accident.*

Explanation:

Immediately following a hazardous materials incident/accident, the response organization should demonstrate the capability to conduct an incident/accident debriefing of all personnel involved in the response. This debriefing provides organizations with an opportunity to exchange information with the involved responders, to summarize observations, documentation and records gathered during the response, and to identify any issues or observed or identified problems in an organization's performance relating to a specific response (or in the case of exercises, a problem in the demonstration of an exercise objective). The response organization should demonstrate the capability to designate one person to conduct the incident/accident

debriefing with the assistance from one or two other personnel serving as recorders of information.

The response organization should demonstrate the capability to compile a "time-line" or chronology of events at an incident/accident debriefing. Time-lines are essential for determining the coordination between the various response organizations and provide a frame of reference for evaluating the response or exercise performance. The time-line documents actual times related to time-sensitive actions such as alert and notifications.

2. *The response organization investigates the hazardous materials incident/accident.*

Explanation:

Investigation of a hazardous materials incident/accident is another post-emergency phase activity. The purpose of the investigation is to determine, to the extent possible, the exact circumstances surrounding the incident/accident. The response organization should demonstrate the capability to identify a person responsible for the post-incident/accident investigation.

The response organizations should demonstrate the capability to instruct key response personnel to maintain accurate logs of their activities during the response which may be useful during the incident/accident investigation and documentation. It may be useful for the organization to secure copies information from the media (e.g., video footage from local television stations, photographs from local newspapers). In some organizations, it may be standard operating procedure to document actual response costs in order to facilitate cost recovery.

3. *The response organization evaluates the response to a hazardous materials incident/accident.*

Explanation:

The response organization should demonstrate the capability to evaluate its organization's response to a hazardous materials incident/accident. Critiques of a hazardous material incident/accident often help to determine if response operations were effective, whether the emergency plan needs to be amended, and what follow-up responder and public training programs are needed. Experience has shown that lessons learned through incident/accident documentation and evaluation have proven invaluable in improving plans, procedures, and the response capability of local communities and States.

4. *The response organization documents the response to a hazardous materials incident/accident in a written report.*

Explanation:

After gathering as much information as possible concerning the release, the response organization should demonstrate the capability to prepare a written incident/accident report. The response organization should ensure that the written report include specific facts and sufficient detail to characterize the entire scope of the emergency response activities and a section for presenting recommendations for improvement. The response organization may want to include with the written report other supporting documents such as photographs, videotape, newspaper accounts, etc. The response organization should demonstrate the capability to prepare complete and well written incident/accident reports which:

- contain a detailed description of what occurred
- objectively state facts and observations
- highlight positive aspects and negative findings
- avoid subjective judgments
- describe and document the issue(s)
- recommend an approach for correcting the identified problem

CLARIFICATION OF TERMS

None.